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Cover Page

Order ID : Q1833

Project ID : PVSC Monthly 2025

Client : Ardmore Chemical

Lab Sample Number	Client Sample Number
Q1833-01	EFF-WASTE-WATER
Q1833-02	EFF-WASTE-WATER

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

Signature : _____

Date: 4/30/2025

NYDOH CERTIFICATION NO - 11376

NJDEP CERTIFICATION NO - 20012

Alliance TECHNICAL GROUP

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

DATA REPORTING QUALIFIERS- INORGANIC

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

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

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APPENDIX A

QA REVIEW GENERAL DOCUMENTATION

Project #: **Q1833**

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

QA Review Signature: **SOHIL JODHANI** **Date:** **04/30/2025**

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LAB CHRONICLE

OrderID:	Q1833	**OrderDate:**	4/17/2025 2:07:00 PM
Client:	Ardmore Chemical	**Project:**	PVSC Monthly 2025
Contact:	Michael Sharphouse	**Location:**	L31,VOA Ref. #3 Water

LabID	ClientID	Matrix	Test	Method	Sample Date	Prep Date	Anal Date	Received
Q1833-02	**EFF-WASTE-WATER**	**Water**			**04/17/25**			**04/17/25**
			Mercury	245.1		04/22/25	04/22/25	
			Metals Group3	200.7		04/21/25	04/22/25	

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Hit Summary Sheet
SW-846

SDG No.: Q1833 **Order ID:** Q1833

Client: Ardmore Chemical **Project ID:** PVSC Monthly 2025

Sample ID	Client ID	Matrix	Parameter	Concentration	C	MDL	RDL	Units
Client ID : EFF-WASTE-WATER								
Q1833-02	EFF-WASTE-WATER	Water	Lead	2.51	J	1.21	6.00	ug/L
Q1833-02	EFF-WASTE-WATER	Water	Zinc	146		2.00	20.0	ug/L

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SAMPLE DATA

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Report of Analysis

Client:	Ardmore Chemical	Date Collected:	04/17/25
Project:	PVSC Monthly 2025	Date Received:	04/17/25
Client Sample ID:	EFF-WASTE-WATER	SDG No.:	Q1833
Lab Sample ID:	Q1833-02	Matrix:	Water
Level (low/med):	low	% Solid:	0

Cas	Parameter	Conc.	Qua.	DF	MDL	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.	Prep Met.
7439-92-1	Lead	2.51	J	1	1.21	6.00	ug/L	04/21/25 10:35	04/22/25 13:43	EPA 200.7	
7439-97-6	Mercury	0.027	U	1	0.027	0.20	ug/L	04/22/25 14:14	04/22/25 14:20	E245.1	
7440-66-6	Zinc	146		1	2.00	20.0	ug/L	04/21/25 10:35	04/22/25 13:43	EPA 200.7	

Color Before:	Colorless	Clarity Before:	Cloudy	Texture:	
Color After:	Colorless	Clarity After:	Clear	Artifacts:	
Comments:	Metals Group2				

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

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

METAL CALIBRATION DATA

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Metals

- 2a -

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: Ardmore Chemical **SDG No.:** Q1833

Contract: ARDM01 **Lab Code:** CHEM **Case No.:** Q1833 **SAS No.:** Q1833

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
ICV97	Mercury	4.19	4.0	105	95 - 105	CV	04/22/2025	14:00	LB135518

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Metals

- 2a -

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: Ardmore Chemical **SDG No.:** Q1833

Contract: ARDM01 **Lab Code:** CHEM **Case No.:** Q1833 **SAS No.:** Q1833

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
CCV12	Mercury	5.02	5.0	100	90 - 110	CV	04/22/2025	14:04	LB135518
CCV13	Mercury	5.00	5.0	100	90 - 110	CV	04/22/2025	14:34	LB135518
CCV14	Mercury	4.99	5.0	100	90 - 110	CV	04/22/2025	14:43	LB135518

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Metals

- 2a -

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: Ardmore Chemical **SDG No.:** Q1833

Contract: ARDM01 **Lab Code:** CHEM **Case No.:** Q1833 **SAS No.:** Q1833

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	Lead	975	1000	98	95 - 105	P	04/22/2025	12:46	LB135523
	Zinc	981	1000	98	95 - 105	P	04/22/2025	12:46	LB135523

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Metals

- 2a -

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: Ardmore Chemical **SDG No.:** Q1833

Contract: ARDM01 **Lab Code:** CHEM **Case No.:** Q1833 **SAS No.:** Q1833

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	Lead	11.2	12.0	93	80 - 120	P	04/22/2025	12:51	LB135523
	Zinc	42.7	40.0	107	80 - 120	P	04/22/2025	12:51	LB135523

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Metals

- 2a -

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: Ardmore Chemical **SDG No.:** Q1833

Contract: ARDM01 **Lab Code:** CHEM **Case No.:** Q1833 **SAS No.:** Q1833

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	Lead	4840	5000	97	90 - 110	P	04/22/2025	13:26	LB135523
	Zinc	2510	2500	100	90 - 110	P	04/22/2025	13:26	LB135523
CCV02	Lead	4920	5000	98	90 - 110	P	04/22/2025	14:16	LB135523
	Zinc	2570	2500	103	90 - 110	P	04/22/2025	14:16	LB135523
CCV03	Lead	4670	5000	93	90 - 110	P	04/22/2025	15:07	LB135523
	Zinc	2480	2500	99	90 - 110	P	04/22/2025	15:07	LB135523
CCV04	Lead	4710	5000	94	90 - 110	P	04/22/2025	15:59	LB135523
	Zinc	2470	2500	99	90 - 110	P	04/22/2025	15:59	LB135523
CCV05	Lead	4700	5000	94	90 - 110	P	04/22/2025	16:58	LB135523
	Zinc	2430	2500	97	90 - 110	P	04/22/2025	16:58	LB135523
CCV06	Lead	4710	5000	94	90 - 110	P	04/22/2025	17:51	LB135523
	Zinc	2450	2500	98	90 - 110	P	04/22/2025	17:51	LB135523
CCV07	Lead	4920	5000	98	90 - 110	P	04/22/2025	18:56	LB135523
	Zinc	2510	2500	100	90 - 110	P	04/22/2025	18:56	LB135523
CCV08	Lead	5010	5000	100	90 - 110	P	04/22/2025	19:42	LB135523
	Zinc	2530	2500	101	90 - 110	P	04/22/2025	19:42	LB135523

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Metals

- 2b -
CRDL STANDARD FOR AA & ICP

Client: Ardmore Chemical **SDG No.:** Q1833

Contract: ARDM01 **Lab Code:** CHEM **Case No.:** Q1833 **SAS No.:** Q1833

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	Lead	10.5	12.0	87	40 - 160	P	04/22/2025	13:05	LB135523
	Zinc	42.2	40.0	105	40 - 160	P	04/22/2025	13:05	LB135523
CRA	Mercury	0.046	0.05	93	40 - 160	CV	04/22/2025	14:09	LB135518

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Metals

- 3a -

INITIAL AND CONTINUING CALIBRATION BLANK SUMMARY

Client: Ardmore Chemical **SDG No.:** Q1833

Contract: ARDM01 **Lab Code:** CHEM **Case No.:** Q1833 **SAS No.:** Q1833

Sample ID	Analyte	Result ug/L	Acceptance Limit	Conc Qual	CRQL	M	Analysis Date	Analysis Time	Run Number
ICB97	Mercury	0.20	+/-0.20	U	0.20	CV	04/22/2025	14:02	LB135518

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Metals

- 3a -

INITIAL AND CONTINUING CALIBRATION BLANK SUMMARY

Client: Ardmore Chemical **SDG No.:** Q1833

Contract: ARDM01 **Lab Code:** CHEM **Case No.:** Q1833 **SAS No.:** Q1833

Sample ID	Analyte	Result ug/L	Acceptance Limit	Conc Qual	CRQL	M	Analysis Date	Analysis Time	Run Number
CCB12	Mercury	0.20	+/-0.20	U	0.20	CV	04/22/2025	14:07	LB135518
CCB13	Mercury	0.20	+/-0.20	U	0.20	CV	04/22/2025	14:36	LB135518
CCB14	Mercury	0.20	+/-0.20	U	0.20	CV	04/22/2025	14:45	LB135518

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Metals

- 3a -

INITIAL AND CONTINUING CALIBRATION BLANK SUMMARY

Client: Ardmore Chemical **SDG No.:** Q1833

Contract: ARDM01 **Lab Code:** CHEM **Case No.:** Q1833 **SAS No.:** Q1833

Sample ID	Analyte	Result ug/L	Acceptance Limit	Conc Qual	CRQL	M	Analysis Date	Analysis Time	Run Number
ICB01	Lead	12.0	+/-12.0	U	12.0	P	04/22/2025	13:00	LB135523
	Zinc	40.0	+/-40.0	U	40.0	P	04/22/2025	13:00	LB135523

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Metals

- 3a -

INITIAL AND CONTINUING CALIBRATION BLANK SUMMARY

Client: Ardmore Chemical **SDG No.:** Q1833

Contract: ARDM01 **Lab Code:** CHEM **Case No.:** Q1833 **SAS No.:** Q1833

Sample ID	Analyte	Result ug/L	Acceptance Limit	Conc Qual	CRQL	M	Analysis Date	Analysis Time	Run Number
CCB01	Lead	12.0	+/-12.0	U	12.0	P	04/22/2025	13:30	LB135523
	Zinc	40.0	+/-40.0	U	40.0	P	04/22/2025	13:30	LB135523
CCB02	Lead	12.0	+/-12.0	U	12.0	P	04/22/2025	14:20	LB135523
	Zinc	40.0	+/-40.0	U	40.0	P	04/22/2025	14:20	LB135523
CCB03	Lead	12.0	+/-12.0	U	12.0	P	04/22/2025	15:12	LB135523
	Zinc	40.0	+/-40.0	U	40.0	P	04/22/2025	15:12	LB135523
CCB04	Lead	12.0	+/-12.0	U	12.0	P	04/22/2025	16:03	LB135523
	Zinc	40.0	+/-40.0	U	40.0	P	04/22/2025	16:03	LB135523
CCB05	Lead	12.0	+/-12.0	U	12.0	P	04/22/2025	17:02	LB135523
	Zinc	40.0	+/-40.0	U	40.0	P	04/22/2025	17:02	LB135523
CCB06	Lead	12.0	+/-12.0	U	12.0	P	04/22/2025	17:55	LB135523
	Zinc	40.0	+/-40.0	U	40.0	P	04/22/2025	17:55	LB135523
CCB07	Lead	12.0	+/-12.0	U	12.0	P	04/22/2025	19:00	LB135523
	Zinc	40.0	+/-40.0	U	40.0	P	04/22/2025	19:00	LB135523
CCB08	Lead	12.0	+/-12.0	U	12.0	P	04/22/2025	19:46	LB135523
	Zinc	40.0	+/-40.0	U	40.0	P	04/22/2025	19:46	LB135523

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Metals

- 3a -

INITIAL AND CONTINUING CALIBRATION BLANK SUMMARY

Client: Ardmore Chemical **SDG No.:** Q1833

Contract: ARDM01 **Lab Code:** CHEM **Case No.:** Q1833 **SAS No.:** Q1833

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

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Metals
- 3b -
PREPARATION BLANK SUMMARY

Client: Ardmore Chemical **SDG No.:** Q1833

Instrument: CV1

Sample ID	Analyte	Result (ug/L)	Acceptance Limit	Conc Qual	CRQL ug/L	M	Analysis Date	Analysis Time	Run
PB167703BL		**WATER**		**Batch Number:**	**PB167703**		**Prep Date:**	**04/22/2025**	
	Mercury	0.20	<0.20	U	0.20	CV	04/22/2025	14:16	LB135518

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Metals
- 3b -
PREPARATION BLANK SUMMARY

Client: Ardmore Chemical **SDG No.:** Q1833

Instrument: P4

Sample ID	Analyte	Result (ug/L)	Acceptance Limit	Conc Qual	CRQL ug/L	M	Analysis Date	Analysis Time	Run
PB167671BL		**WATER**		**Batch Number:**	**PB167671**		**Prep Date:**	**04/21/2025**	
	Lead	6.00	<6.00	U	6.00	P	04/22/2025	13:34	LB135523
	Zinc	20.0	<20.0	U	20.0	P	04/22/2025	13:34	LB135523

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Metals
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INTERFERENCE CHECK SAMPLE

Client: Ardmore Chemical **SDG No.:** Q1833

Contract: ARDM01 **Lab Code:** CHEM **Case No.:** Q1833 **SAS No.:** Q1833

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	Lead	-3.67			-12	12	04/22/2025	13:09	LB135523
	Zinc	2.71			-40	40	04/22/2025	13:09	LB135523
ICSAB01	Lead	50.2	49.0	102	37	61	04/22/2025	13:13	LB135523
	Zinc	1050	952	110	809	1095	04/22/2025	13:13	LB135523
ICSA	Lead	-20.0			-12	12	04/22/2025	13:17	LB135523
	Zinc	0.75			-40	40	04/22/2025	13:17	LB135523
ICSAB	Lead	8.73	49.0	18	37	61	04/22/2025	13:22	LB135523
	Zinc	1050	952	110	809	1095	04/22/2025	13:22	LB135523

METAL QC DATA

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metals
- 5a -
MATRIX SPIKE SUMMARY

client: Ardmore Chemical **level:** low **sdg no.:** Q1833

contract: ARDM01 **lab code:** CHEM **case no.:** Q1833 **sas no.:** Q1833

matrix: Water **sample id:** Q1833-02 **client id:** EFF-WASTE-WATERMS

Percent Solids for Sample: NA **Spiked ID:** Q1833-02MS **Percent Solids for Spike Sample:** NA

Analyte	Units	Acceptance Limit %R	Spiked Result	C	Sample Result	C	Spike Added	% Recovery	Qual	M
Lead	ug/L	75 - 125	467		2.51	J	500	93		P
Mercury	ug/L	75 - 125	3.51		0.20	U	4.0	88		CV
Zinc	ug/L	75 - 125	245		146		100	99		P

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metals
- 5a -
MATRIX SPIKE DUPLICATE SUMMARY

client: Ardmore Chemical **level:** low **sdg no.:** Q1833

contract: ARDM01 **lab code:** CHEM **case no.:** Q1833 **sas no.:** Q1833

matrix: Water **sample id:** Q1833-02 **client id:** EFF-WASTE-WATERMSD

Percent Solids for Sample: NA **Spiked ID:** Q1833-02MSD **Percent Solids for Spike Sample:** NA

Analyte	Units	Acceptance Limit %R	MSD Result	C	Sample Result	C	Spike Added	% Recovery	Qual	M
Lead	ug/L	75 - 125	481		2.51	J	500	96		P
Mercury	ug/L	75 - 125	3.83		0.20	U	4.0	96		CV
Zinc	ug/L	75 - 125	252		146		100	105		P

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Metals
- 5b -

Client: Ardmore Chemical **SDG No.:** Q1833

Contract: ARDM01 **Lab Code:** CHEM **Case No.:** Q1833 **SAS No.:** Q1833

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

Sample ID: **Spiked ID:**

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

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Metals

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DUPLICATE SAMPLE SUMMARY

Client: Ardmore Chemical **Level:** LOW **SDG No.:** Q1833

Contract: ARDM01 **Lab Code:** CHEM **Case No.:** Q1833 **SAS No.:** Q1833

Matrix: Water **Sample ID:** Q1833-02 **Client ID:** EFF-WASTE-WATERDUP

Percent Solids for Sample: NA **Duplicate ID** Q1833-02DUP **Percent Solids for Spike Sample:** NA

Analyte	Units	Acceptance Limit	Sample Result	C	Duplicate Result	C	RPD	Qual	M
Lead	ug/L	20	2.51	J	2.31	J	8		P
Mercury	ug/L	20	0.20	U	0.030	J	200.0		CV
Zinc	ug/L	20	146		152		4		P

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

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Metals

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DUPLICATE SAMPLE SUMMARY

Client: Ardmore Chemical **Level:** LOW **SDG No.:** Q1833

Contract: ARDM01 **Lab Code:** CHEM **Case No.:** Q1833 **SAS No.:** Q1833

Matrix: Water **Sample ID:** Q1833-02MS **Client ID:** EFF-WASTE-WATERMSD

Percent Solids for Sample: NA **Duplicate ID** Q1833-02MSD **Percent Solids for Spike Sample:** NA

Analyte	Units	Acceptance Limit	Sample Result	C	Duplicate Result	C	RPD	Qual	M
Lead	ug/L	20	467		481		3		P
Mercury	ug/L	20	3.51		3.83		9		CV
Zinc	ug/L	20	245		252		3		P

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

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LABORATORY CONTROL SAMPLE SUMMARY

Client: Ardmore Chemical **SDG No.:** Q1833

Contract: ARDM01 **Lab Code:** CHEM **Case No.:** Q1833 **SAS No.:** Q1833

Analyte	Units	True Value	Result	C	% Recovery	Acceptance Limits	M
PB167671BS							
Lead	ug/L	500	504		101	85 - 115	P
Zinc	ug/L	100	106		106	85 - 115	P

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LABORATORY CONTROL SAMPLE SUMMARY

Client: Ardmore Chemical **SDG No.:** Q1833

Contract: ARDM01 **Lab Code:** CHEM **Case No.:** Q1833 **SAS No.:** Q1833

Analyte	Units	True Value	Result	C	% Recovery	Acceptance Limits	M
PB167703BS							
Mercury	ug/L	4.0	4.04		101	85 - 115	CV

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Metals

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ICP SERIAL DILUTIONS

SAMPLE NO.

EFF-WASTE-WATERL

Lab Name: Chemtech Consulting Group **Contract:** ARDM01

Lab Code: CHEM **Lb No.:** lb135523 **Lab Sample ID :** Q1833-02L **SDG No.:** Q1833

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

Concentration Units: ug/L

Analyte	Initial Sample Result (I)	C	Serial Dilution Result (S)	C	% Difference	Q	M
Lead	2.51	J	30.0	U	100.0		P
Mercury	0.20	U	1.00	U			CV
Zinc	146		146		0		P

METAL PREPARATION & INSTRUMENT DATA

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

Metals
- 11 -
ICP INTERELEMENT CORRECTION FACTORS

Client: Ardmore Chemical **SDG No.:** Q1833

Contract: ARDM01 **Lab Code:** CHEM **Case No.:** Q1833 **SAS No.:** Q1833

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
Lead	220.353	-0.0000920	0.0000000	0.0000380	0.0000000	0.0000000
Zinc	213.800	0.0000000	0.0000000	0.0001050	0.0000000	0.0000000

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Metals
- 11 -
ICP INTERELEMENT CORRECTION FACTORS

Client: Ardmore Chemical **SDG No.:** Q1833

Contract: ARDM01 **Lab Code:** CHEM **Case No.:** Q1833 **SAS No.:** Q1833

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
Lead	220.353	0.0000000	0.0003170	0.0000000	0.0000000	0.0000000
Zinc	213.800	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000

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Metals
- 11 -
ICP INTERELEMENT CORRECTION FACTORS

Client: Ardmore Chemical **SDG No.:** Q1833

Contract: ARDM01 **Lab Code:** CHEM **Case No.:** Q1833 **SAS No.:** Q1833

Instrument ID: **Date:**

Interelement Correction Factors (apparent ppb analyte/ppm interferent)

Analyte	Wave-Length (nm)	ICP Interelement Correction Factors For: Cr	Cu	K	Mn	Mo
Lead	220.353	0.0000000	0.0000000	0.0000000	0.0001400	-0.0008600
Zinc	213.800	0.0000000	0.0009010	0.0000000	0.0000000	0.0000000

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Metals
- 11 -
ICP INTERELEMENT CORRECTION FACTORS

Client: Ardmore Chemical **SDG No.:** Q1833

Contract: ARDM01 **Lab Code:** CHEM **Case No.:** Q1833 **SAS No.:** Q1833

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
Lead	220.353	0.0000000	0.0006580	0.0000000	0.0000000	0.0001290
Zinc	213.800	0.0000000	0.0067600	0.0000000	0.0000000	0.0000000

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Metals
- 11 -
ICP INTERELEMENT CORRECTION FACTORS

Client: Ardmore Chemical **SDG No.:** Q1833

Contract: ARDM01 **Lab Code:** CHEM **Case No.:** Q1833 **SAS No.:** Q1833

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
Lead	220.353	0.0000000	-0.0003610	0.0000000	0.0000000	0.0000000
Zinc	213.800	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000

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Fax : 908 789 8922

Metals

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LINEAR RANGES

Client: Ardmore Chemical **SDG No.:** Q1833

Contract: ARDM01 **Lab Code:** CHEM **Case No.:** Q1833 **SAS No.:** Q1833

Instrument ID: P4 **Date:** 01/04/2018

Analyte	Integration Time (sec)	LDR ug/L
Lead	10	225000
Zinc	10	45000

METAL PREPARATION & ANALYICAL SUMMARY

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

Metals
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SAMPLE PREPARATION SUMMARY

Client: Ardmore Chemical **SDG No.:** Q1833

Contract: ARDM01 **Lab Code:** CHEM **Method:**

Case No.: Q1833 **SAS No.:** Q1833

Sample ID	Client ID	Sample Type	Matrix	Prep Date	Initial Sample Size(mL)	Final Sample Volume (mL)	Percent Solids
Batch Number:	**PB167671**						
PB167671BL	PB167671BL	MB	WATER	04/21/2025	50.0	25.0	
PB167671BS	PB167671BS	LCS	WATER	04/21/2025	50.0	25.0	
Q1833-02	EFF-WASTE-WATER	SAM	WATER	04/21/2025	50.0	25.0	
Q1833-02DUP	EFF-WASTE-WATERDUP	DUP	WATER	04/21/2025	50.0	25.0	
Q1833-02MS	EFF-WASTE-WATERMS	MS	WATER	04/21/2025	50.0	25.0	
Q1833-02MSD	EFF-WASTE-WATERMSD	MSD	WATER	04/21/2025	50.0	25.0	

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Fax : 908 789 8922

Metals
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SAMPLE PREPARATION SUMMARY

Client: Ardmore Chemical **SDG No.:** Q1833

Contract: ARDM01 **Lab Code:** CHEM **Method:**

Case No.: Q1833 **SAS No.:** Q1833

Sample ID	Client ID	Sample Type	Matrix	Prep Date	Initial Sample Size(mL)	Final Sample Volume (mL)	Percent Solids
Batch Number:	**PB167703**						
PB167703BL	PB167703BL	MB	WATER	04/22/2025	30.0	30.0	
PB167703BS	PB167703BS	LCS	WATER	04/22/2025	30.0	30.0	
Q1833-02	EFF-WASTE-WATER	SAM	WATER	04/22/2025	30.0	30.0	
Q1833-02DUP	EFF-WASTE-WATERDUP	DUP	WATER	04/22/2025	30.0	30.0	
Q1833-02MS	EFF-WASTE-WATERMS	MS	WATER	04/22/2025	30.0	30.0	
Q1833-02MSD	EFF-WASTE-WATERMSD	MSD	WATER	04/22/2025	30.0	30.0	

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metals
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ANALYSIS RUN LOG

Client: Ardmore Chemical **Contract:** ARDM01

Lab code: CHEM **Case no.:** Q1833 **Sas no.:** Q1833 **Sdg no.:** Q1833

Instrument id number: **Method:** **Run number:** LB135518

Start date: 04/22/2025 **End date:** 04/22/2025

Lab sample id.	Client Sample Id	d/f	Time	Parameter list
S0	S0	1	1337	HG
S0.05	S0.05	1	1342	HG
S0.2	S0.2	1	1344	HG
S2.5	S2.5	1	1346	HG
S5	S5	1	1348	HG
S7.5	S7.5	1	1351	HG
S10	S10	1	1357	HG
ICV97	ICV97	1	1400	HG
ICB97	ICB97	1	1402	HG
CCV12	CCV12	1	1404	HG
CCB12	CCB12	1	1407	HG
CRA	CRA	1	1409	HG
PB167703BL	PB167703BL	1	1416	HG
PB167703BS	PB167703BS	1	1418	HG
Q1833-02	EFF-WASTE-WATER	1	1420	HG
Q1833-02DUP	EFF-WASTE-WATERDUP	1	1423	HG
Q1833-02MS	EFF-WASTE-WATERMS	1	1429	HG
Q1833-02MSD	EFF-WASTE-WATERMSD	1	1432	HG
CCV13	CCV13	1	1434	HG
CCB13	CCB13	1	1436	HG
Q1833-02L	EFF-WASTE-WATERL	5	1438	HG
CCV14	CCV14	1	1443	HG
CCB14	CCB14	1	1445	HG

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metals
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ANALYSIS RUN LOG

Client: Ardmore Chemical **Contract:** ARDM01

Lab code: CHEM **Case no.:** Q1833 **Sas no.:** Q1833 **Sdg no.:** Q1833

Instrument id number: **Method:** **Run number:** LB135523

Start date: 04/22/2025 **End date:** 04/22/2025

Lab sample id.	Client Sample Id	d/f	Time	Parameter list
S0	S0	1	1209	Pb,Zn
S1	S1	1	1214	Pb,Zn
S2	S2	1	1218	Pb,Zn
S3	S3	1	1222	Pb,Zn
S4	S4	1	1226	Pb,Zn
S5	S5	1	1231	Pb,Zn
ICV01	ICV01	1	1246	Pb,Zn
LLICV01	LLICV01	1	1251	Pb,Zn
ICB01	ICB01	1	1300	Pb,Zn
CRI01	CRI01	1	1305	Pb,Zn
ICSA01	ICSA01	1	1309	Pb,Zn
ICSAB01	ICSAB01	1	1313	Pb,Zn
ICSA	ICSA	20	1317	Pb,Zn
ICSAB	ICSAB	20	1322	Pb,Zn
CCV01	CCV01	1	1326	Pb,Zn
CCB01	CCB01	1	1330	Pb,Zn
PB167671BL	PB167671BL	1	1334	Pb,Zn
PB167671BS	PB167671BS	1	1339	Pb,Zn
Q1833-02	EFF-WASTE-WATER	1	1343	Pb,Zn
Q1833-02DUP	EFF-WASTE-WATERDUP	1	1347	Pb,Zn
Q1833-02L	EFF-WASTE-WATERL	5	1351	Pb,Zn
Q1833-02MS	EFF-WASTE-WATERMS	1	1356	Pb,Zn
Q1833-02MSD	EFF-WASTE-WATERMSD	1	1400	Pb,Zn
CCV02	CCV02	1	1416	Pb,Zn
CCB02	CCB02	1	1420	Pb,Zn
CCV03	CCV03	1	1507	Pb,Zn
CCB03	CCB03	1	1512	Pb,Zn
CCV04	CCV04	1	1559	Pb,Zn
CCB04	CCB04	1	1603	Pb,Zn
CCV05	CCV05	1	1658	Pb,Zn
CCB05	CCB05	1	1702	Pb,Zn
CCV06	CCV06	1	1751	Pb,Zn
CCB06	CCB06	1	1755	Pb,Zn
CCV07	CCV07	1	1856	Pb,Zn
CCB07	CCB07	1	1900	Pb,Zn
CCV08	CCV08	1	1942	Pb,Zn
CCB08	CCB08	1	1946	Pb,Zn

METAL
RAW DATA

Reviewed By:mohan
On:4/24/2025 11:42:10 AM
Inst Id :P4
LB :LB135523

Sample Name: S0 Acquired: 4/22/2025 12:09:44 Type: Cal
Method: NON EPA-6010-200.7 NEW LR(v15) 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	.00002	.00006	-.00009	.00015	.00031	-.00003	.06131	.00001
Stddev	.00007	.00007	.00014	.00005	.00011	.00022	.00058	.00013
%RSD	376.60	108.00	152.06	30.106	35.787	751.91	.95191	1232.6
#1	-.00003	-.00001	-.00021	.00017	.00034	.00007	.06131	.00010
#2	.00010	.00013	-.00013	.00018	.00041	-.00028	.06189	.00007
#3	-.00002	.00007	.00006	.00010	.00019	.00012	.06072	-.00014

Elem	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404	Mn2576	Mg2790
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	.00008	.00050	.00008	.00009	-.00035	.00005	.00050	-.00025
Stddev	.00009	.00018	.00005	.00010	.00003	.00001	.00004	.00019
%RSD	108.30	36.519	65.710	105.90	8.9230	19.269	7.0870	76.499
#1	.00014	.00071	.00008	.00020	-.00032	.00004	.00046	-.00023
#2	-.00002	.00039	.00002	.00007	-.00034	.00004	.00053	-.00007
#3	.00014	.00040	.00013	.00001	-.00038	.00006	.00051	-.00044

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	-.00034	-.00145	.00147	-.00009	.00576	.00016	.00111	.00008
Stddev	.00011	.00006	.00011	.00020	.00052	.00009	.00006	.00010
%RSD	32.623	3.8177	7.4312	216.78	8.9868	57.979	5.4011	127.95
#1	-.00024	-.00139	.00155	-.00032	.00625	.00025	.00105	.00011
#2	-.00045	-.00150	.00135	-.00003	.00522	.00016	.00111	-.00003
#3	-.00032	-.00145	.00152	.00007	.00582	.00007	.00117	.00016

Elem	Sn1899	Ti3361	Si2881	P_1774	S_1820	Li6707	Sr4077
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	.00002	.00254	.00010	-.00099	.00013	.00216	.00013
Stddev	.00009	.00017	.00002	.00004	.00006	.00050	.00018
%RSD	541.53	6.7620	17.779	4.5374	48.178	23.112	139.40
#1	-.00007	.00239	.00008	-.00099	.00017	.00223	-.00002
#2	.00012	.00250	.00011	-.00103	.00006	.00163	.00033
#3	.00001	.00273	.00010	-.00094	.00017	.00262	.00008

Reviewed By:mohan
On:4/24/2025 11:42:10 AM
Inst Id :P4
LB :LB135523

Sample Name: S0 Acquired: 4/22/2025 12:09:44 Type: Cal
Method: NON EPA-6010-200.7 NEW LR(v15) 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	3213.9	72679.	10735.	2215.7	4833.6
Stddev	11.9	246.	63.	13.3	19.6
%RSD	.37153	.33892	.58623	.60170	.40546
#1	3214.8	72828.	10782.	2217.9	4834.3
#2	3201.5	72814.	10663.	2227.8	4813.7
#3	3225.4	72395.	10759.	2201.4	4852.9

Reviewed By:mohan
On:4/24/2025 11:42:10 AM
Inst Id :P4
LB :LB135523

Sample Name: S1 Acquired: 4/22/2025 12:14:09 Type: Cal
Method: NON EPA-6010-200.7 NEW LR(v15) 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	.00082	.00175	.00181	.00066	.00547	.00719	.27951	.03556
Stddev	.00015	.00015	.00025	.00003	.00018	.00008	.00438	.00048
%RSD	18.259	8.3879	14.008	4.7543	3.2019	1.0482	1.5682	1.3405
#1	.00067	.00174	.00158	.00066	.00532	.00723	.27484	.03501
#2	.00083	.00160	.00177	.00063	.00543	.00710	.28353	.03584
#3	.00097	.00190	.00208	.00069	.00566	.00723	.28015	.03584

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	.01157	.09466	.00143	.01662	.01030	.00046	.00822	.02321
Stddev	.00003	.00132	.00006	.00012	.00006	.00002	.00014	.00018
%RSD	.26503	1.3947	4.2558	.74928	.55348	4.9695	1.7551	.79048
#1	.01154	.09319	.00150	.01669	.01035	.00043	.00834	.02312
#2	.01158	.09502	.00140	.01670	.01024	.00047	.00806	.02308
#3	.01160	.09576	.00139	.01648	.01031	.00047	.00825	.02342

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	.01566	.00089	.01787	.00514	.09391	.01157	.03876	.10213
Stddev	.00007	.00001	.00001	.00001	.00039	.00022	.00035	.00038
%RSD	.46418	1.4921	.03674	.28405	.41627	1.8720	.91135	.37178
#1	.01572	.00090	.01787	.00514	.09394	.01166	.03837	.10255
#2	.01568	.00088	.01786	.00515	.09428	.01132	.03885	.10182
#3	.01558	.00090	.01787	.00512	.09350	.01172	.03905	.10202

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	.00324	.01843	.00143	-.00036	.00044	.01630	.15318
Stddev	.00003	.00008	.00003	.00002	.00005	.00045	.00163
%RSD	.85666	.45408	1.8718	6.2200	11.473	2.7869	1.0621
#1	.00327	.01846	.00143	-.00037	.00048	.01604	.15131
#2	.00322	.01849	.00140	-.00038	.00046	.01683	.15392
#3	.00323	.01833	.00145	-.00033	.00039	.01604	.15430

Reviewed By:mohan
On:4/24/2025 11:42:10 AM
Inst Id :P4
LB :LB135523

Sample Name: S1 Acquired: 4/22/2025 12:14:09 Type: Cal
Method: NON EPA-6010-200.7 NEW LR(v15) 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	3211.3	73603.	11039.	2210.9	4838.9
Stddev	4.9	124.	114.	.6	.4
%RSD	.15267	.16878	1.0319	.02616	.00867
#1	3206.1	73543.	11156.	2211.6	4839.0
#2	3215.9	73745.	11033.	2210.5	4839.2
#3	3211.7	73519.	10928.	2210.6	4838.4

Reviewed By:mohan
On:4/24/2025 11:42:10 AM
Inst Id :P4
LB :LB135523

Sample Name: S2 Acquired: 4/22/2025 12:18:31 Type: Cal
Method: NON EPA-6010-200.7 NEW LR(v15) 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	.03042	.03582	.12643	.02094	.08097	.10839	3.6270	.25502
Stddev	.00007	.00040	.00005	.00020	.00036	.00036	.0009	.00062
%RSD	.23669	1.1092	.04236	.97721	.45002	.33241	.02406	.24184
#1	.03045	.03606	.12646	.02074	.08095	.10878	3.6263	.25544
#2	.03033	.03536	.12637	.02095	.08061	.10833	3.6280	.25530
#3	.03046	.03604	.12647	.02115	.08134	.10807	3.6267	.25431

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	.75897	.19243	.02416	.23080	.10267	.00321	.15466	.04521
Stddev	.00148	.00026	.00001	.00038	.00001	.00004	.00040	.00017
%RSD	.19442	.13768	.03939	.16283	.00984	1.3377	.25550	.38563
#1	.75911	.19238	.02417	.23075	.10268	.00324	.15485	.04508
#2	.75743	.19219	.02415	.23045	.10267	.00324	.15420	.04540
#3	.76037	.19271	.02417	.23119	.10266	.00316	.15492	.04513

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	.16775	.04664	.03378	.05334	.89164	.02256	.31148	.40845
Stddev	.00027	.00013	.00006	.00025	.00501	.00016	.00116	.00054
%RSD	.15944	.26995	.16426	.46853	.56234	.69108	.37273	.13277
#1	.16748	.04672	.03374	.05350	.89555	.02257	.31219	.40878
#2	.16777	.04649	.03376	.05305	.88599	.02241	.31212	.40782
#3	.16801	.04670	.03385	.05346	.89337	.02272	.31014	.40874

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	.06620	.31795	.00333	.02116	.01166	.62574	6.1417
Stddev	.00023	.00060	.00005	.00014	.00017	.00252	.0068
%RSD	.34176	.18890	1.5263	.66289	1.4920	.40261	.11078
#1	.06596	.31810	.00329	.02123	.01176	.62461	6.1382
#2	.06625	.31729	.00330	.02099	.01146	.62398	6.1373
#3	.06640	.31846	.00338	.02125	.01177	.62863	6.1495

Reviewed By:mohan
On:4/24/2025 11:42:10 AM
Inst Id :P4
LB :LB135523

Sample Name: S2 Acquired: 4/22/2025 12:18:31 Type: Cal
Method: NON EPA-6010-200.7 NEW LR(v15) 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	3109.3	71658.	10397.	2146.5	4617.9
Stddev	5.4	288.	24.	17.7	10.2
%RSD	.17291	.40135	.23166	.82283	.22000
#1	3108.5	71415.	10369.	2140.0	4614.2
#2	3115.1	71975.	10410.	2166.5	4629.3
#3	3104.4	71584.	10412.	2133.0	4610.0

Reviewed By:mohan
On:4/24/2025 11:42:10 AM
Inst Id :P4
LB :LB135523

Sample Name: S3 Acquired: 4/22/2025 12:22:38 Type: Cal
Method: NON EPA-6010-200.7 NEW LR(v15) 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	.09256	.10985	.38756	.06322	.24636	.33653	11.682	.75392
Stddev	.00003	.00043	.00020	.00011	.00007	.00204	.148	.00354
%RSD	.03157	.39173	.05249	.17351	.02789	.60514	1.2711	.46941
#1	.09259	.10985	.38744	.06317	.24644	.33515	11.648	.75088
#2	.09255	.11028	.38744	.06335	.24636	.33558	11.554	.75307
#3	.09254	.10942	.38779	.06315	.24630	.33887	11.845	.75781

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	2.3238	.60508	.07377	.70754	.31149	.01052	.48467	.14030
Stddev	.0015	.00499	.00030	.00076	.00054	.00007	.00584	.00163
%RSD	.06662	.82477	.41154	.10804	.17395	.64313	1.2040	1.1620
#1	2.3238	.60229	.07395	.70744	.31097	.01060	.48274	.13930
#2	2.3223	.60211	.07394	.70683	.31145	.01046	.48005	.13943
#3	2.3254	.61084	.07342	.70835	.31205	.01051	.49123	.14218

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	.51502	.14569	.11211	.16901	2.7139	.07445	.91959	1.2423
Stddev	.00018	.00026	.00088	.00182	.0046	.00056	.00985	.0008
%RSD	.03587	.17896	.78734	1.0764	.16784	.74976	1.0709	.06676
#1	.51519	.14583	.11250	.16819	2.7189	.07508	.91086	1.2415
#2	.51483	.14585	.11110	.16775	2.7131	.07400	.91765	1.2431
#3	.51503	.14539	.11273	.17110	2.7099	.07429	.93026	1.2423

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	.20336	.99707	.01054	.06719	.03585	1.9514	19.510
Stddev	.00026	.01128	.00003	.00024	.00017	.0217	.365
%RSD	.12685	1.1309	.24202	.36365	.46526	1.1120	1.8725
#1	.20309	.99519	.01057	.06693	.03569	1.9479	19.100
#2	.20338	.98685	.01052	.06724	.03603	1.9317	19.799
#3	.20360	1.0092	.01052	.06741	.03583	1.9747	19.633

Reviewed By:mohan
On:4/24/2025 11:42:10 AM
Inst Id :P4
LB :LB135523

Sample Name: S3 Acquired: 4/22/2025 12:22:38 Type: Cal
Method: NON EPA-6010-200.7 NEW LR(v15) 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	3091.1	70593.	10768.	2129.0	4529.3
Stddev	3.0	318.	46.	4.6	4.4
%RSD	.09659	.45023	.42631	.21386	.09811
#1	3089.2	70386.	10813.	2123.8	4524.3
#2	3089.6	70435.	10771.	2130.8	4532.9
#3	3094.5	70959.	10721.	2132.4	4530.7

Reviewed By:mohan
On:4/24/2025 11:42:10 AM
Inst Id :P4
LB :LB135523

Sample Name: S4 Acquired: 4/22/2025 12:26:49 Type: Cal
Method: NON EPA-6010-200.7 NEW LR(v15) 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	.18240	.21556	.75908	.12310	.48402	.66315	22.417	1.4582
Stddev	.00024	.00115	.00149	.00014	.00040	.00420	.225	.0152
%RSD	.13272	.53360	.19576	.11680	.08338	.63272	1.0042	1.0397
#1	.18248	.21649	.75943	.12325	.48364	.66128	22.267	1.4503
#2	.18213	.21427	.76036	.12296	.48399	.66021	22.307	1.4487
#3	.18259	.21591	.75745	.12309	.48444	.66795	22.676	1.4757

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	4.5475	1.1750	.14463	1.3804	.60204	.02087	.93267	.27633
Stddev	.0050	.0075	.00180	.0022	.00095	.00013	.00753	.00130
%RSD	.10974	.63597	1.2454	.15994	.15772	.64094	.80784	.46909
#1	4.5476	1.1779	.14343	1.3819	.60291	.02085	.93595	.27647
#2	4.5524	1.1665	.14375	1.3814	.60103	.02075	.92405	.27497
#3	4.5424	1.1805	.14670	1.3778	.60217	.02101	.93800	.27755

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	.99877	.28745	.22766	.33199	5.3070	.15062	1.7800	2.4234
Stddev	.00153	.00333	.00152	.00185	.0893	.00084	.0161	.0032
%RSD	.15320	1.1572	.66759	.55597	1.6823	.56020	.90541	.13023
#1	.99893	.28497	.22887	.33197	5.2373	.15098	1.7694	2.4218
#2	1.0002	.28616	.22595	.33016	5.2761	.14965	1.7720	2.4214
#3	.99716	.29123	.22816	.33385	5.4077	.15122	1.7985	2.4271

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	.39973	1.9430	.02111	.13375	.07082	3.8635	37.720
Stddev	.00085	.0077	.00011	.00010	.00003	.0131	.234
%RSD	.21255	.39575	.53375	.07446	.04415	.33812	.61928
#1	.40011	1.9480	.02098	.13385	.07082	3.8733	37.691
#2	.40033	1.9342	.02113	.13375	.07086	3.8487	37.502
#3	.39876	1.9469	.02121	.13365	.07079	3.8687	37.966

Reviewed By:mohan
On:4/24/2025 11:42:10 AM
Inst Id :P4
LB :LB135523

Sample Name: S4 Acquired: 4/22/2025 12:26:49 Type: Cal
Method: NON EPA-6010-200.7 NEW LR(v15) 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	3066.2	69269.	10786.	2053.0	4456.7
Stddev	7.0	550.	63.	27.7	8.4
%RSD	.22965	.79400	.58861	1.3499	.18762
#1	3061.6	69702.	10819.	2075.3	4447.5
#2	3074.3	69455.	10827.	2061.9	4463.8
#3	3062.6	68650.	10713.	2022.0	4458.9

Reviewed By:mohan
On:4/24/2025 11:42:10 AM
Inst Id :P4
LB :LB135523

Sample Name: S5 Acquired: 4/22/2025 12:31:03 Type: Cal
Method: NON EPA-6010-200.7 NEW LR(v15) 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	.37892	.43355	1.5678	.25387	1.0068	1.4283	45.883	3.1697
Stddev	.00036	.00244	.0021	.00048	.0017	.0032	.383	.0196
%RSD	.09512	.56306	.13371	.18825	.17061	.22263	.83566	.61965
#1	.37882	.43561	1.5699	.25350	1.0050	1.4273	46.062	3.1535
#2	.37863	.43419	1.5679	.25441	1.0070	1.4257	46.144	3.1640
#3	.37933	.43085	1.5657	.25370	1.0085	1.4318	45.442	3.1915

Elem	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404	Mn2576	Mg2790
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	9.4599	2.4704	.28584	2.8796	1.2297	.03763	1.9329	.59597
Stddev	.0112	.0055	.00035	.0014	.0006	.00022	.0033	.00211
%RSD	.11847	.22364	.12320	.04946	.05228	.57352	.17284	.35353
#1	9.4688	2.4675	.28552	2.8812	1.2293	.03758	1.9338	.59358
#2	9.4635	2.4669	.28622	2.8784	1.2293	.03787	1.9292	.59676
#3	9.4473	2.4767	.28579	2.8793	1.2304	.03745	1.9357	.59757

Elem	Ni2316	Ag3280	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2.0735	.56672	.41973	.69926	10.384	.28143	3.9189	4.9336
Stddev	.0014	.00094	.00234	.00050	.061	.00108	.0122	.0029
%RSD	.06799	.16534	.55748	.07117	.58720	.38449	.31102	.05771
#1	2.0745	.56778	.42156	.69874	10.328	.28229	3.9110	4.9366
#2	2.0740	.56640	.42052	.69974	10.449	.28179	3.9128	4.9333
#3	2.0719	.56599	.41709	.69929	10.375	.28021	3.9329	4.9309

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	.82941	4.0621	.03978	.28376	.15155	8.3825	77.863
Stddev	.00153	.0067	.00007	.00017	.00008	.0190	1.194
%RSD	.18488	.16626	.18249	.05860	.05191	.22675	1.5328
#1	.82927	4.0660	.03980	.28393	.15153	8.4044	77.392
#2	.83101	4.0543	.03983	.28375	.15149	8.3725	76.976
#3	.82795	4.0660	.03969	.28360	.15164	8.3705	79.220

Reviewed By:mohan
On:4/24/2025 11:42:10 AM
Inst Id :P4
LB :LB135523

Sample Name: S5 Acquired: 4/22/2025 12:31:03 Type: Cal
Method: NON EPA-6010-200.7 NEW LR(v15) 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	2967.4	71890.	9746.9	2034.9	4223.4
Stddev	1.8	154.	46.3	12.3	2.1
%RSD	.05953	.21475	.47516	.60356	.04977
#1	2966.2	72031.	9791.4	2047.2	4221.1
#2	2969.5	71725.	9750.3	2022.6	4225.3
#3	2966.6	71913.	9698.9	2035.0	4223.7

Reviewed By:mohan
On:4/24/2025 11:42:10 AM
Inst Id :P4
LB :LB135523

Sample Name: ICV01 Acquired: 4/22/2025 12:46:18 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v15) 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	.9978426	1.028459	.9750716	1.037776	.9964033	2.273025
Stddev	.0052791	.000861	.0027196	.003727	.0003304	.016078
%RSD	.5290494	.0837655	.2789158	.3591569	.0331588	.7073515
#1	1.003711	1.028118	.9779896	1.041417	.9962797	2.285893
#2	.996338	1.027821	.9746176	1.037942	.9961526	2.255001
#3	.993479	1.029439	.9726075	1.033968	.9967777	2.278179

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.5054273	.5109289	.4990963	9.016394	.4991843	.4810181
Stddev	.0010917	.0014001	.0005111	.031150	.0005436	.0013281
%RSD	.2159888	.2740255	.1024083	.3454786	.1088987	.2760913
#1	.5059414	.5124279	.4986874	9.048720	.4987623	.4799991
#2	.5041735	.5096550	.4996693	8.986572	.4989930	.4825201
#3	.5061670	.5107040	.4989321	9.013890	.4997977	.4805352

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.4939142	9.474083	.4988633	5.860783	.5164836	.2424297
Stddev	.0002813	.026917	.0011730	.034517	.0010050	.0005788
%RSD	.0569460	.2841156	.2351447	.5889522	.1945879	.2387661
#1	.4942077	9.444838	.4999873	5.900536	.5176410	.2425570
#2	.4938878	9.497820	.4976467	5.843402	.5158317	.2429344
#3	.4936470	9.479591	.4989560	5.838412	.5159780	.2417979

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	9.268353	.4505674	.9806508	9.343244	2.347427	2.595238
Stddev	.031288	.0023151	.0045783	.036199	.006017	.003208
%RSD	.3375828	.5138227	.4668621	.3874387	.2563033	.1235993
#1	9.283370	.4524491	.9790998	9.331964	2.353042	2.591614
#2	9.289303	.4512710	.9770495	9.314028	2.341076	2.597714
#3	9.232387	.4479821	.9858031	9.383741	2.348163	2.596385

Reviewed By:mohan
On:4/24/2025 11:42:10 AM
Inst Id :P4
LB :LB135523

Sample Name: ICV01 Acquired: 4/22/2025 12:46:18 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v15) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: ICV01 Custom ID2: Custom ID3:
Comment:

Elem	Sn1899	Ti3361	Si2881	P_1774	S_1820	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.525216	2.432059	F 1.876305	2.593609	2.384264	2.314570
Stddev	.001406	.006206	.013177	.008636	.007142	.007591
%RSD	.0556897	.2551596	.7022970	.3329761	.2995490	.3279833
#1	2.524530	2.438418	1.867799	2.587462	2.381538	2.320353
#2	2.526834	2.426019	1.891484	2.589882	2.392367	2.305974
#3	2.524285	2.431741	1.869633	2.603483	2.378885	2.317385

Elem	Sr4077
Units	ppm
Avg	2.314707
Stddev	.022540
%RSD	.9737724
#1	2.294211
#2	2.338847
#3	2.311063

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3055.255	70609.12	10845.90	2062.137	4545.862
Stddev	4.776	96.14	36.82	6.461	9.451
%RSD	.1563285	.1361578	.3395277	.3133195	.2079099
#1	3052.535	70714.00	10810.61	2061.861	4538.509
#2	3052.460	70525.17	10884.09	2068.731	4542.553
#3	3060.770	70588.19	10842.98	2055.818	4556.522

Reviewed By:mohan
On:4/24/2025 11:42:10 AM
Inst Id :P4
LB :LB135523

Sample Name: LLICV Acquired: 4/22/2025 12:51:00 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v15) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: LLICV Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0190612	.0394470	.0111648	.0238994	.0530246	.1049183	.0896531
Stddev	.0029166	.0027922	.0014598	.0057737	.0009300	.0045486	.0003112
%RSD	15.30124	7.078252	13.07521	24.15829	1.753934	4.335426	.3470789
#1	.0221025	.0416651	.0128475	.0185310	.0530947	.1054570	.0900115
#2	.0162878	.0403643	.0104100	.0300072	.0539176	.1091735	.0894960
#3	.0187935	.0363116	.0102369	.0231601	.0520615	.1001242	.0894519

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0058424	.0060908	1.895912	.0096545	.0289292	.0216789	.1029249
Stddev	.0000548	.0000598	.008543	.0004771	.0001124	.0002119	.0022564
%RSD	.9382509	.9822493	.4505869	4.941206	.3886396	.9772014	2.192293
#1	.0057792	.0061547	1.886465	.0098749	.0288276	.0215492	.1003202
#2	.0058773	.0060818	1.903094	.0099815	.0290500	.0219234	.1042833
#3	.0058707	.0060360	1.898178	.0091071	.0289099	.0215641	.1041712

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0192455	2.010489	.0391466	.0104329	1.771735	.0393659	.0427210
Stddev	.0005350	.015785	.0003317	.0002750	.007986	.0012943	.0007897
%RSD	2.780006	.7851466	.8472377	2.635913	.4507219	3.287837	1.848505
#1	.0190678	1.992970	.0392732	.0101165	1.778100	.0400286	.0421451
#2	.0188219	2.014887	.0393964	.0106145	1.762774	.0378745	.0436212
#3	.0198468	2.023608	.0387703	.0105677	1.774329	.0401947	.0423967

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.941154	.1107557	.2099212	.0407764	.0396356	.3402869	.0224190
Stddev	.040303	.0013323	.0006084	.0016222	.0006371	.0054475	.0025485
%RSD	2.076248	1.202908	.2898252	3.978286	1.607505	1.600870	11.36765
#1	1.916443	.1092217	.2104819	.0393546	.0403713	.3454489	.0202286
#2	1.919359	.1114228	.2100074	.0404313	.0392644	.3345928	.0218124
#3	1.987662	.1116227	.2092743	.0425434	.0392710	.3408190	.0252161

Reviewed By:mohan
On:4/24/2025 11:42:10 AM
Inst Id :P4
LB :LB135523

Sample Name: LLICV Acquired: 4/22/2025 12:51:00 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v15) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: LLICV Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	.0186926	.0164491	.0192656
Stddev	.0013334	.0005169	.0000763
%RSD	7.133075	3.142184	.3960517
#1	.0196072	.0162526	.0192924
#2	.0193079	.0170354	.0191795
#3	.0171627	.0160593	.0193249

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3149.495	72088.47	10948.87	2098.664	4801.260
Stddev	8.821	301.76	46.04	8.752	12.228
%RSD	.2800818	.4185905	.4205336	.4170078	.2546731
#1	3139.852	71763.20	10998.78	2091.723	4787.891
#2	3151.474	72142.90	10939.76	2095.773	4804.011
#3	3157.158	72359.30	10908.05	2108.495	4811.878

Reviewed By:mohan
On:4/24/2025 11:42:10 AM
Inst Id :P4
LB :LB135523

Sample Name: ICB01 Acquired: 4/22/2025 13:00:40 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v15) 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	-.002694	-.002184	.0004538	.0042883	-.000746	.0111388	-.002225
Stddev	.001853	.003649	.0021286	.0046119	.001243	.0017130	.000843
%RSD	68.76690	167.0642	469.0889	107.5475	166.6135	15.37839	37.88184
#1	-.004585	-.001245	.0028341	.0087107	-.000901	.0103854	-.001341
#2	-.000882	-.006211	-.000206	-.000492	.000567	.0099316	-.003019
#3	-.002616	.000904	-.001267	.004646	-.001904	.0130993	-.002316

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0000015	-.000063	-.009366	-.000193	-.000091	.0000203	.0005223
Stddev	.0000216	.000026	.010010	.000291	.000164	.0001935	.0017775
%RSD	1489.180	41.91639	106.8783	150.6030	180.2620	951.2884	340.3166
#1	.0000184	-.000062	-.006688	-.000365	-.000187	.0000224	.0010415
#2	.0000088	-.000090	-.020443	-.000358	.000099	.0002128	-.001457
#3	-.000023	-.000037	-.000967	.000143	-.000185	-.000174	.001982

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0006377	.0032262	-.000031	.0002970	-.052028	.0000049	.0007878
Stddev	.0002255	.0114851	.000506	.0000394	.009419	.0020368	.0003728
%RSD	35.36490	355.9992	1628.487	13.26400	18.10405	41472.22	47.32620
#1	.0004960	-.003198	.000141	.0002809	-.052967	-.002317	.0003791
#2	.0005193	.016486	-.000601	.0002682	-.060943	.001489	.0008751
#3	.0008977	-.003609	.000366	.0003419	-.042175	.000843	.0011093

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.030332	.0050594	-.000070	.0012543	.0007294	.0116628	.0010793
Stddev	.019432	.0001930	.000075	.0003209	.0003738	.0079580	.0019805
%RSD	64.06463	3.813623	108.1757	25.58354	51.25264	68.23453	183.5045
#1	-.009827	.0048422	-.000033	.0015739	.0004636	.0041659	-.001016
#2	-.032693	.0052111	-.000157	.0009321	.0011569	.0108093	.002921
#3	-.048475	.0051249	-.000020	.0012569	.0005677	.0200131	.001333

Reviewed By:mohan
On:4/24/2025 11:42:10 AM
Inst Id :P4
LB :LB135523

Sample Name: ICB01 Acquired: 4/22/2025 13:00:40 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v15) 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	.0031283	-.002305	-.000021
Stddev	.0046657	.001250	.000056
%RSD	149.1414	54.21265	262.5931
#1	.0052568	-.002163	-.000040
#2	.0063502	-.003619	-.000066
#3	-.002222	-.001132	.000042

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3108.334	72041.61	11725.21	2070.688	4759.422
Stddev	13.502	395.97	23.43	12.435	20.013
%RSD	.4343718	.5496396	.1998018	.6005478	.4204907
#1	3107.407	71655.33	11718.97	2059.351	4758.380
#2	3095.319	72022.89	11751.12	2068.725	4739.951
#3	3122.275	72446.61	11705.53	2083.989	4779.936

Reviewed By:mohan
On:4/24/2025 11:42:10 AM
Inst Id :P4
LB :LB135523

Sample Name: CRI01 Acquired: 4/22/2025 13:05:02 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v15) 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	.0171979	.0349437	.0104779	.0226462	.0473768	.0961632	.0861790
Stddev	.0040021	.0090602	.0022250	.0038404	.0144077	.0021768	.0006341
%RSD	23.27081	25.92815	21.23480	16.95831	30.41087	2.263692	.7358010
#1	.0205681	.0403910	.0107542	.0264525	.0559927	.0959378	.0869101
#2	.0182509	.0399551	.0125518	.0227137	.0553939	.0941078	.0858469
#3	.0127746	.0244848	.0081277	.0187725	.0307438	.0984439	.0857798

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0060602	.0052472	1.877950	.0097597	.0251094	.0189891	.0955693
Stddev	.0000417	.0013514	.021095	.0005657	.0069303	.0052876	.0069152
%RSD	.6881841	25.75375	1.123279	5.796791	27.60040	27.84542	7.235815
#1	.0060909	.0060148	1.899602	.0104037	.0290015	.0222043	.0884834
#2	.0060127	.0060399	1.876787	.0095326	.0292188	.0218766	.1023001
#3	.0060770	.0036869	1.857461	.0093427	.0171080	.0128864	.0959244

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0187874	2.029484	.0338052	.0103964	1.666076	.0389051	.0421767
Stddev	.0004744	.003070	.0086947	.0002677	.033914	.0013463	.0003715
%RSD	2.525117	.1512670	25.72018	2.575088	2.035542	3.460371	.8807817
#1	.0186298	2.025986	.0388300	.0106053	1.702208	.0373547	.0418469
#2	.0193206	2.031728	.0388203	.0104894	1.661087	.0397785	.0425792
#3	.0184119	2.030740	.0237654	.0100946	1.634934	.0395821	.0421042

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.872762	.1078969	.1826199	.0356468	.0401193	.3291807	.0185504
Stddev	.021059	.0012096	.0497784	.0091579	.0002324	.0049028	.0045097
%RSD	1.124492	1.121027	27.25792	25.69080	.5791890	1.489389	24.31088
#1	1.884345	.1078017	.2115563	.0409266	.0401897	.3236510	.0222599
#2	1.885486	.1067377	.2111623	.0409417	.0403083	.3308948	.0198607
#3	1.848454	.1091512	.1251413	.0250721	.0398599	.3329963	.0135305

Reviewed By:mohan
On:4/24/2025 11:42:10 AM
Inst Id :P4
LB :LB135523

Sample Name: CRI01 Acquired: 4/22/2025 13:05:02 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v15) 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	.0163315	.0165729	.0189094
Stddev	.0077154	.0015753	.0001007
%RSD	47.24242	9.505076	.5323568
#1	.0171961	.0172696	.0190227
#2	.0235782	.0176798	.0188750
#3	.0082202	.0147695	.0188304

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3588.492	71335.93	10468.52	2051.021	5475.341
Stddev	821.197	163.16	17.97	9.444	1217.672
%RSD	22.88418	.2287164	.1716473	.4604536	22.23920
#1	3107.346	71249.62	10487.99	2042.224	4761.124
#2	3121.436	71524.12	10464.97	2049.838	4783.572
#3	4536.693	71234.07	10452.58	2061.000	6881.328

Reviewed By:mohan
On:4/24/2025 11:42:10 AM
Inst Id :P4
LB :LB135523

Sample Name: ICSA01 Acquired: 4/22/2025 13:09:23 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v15) 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	.0019646	.0078770	-.003666	-.008546	-.003256	236.2306
Stddev	.0054677	.0021558	.001377	.004115	.002143	3.0734
%RSD	278.3152	27.36786	37.56235	48.14353	65.83838	1.301005
#1	-.002494	.0086161	-.003187	-.011884	-.000785	239.7765
#2	.000322	.0095659	-.005218	-.003949	-.004613	234.5822
#3	.008065	.0054489	-.002592	-.009805	-.004369	234.3331

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0021167	.0005275	-.003616	221.1271	.0552408	.0006567
Stddev	.0007952	.0000278	.000226	2.8698	.0005454	.0003099
%RSD	37.56745	5.267609	6.245628	1.297794	.9872593	47.18865
#1	.0029226	.0005172	-.003656	224.4408	.0558634	.0008664
#2	.0013327	.0005063	-.003373	219.4504	.0548477	.0008030
#3	.0020949	.0005589	-.003819	219.4902	.0550113	.0003008

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0170135	96.19957	.0015884	237.4441	.0023507	-.000119
Stddev	.0017409	.73818	.0006105	2.5066	.0004881	.000446
%RSD	10.23231	.7673418	38.43478	1.055641	20.76300	373.6435
#1	.0161451	96.63889	.0015591	240.3129	.0025874	-.000634
#2	.0190177	95.34733	.0022130	235.6776	.0026753	.000157
#3	.0158776	96.61249	.0009931	236.3417	.0017894	.000119

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0107967	.0017323	.0027079	.0090867	-.097954	.0006533
Stddev	.0127974	.0011445	.0001806	.0242881	.004728	.0004681
%RSD	118.5310	66.07037	6.669474	267.2915	4.826300	71.65737
#1	.0068323	.0012338	.0027530	-.005001	-.103355	.0001209
#2	.0004506	.0030415	.0028617	-.004871	-.095940	.0010007
#3	.0251071	.0009215	.0025090	.037132	-.094566	.0008382

Reviewed By:mohan
On:4/24/2025 11:42:10 AM
Inst Id :P4
LB :LB135523

Sample Name: ICSA01 Acquired: 4/22/2025 13:09:23 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v15) 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	-.005485	-.000929	.0230624	.0049688	-.009292	.0022270
Stddev	.000720	.000230	.0110074	.0022248	.001613	.0004944
%RSD	13.12406	24.76690	47.72879	44.77431	17.35992	22.19876
#1	-.006031	-.001194	.0143170	.0070768	-.011005	.0027232
#2	-.005756	-.000777	.0194474	.0051863	-.007802	.0017344
#3	-.004669	-.000816	.0354226	.0026433	-.009068	.0022236

Elem	Sr4077
Units	ppm
Avg	F .0936537
Stddev	.0013701
%RSD	1.462955
#1	.0952184
#2	.0930740
#3	.0926687

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2737.601	64767.88	10523.51	1873.639	3941.555
Stddev	11.763	639.15	121.15	16.822	14.117
%RSD	.4296885	.9868326	1.151271	.8978361	.3581623
#1	2731.285	64580.33	10385.66	1873.794	3934.365
#2	2730.345	65479.83	10613.09	1890.383	3932.479
#3	2751.173	64243.49	10571.79	1856.740	3957.819

Reviewed By:mohan
On:4/24/2025 11:42:10 AM
Inst Id :P4
LB :LB135523

Sample Name: ICSAB01 Acquired: 4/22/2025 13:13:40 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v15) 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	.1157084	.1070717	.0502135	.0484566	.6505095	238.7351
Stddev	.0049925	.0073343	.0040245	.0108896	.0040627	2.0912
%RSD	4.314744	6.849917	8.014813	22.47300	.6245454	.8759680
#1	.1175262	.1155191	.0464903	.0371069	.6504172	237.3394
#2	.1195373	.1023254	.0544834	.0588189	.6546176	241.1395
#3	.1100617	.1033706	.0496668	.0494439	.6464937	237.7264

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.4594786	.5041600	1.013342	220.9793	.5584338	.4957165
Stddev	.0052879	.0053883	.003665	2.1440	.0016805	.0009841
%RSD	1.150845	1.068766	.3617121	.9702124	.3009390	.1985143
#1	.4560081	.4990095	1.017228	219.6757	.5602950	.4967050
#2	.4655645	.5097581	1.012851	223.4538	.5570278	.4957076
#3	.4568632	.5037124	1.009947	219.8084	.5579784	.4947369

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.5168705	91.61194	.4585920	239.2769	.9851941	.1833823
Stddev	.0008418	.37451	.0054848	2.2206	.0020546	.0007334
%RSD	.1628564	.4088002	1.196016	.9280339	.2085505	.3999564
#1	.5171297	92.04097	.4551433	237.6155	.9865934	.1837201
#2	.5175521	91.35043	.4649167	241.7990	.9861537	.1825408
#3	.5159296	91.44444	.4557160	238.4163	.9828353	.1838860

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.042363	.4575869	1.050361	.0089294	F .8338466	1.030124
Stddev	.008792	.0031357	.003850	.0196408	.0070008	.004039
%RSD	20.75317	.6852659	.3665301	219.9556	.8395760	.3920876
#1	-.041476	.4544620	1.049827	-.009109	.8287742	1.034229
#2	-.051565	.4607332	1.046806	.029853	.8418338	1.029989
#3	-.034049	.4575655	1.054450	.006044	.8309317	1.026154

Reviewed By:mohan
On:4/24/2025 11:42:10 AM
Inst Id :P4
LB :LB135523

Sample Name: ICSAB01 Acquired: 4/22/2025 13:13:40 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v15) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: ICSAB01 Custom ID2: Custom ID3:
Comment:

Elem	Sn1899	Ti3361	Si2881	P_1774	S_1820	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.005619	.9444396	F .7749422	F .0071708	F -.011359	F -.000502
Stddev	.007229	.0086651	.0054226	.0020481	.005056	.000547
%RSD	.7188500	.9174907	.6997461	28.56125	44.51493	109.1334
#1	1.012533	.9386510	.7797684	.0095280	-.017197	-.001101
#2	1.006212	.9544017	.7690743	.0058265	-.008423	-.000029
#3	.998112	.9402660	.7759838	.0061579	-.008456	-.000374

Elem	Sr4077
Units	ppm
Avg	F .0932509
Stddev	.0010776
%RSD	1.155586
#1	.0925439
#2	.0944911
#3	.0927176

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2747.151	64572.33	9951.644	1858.949	3961.786
Stddev	7.442	232.02	107.640	6.419	12.416
%RSD	.2708934	.3593179	1.081631	.3453262	.3134000
#1	2739.595	64318.68	10031.26	1864.438	3948.942
#2	2747.385	64773.85	9829.18	1851.890	3962.691
#3	2754.473	64624.45	9994.49	1860.518	3973.725

Reviewed By:mohan
On:4/24/2025 11:42:10 AM
Inst Id :P4
LB :LB135523

Sample Name: ICSADLX20 Acquired: 4/22/2025 13:17:47 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v15) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: ICSA01DLX20 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.001985	-.001658	-.001001	.0023288	-.000317	11.66484	-.002212
Stddev	.003330	.000896	.001331	.0034947	.000266	.12400	.001030
%RSD	167.7878	54.05656	133.0413	150.0635	83.97774	1.062999	46.57791
#1	-.002958	-.001417	-.001099	-.000782	-.000535	11.62317	-.003396
#2	.001724	-.000906	-.002280	.001659	-.000396	11.80431	-.001521
#3	-.004720	-.002649	.000377	.006110	-.000020	11.56705	-.001718

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0000972	-.000283	11.39326	.0053206	-.000241	.0011250	4.717236
Stddev	.0000458	.000010	.09207	.0005442	.000295	.0001300	.021370
%RSD	47.10274	3.526505	.8081292	10.22819	122.4744	11.55313	.4530232
#1	.0001477	-.000277	11.33034	.0051862	-.000299	.0009759	4.701947
#2	.0000585	-.000294	11.49894	.0059194	.000079	.0012144	4.741655
#3	.0000854	-.000276	11.35050	.0048561	-.000503	.0011848	4.708108

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0015537	11.74260	.0003474	.0004591	-.089008	.0002240	.0000375
Stddev	.0003115	.09312	.0003087	.0000729	.001861	.0020567	.0003609
%RSD	20.04664	.7930273	88.86792	15.88537	2.090265	918.3007	961.8359
#1	.0012486	11.67829	.0006871	.0005142	-.090431	.0024386	.0004524
#2	.0018712	11.84939	.0000839	.0004867	-.086902	-.001626	-.000136
#3	.0015413	11.70012	.0002712	.0003764	-.089690	-.000141	-.000203

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.026785	-.002716	.0000378	-.000468	.0001390	.0072965	.0029111
Stddev	.025046	.000183	.0002673	.000637	.0004644	.0068479	.0028903
%RSD	93.50772	6.755387	707.2183	136.2352	334.0495	93.85173	99.28479
#1	-.019262	-.002915	-.000266	.000108	-.000204	-.000609	.0039785
#2	-.054731	-.002554	.000145	-.000359	.000667	.011375	.0051159
#3	-.006363	-.002677	.000235	-.001153	-.000046	.011124	-.000361

Reviewed By:mohan
On:4/24/2025 11:42:10 AM
Inst Id :P4
LB :LB135523

Sample Name: ICSADLX20 Acquired: 4/22/2025 13:17:47 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v15) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: ICSA01DLX20 Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	.0057748	-.002998	.0047013
Stddev	.0040475	.000294	.0000546
%RSD	70.08890	9.807859	1.162344
#1	.0013496	-.002672	.0047482
#2	.0066853	-.003242	.0047143
#3	.0092896	-.003082	.0046413

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3107.594	71892.58	10691.95	2062.557	4732.679
Stddev	8.226	138.59	72.52	5.406	18.115
%RSD	.2647172	.1927674	.6783121	.2620892	.3827681
#1	3099.044	72050.50	10770.47	2068.766	4712.078
#2	3108.286	71836.02	10627.48	2060.004	4739.839
#3	3115.453	71791.22	10677.89	2058.900	4746.120

Reviewed By:mohan
On:4/24/2025 11:42:10 AM
Inst Id :P4
LB :LB135523

Sample Name: ICSABDLX20 Acquired: 4/22/2025 13:22:06 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v15) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: ICSAB01DLX20 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0025984	.0033154	.0004366	.0082366	.0310363	11.24117	.0199314
Stddev	.0012019	.0003235	.0006960	.0014236	.0016860	.02611	.0004689
%RSD	46.25462	9.758844	159.4127	17.28346	5.432474	.2322956	2.352805
#1	.0032191	.0030786	-.000366	.0086379	.0291292	11.24981	.0195855
#2	.0033630	.0036840	.000865	.0094164	.0316507	11.21184	.0204651
#3	.0012131	.0031836	.000811	.0066554	.0323290	11.26187	.0197436

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0230432	.0497809	11.16113	.0283443	.0236969	.0256862	5.088712
Stddev	.0001968	.0000924	.05032	.0008492	.0001398	.0004459	.042970
%RSD	.8539734	.1855695	.4508832	2.996106	.5900637	1.735779	.8444091
#1	.0231882	.0498499	11.19946	.0283615	.0238555	.0258344	5.057218
#2	.0228192	.0498168	11.10414	.0274866	.0236440	.0260391	5.071255
#3	.0231222	.0496760	11.17979	.0291848	.0235913	.0251852	5.137662

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0243439	11.33030	.0483032	.0093525	-.089575	.0240530	.0526247
Stddev	.0003540	.04545	.0002952	.0001453	.017834	.0008506	.0002208
%RSD	1.453957	.4011246	.6112165	1.553966	19.90953	3.536459	.4195869
#1	.0239632	11.33957	.0481792	.0091851	-.069198	.0246815	.0523709
#2	.0244052	11.28093	.0486402	.0094260	-.102340	.0230850	.0527725
#3	.0246631	11.37040	.0480901	.0094465	-.097187	.0243924	.0527307

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.034680	.0410863	.0509954	.0482359	.0476207	.0451450	.0035720
Stddev	.016818	.0004252	.0006001	.0012034	.0008960	.0068945	.0022187
%RSD	48.49296	1.034979	1.176835	2.494736	1.881471	15.27187	62.11205
#1	-.038952	.0414944	.0515806	.0481631	.0476928	.0479319	.0038093
#2	-.048951	.0411187	.0510241	.0494740	.0466908	.0502098	.0012443
#3	-.016139	.0406458	.0503814	.0470706	.0484784	.0372933	.0056625

Reviewed By:mohan
On:4/24/2025 11:42:10 AM
Inst Id :P4
LB :LB135523

Sample Name: ICSABDLX20 Acquired: 4/22/2025 13:22:06 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v15) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: ICSAB01DLX20 Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	.0024787	-.002927	.0047540
Stddev	.0035330	.000681	.0000411
%RSD	142.5315	23.26813	.8654663
#1	.0058985	-.002470	.0048014
#2	-.001157	-.002600	.0047274
#3	.002695	-.003709	.0047334

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3091.812	69961.26	11572.47	2033.887	4720.629
Stddev	9.576	239.05	84.40	11.464	10.050
%RSD	.3097058	.3416906	.7292922	.5636469	.2128976
#1	3082.199	70170.49	11518.13	2037.079	4711.516
#2	3091.888	70012.55	11669.70	2043.417	4718.964
#3	3101.350	69700.72	11529.58	2021.166	4731.408

Reviewed By:mohan
On:4/24/2025 11:42:10 AM
Inst Id :P4
LB :LB135523

Sample Name: CCV01 Acquired: 4/22/2025 13:26:23 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v15) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCV01 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	4.965858	4.951568	4.844393	5.022990	5.048748	9.767160	9.475852
Stddev	.027638	.057137	.014820	.019624	.020401	.161189	.193663
%RSD	.5565632	1.153913	.3059169	.3906929	.4040736	1.650316	2.043754
#1	4.997551	5.016596	4.854536	5.045651	5.072232	9.788674	9.655905
#2	4.953255	4.909403	4.851258	5.011694	5.038608	9.596294	9.270973
#3	4.946767	4.928706	4.827386	5.011626	5.035404	9.916511	9.500678

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2466724	2.388262	23.63556	.9986002	2.411935	1.250061	4.862990
Stddev	.0041154	.005599	.29877	.0018095	.006428	.004152	.021656
%RSD	1.668367	.2344240	1.264050	.1812036	.2664997	.3321616	.4453194
#1	.2484172	2.392227	23.75680	1.000679	2.416819	1.254236	4.874295
#2	.2419721	2.390703	23.29523	.997377	2.414333	1.250014	4.876653
#3	.2496280	2.381858	23.85465	.997745	2.404653	1.245932	4.838021

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.348714	23.68404	2.412317	1.255733	23.97089	2.383170	2.512922
Stddev	.031918	.40688	.004773	.003331	.12239	.036071	.007861
%RSD	1.358949	1.717931	.1978650	.2652760	.5105638	1.513568	.3128309
#1	2.356659	23.77975	2.416078	1.259177	23.99866	2.391337	2.515305
#2	2.313573	23.23784	2.413925	1.255493	24.07701	2.343716	2.519316
#3	2.375908	24.03453	2.406947	1.252528	23.83701	2.414457	2.504145

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	24.34525	4.914465	4.985049	4.817592	4.755723	4.978837	4.867900
Stddev	.13205	.081547	.018470	.013698	.066186	.042305	.012706
%RSD	.5424134	1.659332	.3705070	.2843345	1.391720	.8496875	.2610103
#1	24.33012	4.939425	5.004084	4.832840	4.775728	4.942774	4.881604
#2	24.48421	4.823355	4.983863	4.813613	4.681842	5.025404	4.865588
#3	24.22141	4.980615	4.967201	4.806325	4.809599	4.968333	4.856510

Reviewed By:mohan
On:4/24/2025 11:42:10 AM
Inst Id :P4
LB :LB135523

Sample Name: CCV01 Acquired: 4/22/2025 13:26:23 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v15) 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	4.821314	4.817211	4.772452
Stddev	.031098	.067823	.096367
%RSD	.6450104	1.407933	2.019243
#1	4.856261	4.824333	4.844447
#2	4.810992	4.746109	4.662975
#3	4.796690	4.881193	4.809934

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3012.766	69342.75	10274.28	1991.388	4470.654
Stddev	8.310	233.43	158.87	4.814	10.127
%RSD	.2758244	.3366357	1.546301	.2417626	.2265294
#1	3004.713	69200.52	10210.26	1992.844	4461.670
#2	3012.275	69215.57	10455.17	1986.013	4468.663
#3	3021.311	69612.15	10157.40	1995.306	4481.629

Reviewed By:mohan
On:4/24/2025 11:42:10 AM
Inst Id :P4
LB :LB135523

Sample Name: CCB01 Acquired: 4/22/2025 13:30:36 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v15) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCB01 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.001803	.0011715	-.000689	.0031086	-.000998	-.003587
Stddev	.002584	.0018690	.001267	.0024887	.001210	.001629
%RSD	143.3235	159.5380	183.9136	80.05895	121.2701	45.40541
#1	-.004088	.0002690	-.000178	.0006330	.000344	-.002565
#2	-.002321	.0033205	-.002132	.0030826	-.001333	-.005465
#3	.001001	-.000075	.000243	.0056102	-.002004	-.002730

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.003911	.0000057	-.000057	-.010965	-.000057	-.000159
Stddev	.000781	.0000476	.000040	.004017	.000373	.000326
%RSD	19.95877	841.5622	70.33542	36.63543	652.7720	205.5699
#1	-.004804	.0000391	-.000095	-.010995	.000298	-.000119
#2	-.003362	.0000267	-.000062	-.014967	-.000445	.000146
#3	-.003566	-.000049	-.000015	-.006933	-.000023	-.000503

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000191	.0015551	.0003171	-.004031	.0001255	.0007166
Stddev	.000206	.0036425	.0002369	.008637	.0001876	.0000991
%RSD	107.8859	234.2369	74.71988	214.2617	149.4835	13.82880
#1	-.000032	-.001940	.0002077	-.012162	.0002084	.0006023
#2	-.000423	.001277	.0005889	-.004968	.0002574	.0007771
#3	-.000117	.005329	.0001546	.005036	-.000089	.0007706

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.088143	.0006143	-.000067	.0042150	.0102906	.0004879
Stddev	.005517	.0019091	.000420	.0316539	.0002154	.0001911
%RSD	6.259101	310.7803	627.4537	750.9905	2.093385	39.16886
#1	-.092881	.0001192	.000323	-.025064	.0100420	.0007015
#2	-.089463	.0027221	-.000012	-.000094	.0104079	.0004292
#3	-.082086	-.000998	-.000512	.037803	.0104220	.0003330

Reviewed By:mohan
On:4/24/2025 11:42:10 AM
Inst Id :P4
LB :LB135523

Sample Name: CCB01 Acquired: 4/22/2025 13:30:36 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v15) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCB01 Custom ID2: Custom ID3:
Comment:

Elem	Sn1899	Ti3361	Si2881	P_1774	S_1820	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0051458	.0012252	.0115965	.0027955	F .0260918	-.002643
Stddev	.0006539	.0007101	.0069137	.0027347	.0032428	.000535
%RSD	12.70793	57.95643	59.61842	97.82648	12.42863	20.24137
#1	.0044580	.0006423	.0102241	-.000298	.0235682	-.002898
#2	.0052200	.0020160	.0190934	.003791	.0297494	-.003004
#3	.0057595	.0010172	.0054720	.004893	.0249578	-.002029

Elem	Sr4077
Units	ppm
Avg	.0001650
Stddev	.0000426
%RSD	25.81972
#1	.0002122
#2	.0001531
#3	.0001296

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3098.268	72856.63	10380.06	2078.080	4765.317
Stddev	6.018	157.47	10.14	8.315	7.328
%RSD	.1942369	.2161435	.0977348	.4001490	.1537846
#1	3096.091	72814.26	10388.24	2078.702	4762.768
#2	3093.641	73030.95	10368.71	2086.067	4759.604
#3	3105.072	72724.67	10383.24	2069.471	4773.580

Reviewed By:mohan
On:4/24/2025 11:42:10 AM
Inst Id :P4
LB :LB135523

Sample Name: PB167671BL Acquired: 4/22/2025 13:34:55 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v15) 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	-.001643	-.002063	.0004909	.0050399	-.001267	-.004865	-.004184
Stddev	.001847	.001822	.0011243	.0019416	.000643	.006223	.001672
%RSD	112.4012	88.27706	229.0512	38.52496	50.77790	127.9031	39.95702
#1	-.000078	-.001349	.0016188	.0065053	-.001909	-.011542	-.002395
#2	-.003680	-.004134	-.000630	.0057767	-.000622	.000773	-.004449
#3	-.001172	-.000708	.000484	.0028377	-.001271	-.003826	-.005707

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0000338	-.000069	.0020770	-.000111	-.000159	-.000582	.0034246
Stddev	.0000129	.000077	.0094928	.000551	.000109	.000291	.0033510
%RSD	38.10136	112.7229	457.0529	494.9429	68.87234	49.96551	97.85251
#1	.0000458	-.000146	.0125702	-.000073	-.000284	-.000297	.0000889
#2	.0000201	-.000070	-.000425	.000420	-.000106	-.000878	.0033942
#3	.0000356	.000009	-.005914	-.000681	-.000086	-.000571	.0067907

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0005942	.0137183	-.000035	.0003576	-.076686	-.000109	-.000124
Stddev	.0001395	.0133686	.000035	.0001822	.027958	.000820	.000482
%RSD	23.46874	97.45076	99.45036	50.94408	36.45746	752.6475	387.5790
#1	.0004709	.0240689	.000003	.0005626	-.077056	.000838	.000398
#2	.0007455	.0184610	-.000064	.0002958	-.104456	-.000588	-.000219
#3	.0005662	-.001375	-.000044	.0002144	-.048545	-.000577	-.000553

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.036572	.0047242	.0000358	.0004510	.0010391	.0102561	.0021770
Stddev	.043128	.0002322	.0002918	.0005322	.0005978	.0051134	.0027598
%RSD	117.9274	4.915275	816.0066	118.0085	57.53365	49.85740	126.7744
#1	-.013135	.0049296	.0002741	.0009260	.0008136	.0108741	-.000888
#2	-.086344	.0044722	.0001228	.0005512	.0005867	.0150325	.002955
#3	-.010236	.0047707	-.000290	-.000124	.0017168	.0048618	.004464

Reviewed By:mohan
On:4/24/2025 11:42:10 AM
Inst Id :P4
LB :LB135523

Sample Name: PB167671BL Acquired: 4/22/2025 13:34:55 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v15) 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	.0013359	-.003103	.0000686
Stddev	.0013870	.000448	.0000307
%RSD	103.8275	14.43133	44.82157
#1	.0029368	-.003072	.0000337
#2	.0005754	-.002671	.0000918
#3	.0004954	-.003565	.0000802

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3037.949	72153.93	11520.02	2068.799	4653.849
Stddev	10.017	308.15	56.07	8.963	12.027
%RSD	.3297199	.4270737	.4867128	.4332541	.2584403
#1	3029.321	72500.91	11472.32	2079.140	4642.750
#2	3035.593	72048.69	11581.78	2063.257	4652.169
#3	3048.934	71912.18	11505.95	2064.000	4666.628

Reviewed By:mohan
On:4/24/2025 11:42:10 AM
Inst Id :P4
LB :LB135523

Sample Name: PB167671BS Acquired: 4/22/2025 13:39:16 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v15) 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	.8453861	2.141913	1.008193	2.183416	.8744455	1.956391
Stddev	.0018865	.012527	.001574	.010970	.0010667	.007035
%RSD	.2231544	.5848465	.1561559	.5024012	.1219858	.3595828
#1	.8439233	2.128543	1.006385	2.172621	.8733068	1.959814
#2	.8475154	2.153378	1.008929	2.183077	.8746082	1.948299
#3	.8447197	2.143819	1.009264	2.194552	.8754215	1.961059

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1839634	.1998996	.2027948	.9836894	.4118666	.1964590
Stddev	.0007525	.0008872	.0003902	.0004415	.0017237	.0002359
%RSD	.4090300	.4438255	.1923903	.0448832	.4185016	.1200919
#1	.1841567	.1994916	.2032431	.9832876	.4099033	.1967309
#2	.1846004	.1992898	.2026088	.9841621	.4131309	.1963380
#3	.1831332	.2009174	.2025324	.9836185	.4125657	.1963081

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.3172097	2.987146	.1947926	1.905921	.4949350	.0778996
Stddev	.0003392	.005106	.0006398	.007251	.0005445	.0003800
%RSD	.1069447	.1709475	.3284364	.3804579	.1100124	.4878401
#1	.3173509	2.990050	.1955291	1.911191	.4955478	.0782457
#2	.3174555	2.990138	.1944743	1.897651	.4947500	.0774929
#3	.3168226	2.981250	.1943744	1.908922	.4945070	.0779602

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.696156	.2894102	.2122687	9.716630	.2966810	.4298785
Stddev	.023371	.0013386	.0019993	.051469	.0014340	.0005077
%RSD	.8668409	.4625252	.9418688	.5296990	.4833341	.1180962
#1	2.678087	.2898701	.2102455	9.715597	.2954094	.4293026
#2	2.722551	.2879023	.2123173	9.768607	.2963984	.4302615
#3	2.687832	.2904583	.2142432	9.665685	.2982352	.4300713

Reviewed By:mohan
On:4/24/2025 11:42:10 AM
Inst Id :P4
LB :LB135523

Sample Name: PB167671BS Acquired: 4/22/2025 13:39:16 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v15) 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	.7045958	.1985130	F .7294980	5.906144	F -.014329	.2032662
Stddev	.0011190	.0003171	.0071760	.005516	.002713	.0022601
%RSD	.1588162	.1597286	.9836889	.0933999	18.93567	1.111878
#1	.7046986	.1986901	.7273703	5.899820	-.016747	.2038789
#2	.7034290	.1981469	.7374973	5.908653	-.014845	.2007630
#3	.7056599	.1987020	.7236265	5.909961	-.011395	.2051568

Elem	Sr4077
Units	ppm
Avg	.1968781
Stddev	.0006393
%RSD	.3247155
#1	.1972743
#2	.1972194
#3	.1961406

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3098.443	71451.46	10715.95	2066.302	4789.821
Stddev	5.159	173.42	46.57	8.545	7.884
%RSD	.1665051	.2427116	.4346315	.4135328	.1645990
#1	3101.638	71548.31	10707.05	2072.575	4785.027
#2	3092.491	71554.81	10766.34	2069.762	4785.514
#3	3101.200	71251.24	10674.47	2056.570	4798.920

Reviewed By:mohan
On:4/24/2025 11:42:10 AM
Inst Id :P4
LB :LB135523

Sample Name: Q1833-02 Acquired: 4/22/2025 13:43:19 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v15) 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	-.005112	-.008968	.0050259	.0047669	.0013828	.1177572	.0049199
Stddev	.002191	.000672	.0003564	.0022630	.0010125	.0030757	.0003088
%RSD	42.85970	7.494042	7.092061	47.47292	73.21948	2.611856	6.276112
#1	-.007062	-.009439	.0046257	.0036190	.0025226	.1213019	.0048894
#2	-.002741	-.008198	.0053092	.0033079	.0010380	.1161745	.0046275
#3	-.005533	-.009266	.0051430	.0073738	.0005878	.1157953	.0052428

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000085	-.000091	13.61892	.0007671	-.000169	.7269534	.4350680
Stddev	.000024	.000058	.01228	.0001925	.000307	.0019209	.0045590
%RSD	28.48388	64.27489	.0902041	25.08886	181.0949	.2642386	1.047881
#1	-.000086	-.000100	13.60493	.0005724	-.000137	.7285962	.4403314
#2	-.000060	-.000144	13.62392	.0007717	-.000491	.7248414	.4325176
#3	-.000109	-.000028	13.62792	.0009572	.000120	.7274228	.4323549

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1206560	4.261376	.0007738	.0005936	51.74910	.0009212	.2926537
Stddev	.0004268	.017178	.0002186	.0002265	.09749	.0017666	.0017945
%RSD	.3537340	.4031015	28.25167	38.15844	.1883804	191.7588	.6131844
#1	.1205662	4.277242	.0009267	.0007387	51.63706	-.000750	.2931776
#2	.1211206	4.243134	.0008712	.0003326	51.81449	.002769	.2941280
#3	.1202813	4.263753	.0005234	.0007096	51.79576	.000745	.2906556

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	41.53586	.0146292	.0005274	.0011394	.0024581	3.147844	1.922364
Stddev	.10916	.0003834	.0000447	.0008137	.0004796	.007877	.007148
%RSD	.2628136	2.620572	8.466320	71.41598	19.50972	.2502442	.3718126
#1	41.42450	.0149404	.0005627	.0019732	.0024062	3.148079	1.919018
#2	41.64269	.0142010	.0004772	.0003474	.0020066	3.139852	1.917502
#3	41.54038	.0147462	.0005423	.0010977	.0029615	3.155601	1.930571

Reviewed By:mohan
On:4/24/2025 11:42:10 AM
Inst Id :P4
LB :LB135523

Sample Name: Q1833-02 Acquired: 4/22/2025 13:43:19 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v15) 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	6.489958	-.005721	.0404582
Stddev	.019972	.001198	.0000583
%RSD	.3077317	20.93228	.1439723
#1	6.502489	-.004844	.0403910
#2	6.466927	-.005234	.0404943
#3	6.500459	-.007086	.0404892

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2973.888	69973.73	10889.45	1979.377	4567.783
Stddev	9.121	151.26	56.28	5.913	11.638
%RSD	.3066941	.2161694	.5167972	.2987481	.2547750
#1	2963.688	69871.99	10853.97	1981.082	4555.228
#2	2981.260	70147.55	10954.33	1984.250	4578.209
#3	2976.715	69901.65	10860.03	1972.798	4569.911

Reviewed By:mohan
On:4/24/2025 11:42:10 AM
Inst Id :P4
LB :LB135523

Sample Name: Q1833-02DUP Acquired: 4/22/2025 13:47:33 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v15) 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	-.005433	-.005801	.0046126	.0054066	.0013170	.1222596	.0041829
Stddev	.002085	.001825	.0023450	.0021684	.0008751	.0049627	.0010283
%RSD	38.37215	31.46619	50.83807	40.10640	66.44702	4.059118	24.58379
#1	-.003060	-.005263	.0027672	.0041769	.0006452	.1274739	.0029964
#2	-.006269	-.004305	.0038193	.0079103	.0009993	.1175943	.0048148
#3	-.006971	-.007834	.0072513	.0041325	.0023067	.1217105	.0047376

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000094	-.000046	14.40965	.0007300	-.000260	.7700814	.4597046
Stddev	.000010	.000116	.09037	.0001497	.000109	.0005462	.0101321
%RSD	10.67878	251.5027	.6271677	20.49815	42.00310	.0709224	2.204054
#1	-.000089	-.000027	14.36429	.0005879	-.000195	.7700140	.4564114
#2	-.000105	-.000171	14.51372	.0008862	-.000385	.7695722	.4710736
#3	-.000087	.000059	14.35094	.0007160	-.000198	.7706582	.4516287

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0344767	4.489481	.0003899	.0007332	54.72300	.0008867	.3049074
Stddev	.0003490	.030483	.0001885	.0002876	.44411	.0014933	.0017591
%RSD	1.012191	.6789779	48.34758	39.22323	.8115577	168.4047	.5769305
#1	.0343946	4.489530	.0001723	.0009824	54.64647	.0014499	.3028896
#2	.0341760	4.519939	.0004954	.0007987	55.20041	.0020165	.3061183
#3	.0348593	4.458974	.0005020	.0004185	54.32214	-.000806	.3057142

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	43.74797	.0145008	.0006792	.0018888	.0028115	3.302055	2.036555
Stddev	.33364	.0004366	.0003648	.0009855	.0006155	.033402	.013220
%RSD	.7626334	3.010951	53.71848	52.17865	21.89420	1.011558	.6491330
#1	43.70898	.0143508	.0006875	.0008166	.0022922	3.308431	2.026339
#2	44.09939	.0141589	.0003102	.0027551	.0026508	3.331809	2.031840
#3	43.43554	.0149926	.0010397	.0020946	.0034914	3.265924	2.051486

Reviewed By:mohan
On:4/24/2025 11:42:10 AM
Inst Id :P4
LB :LB135523

Sample Name: Q1833-02DUP Acquired: 4/22/2025 13:47:33 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v15) 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	6.923363	-.005004	.0428081
Stddev	.023223	.000586	.0004142
%RSD	.3354303	11.71161	.9674878
#1	6.902980	-.004334	.0425172
#2	6.918464	-.005252	.0432823
#3	6.948645	-.005425	.0426248

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2941.605	70938.19	11030.49	1980.389	4522.386
Stddev	1.798	183.78	53.06	6.492	4.648
%RSD	.0611106	.2590708	.4809913	.3278083	.1027673
#1	2940.214	70869.00	11081.96	1987.127	4521.561
#2	2943.635	70799.05	10975.98	1979.866	4527.391
#3	2940.965	71146.52	11033.53	1974.175	4518.207

Reviewed By:mohan
On:4/24/2025 11:42:10 AM
Inst Id :P4
LB :LB135523

Sample Name: Q1833-02LX5 Acquired: 4/22/2025 13:51:48 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v15) 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	-.004689	-.003219	.0015688	-.000181	.0020772	.0212495	-.002870
Stddev	.004202	.001074	.0011990	.012842	.0008546	.0016578	.000634
%RSD	89.62207	33.36013	76.43038	7085.614	41.14367	7.801631	22.07713
#1	-.005663	-.003908	.0009518	-.011396	.0012437	.0193446	-.002330
#2	-.008319	-.003767	.0008039	.013827	.0029515	.0223656	-.003568
#3	-.000085	-.001982	.0029507	-.002975	.0020364	.0220385	-.002713

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000041	-.000128	2.751810	-.000312	-.000034	.1484831	.0941284
Stddev	.000016	.000005	.026793	.000361	.000319	.0007078	.0049674
%RSD	39.99819	4.178571	.9736454	115.6091	941.7470	.4766927	5.277246
#1	-.000035	-.000128	2.782180	-.000682	-.000103	.1485212	.0996120
#2	-.000028	-.000133	2.731518	-.000291	-.000313	.1491712	.0899297
#3	-.000059	-.000122	2.741731	.000038	.000314	.1477571	.0928434

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0247320	.8630888	-.000253	.0006929	9.760968	.0001612	.0584701
Stddev	.0000538	.0106986	.000168	.0000720	.024647	.0007750	.0006155
%RSD	.2173781	1.239570	66.49090	10.38754	.2525031	480.6927	1.052631
#1	.0247319	.8520929	-.000174	.0006412	9.735761	.0010148	.0582863
#2	.0246783	.8734630	-.000447	.0007751	9.762130	-.000033	.0579675
#3	.0247859	.8637104	-.000139	.0006625	9.785013	-.000498	.0591566

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	8.239900	.0036283	.0002544	.0036766	.0019494	.6374718	.3895728
Stddev	.023586	.0001131	.0002638	.0004661	.0003030	.0049971	.0043308
%RSD	.2862467	3.117713	103.6704	12.67872	15.54397	.7838892	1.111671
#1	8.236200	.0035326	.0005350	.0032547	.0022818	.6388556	.3849286
#2	8.218382	.0035992	.0002169	.0041770	.0016886	.6319287	.3902889
#3	8.265117	.0037531	.0000114	.0035981	.0018778	.6416312	.3935008

Reviewed By:mohan
On:4/24/2025 11:42:10 AM
Inst Id :P4
LB :LB135523

Sample Name: Q1833-02LX5 Acquired: 4/22/2025 13:51:48 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v15) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	1.317576	-.002339	.0081537
Stddev	.010279	.000191	.0000858
%RSD	.7801653	8.174706	1.052054
#1	1.311510	-.002352	.0080734
#2	1.329445	-.002142	.0082441
#3	1.311775	-.002524	.0081435

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3052.412	70663.15	11218.67	2014.450	4721.336
Stddev	8.678	259.08	12.67	9.089	7.700
%RSD	.2842857	.3666419	.1129209	.4512110	.1630875
#1	3051.365	70681.55	11213.71	2016.791	4717.904
#2	3044.305	70912.54	11233.07	2022.139	4715.949
#3	3061.565	70395.36	11209.23	2004.418	4730.155

Reviewed By:mohan
On:4/24/2025 11:42:10 AM
Inst Id :P4
LB :LB135523

Sample Name: Q1833-02MS Acquired: 4/22/2025 13:56:07 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v15) 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	.8044608	1.940660	.9339822	1.977663	.8546303	1.966390	.1777482
Stddev	.0009734	.013125	.0029002	.013275	.0023198	.014992	.0022741
%RSD	.1210008	.6762913	.3105185	.6712665	.2714335	.7624051	1.279416
#1	.8047468	1.933053	.9359595	1.975097	.8545516	1.974181	.1787972
#2	.8033765	1.955815	.9306529	1.965858	.8523508	1.949107	.1751389
#3	.8052592	1.933112	.9353343	1.992034	.8569883	1.975882	.1793085

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1800263	.1877849	14.77923	.3860301	.1870085	1.042355	3.194755
Stddev	.0011831	.0004441	.18403	.0030509	.0009000	.002650	.015694
%RSD	.6571647	.2364944	1.245217	.7903277	.4812671	.2542586	.4912493
#1	.1810052	.1879768	14.88436	.3876154	.1875392	1.042651	3.176633
#2	.1787117	.1872771	14.56673	.3879619	.1859693	1.039570	3.203810
#3	.1803621	.1881008	14.88659	.3825129	.1875169	1.044845	3.203823

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2175658	6.092853	.4653175	.0605655	53.95503	.2728586	.4907562
Stddev	.0017094	.064481	.0015877	.0002087	.16656	.0064044	.0031722
%RSD	.7857119	1.058298	.3412024	.3446562	.3087009	2.347146	.6463984
#1	.2181443	6.123747	.4654752	.0606746	54.00573	.2724622	.4929052
#2	.2156422	6.018739	.4636569	.0606971	54.09034	.2666616	.4922505
#3	.2189109	6.136075	.4668205	.0603248	53.76901	.2794520	.4871127

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	50.79629	.2649041	.4318134	.6432794	.1927869	3.833746	7.634982
Stddev	.17388	.0022080	.0004737	.0025511	.0039811	.020872	.014297
%RSD	.3423170	.8335145	.1096934	.3965793	2.065019	.5444353	.1872600
#1	50.89046	.2667478	.4317352	.6427021	.1943779	3.843130	7.651401
#2	50.90277	.2624572	.4313837	.6410665	.1882563	3.848280	7.628257
#3	50.59563	.2655073	.4323213	.6460697	.1957264	3.809829	7.625287

Reviewed By:mohan
On:4/24/2025 11:42:10 AM
Inst Id :P4
LB :LB135523

Sample Name: Q1833-02MS Acquired: 4/22/2025 13:56:07 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v15) 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	6.803427	.1925447	.2236654
Stddev	.011013	.0017915	.0024347
%RSD	.1618704	.9304150	1.088566
#1	6.815852	.1929691	.2245493
#2	6.799560	.1905792	.2209122
#3	6.794870	.1940859	.2255348

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2904.097	69852.67	10568.57	1973.142	4440.557
Stddev	4.984	493.31	81.49	9.573	5.665
%RSD	.1716289	.7062086	.7710480	.4851475	.1275812
#1	2904.888	69666.89	10514.14	1964.525	4434.654
#2	2908.639	69479.23	10662.26	1971.455	4445.951
#3	2898.765	70411.89	10529.31	1983.446	4441.067

Reviewed By:mohan
On:4/24/2025 11:42:10 AM
Inst Id :P4
LB :LB135523

Sample Name: Q1833-02MSD Acquired: 4/22/2025 14:00:09 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v15) 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	.8222962	1.994516	.9617055	2.038939	.8758037	2.002071	.1878184
Stddev	.0053932	.009504	.0047652	.011637	.0066875	.017953	.0010656
%RSD	.6558761	.4765153	.4954895	.5707591	.7635855	.8967189	.5673780
#1	.8189493	1.988439	.9571041	2.032393	.8709704	1.982523	.1872806
#2	.8194215	2.005469	.9613932	2.032049	.8730049	2.017822	.1871289
#3	.8285178	1.989641	.9666190	2.052375	.8834359	2.005867	.1890458

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1736172	.1919455	15.48570	.3904791	.1912280	1.081607	3.463035
Stddev	.0003884	.0008078	.05135	.0046618	.0009027	.005824	.045201
%RSD	.2236876	.4208532	.3315707	1.193870	.4720704	.5384920	1.305257
#1	.1740152	.1911311	15.44320	.3952851	.1903361	1.075651	3.470651
#2	.1732392	.1919590	15.47117	.3859763	.1912066	1.081879	3.414510
#3	.1735974	.1927465	15.54275	.3901757	.1921412	1.087291	3.503945

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2146829	6.270115	.4756918	.0585644	59.74660	.2800096	.5034495
Stddev	.0021870	.002607	.0024223	.0005734	.59071	.0008908	.0050044
%RSD	1.018720	.0415797	.5092141	.9790044	.9886879	.3181186	.9940127
#1	.2127368	6.272847	.4734601	.0591684	59.83528	.2789931	.5088964
#2	.2142624	6.269843	.4753475	.0580276	59.11657	.2803820	.4990550
#3	.2170497	6.267654	.4782678	.0584971	60.28796	.2806537	.5023972

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	55.35228	.2581633	.4385192	.6451629	.1997836	4.157713	7.847490
Stddev	.48526	.0004817	.0019863	.0042087	.0015210	.033361	.020946
%RSD	.8766769	.1865752	.4529663	.6523547	.7613129	.8023995	.2669129
#1	55.56989	.2579491	.4371148	.6406326	.2005791	4.178681	7.833263
#2	54.79630	.2578259	.4376508	.6489514	.1980298	4.119242	7.837664
#3	55.69064	.2587149	.4407918	.6459048	.2007418	4.175216	7.871542

Reviewed By:mohan
On:4/24/2025 11:42:10 AM
Inst Id :P4
LB :LB135523

Sample Name: Q1833-02MSD Acquired: 4/22/2025 14:00:09 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v15) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	7.080904	.1972875	.2349939
Stddev	.033039	.0016105	.0012876
%RSD	.4665878	.8163099	.5479412
#1	7.057545	.1955808	.2336804
#2	7.066463	.1975011	.2350471
#3	7.118705	.1987805	.2362540

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2951.946	71922.04	11384.42	2024.909	4514.298
Stddev	10.762	413.86	30.78	10.507	12.539
%RSD	.3645891	.5754278	.2703556	.5189052	.2777693
#1	2963.300	71555.28	11418.53	2014.376	4528.370
#2	2950.647	72370.74	11358.71	2035.391	4510.215
#3	2941.892	71840.10	11376.02	2024.960	4504.310

Reviewed By:mohan
On:4/24/2025 11:42:10 AM
Inst Id :P4
LB :LB135523

Sample Name: Q1833-02A Acquired: 4/22/2025 14:04:11 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v15) 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	.8071383	1.948253	.9403712	1.993066	.8630161	1.984344	.1888364
Stddev	.0046761	.017957	.0049081	.005982	.0036649	.028618	.0041624
%RSD	.5793439	.9216905	.5219294	.3001613	.4246569	1.442189	2.204221
#1	.8087038	1.928901	.9392359	1.986201	.8589698	1.964111	.1871852
#2	.8108308	1.964377	.9457474	1.997162	.8661124	2.017087	.1935710
#3	.8018803	1.951480	.9361302	1.995834	.8639662	1.971833	.1857529

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1717359	.1879072	15.31510	.3881598	.1883393	1.056576	3.489825
Stddev	.0035409	.0005848	.25103	.0009819	.0009704	.003218	.041283
%RSD	2.061809	.3112406	1.639073	.2529570	.5152371	.3045937	1.182967
#1	.1700207	.1876230	15.22464	.3870787	.1886208	1.055667	3.537402
#2	.1758077	.1885798	15.59882	.3884044	.1891379	1.060151	3.463466
#3	.1693793	.1875188	15.12184	.3889962	.1872593	1.053911	3.468606

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2201916	6.191720	.4660648	.0604608	60.34077	.2798001	.5033647
Stddev	.0035503	.116886	.0013545	.0002819	.38443	.0044213	.0014546
%RSD	1.612369	1.887779	.2906330	.4661826	.6370980	1.580160	.2889698
#1	.2186622	6.157493	.4649795	.0602671	60.70386	.2778824	.5050221
#2	.2242503	6.321899	.4675828	.0603312	59.93806	.2848564	.5027713
#3	.2176623	6.095770	.4656319	.0607841	60.38038	.2766614	.5023006

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	55.47296	.2568964	.4346889	.6400214	.1994480	4.133998	7.644412
Stddev	.31527	.0042695	.0016949	.0020126	.0026586	.037132	.036063
%RSD	.5683329	1.661953	.3899099	.3144538	1.332984	.8982203	.4717521
#1	55.75900	.2550029	.4335431	.6384498	.1993182	4.176855	7.617428
#2	55.13493	.2617851	.4366358	.6422898	.2021692	4.111439	7.685371
#3	55.52496	.2539011	.4338877	.6393247	.1968567	4.113700	7.630437

Reviewed By:mohan
On:4/24/2025 11:42:10 AM
Inst Id :P4
LB :LB135523

Sample Name: Q1833-02A Acquired: 4/22/2025 14:04:11 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v15) 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	6.850172	.1969278	.2352819
Stddev	.030725	.0031821	.0036838
%RSD	.4485313	1.615879	1.565695
#1	6.827701	.1944419	.2343067
#2	6.885184	.2005141	.2393552
#3	6.837631	.1958275	.2321839

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2944.628	70431.71	11261.64	1983.253	4514.974
Stddev	9.370	230.29	218.71	10.359	16.039
%RSD	.3181943	.3269725	1.942039	.5223081	.3552362
#1	2945.872	70165.99	11353.43	1971.870	4519.135
#2	2934.699	70555.72	11011.99	1992.125	4497.264
#3	2953.313	70573.43	11419.48	1985.765	4528.522

Reviewed By:mohan
On:4/24/2025 11:42:10 AM
Inst Id :P4
LB :LB135523

Sample Name: PB167680BL Acquired: 4/22/2025 14:08:13 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v15) 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	-.000458	-.001576	-.000775	.0026970	.0005170	.0008402	-.005666
Stddev	.000877	.001964	.001158	.0020552	.0013213	.0055181	.000596
%RSD	191.4661	124.5810	149.5107	76.20368	255.5873	656.7685	10.52073
#1	-.001339	-.002350	.000563	.0028572	.0008787	.0072118	-.004990
#2	.000415	.000657	-.001454	.0005664	-.000948	-.002375	-.005893
#3	-.000451	-.003034	-.001433	.0046675	.001620	-.002316	-.006116

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000035	-.000103	-.010354	-.000277	.0000918	.0000160	-.000357
Stddev	.000020	.000049	.011538	.000184	.0001302	.0002876	.003384
%RSD	58.05402	47.32418	111.4379	66.44359	141.8404	1803.141	946.9701
#1	-.000018	-.000091	-.001555	-.000270	.0001819	-.000216	-.001692
#2	-.000029	-.000061	-.023417	-.000465	-.000057	.000338	.003490
#3	-.000057	-.000156	-.006089	-.000097	.000151	-.000074	-.002871

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0004189	-.004534	-.000110	.0008859	-.063611	-.000758	-.000454
Stddev	.0002209	.002727	.000583	.0002965	.001511	.000532	.000304
%RSD	52.73969	60.14644	530.1895	33.46908	2.374878	70.19331	67.05112
#1	.0006568	-.001404	.000072	.0006999	-.061890	-.000598	-.000181
#2	.0002203	-.005798	-.000762	.0007299	-.064225	-.001351	-.000782
#3	.0003794	-.006401	.000360	.0012278	-.064718	-.000324	-.000398

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.011940	.0002252	.0002743	.0003249	.0006980	.0119526	.0015087
Stddev	.036265	.0005657	.0002276	.0003211	.0005007	.0087542	.0024114
%RSD	303.7247	251.2298	82.97363	98.84839	71.74065	73.24076	159.8356
#1	-.046234	.0005668	.0004119	.0004731	.0001233	.0213960	-.000105
#2	-.015603	-.000428	.0003993	-.000044	.0009297	.0103541	.000351
#3	.026017	.000537	.0000116	.000545	.0010408	.0041079	.004281

Reviewed By:mohan
On:4/24/2025 11:42:10 AM
Inst Id :P4
LB :LB135523

Sample Name: PB167680BL Acquired: 4/22/2025 14:08:13 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v15) 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	.0074200	-.001756	-.000040
Stddev	.0057901	.001012	.000082
%RSD	78.03438	57.61776	205.7382
#1	.0134626	-.000592	-.000128
#2	.0019207	-.002427	.000033
#3	.0068766	-.002248	-.000024

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3076.436	71957.66	11695.67	2070.359	4790.170
Stddev	1.747	539.55	63.61	9.584	6.416
%RSD	.0567748	.7498211	.5438889	.4629193	.1339499
#1	3074.846	71738.44	11624.70	2061.803	4789.289
#2	3076.157	72572.32	11714.74	2080.716	4784.239
#3	3078.306	71562.23	11747.56	2068.557	4796.981

Reviewed By:mohan
On:4/24/2025 11:42:10 AM
Inst Id :P4
LB :LB135523

Sample Name: PB167680BS Acquired: 4/22/2025 14:12:33 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v15) 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	.8310692	2.100862	.9912875	2.168093	.8529321	1.933482
Stddev	.0063580	.015457	.0028301	.009810	.0026865	.004507
%RSD	.7650407	.7357412	.2855014	.4524905	.3149730	.2330851
#1	.8372059	2.115972	.9898332	2.178091	.8516223	1.936576
#2	.8314909	2.085080	.9945491	2.167706	.8560223	1.935560
#3	.8245108	2.101533	.9894802	2.158482	.8511517	1.928311

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1784060	.1987567	.1979518	.9709679	.4030492	.1931092
Stddev	.0013734	.0012502	.0011615	.0022838	.0012195	.0013980
%RSD	.7698243	.6289867	.5867649	.2352123	.3025664	.7239354
#1	.1791075	.1994089	.1988673	.9695060	.4019508	.1937401
#2	.1768235	.1973153	.1983429	.9735996	.4043614	.1940805
#3	.1792870	.1995459	.1966453	.9697980	.4028353	.1915069

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.3138794	2.888796	.1920399	1.877308	.4860063	.0770449
Stddev	.0022627	.020301	.0013431	.008209	.0016524	.0003252
%RSD	.7208757	.7027623	.6993828	.4372561	.3399992	.4220649
#1	.3149779	2.892553	.1929147	1.885963	.4873653	.0766696
#2	.3153831	2.906956	.1904935	1.869633	.4864866	.0772424
#3	.3112772	2.866878	.1927117	1.876330	.4841669	.0772228

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.632211	.2865034	.2127874	9.432326	.2941852	.4142069
Stddev	.016367	.0012079	.0005221	.092109	.0013827	.0014100
%RSD	.6218145	.4215927	.2453374	.9765252	.4699978	.3404016
#1	2.613311	.2877564	.2129668	9.360818	.2957536	.4150417
#2	2.641733	.2853463	.2121993	9.536264	.2931422	.4150000
#3	2.641588	.2864076	.2131961	9.399897	.2936599	.4125790

Reviewed By:mohan
On:4/24/2025 11:42:10 AM
Inst Id :P4
LB :LB135523

Sample Name: PB167680BS Acquired: 4/22/2025 14:12:33 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v15) 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	.6792816	.1932218	F .6827580	5.842936	F -.005998	.2032698
Stddev	.0038335	.0015805	.0151095	.031698	.004217	.0009297
%RSD	.5643490	.8179856	2.213006	.5425017	70.30092	.4573531
#1	.6834661	.1947077	.6720094	5.860850	-.001143	.2024052
#2	.6784396	.1915612	.7000338	5.861621	-.008747	.2042531
#3	.6759390	.1933967	.6762307	5.806337	-.008103	.2031512

Elem	Sr4077
Units	ppm
Avg	.1957359
Stddev	.0004539
%RSD	.2318979
#1	.1957863
#2	.1952589
#3	.1961625

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3108.501	73171.88	10719.10	2095.821	4835.240
Stddev	15.965	209.76	58.42	14.617	30.505
%RSD	.5135977	.2866712	.5449894	.6974400	.6308812
#1	3095.293	73282.80	10681.15	2110.124	4806.123
#2	3103.968	72929.94	10786.38	2080.909	4832.631
#3	3126.243	73302.89	10689.79	2096.429	4866.965

Reviewed By:mohan
On:4/24/2025 11:42:10 AM
Inst Id :P4
LB :LB135523

Sample Name: CCV02 Acquired: 4/22/2025 14:16:37 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v15) 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	5.090477	5.171491	4.917984	5.198225	5.231093	9.860705	9.857448
Stddev	.006628	.052819	.003711	.010031	.006609	.149182	.329479
%RSD	.1302101	1.021353	.0754530	.1929659	.1263379	1.512895	3.342435
#1	5.096984	5.231867	4.921640	5.208756	5.224297	9.979711	10.13951
#2	5.090714	5.133821	4.918091	5.188783	5.237498	9.693343	9.49531
#3	5.083733	5.148786	4.914221	5.197138	5.231485	9.909061	9.93752

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2395123	2.390014	24.11554	1.014212	2.448872	1.281328	5.089283
Stddev	.0043448	.002870	.43845	.001714	.003043	.000541	.005263
%RSD	1.814021	.1200798	1.818125	.1690181	.1242722	.0422392	.1034045
#1	.2432066	2.393308	24.39946	1.013524	2.452385	1.281107	5.083811
#2	.2347255	2.388683	23.61056	1.012950	2.447181	1.280932	5.094308
#3	.2406047	2.388052	24.33660	1.016164	2.447050	1.281944	5.089729

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.399624	23.81176	2.436662	1.283837	25.69710	2.416184	2.573827
Stddev	.045627	.48874	.001671	.004505	.08490	.040111	.008065
%RSD	1.901422	2.052515	.0685840	.3509245	.3304065	1.660082	.3133594
#1	2.427964	24.20380	2.436973	1.285756	25.60072	2.442280	2.577746
#2	2.346990	23.26418	2.438156	1.287065	25.72970	2.369998	2.579185
#3	2.423918	23.96732	2.434858	1.278690	25.76087	2.436273	2.564552

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	25.72970	4.842937	5.132134	4.864327	4.868153	5.227619	4.925974
Stddev	.13737	.090436	.008546	.010768	.078489	.036396	.012083
%RSD	.5338913	1.867389	.1665197	.2213639	1.612286	.6962238	.2453016
#1	25.58248	4.921884	5.141317	4.876760	4.914468	5.186965	4.936130
#2	25.85444	4.744267	5.130671	4.858202	4.777530	5.257169	4.912610
#3	25.75218	4.862660	5.124414	4.858020	4.912462	5.238724	4.929182

Reviewed By:mohan
On:4/24/2025 11:42:10 AM
Inst Id :P4
LB :LB135523

Sample Name: CCV02 Acquired: 4/22/2025 14:16:37 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v15) 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	4.864226	4.902523	4.970111
Stddev	.012312	.072793	.071997
%RSD	.2531058	1.484812	1.448595
#1	4.875800	4.944892	5.049717
#2	4.851290	4.818469	4.951063
#3	4.865587	4.944206	4.909554

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3039.437	70322.19	10826.48	2007.520	4581.143
Stddev	4.836	122.91	193.50	9.825	3.264
%RSD	.1591092	.1747805	1.787270	.4893918	.0712528
#1	3041.145	70273.08	10659.01	2012.822	4579.720
#2	3033.979	70231.43	11038.31	1996.183	4578.833
#3	3043.187	70462.06	10782.14	2013.554	4584.878

Reviewed By:mohan
On:4/24/2025 11:42:10 AM
Inst Id :P4
LB :LB135523

Sample Name: CCB02 Acquired: 4/22/2025 14:20:49 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v15) 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	-.001916	-.001119	-.001050	.0053360	.0014655	-.000393	-.006111
Stddev	.003755	.001965	.000923	.0033010	.0023359	.003088	.000483
%RSD	196.0311	175.6358	87.89354	61.86355	159.3964	785.9648	7.895848
#1	.001097	-.000920	-.000208	.0016800	.0031256	-.002905	-.005554
#2	-.000721	.000739	-.002037	.0080980	.0024765	.003054	-.006402
#3	-.006123	-.003176	-.000906	.0062300	-.001206	-.001328	-.006378

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0000483	.0001002	-.004501	-.000048	.0000888	-.000252	-.001166
Stddev	.0000256	.0000905	.003570	.000200	.0000608	.000335	.002213
%RSD	53.01971	90.38248	79.30470	417.0806	68.49769	132.5972	189.8383
#1	.0000470	.0001755	-.001956	-.000272	.0000739	-.000060	.001094
#2	.0000745	.0001252	-.002966	.000012	.0001557	-.000639	-.001262
#3	.0000233	-.000000	-.008582	.000115	.0000368	-.000059	-.003329

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0017043	-.008246	.0000600	.0011784	-.076284	.0011859	-.000027
Stddev	.0001007	.006868	.0002028	.0001083	.005959	.0006784	.000119
%RSD	5.905996	83.28810	338.2647	9.190501	7.812211	57.20614	435.5555
#1	.0018178	-.008736	.0002527	.0012822	-.081954	.0019692	-.000157
#2	.0016692	-.014856	.0000787	.0010661	-.070072	.0007926	-.000002
#3	.0016259	-.001146	-.000152	.0011870	-.076826	.0007958	.000077

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.017140	.0081427	.0007114	.0005599	.0012150	.0086166	-.000073
Stddev	.030680	.0008038	.0002458	.0001800	.0007156	.0098571	.000822
%RSD	178.9967	9.870955	34.54668	32.14466	58.90007	114.3970	1122.205
#1	.000639	.0089505	.0009718	.0004298	.0015143	.0108687	.000875
#2	.000507	.0073430	.0004834	.0007653	.0017324	-.002172	-.000497
#3	-.052567	.0081347	.0006792	.0004846	.0003983	.017153	-.000598

Reviewed By:mohan
On:4/24/2025 11:42:10 AM
Inst Id :P4
LB :LB135523

Sample Name: CCB02 Acquired: 4/22/2025 14:20:49 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v15) 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	.0038082	-.002602	.0002906
Stddev	.0005857	.000778	.0000172
%RSD	15.37990	29.89061	5.900243
#1	.0032813	-.001784	.0003068
#2	.0037044	-.002691	.0002924
#3	.0044388	-.003332	.0002727

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3066.825	73981.36	11436.35	2112.630	4753.839
Stddev	2.848	246.77	75.44	13.358	7.920
%RSD	.0928579	.3335597	.6596872	.6323147	.1665924
#1	3064.061	73737.33	11353.38	2097.307	4748.481
#2	3066.665	74230.79	11500.82	2121.823	4750.100
#3	3069.749	73975.95	11454.86	2118.760	4762.935

Reviewed By:mohan
On:4/24/2025 11:42:10 AM
Inst Id :P4
LB :LB135523

Sample Name: Q1847-01 Acquired: 4/22/2025 14:25:09 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v15) 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	.9263184	.0125841	.1241110	-.000041	.0167756	64.21770	.8271788
Stddev	.0066354	.0011623	.0005276	.003948	.0047592	.24240	.0048329
%RSD	.7163169	9.236208	.4251362	9561.119	28.36969	.3774710	.5842639
#1	.9298821	.0134641	.1246319	.003938	.0122420	64.12916	.8253904
#2	.9304106	.0112666	.1241242	-.000105	.0163528	64.49193	.8326510
#3	.9186626	.0130218	.1235769	-.003957	.0217322	64.03202	.8234950

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0082720	-.003671	43.00983	.1603375	.0294813	.4653804	132.5304
Stddev	.0000173	.000439	.19717	.0037939	.0001542	.0018314	2.7179
%RSD	.2090353	11.96182	.4584186	2.366191	.5230051	.3935331	2.050757
#1	.0082661	-.004175	42.99653	.1646532	.0294408	.4632781	135.6657
#2	.0082915	-.003466	43.21331	.1588315	.0296517	.4662328	131.0826
#3	.0082585	-.003372	42.81965	.1575279	.0293515	.4666302	130.8430

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.8606553	12.39366	.1192786	.0056875	73.90402	.1615591	.6301994
Stddev	.0027574	.01005	.0005996	.0001084	1.45058	.0020490	.0165119
%RSD	.3203852	.0810577	.5027080	1.905282	1.962787	1.268244	2.620111
#1	.8605071	12.38494	.1199178	.0055893	75.56995	.1592669	.6492349
#2	.8634838	12.40465	.1191895	.0056694	73.22165	.1632129	.6197433
#3	.8579750	12.39139	.1187285	.0058038	72.92046	.1621975	.6216199

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	40.81174	-.032922	1.068581	.0384586	.8077266	2.303183	5.153795
Stddev	.78045	.004292	.003022	.0017595	.0020540	.028663	.008350
%RSD	1.912328	13.03773	.2828356	4.575158	.2542986	1.244493	.1620111
#1	41.70486	-.028039	1.071356	.0402976	.8066700	2.333372	5.147774
#2	40.46944	-.036100	1.069025	.0382872	.8100939	2.276339	5.163327
#3	40.26093	-.034626	1.065361	.0367910	.8064160	2.299838	5.150285

Reviewed By:mohan
On:4/24/2025 11:42:10 AM
Inst Id :P4
LB :LB135523

Sample Name: Q1847-01 Acquired: 4/22/2025 14:25:09 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v15) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	3.234050	.0657954	1.872208
Stddev	.008062	.0007339	.017287
%RSD	.2492811	1.115430	.9233487
#1	3.243317	.0666426	1.890745
#2	3.230176	.0653565	1.856527
#3	3.228656	.0653870	1.869354

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3377.023	78361.76	12579.84	2212.726	4501.535
Stddev	6.890	1681.43	17.80	45.012	10.296
%RSD	.2040221	2.145732	.1415202	2.034215	.2287235
#1	3369.709	76422.54	12561.26	2161.140	4489.834
#2	3383.392	79413.81	12581.50	2244.014	4505.561
#3	3377.967	79248.92	12596.75	2233.025	4509.209

Reviewed By:mohan
On:4/24/2025 11:42:10 AM
Inst Id :P4
LB :LB135523

Sample Name: Q1847-02 Acquired: 4/22/2025 14:29:28 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v15) 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	.5188593	-.003416	.0980644	-.004675	.0054098	66.14303	.7425604
Stddev	.0029138	.000198	.0010541	.000721	.0025545	.05243	.0029231
%RSD	.5615775	5.800086	1.074933	15.41775	47.22003	.0792700	.3936481
#1	.5210747	-.003216	.0975340	-.004123	.0042205	66.20161	.7449813
#2	.5199446	-.003420	.0992784	-.004411	.0083421	66.12699	.7393131
#3	.5155586	-.003613	.0973809	-.005490	.0036667	66.10049	.7433868

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0086415	-.001278	47.92599	.0581734	.0290493	.1740170	82.45254
Stddev	.0000428	.000101	.10328	.0002906	.0001791	.0009693	.33500
%RSD	.4953072	7.909842	.2154915	.4995641	.6166356	.5570144	.4062923
#1	.0086072	-.001275	47.99602	.0578894	.0291855	.1745767	82.69589
#2	.0086895	-.001178	47.80738	.0581607	.0291162	.1745766	82.59126
#3	.0086279	-.001380	47.97457	.0584702	.0288464	.1728978	82.07046

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.3472811	17.64527	.0942012	.0014971	60.56506	.1540823	.3455937
Stddev	.0014556	.02988	.0007459	.0000821	.30151	.0010134	.0014124
%RSD	.4191466	.1693152	.7918285	5.485556	.4978234	.6576994	.4086969
#1	.3485056	17.67949	.0942271	.0015056	60.87878	.1551989	.3461288
#2	.3456717	17.63189	.0949339	.0014111	60.53892	.1538270	.3466605
#3	.3476661	17.62442	.0934428	.0015747	60.27746	.1532209	.3439920

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	21.57051	-.025655	.0160357	.0034118	.9549892	2.113076	9.378562
Stddev	.11952	.002213	.0003792	.0007751	.0010555	.003193	.074421
%RSD	.5541049	8.626019	2.364790	22.71907	.1105214	.1511285	.7935230
#1	21.67120	-.024826	.0164574	.0033657	.9539422	2.116762	9.411414
#2	21.60192	-.023976	.0159270	.0042089	.9549725	2.111164	9.430904
#3	21.43842	-.028163	.0157228	.0026607	.9560529	2.111301	9.293368

Reviewed By:mohan
On:4/24/2025 11:42:10 AM
Inst Id :P4
LB :LB135523

Sample Name: Q1847-02 Acquired: 4/22/2025 14:29:28 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v15) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	3.503608	.0495445	2.406332
Stddev	.041592	.0014791	.013870
%RSD	1.187130	2.985331	.5764135
#1	3.516328	.0497197	2.422282
#2	3.537355	.0509282	2.397104
#3	3.457140	.0479857	2.399609

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3403.859	79707.87	12376.78	2282.280	4358.573
Stddev	19.636	334.12	29.61	4.174	29.972
%RSD	.5768713	.4191745	.2392441	.1828836	.6876568
#1	3396.368	79810.93	12410.43	2285.799	4339.934
#2	3389.071	79334.36	12365.20	2277.668	4342.638
#3	3426.138	79978.31	12354.71	2283.371	4393.146

Reviewed By:mohan
On:4/24/2025 11:42:10 AM
Inst Id :P4
LB :LB135523

Sample Name: Q1847-03 Acquired: 4/22/2025 14:33:47 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v15) 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	.0640551	-.028341	.4253869	-.048453	.0033026	141.9374
Stddev	.0055889	.002942	.0026038	.008830	.0063976	.4766
%RSD	8.725129	10.38013	.6121062	18.22365	193.7099	.3357519
#1	.0617765	-.025471	.4275826	-.051009	-.003251	142.4346
#2	.0599654	-.031350	.4260679	-.038627	.009531	141.4846
#3	.0704233	-.028201	.4225103	-.055723	.003628	141.8930

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.925746	.0036563	-.001473	1565.224	1.762643	.0726948
Stddev	.007578	.0000375	.000210	7.518	.008798	.0002526
%RSD	.3935209	1.026803	14.26941	.4803261	.4991465	.3475475
#1	1.934096	.0036742	-.001241	1572.131	1.772782	.0725248
#2	1.919304	.0036131	-.001526	1557.216	1.758128	.0729851
#3	1.923839	.0036815	-.001651	1566.325	1.757020	.0725745

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.8649451	164.9318	4.533268	84.02801	.6011610	.0058560
Stddev	.0057959	.1730	.020627	.48820	.0023092	.0004168
%RSD	.6700853	.1049039	.4550158	.5809987	.3841287	7.117659
#1	.8680405	164.9559	4.551115	84.23050	.6025132	.0053749
#2	.8685361	165.0915	4.510685	83.47114	.6024750	.0061097
#3	.8582587	164.7480	4.538003	84.38238	.5984946	.0060833

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	13.63020	.6586394	1.263177	19.09088	-.045847	.0272182
Stddev	.07234	.0017084	.008583	.04533	.002796	.0002597
%RSD	.5307095	.2593777	.6795102	.2374448	6.098338	.9540283
#1	13.68249	.6601635	1.267901	19.14254	-.049069	.0271353
#2	13.66047	.6567928	1.268360	19.07233	-.044060	.0275092
#3	13.54765	.6589620	1.253269	19.05776	-.044413	.0270101

Reviewed By:mohan
On:4/24/2025 11:42:10 AM
Inst Id :P4
LB :LB135523

Sample Name: Q1847-03 Acquired: 4/22/2025 14:33:47 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v15) 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	.0405204	6.265984	8.438263	5.344207	F 52.93948	-.107270
Stddev	.0027806	.024709	.035076	.005013	.29134	.000990
%RSD	6.862127	.3943298	.4156764	.0938113	.5503191	.9226841
#1	.0376603	6.288371	8.446620	5.339147	53.03552	-.108403
#2	.0432140	6.239473	8.468407	5.349173	53.17067	-.106574
#3	.0406869	6.270107	8.399764	5.344302	52.61225	-.106834

Elem	Sr4077
Units	ppm
Avg	1.277442
Stddev	.005573
%RSD	.4362408
#1	1.283572
#2	1.272681
#3	1.276074

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2602.974	63062.51	11130.18	1771.354	3569.366
Stddev	11.132	190.50	51.56	11.542	12.418
%RSD	.4276588	.3020774	.4632573	.6515787	.3478996
#1	2595.800	62917.35	11079.64	1767.885	3561.205
#2	2597.324	62991.96	11182.70	1761.946	3563.236
#3	2615.798	63278.22	11128.20	1784.233	3583.657

Reviewed By:mohan
On:4/24/2025 11:42:10 AM
Inst Id :P4
LB :LB135523

Sample Name: Q1847-03DUP Acquired: 4/22/2025 14:38:01 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v15) 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	.0709263	-.028066	.4582766	-.055076	.0024124	144.5550
Stddev	.0068727	.004473	.0027936	.022809	.0060713	.9719
%RSD	9.689866	15.93844	.6095853	41.41405	251.6694	.6723688
#1	.0781409	-.031370	.4569477	-.063171	.0004645	143.4806
#2	.0644562	-.029853	.4614865	-.029323	-.002446	145.3733
#3	.0701818	-.022976	.4563955	-.072734	.009219	144.8111

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.007617	.0038803	-.001603	1659.189	1.878957	.0695210
Stddev	.012176	.0000645	.000402	10.386	.004387	.0005988
%RSD	.6064915	1.661970	25.08604	.6259854	.2334698	.8613972
#1	1.993814	.0038283	-.001451	1671.175	1.875272	.0700933
#2	2.016831	.0038602	-.001299	1652.828	1.877789	.0695710
#3	2.012208	.0039525	-.002059	1653.564	1.883809	.0688987

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.9044684	171.6173	4.711375	85.48782	.6104078	.0064061
Stddev	.0080099	.5493	.035026	.80576	.0027408	.0004896
%RSD	.8855878	.3200541	.7434329	.9425442	.4490129	7.642312
#1	.9074064	170.9991	4.671377	84.55791	.6119734	.0065164
#2	.9105944	171.8037	4.736565	85.92621	.6120069	.0068311
#3	.8954044	172.0491	4.726182	85.97933	.6072430	.0058708

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	13.23838	.6806948	1.368638	20.51907	-.032924	.0298247
Stddev	.01879	.0059810	.007193	.09970	.000940	.0003919
%RSD	.1419139	.8786688	.5255685	.4858845	2.855394	1.314065
#1	13.21739	.6737926	1.361111	20.42992	-.033229	.0297586
#2	13.25362	.6843540	1.369360	20.50056	-.031869	.0294701
#3	13.24413	.6839377	1.375443	20.62673	-.033674	.0302455

Reviewed By:mohan
On:4/24/2025 11:42:10 AM
Inst Id :P4
LB :LB135523

Sample Name: Q1847-03DUP Acquired: 4/22/2025 14:38:01 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v15) 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	.0414028	6.313764	7.943277	5.172782	F 56.67335	-.115285
Stddev	.0020707	.038814	.028431	.029606	.35560	.003090
%RSD	5.001450	.6147443	.3579212	.5723339	.6274580	2.680026
#1	.0437219	6.269030	7.940274	5.190607	56.85612	-.118850
#2	.0397389	6.338495	7.973089	5.189132	56.90040	-.113638
#3	.0407475	6.333769	7.916466	5.138607	56.26354	-.113369

Elem	Sr4077
Units	ppm
Avg	1.331090
Stddev	.009414
%RSD	.7072348
#1	1.328396
#2	1.341557
#3	1.323317

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2595.005	61762.40	11264.76	1738.004	3542.028
Stddev	18.250	143.62	63.20	3.125	19.488
%RSD	.7032909	.2325414	.5610309	.1797839	.5501994
#1	2587.066	61928.20	11337.53	1740.240	3532.136
#2	2582.069	61676.31	11223.62	1739.338	3529.471
#3	2615.881	61682.69	11233.13	1734.433	3564.479

Reviewed By:mohan
On:4/24/2025 11:42:10 AM
Inst Id :P4
LB :LB135523

Sample Name: Q1847-03LX5 Acquired: 4/22/2025 14:42:18 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v15) 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	.0127940	-.006994	.0846538	-.011583	.0003515	28.21750	.3694968
Stddev	.0021940	.000686	.0030718	.003087	.0028665	.11123	.0023090
%RSD	17.14893	9.806084	3.628671	26.65471	815.4195	.3942025	.6249095
#1	.0112785	-.006236	.0880578	-.015028	-.002714	28.09349	.3669213
#2	.0117935	-.007570	.0838152	-.009066	.000803	28.25052	.3713820
#3	.0153099	-.007177	.0820884	-.010655	.002965	28.30848	.3701870

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0007975	-.000677	334.0356	.3686103	.0139542	.1821100	31.21838
Stddev	.0000370	.000124	1.3925	.0015508	.0000283	.0016597	.16503
%RSD	4.644927	18.29189	.4168718	.4207056	.2030681	.9113770	.5286280
#1	.0008130	-.000724	333.3255	.3703740	.0139863	.1825513	31.23910
#2	.0007552	-.000770	335.6400	.3679967	.0139437	.1835044	31.37207
#3	.0008242	-.000537	333.1414	.3674602	.0139326	.1802742	31.04397

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.9663258	17.65424	.1189259	.0018256	2.222835	.1370855	.2517988
Stddev	.0044676	.07378	.0010864	.0002088	.019073	.0031545	.0004085
%RSD	.4623300	.4179171	.9135454	11.43586	.8580612	2.301104	.1622207
#1	.9612121	17.57560	.1194978	.0020662	2.214349	.1346903	.2516257
#2	.9682935	17.72194	.1196069	.0017182	2.244679	.1406596	.2515053
#3	.9694718	17.66517	.1176729	.0016924	2.209477	.1359065	.2522653

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	3.209875	-.019964	.0062489	.0056986	1.298954	1.528032	.9708854
Stddev	.005308	.000350	.0005271	.0009659	.005470	.014626	.0073027
%RSD	.1653503	1.754367	8.435596	16.95031	.4210959	.9571560	.7521680
#1	3.208751	-.019595	.0056794	.0067064	1.292920	1.516946	.9690207
#2	3.215655	-.020005	.0063476	.0047809	1.300352	1.544609	.9789397
#3	3.205220	-.020292	.0067197	.0056084	1.303589	1.522542	.9646959

Reviewed By:mohan
On:4/24/2025 11:42:10 AM
Inst Id :P4
LB :LB135523

Sample Name: Q1847-03LX5 Acquired: 4/22/2025 14:42:18 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v15) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	9.467013	-.028196	.2548153
Stddev	.064010	.001210	.0012021
%RSD	.6761381	4.292609	.4717382
#1	9.532391	-.028401	.2534306
#2	9.464182	-.029290	.2555904
#3	9.404465	-.026895	.2554249

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2932.238	69811.61	10898.90	1961.918	4326.780
Stddev	18.242	261.26	19.13	6.859	26.818
%RSD	.6221346	.3742303	.1754966	.3495954	.6198110
#1	2920.412	69712.87	10917.74	1956.711	4305.212
#2	2923.054	69614.12	10899.48	1959.353	4318.319
#3	2953.247	70107.85	10879.50	1969.690	4356.807

Reviewed By:mohan
On:4/24/2025 11:42:10 AM
Inst Id :P4
LB :LB135523

Sample Name: Q1847-03MS Acquired: 4/22/2025 14:46:31 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v15) 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	.8911168	1.810383	1.390998	1.960180	.2779404	145.1530
Stddev	.0064331	.021519	.003300	.006293	.0038899	.1066
%RSD	.7219176	1.188638	.2372415	.3210459	1.399533	.0734739
#1	.8973908	1.799077	1.387279	1.967427	.2786793	145.2236
#2	.8845356	1.835198	1.392140	1.957017	.2737340	145.2050
#3	.8914241	1.796873	1.393576	1.956096	.2814078	145.0303

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.207038	.1763865	.1852962	1706.989	2.137438	.2429855
Stddev	.005944	.0011033	.0005924	1.929	.059910	.0003727
%RSD	.2693252	.6255053	.3196902	.1130205	2.802884	.1533766
#1	2.213659	.1753385	.1859177	1706.715	2.068490	.2428924
#2	2.205294	.1775379	.1852329	1709.041	2.167032	.2433959
#3	2.202161	.1762831	.1847380	1705.211	2.176791	.2426682

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.174031	154.1332	4.938758	86.07797	.9957715	.0818611
Stddev	.001911	3.1265	.015374	.07006	.0021179	.0019807
%RSD	.1627901	2.028456	.3112974	.0813940	.2126841	2.419593
#1	1.176218	150.6600	4.952789	86.02317	.9954731	.0797435
#2	1.172680	155.0167	4.941160	86.15691	.9980227	.0821715
#3	1.173196	156.7229	4.922324	86.05384	.9938186	.0836683

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	15.66447	.9240721	1.520449	35.23302	.1670462	.4086052
Stddev	.28863	.0044481	.043939	.76503	.0047172	.0005391
%RSD	1.842599	.4813572	2.889862	2.171334	2.823873	.1319442
#1	15.34171	.9276687	1.469893	34.37041	.1617601	.4086812
#2	15.75391	.9254494	1.549429	35.49946	.1685513	.4091023
#3	15.89780	.9190983	1.542025	35.82921	.1708271	.4080321

Reviewed By:mohan
On:4/24/2025 11:42:10 AM
Inst Id :P4
LB :LB135523

Sample Name: Q1847-03MS Acquired: 4/22/2025 14:46:31 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v15) 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	.6788960	6.333071	7.116174	11.90108	F 57.39466	.0813108
Stddev	.0034924	.016431	.176168	.01792	.20844	.0004559
%RSD	.5144214	.2594421	2.475600	.1506060	.3631753	.5606612
#1	.6776603	6.351994	6.917225	11.88512	57.36219	.0817397
#2	.6828382	6.322426	7.178910	11.92047	57.61743	.0808320
#3	.6761895	6.324792	7.252386	11.89765	57.20436	.0813606

Elem	Sr4077
Units	ppm
Avg	1.550303
Stddev	.011163
%RSD	.7200759
#1	1.537657
#2	1.554465
#3	1.558788

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2577.224	62904.32	10644.21	1772.953	3524.720
Stddev	3.613	1413.07	52.81	41.863	1.843
%RSD	.1401736	2.246378	.4961746	2.361190	.0522833
#1	2579.572	64534.18	10644.95	1820.778	3526.134
#2	2579.037	62156.04	10591.02	1742.952	3522.636
#3	2573.065	62022.75	10696.64	1755.129	3525.389

Reviewed By:mohan
On:4/24/2025 11:42:10 AM
Inst Id :P4
LB :LB135523

Sample Name: Q1847-03MSD Acquired: 4/22/2025 14:50:49 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v15) 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	.9143653	1.872460	1.345332	2.020148	.2745911	180.8046
Stddev	.0012704	.019559	.004443	.014247	.0016101	.5070
%RSD	.1389353	1.044559	.3302868	.7052330	.5863547	.2804068
#1	.9141057	1.893437	1.346041	2.028775	.2733995	180.5888
#2	.9157454	1.869218	1.349378	2.027966	.2764227	180.4412
#3	.9132447	1.854724	1.340577	2.003704	.2739509	181.3838

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.898541	.1807254	.1884300	1465.352	2.003606	.2874628
Stddev	.008204	.0002319	.0014621	7.573	.000794	.0019000
%RSD	.4320986	.1283105	.7759537	.5168145	.0396174	.6609542
#1	1.891364	.1809120	.1884870	1471.487	2.004151	.2880366
#2	1.896775	.1804658	.1898628	1467.681	2.002695	.2890098
#3	1.907484	.1807985	.1869402	1456.888	2.003972	.2853421

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.445177	190.4353	4.643105	105.3458	1.037272	.0844084
Stddev	.007450	.3947	.004532	.2053	.005454	.0004906
%RSD	.5155333	.2072868	.0976025	.1949158	.5258425	.5812033
#1	1.443588	190.0394	4.641071	105.3568	1.037671	.0842699
#2	1.453294	190.8289	4.639946	105.1352	1.042517	.0849534
#3	1.438650	190.4375	4.648297	105.5454	1.031630	.0840020

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	23.80601	.9248528	1.408288	39.76876	.1218445	.4132819
Stddev	.06052	.0020610	.007309	.06304	.0007472	.0015595
%RSD	.2542392	.2228427	.5189933	.1585071	.6132137	.3773400
#1	23.74095	.9226284	1.400254	39.76086	.1210971	.4135491
#2	23.81642	.9266976	1.410067	39.71004	.1218449	.4146905
#3	23.86065	.9252323	1.414543	39.83537	.1225915	.4116061

Reviewed By:mohan
On:4/24/2025 11:42:10 AM
Inst Id :P4
LB :LB135523

Sample Name: Q1847-03MSD Acquired: 4/22/2025 14:50:49 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v15) 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	.6848072	6.678377	9.097691	13.54163	F 49.65523	.1536421
Stddev	.0019119	.016751	.030550	.08498	.32916	.0028655
%RSD	.2791917	.2508292	.3358030	.6275400	.6629005	1.865032
#1	.6864863	6.664574	9.132966	13.57272	49.66848	.1527252
#2	.6852090	6.673542	9.080349	13.60668	49.97757	.1513472
#3	.6827263	6.697013	9.079759	13.44548	49.31964	.1568538

Elem	Sr4077
Units	ppm
Avg	1.471593
Stddev	.017623
%RSD	1.197556
#1	1.489085
#2	1.471854
#3	1.453841

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2554.223	62010.81	10648.23	1752.763	3516.891
Stddev	11.304	118.27	4.56	7.067	19.225
%RSD	.4425793	.1907202	.0428632	.4031858	.5466604
#1	2562.500	61958.47	10643.07	1760.485	3525.183
#2	2541.343	61927.75	10651.75	1751.186	3494.911
#3	2558.826	62146.22	10649.86	1746.618	3530.579

Reviewed By:mohan
On:4/24/2025 11:42:10 AM
Inst Id :P4
LB :LB135523

Sample Name: Q1847-03A Acquired: 4/22/2025 14:55:05 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v15) 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	.8985108	1.848268	1.375235	1.991874	.2721059	158.1251
Stddev	.0086785	.032059	.007816	.011235	.0062076	.5881
%RSD	.9658808	1.734531	.5683200	.5640633	2.281319	.3719068
#1	.8989396	1.867249	1.377785	1.998484	.2784423	157.4535
#2	.9069670	1.866300	1.381457	1.998235	.2660357	158.3738
#3	.8896258	1.811253	1.366462	1.978901	.2718396	158.5479

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.110764	.1705206	.1853755	1595.986	2.103695	.2605593
Stddev	.001968	.0003565	.0009107	6.278	.019660	.0014404
%RSD	.0932527	.2090745	.4912595	.3933549	.9345523	.5527997
#1	2.108567	.1708482	.1860425	1588.800	2.088618	.2605851
#2	2.112367	.1705726	.1857460	1598.747	2.096536	.2619866
#3	2.111359	.1701409	.1843379	1600.410	2.125932	.2591062

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.273485	175.9756	4.802075	92.26502	1.012594	.0842677
Stddev	.007364	1.6966	.001729	.26089	.001634	.0006632
%RSD	.5782391	.9641301	.0359995	.2827584	.1613307	.7869933
#1	1.280025	174.4966	4.803308	92.00025	1.012739	.0838631
#2	1.274923	175.6023	4.802818	92.27296	1.014150	.0839069
#3	1.265509	177.8277	4.800099	92.52185	1.010893	.0850331

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	19.94626	.9243384	1.487632	38.58277	.1698211	.4118833
Stddev	.18752	.0027525	.009351	.42229	.0089685	.0011346
%RSD	.9401193	.2977800	.6286105	1.094496	5.281141	.2754622
#1	19.78857	.9218506	1.477420	38.18176	.1625823	.4127612
#2	19.89661	.9238692	1.489697	38.54302	.1670269	.4122866
#3	20.15361	.9272953	1.495778	39.02353	.1798540	.4106022

Reviewed By:mohan
On:4/24/2025 11:42:10 AM
Inst Id :P4
LB :LB135523

Sample Name: Q1847-03A Acquired: 4/22/2025 14:55:05 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v15) 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	.6823294	6.484985	8.230885	12.62531	F 54.26393	.1109493
Stddev	.0037211	.016222	.108647	.06174	.36346	.0002856
%RSD	.5453507	.2501467	1.319992	.4890141	.6698092	.2574192
#1	.6800077	6.467149	8.116895	12.63887	54.50700	.1110285
#2	.6866214	6.488948	8.242506	12.67914	54.43869	.1106324
#3	.6803592	6.498858	8.333255	12.55791	53.84609	.1111869

Elem	Sr4077
Units	ppm
Avg	1.516115
Stddev	.004162
%RSD	.2745126
#1	1.515409
#2	1.512352
#3	1.520585

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2574.488	62506.15	11159.80	1755.564	3529.074
Stddev	13.967	481.41	23.28	8.993	13.882
%RSD	.5425158	.7701835	.2086202	.5122374	.3933581
#1	2563.092	62981.67	11160.23	1765.926	3520.948
#2	2570.303	62517.73	11136.31	1750.964	3521.170
#3	2590.070	62019.06	11182.87	1749.801	3545.102

Reviewed By:mohan
On:4/24/2025 11:42:10 AM
Inst Id :P4
LB :LB135523

Sample Name: Q1850-01 Acquired: 4/22/2025 14:59:23 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v15) 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	-.004118	-.000268	.0052564	.0004421	-.001360	5.954057	.0741954
Stddev	.001981	.000630	.0009768	.0052650	.001945	.031957	.0011975
%RSD	48.09552	234.7928	18.58327	1190.935	142.9596	.5367199	1.614031
#1	-.002852	.000134	.0046711	-.000311	-.003310	5.985689	.0755330
#2	-.006400	.000055	.0047142	.006043	-.001350	5.954697	.0738301
#3	-.003101	-.000994	.0063841	-.004406	.000579	5.921785	.0732230

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0003273	-.000795	34.48569	.0232814	.0035353	.0487599	12.64540
Stddev	.0000341	.000052	.23225	.0001925	.0003402	.0007995	.06728
%RSD	10.43123	6.552111	.6734564	.8268773	9.621650	1.639585	.5320271
#1	.0002918	-.000839	34.69154	.0233120	.0037154	.0489540	12.60281
#2	.0003301	-.000737	34.53162	.0230754	.0037476	.0494445	12.61043
#3	.0003599	-.000808	34.23391	.0234568	.0031430	.0478813	12.72296

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1650596	3.780960	.0109343	.0012254	.0940491	.0120599	.0253988
Stddev	.0016315	.012635	.0003915	.0000861	.0032294	.0001057	.0001042
%RSD	.9884557	.3341673	3.580233	7.027351	3.433743	.8763400	.4101591
#1	.1657701	3.779980	.0110910	.0011401	.0943055	.0120244	.0254028
#2	.1662155	3.794057	.0104888	.0012236	.0906991	.0121788	.0255010
#3	.1631933	3.768844	.0112232	.0013124	.0971426	.0119765	.0252928

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.069222	-.008784	.0022766	.0122382	.3854709	5.388150	.1274161
Stddev	.020765	.000340	.0005158	.0004176	.0010021	.090714	.0015777
%RSD	1.003524	3.874977	22.65490	3.412353	.2599578	1.683578	1.238229
#1	2.084451	-.009154	.0021700	.0123057	.3864298	5.358128	.1292378
#2	2.045568	-.008713	.0028372	.0117910	.3855524	5.316253	.1264951
#3	2.077647	-.008484	.0018224	.0126181	.3844306	5.490069	.1265153

Reviewed By:mohan
On:4/24/2025 11:42:10 AM
Inst Id :P4
LB :LB135523

Sample Name: Q1850-01 Acquired: 4/22/2025 14:59:23 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v15) 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	.7747836	.0072180	.1694592
Stddev	.0076785	.0008283	.0009356
%RSD	.9910561	11.47522	.5521147
#1	.7814378	.0081557	.1703166
#2	.7765311	.0069123	.1695998
#3	.7663819	.0065861	.1684613

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2988.543	71685.93	11393.70	2063.441	4616.936
Stddev	11.492	335.84	58.48	9.294	11.857
%RSD	.3845218	.4684814	.5132811	.4504185	.2568208
#1	2983.665	71863.18	11345.37	2061.539	4607.289
#2	2980.294	71896.00	11377.02	2073.539	4613.346
#3	3001.668	71298.60	11458.71	2055.245	4630.173

Reviewed By:mohan
On:4/24/2025 11:42:10 AM
Inst Id :P4
LB :LB135523

Sample Name: PB167673BL Acquired: 4/22/2025 15:03:37 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v15) 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	-.003096	-.001383	-.001677	.0057438	.0011412	.0006700	-.006822
Stddev	.000657	.003155	.001994	.0052609	.0009548	.0043827	.000378
%RSD	21.21964	228.0611	118.8509	91.59331	83.66465	654.1653	5.548151
#1	-.003010	-.000136	-.002006	.0003876	.0012487	.0052363	-.006385
#2	-.003792	.000957	-.003486	.0059398	.0020377	.0002763	-.007023
#3	-.002487	-.004971	.000460	.0109040	.0001372	-.003503	-.007057

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0000007	-.000037	-.001687	-.000248	-.000106	-.000078	.0024111
Stddev	.0000008	.000045	.002995	.000278	.000176	.000645	.0067398
%RSD	108.3014	122.5202	177.4637	112.0816	165.5794	830.8830	279.5321
#1	.0000007	-.000029	-.005130	.000073	-.000214	.000545	.0076718
#2	.0000015	-.000085	.000318	-.000409	.000097	-.000743	.0047475
#3	-.000000	.000004	-.000251	-.000407	-.000202	-.000035	-.005186

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0011258	.0012580	.0000017	.0008291	-.082743	-.000161	-.000609
Stddev	.0004926	.0113618	.0002928	.0002444	.018398	.000698	.000381
%RSD	43.76130	903.1646	17357.76	29.47485	22.23486	434.8573	62.54685
#1	.0014975	.0041803	-.000026	.0010105	-.090279	-.000205	-.001012
#2	.0005670	-.011279	-.000276	.0009256	-.061773	.000559	-.000256
#3	.0013127	.010873	.000307	.0005512	-.096176	-.000835	-.000558

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.026804	-.000522	.0002770	.0013983	.0010797	.0055569	.0019180
Stddev	.014553	.000586	.0002435	.0006915	.0001048	.0069794	.0012091
%RSD	54.29490	112.2104	87.88575	49.45576	9.710485	125.5983	63.04047
#1	-.014552	-.000320	.0001129	.0017909	.0011839	.0098469	.0005699
#2	-.042890	-.000064	.0005567	.0018043	.0010808	-.002496	.0022773
#3	-.022968	-.001182	.0001614	.0005998	.0009743	.009320	.0029067

Reviewed By:mohan
On:4/24/2025 11:42:10 AM
Inst Id :P4
LB :LB135523

Sample Name: PB167673BL Acquired: 4/22/2025 15:03:37 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v15) 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	.0063216	-.002780	-.000010
Stddev	.0004757	.000302	.000025
%RSD	7.525852	10.87913	244.7154
#1	.0068464	-.002709	-.000019
#2	.0062000	-.002520	.000018
#3	.0059184	-.003112	-.000029

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3119.849	73478.83	11261.69	2109.087	4894.053
Stddev	14.040	179.82	105.34	6.739	16.155
%RSD	.4500164	.2447197	.9353804	.3194999	.3300932
#1	3115.194	73445.17	11383.32	2102.445	4889.621
#2	3108.728	73673.10	11201.86	2115.918	4880.577
#3	3135.625	73318.22	11199.89	2108.897	4911.962

Reviewed By:mohan
On:4/24/2025 11:42:10 AM
Inst Id :P4
LB :LB135523

Sample Name: CCV03 Acquired: 4/22/2025 15:07:57 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v15) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCV03 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	4.816463	4.801613	4.668574	4.912648	4.982868	9.568162	9.509236
Stddev	.017852	.030094	.022067	.020793	.016636	.233444	.267001
%RSD	.3706514	.6267450	.4726793	.4232545	.3338703	2.439803	2.807807
#1	4.825122	4.772646	4.681228	4.936238	5.000169	9.453565	9.421331
#2	4.828335	4.799473	4.681400	4.896985	4.981446	9.414162	9.297271
#3	4.795933	4.832719	4.643093	4.904720	4.966988	9.836758	9.809107

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2299604	2.262297	23.42640	.9728129	2.325043	1.221844	4.988517
Stddev	.0062165	.008463	.56230	.0027645	.009129	.003909	.034264
%RSD	2.703298	.3740813	2.400301	.2841731	.3926372	.3199136	.6868673
#1	.2261207	2.265861	23.14447	.9757146	2.332204	1.224944	5.028082
#2	.2266279	2.268395	23.06084	.9702099	2.328161	1.223135	4.968717
#3	.2371327	2.252635	24.07390	.9725142	2.314763	1.217453	4.968751

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.332172	23.11517	2.312947	1.232296	25.03439	2.349469	2.478380
Stddev	.053872	.59413	.009681	.003320	.23034	.056989	.008866
%RSD	2.309960	2.570297	.4185390	.2694367	.9200876	2.425597	.3577279
#1	2.312409	22.83860	2.318990	1.235974	25.29026	2.321678	2.488364
#2	2.290973	22.70975	2.318069	1.229519	24.96936	2.311708	2.471426
#3	2.393135	23.79717	2.301781	1.231395	24.84357	2.415022	2.475351

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	25.00255	4.629295	4.894502	4.598823	4.741103	5.153741	4.623227
Stddev	.20396	.127374	.014902	.016946	.106828	.019926	.004685
%RSD	.8157636	2.751474	.3044686	.3684807	2.253239	.3866307	.1013409
#1	25.23317	4.552645	4.904278	4.605193	4.684918	5.174129	4.627875
#2	24.92863	4.558911	4.901877	4.611660	4.674092	5.134312	4.623300
#3	24.84586	4.776329	4.877350	4.579615	4.864300	5.152781	4.618506

Reviewed By:mohan
On:4/24/2025 11:42:10 AM
Inst Id :P4
LB :LB135523

Sample Name: CCV03 Acquired: 4/22/2025 15:07:57 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v15) 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	4.551768	4.749978	4.772896
Stddev	.020722	.101589	.123506
%RSD	.4552539	2.138721	2.587645
#1	4.560076	4.696540	4.745816
#2	4.567047	4.686262	4.665179
#3	4.528181	4.867133	4.907696

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3060.568	70121.39	10845.99	1989.727	4647.332
Stddev	14.746	417.24	280.34	6.782	23.090
%RSD	.4818034	.5950193	2.584749	.3408301	.4968421
#1	3048.603	69668.73	10992.88	1982.068	4630.764
#2	3056.058	70490.58	11022.38	1992.146	4637.525
#3	3077.042	70204.86	10522.73	1994.968	4673.706

Reviewed By:mohan
On:4/24/2025 11:42:10 AM
Inst Id :P4
LB :LB135523

Sample Name: CCB03 Acquired: 4/22/2025 15:12:09 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v15) 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	-.003730	-.002915	-.000316	.0020508	-.000052	.0034182	-.007251
Stddev	.000765	.001849	.001627	.0032567	.001677	.0076861	.001072
%RSD	20.49697	63.43154	515.4031	158.8050	3223.102	224.8550	14.78192
#1	-.002864	-.004560	-.001659	.0003394	.001094	.0098796	-.006170
#2	-.004310	-.000914	.001493	.0000065	.000727	-.005082	-.007270
#3	-.004016	-.003271	-.000780	.0058064	-.001977	.005457	-.008313

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0000570	.0000505	-.004172	.0000211	.0000518	.0004393	.0072521
Stddev	.0000283	.0000574	.011295	.0000751	.0001252	.0003205	.0052307
%RSD	49.67832	113.5861	270.6976	356.7995	241.7466	72.94412	72.12709
#1	.0000536	.0000604	-.005644	-.000008	.0001020	.0005379	.0024171
#2	.0000305	-.000011	.007786	-.000035	.0001440	.0006989	.0128045
#3	.0000868	.000102	-.014659	.000106	-.000091	.0000812	.0065346

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0000334	.0063006	.0002251	.0010988	-.065505	-.001640	-.000329
Stddev	.0003679	.0168351	.0002232	.0003439	.011435	.000704	.000598
%RSD	1102.546	267.1973	99.12749	31.29547	17.45741	42.89960	181.8437
#1	-.000391	.0248568	.0003787	.0013032	-.057948	-.001020	-.000607
#2	.000225	.0020395	.0003275	.0012914	-.078661	-.002405	.000357
#3	.000266	-.007994	-.000031	.0007018	-.059905	-.001496	-.000737

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0032277	.0066326	.0007604	.0048401	.0006551	.0041739	.0001311
Stddev	.0219929	.0003386	.0002733	.0003938	.0001765	.0005646	.0011058
%RSD	681.3759	5.104399	35.94267	8.135959	26.93544	13.52772	843.3151
#1	-.020308	.0063496	.0007829	.0052612	.0004802	.0035231	.0011653
#2	.023256	.0070077	.0010218	.0047779	.0006521	.0045334	.0002625
#3	.006735	.0065405	.0004766	.0044811	.0008331	.0044650	-.001035

Reviewed By:mohan
On:4/24/2025 11:42:10 AM
Inst Id :P4
LB :LB135523

Sample Name: CCB03 Acquired: 4/22/2025 15:12:09 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v15) 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	.0068489	-.002689	.0001781
Stddev	.0025884	.001236	.0000376
%RSD	37.79252	45.95342	21.10795
#1	.0093131	-.003931	.0001399
#2	.0041521	-.002675	.0001792
#3	.0070815	-.001460	.0002151

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3068.947	73323.77	10655.23	2072.299	4783.624
Stddev	14.503	226.46	59.81	7.242	23.410
%RSD	.4725858	.3088491	.5613092	.3494449	.4893834
#1	3057.683	73486.21	10718.55	2080.160	4763.082
#2	3063.846	73065.08	10647.44	2070.835	4778.677
#3	3085.312	73420.01	10599.70	2065.901	4809.112

Reviewed By:mohan
On:4/24/2025 11:42:10 AM
Inst Id :P4
LB :LB135523

Sample Name: PB167673BS Acquired: 4/22/2025 15:16:30 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v15) 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	.8526393	2.084382	.9952467	2.237352	.8918535	1.910812
Stddev	.0046354	.006522	.0047915	.003817	.0016642	.006141
%RSD	.5436516	.3129196	.4814361	.1706022	.1865997	.3213934
#1	.8577399	2.089434	1.000439	2.241090	.8935809	1.917464
#2	.8486838	2.077019	.990996	2.233461	.8902607	1.905359
#3	.8514942	2.086694	.994306	2.237504	.8917189	1.909613

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1767444	.1907308	.1994787	.9626883	.3994786	.1950687
Stddev	.0020106	.0013150	.0010945	.0068553	.0010317	.0011594
%RSD	1.137557	.6894812	.5486543	.7120970	.2582564	.5943326
#1	.1787648	.1912181	.2006909	.9557815	.4001782	.1964066
#2	.1767247	.1892416	.1991822	.9694909	.3999639	.1943586
#3	.1747438	.1917326	.1985631	.9627926	.3982938	.1944409

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.3186707	2.902749	.1899392	1.840153	.4917882	.0759841
Stddev	.0019914	.024774	.0007339	.020311	.0020463	.0001407
%RSD	.6249137	.8534801	.3863912	1.103776	.4160858	.1851603
#1	.3203225	2.918863	.1907316	1.860825	.4941359	.0761437
#2	.3164593	2.915162	.1898031	1.839410	.4908452	.0759306
#3	.3192301	2.874222	.1892828	1.820223	.4903834	.0758780

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.649584	.2796680	.2091965	9.432776	.2869921	.4249224
Stddev	.021805	.0017346	.0005934	.102563	.0012490	.0015736
%RSD	.8229740	.6202447	.2836436	1.087305	.4351849	.3703357
#1	2.667093	.2812842	.2091515	9.503449	.2880581	.4267310
#2	2.656499	.2798844	.2086269	9.479739	.2856179	.4238669
#3	2.625159	.2778352	.2098111	9.315140	.2873003	.4241691

Reviewed By:mohan
On:4/24/2025 11:42:10 AM
Inst Id :P4
LB :LB135523

Sample Name: PB167673BS Acquired: 4/22/2025 15:16:30 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v15) 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	.6993720	.1959104	F .7093588	6.056155	F -.010340	.1999653
Stddev	.0039553	.0010743	.0083248	.020597	.003528	.0018326
%RSD	.5655535	.5483819	1.173565	.3401059	34.11904	.9164855
#1	.7039039	.1966173	.7129195	6.078691	-.007978	.2010796
#2	.6975968	.1946741	.7153110	6.038303	-.014395	.1978501
#3	.6966153	.1964398	.6998458	6.051471	-.008646	.2009661

Elem	Sr4077
Units	ppm
Avg	.1938826
Stddev	.0008703
%RSD	.4488658
#1	.1948591
#2	.1936001
#3	.1931888

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3028.628	73548.66	11028.65	2082.841	4701.556
Stddev	15.059	260.06	63.57	5.531	29.518
%RSD	.4972180	.3535951	.5763737	.2655541	.6278437
#1	3012.691	73370.64	11001.70	2079.760	4667.895
#2	3042.620	73428.23	11101.25	2079.536	4723.028
#3	3030.572	73847.11	10983.00	2089.226	4713.745

Reviewed By:mohan
On:4/24/2025 11:42:10 AM
Inst Id :P4
LB :LB135523

Sample Name: Q1840-01 Acquired: 4/22/2025 15:20:34 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v15) 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	.0323083	-.006136	.1929029	-.007099	-.007250	122.6819	.4087750
Stddev	.0032746	.001344	.0032148	.004383	.001078	.4468	.0017901
%RSD	10.13530	21.90547	1.666534	61.73777	14.87301	.3641930	.4379154
#1	.0358724	-.004597	.1952914	-.010269	-.006005	123.1771	.4107199
#2	.0294329	-.006732	.1892477	-.008930	-.007853	122.5598	.4084087
#3	.0316196	-.007080	.1941697	-.002098	-.007892	122.3089	.4071963

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0047910	-.007086	33.29280	.3499797	.1084571	.4183579	234.4263
Stddev	.0000484	.000051	.22770	.0023104	.0007632	.0024872	1.4106
%RSD	1.009382	.7238285	.6839279	.6601652	.7037181	.5945122	.6017158
#1	.0047755	-.007096	33.55213	.3500498	.1091626	.4199836	235.5834
#2	.0048452	-.007132	33.20068	.3522543	.1085619	.4195953	234.8406
#3	.0047522	-.007031	33.12560	.3476350	.1076469	.4154947	232.8550

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.579036	46.52917	.2306856	.0048024	5.800965	.3940409	.4351282
Stddev	.017619	.35850	.0009769	.0003623	.058382	.0020131	.0039465
%RSD	.6831561	.7704823	.4234533	7.543607	1.006415	.5108839	.9069736
#1	2.599363	46.94078	.2312073	.0051884	5.785338	.3956375	.4396232
#2	2.568151	46.36151	.2312909	.0047491	5.865571	.3947058	.4322317
#3	2.569593	46.28522	.2295587	.0044698	5.751987	.3917795	.4335298

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	17.35718	-.297068	.0168276	.0301334	6.103540	3.794403	7.706573
Stddev	.10091	.007126	.0002120	.0010115	.026447	.023703	.056694
%RSD	.5813937	2.398673	1.259645	3.356815	.4333005	.6246940	.7356604
#1	17.36272	-.300337	.0168041	.0289665	6.133318	3.793010	7.744883
#2	17.45520	-.288895	.0166283	.0307601	6.094514	3.818772	7.733390
#3	17.25360	-.301974	.0170503	.0306737	6.082788	3.771427	7.641445

Reviewed By:mohan
On:4/24/2025 11:42:10 AM
Inst Id :P4
LB :LB135523

Sample Name: Q1840-01 Acquired: 4/22/2025 15:20:34 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v15) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	4.601375	.2110178	.0852275
Stddev	.029378	.0008692	.0004461
%RSD	.6384640	.4119221	.5234383
#1	4.632192	.2105810	.0857419
#2	4.598246	.2120188	.0849938
#3	4.573686	.2104536	.0849467

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3279.831	76356.67	12183.66	2182.029	4466.509
Stddev	16.204	464.36	73.55	13.887	18.839
%RSD	.4940533	.6081400	.6036875	.6364043	.4217841
#1	3268.544	76135.34	12100.83	2169.558	4449.831
#2	3272.551	76044.38	12208.82	2179.536	4462.753
#3	3298.398	76890.28	12241.33	2196.994	4486.943

Reviewed By:mohan
On:4/24/2025 11:42:10 AM
Inst Id :P4
LB :LB135523

Sample Name: Q1841-02 Acquired: 4/22/2025 15:24:38 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v15) 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	.1015236	.0022790	1.175874	-.008562	.0013838	102.7385	.7943464
Stddev	.0027704	.0018760	.008028	.005707	.0019394	.0887	.0021554
%RSD	2.728842	82.31840	.6827604	66.66428	140.1531	.0863681	.2713472
#1	.1007352	.0012985	1.184182	-.007534	.0002284	102.6858	.7918849
#2	.0992329	.0010964	1.175282	-.003437	.0003001	102.8409	.7958959
#3	.1046028	.0044421	1.168158	-.014713	.0036229	102.6886	.7952583

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0066654	-.002116	14.33100	.2109967	.0873072	.6146164	203.2930
Stddev	.0000753	.000086	.01027	.0008428	.0005954	.0045879	1.1950
%RSD	1.129745	4.073555	.0716759	.3994542	.6819761	.7464722	.5878197
#1	.0065790	-.002066	14.32866	.2100235	.0879816	.6198462	202.5885
#2	.0066996	-.002215	14.34224	.2114865	.0870857	.6127337	204.6727
#3	.0067175	-.002065	14.32210	.2114801	.0868543	.6112693	202.6177

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	4.423447	22.37966	.1677713	.0045411	3.752451	.2810657	2.346604
Stddev	.013066	.04889	.0009772	.0001824	.027245	.0009537	.020968
%RSD	.2953731	.2184367	.5824638	4.016699	.7260482	.3393040	.8935618
#1	4.412866	22.33123	.1683750	.0045244	3.756044	.2805787	2.343681
#2	4.438051	22.42899	.1682951	.0047313	3.777720	.2804538	2.368881
#3	4.419424	22.37877	.1666439	.0043676	3.723588	.2821645	2.327250

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	7.345319	-.255401	.0027278	.0292931	2.542998	3.327935	6.295939
Stddev	.036598	.000322	.0002559	.0016231	.003051	.019479	.027778
%RSD	.4982427	.1259918	9.380869	5.540719	.1199650	.5853187	.4411989
#1	7.309865	-.255760	.0030098	.0307153	2.539512	3.325443	6.327883
#2	7.382962	-.255303	.0026631	.0275250	2.545178	3.348540	6.277456
#3	7.343129	-.255139	.0025104	.0296390	2.544305	3.309822	6.282480

Reviewed By:mohan
On:4/24/2025 11:42:10 AM
Inst Id :P4
LB :LB135523

Sample Name: Q1841-02 Acquired: 4/22/2025 15:24:38 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v15) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	1.310223	.1868013	.0866481
Stddev	.017795	.0004730	.0001344
%RSD	1.358203	.2531914	.1551224
#1	1.329614	.1866144	.0865119
#2	1.306416	.1864503	.0867806
#3	1.294639	.1873391	.0866520

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3362.659	78212.47	12519.76	2238.080	4560.940
Stddev	13.156	346.26	10.23	19.900	19.234
%RSD	.3912516	.4427196	.0817324	.8891651	.4217017
#1	3354.016	78285.45	12530.38	2234.052	4543.056
#2	3356.160	77835.53	12509.96	2220.502	4558.477
#3	3377.800	78516.42	12518.94	2259.686	4581.286

Reviewed By:mohan
On:4/24/2025 11:42:10 AM
Inst Id :P4
LB :LB135523

Sample Name: Q1842-01 Acquired: 4/22/2025 15:28:46 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v15) 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	.0719725	-.099395	.9334984	-.087837	-.020608	393.9327
Stddev	.0043390	.005348	.0050348	.012020	.001574	4.0787
%RSD	6.028646	5.380885	.5393521	13.68453	7.635872	1.035383
#1	.0758574	-.104761	.9302636	-.075278	-.020034	396.1691
#2	.0727701	-.094064	.9392993	-.099233	-.019403	396.4040
#3	.0672901	-.099360	.9309322	-.088999	-.022389	389.2250

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.690562	.0137768	.0149590	46.64254	2.641773	.8778671
Stddev	.012422	.0001562	.0013063	.33573	.012544	.0031926
%RSD	.7347834	1.134062	8.732456	.7197836	.4748449	.3636810
#1	1.684404	.0139179	.0162318	46.48254	2.654041	.8813490
#2	1.704860	.0138037	.0150236	47.02833	2.628970	.8771753
#3	1.682421	.0136089	.0136216	46.41674	2.642309	.8750771

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.234547	796.3905	15.95878	126.8920	1.018260	.0093886
Stddev	.007172	3.5913	.10620	.9813	.003822	.0004301
%RSD	.5809171	.4509476	.6654651	.7733455	.3753583	4.581119
#1	1.239354	794.3382	15.92062	126.7549	1.022655	.0089086
#2	1.237984	794.2959	16.07879	127.9347	1.016417	.0095183
#3	1.226304	800.5373	15.87693	125.9865	1.015709	.0097390

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.863170	2.452132	1.179961	4.692665	^ *****	-.001243
Stddev	.007034	.023205	.006115	.008364	-----	.000600
%RSD	.2456555	.9463299	.5182111	.1782435	-----	48.30611
#1	2.855554	2.444938	1.186246	4.697119	^ -----	-.001762
#2	2.869421	2.478083	1.174033	4.697860	^ -----	-.001381
#3	2.864536	2.433376	1.179605	4.683016	^ -----	-.000585

Reviewed By:mohan
On:4/24/2025 11:42:10 AM
Inst Id :P4
LB :LB135523

Sample Name: Q1842-01 Acquired: 4/22/2025 15:28:46 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v15) 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	-.009548	F 35.76623	2.303545	6.470941	1.919271	.5712388
Stddev	.002276	.41055	.011061	.018181	.005637	.0013479
%RSD	23.83261	1.147869	.4801827	.2809626	.2936863	.2359586
#1	-.007605	36.01345	2.305090	6.491869	1.925610	.5696867
#2	-.008988	35.99293	2.313754	6.461920	1.914821	.5719140
#3	-.012052	35.29232	2.291793	6.459036	1.917383	.5721156

Elem	Sr4077
Units	ppm
Avg	.2320910
Stddev	.0018466
%RSD	.7956166
#1	.2313254
#2	.2341973
#3	.2307504

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3320.667	78932.46	12656.42	2241.371	4005.293
Stddev	9.841	241.87	58.62	7.400	12.837
%RSD	.2963631	.3064280	.4631732	.3301455	.3204952
#1	3311.102	78683.23	12665.02	2233.278	3990.512
#2	3320.136	79166.23	12593.98	2247.792	4013.646
#3	3330.763	78947.92	12710.27	2243.044	4011.722

Reviewed By:mohan
On:4/24/2025 11:42:10 AM
Inst Id :P4
LB :LB135523

Sample Name: Q1842-07 Acquired: 4/22/2025 15:33:16 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v15) 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	.0733905	-.018438	.2527274	-.034944	-.012958	253.5787	.8616291
Stddev	.0030638	.002481	.0023086	.004554	.002863	2.9029	.0020880
%RSD	4.174636	13.45407	.9134711	13.03247	22.09235	1.144773	.2423335
#1	.0762485	-.019851	.2520931	-.040195	-.015165	256.5694	.8603982
#2	.0737673	-.015574	.2508022	-.032562	-.009723	250.7724	.8604492
#3	.0701558	-.019889	.2552868	-.032075	-.013985	253.3942	.8640400

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0104890	-.012686	21.86694	1.344429	.2908447	.5982875	537.8691
Stddev	.0000635	.000270	.04653	.007178	.0007029	.0028485	.5530
%RSD	.6050456	2.129786	.2127864	.5339247	.2416725	.4761032	.1028139
#1	.0105230	-.012377	21.92058	1.352345	.2915113	.6015644	538.4975
#2	.0104157	-.012799	21.83756	1.342600	.2909125	.5968948	537.6532
#3	.0105281	-.012881	21.84266	1.338342	.2901104	.5964034	537.4566

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	6.600368	53.84082	.4063229	.0080985	21.76689	1.424996	.6650463
Stddev	.006692	.16526	.0016891	.0006136	.09168	.002920	.0016220
%RSD	.1013915	.3069345	.4157152	7.576151	.4211777	.2049392	.2438956
#1	6.606241	54.01559	.4082142	.0073901	21.68203	1.425878	.6665119
#2	6.601782	53.81980	.4057899	.0084628	21.75452	1.421737	.6653235
#3	6.593082	53.68709	.4049645	.0084424	21.86413	1.427374	.6633035

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	5.185500	-.790716	.0051439	.0046609	13.58396	2.879102	4.771738
Stddev	.033243	.013035	.0006751	.0010658	.02244	.013856	.028952
%RSD	.6410836	1.648553	13.12358	22.86759	.1652095	.4812781	.6067393
#1	5.157256	-.804821	.0043686	.0043769	13.60927	2.873717	4.804509
#2	5.222135	-.788215	.0054616	.0037658	13.57614	2.894843	4.761076
#3	5.177108	-.779113	.0056014	.0058400	13.56648	2.868746	4.749629

Reviewed By:mohan
On:4/24/2025 11:42:10 AM
Inst Id :P4
LB :LB135523

Sample Name: Q1842-07 Acquired: 4/22/2025 15:33:16 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v15) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	1.846373	.3889926	.0940369
Stddev	.001981	.0005503	.0002624
%RSD	.1072663	.1414780	.2790734
#1	1.848659	.3892818	.0942571
#2	1.845205	.3883580	.0941070
#3	1.845253	.3893380	.0937465

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3200.956	74474.03	11980.59	2117.686	4341.769
Stddev	9.654	185.80	80.72	9.880	16.117
%RSD	.3016019	.2494881	.6737756	.4665347	.3712172
#1	3192.181	74259.49	11887.42	2118.030	4327.158
#2	3199.390	74579.39	12024.53	2127.389	4339.091
#3	3211.298	74583.20	12029.81	2107.638	4359.057

Reviewed By:mohan
On:4/24/2025 11:42:10 AM
Inst Id :P4
LB :LB135523

Sample Name: Q1842-13 Acquired: 4/22/2025 15:37:37 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v15) 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	.1060184	-.030555	.4007714	-.025600	-.008811	306.5865	1.053263
Stddev	.0026956	.003206	.0013571	.011198	.002356	1.0261	.004271
%RSD	2.542609	10.49176	.3386157	43.74222	26.73699	.3346955	.4055254
#1	.1066063	-.032893	.4020521	-.022389	-.008922	306.4122	1.052008
#2	.1030773	-.031872	.3993491	-.038053	-.011110	307.6886	1.049761
#3	.1083716	-.026901	.4009131	-.016359	-.006402	305.6586	1.058022

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0119604	-.012586	20.00065	1.525105	.3546738	.7636131	627.0912
Stddev	.0001467	.001143	.01442	.004809	.0007705	.0068828	3.3038
%RSD	1.226244	9.084626	.0720850	.3153101	.2172331	.9013462	.5268409
#1	.0121281	-.011872	20.00143	1.520560	.3553640	.7710647	625.7744
#2	.0118970	-.011982	19.98585	1.524614	.3548147	.7622807	624.6489
#3	.0118561	-.013905	20.01465	1.530140	.3538425	.7574940	630.8503

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	7.403365	47.39563	.5114705	.0112415	12.77118	1.935324	.7330004
Stddev	.021419	.08465	.0025352	.0011060	.12253	.007660	.0016111
%RSD	.2893142	.1785954	.4956684	9.838172	.9594410	.3958200	.2197969
#1	7.403707	47.29814	.5135548	.0107048	12.75356	1.933854	.7311917
#2	7.381777	47.43834	.5122086	.0105063	12.65841	1.928504	.7335276
#3	7.424611	47.45042	.5086482	.0125134	12.90156	1.943612	.7342818

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	4.321685	^ *****	.0028896	.0173452	17.07073	1.817238	6.231976
Stddev	.055092	-----	.0003683	.0008722	.04805	.012316	.026710
%RSD	1.274789	-----	12.74579	5.028790	.2814515	.6777503	.4285935
#1	4.332191	^ -----	.0031338	.0164240	17.08008	1.831435	6.257897
#2	4.262096	^ -----	.0030689	.0174529	17.01870	1.809403	6.233490
#3	4.370767	^ -----	.0024660	.0181585	17.11342	1.810878	6.204542

Reviewed By:mohan
On:4/24/2025 11:42:10 AM
Inst Id :P4
LB :LB135523

Sample Name: Q1842-13 Acquired: 4/22/2025 15:37:37 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v15) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	1.318170	.4056022	.0826658
Stddev	.009674	.0023867	.0004049
%RSD	.7339281	.5884429	.4898545
#1	1.327379	.4045882	.0829858
#2	1.319044	.4038899	.0822105
#3	1.308089	.4083285	.0828011

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3219.480	74913.01	12404.65	2150.432	4274.748
Stddev	5.713	165.98	26.50	9.451	10.158
%RSD	.1774418	.2215634	.2136346	.4394728	.2376233
#1	3217.142	74994.12	12383.24	2159.418	4266.010
#2	3215.308	75022.84	12396.41	2151.300	4272.341
#3	3225.991	74722.07	12434.29	2140.577	4285.893

Reviewed By:mohan
On:4/24/2025 11:42:10 AM
Inst Id :P4
LB :LB135523

Sample Name: Q1842-19 Acquired: 4/22/2025 15:41:59 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v15) 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	.0637373	-.065137	.3575458	-.032752	-.019428	338.2686
Stddev	.0012214	.005101	.0033426	.001322	.000782	4.5139
%RSD	1.916304	7.830634	.9348671	4.036838	4.027585	1.334410
#1	.0637885	-.070142	.3614054	-.031856	-.019051	335.8627
#2	.0649324	-.065324	.3556207	-.034271	-.020327	343.4758
#3	.0624912	-.059945	.3556111	-.032130	-.018905	335.4672

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.228394	.0105976	-.011851	21.99980	2.281931	.5131647
Stddev	.004041	.0000714	.002120	.07635	.014766	.0068208
%RSD	.3290000	.6732898	17.89042	.3470570	.6470929	1.329173
#1	1.224253	.0106631	-.010267	21.94415	2.284440	.5209808
#2	1.232328	.0106082	-.011027	22.08684	2.266071	.5084169
#3	1.228603	.0105216	-.014260	21.96840	2.295281	.5100963

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.7601556	694.7137	9.549736	53.94137	.6237142	.0185659
Stddev	.0162240	7.0259	.041551	.38806	.0069908	.0005936
%RSD	2.134299	1.011344	.4351001	.7194025	1.120830	3.197064
#1	.7762824	695.1603	9.519777	53.65321	.6317842	.0179436
#2	.7603484	687.4750	9.597171	54.38262	.6195161	.0186281
#3	.7438361	701.5056	9.532261	53.78827	.6198423	.0191259

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	19.80014	1.941211	.7607896	4.638029	^ *****	-.001606
Stddev	.24709	.011123	.0043342	.073896	-----	.000799
%RSD	1.247941	.5729958	.5696946	1.593271	-----	49.77051
#1	19.84311	1.929637	.7573811	4.641332	^ -----	-.001877
#2	19.53438	1.951820	.7593201	4.562536	^ -----	-.002235
#3	20.02294	1.942177	.7656674	4.710218	^ -----	-.000706

Reviewed By:mohan
On:4/24/2025 11:42:10 AM
Inst Id :P4
LB :LB135523

Sample Name: Q1842-19 Acquired: 4/22/2025 15:41:59 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v15) 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	.0552309	F 30.65436	5.341987	5.648363	1.067503	.4329110
Stddev	.0015306	.10292	.049716	.063458	.017176	.0021612
%RSD	2.771266	.3357362	.9306653	1.123470	1.609015	.4992322
#1	.0564099	30.56062	5.344803	5.721292	1.087216	.4338196
#2	.0535011	30.76449	5.290923	5.618049	1.055759	.4304438
#3	.0557817	30.63798	5.390236	5.605747	1.059534	.4344696

Elem	Sr4077
Units	ppm
Avg	.0988226
Stddev	.0002293
%RSD	.2320204
#1	.0986142
#2	.0990682
#3	.0987853

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3243.781	75835.28	13043.32	2159.636	4256.713
Stddev	29.796	545.26	88.24	10.182	44.894
%RSD	.9185436	.7190058	.6765443	.4714839	1.054672
#1	3209.381	75726.12	13075.39	2163.685	4205.272
#2	3261.489	76426.87	12943.53	2167.172	4287.988
#3	3260.473	75352.87	13111.05	2148.053	4276.878

Reviewed By:mohan
On:4/24/2025 11:42:10 AM
Inst Id :P4
LB :LB135523

Sample Name: Q1842-25 Acquired: 4/22/2025 15:46:21 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v15) 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	.0827159	-.073227	.4610641	-.063106	-.016359	290.4842
Stddev	.0002739	.001362	.0004965	.011536	.000314	3.4684
%RSD	.3310835	1.859618	.1076811	18.28054	1.922157	1.194007
#1	.0826766	-.072697	.4608154	-.053082	-.016460	288.9088
#2	.0824638	-.072209	.4616358	-.060519	-.016007	294.4607
#3	.0830072	-.074774	.4607410	-.075715	-.016611	288.0831

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.151675	.0116199	.0119256	41.58534	1.842371	.5982157
Stddev	.006633	.0002490	.0012797	.27475	.005889	.0005509
%RSD	.5759576	2.142706	10.73078	.6606982	.3196653	.0920935
#1	1.148166	.0113868	.0105417	41.32668	1.835687	.5986054
#2	1.159326	.0118822	.0121689	41.87377	1.846798	.5975854
#3	1.147535	.0115907	.0130662	41.55559	1.844629	.5984563

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.141700	616.9639	13.59189	100.1312	.6957633	.0103126
Stddev	.004716	5.9360	.08390	.6446	.0009231	.0016710
%RSD	.4130918	.9621352	.6172981	.6437459	.1326759	16.20364
#1	1.136647	623.1916	13.51301	99.6035	.6967065	.0121159
#2	1.142470	616.3296	13.68004	100.8496	.6948617	.0100054
#3	1.145985	611.3705	13.58262	99.9406	.6957215	.0088165

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	8.962184	1.734785	.9384265	6.311608	^ *****	.0013867
Stddev	.046264	.007851	.0019070	.021835	-----	.0002869
%RSD	.5162127	.4525742	.2032110	.3459572	-----	20.68571
#1	9.008000	1.728792	.9371032	6.329659	^ -----	.0016418
#2	8.915485	1.743672	.9375640	6.317827	^ -----	.0010762
#3	8.963068	1.731890	.9406124	6.287337	^ -----	.0014421

Reviewed By:mohan
On:4/24/2025 11:42:10 AM
Inst Id :P4
LB :LB135523

Sample Name: Q1842-25 Acquired: 4/22/2025 15:46:21 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v15) 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	-.010078	F 25.38213	3.501582	6.948858	1.834202	.4826317
Stddev	.000734	.15563	.021946	.017900	.003958	.0031692
%RSD	7.279168	.6131633	.6267460	.2575953	.2157959	.6566551
#1	-.010151	25.26439	3.526732	6.969385	1.838494	.4856539
#2	-.010773	25.55858	3.486319	6.940687	1.833417	.4829077
#3	-.009311	25.32342	3.491694	6.936501	1.830695	.4793335

Elem	Sr4077
Units	ppm
Avg	.1955101
Stddev	.0012780
%RSD	.6536811
#1	.1944365
#2	.1969237
#3	.1951701

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3445.511	84469.25	13595.95	2365.312	4063.978
Stddev	1.152	124.23	137.62	12.112	2.760
%RSD	.0334245	.1470670	1.012180	.5120881	.0679140
#1	3444.243	84610.73	13732.98	2374.357	4065.236
#2	3445.795	84419.00	13457.76	2370.028	4065.885
#3	3446.493	84378.01	13597.12	2351.551	4060.813

Reviewed By:mohan
On:4/24/2025 11:42:10 AM
Inst Id :P4
LB :LB135523

Sample Name: Q1842-25DUP Acquired: 4/22/2025 15:50:42 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v15) 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	.0762161	-.051979	.3850437	-.048142	-.014258	242.9404
Stddev	.0038855	.005399	.0038176	.005688	.003187	3.4068
%RSD	5.097948	10.38701	.9914640	11.81561	22.35405	1.402332
#1	.0780558	-.057807	.3879467	-.042497	-.011136	243.9207
#2	.0788400	-.047149	.3807194	-.053872	-.014131	245.7496
#3	.0717524	-.050980	.3864650	-.048056	-.017507	239.1509

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.069492	.0109410	-.001179	33.58653	1.693171	.5331852
Stddev	.004402	.0001539	.000484	.15985	.004921	.0006465
%RSD	.4116089	1.406703	41.01657	.4759396	.2906127	.1212433
#1	1.074551	.0107724	-.000621	33.77088	1.697343	.5337882
#2	1.067389	.0110739	-.001437	33.48640	1.694426	.5332647
#3	1.066536	.0109767	-.001480	33.50231	1.687745	.5325027

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.7983365	582.9095	13.38489	87.95878	.5869052	.0109782
Stddev	.0032660	2.7094	.04762	.35708	.0016357	.0006986
%RSD	.4090974	.4648042	.3557511	.4059658	.2787018	6.363994
#1	.8014839	580.8536	13.43962	88.34728	.5873200	.0103985
#2	.7949636	585.9797	13.35298	87.88415	.5882937	.0117539
#3	.7985621	581.8953	13.36208	87.64491	.5851021	.0107822

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	8.143641	1.567564	.8145234	5.078535	^ *****	.0014911
Stddev	.063933	.007108	.0029371	.052163	-----	.0001831
%RSD	.7850713	.4534422	.3605955	1.027120	-----	12.28234
#1	8.191634	1.575627	.8114542	5.103109	^ -----	.0014264
#2	8.071065	1.564861	.8173077	5.018624	^ -----	.0013490
#3	8.168225	1.562204	.8148082	5.113872	^ -----	.0016978

Reviewed By:mohan
On:4/24/2025 11:42:10 AM
Inst Id :P4
LB :LB135523

Sample Name: Q1842-25DUP Acquired: 4/22/2025 15:50:42 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v15) 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	.0021153	F 23.26727	1.923724	5.623266	1.210831	.4251900
Stddev	.0020468	.10935	.012688	.004393	.005915	.0012294
%RSD	96.76114	.4699642	.6595361	.0781221	.4884883	.2891459
#1	.0008409	23.39312	1.938375	5.620854	1.217204	.4245739
#2	.0044762	23.19548	1.916389	5.620607	1.205518	.4266057
#3	.0010288	23.21320	1.916409	5.628336	1.209770	.4243905

Elem	Sr4077
Units	ppm
Avg	.2323922
Stddev	.0010908
%RSD	.4693736
#1	.2336476
#2	.2318524
#3	.2316765

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3394.647	79622.64	13024.54	2256.829	4233.911
Stddev	5.332	105.78	62.03	6.341	4.668
%RSD	.1570763	.1328523	.4762576	.2809867	.1102571
#1	3388.541	79512.13	13000.60	2255.689	4230.847
#2	3397.015	79722.95	12978.05	2263.664	4231.603
#3	3398.385	79632.85	13094.98	2251.136	4239.284

Reviewed By:mohan
On:4/24/2025 11:42:10 AM
Inst Id :P4
LB :LB135523

Sample Name: Q1842-25LX5 Acquired: 4/22/2025 15:55:03 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v15) 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	.0197582	-.011981	.0938575	-.000326	-.004060	67.48548	.2631944
Stddev	.0029230	.001256	.0030894	.002814	.001337	.09235	.0007239
%RSD	14.79384	10.48713	3.291619	861.9431	32.93514	.1368399	.2750540
#1	.0224502	-.013183	.0967327	-.003410	-.003642	67.54885	.2637474
#2	.0201754	-.010677	.0942488	.002102	-.002982	67.52806	.2634608
#3	.0166490	-.012082	.0905911	.000328	-.005556	67.37952	.2623751

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0028076	-.006604	10.10074	.4571879	.1183717	.2796425	157.1011
Stddev	.0000145	.000235	.02910	.0013543	.0005462	.0022310	.2219
%RSD	.5166265	3.565615	.2881299	.2962161	.4614414	.7978002	.1412596
#1	.0027997	-.006550	10.11361	.4585927	.1183618	.2815858	157.0921
#2	.0027988	-.006399	10.12118	.4558906	.1189228	.2801355	157.3273
#3	.0028244	-.006861	10.06742	.4570804	.1178305	.2772062	156.8838

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	3.278673	23.60904	.1421548	.0047508	1.995662	.4175201	.2294345
Stddev	.007807	.04741	.0007089	.0003248	.012476	.0012356	.0006984
%RSD	.2381042	.2008215	.4986685	6.836325	.6251506	.2959301	.3043916
#1	3.285460	23.65356	.1426046	.0043980	1.984877	.4169656	.2296493
#2	3.280418	23.61438	.1425222	.0050373	2.009326	.4189358	.2286540
#3	3.270142	23.55919	.1413377	.0048170	1.992783	.4166590	.2300003

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.430522	-.173871	.0000718	.0018254	6.041462	.8422130	1.367861
Stddev	.010295	.002140	.0000291	.0008656	.014962	.0107952	.006728
%RSD	.7196828	1.230911	40.56678	47.42033	.2476487	1.281764	.4918783
#1	1.439680	-.176319	.0000919	.0011634	6.053696	.8315964	1.373782
#2	1.419379	-.172353	.0000851	.0028049	6.045910	.8418642	1.369256
#3	1.432507	-.172941	.0000384	.0015078	6.024781	.8531783	1.360544

Reviewed By:mohan
On:4/24/2025 11:42:10 AM
Inst Id :P4
LB :LB135523

Sample Name: Q1842-25LX5 Acquired: 4/22/2025 15:55:03 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v15) 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	.3474638	.1127395	.0466979
Stddev	.0058880	.0009740	.0000659
%RSD	1.694559	.8639820	.1410482
#1	.3475788	.1138546	.0467722
#2	.3532934	.1120547	.0466751
#3	.3415191	.1123091	.0466465

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3137.920	73755.70	11922.19	2103.175	4542.690
Stddev	21.468	162.75	34.80	5.753	30.298
%RSD	.6841435	.2206616	.2918781	.2735288	.6669529
#1	3122.123	73624.23	11884.17	2099.207	4523.143
#2	3129.274	73937.73	11929.93	2109.772	4527.336
#3	3162.363	73705.15	11952.46	2100.544	4577.591

Reviewed By:mohan
On:4/24/2025 11:42:10 AM
Inst Id :P4
LB :LB135523

Sample Name: CCV04 Acquired: 4/22/2025 15:59:12 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v15) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCV04 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	4.947054	4.888582	4.707366	5.074858	5.079019	9.406454	9.268700
Stddev	.026112	.039786	.014826	.012884	.028183	.018676	.059317
%RSD	.5278291	.8138556	.3149469	.2538753	.5548984	.1985433	.6399723
#1	4.927800	4.842864	4.704084	5.061070	5.053859	9.426283	9.318556
#2	4.976776	4.915352	4.723558	5.086592	5.109475	9.389198	9.284446
#3	4.936586	4.907530	4.694457	5.076911	5.073724	9.403881	9.203099

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2254738	2.283855	22.85437	.9673500	2.343365	1.243186	4.920467
Stddev	.0012636	.008714	.12065	.0014585	.008270	.006074	.018646
%RSD	.5604301	.3815692	.5279229	.1507674	.3529046	.4885894	.3789555
#1	.2269200	2.282401	22.99283	.9673370	2.341038	1.238236	4.911102
#2	.2249187	2.293204	22.77177	.9688149	2.352549	1.249964	4.941940
#3	.2245828	2.275958	22.79851	.9658981	2.336508	1.241359	4.908359

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.269665	22.59702	2.338095	1.227707	24.61435	2.291630	2.469970
Stddev	.002494	.05692	.009704	.000549	.13245	.011358	.007403
%RSD	.1098687	.2518780	.4150199	.0447084	.5380842	.4956284	.2997118
#1	2.272497	22.63188	2.336151	1.227082	24.47937	2.304745	2.465127
#2	2.268702	22.53134	2.348623	1.227933	24.74410	2.285006	2.478492
#3	2.267797	22.62784	2.329510	1.228107	24.61958	2.285140	2.466292

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	24.70140	4.543186	4.888059	4.638191	4.625542	5.127226	4.758158
Stddev	.05791	.019118	.024852	.018524	.011624	.017788	.011214
%RSD	.2344293	.4208116	.5084223	.3993735	.2513060	.3469308	.2356691
#1	24.63461	4.564999	4.869378	4.627496	4.637952	5.109114	4.752385
#2	24.73764	4.529335	4.916264	4.659580	4.623768	5.127892	4.771082
#3	24.73194	4.535225	4.878534	4.627497	4.614907	5.144672	4.751008

Reviewed By:mohan
On:4/24/2025 11:42:10 AM
Inst Id :P4
LB :LB135523

Sample Name: CCV04 Acquired: 4/22/2025 15:59:12 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v15) 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	4.736107	4.609597	4.664145
Stddev	.015989	.004516	.074907
%RSD	.3375991	.0979764	1.606025
#1	4.726307	4.612464	4.748061
#2	4.754558	4.611937	4.604029
#3	4.727457	4.604391	4.640345

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2989.281	69848.99	10998.17	1983.956	4525.208
Stddev	16.804	190.36	29.31	7.941	20.829
%RSD	.5621540	.2725280	.2664821	.4002853	.4602895
#1	3002.488	70067.37	10965.58	1993.121	4536.925
#2	2970.367	69761.39	11022.37	1979.615	4501.159
#3	2994.989	69718.20	11006.56	1979.130	4537.540

Reviewed By:mohan
On:4/24/2025 11:42:10 AM
Inst Id :P4
LB :LB135523

Sample Name: CCB04 Acquired: 4/22/2025 16:03:25 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v15) 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	-.002317	-.001912	-.000030	.0034576	-.000205	.0059135	-.009420
Stddev	.001248	.000759	.001919	.0007629	.000623	.0013583	.000578
%RSD	53.85233	39.68664	6430.746	22.06540	304.2161	22.96872	6.137212
#1	-.002255	-.001345	-.000386	.0038607	-.000823	.0074324	-.010069
#2	-.003594	-.002774	.002042	.0025776	-.000215	.0048157	-.008962
#3	-.001101	-.001617	-.001745	.0039343	.000423	.0054922	-.009228

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000011	.0000130	-.007691	-.000202	.0002135	.0002399	.0118396
Stddev	.000016	.0000528	.003341	.000166	.0001693	.0002986	.0006740
%RSD	150.4542	406.1793	43.44171	81.99463	79.33389	124.4791	5.692826
#1	-.000028	-.000033	-.004788	-.000190	.0000454	.0001767	.0125184
#2	-.000010	.000001	-.006942	-.000374	.0002109	-.000022	.0118298
#3	.000005	.000071	-.011344	-.000043	.0003840	.000565	.0111705

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000351	-.012431	.0000115	.0011066	-.112241	.0009315	.0000642
Stddev	.000353	.012301	.0001731	.0003253	.015093	.0008117	.0001071
%RSD	100.4094	98.95208	1510.881	29.40141	13.44679	87.13685	166.9621
#1	-.000620	-.007125	.0000325	.0013512	-.095233	.0000883	.0000831
#2	-.000482	-.026495	.0001731	.0012311	-.117455	.0009988	.0001605
#3	.000048	-.003674	-.000171	.0007373	-.124036	.0017075	-.000051

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0018043	.0055584	.0005444	.0045734	.0003977	.0063567	.0013945
Stddev	.0201389	.0006207	.0003005	.0006994	.0002342	.0038902	.0016750
%RSD	1116.165	11.16620	55.20143	15.29294	58.90318	61.19927	120.1168
#1	.0141346	.0053733	.0006524	.0047478	.0006496	.0044936	.0005707
#2	-.021436	.0062505	.0002048	.0051690	.0001865	.0037484	.0033218
#3	.012714	.0050513	.0007760	.0038032	.0003570	.0108281	.0002908

Reviewed By:mohan
On:4/24/2025 11:42:10 AM
Inst Id :P4
LB :LB135523

Sample Name: CCB04 Acquired: 4/22/2025 16:03:25 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v15) 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	.0020245	-.003542	.0001580
Stddev	.0015777	.000471	.0000364
%RSD	77.92764	13.29571	23.02245
#1	.0013769	-.003070	.0001531
#2	.0038229	-.004012	.0001244
#3	.0008737	-.003543	.0001966

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3108.221	73885.50	11679.41	2090.741	4887.850
Stddev	29.732	591.03	23.49	11.026	37.664
%RSD	.9565514	.7999317	.2011384	.5273516	.7705615
#1	3087.298	74557.13	11691.76	2102.470	4862.483
#2	3095.110	73654.60	11694.15	2089.162	4869.939
#3	3142.255	73444.77	11652.32	2080.589	4931.127

Reviewed By:mohan
On:4/24/2025 11:42:10 AM
Inst Id :P4
LB :LB135523

Sample Name: Q1842-25MS Acquired: 4/22/2025 16:07:45 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v15) 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	.6789670	1.735633	1.358921	1.354006	.2348138	324.8682
Stddev	.0072403	.018224	.005153	.004934	.0004939	1.9586
%RSD	1.066376	1.049983	.3791670	.3643906	.2103309	.6028914
#1	.6787556	1.753768	1.364799	1.359695	.2352922	324.3957
#2	.6863108	1.735810	1.356780	1.350893	.2348433	323.1891
#3	.6718347	1.717322	1.355183	1.351431	.2343058	327.0199

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.348347	.1542171	.1862385	39.21306	2.183161	.8019928
Stddev	.005248	.0006375	.0009066	.13096	.009371	.0026872
%RSD	.3892344	.4133576	.4868168	.3339640	.4292393	.3350690
#1	1.353134	.1537581	.1869173	39.33652	2.181409	.8048355
#2	1.342735	.1539482	.1865893	39.07571	2.174790	.8016487
#3	1.349171	.1549450	.1852088	39.22695	2.193284	.7994942

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.146896	632.0509	15.77263	104.1952	1.146344	.0670213
Stddev	.004266	1.9346	.04512	.1217	.005402	.0001725
%RSD	.3719948	.3060784	.2860780	.1167808	.4712761	.2573407
#1	1.151821	634.0497	15.81398	104.2861	1.152402	.0669454
#2	1.144521	630.1877	15.72450	104.0570	1.144608	.0672187
#3	1.144345	631.9153	15.77942	104.2426	1.142023	.0668997

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	11.42367	1.973735	1.262773	14.48380	^ *****	.2980051
Stddev	.08772	.003524	.003498	.06313	-----	.0023100
%RSD	.7679107	.1785376	.2769918	.4358849	-----	.7751596
#1	11.51274	1.974852	1.261040	14.50731	^ -----	.2998149
#2	11.33736	1.969787	1.260480	14.41228	^ -----	.2987972
#3	11.42092	1.976564	1.266799	14.53181	^ -----	.2954033

Reviewed By:mohan
On:4/24/2025 11:42:10 AM
Inst Id :P4
LB :LB135523

Sample Name: Q1842-25MS Acquired: 4/22/2025 16:07:45 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v15) 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	.6150715	F 24.59042	3.396925	11.77147	1.713654	.6775575
Stddev	.0038466	.06882	.026583	.07165	.009796	.0022866
%RSD	.6253942	.2798663	.7825733	.6086885	.5716427	.3374706
#1	.6193005	24.65500	3.409283	11.84102	1.721922	.6801014
#2	.6141330	24.51803	3.366412	11.77552	1.702835	.6756735
#3	.6117809	24.59823	3.415079	11.69788	1.716204	.6768975

Elem	Sr4077
Units	ppm
Avg	.3332304
Stddev	.0007755
%RSD	.2327170
#1	.3336579
#2	.3323353
#3	.3336980

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3431.424	80303.98	12845.62	2280.329	4131.842
Stddev	5.929	386.01	36.44	7.001	11.174
%RSD	.1727929	.4806840	.2836487	.3070107	.2704279
#1	3425.139	80463.42	12880.19	2280.875	4119.045
#2	3436.919	80584.73	12849.09	2287.041	4139.664
#3	3432.213	79863.79	12807.57	2273.071	4136.818

Reviewed By:mohan
On:4/24/2025 11:42:10 AM
Inst Id :P4
LB :LB135523

Sample Name: Q1842-25MSD Acquired: 4/22/2025 16:12:03 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v15) 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	.7006174	1.787294	1.362153	1.389347	.2443065	347.9754
Stddev	.0058394	.002980	.007418	.006956	.0020007	2.7331
%RSD	.8334656	.1667402	.5445890	.5006634	.8189284	.7854205
#1	.7032113	1.787894	1.360849	1.396951	.2445355	350.4599
#2	.7047106	1.784060	1.370137	1.383303	.2461829	345.0479
#3	.6939305	1.789929	1.355473	1.387789	.2422012	348.4185

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.334418	.1647549	.2007292	41.24425	2.340708	.8309614
Stddev	.003874	.0006051	.0010911	.02487	.030083	.0029496
%RSD	.2903380	.3672727	.5435616	.0603008	1.285209	.3549572
#1	1.338830	.1654530	.2012721	41.26378	2.367621	.8333127
#2	1.331574	.1643799	.2014424	41.21625	2.308232	.8319195
#3	1.332848	.1644319	.1994732	41.25272	2.346273	.8276519

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.220238	638.3451	14.70614	110.0307	1.218172	.0645979
Stddev	.005746	1.3636	.01864	.2228	.003270	.0003946
%RSD	.4708876	.2136183	.1267685	.2025009	.2684226	.6108618
#1	1.219458	639.7888	14.72536	110.0161	1.219686	.0645116
#2	1.226334	637.0789	14.70494	110.2605	1.220410	.0650285
#3	1.214922	638.1676	14.68813	109.8156	1.214419	.0642536

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	11.87524	2.087437	1.211945	14.54323	^ *****	.3107323
Stddev	.16113	.005999	.012858	.11749	-----	.0011729
%RSD	1.356819	.2873846	1.060932	.8078894	-----	.3774480
#1	11.98681	2.088911	1.220399	14.63139	^ -----	.3119322
#2	11.69052	2.092561	1.197148	14.40984	^ -----	.3106761
#3	11.94839	2.080838	1.218288	14.58846	^ -----	.3095886

Reviewed By:mohan
On:4/24/2025 11:42:10 AM
Inst Id :P4
LB :LB135523

Sample Name: Q1842-25MSD Acquired: 4/22/2025 16:12:03 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v15) 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	.6172079	F 27.22222	3.546687	12.16622	1.729035	.6920829
Stddev	.0014342	.03108	.034427	.06202	.009751	.0010270
%RSD	.2323688	.1141689	.9706766	.5098090	.5639827	.1483930
#1	.6186861	27.25745	3.578579	12.21944	1.723102	.6932139
#2	.6171154	27.21051	3.510189	12.18112	1.740289	.6912086
#3	.6158222	27.19869	3.551293	12.09810	1.723712	.6918261

Elem	Sr4077
Units	ppm
Avg	.3504293
Stddev	.0005172
%RSD	.1475845
#1	.3509609
#2	.3499279
#3	.3503989

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3380.186	80209.85	12328.87	2260.974	4052.828
Stddev	9.375	529.47	27.10	11.128	19.309
%RSD	.2773480	.6601099	.2198338	.4921759	.4764356
#1	3374.652	79764.04	12325.35	2253.193	4038.113
#2	3374.895	80795.09	12303.69	2273.720	4045.679
#3	3391.010	80070.42	12357.55	2256.009	4074.692

Reviewed By:mohan
On:4/24/2025 11:42:10 AM
Inst Id :P4
LB :LB135523

Sample Name: Q1842-25A Acquired: 4/22/2025 16:16:20 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v15) 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	.7056561	1.804040	1.365075	1.394345	.2432298	345.4087
Stddev	.0030877	.006037	.006607	.009699	.0017417	3.4645
%RSD	.4375676	.3346236	.4840129	.6955942	.7160596	1.003013
#1	.7059193	1.811004	1.369033	1.403591	.2419850	341.5844
#2	.7086038	1.800306	1.368744	1.395196	.2424843	348.3376
#3	.7024452	1.800808	1.357447	1.384249	.2452202	346.3041

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.349429	.1636945	.1986932	41.15570	2.319207	.8288323
Stddev	.008328	.0014272	.0014422	.27748	.002378	.0028743
%RSD	.6171606	.8718523	.7258417	.6742208	.1025172	.3467853
#1	1.347343	.1622326	.1986467	40.94069	2.316500	.8319516
#2	1.342341	.1637665	.1972747	41.05748	2.320165	.8282545
#3	1.358601	.1650843	.2001580	41.46893	2.320956	.8262909

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.218619	642.2382	14.92700	109.6958	1.214034	.0656317
Stddev	.011133	7.3913	.09657	.6361	.002697	.0011936
%RSD	.9135554	1.150868	.6469521	.5798710	.2221621	1.818669
#1	1.217215	644.7127	14.84979	109.1405	1.215805	.0662735
#2	1.208255	648.0748	14.89592	109.5572	1.210930	.0663672
#3	1.230387	633.9271	15.03528	110.3898	1.215368	.0642545

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	11.90266	2.088292	1.211700	14.52695	^ *****	.3091400
Stddev	.06505	.012551	.003945	.03665	-----	.0019166
%RSD	.5465372	.6010033	.3255428	.2522727	-----	.6199860
#1	11.97499	2.079150	1.207897	14.56880	^ -----	.3101614
#2	11.84894	2.083125	1.211429	14.51145	^ -----	.3069290
#3	11.88405	2.102602	1.215773	14.50060	^ -----	.3103296

Reviewed By:mohan
On:4/24/2025 11:42:10 AM
Inst Id :P4
LB :LB135523

Sample Name: Q1842-25A Acquired: 4/22/2025 16:16:20 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v15) 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	.6173359	F 27.13161	3.493895	12.26521	1.756533	.6945571
Stddev	.0021521	.12078	.026396	.02413	.010556	.0015467
%RSD	.3486178	.4451517	.7554934	.1967158	.6009282	.2226891
#1	.6148750	27.08702	3.507260	12.28468	1.758923	.6962290
#2	.6182671	27.03947	3.510935	12.23822	1.765690	.6931772
#3	.6188657	27.26834	3.463489	12.27272	1.744988	.6942650

Elem	Sr4077
Units	ppm
Avg	.3514024
Stddev	.0017362
%RSD	.4940791
#1	.3505243
#2	.3502806
#3	.3534022

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3371.586	81034.95	12432.18	2295.949	4041.210
Stddev	5.268	250.79	42.96	1.454	9.124
%RSD	.1562565	.3094784	.3455368	.0633166	.2257622
#1	3368.275	80835.33	12471.93	2296.626	4031.160
#2	3377.661	80953.06	12438.00	2294.280	4048.971
#3	3368.822	81316.44	12386.60	2296.941	4043.500

Reviewed By:mohan
On:4/24/2025 11:42:10 AM
Inst Id :P4
LB :LB135523

Sample Name: Q1842-31 Acquired: 4/22/2025 16:20:37 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v15) 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	.0932907	-.048267	.6416685	-.037829	-.005984	234.7361	1.035905
Stddev	.0037518	.004434	.0041849	.010618	.003411	1.6615	.006588
%RSD	4.021667	9.186262	.6521970	28.06853	57.01108	.7078201	.6359815
#1	.0970697	-.048955	.6415414	-.030924	-.002567	235.0592	1.034752
#2	.0932358	-.043529	.6459155	-.032508	-.009390	236.2123	1.029969
#3	.0895666	-.052317	.6375485	-.050056	-.005994	232.9368	1.042993

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0083691	-.006004	60.45980	1.191862	.4219734	.8762917	535.7081
Stddev	.0001211	.000395	.14316	.002300	.0009225	.0026986	1.6371
%RSD	1.447289	6.571066	.2367823	.1929946	.2186164	.3079514	.3055880
#1	.0084421	-.006355	60.49212	1.193771	.4229118	.8751575	536.6410
#2	.0084359	-.005577	60.30325	1.192506	.4210677	.8793722	533.8178
#3	.0082293	-.006080	60.58404	1.189308	.4219408	.8743454	536.6654

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	11.48391	102.8134	.5781618	.0156904	13.29456	1.228709	1.033436
Stddev	.03361	.0934	.0014321	.0001442	.09344	.006199	.000790
%RSD	.2926556	.0908846	.2477064	.9190307	.7028216	.5044839	.0764179
#1	11.47709	102.7876	.5797129	.0158187	13.25034	1.226567	1.032916
#2	11.45423	102.7356	.5778827	.0155344	13.23144	1.223865	1.034345
#3	11.52040	102.9170	.5768897	.0157183	13.40190	1.235694	1.033048

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	8.645601	-.346591	.0026451	.0002960	20.20181	3.895495	7.359585
Stddev	.051340	.010489	.0002956	.0022148	.07383	.032442	.001831
%RSD	.5938286	3.026212	11.17370	748.3606	.3654559	.8328112	.0248812
#1	8.615382	-.344895	.0023499	-.002245	20.18304	3.858035	7.359764
#2	8.616542	-.357824	.0026446	.001315	20.13919	3.914470	7.361321
#3	8.704880	-.337053	.0029410	.001818	20.28322	3.913981	7.357671

Reviewed By:mohan
On:4/24/2025 11:42:10 AM
Inst Id :P4
LB :LB135523

Sample Name: Q1842-31 Acquired: 4/22/2025 16:20:37 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v15) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	2.140709	.3856864	.2630818
Stddev	.012770	.0012908	.0013472
%RSD	.5965110	.3346701	.5120919
#1	2.145472	.3863754	.2626124
#2	2.126242	.3841973	.2620321
#3	2.150412	.3864864	.2646009

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3248.483	77270.77	13668.89	2177.040	4135.083
Stddev	4.313	22.24	36.49	6.726	4.961
%RSD	.1327701	.0287820	.2669302	.3089647	.1199745
#1	3246.498	77296.07	13652.01	2184.615	4131.064
#2	3245.520	77254.30	13643.90	2174.738	4133.558
#3	3253.431	77261.94	13710.76	2171.767	4140.628

Reviewed By:mohan
On:4/24/2025 11:42:10 AM
Inst Id :P4
LB :LB135523

Sample Name: Q1842-37 Acquired: 4/22/2025 16:24:59 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v15) 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	.0835793	-.003868	.8334636	-.021965	-.005435	158.8928	1.016877
Stddev	.0017583	.003261	.0043714	.003792	.000567	.1217	.002216
%RSD	2.103794	84.29535	.5244855	17.26619	10.43454	.0765825	.2178837
#1	.0837617	-.007515	.8370277	-.019490	-.005879	158.8519	1.018308
#2	.0852393	-.002857	.8347770	-.020073	-.005630	159.0296	1.017999
#3	.0817368	-.001233	.8285861	-.026331	-.004796	158.7967	1.014325

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0093074	-.002266	67.37518	.4824882	.2734164	.5708258	384.1189
Stddev	.0001061	.001093	.23667	.0068961	.0013715	.0063996	3.6859
%RSD	1.139907	48.23266	.3512749	1.429273	.5016044	1.121110	.9595724
#1	.0093693	-.001172	67.55082	.4745677	.2735568	.5772375	380.0868
#2	.0093680	-.002268	67.46868	.4871592	.2747122	.5708015	384.9548
#3	.0091849	-.003358	67.10604	.4857378	.2719801	.5644384	387.3150

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	7.684045	34.49315	.2514726	.0074903	6.909142	.6962524	.9244952
Stddev	.034318	.17644	.0008425	.0003106	.080856	.0042596	.0083996
%RSD	.4466172	.5115296	.3350212	4.147411	1.170271	.6117866	.9085600
#1	7.701765	34.56226	.2522800	.0078276	6.820552	.6987782	.9159496
#2	7.705881	34.62457	.2515389	.0072160	6.927910	.6986445	.9247951
#3	7.644489	34.29261	.2505990	.0074274	6.978962	.6913345	.9327408

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	6.847243	.1771687	.0074857	.0190917	6.337687	6.467579	4.925448
Stddev	.085511	.0171783	.0003696	.0006106	.018534	.090120	.018833
%RSD	1.248838	9.696013	4.937024	3.198318	.2924364	1.393419	.3823658
#1	6.752096	.1582890	.0077379	.0197924	6.354181	6.371391	4.939754
#2	6.871962	.1813397	.0070615	.0188088	6.341249	6.481283	4.932479
#3	6.917672	.1918775	.0076578	.0186737	6.317630	6.550062	4.904111

Reviewed By:mohan
On:4/24/2025 11:42:10 AM
Inst Id :P4
LB :LB135523

Sample Name: Q1842-37 Acquired: 4/22/2025 16:24:59 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v15) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	1.800058	.2637570	.2895318
Stddev	.003465	.0010963	.0005841
%RSD	.1924759	.4156609	.2017271
#1	1.796758	.2634601	.2899311
#2	1.803667	.2628397	.2898028
#3	1.799750	.2649712	.2888615

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3460.298	82197.74	13657.74	2303.956	4445.496
Stddev	9.307	991.05	76.82	26.837	15.555
%RSD	.2689525	1.205686	.5625005	1.164807	.3498956
#1	3451.946	83333.86	13662.91	2331.114	4438.602
#2	3458.619	81748.47	13578.47	2303.301	4434.579
#3	3470.330	81510.90	13731.86	2277.453	4463.306

Reviewed By:mohan
On:4/24/2025 11:42:10 AM
Inst Id :P4
LB :LB135523

Sample Name: PB167693BL Acquired: 4/22/2025 16:29:02 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v15) 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	-.002046	-.003051	-.000743	.0025882	.0003720	.0036393	-.008873
Stddev	.001739	.001256	.000578	.0011246	.0006244	.0042010	.000604
%RSD	84.98699	41.15404	77.82801	43.45132	167.8535	115.4352	6.803552
#1	-.001604	-.001928	-.000145	.0033491	-.000157	.0064122	-.008924
#2	-.003963	-.002818	-.000785	.0012964	.001061	.0056997	-.008245
#3	-.000570	-.004406	-.001299	.0031191	.000212	-.001194	-.009449

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000008	-.000154	-.001601	.0000147	.0000056	-.000017	.0182637
Stddev	.000024	.000039	.008409	.0000513	.0001780	.000658	.0043529
%RSD	291.5308	25.22322	525.2091	349.8185	3177.515	3880.789	23.83373
#1	.000012	-.000189	-.003127	-.000026	.0000529	.000253	.0219149
#2	-.000035	-.000112	-.009142	.000072	.0001551	.000463	.0134465
#3	-.000002	-.000162	.007466	-.000003	-.000191	-.000767	.0194298

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0003942	-.003027	.0000421	.0008242	-.114477	.0003131	-.000540
Stddev	.0002970	.011640	.0004785	.0000384	.025852	.0002347	.000274
%RSD	75.35741	384.5344	1136.520	4.656674	22.58311	74.96230	50.81268
#1	.0001182	-.015000	-.000305	.0008638	-.142612	.0004162	-.000251
#2	.0003558	-.002329	.000588	.0008216	-.091770	.0000445	-.000796
#3	.0007085	.008248	-.000156	.0007872	-.109048	.0004786	-.000572

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0621444	.0013269	.0000230	.0046090	.0017433	.0078692	.0015290
Stddev	.0299554	.0004643	.0000278	.0009174	.0003481	.0027167	.0034332
%RSD	48.20293	34.99348	121.1373	19.90549	19.97082	34.52319	224.5443
#1	.0809287	.0015205	.0000497	.0049625	.0020104	.0068848	-.002316
#2	.0275989	.0016631	-.000006	.0052972	.0018699	.0057819	.002615
#3	.0779054	.0007971	.000025	.0035674	.0013495	.0109409	.004288

Reviewed By:mohan
On:4/24/2025 11:42:10 AM
Inst Id :P4
LB :LB135523

Sample Name: PB167693BL Acquired: 4/22/2025 16:29:02 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v15) 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	.0029584	-.005346	-.000034
Stddev	.0039654	.000966	.000020
%RSD	134.0377	18.06198	57.51983
#1	-.000857	-.004235	-.000025
#2	.007058	-.005982	-.000057
#3	.002674	-.005822	-.000020

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3159.050	73955.05	11717.65	2078.951	4981.126
Stddev	10.411	562.47	23.22	15.035	13.013
%RSD	.3295586	.7605521	.1981487	.7231922	.2612553
#1	3157.689	73371.65	11707.65	2061.905	4977.281
#2	3149.387	73999.54	11701.11	2090.326	4970.467
#3	3170.075	74493.94	11744.20	2084.621	4995.628

Reviewed By:mohan
On:4/24/2025 11:42:10 AM
Inst Id :P4
LB :LB135523

Sample Name: PB167692BS Acquired: 4/22/2025 16:41:46 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v15) 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	.7752152	1.985857	.9191550	1.986695	.8181918	1.783356
Stddev	.0047182	.016100	.0061433	.025288	.0084509	.003788
%RSD	.6086331	.8107454	.6683609	1.272870	1.032878	.2124005
#1	.7768130	1.990072	.9201308	1.988579	.8184672	1.783333
#2	.7789271	1.999431	.9247520	2.010988	.8265016	1.779579
#3	.7699056	1.968069	.9125823	1.960517	.8096065	1.787155

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1943864	.1715545	.1822674	.8979362	.3816183	.1800286
Stddev	.0001117	.0007857	.0010153	.0097326	.0003941	.0012314
%RSD	.0574714	.4579588	.5570135	1.083886	.1032597	.6839769
#1	.1943518	.1712742	.1832668	.8993995	.3813106	.1809236
#2	.1945113	.1709473	.1822982	.8875548	.3820624	.1805378
#3	.1942961	.1724418	.1812370	.9068543	.3814818	.1786243

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2922263	2.874841	.1751518	1.697230	.4514031	.0721034
Stddev	.0017698	.010517	.0008588	.016708	.0028728	.0004234
%RSD	.6056252	.3658191	.4903371	.9844544	.6364168	.5871595
#1	.2928207	2.884111	.1745083	1.680838	.4536178	.0724760
#2	.2936223	2.877000	.1748200	1.714238	.4524346	.0716430
#3	.2902358	2.863413	.1761270	1.696614	.4481570	.0721912

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.936173	.2642542	.1955277	9.327370	.2520598	.4016372
Stddev	.018755	.0014914	.0006943	.060219	.0030796	.0028640
%RSD	.6387562	.5643938	.3550751	.6456125	1.221768	.7130719
#1	2.947429	.2652161	.1958427	9.383508	.2494347	.4027263
#2	2.946567	.2625362	.1960086	9.334835	.2512951	.4037969
#3	2.914522	.2650104	.1947318	9.263767	.2554497	.3983885

Reviewed By:mohan
On:4/24/2025 11:42:10 AM
Inst Id :P4
LB :LB135523

Sample Name: PB167692BS Acquired: 4/22/2025 16:41:46 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v15) 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	.6505467	.1841414	F .7179525	5.352600	F -.008310	.1791242
Stddev	.0041666	.0008062	.0052018	.024325	.004787	.0011254
%RSD	.6404774	.4378378	.7245370	.4544559	57.59719	.6282921
#1	.6523809	.1843860	.7224234	5.363510	-.008187	.1803572
#2	.6534816	.1832411	.7191909	5.369561	-.003587	.1781522
#3	.6457777	.1847970	.7122433	5.324730	-.013157	.1788634

Elem	Sr4077
Units	ppm
Avg	.1814119
Stddev	.0003267
%RSD	.1801059
#1	.1812210
#2	.1812255
#3	.1817892

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3131.061	71666.78	11478.19	2038.826	4908.474
Stddev	11.802	224.49	54.98	6.594	19.025
%RSD	.3769334	.3132468	.4789705	.3234315	.3875979
#1	3125.371	71588.47	11516.67	2038.616	4888.948
#2	3123.183	71491.93	11502.67	2032.339	4909.516
#3	3144.630	71919.94	11415.22	2045.522	4926.956

Reviewed By:mohan
On:4/24/2025 11:42:10 AM
Inst Id :P4
LB :LB135523

Sample Name: PB167692BL Acquired: 4/22/2025 16:45:49 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v15) 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	-.001729	-.003509	-.000394	.0048258	-.002143	-.000387	-.008726
Stddev	.002784	.002155	.001317	.0023884	.001680	.006699	.000278
%RSD	161.0433	61.41953	333.9459	49.49166	78.38630	1731.422	3.187812
#1	-.004737	-.002026	-.001725	.0021093	-.003009	-.008116	-.009047
#2	.000756	-.002521	-.000367	.0057716	-.000207	.003195	-.008561
#3	-.001204	-.005982	.000909	.0065964	-.003214	.003760	-.008570

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0000241	-.000124	-.009041	.0000905	-.000134	-.000097	.0010117
Stddev	.0000366	.000074	.007086	.0003714	.000281	.000372	.0052352
%RSD	151.7894	59.58064	78.38098	410.3697	209.7838	381.5078	517.4430
#1	.0000375	-.000057	-.004951	.0004939	.000098	-.000317	-.004564
#2	.0000521	-.000112	-.017223	.0000149	-.000447	-.000307	.001777
#3	-.000017	-.000203	-.004948	-.000237	-.000054	.000332	.005822

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000102	.0071639	-.000105	.0006099	-.132331	.0003993	-.000436
Stddev	.000247	.0108817	.000199	.0003280	.017975	.0003378	.000236
%RSD	242.4757	151.8958	189.4162	53.77325	13.58361	84.58888	54.11500
#1	-.000020	.0029190	.000057	.0007624	-.113760	.0004838	-.000179
#2	.000093	.0195283	-.000327	.0008340	-.133589	.0006868	-.000484
#3	-.000379	-.000955	-.000045	.0002335	-.149644	.0000273	-.000643

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0314579	-.000167	.0002234	.0047955	.0015133	.0099534	.0004822
Stddev	.0389718	.000958	.0003004	.0006143	.0002412	.0071548	.0024817
%RSD	123.8855	575.0699	134.4972	12.80885	15.94004	71.88285	514.6389
#1	-.000511	.000897	.0001068	.0047161	.0013617	.0043130	.0013029
#2	.020014	-.000963	-.000001	.0054456	.0013868	.0075458	-.002306
#3	.074870	-.000433	.000565	.0042248	.0017915	.0180014	.002450

Reviewed By:mohan
On:4/24/2025 11:42:10 AM
Inst Id :P4
LB :LB135523

Sample Name: PB167692BL Acquired: 4/22/2025 16:45:49 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v15) 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	.0043113	-.003835	-.000042
Stddev	.0007788	.000846	.000055
%RSD	18.06347	22.06018	129.8638
#1	.0041823	-.003126	.000006
#2	.0036050	-.003607	-.000031
#3	.0051464	-.004772	-.000102

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3176.275	72630.51	11213.00	2057.879	5019.471
Stddev	12.122	156.07	59.87	4.305	17.530
%RSD	.3816469	.2148753	.5339282	.2092006	.3492331
#1	3169.003	72717.07	11190.92	2061.329	5013.325
#2	3169.554	72450.34	11280.77	2059.252	5005.841
#3	3190.269	72724.11	11167.30	2053.054	5039.246

Reviewed By:mohan
On:4/24/2025 11:42:10 AM
Inst Id :P4
LB :LB135523

Sample Name: PB167692BS Acquired: 4/22/2025 16:50:08 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v15) 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	.7751913	1.984105	.9194574	1.977783	.8112168	1.795105
Stddev	.0044843	.007423	.0019180	.006201	.0020125	.006914
%RSD	.5784716	.3741350	.2085982	.3135306	.2480831	.3851400
#1	.7803659	1.983342	.9216699	1.983288	.8115408	1.787954
#2	.7724418	1.977093	.9182660	1.971065	.8090619	1.801754
#3	.7727662	1.991880	.9184363	1.978995	.8130476	1.795608

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1786515	.1773657	.1826717	.9004517	.3834019	.1799780
Stddev	.0006149	.0005685	.0001545	.0097382	.0045180	.0003956
%RSD	.3442028	.3205195	.0845909	1.081481	1.178386	.2198290
#1	.1782657	.1771629	.1828332	.8987791	.3884915	.1802053
#2	.1783282	.1769265	.1825252	.9109178	.3818491	.1795211
#3	.1793607	.1780078	.1826569	.8916580	.3798651	.1802074

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2929169	2.779237	.1749252	1.722992	.4508120	.0726386
Stddev	.0003787	.026105	.0009151	.011014	.0003745	.0011151
%RSD	.1293002	.9392833	.5231175	.6392491	.0830820	1.535068
#1	.2933124	2.809289	.1742926	1.710966	.4508704	.0738052
#2	.2925575	2.766235	.1745086	1.732588	.4511539	.0715835
#3	.2928808	2.762185	.1759744	1.725423	.4504117	.0725271

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.678228	.2612168	.1972327	9.016062	.2611950	.3993688
Stddev	.031317	.0015671	.0032779	.107216	.0017747	.0010410
%RSD	1.169318	.5999042	1.661957	1.189163	.6794542	.2606668
#1	2.710596	.2597443	.2004741	9.133382	.2591867	.3998703
#2	2.676005	.2610423	.1939195	8.991639	.2618460	.3981719
#3	2.648081	.2628638	.1973044	8.923164	.2625522	.4000641

Reviewed By:mohan
On:4/24/2025 11:42:10 AM
Inst Id :P4
LB :LB135523

Sample Name: PB167692BS Acquired: 4/22/2025 16:50:08 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v15) 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	.6458271	.1818989	F .6859491	5.341223	F -.012064	.1809181
Stddev	.0018516	.0003236	.0120916	.011210	.005239	.0007602
%RSD	.2866940	.1779036	1.762754	.2098857	43.42141	.4201861
#1	.6479073	.1815255	.6930108	5.353185	-.009322	.1810087
#2	.6452146	.1820747	.6928493	5.330958	-.008766	.1801167
#3	.6443594	.1820966	.6719873	5.339527	-.018105	.1816290

Elem	Sr4077
Units	ppm
Avg	.1803123
Stddev	.0004559
%RSD	.2528371
#1	.1807444
#2	.1798358
#3	.1803565

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3150.294	72173.98	11149.41	2052.390	4947.261
Stddev	6.166	813.77	21.69	30.325	14.304
%RSD	.1957172	1.127514	.1945546	1.477536	.2891379
#1	3143.293	71294.12	11168.83	2018.814	4931.962
#2	3154.912	72328.23	11126.00	2060.571	4960.302
#3	3152.678	72899.59	11153.40	2077.784	4949.519

Reviewed By:mohan
On:4/24/2025 11:42:10 AM
Inst Id :P4
LB :LB135523

Sample Name: PB167660TB Acquired: 4/22/2025 16:54:12 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v15) 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	-.002038	-.002949	-.001186	.0050937	.0003005	.0017502	-.009013
Stddev	.001850	.002882	.001760	.0033004	.0021148	.0116383	.000293
%RSD	90.77354	97.72135	148.3482	64.79426	703.7173	664.9670	3.246611
#1	-.001511	-.006268	-.002600	.0085449	.0020677	-.006540	-.009162
#2	-.004094	-.001497	.000785	.0019682	.0008765	-.003264	-.009202
#3	-.000508	-.001081	-.001744	.0047679	-.002043	.015055	-.008676

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0000091	-.000023	.0066785	-.000405	.0001838	.0001624	.0060891
Stddev	.0000173	.000075	.0152728	.000258	.0000494	.0001175	.0051515
%RSD	189.8731	324.5322	228.6873	63.71766	26.85453	72.37651	84.60272
#1	-.000005	-.000084	.0138749	-.000241	.0001340	.0002950	.0002624
#2	.000028	.000060	.0170237	-.000702	.0002326	.0000710	.0079655
#3	.000004	-.000046	-.010863	-.000272	.0001847	.0001212	.0100393

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0004508	.0107052	-.000527	.0006786	256.9735	-.000587	.0007525
Stddev	.0002176	.0132883	.000419	.0003638	2.1506	.000848	.0003535
%RSD	48.26068	124.1292	79.51802	53.60930	.8368913	144.4892	46.97430
#1	.0007018	-.004628	-.000778	.0010987	258.1954	.000383	.0011484
#2	.0003335	.017881	-.000043	.0004654	258.2348	-.000957	.0006401
#3	.0003170	.018863	-.000759	.0004718	254.4903	-.001187	.0004688

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0856041	-.000618	-.000031	.0048289	.0009705	.0064730	-.001297
Stddev	.0355940	.000379	.000567	.0006193	.0006020	.0075688	.002266
%RSD	41.57984	61.31468	1819.029	12.82465	62.03174	116.9288	174.7096
#1	.0853488	-.000530	-.000269	.0053242	.0005483	.0138742	-.000197
#2	.1213251	-.000290	.000616	.0050279	.0007033	.0067977	.000209
#3	.0501384	-.001032	-.000440	.0041346	.0016599	-.001253	-.003903

Reviewed By:mohan
On:4/24/2025 11:42:10 AM
Inst Id :P4
LB :LB135523

Sample Name: PB167660TB Acquired: 4/22/2025 16:54:12 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v15) 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	.0040873	-.002969	-.000037
Stddev	.0037647	.000960	.000057
%RSD	92.10520	32.32371	153.3486
#1	.0021172	-.004008	-.000054
#2	.0084282	-.002116	-.000083
#3	.0017166	-.002783	.000026

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3023.952	70079.67	10859.99	2018.984	4442.893
Stddev	7.611	202.79	35.45	1.153	11.200
%RSD	.2517004	.2893653	.3264344	.0570996	.2520949
#1	3015.276	70298.79	10821.51	2017.692	4430.065
#2	3029.506	69898.61	10891.33	2019.353	4447.882
#3	3027.073	70041.59	10867.12	2019.908	4450.731

Reviewed By:mohan
On:4/24/2025 11:42:10 AM
Inst Id :P4
LB :LB135523

Sample Name: CCV05 Acquired: 4/22/2025 16:58:40 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v15) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCV05 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	4.843664	4.923880	4.699985	4.919693	4.994435	9.485533	9.156980
Stddev	.026651	.015162	.018807	.024520	.019521	.007804	.053056
%RSD	.5502185	.3079190	.4001438	.4984019	.3908565	.0822743	.5794047
#1	4.844411	4.910881	4.705575	4.922040	4.999705	9.478056	9.101553
#2	4.869934	4.940535	4.715362	4.942954	5.010779	9.493627	9.162092
#3	4.816648	4.920223	4.679017	4.894083	4.972820	9.484917	9.207295

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2288037	2.288322	23.12639	.9731899	2.340627	1.223593	4.743461
Stddev	.0012838	.009751	.06359	.0116980	.010362	.005292	.050271
%RSD	.5610714	.4261336	.2749564	1.202023	.4427052	.4325056	1.059803
#1	.2274987	2.292800	23.05865	.9660695	2.348490	1.224871	4.696600
#2	.2288471	2.295030	23.18479	.9668095	2.344505	1.228129	4.737221
#3	.2300651	2.277136	23.13573	.9866908	2.328885	1.217779	4.796560

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.279117	23.02504	2.332547	1.205351	23.09309	2.311357	2.431011
Stddev	.006359	.10249	.009967	.011362	.09480	.006778	.019023
%RSD	.2790179	.4451436	.4272873	.9426387	.4105231	.2932493	.7825121
#1	2.275978	22.91171	2.334979	1.198653	22.99068	2.305740	2.416291
#2	2.286435	23.11125	2.341072	1.198930	23.11082	2.318885	2.424250
#3	2.274938	23.05215	2.321589	1.218470	23.17778	2.309445	2.452490

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	23.48634	4.603340	4.911313	4.653777	4.656069	4.960999	4.654094
Stddev	.15805	.020241	.019715	.016688	.010153	.034981	.010143
%RSD	.6729320	.4397089	.4014187	.3585901	.2180512	.7051211	.2179422
#1	23.32446	4.587917	4.919168	4.659078	4.651250	4.935080	4.654441
#2	23.49432	4.595844	4.925889	4.667170	4.667734	4.947129	4.664060
#3	23.64025	4.626261	4.888881	4.635082	4.649223	5.000788	4.643782

Reviewed By:mohan
On:4/24/2025 11:42:10 AM
Inst Id :P4
LB :LB135523

Sample Name: CCV05 Acquired: 4/22/2025 16:58:40 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v15) 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	4.605144	4.529194	4.679908
Stddev	.018097	.015198	.014920
%RSD	.3929627	.3355566	.3188164
#1	4.597955	4.527555	4.688021
#2	4.625730	4.545145	4.662689
#3	4.591747	4.514882	4.689014

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3085.525	72805.89	10902.64	2035.557	4655.152
Stddev	12.964	745.35	48.10	11.202	17.916
%RSD	.4201611	1.023746	.4411559	.5503301	.3848708
#1	3077.291	73430.69	10955.62	2045.108	4645.318
#2	3078.815	73006.10	10890.56	2038.337	4644.306
#3	3100.469	71980.89	10861.73	2023.227	4675.831

Reviewed By:mohan
On:4/24/2025 11:42:10 AM
Inst Id :P4
LB :LB135523

Sample Name: CCB05 Acquired: 4/22/2025 17:02:52 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v15) 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	-.002336	-.001463	-.000060	.0030659	.0003344	.0016759	-.007445
Stddev	.002253	.001232	.001333	.0023157	.0016965	.0066702	.001127
%RSD	96.43219	84.20908	2226.498	75.53080	507.3406	398.0029	15.13478
#1	-.000769	-.002663	.000023	.0051785	-.000190	.0084911	-.006305
#2	-.001322	-.001526	-.001432	.0034292	.002231	-.004839	-.008558
#3	-.004918	-.000201	.001229	.0005900	-.001038	.001376	-.007472

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0000229	-.000016	-.002728	-.000260	-.000153	-.000330	.0019340
Stddev	.0000211	.000124	.003598	.000143	.000267	.000355	.0009235
%RSD	91.88114	784.4567	131.9107	54.78168	174.3451	107.5915	47.75380
#1	-.000001	-.000088	-.004148	-.000321	-.000412	-.000013	.0018778
#2	.000033	.000127	-.005399	-.000362	.000121	-.000713	.0010398
#3	.000037	-.000086	.001364	-.000097	-.000169	-.000262	.0028843

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000373	-.007749	.0000319	.0007664	-.126478	.0017496	.0001555
Stddev	.000755	.033400	.0000856	.0000804	.015926	.0005103	.0001795
%RSD	202.4430	431.0188	268.2598	10.49592	12.59178	29.16921	115.4032
#1	.000240	-.043273	.0000286	.0008533	-.117964	.0011698	.0000285
#2	-.001217	.023018	.0001192	.0006946	-.144851	.0019482	.0000772
#3	-.000142	-.002993	-.000052	.0007512	-.116619	.0021307	.0003608

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0337265	.0069459	.0005782	.0043422	.0017472	.0049346	.0002795
Stddev	.0215517	.0008026	.0003313	.0005019	.0004732	.0051346	.0020808
%RSD	63.90138	11.55538	57.29885	11.55834	27.08430	104.0520	744.3674
#1	.0458137	.0068229	.0008144	.0040104	.0019131	.0086694	.0020254
#2	.0465217	.0078030	.0007207	.0049195	.0012134	-.000921	-.002023
#3	.0088441	.0062120	.0001995	.0040965	.0021151	.007055	.000836

Reviewed By:mohan
On:4/24/2025 11:42:10 AM
Inst Id :P4
LB :LB135523

Sample Name: CCB05 Acquired: 4/22/2025 17:02:52 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v15) 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	.0035491	-.004462	.0000287
Stddev	.0033300	.001112	.0000339
%RSD	93.82610	24.91399	117.9189
#1	.0070396	-.004258	.0000625
#2	.0032006	-.005661	-.000005
#3	.0004071	-.003466	.000029

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3178.767	72764.26	10834.43	2076.097	5001.028
Stddev	7.753	134.26	84.01	4.873	9.219
%RSD	.2439079	.1845185	.7754395	.2346974	.1843330
#1	3180.072	72662.57	10809.55	2072.069	5006.807
#2	3170.444	72916.45	10928.08	2081.513	4990.397
#3	3185.786	72713.75	10765.67	2074.709	5005.881

Reviewed By:mohan
On:4/24/2025 11:42:10 AM
Inst Id :P4
LB :LB135523

Sample Name: Q1842-06 Acquired: 4/22/2025 17:07:12 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v15) 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	-.004955	-.005794	.0027507	.0079994	-.000686	.0560330	.1752075
Stddev	.002155	.000837	.0002696	.0032784	.001728	.0066265	.0009098
%RSD	43.48416	14.45130	9.800982	40.98315	252.0229	11.82605	.5192877
#1	-.004986	-.005823	.0030477	.0089811	.000227	.0619569	.1751186
#2	-.007095	-.004942	.0026832	.0106747	.000395	.0488769	.1761585
#3	-.002786	-.006616	.0025213	.0043423	-.002678	.0572652	.1743454

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000003	.0002163	11.35820	.0001658	.0158208	.0198756	.0268795
Stddev	.000024	.0000975	.02345	.0003202	.0001646	.0003037	.0028958
%RSD	766.3368	45.09737	.2064747	193.1313	1.040367	1.528235	10.77318
#1	-.000006	.0003000	11.34844	-.000197	.0159786	.0199337	.0276780
#2	.000022	.0002398	11.38496	.000409	.0158337	.0201461	.0292922
#3	-.000025	.0001092	11.34121	.000285	.0156502	.0195470	.0236682

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.5953670	3.622360	.0077572	.0008538	359.0228	.0007268	.0672586
Stddev	.0020870	.009884	.0002210	.0002774	.5438	.0014975	.0003921
%RSD	.3505438	.2728692	2.849154	32.49283	.1514765	206.0540	.5829310
#1	.5969163	3.627372	.0078756	.0005363	359.0012	-.000886	.0668254
#2	.5961909	3.628734	.0078937	.0009760	358.4901	.000992	.0673612
#3	.5929938	3.610973	.0075022	.0010492	359.5772	.002074	.0675892

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.7776881	.0186285	.0002742	.0021052	.0041960	1.874850	.0051160
Stddev	.0176635	.0007985	.0004993	.0008410	.0003828	.009490	.0033850
%RSD	2.271287	4.286677	182.0798	39.94952	9.123689	.5061962	66.16512
#1	.7967994	.0177417	.0006122	.0020754	.0044403	1.885514	.0075770
#2	.7743026	.0188533	.0005098	.0012795	.0043929	1.871706	.0065153
#3	.7619624	.0192906	-.000299	.0029608	.0037548	1.867331	.0012557

Reviewed By:mohan
On:4/24/2025 11:42:10 AM
Inst Id :P4
LB :LB135523

Sample Name: Q1842-06 Acquired: 4/22/2025 17:07:12 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v15) 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	.4116088	-.006426	.0630431
Stddev	.0028733	.000448	.0001757
%RSD	.6980639	6.974226	.2787731
#1	.4127927	-.006018	.0631101
#2	.4137010	-.006355	.0631754
#3	.4083327	-.006905	.0628437

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2975.099	69457.46	11355.39	1949.146	4439.501
Stddev	13.467	95.07	59.51	2.679	16.147
%RSD	.4526521	.1368818	.5240655	.1374338	.3637019
#1	2965.613	69400.46	11424.08	1947.048	4429.979
#2	2969.172	69404.70	11319.26	1948.227	4430.379
#3	2990.513	69567.21	11322.84	1952.164	4458.144

Reviewed By:mohan
On:4/24/2025 11:42:10 AM
Inst Id :P4
LB :LB135523

Sample Name: Q1842-12 Acquired: 4/22/2025 17:11:39 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v15) 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	-.005135	-.006928	-.000327	.0025120	.0019941	.0936892	.0733219
Stddev	.003012	.000932	.000754	.0055159	.0015920	.0025956	.0012837
%RSD	58.65434	13.45416	230.4210	219.5830	79.83453	2.770396	1.750811
#1	-.007233	-.005978	-.000581	.0050717	.0014269	.0916801	.0719370
#2	-.001684	-.007841	-.000923	-.003819	.0037920	.0927678	.0744721
#3	-.006487	-.006965	.000521	.006283	.0007634	.0966198	.0735565

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000033	-.000016	3.202400	-.000313	.0024467	.0078071	.1579923
Stddev	.000019	.000042	.013347	.000598	.0003637	.0000839	.0034373
%RSD	56.39921	255.1929	.4167962	191.0761	14.86351	1.075265	2.175622
#1	-.000048	.000032	3.202734	.000358	.0023037	.0078245	.1619540
#2	-.000039	-.000045	3.188889	-.000790	.0028601	.0077158	.1562206
#3	-.000012	-.000036	3.215577	-.000506	.0021762	.0078810	.1558023

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0861176	.8534818	.0007546	.0008599	279.1627	.0004981	.0249593
Stddev	.0004239	.0240063	.0004131	.0003113	2.2467	.0014901	.0002587
%RSD	.4922003	2.812754	54.75013	36.19833	.8047866	299.1287	1.036280
#1	.0856286	.8275204	.0003169	.0005974	278.8742	.0017781	.0246606
#2	.0863455	.8748774	.0011378	.0007786	277.0743	.0008540	.0251056
#3	.0863789	.8580475	.0008090	.0012038	281.5397	-.001138	.0251116

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1749783	.0121098	.0002004	.0017008	.0050133	.6617616	.0084131
Stddev	.0076972	.0008726	.0000176	.0005293	.0005976	.0095459	.0012036
%RSD	4.398968	7.205775	8.798908	31.12190	11.91972	1.442506	14.30665
#1	.1823891	.0114625	.0001916	.0020274	.0055940	.6718894	.0093199
#2	.1755222	.0117647	.0001889	.0010901	.0044001	.6604655	.0070476
#3	.1670235	.0131022	.0002207	.0019848	.0050458	.6529299	.0088719

Reviewed By:mohan
On:4/24/2025 11:42:10 AM
Inst Id :P4
LB :LB135523

Sample Name: Q1842-12 Acquired: 4/22/2025 17:11:39 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v15) 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	.7489405	-.005497	.0166042
Stddev	.0050104	.000409	.0000956
%RSD	.6689939	7.441077	.5757233
#1	.7436505	-.005649	.0164952
#2	.7495567	-.005034	.0166436
#3	.7536142	-.005809	.0166738

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2996.662	70351.26	11180.78	1985.244	4506.398
Stddev	5.471	50.00	9.62	5.802	14.683
%RSD	.1825657	.0710760	.0860412	.2922448	.3258173
#1	3000.368	70319.76	11179.92	1987.800	4518.357
#2	2990.378	70325.10	11171.62	1978.603	4490.011
#3	2999.239	70408.91	11190.80	1989.328	4510.826

Reviewed By:mohan
On:4/24/2025 11:42:10 AM
Inst Id :P4
LB :LB135523

Sample Name: Q1842-18 Acquired: 4/22/2025 17:16:07 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v15) 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	-.004225	-.006497	.0008673	.0011922	.0002538	.0926258	.1485676
Stddev	.001209	.002838	.0023930	.0019064	.0008928	.0007594	.0007914
%RSD	28.61797	43.69186	275.9229	159.8988	351.8628	.8198509	.5326521
#1	-.005539	-.005536	-.000799	-.000021	-.000771	.0923378	.1491908
#2	-.003977	-.004263	-.000208	.003390	.000669	.0934871	.1476772
#3	-.003159	-.009691	.003609	.000208	.000863	.0920525	.1488346

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0000627	.0000624	4.569608	-.000272	.0076119	.0117076	.0789916
Stddev	.0000310	.0000158	.006325	.000514	.0001045	.0002137	.0033600
%RSD	49.46997	25.33508	.1384237	188.5210	1.373262	1.825561	4.253637
#1	.0000978	.0000666	4.562483	.000218	.0076117	.0117721	.0792472
#2	.0000389	.0000757	4.571778	-.000229	.0077166	.0118817	.0822166
#3	.0000514	.0000450	4.574563	-.000806	.0075075	.0114691	.0755111

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2157947	1.484060	.0018512	.0006897	328.9983	-.000348	.0354772
Stddev	.0003998	.014610	.0000621	.0002541	6.5870	.001032	.0003180
%RSD	.1852678	.9844885	3.356292	36.83941	2.002144	296.8155	.8963822
#1	.2154073	1.476344	.0019104	.0006321	324.5954	.000181	.0358398
#2	.2157708	1.474925	.0018569	.0009677	336.5710	.000313	.0352456
#3	.2162058	1.500911	.0017865	.0004694	325.8286	-.001537	.0353461

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.4389705	.0196145	.0003617	.0018072	.0057350	1.300654	.0082918
Stddev	.0341099	.0004575	.0003111	.0016380	.0006947	.007300	.0041253
%RSD	7.770429	2.332361	86.01725	90.63523	12.11366	.5612640	49.75140
#1	.4739587	.0201114	.0006666	.0001566	.0049489	1.293451	.0105235
#2	.4371399	.0195215	.0000447	.0034322	.0062667	1.300464	.0108204
#3	.4058127	.0192107	.0003738	.0018328	.0059892	1.308048	.0035314

Reviewed By:mohan
On:4/24/2025 11:42:10 AM
Inst Id :P4
LB :LB135523

Sample Name: Q1842-18 Acquired: 4/22/2025 17:16:07 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v15) 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	.5934271	-.004737	.0259981
Stddev	.0027949	.000352	.0000467
%RSD	.4709701	7.423211	.1796090
#1	.5954749	-.005067	.0260290
#2	.5902431	-.004367	.0259444
#3	.5945634	-.004777	.0260210

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2982.437	69281.48	11133.53	1962.517	4462.714
Stddev	2.393	263.37	46.69	12.824	8.239
%RSD	.0802348	.3801466	.4193406	.6534402	.1846232
#1	2981.317	69545.13	11083.48	1975.671	4457.750
#2	2980.809	69280.91	11175.91	1961.828	4458.168
#3	2985.184	69018.39	11141.21	1950.052	4472.225

Reviewed By:mohan
On:4/24/2025 11:42:10 AM
Inst Id :P4
LB :LB135523

Sample Name: Q1842-24 Acquired: 4/22/2025 17:20:34 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v15) 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	-.004629	-.006117	-.000834	.0034126	.0003778	.0422060	.1133121
Stddev	.002010	.001258	.000268	.0065788	.0011602	.0032710	.0010799
%RSD	43.42748	20.55860	32.15433	192.7791	307.1005	7.750128	.9530135
#1	-.004615	-.006837	-.000661	-.003763	-.000944	.0422302	.1124531
#2	-.006646	-.004665	-.001143	.009159	.000850	.0454648	.1145243
#3	-.002626	-.006849	-.000697	.004842	.001228	.0389229	.1129588

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000022	.0002165	6.335934	-.000238	.0012264	.0090504	.0352214
Stddev	.000018	.0000053	.012177	.000070	.0002387	.0006201	.0041897
%RSD	81.85480	2.433797	.1921963	29.49177	19.46343	6.851942	11.89527
#1	-.000043	.0002108	6.345194	-.000288	.0010067	.0091489	.0383483
#2	-.000014	.0002213	6.322140	-.000158	.0011922	.0096154	.0304611
#3	-.000009	.0002174	6.340467	-.000268	.0014804	.0083869	.0368550

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1651756	1.303089	.0029973	.0006973	318.1565	.0003858	.0270199
Stddev	.0004543	.008576	.0001057	.0001677	1.7823	.0012347	.0003446
%RSD	.2750562	.6581636	3.527926	24.05316	.5601855	320.0070	1.275278
#1	.1656900	1.312574	.0029413	.0007565	316.5897	-.000896	.0271778
#2	.1650074	1.295880	.0031193	.0008273	317.7843	.001568	.0272572
#3	.1648293	1.300813	.0029313	.0005080	320.0955	.000485	.0266246

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.4914557	.0238513	.0003036	.0008664	.0028264	1.237223	.0057190
Stddev	.0495143	.0004152	.0000643	.0009353	.0003403	.001913	.0038519
%RSD	10.07502	1.740605	21.19249	107.9521	12.03819	.1546013	67.35133
#1	.4556130	.0241771	.0003519	.0010643	.0029247	1.236139	.0042260
#2	.5479534	.0239930	.0003283	.0016870	.0031067	1.239432	.0100939
#3	.4708006	.0233839	.0002306	-.000152	.0024478	1.236099	.0028373

Reviewed By:mohan
On:4/24/2025 11:42:10 AM
Inst Id :P4
LB :LB135523

Sample Name: Q1842-24 Acquired: 4/22/2025 17:20:34 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v15) 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	.2495662	-.007173	.0342969
Stddev	.0016406	.000359	.0000641
%RSD	.6573612	5.005056	.1868957
#1	.2514489	-.007204	.0343621
#2	.2484428	-.007516	.0342948
#3	.2488070	-.006799	.0342339

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2999.962	69286.65	11254.52	1950.574	4478.633
Stddev	10.552	98.56	25.19	6.434	14.403
%RSD	.3517539	.1422510	.2238223	.3298296	.3215943
#1	3006.582	69399.61	11236.62	1954.009	4488.061
#2	2987.792	69242.22	11243.62	1943.152	4462.054
#3	3005.510	69218.14	11283.33	1954.561	4485.786

Reviewed By:mohan
On:4/24/2025 11:42:10 AM
Inst Id :P4
LB :LB135523

Sample Name: Q1842-30 Acquired: 4/22/2025 17:25:00 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v15) 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	-.004169	-.006153	.0000490	.0049242	-.002179	.2179868	.1112250
Stddev	.001121	.000826	.0008125	.0024991	.000606	.0055107	.0004008
%RSD	26.88480	13.42041	1657.815	50.75114	27.80897	2.528012	.3603382
#1	-.004848	-.007086	-.000889	.0077159	-.002877	.2176732	.1108359
#2	-.004784	-.005517	.000502	.0028957	-.001883	.2236476	.1112027
#3	-.002875	-.005855	.000534	.0041610	-.001779	.2126395	.1116365

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000005	.0001835	6.852497	.0016748	.0002634	.0067979	.2006396
Stddev	.000018	.0000485	.023139	.0003424	.0000626	.0000860	.0047119
%RSD	352.1100	26.44400	.3376723	20.44158	23.77846	1.264780	2.348427
#1	.000003	.0002279	6.869128	.0017406	.0002761	.0068108	.2059307
#2	.000008	.0001908	6.826072	.0019796	.0001954	.0068767	.1968965
#3	-.000026	.0001317	6.862292	.0013044	.0003187	.0067062	.1990915

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2733084	2.232934	.0041381	.0008069	344.9065	.0012819	.0375997
Stddev	.0005303	.010108	.0002540	.0001993	2.5334	.0007041	.0001483
%RSD	.1940485	.4526567	6.137015	24.70553	.7345277	54.92862	.3945120
#1	.2728040	2.236668	.0038763	.0005835	345.1427	.0015260	.0376458
#2	.2732600	2.221490	.0041547	.0008704	347.3136	.0018314	.0377195
#3	.2738614	2.240643	.0043834	.0009667	342.2633	.0004882	.0374338

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.5349934	.0260076	.0000364	.0005242	.0140069	1.816858	.0102471
Stddev	.0304861	.0002297	.0000642	.0001127	.0002277	.054967	.0027452
%RSD	5.698412	.8831370	176.4973	21.50481	1.625275	3.025389	26.78996
#1	.5129406	.0258458	.0000273	.0006487	.0142479	1.861566	.0125162
#2	.5697824	.0262705	.0001047	.0004292	.0137955	1.833519	.0071957
#3	.5222573	.0259066	-.000023	.0004946	.0139773	1.755487	.0110293

Reviewed By:mohan
On:4/24/2025 11:42:10 AM
Inst Id :P4
LB :LB135523

Sample Name: Q1842-30 Acquired: 4/22/2025 17:25:00 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v15) 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	.2587005	-.005723	.0415625
Stddev	.0044230	.001201	.0001520
%RSD	1.709714	20.98698	.3656430
#1	.2634780	-.005357	.0414902
#2	.2547481	-.004747	.0414603
#3	.2578754	-.007064	.0417372

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2996.319	69080.62	11324.57	1952.678	4471.194
Stddev	7.308	284.56	94.52	4.800	5.588
%RSD	.2438978	.4119272	.8346436	.2457934	.1249682
#1	2989.746	68923.98	11384.35	1950.263	4465.855
#2	2995.024	68908.79	11373.75	1949.565	4470.725
#3	3004.188	69409.09	11215.60	1958.205	4477.001

Reviewed By:mohan
On:4/24/2025 11:42:10 AM
Inst Id :P4
LB :LB135523

Sample Name: Q1842-36 Acquired: 4/22/2025 17:29:28 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v15) 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	-.003515	-.005949	-.000816	.0093469	.0012821	.0207511	.1204848
Stddev	.001202	.001051	.001587	.0065517	.0020518	.0008828	.0004578
%RSD	34.18793	17.65934	194.5554	70.09422	160.0344	4.254144	.3799492
#1	-.004837	-.007043	-.002588	.0161871	.0009305	.0200111	.1204348
#2	-.002488	-.005856	-.000332	.0031281	-.000571	.0205140	.1200541
#3	-.003221	-.004948	.000473	.0087256	.003487	.0217282	.1209655

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000032	.0001872	8.364790	-.000500	.0018186	.0049819	.0174677
Stddev	.000017	.0000461	.020064	.000048	.0001412	.0004218	.0023383
%RSD	54.46568	24.62015	.2398585	9.619126	7.766701	8.467137	13.38656
#1	-.000041	.0001914	8.351908	-.000531	.0016585	.0053891	.0201367
#2	-.000012	.0001392	8.354555	-.000526	.0019254	.0050098	.0157795
#3	-.000043	.0002311	8.387907	-.000445	.0018720	.0045468	.0164869

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.4107340	1.396913	.0033991	.0010403	275.6587	.0000271	.0442487
Stddev	.0002609	.016374	.0002159	.0001118	2.4862	.0009823	.0007881
%RSD	.0635259	1.172154	6.351908	10.75167	.9019225	3619.154	1.781108
#1	.4109784	1.379810	.0034033	.0011670	275.8045	.0011166	.0445798
#2	.4104592	1.412444	.0031811	.0009985	273.1028	-.000244	.0448172
#3	.4107645	1.398485	.0036129	.0009553	278.0688	-.000791	.0433490

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.147909	.0284829	.0002657	.0014539	.0025316	1.166301	.0086612
Stddev	.011116	.0010543	.0002288	.0011929	.0004982	.004344	.0019853
%RSD	.9684070	3.701394	86.09315	82.04885	19.67862	.3724242	22.92242
#1	1.142859	.0273864	.0001024	.0018104	.0022891	1.169042	.0064323
#2	1.140214	.0285732	.0005272	.0024280	.0031045	1.168568	.0093112
#3	1.160654	.0294891	.0001676	.0001234	.0022010	1.161293	.0102401

Reviewed By:mohan
On:4/24/2025 11:42:10 AM
Inst Id :P4
LB :LB135523

Sample Name: Q1842-36 Acquired: 4/22/2025 17:29:28 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v15) 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	.2601154	-.006725	.0402544
Stddev	.0011153	.001162	.0001090
%RSD	.4287779	17.28451	.2706956
#1	.2603388	-.007658	.0401875
#2	.2611021	-.007095	.0403802
#3	.2589053	-.005423	.0401956

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2996.970	71677.20	10764.27	1984.995	4480.783
Stddev	2.501	161.06	27.14	4.288	4.405
%RSD	.0834673	.2247032	.2520981	.2160422	.0983113
#1	2999.821	71579.65	10772.55	1984.941	4482.943
#2	2995.941	71588.86	10786.30	1980.735	4475.715
#3	2995.146	71863.11	10733.95	1989.311	4483.692

Reviewed By:mohan
On:4/24/2025 11:42:10 AM
Inst Id :P4
LB :LB135523

Sample Name: Q1842-42 Acquired: 4/22/2025 17:33:55 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v15) 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	-.005292	-.007564	.0030616	.0075658	.0013551	.0695485	.1813374
Stddev	.003040	.001257	.0018257	.0016189	.0005968	.0016022	.0006705
%RSD	57.45183	16.62318	59.63183	21.39751	44.03892	2.303785	.3697423
#1	-.006303	-.008745	.0030753	.0093589	.0016761	.0713405	.1810463
#2	-.007698	-.007706	.0012291	.0062118	.0017227	.0682540	.1808617
#3	-.001875	-.006242	.0048804	.0071265	.0006665	.0690511	.1821042

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000023	.0003346	46.12185	.0000081	.0020026	.0045130	.1309358
Stddev	.000004	.0000585	.12542	.0002972	.0001205	.0003484	.0009739
%RSD	16.24685	17.47505	.2719269	3681.147	6.017438	7.720594	.7437691
#1	-.000024	.0002815	45.97784	.0003499	.0021409	.0048950	.1300278
#2	-.000018	.0003251	46.18062	-.000137	.0019195	.0044311	.1319643
#3	-.000025	.0003973	46.20708	-.000189	.0019477	.0042128	.1308153

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.161145	2.995687	.0056649	.0005483	309.1184	.0005565	.0323116
Stddev	.003814	.008901	.0005226	.0002053	1.5422	.0007708	.0003168
%RSD	.3284669	.2971239	9.225474	37.44319	.4988955	138.5124	.9805777
#1	1.156972	2.991720	.0053155	.0003212	310.5183	.0014069	.0321400
#2	1.162012	2.989460	.0054134	.0006030	309.3716	.0003587	.0321176
#3	1.164451	3.005882	.0062657	.0007206	307.4653	-.000096	.0326772

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.7424246	.0289631	.0004501	-.001333	.0015726	5.107654	.0081793
Stddev	.0345471	.0006014	.0001474	.000650	.0006716	.006710	.0014883
%RSD	4.653282	2.076553	32.75363	48.73371	42.70349	.1313618	18.19564
#1	.7055541	.0291867	.0002838	-.002068	.0019019	5.114285	.0098316
#2	.7476717	.0294207	.0005646	-.001099	.0008000	5.100868	.0069440
#3	.7740480	.0282819	.0005019	-.000834	.0020159	5.107809	.0077623

Reviewed By:mohan
On:4/24/2025 11:42:10 AM
Inst Id :P4
LB :LB135523

Sample Name: Q1842-42 Acquired: 4/22/2025 17:33:55 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v15) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	1.188304	-.013160	.1772280
Stddev	.002355	.000400	.0004147
%RSD	.1981710	3.041139	.2339728
#1	1.189945	-.012817	.1770225
#2	1.189361	-.013063	.1769563
#3	1.185606	-.013600	.1777053

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3003.044	69742.37	11369.80	1972.638	4463.496
Stddev	5.133	210.14	55.82	6.424	5.085
%RSD	.1709287	.3013042	.4909277	.3256651	.1139337
#1	3008.666	69889.81	11400.69	1979.977	4468.530
#2	2998.607	69501.76	11305.37	1968.035	4458.361
#3	3001.860	69835.54	11403.35	1969.901	4463.597

Reviewed By:mohan
On:4/24/2025 11:42:10 AM
Inst Id :P4
LB :LB135523

Sample Name: Q1850-02 Acquired: 4/22/2025 17:38:21 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v15) 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	-.006175	-.008285	-.001391	.0076245	.0017097	.3575147	.1256879
Stddev	.002132	.002402	.001563	.0074927	.0011405	.0118124	.0009602
%RSD	34.52720	28.99729	112.3639	98.27195	66.70784	3.304032	.7639485
#1	-.008636	-.006920	-.001897	.0152029	.0007090	.3710130	.1245793
#2	-.004979	-.006876	.000362	.0074500	.0029514	.3490681	.1262258
#3	-.004909	-.011059	-.002639	.0002205	.0014685	.3524632	.1262586

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000042	-.000099	157.6723	-.000624	-.000617	.0006803	.2988135
Stddev	.000034	.000094	.3175	.000297	.000080	.0005108	.0044455
%RSD	81.20726	94.37402	.2013629	47.62954	13.02559	75.08146	1.487704
#1	-.000064	-.000020	157.7184	-.000927	-.000525	.0002147	.2949029
#2	-.000060	-.000076	157.3342	-.000614	-.000658	.0012266	.3036485
#3	-.000003	-.000202	157.9642	-.000332	-.000669	.0005994	.2978893

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0316016	3.843610	.0001385	.0007400	289.0333	.0071224	.0041411
Stddev	.0001258	.028763	.0000974	.0002107	.2355	.0011834	.0001965
%RSD	.3982093	.7483442	70.38721	28.47685	.0814726	16.61567	4.744130
#1	.0314588	3.841207	.0000980	.0008316	289.3022	.0081439	.0039265
#2	.0316495	3.816124	.0000678	.0004990	288.8640	.0058255	.0041849
#3	.0316964	3.873500	.0002496	.0008895	288.9337	.0073977	.0043120

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.558334	.0393521	.0011936	-.003624	.0121140	10.54148	.0152755
Stddev	.015452	.0002115	.0000848	.001311	.0016989	.07845	.0028869
%RSD	.6039973	.5375906	7.101222	36.16999	14.02468	.7441961	18.89897
#1	2.549081	.0392620	.0012754	-.004461	.0103600	10.46439	.0144101
#2	2.549749	.0392006	.0011062	-.002113	.0122299	10.62122	.0184962
#3	2.576173	.0395938	.0011993	-.004297	.0137520	10.53882	.0129203

Reviewed By:mohan
On:4/24/2025 11:42:10 AM
Inst Id :P4
LB :LB135523

Sample Name: Q1850-02 Acquired: 4/22/2025 17:38:21 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v15) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	5.785752	-.027834	.8920203
Stddev	.034757	.000395	.0017601
%RSD	.6007275	1.418466	.1973127
#1	5.815055	-.028108	.8937000
#2	5.794851	-.027382	.8901896
#3	5.747351	-.028013	.8921712

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2917.937	69783.56	11091.72	1939.824	4311.228
Stddev	13.349	132.78	23.38	3.864	14.103
%RSD	.4574802	.1902776	.2108160	.1991930	.3271321
#1	2908.285	69892.04	11086.62	1939.694	4302.730
#2	2912.355	69635.48	11117.23	1943.752	4303.446
#3	2933.171	69823.15	11071.30	1936.027	4327.508

Reviewed By:mohan
On:4/24/2025 11:42:10 AM
Inst Id :P4
LB :LB135523

Sample Name: Q1850-02DUP Acquired: 4/22/2025 17:42:46 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v15) 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	-.005689	-.008004	-.001777	-.001457	.0019865	.3334641	.1255721
Stddev	.003882	.001317	.001386	.007812	.0008958	.0054260	.0004465
%RSD	68.24552	16.45724	78.04070	536.1753	45.09365	1.627156	.3555612
#1	-.008811	-.007925	-.001167	-.000741	.0015574	.3328038	.1257299
#2	-.006914	-.006728	-.000799	.005972	.0013859	.3283984	.1250682
#3	-.001342	-.009359	-.003363	-.009602	.0030161	.3391900	.1259184

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000073	-.000020	158.5979	-.000360	-.000468	.0012942	.2942892
Stddev	.000043	.000132	.7153	.000238	.000255	.0003224	.0058581
%RSD	58.87021	660.2799	.4510095	66.11350	54.57315	24.91070	1.990608
#1	-.000095	.000112	159.3020	-.000178	-.000197	.0016003	.2941267
#2	-.000101	-.000152	157.8719	-.000629	-.000503	.0013245	.2885140
#3	-.000024	-.000020	158.6199	-.000273	-.000704	.0009577	.3002269

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0304085	3.868889	-.000100	.0001480	286.6753	.0078212	.0043901
Stddev	.0002195	.027006	.000215	.0003555	1.2032	.0016969	.0002501
%RSD	.7219285	.6980315	215.1649	240.1977	.4197241	21.69648	5.695920
#1	.0304865	3.886781	.000080	.0005520	287.5507	.0059382	.0045295
#2	.0305784	3.837825	-.000339	-.000117	287.1720	.0092321	.0045394
#3	.0301607	3.882062	-.000041	.000009	285.3032	.0082931	.0041014

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.561731	.0391828	.0011690	-.003553	.0151824	10.55415	.0115389
Stddev	.020808	.0005703	.0006042	.000765	.0011877	.06739	.0021149
%RSD	.8122706	1.455444	51.68248	21.53169	7.822619	.6385084	18.32819
#1	2.561951	.0392817	.0004790	-.003906	.0156311	10.60983	.0138270
#2	2.540813	.0396971	.0014250	-.002675	.0138358	10.47923	.0111340
#3	2.582428	.0385695	.0016029	-.004078	.0160804	10.57338	.0096558

Reviewed By:mohan
On:4/24/2025 11:42:10 AM
Inst Id :P4
LB :LB135523

Sample Name: Q1850-02DUP Acquired: 4/22/2025 17:42:46 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v15) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	5.785699	-.027312	.8904232
Stddev	.019862	.000620	.0067113
%RSD	.3432977	2.271556	.7537240
#1	5.795084	-.027889	.8972385
#2	5.799131	-.026655	.8838210
#3	5.762884	-.027391	.8902101

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2913.553	68537.63	10789.46	1926.852	4300.529
Stddev	6.872	200.99	23.06	16.986	7.069
%RSD	.2358667	.2932581	.2136810	.8815201	.1643723
#1	2915.798	68401.82	10766.81	1913.887	4297.817
#2	2905.839	68768.52	10812.90	1946.080	4295.218
#3	2919.022	68442.54	10788.66	1920.590	4308.553

Reviewed By:mohan
On:4/24/2025 11:42:10 AM
Inst Id :P4
LB :LB135523

Sample Name: Q1850-02LX5 Acquired: 4/22/2025 17:47:10 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v15) 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	-.003197	-.004726	-.002235	.0059956	.0018711	.0627938	.0204813
Stddev	.002736	.000274	.001899	.0022329	.0018808	.0043098	.0008923
%RSD	85.56525	5.802353	84.96133	37.24139	100.5187	6.863424	4.356531
#1	-.001945	-.004790	-.001359	.0056169	.0025841	.0663645	.0206951
#2	-.006335	-.004425	-.004414	.0083937	-.000262	.0580064	.0195015
#3	-.001312	-.004962	-.000932	.0039764	.003291	.0640103	.0212472

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0000148	-.000092	30.99801	-.000686	-.000202	.0007015	.0602855
Stddev	.0000705	.000088	.03471	.000188	.000244	.0003645	.0049426
%RSD	476.6991	95.73453	.1119896	27.47948	121.0967	51.95819	8.198736
#1	-.000045	-.000138	30.96651	-.000749	-.000081	.0009306	.0553596
#2	-.000003	-.000148	31.03523	-.000835	-.000041	.0002812	.0602521
#3	.000092	.000010	30.99229	-.000474	-.000483	.0008928	.0652447

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0060175	.7711753	.0000398	.0005121	55.60936	.0006494	.0008303
Stddev	.0002233	.0096609	.0004553	.0002293	.38874	.0009473	.0003003
%RSD	3.710176	1.252749	1143.159	44.77869	.6990639	145.8749	36.16059
#1	.0058977	.7602271	.0004707	.0002780	55.62176	-.000337	.0008288
#2	.0062751	.7785030	.0000852	.0007363	55.99176	.000734	.0005309
#3	.0058797	.7747958	-.000436	.0005220	55.21456	.001551	.0011314

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.5886113	.0070128	.0004549	.0022471	.0030598	2.055034	-.000234
Stddev	.0168820	.0005298	.0001866	.0010600	.0007147	.022655	.000148
%RSD	2.868099	7.555187	41.02768	47.17205	23.35761	1.102409	63.28016
#1	.6080589	.0074893	.0006479	.0034597	.0023987	2.044297	-.000300
#2	.5800460	.0064422	.0002754	.0017852	.0029624	2.081061	-.000337
#3	.5777289	.0071069	.0004413	.0014964	.0038181	2.039744	-.000064

Reviewed By:mohan
On:4/24/2025 11:42:10 AM
Inst Id :P4
LB :LB135523

Sample Name: Q1850-02LX5 Acquired: 4/22/2025 17:47:10 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v15) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	1.112750	-.002956	.1710587
Stddev	.003513	.000028	.0003691
%RSD	.3156786	.9456877	.2157836
#1	1.115632	-.002937	.1708658
#2	1.113781	-.002943	.1714843
#3	1.108837	-.002988	.1708260

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3073.346	71007.61	11232.95	2030.232	4674.871
Stddev	6.084	442.60	17.80	7.503	5.669
%RSD	.1979565	.6233159	.1584977	.3695568	.1212607
#1	3066.474	70971.07	11236.13	2027.735	4669.940
#2	3078.045	70584.41	11213.77	2024.297	4673.608
#3	3075.519	71467.35	11248.95	2038.666	4681.065

Reviewed By:mohan
On:4/24/2025 11:42:10 AM
Inst Id :P4
LB :LB135523

Sample Name: CCV06 Acquired: 4/22/2025 17:51:29 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v15) 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	4.792273	4.953932	4.711429	4.840313	4.900691	9.540395	9.190869
Stddev	.027440	.027504	.025439	.034707	.032762	.032359	.092036
%RSD	.5725982	.5551883	.5399373	.7170303	.6685183	.3391840	1.001382
#1	4.810852	4.965099	4.712127	4.845716	4.922694	9.525324	9.262202
#2	4.805213	4.974096	4.736511	4.872000	4.916339	9.518320	9.086981
#3	4.760755	4.922601	4.685648	4.803221	4.863039	9.577541	9.223425

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2417886	2.308842	23.17770	.9803912	2.345067	1.212966	4.661650
Stddev	.0008462	.008595	.04308	.0013038	.011029	.009077	.005015
%RSD	.3499670	.3722766	.1858700	.1329837	.4703150	.7483106	.1075779
#1	.2427243	2.309726	23.13294	.9815617	2.349368	1.216449	4.664657
#2	.2410771	2.316962	23.18127	.9806258	2.353298	1.219785	4.664432
#3	.2415643	2.299840	23.21888	.9789861	2.332535	1.202664	4.655860

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.296977	23.38169	2.336402	1.221982	22.59296	2.322962	2.452165
Stddev	.002966	.10908	.009094	.002204	.09671	.004772	.002876
%RSD	.1291424	.4665063	.3892200	.1803504	.4280487	.2054299	.1172918
#1	2.299659	23.31452	2.336392	1.224482	22.58937	2.324611	2.448920
#2	2.297482	23.32300	2.345500	1.221140	22.69141	2.317584	2.453174
#3	2.293791	23.50755	2.327313	1.220323	22.49809	2.326690	2.454400

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	23.12653	4.821503	4.896452	4.684675	4.646498	4.843407	4.698768
Stddev	.09163	.013826	.028968	.019197	.002523	.035569	.026672
%RSD	.3962174	.2867475	.5916062	.4097911	.0543078	.7343789	.5676410
#1	23.02341	4.837144	4.902774	4.680082	4.645950	4.805928	4.722003
#2	23.19861	4.810914	4.921737	4.705752	4.644294	4.847597	4.704659
#3	23.15756	4.816452	4.864846	4.668190	4.649251	4.876695	4.669643

Reviewed By:mohan
On:4/24/2025 11:42:10 AM
Inst Id :P4
LB :LB135523

Sample Name: CCV06 Acquired: 4/22/2025 17:51:29 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v15) 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	4.602785	4.563126	4.657258
Stddev	.043030	.004337	.025289
%RSD	.9348728	.0950418	.5429983
#1	4.614569	4.566862	4.644621
#2	4.638695	4.564147	4.640778
#3	4.555090	4.558370	4.686375

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3139.962	71997.69	10508.57	2045.631	4699.248
Stddev	19.565	85.13	26.82	5.038	23.514
%RSD	.6231041	.1182398	.2551856	.2462812	.5003693
#1	3136.245	72013.48	10489.99	2050.882	4699.592
#2	3122.522	72073.83	10539.31	2045.173	4675.565
#3	3161.119	71905.78	10496.41	2040.838	4722.588

Reviewed By:mohan
On:4/24/2025 11:42:10 AM
Inst Id :P4
LB :LB135523

Sample Name: CCB06 Acquired: 4/22/2025 17:55:40 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v15) 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	-.002545	-.001428	-.000100	-.001069	.0011606	-.002368	-.007165
Stddev	.001104	.000650	.001707	.007534	.0007150	.003443	.000592
%RSD	43.36923	45.48126	1712.987	704.6642	61.61014	145.3900	8.261165
#1	-.003819	-.001618	-.001991	-.001136	.0009109	.001167	-.006884
#2	-.001936	-.001962	.001326	.006498	.0019669	-.002560	-.006767
#3	-.001880	-.000705	.000366	-.008569	.0006039	-.005711	-.007846

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0000281	.0000651	-.009382	-.000132	.0003440	.0002932	.0041768
Stddev	.0000046	.0000480	.006754	.000458	.0000958	.0001668	.0037989
%RSD	16.45830	73.63202	71.98692	345.8709	27.85905	56.88598	90.95182
#1	.0000230	.0000998	-.010927	.000057	.0003037	.0001465	.0000805
#2	.0000291	.0000104	-.015228	-.000654	.0004534	.0004745	.0075838
#3	.0000320	.0000853	-.001989	.000201	.0002749	.0002584	.0048661

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000562	.0029373	.0001256	.0007370	-.012714	-.000149	-.000172
Stddev	.000299	.0071164	.0001334	.0002558	.017871	.001028	.000426
%RSD	53.19058	242.2804	106.2648	34.70119	140.5675	688.9167	247.2865
#1	-.000239	.0111436	.0002104	.0007185	-.031848	.000826	-.000465
#2	-.000619	-.001533	-.000028	.0010016	.003545	-.000052	.000316
#3	-.000828	-.000799	.000195	.0004911	-.009837	-.001222	-.000368

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0707741	.0056594	.0006813	.0043259	.0006793	.0038512	.0004745
Stddev	.0077184	.0004082	.0003462	.0001039	.0005549	.0017982	.0017684
%RSD	10.90570	7.212051	50.81688	2.401638	81.68855	46.69291	372.6634
#1	.0737900	.0056853	.0010628	.0042061	.0011944	.0026883	-.001270
#2	.0765293	.0052389	.0003870	.0043913	.0000917	.0029429	.002266
#3	.0620031	.0060540	.0005941	.0043802	.0007519	.0059225	.000428

Reviewed By:mohan
On:4/24/2025 11:42:10 AM
Inst Id :P4
LB :LB135523

Sample Name: CCB06 Acquired: 4/22/2025 17:55:40 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v15) 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	.0014350	-.001311	.0001930
Stddev	.0002082	.000687	.0000722
%RSD	14.51194	52.39526	37.39018
#1	.0012331	-.002103	.0001218
#2	.0014227	-.000899	.0002661
#3	.0016491	-.000930	.0001911

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3236.062	75941.86	11333.20	2159.189	5056.458
Stddev	5.102	265.85	28.72	7.634	9.652
%RSD	.1576761	.3500765	.2534018	.3535554	.1908825
#1	3230.789	75876.23	11300.88	2156.740	5045.520
#2	3240.975	76234.38	11355.79	2167.747	5063.781
#3	3236.422	75714.96	11342.93	2153.080	5060.071

Reviewed By:mohan
On:4/24/2025 11:42:10 AM
Inst Id :P4
LB :LB135523

Sample Name: Q1850-02MS Acquired: 4/22/2025 18:00:01 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v15) 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	.8054790	1.902357	.9329911	1.989994	.8315443	2.191330	.2961232
Stddev	.0017791	.006003	.0070680	.007175	.0023836	.009501	.0011445
%RSD	.2208730	.3155348	.7575663	.3605519	.2866520	.4335668	.3864776
#1	.8036769	1.898991	.9249125	1.987056	.8291446	2.196889	.2969122
#2	.8072342	1.898793	.9380350	1.984754	.8339116	2.180360	.2948107
#3	.8055260	1.909287	.9360259	1.998171	.8315766	2.196741	.2966468

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1897451	.1914593	159.1307	.3850277	.1878906	.2840102	2.969114
Stddev	.0003660	.0004482	.0251	.0007847	.0003535	.0005596	.012409
%RSD	.1929056	.2341192	.0157841	.2038009	.1881317	.1970371	.4179282
#1	.1899471	.1910515	159.1591	.3845065	.1874976	.2838436	2.958388
#2	.1893226	.1913870	159.1114	.3846464	.1879916	.2835528	2.966250
#3	.1899657	.1919393	159.1216	.3859302	.1881826	.2846342	2.982704

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1919334	5.644061	.4654496	.0728264	273.3950	.2803641	.2021015
Stddev	.0005615	.001554	.0006997	.0002404	3.0047	.0011679	.0009047
%RSD	.2925217	.0275395	.1503281	.3300938	1.099020	.4165486	.4476652
#1	.1916503	5.643325	.4646701	.0730790	275.5766	.2813188	.2014992
#2	.1925800	5.645846	.4656551	.0727997	274.6405	.2807115	.2016634
#3	.1915698	5.643011	.4660235	.0726005	269.9678	.2790620	.2031419

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	12.14067	.3045163	.4197602	.6748415	.1990293	10.63293	6.071455
Stddev	.04954	.0020986	.0001351	.0022341	.0010141	.01100	.005923
%RSD	.4080583	.6891555	.0321937	.3310544	.5095038	.1034786	.0975495
#1	12.11429	.3043531	.4196070	.6722946	.1998705	10.63366	6.064652
#2	12.19782	.3025041	.4198625	.6757596	.1979033	10.62158	6.075469
#3	12.10990	.3066917	.4198110	.6764702	.1993141	10.64355	6.074243

Reviewed By:mohan
On:4/24/2025 11:42:10 AM
Inst Id :P4
LB :LB135523

Sample Name: Q1850-02MS Acquired: 4/22/2025 18:00:01 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v15) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	5.643728	.1691890	1.064898
Stddev	.022779	.0009368	.000650
%RSD	.4036205	.5536753	.0610340
#1	5.617934	.1688731	1.065320
#2	5.661085	.1684510	1.064149
#3	5.652164	.1702429	1.065225

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2936.687	69401.62	10277.24	1952.675	4321.685
Stddev	3.071	35.37	18.58	3.189	3.403
%RSD	.1045875	.0509611	.1807964	.1633368	.0787382
#1	2935.388	69441.72	10281.58	1954.123	4322.934
#2	2934.479	69388.26	10293.26	1954.884	4317.834
#3	2940.195	69374.87	10256.87	1949.019	4324.287

Reviewed By:mohan
On:4/24/2025 11:42:10 AM
Inst Id :P4
LB :LB135523

Sample Name: Q1850-02MSD Acquired: 4/22/2025 18:04:12 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v15) 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	.8032463	1.872952	.9140869	1.986336	.8369263	2.190297	.3062383
Stddev	.0061975	.022428	.0032694	.009493	.0032477	.009001	.0013689
%RSD	.7715505	1.197446	.3576716	.4779204	.3880506	.4109474	.4470071
#1	.8103942	1.895959	.9160488	1.995040	.8347081	2.189169	.3050093
#2	.7999702	1.871744	.9158992	1.987755	.8406540	2.181913	.3059921
#3	.7993744	1.851153	.9103127	1.976213	.8354168	2.199809	.3077137

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1719124	.1873457	170.2737	.3750151	.1835244	.2801549	3.133321
Stddev	.0010191	.0011264	.5892	.0013593	.0010711	.0015018	.011931
%RSD	.5928234	.6012222	.3460153	.3624589	.5836281	.5360751	.3807803
#1	.1729573	.1885712	170.0219	.3760733	.1845771	.2810186	3.119573
#2	.1709212	.1871103	169.8523	.3754899	.1835604	.2810255	3.139417
#3	.1718586	.1863557	170.9469	.3734821	.1824358	.2784208	3.140972

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1796394	5.799113	.4564390	.0716532	318.5238	.2724734	.1999146
Stddev	.0015202	.036335	.0020168	.0007589	1.6855	.0011584	.0009300
%RSD	.8462737	.6265538	.4418592	1.059190	.5291565	.4251234	.4651896
#1	.1795318	5.762283	.4584703	.0724972	316.6099	.2713640	.1998511
#2	.1781758	5.800127	.4564097	.0714353	319.1746	.2723811	.2008747
#3	.1812106	5.834930	.4544370	.0710270	319.7868	.2736751	.1990180

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	12.95513	.2798003	.4141345	.6723951	.2006575	12.21860	6.050469
Stddev	.05459	.0009915	.0013111	.0025413	.0042901	.01774	.025535
%RSD	.4213448	.3543447	.3165796	.3779527	2.138022	.1452204	.4220417
#1	12.92393	.2808626	.4151070	.6749572	.1990423	12.20081	6.075113
#2	12.92330	.2788995	.4146531	.6723529	.1974094	12.21868	6.052169
#3	13.01816	.2796388	.4126435	.6698751	.2055207	12.23630	6.024127

Reviewed By:mohan
On:4/24/2025 11:42:10 AM
Inst Id :P4
LB :LB135523

Sample Name: Q1850-02MSD Acquired: 4/22/2025 18:04:12 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v15) 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	6.262369	.1605682	1.143678
Stddev	.040894	.0010112	.005165
%RSD	.6530171	.6297379	.4516249
#1	6.306831	.1598540	1.142051
#2	6.253912	.1601255	1.139522
#3	6.226364	.1617253	1.149460

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2886.850	68879.32	11108.98	1936.714	4238.996
Stddev	8.965	140.84	56.91	2.938	18.462
%RSD	.3105554	.2044769	.5123329	.1517090	.4355261
#1	2881.391	68818.11	11077.93	1938.949	4222.561
#2	2881.962	69040.41	11174.67	1933.386	4235.455
#3	2897.197	68779.44	11074.34	1937.806	4258.972

Reviewed By:mohan
On:4/24/2025 11:42:10 AM
Inst Id :P4
LB :LB135523

Sample Name: Q1850-02A Acquired: 4/22/2025 18:08:23 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v15) 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	.7708309	1.814914	.8911265	1.910359	.8118699	2.143770	.3003740
Stddev	.0077222	.009171	.0014449	.005976	.0027316	.027412	.0027202
%RSD	1.001796	.5053396	.1621440	.3128157	.3364624	1.278689	.9056128
#1	.7680216	1.820038	.8895450	1.909697	.8091514	2.119139	.2994217
#2	.7795644	1.820378	.8923777	1.916638	.8146145	2.173302	.3034424
#3	.7649067	1.804325	.8914568	1.904742	.8118438	2.138870	.2982580

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1654832	.1825899	158.8081	.3683566	.1791286	.2726741	3.133632
Stddev	.0011658	.0005701	1.6238	.0004965	.0002229	.0015012	.014615
%RSD	.7044721	.3122264	1.022467	.1347977	.1244406	.5505419	.4663762
#1	.1643575	.1829692	158.0138	.3689283	.1790833	.2734032	3.140474
#2	.1666853	.1828663	160.6761	.3680333	.1793706	.2736715	3.143570
#3	.1654067	.1819343	157.7344	.3681082	.1789317	.2709476	3.116852

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2008324	5.470544	.4458371	.0703563	300.4514	.2708975	.1947418
Stddev	.0023557	.031117	.0015752	.0004883	2.7243	.0044673	.0007625
%RSD	1.172976	.5688101	.3533207	.6940091	.9067261	1.649082	.3915633
#1	.1997063	5.438900	.4464499	.0708983	301.2659	.2703128	.1956155
#2	.2035398	5.501106	.4470138	.0702197	302.6755	.2756284	.1944003
#3	.1992511	5.471626	.4440475	.0699508	297.4128	.2667514	.1942098

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	12.68819	.2676703	.4092086	.6545760	.1967932	11.38405	5.769705
Stddev	.05420	.0016799	.0012287	.0014010	.0016750	.05341	.039450
%RSD	.4271714	.6276171	.3002723	.2140299	.8511647	.4691486	.6837484
#1	12.72327	.2657450	.4102699	.6530416	.1948642	11.44005	5.798257
#2	12.71553	.2684276	.4094934	.6548994	.1978792	11.37842	5.786169
#3	12.62576	.2688383	.4078624	.6557871	.1976364	11.33368	5.724690

Reviewed By:mohan
On:4/24/2025 11:42:10 AM
Inst Id :P4
LB :LB135523

Sample Name: Q1850-02A Acquired: 4/22/2025 18:08:23 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v15) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	5.604864	.1613488	1.085044
Stddev	.002866	.0005907	.012516
%RSD	.0511348	.3660971	1.153532
#1	5.605825	.1611533	1.078536
#2	5.607125	.1620124	1.099473
#3	5.601640	.1608805	1.077122

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2955.134	70329.76	11369.26	1961.599	4363.956
Stddev	11.986	340.91	100.42	16.700	13.957
%RSD	.4056051	.4847282	.8832877	.8513659	.3198141
#1	2944.853	70096.26	11412.76	1954.507	4354.739
#2	2952.250	70172.05	11254.42	1949.616	4357.117
#3	2968.300	70720.97	11440.61	1980.676	4380.013

Reviewed By:mohan
On:4/24/2025 11:42:10 AM
Inst Id :P4
LB :LB135523

Sample Name: Q1848-01 Acquired: 4/22/2025 18:12:34 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v15) 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	.2510043	.0052482	.4712862	-.021614	-.003956	101.2673	.4542959
Stddev	.0016236	.0018983	.0005705	.007920	.002219	.1221	.0034832
%RSD	.6468502	36.17087	.1210535	36.64504	56.09793	.1205599	.7667169
#1	.2504245	.0034374	.4718967	-.015061	-.006351	101.3602	.4505868
#2	.2528383	.0072234	.4711956	-.019366	-.001970	101.1290	.4548036
#3	.2497503	.0050839	.4707665	-.030416	-.003547	101.3127	.4574974

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0084428	-.010064	111.0072	.5153007	.0815352	.6078122	280.0972
Stddev	.0000768	.000346	.3883	.0027054	.0003316	.0040155	1.6817
%RSD	.9101735	3.440178	.3498296	.5250233	.4066668	.6606462	.6004137
#1	.0085238	-.009682	110.6907	.5134449	.0819020	.6116710	278.1650
#2	.0083709	-.010149	110.8902	.5184049	.0814470	.6081091	281.2311
#3	.0084335	-.010359	111.4405	.5140522	.0812567	.6036565	280.8955

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.355829	41.28591	.1641587	.0029285	3.135608	.4052643	1.468489
Stddev	.014914	.15935	.0006728	.0002852	.049652	.0008282	.004273
%RSD	.6330860	.3859554	.4098446	9.738142	1.583504	.2043705	.2909704
#1	2.342351	41.31220	.1649203	.0026435	3.079154	.4051741	1.463656
#2	2.353285	41.11505	.1639105	.0032139	3.172500	.4044848	1.471765
#3	2.371852	41.43047	.1636453	.0029281	3.155170	.4061339	1.470045

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	11.59047	-.247027	.0051661	.0657482	1.528481	4.213382	5.342232
Stddev	.09981	.008943	.0002131	.0019103	.009527	.025427	.015651
%RSD	.8611223	3.620260	4.124736	2.905410	.6233189	.6034766	.2929673
#1	11.51409	-.250981	.0053718	.0673752	1.519473	4.193670	5.356729
#2	11.70340	-.236788	.0049463	.0662246	1.527517	4.242082	5.325639
#3	11.55392	-.253311	.0051803	.0636449	1.538454	4.204394	5.344329

Reviewed By:mohan
On:4/24/2025 11:42:10 AM
Inst Id :P4
LB :LB135523

Sample Name: Q1848-01 Acquired: 4/22/2025 18:12:34 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v15) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	3.897445	.2064180	.4492218
Stddev	.007320	.0011671	.0023601
%RSD	.1878245	.5653860	.5253738
#1	3.899827	.2055249	.4466851
#2	3.889231	.2059906	.4496277
#3	3.903278	.2077385	.4513526

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3296.741	75951.01	12528.82	2198.252	4505.841
Stddev	7.221	18.79	71.41	2.434	9.846
%RSD	.2190459	.0247386	.5699766	.1107309	.2185122
#1	3290.104	75930.54	12498.28	2196.875	4494.483
#2	3295.687	75967.47	12610.42	2201.062	4511.953
#3	3304.431	75955.02	12477.76	2196.819	4511.085

Reviewed By:mohan
On:4/24/2025 11:42:10 AM
Inst Id :P4
LB :LB135523

Sample Name: Q1848-01DUP Acquired: 4/22/2025 18:16:41 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v15) 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	.2381292	.0057597	.4174391	-.020517	-.000635	110.0698	.5082814
Stddev	.0035233	.0037113	.0013721	.004542	.001092	.1644	.0030440
%RSD	1.479576	64.43652	.3286833	22.13796	172.0148	.1493248	.5988738
#1	.2376270	.0099211	.4189487	-.015616	-.001566	110.1754	.5117963
#2	.2348840	.0027924	.4171009	-.021352	-.000906	110.1536	.5065212
#3	.2418767	.0045656	.4162678	-.024584	.000567	109.8805	.5065267

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0068483	-.006913	123.2002	.4167583	.0821804	.4480391	230.9376
Stddev	.0000488	.000104	.3872	.0009933	.0005208	.0013404	1.2420
%RSD	.7130484	1.508265	.3143103	.2383486	.6337722	.2991653	.5378046
#1	.0068695	-.006933	123.6239	.4168426	.0819274	.4473027	231.9226
#2	.0068828	-.006800	123.1121	.4177068	.0827795	.4495863	231.3479
#3	.0067924	-.007005	122.8646	.4157255	.0818344	.4472285	229.5424

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.674289	50.75483	.1577040	.0015489	8.626813	.3165848	1.496412
Stddev	.012526	.22515	.0011285	.0005984	.052817	.0008613	.003875
%RSD	.4684019	.4436092	.7155741	38.63398	.6122445	.2720702	.2589333
#1	2.687436	50.98549	.1573349	.0022370	8.658163	.3156304	1.494155
#2	2.672938	50.53562	.1589709	.0012602	8.656442	.3168196	1.500886
#3	2.662493	50.74338	.1568063	.0011497	8.565833	.3173044	1.494195

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	11.35098	-.249618	.0059077	.0184544	1.682731	4.464841	4.333374
Stddev	.10947	.002061	.0003503	.0008566	.006955	.034379	.026703
%RSD	.9644133	.8258441	5.928799	4.641850	.4132871	.7699888	.6162208
#1	11.42413	-.249089	.0062210	.0184975	1.688863	4.472552	4.337168
#2	11.40367	-.247872	.0055295	.0192886	1.684157	4.494709	4.357978
#3	11.22513	-.251892	.0059727	.0175770	1.675175	4.427262	4.304978

Reviewed By:mohan
On:4/24/2025 11:42:10 AM
Inst Id :P4
LB :LB135523

Sample Name: Q1848-01DUP Acquired: 4/22/2025 18:16:41 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v15) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	5.026473	.1890103	.4624581
Stddev	.031298	.0011125	.0014089
%RSD	.6226722	.5885803	.3046480
#1	5.046326	.1902672	.4636484
#2	5.042701	.1886116	.4628233
#3	4.990393	.1881522	.4609026

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3246.149	76028.83	12086.44	2192.352	4433.268
Stddev	4.216	305.08	47.41	8.197	13.111
%RSD	.1298857	.4012655	.3922610	.3738856	.2957392
#1	3242.537	75816.53	12031.73	2186.929	4427.180
#2	3245.126	75891.52	12112.10	2188.345	4424.308
#3	3250.782	76378.43	12115.49	2201.781	4448.316

Reviewed By:mohan
On:4/24/2025 11:42:10 AM
Inst Id :P4
LB :LB135523

Sample Name: Q1848-01LX5 Acquired: 4/22/2025 18:20:47 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v15) 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	.0526046	-.002493	.0923011	.0016380	-.002195	21.06593	.0869939
Stddev	.0028045	.001865	.0015367	.0064263	.001000	.07282	.0013623
%RSD	5.331279	74.82718	1.664848	392.3182	45.53821	.3456660	1.566010
#1	.0547846	-.000570	.0937636	-.005712	-.001327	21.02399	.0880885
#2	.0535886	-.004295	.0924399	.006199	-.001971	21.15002	.0874249
#3	.0494407	-.002613	.0906997	.004427	-.003288	21.02379	.0854681

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0019597	-.002409	23.41010	.1082050	.0157497	.1362514	53.53492
Stddev	.0000378	.000065	.06510	.0005591	.0000727	.0005537	.07361
%RSD	1.926706	2.715772	.2780998	.5166749	.4616872	.4063621	.1375066
#1	.0019614	-.002390	23.38999	.1083147	.0157319	.1368775	53.47751
#2	.0019211	-.002356	23.48289	.1087012	.0158296	.1360503	53.50932
#3	.0019966	-.002482	23.35742	.1075993	.0156874	.1358264	53.61791

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.5056969	8.820862	.0319541	.0004434	.5310356	.0848127	.3102411
Stddev	.0013899	.042233	.0003999	.0002454	.0112200	.0011069	.0005452
%RSD	.2748438	.4787833	1.251395	55.35674	2.112849	1.305077	.1757487
#1	.5046689	8.787129	.0316179	.0003165	.5180808	.0856514	.3096508
#2	.5072782	8.868227	.0318481	.0002873	.5373808	.0835581	.3103468
#3	.5051436	8.807230	.0323963	.0007263	.5376453	.0852286	.3107258

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.171790	-.080000	.0011692	.0143712	.3196482	.7973712	1.030062
Stddev	.013596	.001975	.0003096	.0005481	.0023999	.0070389	.004981
%RSD	.6260176	2.468954	26.47964	3.813637	.7508062	.8827655	.4836111
#1	2.159836	-.079129	.0009607	.0137575	.3169101	.7948021	1.035519
#2	2.168953	-.082261	.0015249	.0148120	.3213869	.7919777	1.025759
#3	2.186580	-.078610	.0010220	.0145441	.3206476	.8053337	1.028908

Reviewed By:mohan
On:4/24/2025 11:42:10 AM
Inst Id :P4
LB :LB135523

Sample Name: Q1848-01LX5 Acquired: 4/22/2025 18:20:47 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v15) 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	.7392723	.0388635	.0908256
Stddev	.0066869	.0012099	.0001410
%RSD	.9045299	3.113284	.1552742
#1	.7468229	.0381891	.0909882
#2	.7340984	.0381411	.0907358
#3	.7368956	.0402603	.0907528

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3254.189	73819.00	10853.51	2149.406	4869.074
Stddev	13.449	296.50	72.97	8.390	18.128
%RSD	.4132930	.4016551	.6723385	.3903481	.3723147
#1	3245.685	73752.36	10849.08	2143.558	4856.039
#2	3247.187	73561.49	10782.85	2145.642	4861.407
#3	3269.695	74143.15	10928.59	2159.019	4889.776

Reviewed By:mohan
On:4/24/2025 11:42:10 AM
Inst Id :P4
LB :LB135523

Sample Name: Q1848-01MS Acquired: 4/22/2025 18:25:00 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v15) 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	.9146908	1.796495	1.308978	1.602314	.3378489	126.5476	.6577282
Stddev	.0103591	.023682	.006372	.011639	.0053440	.1780	.0030744
%RSD	1.132523	1.318207	.4867881	.7263610	1.581766	.1406525	.4674295
#1	.9151771	1.818584	1.310834	1.610525	.3430090	126.7411	.6610197
#2	.9247982	1.799411	1.314216	1.607422	.3381994	126.3909	.6572341
#3	.9040972	1.771491	1.301884	1.588995	.3323383	126.5106	.6549307

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1731457	.1708732	108.9864	.8051468	.2582406	.6621036	235.1513
Stddev	.0007999	.0009629	.2330	.0028243	.0004624	.0041236	.7866
%RSD	.4620065	.5634914	.2137946	.3507780	.1790488	.6228056	.3344906
#1	.1738536	.1713700	109.2159	.8036839	.2586240	.6635865	235.3480
#2	.1733057	.1714863	108.9933	.8033541	.2583707	.6652807	234.2851
#3	.1722779	.1697635	108.7501	.8084024	.2577271	.6574436	235.8209

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.763421	50.73867	.5906504	.0648350	5.270835	.6154295	1.668460
Stddev	.012915	.18207	.0029661	.0000634	.025445	.0010648	.004477
%RSD	.4673679	.3588316	.5021758	.0977564	.4827475	.1730150	.2683402
#1	2.777377	50.84583	.5923127	.0649003	5.294347	.6165588	1.670876
#2	2.760994	50.52845	.5924126	.0648308	5.243821	.6144438	1.671211
#3	2.751891	50.84173	.5872259	.0647738	5.274338	.6152859	1.663294

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	20.24234	-.133006	.3416165	.6203871	1.873112	7.125630	9.911784
Stddev	.09629	.007786	.0008025	.0035705	.002328	.115155	.045781
%RSD	.4756825	5.854166	.2349233	.5755331	.1242746	1.616072	.4618842
#1	20.34461	-.138391	.3422665	.6229518	1.871242	7.044636	9.937648
#2	20.15343	-.136547	.3418634	.6219004	1.875719	7.257454	9.938779
#3	20.22898	-.124078	.3407194	.6163091	1.872374	7.074799	9.858925

Reviewed By:mohan
On:4/24/2025 11:42:10 AM
Inst Id :P4
LB :LB135523

Sample Name: Q1848-01MS Acquired: 4/22/2025 18:25:00 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v15) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	2.866782	.3753046	.5669203
Stddev	.017836	.0015461	.0020622
%RSD	.6221772	.4119689	.3637475
#1	2.880786	.3767328	.5692336
#2	2.872860	.3736628	.5662524
#3	2.846701	.3755183	.5652748

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3269.518	75404.79	11391.09	2173.214	4456.019
Stddev	9.995	137.19	28.00	4.021	16.085
%RSD	.3057023	.1819442	.2458100	.1850428	.3609778
#1	3264.175	75427.41	11365.46	2168.880	4449.347
#2	3263.330	75529.27	11386.85	2176.825	4444.343
#3	3281.049	75257.70	11420.97	2173.938	4474.366

Reviewed By:mohan
On:4/24/2025 11:42:10 AM
Inst Id :P4
LB :LB135523

Sample Name: Q1848-01MSD Acquired: 4/22/2025 18:29:02 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v15) 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	.8857442	1.814847	1.327973	1.584713	.3370762	144.1814	.6934289
Stddev	.0008580	.008654	.008540	.012648	.0041323	.5976	.0023321
%RSD	.0968620	.4768307	.6430717	.7981244	1.225919	.4145024	.3363107
#1	.8865177	1.813308	1.324208	1.575260	.3394594	143.7064	.6912050
#2	.8848214	1.807066	1.321962	1.579797	.3323047	143.9855	.6932257
#3	.8858935	1.824167	1.337748	1.599080	.3394646	144.8524	.6958559

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1657226	.1739719	84.94939	.7987349	.2686696	.7090635	272.8026
Stddev	.0004209	.0015802	.26267	.0047046	.0018310	.0064784	1.4432
%RSD	.2539648	.9082874	.3092055	.5890075	.6814995	.9136595	.5290222
#1	.1652633	.1739031	84.72428	.7935381	.2683722	.7079579	271.9104
#2	.1658149	.1724272	84.88591	.8027037	.2670054	.7032091	274.4676
#3	.1660897	.1755853	85.23798	.7999630	.2706310	.7160236	272.0298

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.778922	43.68267	.6261750	.0640766	6.598740	.6590760	1.677444
Stddev	.009507	.10911	.0029074	.0004226	.034341	.0009081	.012013
%RSD	.3421128	.2497684	.4643061	.6594638	.5204123	.1377824	.7161548
#1	2.768936	43.69102	.6263886	.0637317	6.572320	.6586705	1.671779
#2	2.779967	43.56964	.6231667	.0645480	6.637558	.6584412	1.691242
#3	2.787863	43.78737	.6289696	.0639501	6.586342	.6601162	1.669311

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	22.70475	-.160078	.3461323	.6257972	1.920394	5.195447	10.90803
Stddev	.16252	.005261	.0021165	.0025350	.012098	.010895	.07503
%RSD	.7157878	3.286524	.6114608	.4050825	.6299493	.2096936	.6878382
#1	22.60615	-.160422	.3447061	.6241347	1.906447	5.183861	10.87207
#2	22.89233	-.154654	.3451267	.6245420	1.926678	5.196996	10.85776
#3	22.61578	-.165159	.3485641	.6287149	1.928056	5.205485	10.99428

Reviewed By:mohan
On:4/24/2025 11:42:10 AM
Inst Id :P4
LB :LB135523

Sample Name: Q1848-01MSD Acquired: 4/22/2025 18:29:02 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v15) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	3.015592	.4173658	.5819389
Stddev	.017920	.0006735	.0018834
%RSD	.5942575	.1613631	.3236407
#1	3.014769	.4166216	.5799425
#2	2.998098	.4179333	.5821900
#3	3.033910	.4175426	.5836841

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3339.282	79022.75	12102.88	2252.683	4459.799
Stddev	15.711	439.81	39.98	17.491	18.612
%RSD	.4704810	.5565596	.3303014	.7764559	.4173317
#1	3346.430	79397.02	12135.02	2266.522	4467.607
#2	3350.148	78538.34	12115.51	2233.024	4473.235
#3	3321.268	79132.89	12058.12	2258.503	4438.555

Reviewed By:mohan
On:4/24/2025 11:42:10 AM
Inst Id :P4
LB :LB135523

Sample Name: Q1848-01A Acquired: 4/22/2025 18:33:03 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v15) 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	.8912963	1.795979	1.308803	1.574110	.3318042	132.7603	.6752202
Stddev	.0038756	.004427	.002669	.008326	.0022722	.2798	.0017225
%RSD	.4348302	.2465167	.2038934	.5289609	.6847951	.2107540	.2550960
#1	.8886536	1.791515	1.309741	1.565666	.3343273	132.4373	.6732350
#2	.8957453	1.800369	1.310876	1.582313	.3311658	132.9175	.6761076
#3	.8894899	1.796055	1.305792	1.574352	.3299195	132.9262	.6763181

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1658947	.1692556	97.96380	.8051134	.2611616	.6701866	260.8188
Stddev	.0005485	.0012469	.25167	.0017981	.0017104	.0044958	1.9216
%RSD	.3306305	.7366929	.2569031	.2233375	.6549111	.6708278	.7367580
#1	.1663508	.1700796	98.14846	.8070684	.2614585	.6722593	259.4170
#2	.1660471	.1698661	98.06579	.8035303	.2627040	.6732722	260.0301
#3	.1652861	.1678211	97.67714	.8047417	.2593222	.6650284	263.0093

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.754734	47.28240	.6027012	.0654766	5.974703	.6298324	1.685331
Stddev	.003230	.17767	.0030007	.0002928	.042268	.0017169	.006485
%RSD	.1172705	.3757618	.4978709	.4471849	.7074515	.2725924	.3848189
#1	2.752279	47.41498	.6054554	.0654434	5.935566	.6279148	1.692514
#2	2.753530	47.35169	.6031448	.0652019	5.969017	.6312269	1.683574
#3	2.758394	47.08053	.5995034	.0657846	6.019527	.6303553	1.679905

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	21.85236	-.095780	.3419908	.6182455	1.861893	5.569282	10.29287
Stddev	.13653	.007358	.0011076	.0030101	.004611	.059084	.03235
%RSD	.6247675	7.682511	.3238629	.4868714	.2476716	1.060893	.3142517
#1	21.72188	-.101503	.3429261	.6193071	1.861450	5.577620	10.30125
#2	21.84099	-.098357	.3422785	.6205809	1.857519	5.623753	10.32020
#3	21.99422	-.087480	.3407677	.6148485	1.866710	5.506471	10.25716

Reviewed By:mohan
On:4/24/2025 11:42:10 AM
Inst Id :P4
LB :LB135523

Sample Name: Q1848-01A Acquired: 4/22/2025 18:33:03 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v15) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	2.880269	.3930028	.5730053
Stddev	.018825	.0022685	.0020796
%RSD	.6536014	.5772304	.3629250
#1	2.874134	.3908557	.5709505
#2	2.901396	.3927768	.5729565
#3	2.865276	.3953759	.5751088

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3348.129	76278.86	12069.68	2209.944	4512.940
Stddev	14.777	133.46	34.17	6.913	23.377
%RSD	.4413622	.1749573	.2830762	.3128284	.5180071
#1	3338.953	76342.76	12056.16	2202.218	4500.475
#2	3340.258	76368.35	12044.34	2215.546	4498.437
#3	3365.176	76125.47	12108.54	2212.068	4539.908

Reviewed By:mohan
On:4/24/2025 11:42:10 AM
Inst Id :P4
LB :LB135523

Sample Name: Q1848-03 Acquired: 4/22/2025 18:37:04 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v15) 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	.2884049	.0054606	.4470982	-.036404	-.004471	164.0737	1.044491
Stddev	.0035016	.0024219	.0075809	.008572	.002885	.0952	.001518
%RSD	1.214144	44.35238	1.695580	23.54598	64.52091	.0580412	.1453023
#1	.2924291	.0028184	.4547708	-.042303	-.006124	164.0882	1.044092
#2	.2860517	.0075753	.4469113	-.040338	-.001140	164.1609	1.046168
#3	.2867340	.0059881	.4396124	-.026572	-.006149	163.9721	1.043212

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0099243	-.004249	306.1853	.5223065	.1196516	.4467488	272.9959
Stddev	.0000355	.000272	1.4741	.0006034	.0007654	.0039924	.5049
%RSD	.3576991	6.401804	.4814511	.1155303	.6397126	.8936610	.1849342
#1	.0099394	-.003942	304.6498	.5216960	.1205354	.4508240	272.4332
#2	.0098837	-.004345	307.5892	.5229026	.1192028	.4465776	273.1454
#3	.0099498	-.004459	306.3170	.5223210	.1192166	.4428447	273.4092

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	5.652978	98.48412	.2135903	.0014098	9.844489	.3673097	1.611769
Stddev	.014918	.16397	.0001569	.0003092	.067056	.0008726	.003132
%RSD	.2638963	.1664922	.0734791	21.93003	.6811562	.2375791	.1943311
#1	5.669046	98.66497	.2136604	.0011219	9.770210	.3670268	1.608208
#2	5.650321	98.44224	.2137000	.0013711	9.862693	.3682888	1.613001
#3	5.639568	98.34515	.2134105	.0017366	9.900564	.3666137	1.614098

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	23.89168	-.222825	.0077857	.0157158	3.138883	7.714964	5.053322
Stddev	.05726	.004087	.0002827	.0013218	.011373	.039394	.023022
%RSD	.2396733	1.834075	3.631212	8.410862	.3623125	.5106188	.4555865
#1	23.82986	-.223576	.0075723	.0171584	3.142430	7.671794	5.079014
#2	23.90228	-.226485	.0081064	.0145628	3.148059	7.748966	5.046390
#3	23.94291	-.218415	.0076785	.0154261	3.126159	7.724130	5.034563

Reviewed By:mohan
On:4/24/2025 11:42:10 AM
Inst Id :P4
LB :LB135523

Sample Name: Q1848-03 Acquired: 4/22/2025 18:37:04 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v15) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	9.039669	.2571973	1.473838
Stddev	.026757	.0014645	.003724
%RSD	.2959991	.5693892	.2526559
#1	9.058878	.2556065	1.475153
#2	9.051022	.2584894	1.476725
#3	9.009107	.2574960	1.469635

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3363.906	76778.57	12731.87	2206.075	4244.592
Stddev	13.236	159.13	49.72	3.927	8.376
%RSD	.3934789	.2072576	.3905207	.1780224	.1973408
#1	3349.773	76889.98	12708.03	2210.601	4235.112
#2	3365.935	76596.32	12698.56	2204.060	4247.672
#3	3376.011	76849.40	12789.03	2203.564	4250.993

Reviewed By:mohan
On:4/24/2025 11:42:10 AM
Inst Id :P4
LB :LB135523

Sample Name: CCV07 Acquired: 4/22/2025 18:56:43 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v15) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCV07 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	5.001829	5.051581	4.918971	5.037543	5.050879	9.854069	9.402778
Stddev	.007001	.002207	.017976	.019236	.015334	.027891	.068767
%RSD	.1399759	.0436851	.3654418	.3818608	.3036004	.2830373	.7313429
#1	5.009357	5.050772	4.934843	5.032665	5.066149	9.822775	9.398177
#2	5.000618	5.054078	4.922619	5.058749	5.051007	9.863127	9.473729
#3	4.995512	5.049892	4.899451	5.021216	5.035481	9.876305	9.336427

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2586835	2.435205	23.96753	1.010521	2.449050	1.256199	4.718576
Stddev	.0006136	.010063	.06846	.002010	.014219	.004118	.015712
%RSD	.2371946	.4132400	.2856500	.1988598	.5805889	.3277887	.3329908
#1	.2580744	2.443446	23.89566	1.012505	2.461859	1.259308	4.720951
#2	.2593015	2.438179	23.97494	1.010571	2.451542	1.257760	4.701811
#3	.2586745	2.423990	24.03198	1.008487	2.433750	1.251529	4.732965

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.378036	24.31176	2.448565	1.260493	22.74717	2.411232	2.511121
Stddev	.008261	.06845	.014779	.000232	.01978	.003390	.003099
%RSD	.3473968	.2815519	.6035597	.0183881	.0869718	.1405820	.1234031
#1	2.370132	24.23296	2.460838	1.260451	22.72607	2.407886	2.514393
#2	2.377363	24.35644	2.452696	1.260743	22.75012	2.411147	2.508231
#3	2.386614	24.34588	2.432160	1.260285	22.76531	2.414664	2.510740

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	23.40259	5.150623	5.020060	4.909833	4.807724	4.971407	4.984719
Stddev	.09312	.016387	.012472	.015636	.017994	.006937	.011836
%RSD	.3978845	.3181508	.2484522	.3184644	.3742765	.1395413	.2374413
#1	23.43787	5.134739	5.030252	4.921218	4.786971	4.970367	4.991625
#2	23.29699	5.167470	5.023777	4.916276	4.817214	4.965049	4.991479
#3	23.47291	5.149659	5.006152	4.892005	4.818986	4.978806	4.971052

Reviewed By:mohan
On:4/24/2025 11:42:10 AM
Inst Id :P4
LB :LB135523

Sample Name: CCV07 Acquired: 4/22/2025 18:56:43 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v15) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCV07 Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	4.898922	4.727399	4.802128
Stddev	.018075	.018013	.058173
%RSD	.3689496	.3810251	1.211401
#1	4.909400	4.706929	4.735482
#2	4.909315	4.740826	4.828181
#3	4.878051	4.734442	4.842720

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3179.465	73321.73	10405.00	2128.163	4677.319
Stddev	12.705	99.22	30.80	6.767	25.039
%RSD	.3995825	.1353255	.2960309	.3179608	.5353260
#1	3167.422	73258.61	10440.10	2133.049	4653.385
#2	3178.230	73436.10	10392.44	2131.000	4675.240
#3	3192.741	73270.47	10382.46	2120.440	4703.333

Reviewed By:mohan
On:4/24/2025 11:42:10 AM
Inst Id :P4
LB :LB135523

Sample Name: CCB07 Acquired: 4/22/2025 19:00:54 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v15) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCB07 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.001373	-.001072	.0000378	.0048804	.0013013	-.001222	-.006003
Stddev	.001356	.001116	.0012979	.0042147	.0022357	.003292	.000796
%RSD	98.73571	104.1414	3432.333	86.35896	171.8020	269.3252	13.25594
#1	-.002868	-.001656	.0015244	.0077840	-.000172	-.004904	-.005142
#2	-.001028	-.001774	-.000541	.0000462	.003874	.001440	-.006158
#3	-.000223	.000215	-.000870	.0068111	.000202	-.000204	-.006711

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0000147	.0000394	.0018744	-.000162	-.000068	.0005914	-.000132
Stddev	.0000308	.0000246	.0033326	.000309	.000074	.0002609	.003342
%RSD	210.6073	62.44986	177.7930	190.7325	108.7568	44.11175	2534.006
#1	.0000392	.0000494	.0055634	-.000506	-.000144	.0005706	.001424
#2	.0000247	.0000114	.0009784	-.000068	.000002	.0003415	.002148
#3	-.000020	.0000575	-.000919	.000089	-.000061	.0008620	-.003968

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000206	.0081264	-.000090	.0005109	-.098403	.0002875	-.000124
Stddev	.000226	.0076860	.000161	.0002357	.001908	.0005135	.000175
%RSD	109.5926	94.58150	178.7335	46.13098	1.938705	178.6021	141.0329
#1	-.000086	.0017184	-.000182	.0007048	-.097538	.0000923	-.000221
#2	-.000066	.0060126	.000096	.0002486	-.100590	-.000100	-.000230
#3	-.000467	.0166481	-.000184	.0005793	-.097081	.000870	.000078

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0114226	.0108427	.0008564	.0047858	.0014482	.0080078	.0033209
Stddev	.0085689	.0005811	.0002944	.0002679	.0001546	.0084804	.0025586
%RSD	75.01754	5.359289	34.37884	5.598137	10.67415	105.9017	77.04554
#1	.0212732	.0112678	.0010904	.0044913	.0015863	.0172292	.0053291
#2	.0073032	.0110797	.0005258	.0048509	.0014770	.0062503	.0041935
#3	.0056913	.0101805	.0009530	.0050152	.0012812	.0005439	.0004401

Reviewed By:mohan
On:4/24/2025 11:42:10 AM
Inst Id :P4
LB :LB135523

Sample Name: CCB07 Acquired: 4/22/2025 19:00:54 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v15) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCB07 Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	.0002558	-.004060	.0003039
Stddev	.0023800	.000256	.0000434
%RSD	930.3650	6.297653	14.29510
#1	.0018110	-.004270	.0002668
#2	-.002484	-.003775	.0002932
#3	.001441	-.004134	.0003517

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3350.122	75971.24	11666.26	2217.327	5156.661
Stddev	9.261	542.28	78.31	26.453	6.372
%RSD	.2764295	.7138029	.6712637	1.193004	.1235629
#1	3340.587	75433.36	11583.57	2187.121	5152.163
#2	3350.697	76517.83	11739.29	2236.360	5153.867
#3	3359.082	75962.53	11675.91	2228.500	5163.952

Reviewed By:mohan
On:4/24/2025 11:42:10 AM
Inst Id :P4
LB :LB135523

Sample Name: Q1848-05 Acquired: 4/22/2025 19:05:14 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v15) 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	.2294558	.0015302	.6016948	-.039699	-.003470	132.8802
Stddev	.0053462	.0043658	.0034356	.007042	.003674	.1920
%RSD	2.329928	285.3008	.5709867	17.73806	105.8857	.1445175
#1	.2353144	.0000706	.6048770	-.040530	-.007429	132.6592
#2	.2282113	.0064389	.6021552	-.032279	-.000171	133.0058
#3	.2248416	-.001919	.5980522	-.046289	-.002808	132.9757

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.7360255	.0088650	-.003527	468.6594	.5739971	.1044433
Stddev	.0026783	.0000598	.000088	2.0780	.0029987	.0009640
%RSD	.3638921	.6741973	2.501168	.4433935	.5224210	.9230217
#1	.7333100	.0088075	-.003429	467.9162	.5761260	.1042699
#2	.7386651	.0089268	-.003599	471.0068	.5705678	.1054823
#3	.7361015	.0088609	-.003554	467.0551	.5752977	.1035777

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.5477992	250.9034	4.146040	134.0021	.2020708	-.000794
Stddev	.0028148	.5865	.008554	.1431	.0007845	.000545
%RSD	.5138381	.2337578	.2063064	.1068218	.3882129	68.57053
#1	.5506040	250.9328	4.140165	133.9874	.2029746	-.000251
#2	.5478190	251.4746	4.155854	133.8669	.2015675	-.001340
#3	.5449745	250.3027	4.142102	134.1520	.2016702	-.000792

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	7.953476	.3636537	1.983160	22.47181	-.207789	.0110574
Stddev	.060569	.0005839	.004961	.09872	.003285	.0001770
%RSD	.7615434	.1605679	.2501622	.4393250	1.581001	1.600341
#1	7.927092	.3642431	1.979461	22.42437	-.206368	.0110391
#2	8.022762	.3630754	1.981222	22.58530	-.205454	.0112428
#3	7.910574	.3636425	1.988798	22.40577	-.211546	.0108903

Reviewed By:mohan
On:4/24/2025 11:42:10 AM
Inst Id :P4
LB :LB135523

Sample Name: Q1848-05 Acquired: 4/22/2025 19:05:14 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v15) 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	.0259723	2.838006	F 13.88996	6.147363	14.30609	.1956076
Stddev	.0009734	.009071	.04452	.016958	.04895	.0010728
%RSD	3.747771	.3196338	.3204951	.2758511	.3421458	.5484448
#1	.0270599	2.827748	13.83922	6.141012	14.30886	.1944133
#2	.0251828	2.844967	13.90819	6.166579	14.35359	.1964895
#3	.0256743	2.841305	13.92246	6.134497	14.25582	.1959201

Elem	Sr4077
Units	ppm
Avg	1.902233
Stddev	.004691
%RSD	.2465970
#1	1.896908
#2	1.905755
#3	1.904035

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3179.806	74597.36	12049.90	2157.079	4110.328
Stddev	8.664	224.68	16.25	1.937	13.538
%RSD	.2724780	.3011891	.1348620	.0897919	.3293747
#1	3173.108	74419.88	12035.90	2154.954	4099.973
#2	3176.720	74522.22	12046.08	2157.534	4105.364
#3	3189.591	74849.98	12067.72	2158.747	4125.648

Reviewed By:mohan
On:4/24/2025 11:42:10 AM
Inst Id :P4
LB :LB135523

Sample Name: PB167691BL Acquired: 4/22/2025 19:09:36 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v15) 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	-.002579	-.003072	-.000192	.0040073	.0005123	-.002401	-.005729
Stddev	.003272	.001611	.000867	.0037687	.0022275	.004496	.000203
%RSD	126.8590	52.43833	452.4230	94.04638	434.8094	187.2636	3.539290
#1	-.005509	-.002329	.000389	-.000263	.0003125	.001360	-.005734
#2	.000951	-.004920	-.001188	.006868	.0028329	-.007380	-.005524
#3	-.003180	-.001966	.000224	.005417	-.001609	-.001181	-.005929

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0000151	-.000038	.0000823	-.000261	-.000431	-.000068	.0125176
Stddev	.0000196	.000109	.0116340	.000401	.000292	.000565	.0051111
%RSD	129.8139	287.2047	14132.40	153.6912	67.70647	825.1338	40.83165
#1	.0000012	-.000131	-.012834	-.000421	-.000680	.000547	.0092430
#2	.0000066	.000082	.009737	.000195	-.000110	-.000189	.0099026
#3	.0000375	-.000066	.003344	-.000557	-.000504	-.000563	.0184071

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0002841	-.003498	-.000081	.0004328	-.104386	-.001609	-.000738
Stddev	.0001578	.009305	.000132	.0001308	.008245	.000703	.000528
%RSD	55.55354	265.9987	162.0889	30.21104	7.898919	43.71517	71.47361
#1	.0002722	.005677	.000071	.0004700	-.113634	-.001751	-.000240
#2	.0004475	-.003244	-.000156	.0002875	-.097802	-.002230	-.000683
#3	.0001326	-.012927	-.000158	.0005409	-.101723	-.000845	-.001291

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0247067	.0037561	.0002858	.0044107	.0007470	.0060228	.0041549
Stddev	.0397597	.0000484	.0003988	.0005213	.0003125	.0108248	.0014560
%RSD	160.9269	1.289968	139.5049	11.81919	41.83904	179.7312	35.04248
#1	.0075753	.0038114	-.000133	.0044004	.0004816	-.003457	.0024737
#2	.0701603	.0037214	.000330	.0038946	.0006678	.017818	.0049955
#3	-.003616	.0037354	.000661	.0049371	.0010915	.003708	.0049955

Reviewed By:mohan
On:4/24/2025 11:42:10 AM
Inst Id :P4
LB :LB135523

Sample Name: PB167691BL Acquired: 4/22/2025 19:09:36 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v15) 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	.0016194	-.003665	.0000308
Stddev	.0010942	.000347	.0000507
%RSD	67.56885	9.468092	164.6817
#1	.0021289	-.003693	.0000892
#2	.0023659	-.003998	.0000030
#3	.0003634	-.003306	.0000000

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3326.471	78404.21	11988.93	2250.134	5100.062
Stddev	3.860	288.44	63.04	1.812	1.541
%RSD	.1160451	.3678828	.5258539	.0805112	.0302072
#1	3330.201	78195.78	11916.31	2248.948	5101.279
#2	3322.492	78283.44	12029.61	2252.219	5098.330
#3	3326.719	78733.40	12020.87	2249.235	5100.578

Reviewed By:mohan
On:4/24/2025 11:42:10 AM
Inst Id :P4
LB :LB135523

Sample Name: PB167691BS Acquired: 4/22/2025 19:13:58 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v15) 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	.7478966	1.936916	.9132124	1.889054	.7666086	1.728713
Stddev	.0077415	.038092	.0138275	.028137	.0100219	.002892
%RSD	1.035109	1.966625	1.514157	1.489462	1.307304	.1673082
#1	.7550871	1.979411	.9288438	1.918295	.7778634	1.725469
#2	.7489006	1.925497	.9082155	1.886696	.7633128	1.731023
#3	.7397020	1.905839	.9025780	1.862170	.7586496	1.729647

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1819834	.1742886	.1851060	.8817270	.3682665	.1789329
Stddev	.0008519	.0009793	.0028590	.0057882	.0004581	.0027666
%RSD	.4681405	.5618711	1.544531	.6564609	.1243822	1.546162
#1	.1817112	.1732855	.1883950	.8762039	.3678182	.1820985
#2	.1829381	.1752422	.1837082	.8812291	.3687337	.1777221
#3	.1813008	.1743380	.1832149	.8877481	.3682475	.1769782

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2819491	2.677108	.1751265	1.702660	.4505438	.0678210
Stddev	.0039022	.006700	.0005640	.019464	.0064227	.0002336
%RSD	1.384020	.2502725	.3220831	1.143126	1.425546	.3443989
#1	.2864494	2.684447	.1746587	1.680464	.4578285	.0680897
#2	.2798940	2.671319	.1757529	1.716816	.4481060	.0677068
#3	.2795040	2.675557	.1749679	1.710699	.4456968	.0676666

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.557623	.2594854	.1845853	8.560025	.2583619	.3863379
Stddev	.008216	.0005984	.0009343	.037894	.0012330	.0055734
%RSD	.3212326	.2306044	.5061575	.4426855	.4772298	1.442616
#1	2.561222	.2589152	.1842649	8.591004	.2579421	.3926467
#2	2.548222	.2594326	.1856376	8.571298	.2597500	.3842843
#3	2.563426	.2601084	.1838533	8.517774	.2573936	.3820828

Reviewed By:mohan
On:4/24/2025 11:42:10 AM
Inst Id :P4
LB :LB135523

Sample Name: PB167691BS Acquired: 4/22/2025 19:13:58 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v15) 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	.6478171	.1790582	F .6384827	5.412367	F -.010183	.1748023
Stddev	.0102918	.0012500	.0102849	.080552	.004375	.0001979
%RSD	1.588682	.6981184	1.610840	1.488295	42.96497	.1132163
#1	.6592606	.1779155	.6486008	5.503639	-.012825	.1749152
#2	.6448715	.1803933	.6388087	5.382247	-.005133	.1749179
#3	.6393194	.1788657	.6280387	5.351215	-.012592	.1745738

Elem	Sr4077
Units	ppm
Avg	.1770662
Stddev	.0001649
%RSD	.0931518
#1	.1768929
#2	.1770845
#3	.1772213

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3304.699	77928.80	11565.69	2241.872	5022.341
Stddev	36.847	71.23	49.84	5.082	64.771
%RSD	1.114976	.0914068	.4309429	.2266988	1.289662
#1	3263.940	77963.42	11620.98	2237.001	4949.290
#2	3314.510	77846.87	11524.23	2241.472	5044.973
#3	3335.648	77976.10	11551.85	2247.142	5072.759

Reviewed By:mohan
On:4/24/2025 11:42:10 AM
Inst Id :P4
LB :LB135523

Sample Name: Q1841-03 Acquired: 4/22/2025 19:18:01 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v15) 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	.0072968	-.000952	.2015449	-.005156	.0076369	7.792479
Stddev	.0044172	.001120	.0006389	.001238	.0010758	.006045
%RSD	60.53580	117.7006	.3170066	24.01184	14.08690	.0775726
#1	.0117838	-.000781	.2008146	-.004592	.0081490	7.789840
#2	.0029529	-.002147	.2020006	-.006575	.0083611	7.799395
#3	.0071537	.000073	.2018195	-.004300	.0064008	7.788202

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2911012	.0007067	-.001242	20.71169	.0569438	.0098743
Stddev	.0018322	.0000688	.000145	.09402	.0002265	.0002040
%RSD	.6293844	9.730738	11.64148	.4539263	.3976903	2.065992
#1	.2891807	.0007207	-.001267	20.60348	.0567238	.0100744
#2	.2928299	.0007674	-.001086	20.75829	.0571762	.0096666
#3	.2912931	.0006320	-.001372	20.77331	.0569313	.0098821

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.3337099	80.47976	.7710209	6.753355	.0430322	.0026340
Stddev	.0008577	.34965	.0033069	.020942	.0002306	.0002059
%RSD	.2570171	.4344533	.4289016	.3100987	.5359661	7.818753
#1	.3330312	80.76807	.7672025	6.739326	.0427669	.0027948
#2	.3346739	80.09084	.7729012	6.777427	.0431843	.0027054
#3	.3334247	80.58036	.7729590	6.743311	.0431455	.0024019

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	80.46493	.0414325	1.406900	5.454757	-.054287	.0099087
Stddev	.22358	.0007385	.009666	.027004	.004568	.0001607
%RSD	.2778647	1.782468	.6870155	.4950573	8.415347	1.621773
#1	80.71491	.0415283	1.406095	5.485893	-.049652	.0100457
#2	80.28407	.0421184	1.397662	5.437727	-.058786	.0099486
#3	80.39581	.0406507	1.416943	5.440651	-.054423	.0097318

Reviewed By:mohan
On:4/24/2025 11:42:10 AM
Inst Id :P4
LB :LB135523

Sample Name: Q1841-03 Acquired: 4/22/2025 19:18:01 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v15) 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	.0295936	.3589340	F 18.56865	1.505420	6.358611	.0337780
Stddev	.0013417	.0004612	.10123	.003810	.005188	.0005774
%RSD	4.533721	.1284868	.5451457	.2530812	.0815928	1.709393
#1	.0284133	.3592082	18.67656	1.506567	6.355142	.0331355
#2	.0310529	.3584015	18.47579	1.508525	6.364575	.0342535
#3	.0293147	.3591921	18.55359	1.501169	6.356114	.0339449

Elem	Sr4077
Units	ppm
Avg	.0852113
Stddev	.0002727
%RSD	.3199976
#1	.0849012
#2	.0853195
#3	.0854133

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3161.423	74066.17	11295.20	2139.601	4657.327
Stddev	6.371	55.34	92.83	15.235	9.494
%RSD	.2015113	.0747146	.8218420	.7120501	.2038607
#1	3167.803	74056.39	11402.19	2147.431	4667.206
#2	3155.061	74125.74	11236.09	2149.328	4648.271
#3	3161.404	74016.37	11247.31	2122.043	4656.505

Reviewed By:mohan
On:4/24/2025 11:42:10 AM
Inst Id :P4
LB :LB135523

Sample Name: Q1841-03DUP Acquired: 4/22/2025 19:22:12 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v15) 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	.0092414	.0015498	.1951115	-.004716	.0077498	7.698265
Stddev	.0012071	.0013142	.0027015	.003931	.0004855	.011851
%RSD	13.06193	84.79550	1.384608	83.35191	6.265264	.1539398
#1	.0104454	.0019662	.1976578	-.009246	.0081998	7.703432
#2	.0092476	.0026053	.1953989	-.002702	.0072352	7.684708
#3	.0080312	.0000779	.1922777	-.002201	.0078143	7.706655

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2892638	.0006980	-.001566	20.86315	.0571799	.0093479
Stddev	.0006389	.0000214	.000159	.08676	.0003127	.0002544
%RSD	.2208558	3.068992	10.17550	.4158641	.5468581	2.721426
#1	.2890553	.0007209	-.001536	20.78089	.0568384	.0092479
#2	.2899809	.0006947	-.001424	20.85475	.0572491	.0091587
#3	.2887553	.0006785	-.001738	20.95380	.0574522	.0096371

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.3260841	81.30948	.7734753	6.775301	.0422117	.0023437
Stddev	.0043628	.20900	.0029224	.055013	.0005422	.0002956
%RSD	1.337926	.2570384	.3778275	.8119573	1.284534	12.61262
#1	.3292335	81.52547	.7710048	6.745255	.0421382	.0025229
#2	.3279146	81.29471	.7767013	6.741854	.0427870	.0025057
#3	.3211043	81.10826	.7727198	6.838793	.0417100	.0020025

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	81.79161	.0403478	1.414733	5.537547	-.054234	.0099780
Stddev	.54161	.0003942	.004358	.023807	.001287	.0004000
%RSD	.6621783	.9771147	.3080653	.4299118	2.372478	4.008860
#1	82.12042	.0403582	1.412174	5.524029	-.052818	.0102061
#2	82.08790	.0399484	1.412259	5.523576	-.055330	.0102118
#3	81.16650	.0407367	1.419765	5.565035	-.054555	.0095161

Reviewed By:mohan
On:4/24/2025 11:42:10 AM
Inst Id :P4
LB :LB135523

Sample Name: Q1841-03DUP Acquired: 4/22/2025 19:22:12 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v15) 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	.0293423	.3507282	F 18.65864	1.445796	6.123482	.0327404
Stddev	.0007951	.0001992	.05916	.015551	.080335	.0009213
%RSD	2.709613	.0567970	.3170574	1.075595	1.311921	2.813839
#1	.0284387	.3505275	18.72541	1.450008	6.172019	.0321689
#2	.0296538	.3507314	18.61277	1.458807	6.167675	.0338032
#3	.0299345	.3509258	18.63774	1.428573	6.030753	.0322491

Elem	Sr4077
Units	ppm
Avg	.0854097
Stddev	.0001459
%RSD	.1707834
#1	.0854663
#2	.0855187
#3	.0852440

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3247.884	73266.02	11289.69	2122.620	4817.125
Stddev	37.709	133.91	42.10	5.963	56.776
%RSD	1.161020	.1827666	.3729318	.2809379	1.178627
#1	3217.863	73112.06	11332.07	2116.097	4776.131
#2	3235.581	73355.37	11289.13	2127.792	4793.314
#3	3290.207	73330.62	11247.88	2123.971	4881.929

Reviewed By:mohan
On:4/24/2025 11:42:10 AM
Inst Id :P4
LB :LB135523

Sample Name: Q1841-03LX5 Acquired: 4/22/2025 19:26:22 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v15) 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	-.000600	-.002658	.0372513	.0060940	.0033413	1.518597	.0531825
Stddev	.003253	.001583	.0007267	.0013782	.0004535	.007152	.0007713
%RSD	541.9879	59.55751	1.950863	22.61563	13.57355	.4709612	1.450324
#1	-.003836	-.003249	.0376256	.0072955	.0028234	1.523142	.0538518
#2	-.000635	-.003861	.0364137	.0063970	.0036673	1.522296	.0533568
#3	.002671	-.000865	.0377146	.0045895	.0035334	1.510353	.0523390

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0001666	-.000348	4.234392	.0108513	.0016413	.0660109	15.85635
Stddev	.0000181	.000083	.019585	.0002789	.0000097	.0006523	.20240
%RSD	10.87806	23.98557	.4625111	2.570286	.5913595	.9881072	1.276452
#1	.0001457	-.000288	4.237836	.0106920	.0016335	.0660543	15.96401
#2	.0001762	-.000443	4.252026	.0106886	.0016384	.0653381	15.98216
#3	.0001778	-.000312	4.213314	.0111734	.0016522	.0666404	15.62287

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1578293	1.358642	.0079456	.0007133	14.96381	.0086631	.2817886
Stddev	.0010335	.010328	.0002365	.0003605	.23564	.0010250	.0029825
%RSD	.6548007	.7601948	2.977013	50.53542	1.574725	11.83147	1.058411
#1	.1586535	1.370421	.0080941	.0009280	15.08716	.0074925	.2832306
#2	.1581646	1.351135	.0076728	.0002971	15.11217	.0090970	.2837760
#3	.1566698	1.354370	.0080699	.0009147	14.69210	.0093998	.2783591

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.047180	-.012259	.0021075	.0084401	.0696903	3.516733	.2821231
Stddev	.026810	.001021	.0001955	.0002631	.0003800	.044058	.0020058
%RSD	2.560181	8.332240	9.274949	3.117332	.5452465	1.252812	.7109606
#1	1.066826	-.012694	.0023264	.0085006	.0694981	3.519945	.2842598
#2	1.058076	-.012991	.0020459	.0086677	.0694449	3.559098	.2818289
#3	1.016637	-.011092	.0019503	.0081520	.0701280	3.471157	.2802807

Reviewed By:mohan
On:4/24/2025 11:42:10 AM
Inst Id :P4
LB :LB135523

Sample Name: Q1841-03LX5 Acquired: 4/22/2025 19:26:22 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v15) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	1.184280	.0046723	.0174744
Stddev	.005494	.0008001	.0001028
%RSD	.4638869	17.12533	.5884864
#1	1.188765	.0041043	.0174348
#2	1.185923	.0055874	.0175911
#3	1.178153	.0043252	.0173972

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3334.608	77409.13	11392.82	2218.872	5074.431
Stddev	4.771	616.87	4.59	26.347	2.830
%RSD	.1430627	.7968932	.0402670	1.187418	.0557751
#1	3330.859	77075.73	11390.09	2214.502	5077.287
#2	3339.978	77030.70	11390.24	2194.982	5071.627
#3	3332.987	78120.95	11398.11	2247.130	5074.379

Reviewed By:mohan
On:4/24/2025 11:42:10 AM
Inst Id :P4
LB :LB135523

Sample Name: Q1841-03MS Acquired: 4/22/2025 19:30:36 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v15) 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	.7613409	1.842713	1.069801	1.814507	.7327926	8.831112
Stddev	.0036232	.009094	.003360	.005487	.0019274	.004781
%RSD	.4758926	.4934968	.3140483	.3023952	.2630268	.0541337
#1	.7575490	1.834064	1.073676	1.811317	.7348817	8.825603
#2	.7617061	1.841882	1.067700	1.811362	.7324129	8.833562
#3	.7647677	1.852194	1.068026	1.820843	.7310833	8.834171

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.4620728	.1813740	.1846819	24.25961	.4265159	.1925238
Stddev	.0010324	.0003203	.0003368	.06504	.0007956	.0003731
%RSD	.2234161	.1765996	.1823772	.2680862	.1865222	.1938098
#1	.4613040	.1816875	.1850466	24.28537	.4270251	.1922225
#2	.4632462	.1810473	.1843825	24.30782	.4255991	.1929412
#3	.4616684	.1813872	.1846166	24.18564	.4269234	.1924078

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.6264007	86.17789	1.037403	8.667842	.4970696	.0675511
Stddev	.0012903	.17871	.002276	.017946	.0005561	.0003897
%RSD	.2059926	.2073768	.2194230	.2070428	.1118728	.5768837
#1	.6278780	85.97622	1.035631	8.677774	.4968241	.0678829
#2	.6258294	86.31662	1.039970	8.678627	.4966785	.0676484
#3	.6254945	86.24082	1.036607	8.647125	.4977062	.0671220

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	95.00145	.3014812	1.695903	14.89760	.1809082	.3959892
Stddev	.35979	.0014598	.008325	.06851	.0008368	.0002751
%RSD	.3787202	.4841972	.4908726	.4598885	.4625571	.0694666
#1	94.61222	.3013148	1.704056	14.83782	.1810244	.3960431
#2	95.07029	.3030171	1.687417	14.88262	.1800195	.3956911
#3	95.32185	.3001118	1.696235	14.97236	.1816809	.3962333

Reviewed By:mohan
On:4/24/2025 11:42:10 AM
Inst Id :P4
LB :LB135523

Sample Name: Q1841-03MS Acquired: 4/22/2025 19:30:36 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v15) 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	.6059995	.4628320	F 18.19523	6.841319	6.502504	.2210569
Stddev	.0013042	.0023360	.02752	.005851	.013842	.0010230
%RSD	.2152098	.5047239	.1512211	.0855309	.2128725	.4627599
#1	.6060177	.4605193	18.16940	6.835344	6.493201	.2202759
#2	.6046864	.4651907	18.22417	6.847039	6.495900	.2206800
#3	.6072945	.4627859	18.19211	6.841573	6.518412	.2222149

Elem	Sr4077
Units	ppm
Avg	.2750711
Stddev	.0005540
%RSD	.2014129
#1	.2745492
#2	.2756524
#3	.2750117

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3165.804	73935.11	10946.97	2122.394	4674.573
Stddev	2.668	64.03	21.39	2.016	5.195
%RSD	.0842878	.0866067	.1953623	.0949898	.1111372
#1	3166.414	73903.84	10931.66	2120.072	4676.201
#2	3162.883	74008.77	10937.85	2123.707	4668.759
#3	3168.114	73892.72	10971.40	2123.402	4678.760

Reviewed By:mohan
On:4/24/2025 11:42:10 AM
Inst Id :P4
LB :LB135523

Sample Name: Q1841-03MSD Acquired: 4/22/2025 19:34:37 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v15) 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	.7511883	1.822290	1.065722	1.794253	.7274162	8.609373
Stddev	.0066826	.012108	.001273	.005668	.0006735	.026346
%RSD	.8895995	.6644537	.1194692	.3158926	.0925830	.3060155
#1	.7442704	1.833483	1.064634	1.799266	.7277845	8.606483
#2	.7516867	1.809438	1.067123	1.788103	.7266389	8.637045
#3	.7576076	1.823947	1.065409	1.795390	.7278251	8.584591

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.4626133	.1814532	.1833234	24.31520	.4218740	.1905542
Stddev	.0021271	.0007086	.0002992	.04764	.0002624	.0002661
%RSD	.4597950	.3905074	.1632370	.1959108	.0621947	.1396293
#1	.4611568	.1809242	.1836684	24.27832	.4221645	.1908424
#2	.4616289	.1822582	.1831674	24.36898	.4218031	.1905023
#3	.4650543	.1811771	.1831344	24.29829	.4216544	.1903179

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.6258436	86.61306	1.040917	8.634473	.4929761	.0683546
Stddev	.0004553	.27994	.002620	.019387	.0004642	.0001091
%RSD	.0727467	.3232076	.2517179	.2245267	.0941632	.1595747
#1	.6254720	86.88056	1.038606	8.632393	.4926965	.0682324
#2	.6263514	86.32215	1.040382	8.654816	.4935119	.0684420
#3	.6257074	86.63648	1.043764	8.616211	.4927198	.0683894

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	96.27000	.2979642	1.714551	14.83893	.1825862	.3977994
Stddev	.55046	.0014868	.000668	.03490	.0023382	.0003048
%RSD	.5717829	.4989834	.0389549	.2351609	1.280610	.0766202
#1	96.69492	.2967212	1.714042	14.87820	.1799281	.3981170
#2	95.64817	.2975602	1.715308	14.82711	.1835055	.3977717
#3	96.46691	.2996113	1.714304	14.81149	.1843251	.3975093

Reviewed By:mohan
On:4/24/2025 11:42:10 AM
Inst Id :P4
LB :LB135523

Sample Name: Q1841-03MSD Acquired: 4/22/2025 19:34:37 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v15) 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	.6033740	.4518158	F 17.98343	6.759772	6.514569	.2175490
Stddev	.0011208	.0031981	.07336	.013252	.005008	.0013132
%RSD	.1857596	.7078405	.4079525	.1960362	.0768694	.6036167
#1	.6046018	.4483516	18.02516	6.761560	6.520285	.2162859
#2	.6024057	.4546559	18.02641	6.745717	6.510954	.2174540
#3	.6031145	.4524399	17.89872	6.772039	6.512468	.2189070

Elem	Sr4077
Units	ppm
Avg	.2726237
Stddev	.0006590
%RSD	.2417114
#1	.2722422
#2	.2722442
#3	.2733846

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3171.388	73334.36	10870.94	2121.129	4671.633
Stddev	5.908	334.38	47.12	11.598	9.349
%RSD	.1863011	.4559698	.4334374	.5467625	.2001144
#1	3173.416	72993.25	10857.73	2109.637	4675.689
#2	3176.015	73348.25	10831.83	2120.921	4678.268
#3	3164.733	73661.58	10923.25	2132.829	4660.941

Reviewed By:mohan
On:4/24/2025 11:42:10 AM
Inst Id :P4
LB :LB135523

Sample Name: Q1841-03A Acquired: 4/22/2025 19:38:39 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v15) 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	.7039741	1.721029	1.022377	1.681266	.7301072	9.036606
Stddev	.0033014	.015022	.002211	.010342	.0038188	.059029
%RSD	.4689590	.8728521	.2162353	.6151246	.5230418	.6532203
#1	.7003287	1.725535	1.022036	1.686549	.7281160	8.968507
#2	.7067623	1.704269	1.020356	1.669349	.7276956	9.068159
#3	.7048314	1.733282	1.024738	1.687898	.7345101	9.073154

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.4476521	.1607766	.1696222	21.64583	.4034202	.1778117
Stddev	.0018452	.0007780	.0006385	.14366	.0009823	.0014734
%RSD	.4121902	.4838857	.3764256	.6636789	.2434930	.8286468
#1	.4456781	.1601187	.1693671	21.48029	.4033937	.1773031
#2	.4479447	.1605759	.1691507	21.71935	.4044154	.1766599
#3	.4493335	.1616353	.1703488	21.73784	.4024514	.1794720

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.5773541	83.61935	.9336242	8.224442	.4621815	.0656792
Stddev	.0032541	.46397	.0051498	.082682	.0018762	.0008335
%RSD	.5636211	.5548559	.5515932	1.005323	.4059479	1.269121
#1	.5762300	83.21921	.9280278	8.133088	.4606732	.0652855
#2	.5748112	84.12794	.9346815	8.246094	.4615888	.0666367
#3	.5810213	83.51091	.9381633	8.294143	.4642825	.0651154

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	85.04271	.2827093	1.549227	14.07475	.1745757	.3874789
Stddev	.44620	.0012608	.002700	.07829	.0021050	.0013201
%RSD	.5246766	.4459560	.1742839	.5562140	1.205812	.3406913
#1	84.92948	.2816073	1.548782	14.03242	.1725878	.3866532
#2	85.53462	.2840841	1.552123	14.16508	.1767810	.3867821
#3	84.66404	.2824366	1.546778	14.02674	.1743582	.3890014

Reviewed By:mohan
On:4/24/2025 11:42:10 AM
Inst Id :P4
LB :LB135523

Sample Name: Q1841-03A Acquired: 4/22/2025 19:38:39 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v15) 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	.6468095	.5085060	F 18.90699	6.448223	6.082599	.2033775
Stddev	.0014058	.0036715	.09546	.034436	.026975	.0004167
%RSD	.2173430	.7220252	.5048773	.5340408	.4434733	.2049078
#1	.6460093	.5042884	18.82374	6.430588	6.065995	.2031543
#2	.6459866	.5109878	19.01118	6.426175	6.068077	.2038583
#3	.6484328	.5102418	18.88606	6.487904	6.113723	.2031200

Elem	Sr4077
Units	ppm
Avg	.2515047
Stddev	.0010466
%RSD	.4161146
#1	.2504302
#2	.2525208
#3	.2515630

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3225.151	74552.77	11497.89	2146.945	4753.675
Stddev	12.293	195.39	59.91	5.888	14.878
%RSD	.3811713	.2620893	.5210276	.2742634	.3129817
#1	3229.548	74727.76	11544.31	2144.690	4766.092
#2	3234.641	74341.93	11519.09	2142.517	4757.747
#3	3211.264	74588.61	11430.26	2153.627	4737.184

Reviewed By:mohan
On:4/24/2025 11:42:10 AM
Inst Id :P4
LB :LB135523

Sample Name: CCV08 Acquired: 4/22/2025 19:42:40 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v15) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCV08 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	5.048610	5.120504	5.010641	5.070626	5.059392	9.825207	9.853550
Stddev	.012065	.030515	.004919	.006174	.004554	.034774	.067091
%RSD	.2389780	.5959281	.0981805	.1217648	.0900162	.3539281	.6808823
#1	5.050722	5.151831	5.005498	5.075990	5.062543	9.797179	9.845293
#2	5.059480	5.090872	5.015302	5.063876	5.061463	9.864122	9.790969
#3	5.035629	5.118809	5.011124	5.072010	5.054171	9.814319	9.924387

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2476762	2.503550	24.35067	1.024474	2.496913	1.270423	5.065886
Stddev	.0018176	.005654	.04556	.004018	.005540	.001867	.037594
%RSD	.7338740	.2258473	.1870907	.3922121	.2218540	.1469820	.7421024
#1	.2457271	2.497724	24.29838	1.021792	2.492395	1.269981	5.087074
#2	.2493249	2.509015	24.38183	1.022537	2.503093	1.272472	5.022480
#3	.2479765	2.503910	24.37180	1.029094	2.495250	1.268817	5.088104

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.415512	24.38266	2.502435	1.270736	24.51501	2.446907	2.529860
Stddev	.001413	.05595	.002239	.004780	.13675	.007617	.016649
%RSD	.0585050	.2294614	.0894834	.3761630	.5578341	.3112975	.6580969
#1	2.414151	24.31806	2.500819	1.268886	24.60370	2.438957	2.520864
#2	2.416972	24.41572	2.504992	1.267158	24.35751	2.454141	2.519645
#3	2.415413	24.41419	2.501496	1.276165	24.58380	2.447623	2.549072

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	24.93317	4.870128	5.052754	5.028198	4.871156	5.278785	5.176090
Stddev	.14481	.029173	.006257	.008502	.003093	.017798	.008296
%RSD	.5807895	.5990193	.1238311	.1690936	.0634894	.3371518	.1602838
#1	25.01874	4.836803	5.059943	5.019202	4.868363	5.265467	5.179348
#2	24.76598	4.891048	5.048538	5.036101	4.874480	5.271890	5.166660
#3	25.01480	4.882534	5.049780	5.029291	4.870624	5.298999	5.182264

Reviewed By:mohan
On:4/24/2025 11:42:10 AM
Inst Id :P4
LB :LB135523

Sample Name: CCV08 Acquired: 4/22/2025 19:42:40 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v15) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCV08 Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	5.027723	4.678198	4.871024
Stddev	.006815	.014011	.034049
%RSD	.1355570	.2994917	.6990037
#1	5.023957	4.668044	4.870101
#2	5.023622	4.694182	4.905525
#3	5.035591	4.672366	4.837447

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3170.760	73337.81	11041.21	2133.557	4605.042
Stddev	4.608	159.38	71.95	10.565	8.513
%RSD	.1453369	.2173253	.6516896	.4952042	.1848645
#1	3167.601	73445.70	11108.90	2139.043	4607.395
#2	3168.630	73412.98	10965.64	2140.252	4595.600
#3	3176.048	73154.74	11049.09	2121.378	4612.132

Reviewed By:mohan
On:4/24/2025 11:42:10 AM
Inst Id :P4
LB :LB135523

Sample Name: CCB08 Acquired: 4/22/2025 19:46:52 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v15) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCB08 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000090	-.002212	.0003129	.0046367	.0021240	-.003419	-.003322
Stddev	.003332	.000916	.0010478	.0018260	.0010990	.014808	.000690
%RSD	3714.633	41.41079	334.8452	39.38164	51.73935	433.1003	20.75926
#1	-.001389	-.001172	.0006862	.0067437	.0021054	.009819	-.003834
#2	-.002576	-.002563	.0011229	.0036514	.0010345	-.019410	-.002538
#3	.003696	-.002901	-.000870	.0035150	.0032322	-.000666	-.003593

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0000382	-.000030	-.008472	.0001288	-.000258	.0001097	.0027883
Stddev	.0000171	.000110	.005433	.0003629	.000203	.0001960	.0035616
%RSD	44.68826	366.5087	64.12666	281.7353	78.51745	178.7002	127.7347
#1	.0000577	-.000157	-.010016	.0005455	-.000274	.0003350	.0068842
#2	.0000311	.000043	-.012965	-.000118	-.000048	.0000148	.0004198
#3	.0000259	.000023	-.002434	-.000041	-.000452	-.000021	.0010609

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0002899	-.009183	.0001886	.0000547	-.067951	.0005180	-.000395
Stddev	.0003715	.010206	.0001848	.0000978	.009809	.0017125	.000145
%RSD	128.1709	111.1492	97.97160	178.6803	14.43580	330.5931	36.73305
#1	.0003382	-.005720	.0002613	.0001677	-.074586	.0018272	-.000228
#2	.0006349	-.001158	-.000021	-.000004	-.056683	.0011467	-.000486
#3	-.000103	-.020670	.000326	.000001	-.072583	-.001420	-.000472

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0328879	.0067398	.0004354	.0047010	.0006905	.0143991	.0012097
Stddev	.0088143	.0001069	.0001903	.0007979	.0002033	.0051099	.0021503
%RSD	26.80121	1.585582	43.70693	16.97213	29.43652	35.48781	177.7557
#1	.0349708	.0068479	.0005901	.0041000	.0005078	.0201198	-.000879
#2	.0232186	.0066342	.0002229	.0043967	.0009094	.0127902	.003417
#3	.0404742	.0067372	.0004934	.0056062	.0006543	.0102873	.001091

Reviewed By:mohan
On:4/24/2025 11:42:10 AM
Inst Id :P4
LB :LB135523

Sample Name: CCB08 Acquired: 4/22/2025 19:46:52 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v15) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCB08 Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	.0024739	-.002453	.0000301
Stddev	.0015518	.000713	.0000253
%RSD	62.72861	29.05739	84.05405
#1	.0008387	-.002536	.0000486
#2	.0039261	-.003121	.0000013
#3	.0026569	-.001702	.0000404

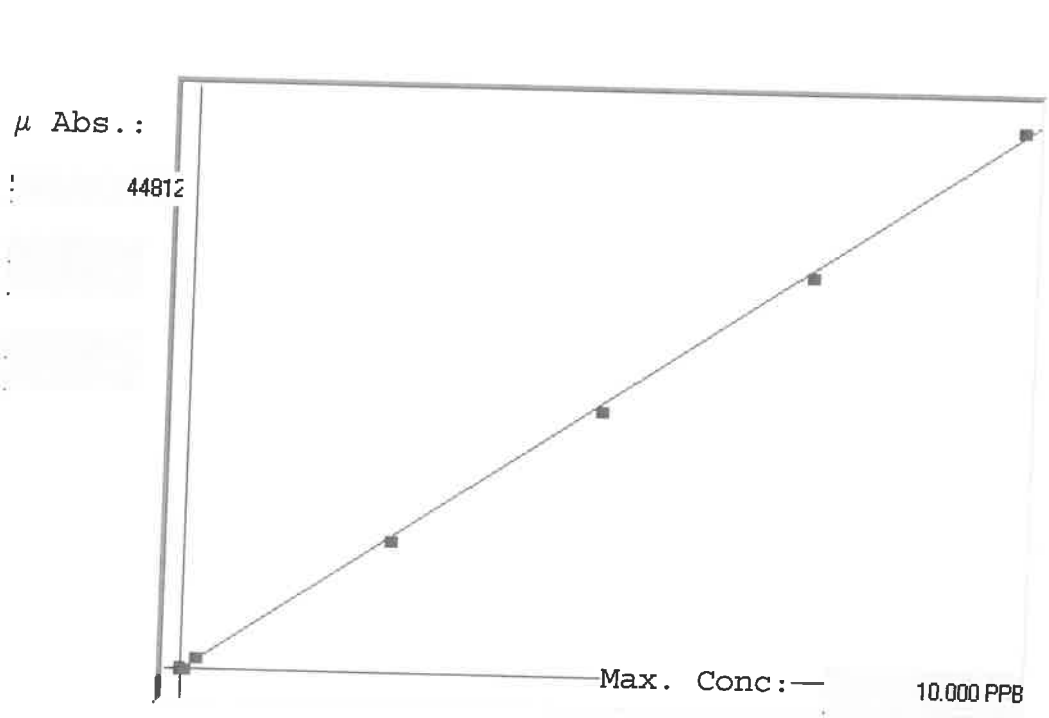
Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3360.944	75980.79	11189.25	2238.432	5102.734
Stddev	18.512	134.04	50.58	12.089	22.810
%RSD	.5507926	.1764074	.4520141	.5400676	.4470112
#1	3349.451	76118.93	11186.20	2248.841	5087.723
#2	3351.083	75851.27	11140.27	2225.172	5091.496
#3	3382.299	75972.17	11241.28	2241.282	5128.982

Reviewed By:jaswal
On:4/23/2025 12:30:41 PM
Inst Id :CV1
LB :LB135518

LB135518

245.1

INSTRUMENT-ID: CV1



A= 0.0000e+000
B= 2.2527e-004
C= 2.6054e-002
Rho= 0.9998042
Accept=Accepted

Std ID	Conc.	Calc.	Dev.	Mean	SD or %RSD	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	% D
0.0	0.000	0.031	0.031	23	0.000	23					—
0.05	0.050	0.060	0.010	150	0.0 %	150	0				20
0.2	0.200	0.259	0.059	1034	0.0 %	1034					30
2.5	2.500	2.466	-0.034	10832	0.0 %	10832					-1
5.0	5.000	4.908	-0.092	21673	0.0 %	21673					-2
7.5	7.500	7.405	-0.095	32755	0.0 %	32755					-1
10.0	10.000	10.121	0.121	44812	0.0 %	44812					1

Reviewed By:jaswal
On:4/23/2025 12:30:41 PM
Inst Id :CV1
LB :LB135518

LB135518 INSTRUMENT D : CV1

Method: 245.1 Operator: Admin Date of Analysis: 22 Apr 2025 13:33:21

Sample ID	Extended ID	µ Abs.	Conc.	Stnd Conc	Method	Units	Date	Type	Type
0.0 - 1	S0	23	-	0.0000	245.1	PPB	22 Apr 2025 13:37:04	S	Std
0.05 - 1	S0.05	150	-	0.0500	245.1	PPB	22 Apr 2025 13:42:03	S	Std
0.2 - 1	S0.2	1034	-	0.2000	245.1	PPB	22 Apr 2025 13:44:20	S	Std
2.5 - 1	S2.5	10832	-	2.5000	245.1	PPB	22 Apr 2025 13:46:37	S	Std
5.0 - 1	S5	21673	-	5.0000	245.1	PPB	22 Apr 2025 13:48:54	S	Std
7.5 - 1	S7.5	32755	-	7.5000	245.1	PPB	22 Apr 2025 13:51:11	S	Std
10.0 - 1	S10	44812	-	10.0000	245.1	PPB	22 Apr 2025 13:57:09	S	Std
ICV97 - 1	ICV97	18499	4.1933		245.1	PPB	22 Apr 2025 14:00:14	U	SMPL
ICB97 - 1	ICB97	-358	-0.0546		245.1	PPB	22 Apr 2025 14:02:29	U	SMPL
CCV12 - 1	CCV12	22160	5.0180		245.1	PPB	22 Apr 2025 14:04:48	U	SMPL
CCB12 - 1	CCB12	-368	-0.0568		245.1	PPB	22 Apr 2025 14:07:02	U	SMPL
CRA - 1	CRA	90	0.0463		245.1	PPB	22 Apr 2025 14:09:19	U	SMPL
HighStd - 1	HighStd	45542	10.2852		245.1	PPB	22 Apr 2025 14:11:34	U	SMPL
ChkStd - 1	ChkStd	29279	6.6217		245.1	PPB	22 Apr 2025 14:13:50	U	SMPL
PB167703BL - 1	PBW	-489	-0.0841		245.1	PPB	22 Apr 2025 14:16:10	U	SMPL
PB167703BS - 1	LCSW	17839	4.0446		245.1	PPB	22 Apr 2025 14:18:29	U	SMPL
Q1833-02 - 1	EFF-WASTE-WATER	-236	-0.0271		245.1	PPB	22 Apr 2025 14:20:45	U	SMPL
Q1833-02DUP - 1	EFF-WASTE-WATERDUP	16	0.0297		245.1	PPB	22 Apr 2025 14:23:03	U	SMPL
Q1833-02MS - 1	EFF-WASTE-WATERMS	15480	3.5132		245.1	PPB	22 Apr 2025 14:29:43	U	SMPL
Q1833-02MSD - 1	EFF-WASTE-WATERMSD	16866	3.8254		245.1	PPB	22 Apr 2025 14:32:01	U	SMPL
CCV13 - 1	CCV13	22064	4.9964		245.1	PPB	22 Apr 2025 14:34:19	U	SMPL
CCB13 - 1	CCB13	-373	-0.0580		245.1	PPB	22 Apr 2025 14:36:35	U	SMPL
Q1833-02LX5 - 1		-63	0.0119		245.1	PPB	22 Apr 2025 14:38:53	U	SMPL
Q1833-02A - 1		16723	3.7932		245.1	PPB	22 Apr 2025 14:41:08	U	SMPL
CCV14 - 1	CCV14	22047	4.9925		245.1	PPB	22 Apr 2025 14:43:24	U	SMPL
CCB14 - 1	CCB14	-339	-0.0503		245.1	PPB	22 Apr 2025 14:45:41	U	SMPL

22 Apr 2025 14:53

Alliance TECHNICAL GROUP

Water Metals Preparation Sheet

PB167671

SOP ID : M200.7-Trace Elements-22

SDG No : N/A

Matrix : WATER

Pippete ID: ICP A

Balance ID : N/A

Filter paper ID : N/A

pH Strip ID : M6069

Hood ID : #3

Block ID: 1. HOT BLOCK #1 2. N/A

Start Digest Date: 04/21/2025 **Time :** 10:35 **Temp :** 96 °C

End Digest Date: 04/21/2025 **Time :** 13:40 **Temp :** 96 °C

Digestion tube ID: M5595

Block thermometer ID: MET-DIG. #1

Dig Technician Signature: SLB.

Supervisor Signature:

Temp : 1. 96°C 2. N/A

Standared Name	MLS USED	STD REF. # FROM LOG
LFS-1	0.25	M6005
LFS-2	0.25	M6012
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A

Chemical Used	ML/SAMPLE USED	Lot Number
Conc. HNO3	3.00	M6158
1:1 HCL	5.00	MP85156
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 96C

Date / Time	Prepped Sample Relinquished By/Location	Received By/Location
04/21/25 14:40	SLB. met. dig	metals lab
	Preparation Group	Analysis Group

Alliance TECHNICAL GROUP

Water Metals Preparation Sheet

PB167671

Lab Sample ID	Client Sample ID	pH	Initial Vol (ml)	Final Vol (ml)	Color Before	Color After	Clarity Before	Clarity After	Comment	Prep Pos
PB167671BL	PBW671	<2	50	25	Colorless	Colorless	Clear	Clear	N/A	1
PB167671BS	LCS671	<2	50	25	Colorless	Colorless	Clear	Clear	M6005,M6012	2
Q1833-02MS	EFF-WASTE-WATERMS	<2	50	25	Colorless	Colorless	Cloudy	Clear	M6005,M6012	5
Q1833-02MSD	EFF-WASTE-WATERMSD	<2	50	25	Colorless	Colorless	Cloudy	Clear	M6005,M6012	6
Q1833-02DUP	EFF-WASTE-WATERDUP	<2	50	25	Colorless	Colorless	Cloudy	Clear	N/A	4
Q1833-02	EFF-WASTE-WATER	<2	50	25	Colorless	Colorless	Cloudy	Clear	N/A	3

WORKLIST(Hardcopy Internal Chain)

WorkList Name : PB167671 **WorkList ID :** 189060 **Department :** Digestion **Date :** 04-21-2025 09:54:52

Sample	Customer Sample	Matrix	Test	Preservative	Customer	Raw Sample Storage Location	Collect Date	Method
Q1833-02	EFF-WASTE-WATER	Water	Metals ICP-Group	1:1 HNO3 to pH < 2	ARDM01	L31	04/17/2025	200.7

Date/Time 04/22/25 10:05
Raw Sample Received by: SLS.met.dlg
Raw Sample Relinquished by: CP Sen

Date/Time 04/21/25 11:05
Raw Sample Received by: CP Sen
Raw Sample Relinquished by: SLS.met.dlg

Alliance TECHNICAL GROUP

Water Mercury Preparation Sheet

PB167703

SOP ID : M245.1-Mercury-19

SDG No : NA

Matrix : WATER

Pippete ID: HG A

Balance ID : N/A

Filter paper ID : NA

pH Strip ID : M6069

Hood ID : #1

Block ID: 1. HG HOT BLOCK#3 2. N/A

Start Digest Date: 04/22/2025 **Time :** 09:25 **Temp :** 94 °C

End Digest Date: 04/22/2025 **Time :** 11:25 **Temp :** 95 °C

Digestion tube ID: M5595

Block thermometer ID: HG-DIG#3

Dig Technician Signature: MB

Supervisor Signature: 12

Temp : 1. 94°C 2. N/A

Standared Name	MLS USED	STD REF. # FROM LOG
ICV	30mL	MP85402
CCV	30mL	MP85404
CRA	30mL	MP85406
Blank Spike	0.48mL	MP85394
Matrix Spike	0.48mL	MP85394

Chemical Used	ML/SAMPLE USED	Lot Number
KMN04	2.5mL	MP85240
KMnO4 (5%)	4.5mL	MP85241
K2S2O8 (5%)	2.5mL	MP85242
Hydroxylamine HCL (12%)	2.0mL	MP85243
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

LAB SAMPLE ID	CLIENT SAMPLE ID	Wt(g)/Vol(ml)	Comment
0.0 ppb	S0	30mL	MP85395
0.05 ppb	S0.05	30mL	MP85396
0.2 ppb	S0.2	30mL	MP85397
2.5 ppb	S2.5	30mL	MP85398
5.0 ppb	S5.0	30mL	MP85399
7.5 ppb	S7.5	30mL	MP85400
10.0 ppb	S10.0	30mL	MP85401
ICV	ICV	30mL	MP85402
ICB	ICB	30mL	MP85403
CCV	CCV	30mL	MP85404
CCB	CCB	30mL	MP85405
CRI	CRI	30mL	MP85406
CHK STD	CHK STD	30mL	MP85407

Extraction Conformance/Non-Conformance Comments:

N/A

Date / Time	Prepped Sample Relinquished By/Location	Received By/Location
4/22/25 @ 12:40	MB - DIG/CRS	MB - Metal Lab
	Preparation Group	Analysis Group

Alliance TECHNICAL GROUP

Water Mercury Preparation Sheet

PB167703

Lab Sample ID	Client Sample ID	Initial Vol (ml)	Final Vol (ml)	pH	Comment	Prep Pos
PB167703BL	PBW703	30	30	<2	N/A	3-1
PB167703BS	LCS703	30	30	<2	MP85394	2
Q1833-02DUP	EFF-WASTE-WATERDUP	30	30	<2	N/A	4
Q1833-02MS	EFF-WASTE-WATERMS	30	30	<2	MP85394	5
Q1833-02MSD	EFF-WASTE-WATERMSD	30	30	<2	MP85394	6
Q1833-02	EFF-WASTE-WATER	30	30	<2	N/A	3

WORKLIST(Hardcopy Internal Chain)

WorkList Name : 042225_245.1 **WorkList ID :** 189072 **Department :** Digestion **Date :** 04-22-2025 08:18:50

Sample	Customer Sample	Matrix	Test	Preservative	Customer	Raw Sample Storage Location	Collect Date	Method
Q1833-02	EFF-WASTE-WATER	Water	Mercury	1:1 HNO3 to pH < 2	ARDM01	L31	04/17/2025	245.1

Date/Time 4/22/25 @ 9:05

Raw Sample Received by: [illegible]

Raw Sample Relinquished by: [illegible]

Date/Time 4/22/25 @ 9:10

Raw Sample Received by: [illegible]

Raw Sample Relinquished by: [illegible]

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Fax : 908 789 8922

Instrument ID: CV1

Daily Analysis Runlog For Sequence/QCBatch ID # LB135518

Review By	mohan	Review On	4/23/2025 12:29:22 PM
Supervise By	jaswal	Supervise On	4/23/2025 12:30:41 PM

STD. NAME	STD REF.#
ICAL Standard	MP85395,MP85396,MP85397,MP85398,MP85399,MP85400,MP85401
ICV Standard	MP85402
CCV Standard	MP85404
ICSA Standard	
CRI Standard	MP85406
LCS Standard	
Chk Standard	MP85403,MP85405,MP85407,MP85393

Sr#	SampleId	ClientID	QcType	Date	Comment	Operator	Status
1	S0	S0	CAL1	04/22/25 13:37		mohan	OK
2	S0.05	S0.05	CAL2	04/22/25 13:42		mohan	OK
3	S0.2	S0.2	CAL3	04/22/25 13:44		mohan	OK
4	S2.5	S2.5	CAL4	04/22/25 13:46		mohan	OK
5	S5	S5	CAL5	04/22/25 13:48		mohan	OK
6	S7.5	S7.5	CAL6	04/22/25 13:51		mohan	OK
7	S10	S10	CAL7	04/22/25 13:57		mohan	OK
8	ICV97	ICV97	ICV	04/22/25 14:00		mohan	OK
9	ICB97	ICB97	ICB	04/22/25 14:02		mohan	OK
10	CCV12	CCV12	CCV	04/22/25 14:04		mohan	OK
11	CCB12	CCB12	CCB	04/22/25 14:07		mohan	OK
12	CRA	CRA	CRDL	04/22/25 14:09		mohan	OK
13	HighStd	HighStd	HIGH STD	04/22/25 14:11		mohan	OK
14	ChkStd	ChkStd	SAM	04/22/25 14:13		mohan	OK
15	PB167703BL	PB167703BL	MB	04/22/25 14:16		mohan	OK
16	PB167703BS	PB167703BS	LCS	04/22/25 14:18		mohan	OK
17	Q1833-02	EFF-WASTE-WATER	SAM	04/22/25 14:20		mohan	OK
18	Q1833-02DUP	EFF-WASTE-WATERI	DUP	04/22/25 14:23		mohan	OK

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Instrument ID: CV1

Daily Analysis Runlog For Sequence/QCBatch ID # LB135518

Review By	mohan	Review On	4/23/2025 12:29:22 PM
Supervise By	jaswal	Supervise On	4/23/2025 12:30:41 PM

STD. NAME	STD REF.#
ICAL Standard	MP85395,MP85396,MP85397,MP85398,MP85399,MP85400,MP85401
ICV Standard	MP85402
CCV Standard	MP85404
ICSA Standard	
CRI Standard	MP85406
LCS Standard	
Chk Standard	MP85403,MP85405,MP85407,MP85393

19	Q1833-02MS	EFF-WASTE-WATER	MS	04/22/25 14:29		mohan	OK
20	Q1833-02MSD	EFF-WASTE-WATER	MSD	04/22/25 14:32		mohan	OK
21	CCV13	CCV13	CCV	04/22/25 14:34		mohan	OK
22	CCB13	CCB13	CCB	04/22/25 14:36		mohan	OK
23	Q1833-02L	EFF-WASTE-WATER	SD	04/22/25 14:38		mohan	OK
24	Q1833-02A	EFF-WASTE-WATER	PS	04/22/25 14:41		mohan	OK
25	CCV14	CCV14	CCV	04/22/25 14:43		mohan	OK
26	CCB14	CCB14	CCB	04/22/25 14:45		mohan	OK

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Instrument ID: P4

Daily Analysis Runlog For Sequence/QCBatch ID # LB135523

Review By	jaswal	Review On	4/23/2025 12:02:36 PM
Supervise By	mohan	Supervise On	4/24/2025 11:42:10 AM

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

Sr#	SampleId	ClientID	QcType	Date	Comment	Operator	Status
1	S0	S0	CAL1	04/22/25 12:09		Kareem	OK
2	S1	S1	CAL2	04/22/25 12:14		Kareem	OK
3	S2	S2	CAL3	04/22/25 12:18		Kareem	OK
4	S3	S3	CAL4	04/22/25 12:22		Kareem	OK
5	S4	S4	CAL5	04/22/25 12:26		Kareem	OK
6	S5	S5	CAL6	04/22/25 12:31		Kareem	OK
7	ICV01	ICV01	ICV	04/22/25 12:46		Kareem	OK
8	LLICV01	LLICV01	LLICV	04/22/25 12:51		Kareem	OK
9	ICB01	ICB01	ICB	04/22/25 13:00		Kareem	OK
10	CRI01	CRI01	CRDL	04/22/25 13:05		Kareem	OK
11	ICSA01	ICSA01	ICSA	04/22/25 13:09		Kareem	OK
12	ICSAB01	ICSAB01	ICSAB	04/22/25 13:13		Kareem	OK
13	ICSADL	ICSADL	ICSA	04/22/25 13:17		Kareem	OK
14	ICSABDL	ICSABDL	ICSAB	04/22/25 13:22		Kareem	OK
15	CCV01	CCV01	CCV	04/22/25 13:26		Kareem	OK
16	CCB01	CCB01	CCB	04/22/25 13:30		Kareem	OK
17	PB167671BL	PB167671BL	MB	04/22/25 13:34		Kareem	OK
18	PB167671BS	PB167671BS	LCS	04/22/25 13:39		Kareem	OK

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Instrument ID: P4

Daily Analysis Runlog For Sequence/QCBatch ID # LB135523

Review By	jaswal	Review On	4/23/2025 12:02:36 PM
Supervise By	mohan	Supervise On	4/24/2025 11:42:10 AM

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

19	Q1833-02	EFF-WASTE-WATER	SAM	04/22/25 13:43		Kareem	OK
20	Q1833-02DUP	EFF-WASTE-WATER	DUP	04/22/25 13:47		Kareem	OK
21	Q1833-02L	EFF-WASTE-WATER	SD	04/22/25 13:51		Kareem	OK
22	Q1833-02MS	EFF-WASTE-WATER	MS	04/22/25 13:56		Kareem	OK
23	Q1833-02MSD	EFF-WASTE-WATER	MSD	04/22/25 14:00		Kareem	OK
24	Q1833-02A	EFF-WASTE-WATER	PS	04/22/25 14:04	0.1 ML EACH M6004,M6013-10ML SAMPLE	Kareem	OK
25	PB167680BL	PB167680BL	MB	04/22/25 14:08		Kareem	OK
26	PB167680BS	PB167680BS	LCS	04/22/25 14:12		Kareem	OK
27	CCV02	CCV02	CCV	04/22/25 14:16		Kareem	OK
28	CCB02	CCB02	CCB	04/22/25 14:20		Kareem	OK
29	Q1847-01	MOO-25-0121	SAM	04/22/25 14:25		Kareem	OK
30	Q1847-02	MOO-25-0122	SAM	04/22/25 14:29		Kareem	OK
31	Q1847-03	PAD-42125	SAM	04/22/25 14:33		Kareem	OK
32	Q1847-03DUP	PAD-42125	DUP	04/22/25 14:38		Kareem	OK
33	Q1847-03L	PAD-42125	SD	04/22/25 14:42		Kareem	OK
34	Q1847-03MS	PAD-42125MS	MS	04/22/25 14:46		Kareem	OK
35	Q1847-03MSD	PAD-42125MSD	MSD	04/22/25 14:50		Kareem	OK
36	Q1847-03A	PAD-42125	PS	04/22/25 14:55	0.1 ML EACH M6004,M6013-10ML SAMPLE	Kareem	OK

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Instrument ID: P4

Daily Analysis Runlog For Sequence/QCBatch ID # LB135523

Review By	jaswal	Review On	4/23/2025 12:02:36 PM
Supervise By	mohan	Supervise On	4/24/2025 11:42:10 AM

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

37	Q1850-01	CONCRETE-PILE-N-(	SAM	04/22/25 14:59		Kareem	OK
38	PB167673BL	PB167673BL	MB	04/22/25 15:03		Kareem	OK
39	CCV03	CCV03	CCV	04/22/25 15:07		Kareem	OK
40	CCB03	CCB03	CCB	04/22/25 15:12		Kareem	OK
41	PB167673BS	PB167673BS	LCS	04/22/25 15:16		Kareem	OK
42	Q1840-01	OK-04-04182025	SAM	04/22/25 15:20		Kareem	OK
43	Q1841-02	VNJ-231	SAM	04/22/25 15:24		Kareem	OK
44	Q1842-01	PL-714-COMP-08	SAM	04/22/25 15:28		Kareem	OK
45	Q1842-07	PL-714-COMP-09	SAM	04/22/25 15:33		Kareem	OK
46	Q1842-13	PL-714-COMP-10	SAM	04/22/25 15:37		Kareem	OK
47	Q1842-19	PL-714-COMP-11	SAM	04/22/25 15:41		Kareem	OK
48	Q1842-25	PL-714-COMP-12	SAM	04/22/25 15:46		Kareem	OK
49	Q1842-25DUP	PL-714-COMP-12DUP	DUP	04/22/25 15:50		Kareem	OK
50	Q1842-25L	PL-714-COMP-12L	SD	04/22/25 15:55		Kareem	OK
51	CCV04	CCV04	CCV	04/22/25 15:59		Kareem	OK
52	CCB04	CCB04	CCB	04/22/25 16:03		Kareem	OK
53	Q1842-25MS	PL-714-COMP-12MS	MS	04/22/25 16:07		Kareem	OK
54	Q1842-25MSD	PL-714-COMP-12MSD	MSD	04/22/25 16:12		Kareem	OK
55	Q1842-25A	PL-714-COMP-12A	PS	04/22/25 16:16	0.1 ML EACH M6004,M6013-10ML SAMPLE	Kareem	OK

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Instrument ID: P4

Daily Analysis Runlog For Sequence/QCBatch ID # LB135523

Review By	jaswal	Review On	4/23/2025 12:02:36 PM
Supervise By	mohan	Supervise On	4/24/2025 11:42:10 AM

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

56	Q1842-31	PL-714-COMP-13	SAM	04/22/25 16:20		Kareem	OK
57	Q1842-37	PL-714-COMP-14	SAM	04/22/25 16:24		Kareem	OK
58	PB167693BL	PB167693BL	MB	04/22/25 16:29		Kareem	OK
59	PB167693BS	PB167693BS	LCS	04/22/25 16:41		Kareem	OK
60	PB167692BL	PB167692BL	MB	04/22/25 16:45		Kareem	OK
61	PB167692BS	PB167692BS	LCS	04/22/25 16:50		Kareem	OK
62	PB167660TB	PB167660TB	MB	04/22/25 16:54		Kareem	OK
63	CCV05	CCV05	CCV	04/22/25 16:58		Kareem	OK
64	CCB05	CCB05	CCB	04/22/25 17:02		Kareem	OK
65	Q1842-06	PL-714-COMP-08	SAM	04/22/25 17:07		Kareem	OK
66	Q1842-12	PL-714-COMP-09	SAM	04/22/25 17:11		Kareem	OK
67	Q1842-18	PL-714-COMP-10	SAM	04/22/25 17:16		Kareem	OK
68	Q1842-24	PL-714-COMP-11	SAM	04/22/25 17:20		Kareem	OK
69	Q1842-30	PL-714-COMP-12	SAM	04/22/25 17:25		Kareem	OK
70	Q1842-36	PL-714-COMP-13	SAM	04/22/25 17:29		Kareem	OK
71	Q1842-42	PL-714-COMP-14	SAM	04/22/25 17:33		Kareem	OK
72	Q1850-02	CONCRETE-PILE-N-(	SAM	04/22/25 17:38		Kareem	OK
73	Q1850-02DUP	CONCRETE-PILE-N-(	DUP	04/22/25 17:42		Kareem	OK
74	Q1850-02L	CONCRETE-PILE-N-(	SD	04/22/25 17:47		Kareem	OK
75	CCV06	CCV06	CCV	04/22/25 17:51		Kareem	OK

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Instrument ID: P4

Daily Analysis Runlog For Sequence/QCBatch ID # LB135523

Review By	jaswal	Review On	4/23/2025 12:02:36 PM
Supervise By	mohan	Supervise On	4/24/2025 11:42:10 AM

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

76	CCB06	CCB06	CCB	04/22/25 17:55		Kareem	OK
77	Q1850-02MS	CONCRETE-PILE-N-(	MS	04/22/25 18:00		Kareem	OK
78	Q1850-02MSD	CONCRETE-PILE-N-(	MSD	04/22/25 18:04		Kareem	OK
79	Q1850-02A	CONCRETE-PILE-N-(	PS	04/22/25 18:08	0.1 ML EACH M6004,M6013-10ML SAMPLE	Kareem	OK
80	Q1848-01	RBR200027	SAM	04/22/25 18:12		Kareem	OK
81	Q1848-01DUP	RBR200027DUP	DUP	04/22/25 18:16		Kareem	OK
82	Q1848-01L	RBR200027L	SD	04/22/25 18:20		Kareem	OK
83	Q1848-01MS	RBR200027MS	MS	04/22/25 18:25		Kareem	OK
84	Q1848-01MSD	RBR200027MSD	MSD	04/22/25 18:29		Kareem	OK
85	Q1848-01A	RBR200027A	PS	04/22/25 18:33		Kareem	OK
86	Q1848-03	ETGI-275	SAM	04/22/25 18:37		Kareem	OK
87	CCV07	CCV07	CCV	04/22/25 18:56		Kareem	OK
88	CCB07	CCB07	CCB	04/22/25 19:00		Kareem	OK
89	Q1848-05	ETGI-342	SAM	04/22/25 19:05		Kareem	OK
90	PB167691BL	PB167691BL	MB	04/22/25 19:09		Kareem	OK
91	PB167691BS	PB167691BS	LCS	04/22/25 19:13		Kareem	OK
92	Q1841-03	OILY-LIQUIDS	SAM	04/22/25 19:18		Kareem	OK
93	Q1841-03DUP	OILY-LIQUIDSDUP	DUP	04/22/25 19:22		Kareem	OK
94	Q1841-03L	OILY-LIQUIDSL	SD	04/22/25 19:26		Kareem	OK

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Instrument ID: P4

Daily Analysis Runlog For Sequence/QCBatch ID # LB135523

Review By	jaswal	Review On	4/23/2025 12:02:36 PM
Supervise By	mohan	Supervise On	4/24/2025 11:42:10 AM

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

95	Q1841-03MS	OILY-LIQUIDSMS	MS	04/22/25 19:30		Kareem	OK
96	Q1841-03MSD	OILY-LIQUIDSMSD	MSD	04/22/25 19:34		Kareem	OK
97	Q1841-03A	OILY-LIQUIDSA	PS	04/22/25 19:38	0.1 ML EACH M6004,M6013-10ML SAMPLE	Kareem	OK
98	CCV08	CCV08	CCV	04/22/25 19:42		Kareem	OK
99	CCB08	CCB08	CCB	04/22/25 19:46		Kareem	OK

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Prep Standard - Chemical Standard Summary

Order ID : Q1833

Test : Mercury,Metals Group3

Prepbatch ID : PB167671,PB167703,

Sequence ID/Qc Batch ID: LB135518,LB135523,LB135523,

Standard ID :

MP85016,MP85017,MP85018,MP85019,MP85020,MP85021,MP85022,MP85023,MP85024,MP85025,MP85026,MP850
30,MP85031,MP85156,MP85240,MP85241,MP85242,MP85243,MP85393,MP85394,MP85395,MP85396,MP85397,MP
85398,MP85399,MP85400,MP85401,MP85402,MP85403,MP85404,MP85405,MP85406,MP85407,

Chemical ID :

M4251,M4465,M4883,M4891,M4916,M5020,M5062,M5288,M5387,M5395,M5429,M5466,M5472,M5496,M5497,M5516
,M5521,M5532,M5658,M5747,M5748,M5768,M5789,M5798,M5799,M5800,M5801,M5811,M5814,M5816,M5817,M5820
,M5875,M5882,M5884,M5959,M5970,M5978,M5985,M6005,M6012,M6021,M6023,M6028,M6030,M6041,M6058,M607
6,M6128,M6137,M6150,M6151,M6152,M6155,M6156,M6158,M6160,W3112,

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Fax : 908 789 8922

Metals STANDARD PREPARATION LOG

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
902	ICP AES CAL BLK (SO/ICB/CCB)	MP85016	03/26/2025	05/02/2025	Kareem Khairalla	None	None	Sarabjit Jaswal 04/07/2025

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

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
907	ICP AES STD S (S5)	MP85017	03/26/2025	05/02/2025	Kareem Khairalla	None	None	Sarabjit Jaswal 04/07/2025

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

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Metals STANDARD PREPARATION LOG

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
910	ICP AES STD S4	MP85018	03/26/2025	05/02/2025	Kareem Khairalla	None	None	Sarabjit Jaswal 04/07/2025

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

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
909	ICP AES STD S3	MP85019	03/26/2025	05/02/2025	Kareem Khairalla	None	None	Sarabjit Jaswal 04/07/2025

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

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Metals STANDARD PREPARATION LOG

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
3913	ICP AES STD S2	MP85020	03/26/2025	05/02/2025	Kareem Khairalla	None	None	Sarabjit Jaswal 04/07/2025

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

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
2950	ICP AES S1/CRI STOCK STD	MP85021	03/26/2025	05/02/2025	Kareem Khairalla	None	None	Sarabjit Jaswal 04/07/2025

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

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Metals STANDARD PREPARATION LOG

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
2951	ICP AES S1/CRI WORK STD	MP85022	03/26/2025	05/02/2025	Kareem Khairalla	None	None	Sarabjit Jaswal 04/07/2025

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

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
912	ICP AES ICV SOLN	MP85023	03/26/2025	05/02/2025	Kareem Khairalla	None	None	Sarabjit Jaswal 04/07/2025

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

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Metals STANDARD PREPARATION LOG

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
904	ICP AES ICSA SOLN	MP85024	03/26/2025	05/02/2025	Kareem Khairalla	None	None	Sarabjit Jaswal 04/07/2025

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

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
3494	ICP AES ICSAB SOLN-1	MP85025	03/26/2025	05/02/2025	Kareem Khairalla	None	None	Sarabjit Jaswal 04/07/2025

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

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Metals STANDARD PREPARATION LOG

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
911	ICP AES CCV SOLN	MP85026	03/26/2025	05/02/2025	Kareem Khairalla	None	None	Sarabjit Jaswal 04/07/2025

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

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
919	ICP AES INTERNAL STD	MP85030	03/26/2025	05/02/2025	Kareem Khairalla	None	None	Sarabjit Jaswal 04/07/2025

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

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Metals STANDARD PREPARATION LOG

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
513	RINSE SOLN	MP85031	03/26/2025	05/02/2025	Kareem Khairalla	None	None	Sarabjit Jaswal 04/07/2025

FROM 200.00000ml of M5789 + 9800.00000ml of W3112 = Final Quantity: 10000.000 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
170	1:1HCL	MP85156	04/07/2025	08/18/2025	Kareem Khairalla	None	None	Sarabjit Jaswal 04/07/2025

FROM 1250.00000ml of M6151 + 1250.00000ml of W3112 = Final Quantity: 2500.000 ml

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Metals STANDARD PREPARATION LOG

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
3965	2:1 H2SO4 : HNO3	MP85240	04/16/2025	10/16/2025	Mohan Bera	None	None	Sarabjit Jaswal 04/29/2025

FROM 1600.00000ml of M6041 + 800.00000ml of M6158 = Final Quantity: 3200.000 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
65	POTASSIUM PERMANGANATE SOLUTION 5 %	MP85241	04/16/2025	10/16/2025	Mohan Bera	METALS_SCALE_3 (M SC-3)	None	Sarabjit Jaswal 04/29/2025

FROM 100.00000gram of M4916 + 2000.00000ml of W3112 = Final Quantity: 2000.000 ml

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Metals STANDARD PREPARATION LOG

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
66	POTASSIUM PERSULFATE SOLUTION 5 %	MP85242	04/16/2025	08/06/2025	Mohan Bera	METALS_SCALE_3 (M SC-3)	None	Sarabjit Jaswal 04/29/2025

FROM 100.00000ml of M4465 + 2000.00000ml of W3112 = Final Quantity: 2000.000 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
67	SODIUM CHLORIDE - HYDROXYL- CHLORIDE SOLUTION	MP85243	04/16/2025	06/25/2025	Mohan Bera	METALS_SCALE_3 (M SC-3)	None	Sarabjit Jaswal 04/29/2025

FROM 2000.00000ml of W3112 + 240.00000gram of M4251 + 240.00000gram of M5884 = Final Quantity: 2000.000 ml

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Metals STANDARD PREPARATION LOG

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
68	STANNOUS CHLORIDE SOLUTION	MP85393	04/22/2025	04/23/2025	Mohan Bera	None	None	Sarabjit Jaswal 04/29/2025

FROM 450.00000ml of W3112 + 50.00000gram of M5882 + 50.00000ml of M6151 = Final Quantity: 500.000 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
871	MERCURY INTERMEDIATE B 250PPB WORKING STD.	MP85394	04/22/2025	04/23/2025	Mohan Bera	None	METALS_PIPETTE_5 (HGA)	Sarabjit Jaswal 04/29/2025

FROM 1.00000ml of M6158 + 2.50000ml of M5062 + 96.50000ml of W3112 = Final Quantity: 100.000 ml

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Metals STANDARD PREPARATION LOG

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
1340	Hg 0.00 PPB STD	MP85395	04/22/2025	04/23/2025	Mohan Bera	None	METALS_PIPETTE_5 (HGA)	Sarabjit Jaswal 04/29/2025

FROM 2.50000ml of M6158 + 247.50000ml of W3112 = Final Quantity: 250.000 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
2750	Hg 0.05ppb	MP85396	04/22/2025	04/23/2025	Mohan Bera	None	METALS_PIPETTE_5 (HGA)	Sarabjit Jaswal 04/29/2025

FROM 2.50000ml of M6158 + 247.45000ml of W3112 + 0.05000ml of MP85394 = Final Quantity: 250.000 ml

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Metals STANDARD PREPARATION LOG

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
1341	Hg 0.2 PPB STD	MP85397	04/22/2025	04/23/2025	Mohan Bera	None	METALS_PIPETTE_5 (HGA)	Sarabjit Jaswal 04/29/2025

FROM 2.50000ml of M6158 + 247.30000ml of W3112 + 0.20000ml of MP85394 = Final Quantity: 250.000 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
1342	Hg 2.5 PPB STD	MP85398	04/22/2025	04/23/2025	Mohan Bera	None	METALS_PIPETTE_5 (HGA)	Sarabjit Jaswal 04/29/2025

FROM 2.50000ml of M6158 + 245.00000ml of W3112 + 2.50000ml of MP85394 = Final Quantity: 250.000 ml

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Metals STANDARD PREPARATION LOG

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
1343	Hg 5.0 PPB STD	MP85399	04/22/2025	04/23/2025	Mohan Bera	None	METALS_PIPETTE_5 (HGA)	Sarabjit Jaswal 04/29/2025

FROM 2.50000ml of M6158 + 242.50000ml of W3112 + 5.00000ml of MP85394 = Final Quantity: 250.000 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
1344	Hg 7.5 PPB STD	MP85400	04/22/2025	04/23/2025	Mohan Bera	None	METALS_PIPETTE_5 (HGA)	Sarabjit Jaswal 04/29/2025

FROM 2.50000ml of M6158 + 240.00000ml of W3112 + 7.50000ml of MP85394 = Final Quantity: 250.000 ml

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Metals STANDARD PREPARATION LOG

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
1345	Hg 10.0 PPB STD	MP85401	04/22/2025	04/23/2025	Mohan Bera	None	METALS_PIPETTE_5 (HGA)	Sarabjit Jaswal 04/29/2025

FROM 2.50000ml of M6158 + 237.50000ml of W3112 + 10.00000ml of MP85394 = Final Quantity: 250.000 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
1346	Hg ICV SOLUTION	MP85402	04/22/2025	04/23/2025	Mohan Bera	None	METALS_PIPETTE_5 (HGA)	Sarabjit Jaswal 04/29/2025

FROM 2.50000ml of M5532 + 2.50000ml of M6158 + 245.00000ml of W3112 = Final Quantity: 250.000 ml

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Metals STANDARD PREPARATION LOG

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
1351	ICB (Hg 0.00 PPB SOLUTION)	MP85403	04/22/2025	04/23/2025	Mohan Bera	None	METALS_PIPETTE_5 (HGA)	Sarabjit Jaswal 04/29/2025

FROM 2.50000ml of M6158 + 247.50000ml of W3112 = Final Quantity: 250.000 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
1358	CCV (Hg 5.0 PPB SOLUTION)	MP85404	04/22/2025	04/23/2025	Mohan Bera	None	METALS_PIPETTE_5 (HGA)	Sarabjit Jaswal 04/29/2025

FROM 485.00000ml of W3112 + 5.00000ml of M6158 + 10.00000ml of MP85394 = Final Quantity: 500.000 ml

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Metals STANDARD PREPARATION LOG

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
1352	CCB (Hg 0.00 PPB SOLUTION)	MP85405	04/22/2025	04/23/2025	Mohan Bera	None	METALS_PIPETTE_5 (HGA)	Sarabjit Jaswal 04/29/2025

FROM 495.00000ml of W3112 + 5.00000ml of M6158 = Final Quantity: 500.000 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
1349	CRA/CRI (Hg 0.2 PPB SOLUTION)	MP85406	04/22/2025	04/23/2025	Mohan Bera	None	METALS_PIPETTE_5 (HGA)	Sarabjit Jaswal 04/29/2025

FROM 2.50000ml of M6158 + 247.30000ml of W3112 + 0.20000ml of MP85394 = Final Quantity: 250.000 ml

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Metals STANDARD PREPARATION LOG

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
1350	CHK STD (Hg 7.0 PPB SOLUTION)	MP85407	04/22/2025	04/23/2025	Mohan Bera	None	METALS_PIPETTE_5 (HGA)	Sarabjit Jaswal 04/29/2025

FROM 2.50000ml of M6158 + 240.50000ml of W3112 + 7.00000ml of MP85394 = Final Quantity: 250.000 ml

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CHEMICAL RECEIPT LOG BOOK

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Seidler Chemical	BA-2196-01 / Hydroxylamine Hydrochloride, Crystal (cs/4x500g)	0000215387	06/25/2025	12/19/2018 / mohan	12/05/2018 / mohan	M4251

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Seidler Chemical	BA-3238-05 / Potassium Persulfate (2.5kg)	0000234156	08/06/2025	07/23/2019 /	07/25/2019 / manojkumar	M4465

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

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

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Seidler Chemical	BA-3227-05 / Potassium Permanganate (2.5kg)	210800	03/31/2026	11/30/2022 / mohan	07/28/2021 / mohan	M4916

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

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CHEMICAL RECEIPT LOG BOOK

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

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

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

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

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

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CHEMICAL RECEIPT LOG BOOK

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

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

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

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

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	58029 / Cu, 1000 PPM, 500 ml	102622	10/26/2025	11/21/2022 / bin	11/20/2022 / bin	M5521

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
EPA	ICV-5 / ICV (HG) STOCK SOLN	ICV5-0415	04/30/2025	01/02/2025 /	03/30/2023 / mohan	M5532

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

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

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	/ Nickel (Ni) 1000PPM	091223	09/12/2026	01/02/2024 / bin	12/20/2023 / jaswal	M5748

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	58112 / Mg, 10000 PPM, 500 ml	091823	09/18/2026	01/08/2024 / bin	01/03/2024 / bin	M5768

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

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

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

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

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

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

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

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

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

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	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 #
Seidler Chemical	BA-3624-05 / Sodium Chloride, Crystal (cs/4x2.5kg)	0000281938	07/06/2026	04/30/2024 / mohan	04/25/2024 / mohan	M5884

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

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CHEMICAL RECEIPT LOG BOOK

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

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

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

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Inorganic Ventures	WW-LFS-1 / Laboratory Fortified Stock Solution 1, 125 ml	T2-MEB723367	08/30/2026	04/15/2025 / JANVI	05/14/2024 / Jaswal	M6005

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

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	57023 / V, 1000 PPM, 125 ml	062424	06/24/2027	09/28/2024 / jaswal	08/05/2024 / Jaswal	M6021

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CHEMICAL RECEIPT LOG BOOK

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	57081 / Tl, 1000 PPM, 125 ml	0624724	06/27/2027	08/05/2024 / kareem	08/05/2024 / Jaswal	M6023

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

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

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Seidler Chemical	BA-9673-33 / Sulfuric Acid, Instra-Analyzed (cs/6c2.5L)	23D2462010	03/20/2028	08/16/2024 / mohan	08/16/2024 / mohan	M6041

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

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

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

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

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

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

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

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

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CHEMICAL RECEIPT LOG BOOK

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

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Seidler Chemical	BA-9598-34 / Nitric Acid, Instra-Analyzed (cs/4x2.5L)	24D1062002	03/25/2029	03/10/2025 / Eman	02/02/2025 / Sagar	M6158

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

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Seidler Chemical	DIW / DI Water	Daily Lab-Certified	07/03/2029	07/03/2024 / Iwona	07/03/2024 / Iwona	W3112

Certificate of Analysis

ThermoFisher SCIENTIFIC

M5882 M3

Certificate of Analysis

1 Reagent Lane
Fair Lawn, NJ 07410
201.796.7100 tel
201.796.1329 fax

Thermo Fisher Scientific's Quality System has been found to conform to Quality Management System Standard ISO9001:2015 by SAI Global Certificate Number CERT – 0120633

This is to certify that units of the lot number below were tested and found to comply with the specifications of the grade listed. Certain data have been supplied by third parties. Thermo Fisher Scientific expressly disclaims all warranties, expressed or implied, including the implied warranties of merchantability and fitness for a particular purpose. Products are for research use or further manufacturing. Not for direct administration to humans or animals. It is the responsibility of the final formulator and end user to determine suitability based upon the intended use of the end product. Products are tested to meet the analytical requirements of the noted grade. The following information is the actual analytical results obtained.

Catalog Number	T142	Quality Test / Release Date	08/17/2023
Lot Number	232820		
Description	STANNOUS CHLORIDE, DIHYDRATE CERTIFIED ACS (Suitable for Mercury Determination)		
Country of Origin	United States	Suggested Retest Date	Aug/2028
Chemical Origin	Inorganic-non animal		
BSE/TSE Comment	No animal products are used as starting raw material ingredients, or used in processing, including lubricants, processing aids, or any other material that might migrate to the finished product.		

N/A			
Result Name	Units	Specifications	Test Value
APPEARANCE		REPORT	Clear crystals
ASSAY	%	Inclusive Between 98 - 103	100.65
CALCIUM	%	<= 0.005	0.0017
IDENTIFICATION	PASS/FAIL	= PASS TEST	PASS TEST
IRON (Fe)	%	<= 0.003	0.0011
LEAD (Pb)	%	<= 0.01	0.0006
MERCURY (Hg)	ppm	<= 0.05	<0.05
POTASSIUM (K)	%	<= 0.005	0.0001
SODIUM (Na)	%	<= 0.01	<0.01
SOLUBILITY IN HCL	PASS/FAIL	= PASS TEST	PASS TEST
SULFATE (SO4)	PASS/FAIL	= P.T. (ABOUT 0.003%)	P.T. (ABOUT 0.003%)

Harout Sahagian - Quality Control Supervisor - Fair Lawn

Note: The data listed is valid for all package sizes of this lot of this product, expressed as an extension of this catalog number listed above.
If there are any questions with this certificate, please call at (800) 227-6701.
*Based on suggested storage condition.

Absolute Standards, Inc.
800-368-1131
www.absolutestandards.com

Certified Reference Material CRM

M6028

R 8/5/24

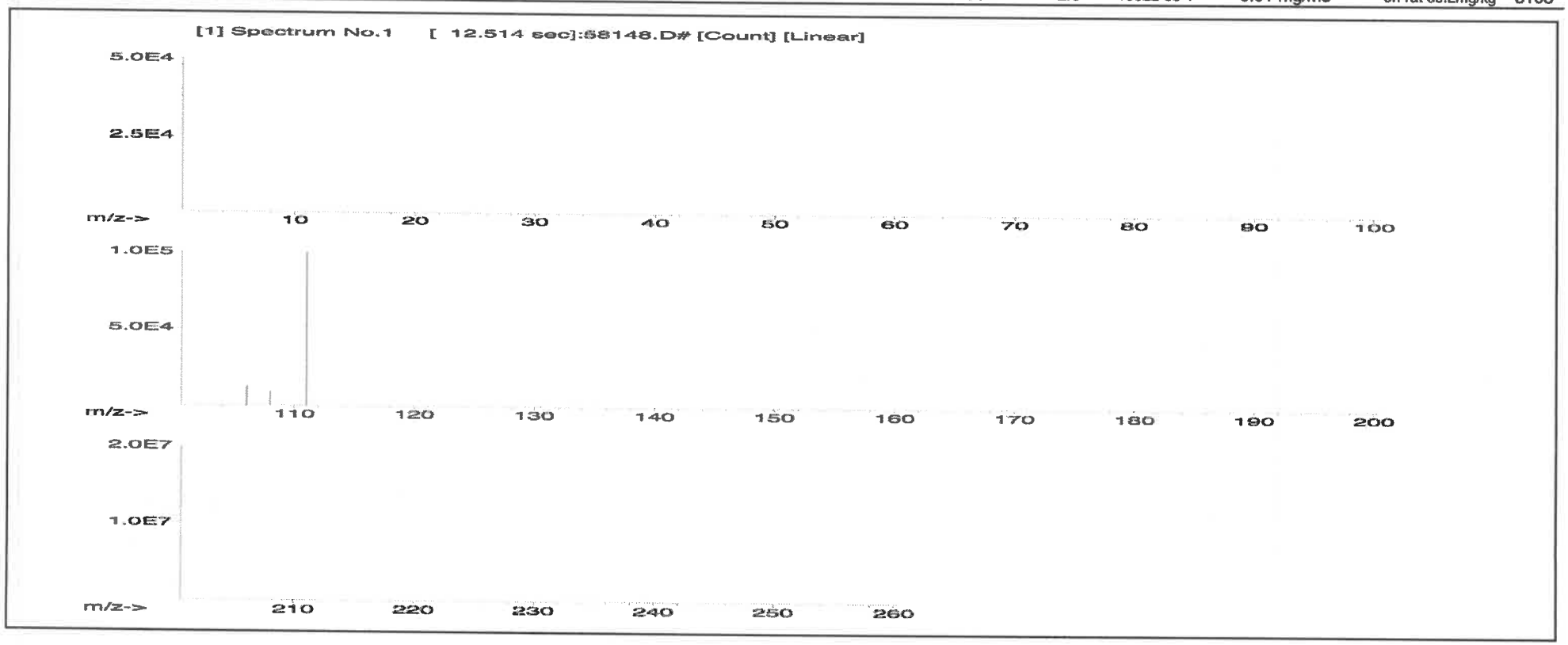
ANAB ISO 17034 Accredited
AR-1539 Certificate Number
https://Absolutestandards.com

CERTIFIED WEIGHT REPORT:

Part Number:	**57048**		**Lot #**		
Lot Number:	**070124**	**Solvent:**	24002546	Nitric Acid	
Description:	**Cadmium (Cd)**	2%	40.0 (mL)	Nitric Acid	
Expiration Date:	070127				
Recommended Storage:	Ambient (20 °C)				
Nominal Concentration (µg/mL):	**1000**				
NIST Test Number:	6UTB	5E-05	Balance Uncertainty		
Weight shown below was diluted to (mL):	2000.07	0.100	Flask Uncertainty		

Aleah O'Brady		
Formulated By:	Aleah O'Brady	070124
Pedro Rentas		
Reviewed By:	Pedro L. Rentas	070124

Compound	RM#	Lot Number	Nominal Conc. (µg/mL)	Purity (%)	Uncertainty Purity (%)	Assay (%)	Target Weight (g)	Actual Weight (g)	Actual Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50	NIST SRM
1. Cadmium nitrate tetrahydrate (Cd)	IN024	CDM092021A1	1000	99.999	0.10	36.5	5.4797	5.4804	**1000.1**	**2.0**	10022-68-1	0.01 mg/m3	orl-rat 60.2mg/kg	3108



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

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

(T) = Target analyte

Physical Characterization:

Certified by:

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

* The certified value is the concentration calculated from gravimetric and volumetric measurements unless otherwise stated.
* Purified acids, 18.2 megohm deionized water, calibrated Class A glassware and the highest purity raw materials are used in the preparation of all standards.
* All standard containers are meticulously cleaned prior to use.
* Standards are prepared gravimetrically using balances that are calibrated with weights traceable to NIST (see above).
* Standards are certifed (+/-) 0.5% of the stated value, unless otherwise stated.
* All standards should be stored with caps tight and under appropriate laboratory conditions.
* Uncertainty Reference: Taylor, B.N. and Kuyat, C.E., "Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Result," NIST Technical Note 1297, U.S. Government Printing Office, Washington, D.C. (1994).

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Certificate of Analysis

300 Technology Drive
Christiansburg, VA 24073 USA
inorganicventures.com

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F: 540-585-3012
info@inorganicventures.com

1.0 ACCREDITATION / REGISTRATION

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

ACCREDITED Testing Laboratory Certificate 883.01
ACCREDITED Reference Material Producer Certificate 883.02

2.0 PRODUCT DESCRIPTION

Product Code:	Multi Analyte Custom Grade Solution
Catalog Number:	CLPP-CAL-1
Lot Number:	T2-MEB714417
Matrix:	5% (v/v) HNO3
Value / Analyte(s):	5 000 µg/mL ea: Calcium, Potassium, Magnesium, Sodium, 2 000 µg/mL ea: Aluminum, Barium, 1 000 µg/mL ea: Iron, 500 µg/mL ea: Nickel, Vanadium, Zinc, Cobalt, Manganese, 250 µg/mL ea: Silver, Copper, 200 µg/mL ea: Chromium, 50 µg/mL ea: Beryllium

3.0 CERTIFIED VALUES AND UNCERTAINTIES

ANALYTE	CERTIFIED VALUE	ANALYTE	CERTIFIED VALUE
Aluminum, Al	**2 000 ± 7 µg/mL**	**Barium, Ba**	**2 000 ± 9 µg/mL**
Beryllium, Be	**50.00 ± 0.26 µg/mL**	**Calcium, Ca**	**5 000 ± 22 µg/mL**
Chromium, Cr	**200.0 ± 1.0 µg/mL**	**Cobalt, Co**	**500.0 ± 2.4 µg/mL**
Copper, Cu	**250.0 ± 1.0 µg/mL**	**Iron, Fe**	**1 000 ± 4 µg/mL**
Magnesium, Mg	**5 000 ± 20 µg/mL**	**Manganese, Mn**	**500.0 ± 2.0 µg/mL**
Nickel, Ni	**500.0 ± 2.2 µg/mL**	**Potassium, K**	**5 000 ± 19 µg/mL**
Silver, Ag	**250.0 ± 1.1 µg/mL**	**Sodium, Na**	**5 000 ± 18 µg/mL**
Vanadium, V	**499.7 ± 2.2 µg/mL**	**Zinc, Zn**	**500.0 ± 2.2 µg/mL**

Density: 1.118 g/mL (measured at 20 ± 4 ºC)

Assay Information:

ANALYTE	METHOD	NIST SRM#	SRM LOT#
Ag	ICP Assay	3151	160729
Ag	Volhard	999c	999c
Al	ICP Assay	3101a	140903
Al	EDTA	928	928
Ba	ICP Assay	3104a	140909
Ba	Gravimetric		See Sec. 4.2
Be	ICP Assay	3105a	090514
Be	Calculated		See Sec. 4.2
Ca	ICP Assay	3109a	130213
Ca	EDTA	928	928
Co	ICP Assay	3113	190630
Co	EDTA	928	928
Cr	ICP Assay	3112a	170630
Cr	Calculated		See Sec. 4.2
Cu	ICP Assay	3114	121207
Cu	EDTA	928	928
Fe	ICP Assay	3126a	140812
Fe	EDTA	928	928
K	ICP Assay	3141a	140813
K	Gravimetric		See Sec. 4.2
Mg	ICP Assay	3131a	140110
Mg	EDTA	928	928
Mn	ICP Assay	3132	050429
Mn	EDTA	928	928
Na	ICP Assay	3152a	120715
Na	Gravimetric		See Sec. 4.2
Ni	ICP Assay	3136	120619
Ni	EDTA	928	928
V	IC Assay	3165	160906
V	EDTA	928	928
Zn	ICP Assay	3168a	120629
Zn	EDTA	928	928

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

Characterization of CRM/RM by Two or More Methods

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

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

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

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

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

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

$u_{char} = [\Sigma((w_i)^2\,(u_{char\ i})^2)]^{½}$ where $u_{char\ i}$ are the errors from each characterization method

u_{bb} = bottle to bottle homogeneity standard uncertainty

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

u_{ts} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

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

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

X_a = mean of Assay Method A with

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

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

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

u_{bb} = bottle to bottle homogeneity standard uncertainty

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

u_{ts} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

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

4.1 Thermometer Calibration

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

4.2 Balance Calibration

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

4.3 Glassware Calibration

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

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

N/A

6.0 INTENDED USE

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

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

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

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

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

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

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

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

8.0 HAZARDOUS INFORMATION

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

9.0 HOMOGENEITY

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

10.0 QUALITY STANDARD DOCUMENTATION

10.1 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

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

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

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

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

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

11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

January 27, 2022

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

11.2 Lot Expiration Date

- **January 27, 2027**

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

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

11.3 Period of Validity

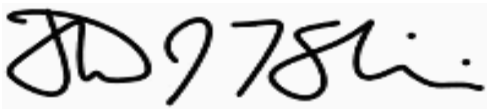
- Sealed TCT Bag Open Date: _____

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

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Approved By:

Thomas Kozikowski
Manager, Quality Control



Certifying Officer:

Paul Gaines
Chairman / Senior Technical Director

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1.0 ACCREDITATION / REGISTRATION

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ACCREDITED Testing Laboratory Certificate 883.01
ACCREDITED Reference Material Producer Certificate 883.02

2.0 PRODUCT DESCRIPTION

Product Code:	Multi Analyte Custom Grade Solution
Catalog Number:	CLPP-CAL-3
Lot Number:	T2-MEB714159
Matrix:	7% (v/v) HNO3
Value / Analyte(s):	1 000 µg/mL ea: Arsenic, Lead, Selenium, Thallium, 500 µg/mL ea: Cadmium

3.0 CERTIFIED VALUES AND UNCERTAINTIES

ANALYTE	CERTIFIED VALUE	ANALYTE	CERTIFIED VALUE
Arsenic, As	**1 000 ± 8 µg/mL**	**Cadmium, Cd**	**500.0 ± 2.1 µg/mL**
Lead, Pb	**1 000 ± 5 µg/mL**	**Selenium, Se**	**1 000 ± 8 µg/mL**
Thallium, Tl	**1 000 ± 7 µg/mL**		

Density: 1.043 g/mL (measured at 20 ± 4 ºC)

Assay Information:

ANALYTE	METHOD	NIST SRM#	SRM LOT#
As	ICP Assay	3103a	100818
Cd	ICP Assay	3108	130116
Cd	EDTA	928	928
Pb	ICP Assay	3128	101026
Pb	EDTA	928	928
Se	ICP Assay	3149	100901
Tl	ICP Assay	3158	151215

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

Characterization of CRM/RM by Two or More Methods

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

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

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

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

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

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

$u_{char} = [\Sigma((w_i)^2\,(u_{char\ i})^2)]^{½}$ where $u_{char\ i}$ are the errors from each characterization method

u_{bb} = bottle to bottle homogeneity standard uncertainty

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

u_{ts} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

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

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

X_a = mean of Assay Method A with

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

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

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

u_{bb} = bottle to bottle homogeneity standard uncertainty

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

u_{ts} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

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

4.1 Thermometer Calibration

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

4.2 Balance Calibration

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

4.3 Glassware Calibration

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

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

N/A

6.0 INTENDED USE

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

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

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

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

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

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

8.0 HAZARDOUS INFORMATION

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

9.0 HOMOGENEITY

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

10.0 QUALITY STANDARD DOCUMENTATION

10.1 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

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

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

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

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

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

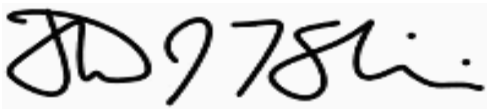
- Sealed TCT Bag Open Date: _____

- 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

Absolute Standards, Inc.
800-368-1131
www.absolutestandards.com

Certified Reference Material CRM

R : 01/03/24. M5810, M5811

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

CERTIFIED WEIGHT REPORT:

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

Expiration Date: 051526
Recommended Storage: Ambient (20 °C)
Nominal Concentration (µg/mL): 10000
NIST Test Number: 6UTB
Weight shown below was diluted to (mL): 5000.1

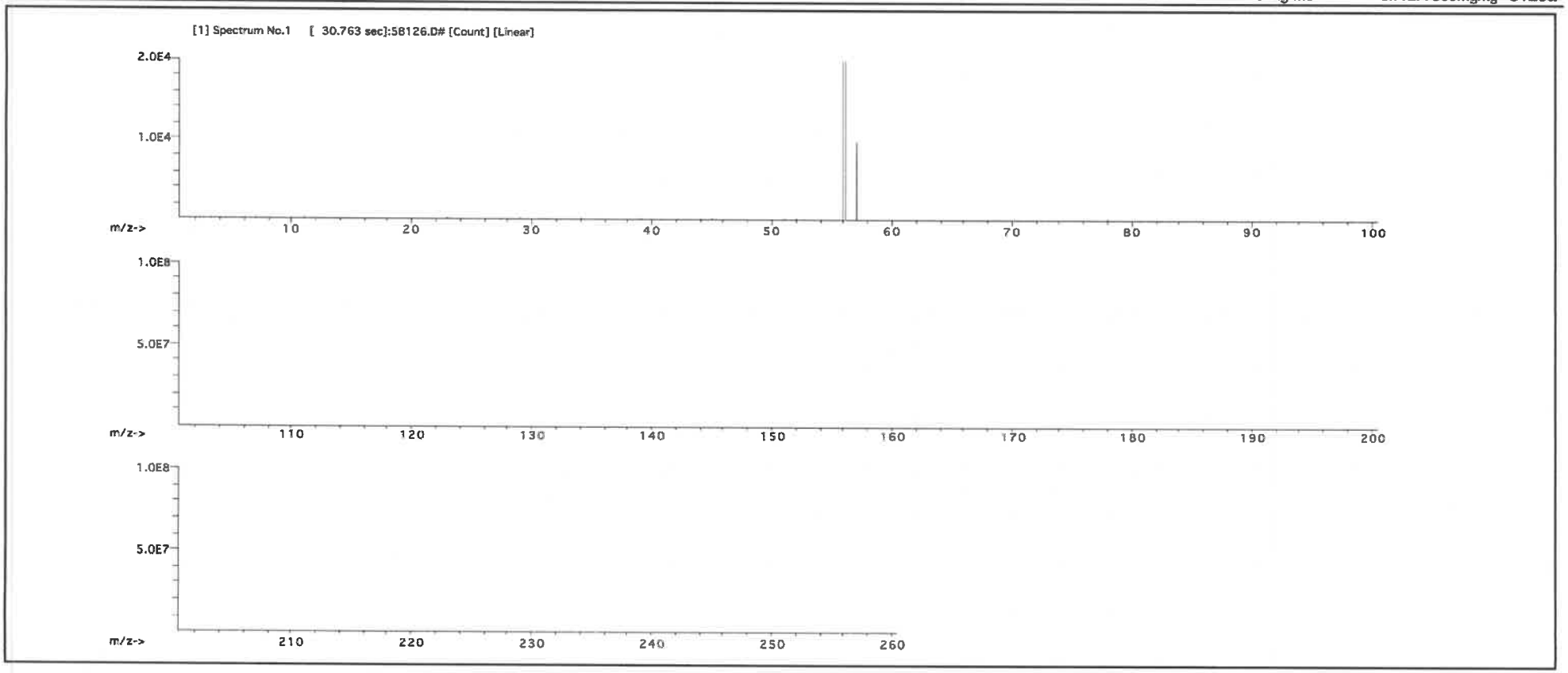
	Lot #		
Solvent:	21110221	Nitric Acid	
5.0%	250.0 (mL)	Nitric Acid	
5E-05	Balance Uncertainty		
0.12	Flask Uncertainty		

Giovanni Esposito

Formulated By: Giovanni Esposito 051523

Reviewed By: Pedro L. Rentas 051523

Compound	RM#	Lot Number	Nominal Conc. (µg/mL)	Purity (%)	Uncertainty Purity (%)	Assay (%)	Target Weight (g)	Actual Weight (g)	Actual Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50	NIST SRM
1. Iron (Fe)	IN346	2302010-500	10000	99.995	0.10	100.0	50.0034	50.0111	**10001.5**	**20.0**	7439-89-6	5 mg/m3	orl-rat 7500mg/kg	3126a



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

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

Al	<0.02	Cd	<0.02	Dy	<0.02	Hf	<0.02	Li	<0.02	Ni	<0.10	Pr	<0.02	Se	<0.2	Tb	<0.02	W	<0.02
Sb	<0.02	Ca	<0.2	Er	<0.02	Ho	<0.02	Lu	<0.02	Nb	<0.02	Re	<0.02	Si	<0.02	Te	<0.02	U	<0.02
As	<0.2	Ce	<0.02	Eu	<0.02	In	<0.02	Mg	<0.01	Os	<0.02	Rh	<0.02	Ag	<0.02	Tl	<0.02	V	<0.02
Ba	<0.02	Cs	<0.02	Gd	<0.02	Ir	<0.02	Mn	<0.10	Pd	<0.02	Rb	<0.02	Na	<0.2	Th	<0.02	Yb	<0.02
Be	<0.01	Cr	<0.05	Ga	<0.02	Fe	<0.2	Hg	<0.2	P	<0.02	Ru	<0.02	Sr	<0.02	Tm	<0.02	Y	<0.02
Bi	<0.02	Co	<0.10	Ge	<0.10	La	<0.02	Mo	<0.02	Pt	<0.02	Sm	<0.02	S	<0.02	Sn	<0.02	Zn	<0.10
B	<0.02	Cu	<0.10	Au	<0.02	Pb	<0.02	Nd	<0.02	K	<0.2	Sc	<0.02	Ta	<0.02	Ti	<0.02	Zr	<0.02

(T) = Target analyte

Physical Characterization:

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

Certified by:

* The certified value is the concentration calculated from gravimetric and volumetric measurements unless otherwise stated.
* Purified acids, 18.2 megohm deionized water, calibrated Class A glassware and the highest purity raw materials are used in the preparation of all standards.
* All standard containers are meticulously cleaned prior to use.
* Standards are prepared gravimetrically using balances that are calibrated with weights traceable to NIST (see above).
* Standards are certifed (+/-) 0.5% of the stated value, unless otherwise stated.
* All Standards should be stored with caps tight and under appropriate laboratory conditions.
* Uncertainty Reference: Taylor, B.N. and Kuyat, C.E., "Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Result," NIST Technical Note 1297, U.S. Government Printing Office, Washington, D.C. (1994).

INORGANIC VENTURES™

Refine your results. Redefine your industry.

Certificate of Analysis

RD:05/14/2024

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F: 540-585-3012
info@inorganicventures.com

1.0 ACCREDITATION / REGISTRATION

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

ACCREDITED Testing Laboratory Certificate 883.01

ACCREDITED Reference Material Producer Certificate 883.02

2.0 PRODUCT DESCRIPTION

Product Code:	Multi Analyte Custom Grade Solution
Catalog Number:	WW-LFS-1
Lot Number:	T2-MEB723367
Matrix:	5% (v/v) HNO3

Value / Analyte(s):	1 000 µg/mL ea: Potassium,	
	600 µg/mL ea: Phosphorus,	
	300 µg/mL ea: Sodium,	Iron,
	200 µg/mL ea: Magnesium, Cerium, Thallium,	Aluminum, Selenium,
	100 µg/mL ea: Lead,	Calcium,
	80 µg/mL ea: Arsenic,	
	70 µg/mL ea: Mercury,	
	50 µg/mL ea: Nickel,	
	40 µg/mL ea: Chromium,	
	30 µg/mL ea: Copper, Vanadium,	Boron,
	20 µg/mL ea: Zinc, Barium, Cadmium, Manganese,	Strontium, Beryllium, Cobalt, Lithium,
	7.5 µg/mL ea: Silver	

3.0 CERTIFIED VALUES AND UNCERTAINTIES

ANALYTE	CERTIFIED VALUE	ANALYTE	CERTIFIED VALUE
Aluminum, Al	200.0 ± 0.7 µg/mL	Arsenic, As	80.0 ± 0.7 µg/mL
Barium, Ba	20.00 ± 0.09 µg/mL	Beryllium, Be	20.00 ± 0.13 µg/mL
Boron, B	30.00 ± 0.18 µg/mL	Cadmium, Cd	20.00 ± 0.09 µg/mL
Calcium, Ca	100.0 ± 0.4 µg/mL	Cerium, Ce	200.0 ± 0.8 µg/mL
Chromium, Cr	40.00 ± 0.30 µg/mL	Cobalt, Co	20.00 ± 0.10 µg/mL
Copper, Cu	30.00 ± 0.13 µg/mL	Iron, Fe	300.0 ± 1.3 µg/mL
Lead, Pb	100.0 ± 0.4 µg/mL	Lithium, Li	20.00 ± 0.08 µg/mL
Magnesium, Mg	200.0 ± 0.8 µg/mL	Manganese, Mn	20.00 ± 0.08 µg/mL
Mercury, Hg	70.0 ± 0.3 µg/mL	Nickel, Ni	50.00 ± 0.22 µg/mL
Phosphorus, P	600.0 ± 2.7 µg/mL	Potassium, K	1 000 ± 4 µg/mL
Selenium, Se	200.0 ± 1.3 µg/mL	Silver, Ag	7.50 ± 0.03 µg/mL
Sodium, Na	300.0 ± 1.4 µg/mL	Strontium, Sr	20.01 ± 0.08 µg/mL
Thallium, Tl	200.0 ± 1.4 µg/mL	Vanadium, V	30.00 ± 0.13 µg/mL
Zinc, Zn	20.00 ± 0.09 µg/mL		

Density: 1.034 g/mL (measured at 20 ± 4 °C)

Assay Information:

ANALYTE	METHOD	NIST SRM#	SRM LOT#
Ag	ICP Assay	3151	160729
Ag	Volhard	999c	999c
Ag	Calculated		See Sec. 4.2
Al	ICP Assay	3101a	140903
Al	EDTA	928	928
As	ICP Assay	3103a	100818
B	ICP Assay	3107	190605
Ba	ICP Assay	3104a	140909
Ba	Gravimetric		See Sec. 4.2
Be	ICP Assay	3105a	090514
Ca	ICP Assay	3109a	130213
Ca	EDTA	928	928
Cd	ICP Assay	3108	130116
Cd	EDTA	928	928
Ce	ICP Assay	3110	090504
Ce	EDTA	928	928
Co	ICP Assay	3113	190630
Co	EDTA	928	928
Cr	ICP Assay	3112a	170630
Cu	ICP Assay	3114	121207
Cu	EDTA	928	928
Fe	ICP Assay	3126a	140812
Fe	EDTA	928	928
Hg	ICP Assay	3133	160921
Hg	EDTA	928	928
K	ICP Assay	3141a	140813
K	Gravimetric		See Sec. 4.2
Li	ICP Assay	3129a	100714
Li	Gravimetric		See Sec. 4.2
Mg	ICP Assay	3131a	140110
Mg	EDTA	928	928
Mn	ICP Assay	3132	050429
Mn	EDTA	928	928
Na	ICP Assay	Traceable to 3152A	S2-NA700842
Na	Gravimetric		See Sec. 4.2
Ni	ICP Assay	3136	120619
Ni	EDTA	928	928
P	ICP Assay	3139a	060717
P	Acidimetric	84L	84L
Pb	ICP Assay	3128	101026
Pb	EDTA	928	928
Se	ICP Assay	3149	100901
Sr	EDTA	928	928
Sr	ICP Assay	Traceable to 3153a	K2-SR650985
Tl	ICP Assay	3158	151215
V	IC Assay	3165	160906
V	EDTA	928	928
Zn	ICP Assay	3168a	120629
Zn	EDTA	928	928

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

Characterization of CRM/RM by Two or More Methods

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

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

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

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

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

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

$u_{char} = [\Sigma((w_i)^2\ (u_{char\ i})^2)]^{½}$ where $u_{char\ i}$ are the errors from each characterization method

u_{bb} = bottle to bottle homogeneity standard uncertainty

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

u_{ts} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

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

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

X_a = mean of Assay Method A with

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

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

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

u_{bb} = bottle to bottle homogeneity standard uncertainty

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

u_{ts} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

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

4.1 Thermometer Calibration

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

4.2 Balance Calibration

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

4.3 Glassware Calibration

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

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

N/A

6.0 INTENDED USE

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

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

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

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

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

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

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

8.0 HAZARDOUS INFORMATION

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

9.0 HOMOGENEITY

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

10.0 QUALITY STANDARD DOCUMENTATION

10.1 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

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

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

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

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

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11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

August 30, 2022

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

11.2 Lot Expiration Date

- **August 30, 2026**

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

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

11.3 Period of Validity

- Sealed TCT Bag Open Date: _____

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

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Approved By:

Thomas Kozikowski
Manager, Quality Control

Certifying Officer:

Paul Gaines
Chairman / Senior Technical Director

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Certificate of Analysis

RD:05/14/2024

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info@inorganicventures.com

1.0 ACCREDITATION / REGISTRATION

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

ACCREDITED Testing Laboratory Certificate 863.01 ACCREDITED Reference Material Producer Certificate 863.02

2.0 PRODUCT DESCRIPTION

Product Code:	Multi Analyte Custom Grade Solution
Catalog Number:	WW-LFS-2
Lot Number:	U2-MEB731108
Matrix:	5% (v/v) HNO3 tr. HF
Value / Analyte(s):	200 µg/mL ea: Silica, 80 µg/mL ea: Antimony, 70 µg/mL ea: Tin, 40 µg/mL ea: Molybdenum, 20 µg/mL ea: Titanium

3.0 CERTIFIED VALUES AND UNCERTAINTIES

ANALYTE	CERTIFIED VALUE	ANALYTE	CERTIFIED VALUE
Antimony, Sb	80.1 ± 0.6 µg/mL	Molybdenum, Mo	40.03 ± 0.18 µg/mL
Silica, SiO2	200.2 ± 1.3 µg/mL	Tin, Sn	70.0 ± 0.4 µg/mL
Titanium, Ti	20.01 ± 0.13 µg/mL		

Density: 1.025 g/mL (measured at 20 ± 4 °C)

Assay Information:

ANALYTE	METHOD	NIST SRM#	SRM LOT#
Mo	ICP Assay	3134	130418
Mo	Calculated		See Sec. 4.2
Sb	ICP Assay	3102a	140911
SiO2	ICP Assay	3150	130912
Sn	ICP Assay	3161a	140917
Ti	ICP Assay	3162a	130925
Ti	Calculated		See Sec. 4.2

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

Characterization of CRM/RM by Two or More Methods

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

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

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

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

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

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\ (u^2_{char} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

$u_{char} = [\Sigma((w_i)^2\ (u_{char\ i})^2)]^{½}$ where $u_{char\ i}$ are the errors from each characterization method

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Characterization of CRM/RM by One Method

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

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

X_a = mean of Assay Method A with

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

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\ (u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

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

u_{bb} = bottle to bottle homogeneity standard uncertainty

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

u_{ts} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

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

4.1 Thermometer Calibration

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

4.2 Balance Calibration

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

4.3 Glassware Calibration

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

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

N/A

6.0 INTENDED USE

6.1 This standard is intended for the calibration of analytical instruments and validation of analytical methods as appropriate. This CRM may be used in connection with EPA Methods 6010, 6020 (all versions), Standard Methods 3120 B and USP <232> / ICH Q3D.

6.2 For products attaining traceability through Inorganic Ventures' Primary Certified Reference Materials (PCRM™) see the Limited License to Use PCRM™ in the Inorganic Ventures Terms and Conditions of Sale, https://www.inorganicventures.com/terms-and-conditions-sale. The Terms and Conditions contain information on the use of materials traceable to PCRM™ certified reference materials. This Limited License agreement is especially pertinent for laboratories accredited under ISO:17034.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

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

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

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

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

HF Note: This standard should not be prepared or stored in glass.

8.0 HAZARDOUS INFORMATION

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

9.0 HOMOGENEITY

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

10.0 QUALITY STANDARD DOCUMENTATION

10.1 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

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

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

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

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

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

11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

March 17, 2023

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

11.2 Lot Expiration Date

- March 17, 2028

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

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

11.3 Period of Validity

- Sealed TCT Bag Open Date: _____

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

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Approved By:

Thomas Kozikowski
Manager, Quality Control

Certifying Officer:

Paul Gaines
Chairman / Senior Technical Director

Hydroxylamine Hydrochloride, Crystal
BAKER ANALYZED® A.C.S. Reagent
Suitable for Mercury Determination
(hydroxylammonium chloride)

M4251
NB

J.T.Baker® | avantor™

Material No.: 2196-01
Batch No.: 0000215387
Manufactured Date: 2018/06/27
Retest Date: 2025/06/25
Revision No: 1

Certificate of Analysis

Meets ACS Reagent Chemical Requirements,

Test	Specification	Result
Assay ($NH_2OH \cdot HCl$) (by $KMnO_4$ titrn)	>= 96.0 %	99.1
Clarity of Alcohol Solution	Passes Test	PT
Residue after Ignition	<= 0.050 %	0.017
Titrable Free Acid (meq/g)	<= 0.25	0.19
Ammonium (NH_4)	Passes Test	PT
Sulfur Compounds (as SO_4)	<= 0.005 %	< 0.003
Trace Impurities - ACS - Heavy Metals (as Pb)	<= 5 ppm	4
Trace Impurities - Iron (Fe)	<= 5 ppm	< 3
Trace Impurities - Mercury (Hg)	<= 0.050 ppm	< 0.005

For Laboratory, Research or Manufacturing Use

Country of Origin: CN
Packaging Site: Paris Mfg Ctr & DC

ISO
Phillipsburg, NJ 9001:2015, FSSC22000
Paris, KY 9001:2008
Mexico City, Mexico 9001:2008
Gliwice, Poland 9001:2015, 13485:2012
Selangor, Malaysia 9001:2008
Dehradun, India, 9001:2008, 14001:2004, 13485:2003
Mumbai, India, 9001:2015, 17025:2005
Panoli, India 9001:2015

James Ethier
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

Absolute Standards, Inc.
800-368-1131
www.absolutestandards.com

Certified Reference Material CRM

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

CERTIFIED WEIGHT REPORT:

		Lot #	Solvent:	
Part Number:	**57034**	20370011	Nitric Acid	
Lot Number:	**070221**			
Description:	**Selenium (Se)**			
		2.0%	40.0 (mL)	Nitric Acid
Expiration Date:	070224			
Recommended Storage:	Ambient (20 ºC)			
Nominal Concentration (µg/mL):	**1000**			
NIST Test Number:	6UTB	5E-05	Balance Uncertainty	
Volume shown below was diluted to (mL):	2000.02	0.058	Flask Uncertainty	

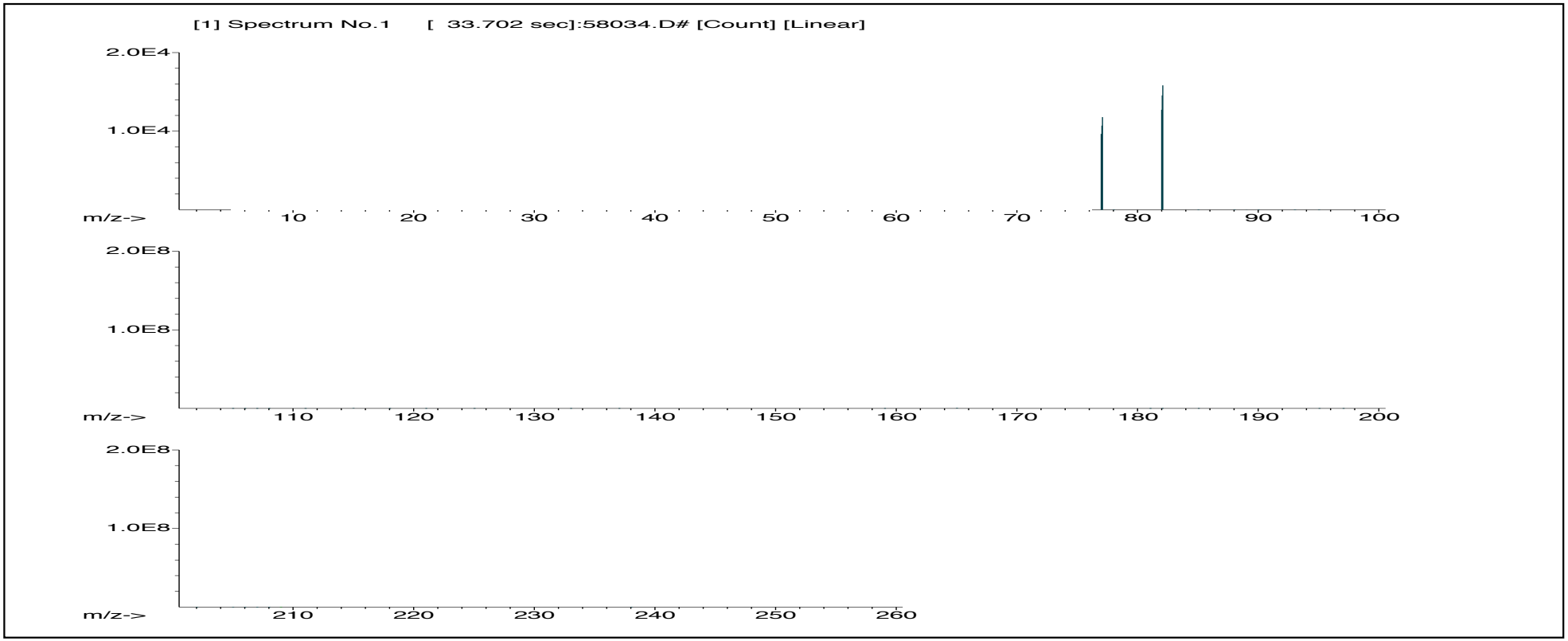
Giovanni Esposito

Formulated By:	Giovanni Esposito	070221

Pedro Rentas

Reviewed By:	Pedro L. Rentas	070221

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



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

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

(T)= Target analyte

Physical Characterization:

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

Certified by:

* The certified value is the concentration calculated from gravimetric and volumetric measurements unless otherwise stated.
* Purified acids, 18.2 megohm deionized water, calibrated Class A glassware and the highest purity raw materials are used in the preparation of all standards.
* All standard containers are meticulously cleaned prior to use.
* Standards are prepared gravimetrically using balances that are calibrated with weights traceable to NIST (see above).
* Standards are certifed (+/-) 0.5% of the stated value, unless otherwise stated.
* All standards should be stored with caps tight and under appropriate laboratory conditions.
* Uncertainty Reference: Taylor, B.N. and Kuyat, C.E., "Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Result," NIST Technical Note 1297, U.S. Government Printing Office, Washington, D.C. (1994).

Absolute Standards, Inc.
800-368-1131
www.absolutestandards.com

Certified Reference Material CRM

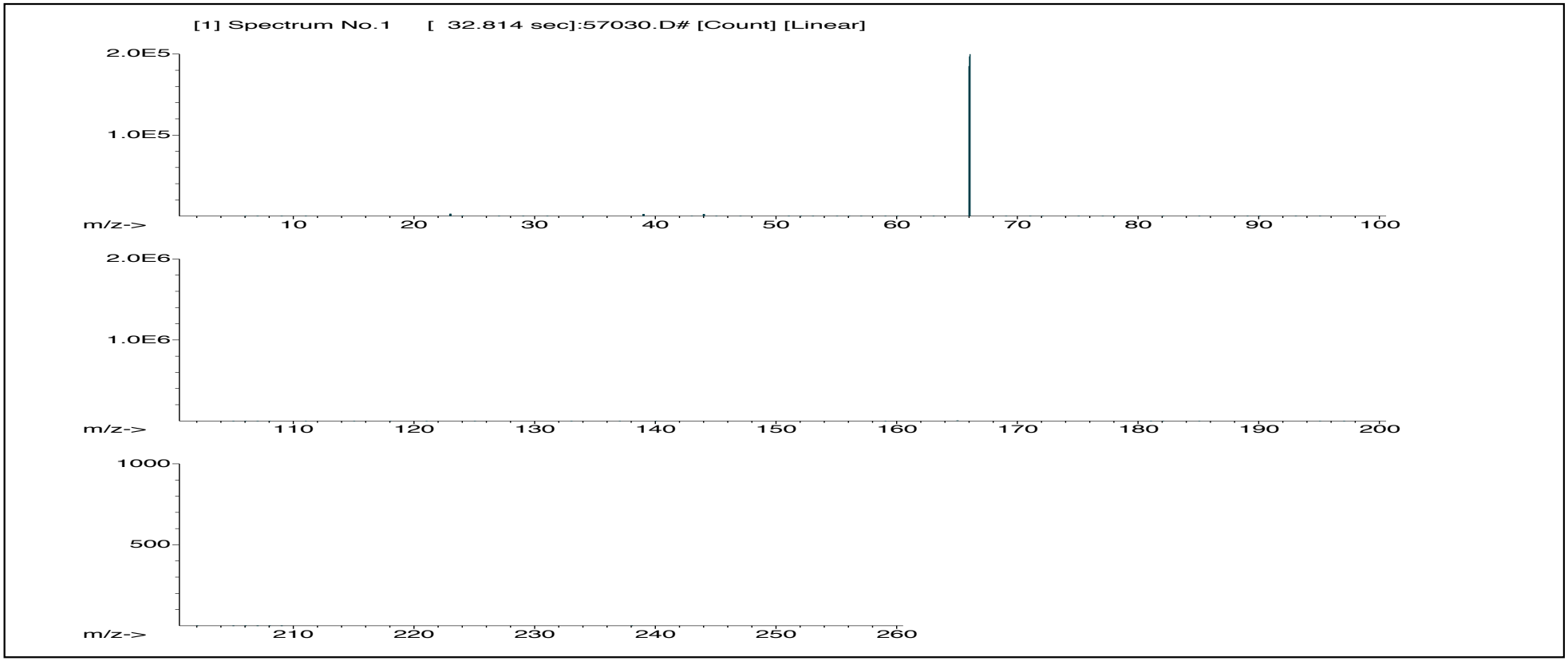
ANAB ISO 17034 Accredited
AR-1539 Certificate Number
https://Absolutestandards.com

CERTIFIED WEIGHT REPORT:

		Lot #	Solvent:	
Part Number:	**58030**	20370011	Nitric Acid	
Lot Number:	**031921**			
Description:	**Zinc (Zn)**			
		2.0%	40.0 (mL)	Nitric Acid
Expiration Date:	031924			
Recommended Storage:	Ambient (20 ºC)			
Nominal Concentration (µg/mL):	**1000**			
NIST Test Number:	6UTB	5E-05	Balance Uncertainty	
Volume shown below was diluted to (mL):	2000.02	0.058	Flask Uncertainty	

Formulated By:	Giovanni Esposito 031921
Reviewed By:	Pedro L. Rentas 031921

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



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

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

(T)= Target analyte

Physical Characterization:

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

Certified by:

* The certified value is the concentration calculated from gravimetric and volumetric measurements unless otherwise stated.
* Purified acids, 18.2 megohm deionized water, calibrated Class A glassware and the highest purity raw materials are used in the preparation of all standards.
* All standard containers are meticulously cleaned prior to use.
* Standards are prepared gravimetrically using balances that are calibrated with weights traceable to NIST (see above).
* Standards are certifed (+/-) 0.5% of the stated value, unless otherwise stated.
* All standards should be stored with caps tight and under appropriate laboratory conditions.
* Uncertainty Reference: Taylor, B.N. and Kuyat, C.E., "Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Result," NIST Technical Note 1297, U.S. Government Printing Office, Washington, D.C. (1994).

ThermoFisher SCIENTIFIC

M4913-16

MB

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 – 0120632

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	P279	Quality Test / Release Date	01/12/2021
Lot Number	210306		
Description	POTASSIUM PERMANGANATE, A.C.S.		
Country of Origin	United States	Suggested Retest Date	Jan/2026

N/A			
Result Name	Units	Specifications	Test Value
APPEARANCE		REPORT	Dark purple to purple green crystals
ASSAY	%	>= 99	99.3
CHLORIDE & CHLORATE	%	<= 0.005	<0.005
IDENTIFICATION	PASS/FAIL	= PASS TEST	pass test
INSOLUBLE MATTER	%	<= 0.2	<0.2
MERCURY (Hg)	ppm	<= 0.05	<0.004
SULFATE (SO4)	%	<= 0.02	<0.02

Julian Burton

Julian Burton - Quality Control Manager – Fair Lawn

Note: The data listed is valid for all package sizes of this lot of this product, expressed as an extension of this catalog number listed above.
If there are any questions with this certificate, please call at (800) 227-6701.
*Based on suggested storage condition.

Absolute Standards, Inc.
800-368-1131
www.absolutestandards.com

Certified Reference Material CRM

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

BA NA5020 R: 12/09/21

CERTIFIED WEIGHT REPORT:

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

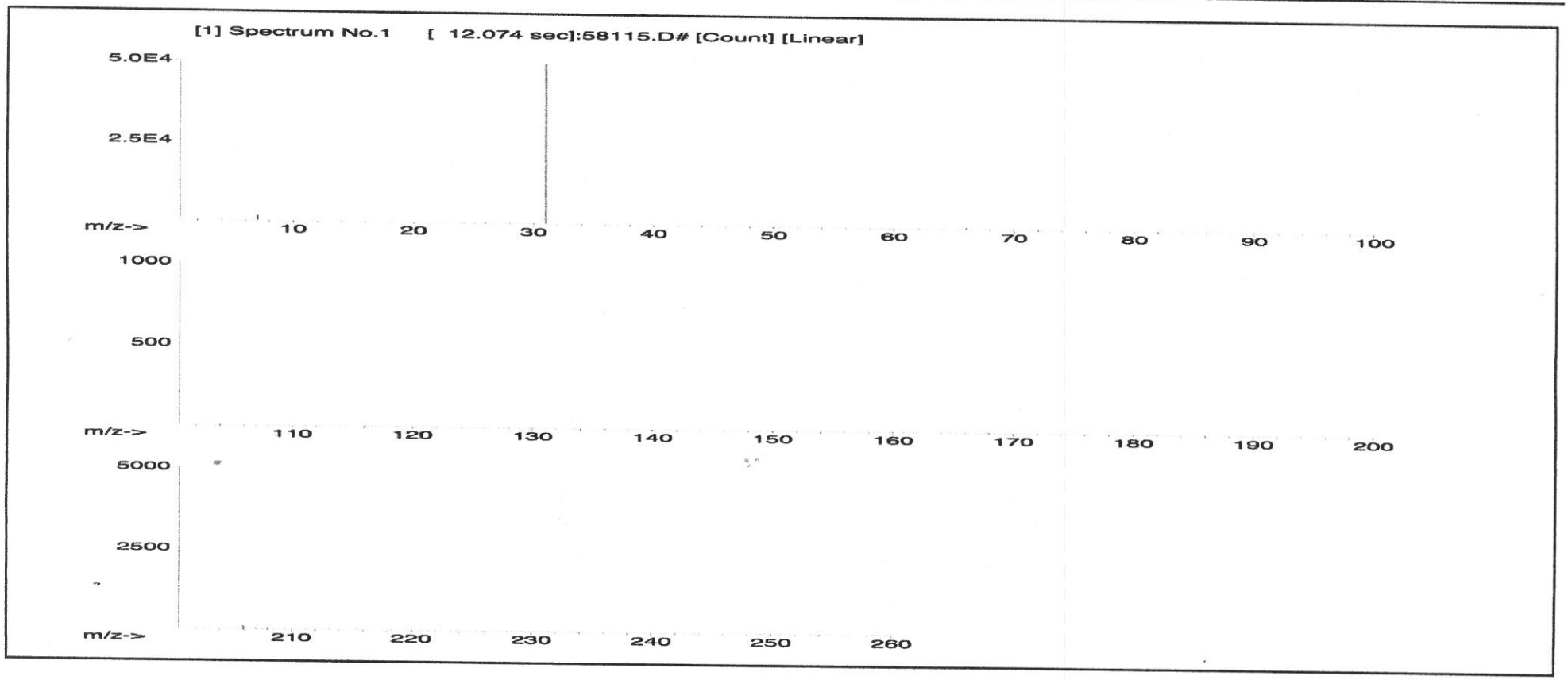
Expiration Date: 032924
Recommended Storage: Ambient (20 °C)
Nominal Concentration (µg/mL): 10000
NIST Test Number: 6UTB
Weight shown below was diluted to (mL): 3000.41

	Lot #		
Solvent:	20370011	Nitric Acid	
2%	60.0 (mL)	Nitric Acid	

5E-05 Balance Uncertainty
0.058 Flask Uncertainty

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

Compound	RM#	Lot Number	Nominal Conc. (µg/mL)	Purity (%)	Uncertainty Purity (%)	Assay (%)	Target Weight (g)	Actual Weight (g)	Actual Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50	NIST SRM
1. Ammonium dihydrogen phosphate (P)	IN008	PV052018A1	10000	99.999	0.10	27.3	109.9063	109.9093	**10000.3**	**20.0**	7722-76-1	5 mg/m3	NA	3186



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

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

(T)= Target analyte

Physical Characterization:

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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INORGANIC VENTURES
Refine your results. Redefine your industry.

Certificate of Analysis

300 Technology Drive
Christiansburg, VA 24073 USA
inorganicventures.com

P: 800-669-6799/540-585-3030
F: 540-585-3012
info@inorganicventures.com

M5062
M5063
M3

1.0 ACCREDITATION / REGISTRATION

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

ACCREDITED Testing Laboratory Certificate 883.01 ACCREDITED Reference Material Producer Certificate 883.02

2.0 PRODUCT DESCRIPTION

Product Code:	Single Analyte Mass Spec Solution
Catalog Number:	MSHG-10PPM
Lot Number:	S2-HG709270
Matrix:	10% (v/v) HCl
Value / Analyte(s):	10 µg/mL ea: Mercury
Starting Material:	Hg metal
Starting Material Lot#:	1959
Starting Material Purity:	99.9994%

3.0 CERTIFIED VALUES AND UNCERTAINTIES

Certified Value: 10.001 ± 0.053 µg/mL

Density: 1.020 g/mL (measured at 20 ± 4 °C)

Assay Information:

ANALYTE	METHOD	NIST SRM#	SRM LOT#
Hg	ICP Assay	3133	160921
Hg	EDTA	928	928
Hg	Calculated		See Sec. 4.2

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

Characterization of CRM/RM by Two or More Methods

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

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

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

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

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

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{1/2}$

k = coverage factor = 2

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

u_{bb} = bottle to bottle homogeneity standard uncertainty

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

u_{ts} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

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

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

X_a = mean of Assay Method A with

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

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{1/2}$

k = coverage factor = 2

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

u_{bb} = bottle to bottle homogeneity standard uncertainty

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

u_{ts} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

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

4.1 Thermometer Calibration

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

4.2 Balance Calibration

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

4.3 Glassware Calibration

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

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

CRM/RMs are tested for trace metallic impurities by Axial ICP-OES and ICP-MS. The result from the most sensitive method for each element, is reported below. Solutions tested by ICP-MS were analyzed in an ULPA-Filtered Clean Room. An ULPA-Filter is 99.9985% efficient for the removal of particles down to 0.3 µm.

O	Ag		0.000011	M	Eu	<	0.000201	O	Na		0.000004	M	Se	<	0.015915	O	Zn	<	0.001510
O	Al		0.000001	O	Fe		0.000001	M	Nb	<	0.000201	O	Si		0.000005	M	Zr	<	0.000201
M	As	<	0.000402	M	Ga	<	0.000201	M	Nd	<	0.000201	M	Sm	<	0.000201				
M	Au	<	0.003631	M	Gd	<	0.000201	M	Ni	<	0.000402	M	Sn	<	0.001007				
M	B	<	0.001208	M	Ge	<	0.000201	M	Os	<	0.000605	M	Sr	<	0.000201				
M	Ba	<	0.000201	M	Hf	<	0.000201	O	P	<	0.032370	M	Ta	<	0.000201				
M	Be	<	0.000201	s	Hg	<		M	Pb	<	0.000201	M	Tb	<	0.000201				
M	Bi	<	0.000201	M	Ho	<	0.000201	M	Pd	<	0.000403	M	Te	<	0.002216				
O	Ca		0.000007	M	In	<	0.000201	M	Pr	<	0.000201	M	Th	<	0.000201				
M	Cd	<	0.000201	M	Ir	<	0.000201	M	Pt	<	0.000402	M	Ti	<	0.000402				
M	Ce	<	0.000201	O	K		0.000020	M	Rb	<	0.000201	O	Tl	<	0.016508				
M	Co	<	0.000201	M	La	<	0.000201	M	Re	<	0.000201	M	Tm	<	0.000201				
O	Cr	<	0.003021	O	Li	<	0.000107	M	Rh	<	0.000201	M	U	<	0.008058				
M	Cs	<	0.001208	M	Lu	<	0.000201	M	Ru	<	0.000201	M	V	<	0.000201				
M	Cu	<	0.000402	O	Mg		0.000001	O	S	<	0.053950	M	W	<	0.000604				
M	Dy	<	0.000201	M	Mn	<	0.000604	M	Sb	<	0.001208	M	Y	<	0.000201				
M	Er	<	0.000201	M	Mo		0.000009	M	Sc	<	0.000201	M	Yb	<	0.000201				

M - Checked by ICP-MS O - Checked by ICP-OES i - Spectral Interference
n - Not Checked For s - Solution Standard Element

6.0 INTENDED USE

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

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

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

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

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

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

Atomic Weight; Valence; Coordination Number; Chemical Form in Solution - 200.59 +2 4 Hg(OH)(aq) 1+

Chemical Compatibility - Stable in HNO_3. Avoid basic media forming insoluble carbonate. The sulfide, basic carbonate, oxalate, phosphate, arsenite, arsenate and iodide are insoluble in water.

Stability - 2-100 ppb levels not stable in 1% HNO_3 / LDPE container, stable in 10% HNO_3 packaged in borosilicate glass. 1-100 ppm levels stable in 7% HNO_3 packaged in borosilicate glass. 1000-10,000 ppm solutions are chemically stable for years in 5-10% HNO_3 / LDPE container.

Hg Containing Samples (Preparation and Solution) - Metal (soluble in HNO_3); Oxide (Soluble in HNO_3); Ores and Organic based (The literature has more references to the preparation of Hg containing samples than any other element. Please consult the literature for your specific sample type, since such preparations are prone to error. Or e-mail our technical staff and we will contact you to discuss your particular sample preparation questions in further detail.).

Atomic Spectroscopic Information (ICP-OES D.L.s are given as radial/axial view):

Technique/Line	**Estimated D.L.**	**Order**	**Interferences** (underlined indicates severe)
ICP-MS 202 amu	9 ppt	n/a	186W16O
ICP-OES 184.950 nm	0.03 / 0.005 µg/mL	1	
ICP-OES 194.227 nm	0.03 / 0.005 µg/mL	1	V
ICP-OES 253.652 nm	0.1 / 0.03 µg/mL	1	Ta, Co, Th ,Rh , Fe, U

8.0 HAZARDOUS INFORMATION

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

9.0 HOMOGENEITY

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

10.0 QUALITY STANDARD DOCUMENTATION

10.1 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

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

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

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

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

September 22, 2021

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

11.2 Lot Expiration Date

- September 22, 2026

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

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

11.3 Period of Validity

- Sealed TCT Bag Open Date: _____

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

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Prepared By:

Uyen Truong
Supervisor, Product Documentation

Certificate Approved By:

Michael Booth
Director, Quality Control

Certifying Officer:

Paul Gaines
Chairman / Senior Technical Director

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Certified Reference Material CRM

M5288 R: 07/21/2022

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CERTIFIED WEIGHT REPORT:

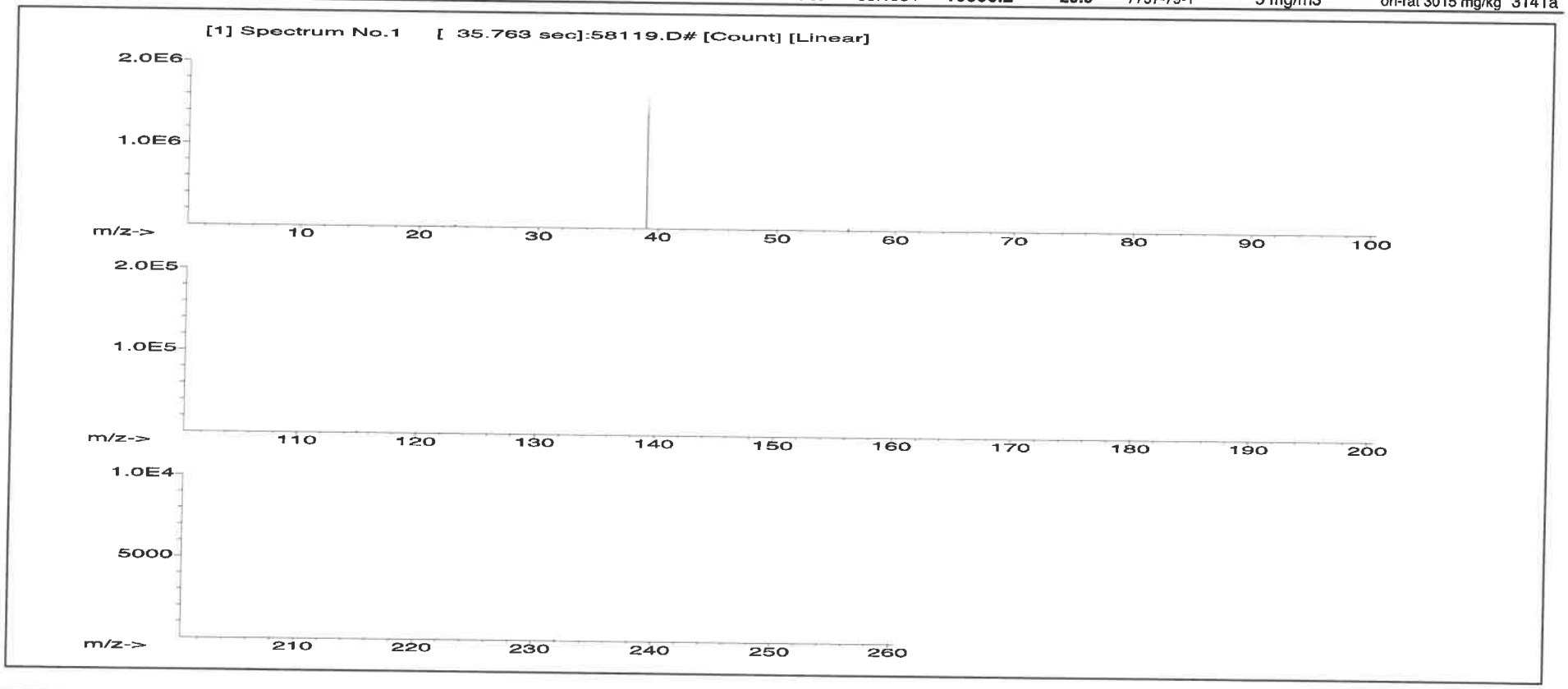
Part Number: 58119
Lot Number: 071122
Description: Potassium (K)

Expiration Date: 071125
Recommended Storage: Ambient (20 °C)
Nominal Concentration (µg/mL): 10000
NIST Test Number: 6UTB
Weight shown below was diluted to (mL): 2000.02

	Lot #		
Solvent:	20510011	Nitric Acid	
2%	40.0 (mL)	Nitric Acid	
	5E-05	Balance Uncertainty	
	0.058	Flask Uncertainty	

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

Compound	RM#	Lot Number	Nominal Conc. (µg/mL)	Purity (%)	Uncertainty Purity (%)	Assay (%)	Target Weight (g)	Actual Weight (g)	**Actual Conc. (µg/mL)**	Expanded Uncertainty +/- (µg/mL)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50	NIST SRM
1. Potassium nitrate (K)	IN034	KD022021A1	10000	99.999	0.10	37.6	53.1925	53.1934	**10000.2**	**20.0**	7757-79-1	5 mg/m3	orl-rat 3015 mg/kg	3141a



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

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

(T)= Target analyte

Physical Characterization:

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

Certified by:

* The certified value is the concentration calculated from gravimetric and volumetric measurements unless otherwise stated.
* Purified acids, 18.2 megohm deionized water, calibrated Class A glassware and the highest purity raw materials are used in the preparation of all standards.
* All standard containers are meticulously cleaned prior to use.
* Standards are prepared gravimetrically using balances that are calibrated with weights traceable to NIST (see above).
* Standards are certifed (+/-) 0.5% of the stated value, unless otherwise stated.
* All standards should be stored with caps tight and under appropriate laboratory conditions.
* Uncertainty Reference: Taylor, B.N. and Kuyat, C.E., "Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Result," NIST Technical Note 1297, U.S. Government Printing Office, Washington, D.C. (1994).

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R: 09/08/22 (BH)

Certified Reference Material CRM

M5387 . M5389 . M5390 . M5391 . M5392

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AR-1539 Certificate Number
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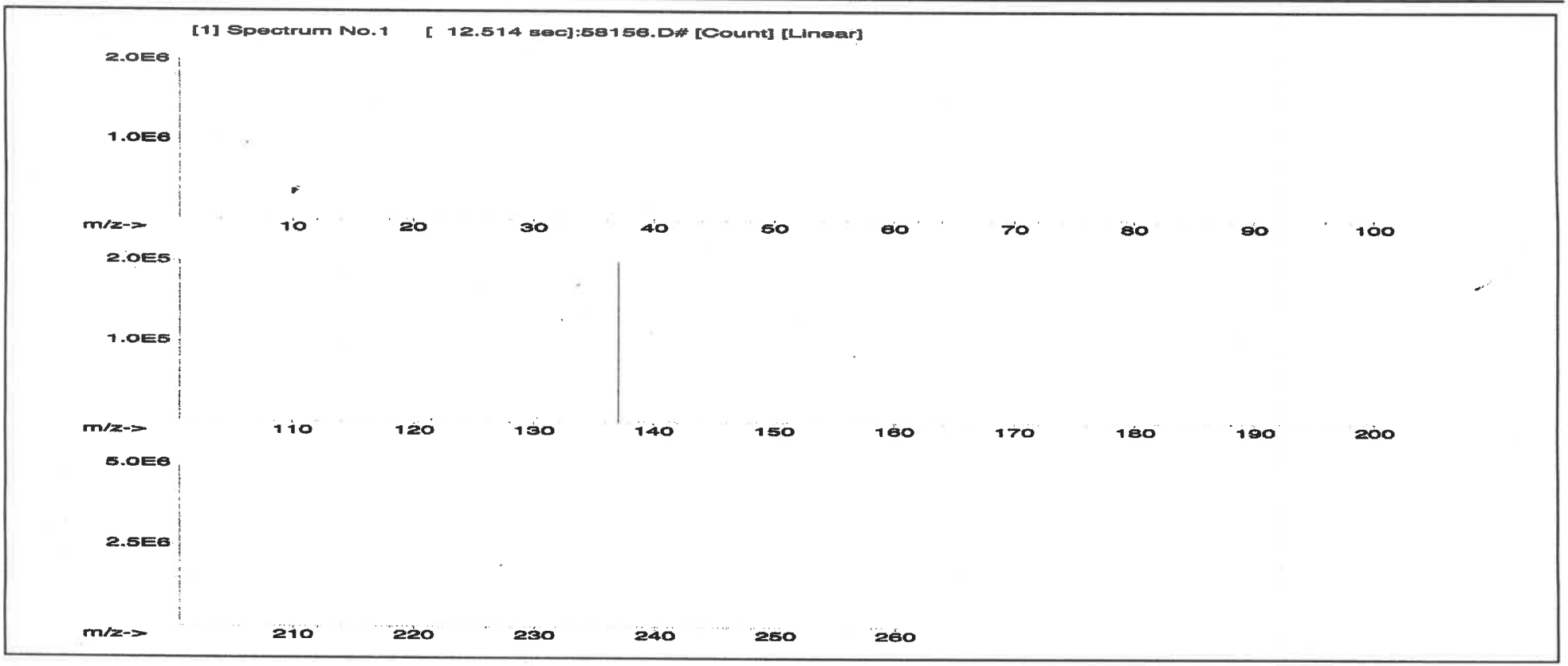
CERTIFIED WEIGHT REPORT:

Part Number:	**57056**		**Lot #**		
Lot Number:	**072122**	**Solvent:**	20510011	Nitric Acid	
Description:	**Barium (Ba)**	2%	40.0 (mL)	Nitric Acid	
Expiration Date:	072125				
Recommended Storage:	Ambient (20 °C)				
Nominal Concentration (µg/mL):	**1000**				
NIST Test Number:	6UTB	5E-05	Balance Uncertainty		
Weight shown below was diluted to (mL):	2000.02	0.058	Flask Uncertainty		

Giovanni Esposito

Formulated By:	Giovanni Esposito	072122
Reviewed By:	Pedro L. Rentas	072122

Compound	RM#	Lot Number	Nominal Conc. (µg/mL)	Purity (%)	Uncertainty Purity (%)	Assay (%)	Target Weight (g)	Actual Weight (g)	Actual Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50	NIST SRM
1. Barium nitrate (Ba)	IN023	BAD022019A1	1000	99.999	0.10	52.3	3.82417	3.82426	**1000.0**	2.0	10022-31-8	0.5 mg/m3	orl-rat 355 mg/kg	3104a



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

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

(T)= Target analyte

Physical Characterization:

Certified by:

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

* The certified value is the concentration calculated from gravimetric and volumetric measurements unless otherwise stated.
* Purified acids, 18.2 megohm deionized water, calibrated Class A glassware and the highest purity raw materials are used in the preparation of all standards.
* All standard containers are meticulously cleaned prior to use.
* Standards are prepared gravimetrically using balances that are calibrated with weights traceable to NIST (see above).
* Standards are certifed (+/-) 0.5% of the stated value, unless otherwise stated.
* All Standards should be stored with caps tight and under appropriate laboratory conditions.
* Uncertainty Reference: Taylor, B.N. and Kuyat, C.E., "Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Result," NIST Technical Note 1297, U.S. Government Printing Office, Washington, D.C. (1994).

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Certified Reference Material CRM

M5429 R1 01/26/23 BH

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CERTIFIED WEIGHT REPORT:

Part Number: 57103
Lot Number: 070622
Description: Lithium (Li)

Expiration Date: 070625
Recommended Storage: Ambient (20 °C)
Nominal Concentration (µg/mL): 10000
NIST Test Number: 6UTB
Weight shown below was diluted to (mL): 1000.12 | 0.058 Flask Uncertainty

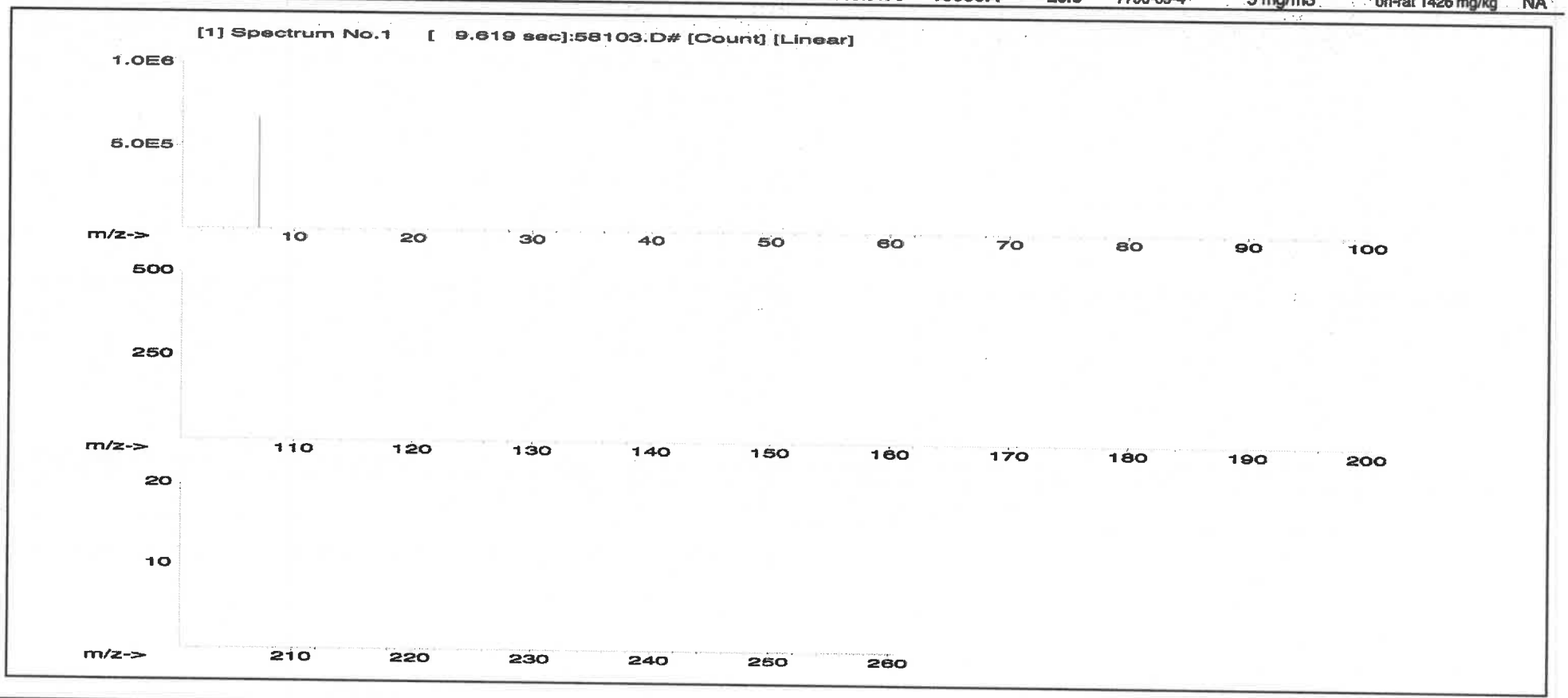
	Lot #		
Solvent:	20510011	Nitric Acid	
2%	20.0 (mL)	Nitric Acid	

5E-05 Balance Uncertainty

Formulated By: Lawrence Barry 070622

Reviewed By: Pedro L. Rentas 070622

Compound	RM#	Lot Number	Nominal Conc. (µg/mL)	Purity (%)	Uncertainty Purity (%)	Assay (%)	Target Weight (g)	Actual Weight (g)	Actual Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50	NIST SRM
1. Lithium nitrate (Li)	IN019	LIZ042018A1	10000	99.999	0.10	10.0	100.0134	100.0173	**10000.4**	**20.0**	7790-69-4	5 mg/m3	orl-rat 1426 mg/kg	NA



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

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

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

(T)= Target analyte

Physical Characterization:

Certified by:

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

* The certified value is the concentration calculated from gravimetric and volumetric measurements unless otherwise stated.
* Purified acids, 18.2 megohm deionized water, calibrated Class A glassware and the highest purity raw materials are used in the preparation of all standards.
* All standard containers are meticulously cleaned prior to use.
* Standards are prepared gravimetrically using balances that are calibrated with weights traceable to NIST (see above).
* Standards are certifed (+/-) 0.5% of the stated value, unless otherwise stated.
* All Standards should be stored with caps tight and under appropriate laboratory conditions.
* Uncertainty Reference: Taylor, B.N. and Kuyat, C.E., "Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Result," NIST Technical Note 1297, U.S. Government Printing Office, Washington, D.C. (1994).

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N 5466

Certified Reference Material CRM

R: 03/01/23 BH

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CERTIFIED WEIGHT REPORT:

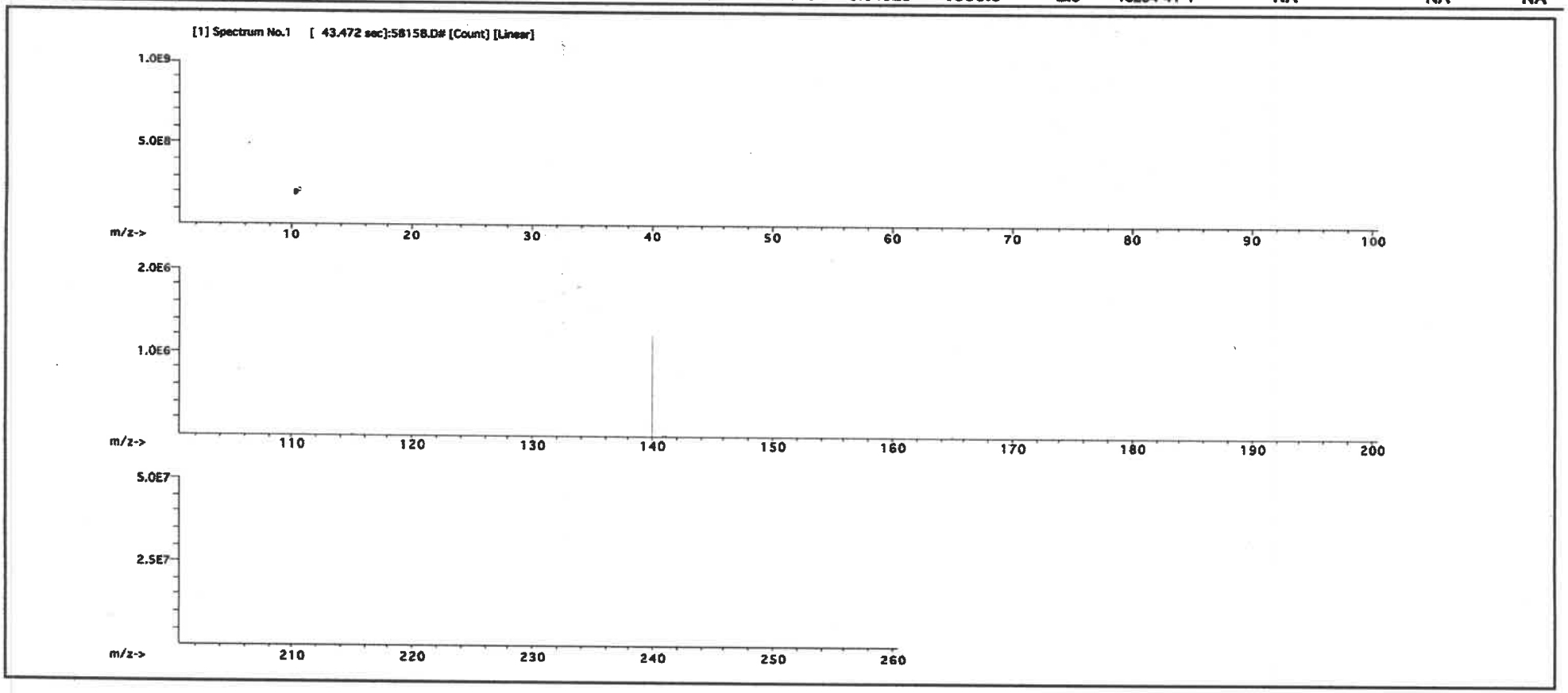
Part Number: 57058
Lot Number: 061322
Description: Cerium (Ce)

Expiration Date: 061325
Recommended Storage: Ambient (20 °C)
Nominal Concentration (µg/mL): 1000
NIST Test Number: 6UTB 5E-05 Balance Uncertainty
Weight shown below was diluted to (mL): 1000.12 0.058 Flask Uncertainty

	Lot #	
Solvent:	20510011	Nitric Acid
2%	20.0 (mL)	Nitric Acid

Formulated By:	Lawrence Barry	061322
Reviewed By:	Pedro L. Rentas	061322

Compound	RM#	Lot Number	Nominal Conc. (µg/mL)	Purity (%)	Uncertainty Purity (%)	Assay (%)	Target Weight (g)	Actual Weight (g)	Actual Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50	NIST SRM
1. Cerium nitrate hexahydrate (Ce)	IN146	Z512CEB1	1000	99.999	0.10	32.8	3.04919	3.04923	1000.0	2.0	10294-41-4	NA	NA	NA



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

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

(T)= Target analyte

Physical Characterization:

Certified by:

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

* The certified value is the concentration calculated from gravimetric and volumetric measurements unless otherwise stated.
* Purified acids, 18.2 megohm deionized water, calibrated Class A glassware and the highest purity raw materials are used in the preparation of all standards.
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* Uncertainty Reference: Taylor, B.N. and Kuyat, C.E., "Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Result," NIST Technical Note 1297, U.S. Government Printing Office, Washington, D.C. (1994).

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Certified Reference Material CRM

M5496 R 7/20/23

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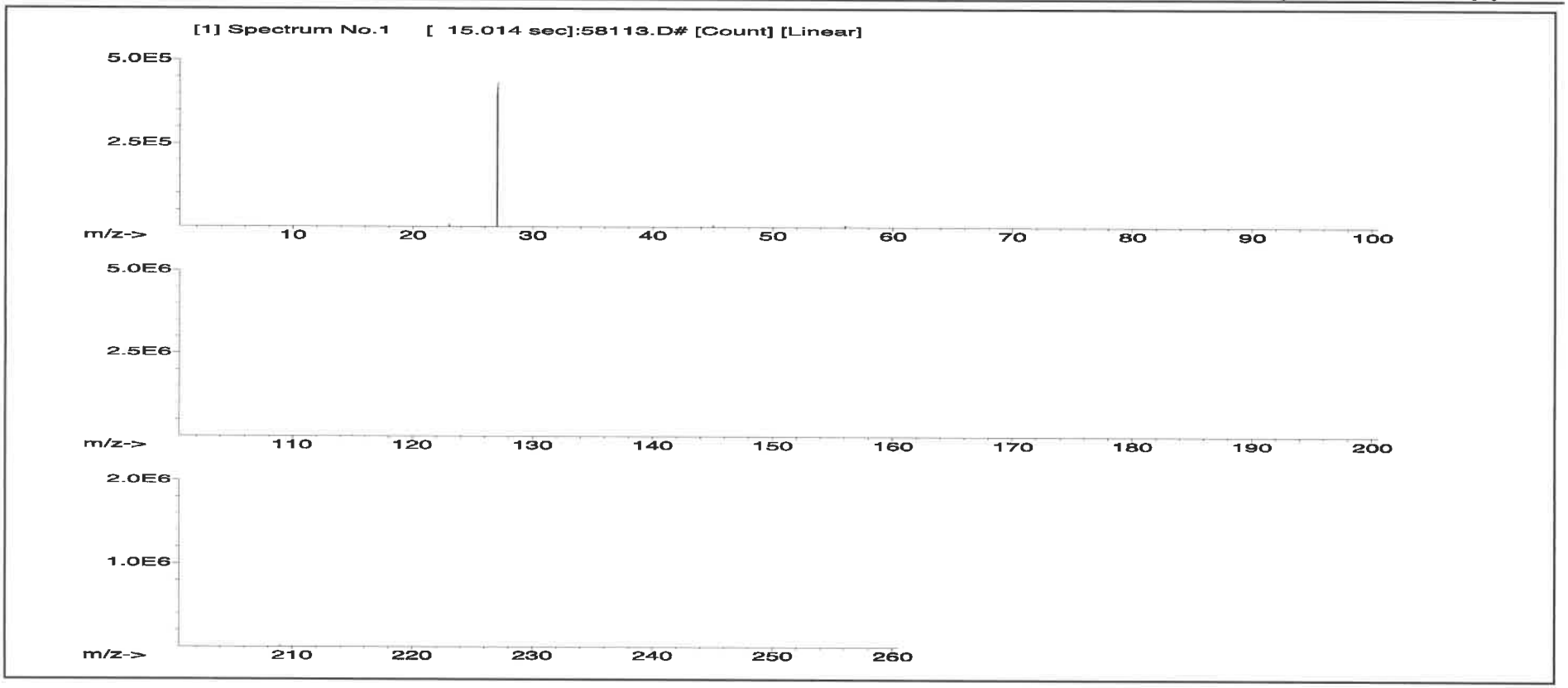
CERTIFIED WEIGHT REPORT:

Part Number:	**58113**		**Lot #**		
Lot Number:	**011623**	**Solvent:**	20510011	Nitric Acid	
Description:	**Aluminum (Al)**	2%	40.0 (mL)	Nitric Acid	
Expiration Date:	011626				
Recommended Storage:	Ambient (20 °C)				
Nominal Concentration (µg/mL):	**10000**				
NIST Test Number:	6UTB	5E-05	Balance Uncertainty		
Weight shown below was diluted to (mL):	2000.02	0.058	Flask Uncertainty		

Giovanni Esposito

Formulated By:	Giovanni Esposito	011623
Reviewed By:	Pedro L. Rentas	011623

Compound	RM#	Lot Number	Nominal Conc. (µg/mL)	Purity (%)	Uncertainty Purity (%)	Assay (%)	Target Weight (g)	Actual Weight (g)	Actual Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50	NIST SRM
1. Aluminum nitrate nonahydrate (Al)	IN022	ALM112021A1	10000	99.999	0.10	7.30	273.9779	274.0078	**10001.1**	**20.0**	7784-27-2	2 mg/m3	orl-rat 3671 mg/kg	3101a



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Certified Reference Material CRM

IN5497 - IN5498 R: 03/17/23 BH

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AR-1539 Certificate Number
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CERTIFIED WEIGHT REPORT:

Part Number: 58120
Lot Number: 031523
Description: Calcium (Ca)

Expiration Date: 031526
Recommended Storage: Ambient (20 °C)
Nominal Concentration (µg/mL): 10000
NIST Test Number: 6UTB
Weight shown below was diluted to (mL): 3000.41 ± 0.058 Flask Uncertainty

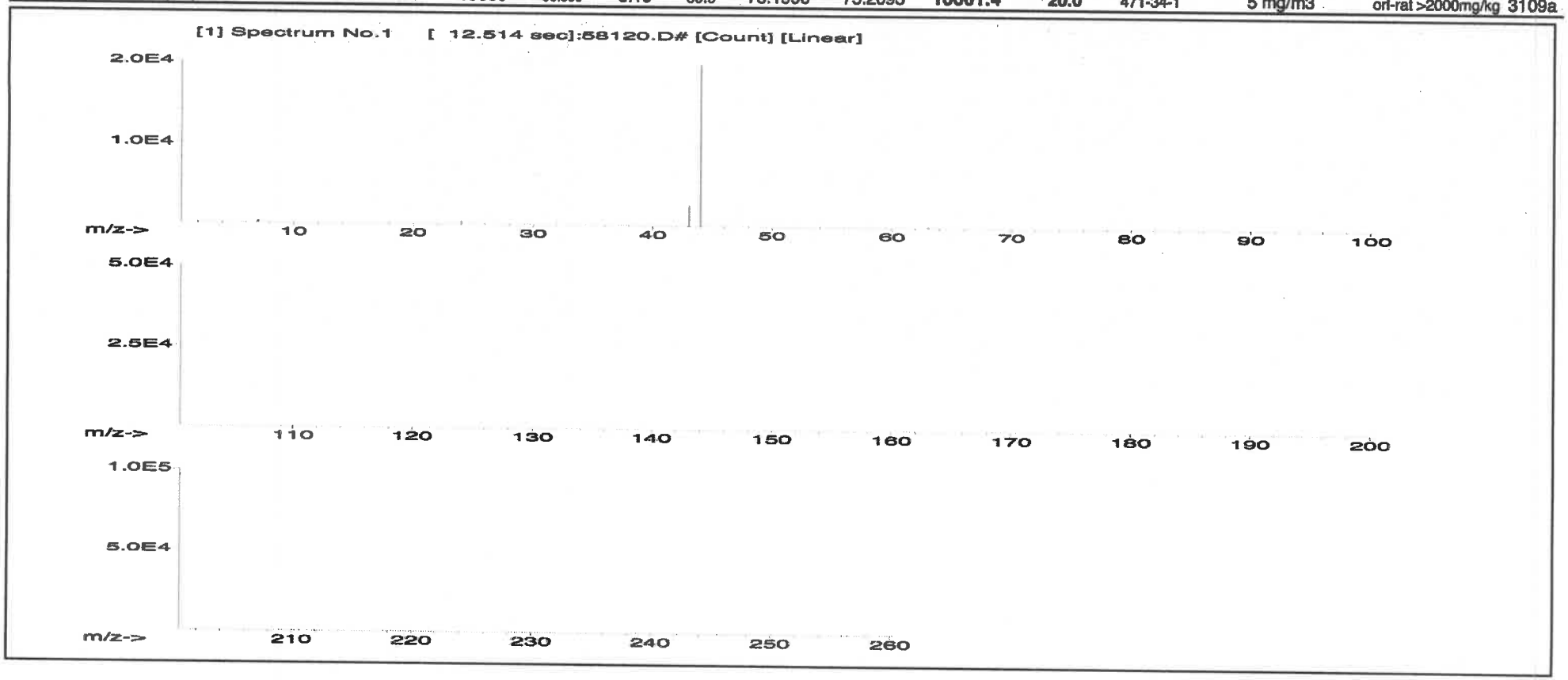
		Lot #	
Solvent:	21110221		Nitric Acid
	2%	60.0 (mL)	Nitric Acid

5E-05 Balance Uncertainty

Giovanni Esposito

Formulated By:	Giovanni Esposito	031523
Reviewed By:	Pedro L. Rentas	031523

Compound	RM#	Lot Number	Nominal Conc. (µg/mL)	Purity (%)	Uncertainty Purity (%)	Assay (%)	Target Weight (g)	Actual Weight (g)	Actual Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50	NIST SRM
1. Calcium carbonate (Ca)	IN014	CAD072022A1	10000	99.999	0.10	39.9	75.1990	75.2093	**10001.4**	**20.0**	471-34-1	5 mg/m3	orl-rat >2000mg/kg	3109a



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

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

(T) = Target analyte

Physical Characterization:

Certified by:

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

* The certified value is the concentration calculated from gravimetric and volumetric measurements unless otherwise stated.
* Purified acids, 18.2 megohm deionized water, calibrated Class A glassware and the highest purity raw materials are used in the preparation of all standards.
* All standard containers are meticulously cleaned prior to use.
* Standards are prepared gravimetrically using balances that are calibrated with weights traceable to NIST (see above).
* Standards are certifed (+/-) 0.5% of the stated value, unless otherwise stated.
* All Standards should be stored with caps tight and under appropriate laboratory conditions.
* Uncertainty Reference: Taylor, B.N. and Kuyat, C.E., "Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Result," NIST Technical Note 1297, U.S. Government Printing Office, Washington, D.C. (1994).

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M546 M517 R: 03/17/22 BH

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CERTIFIED WEIGHT REPORT:

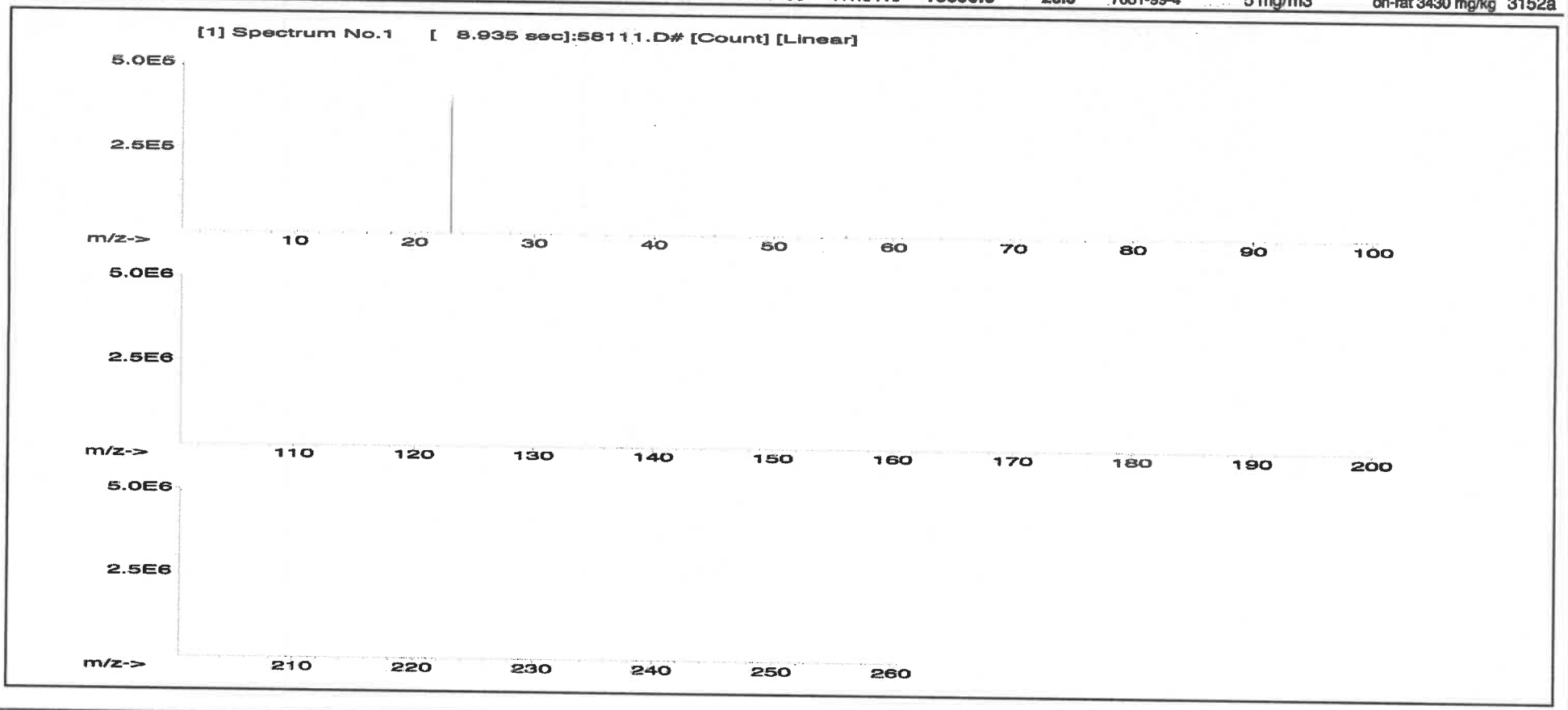
Part Number: 58111
Lot Number: 022123
Description: Sodium (Na)

Expiration Date: 022126
Recommended Storage: Ambient (20 °C)
Nominal Concentration (µg/mL): 10000
NIST Test Number: 6UTB
Weight shown below was diluted to (mL): 3000.41 ± 0.06 Flask Uncertainty

	Lot #		Balance Uncertainty
Solvent:	21110221	Nitric Acid	
2%	60.0 (mL)	Nitric Acid	5E-05

Formulated By: Lawrence Barry 022123
Reviewed By: Pedro L. Rentas 022123

Compound	RM#	Lot Number	Nominal Conc. (µg/mL)	Purity (%)	Uncertainty Purity (%)	Assay (%)	Target Weight (g)	Actual Weight (g)	Actual Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50	NIST SRM
1. Sodium nitrate (Na)	IN036	NAV012015I1	10000	99.999	0.10	26.9	111.5406	111.5410	**10000.0**	**20.0**	7631-99-4	5 mg/m3	orl-rat 3430 mg/kg	3152a



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

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

(T) = Target analyte

Physical Characterization:

Certified by:

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

* The certified value is the concentration calculated from gravimetric and volumetric measurements unless otherwise stated.
* Purified acids, 18.2 megohm deionized water, calibrated Class A glassware and the highest purity raw materials are used in the preparation of all standards.
* All standard containers are meticulously cleaned prior to use.
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* All Standards should be stored with caps tight and under appropriate laboratory conditions.
* Uncertainty Reference: Taylor, B.N. and Kuyat, C.E., "Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Result," NIST Technical Note 1297, U.S. Government Printing Office, Washington, D.C. (1994).

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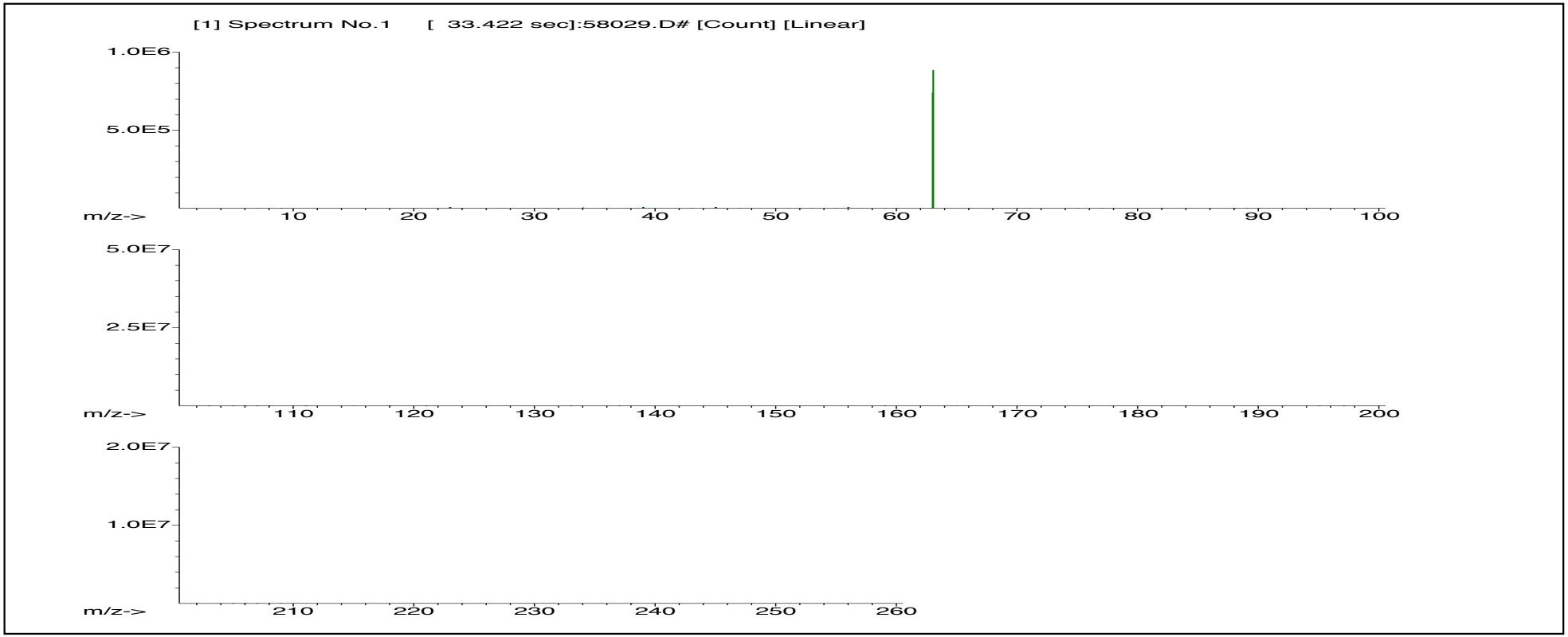
CERTIFIED WEIGHT REPORT:

		Lot #	Solvent:	
Part Number:	**58029**	20510011	Nitric Acid	
Lot Number:	**102622**			
Description:	**Copper (Cu)**			
		2.0%	40.0 (mL)	Nitric Acid
Expiration Date:	102625			
Recommended Storage:	Ambient (20 ºC)			
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:	Eli Aliaga 102622
Reviewed By:	Pedro L. Rentas 102622

Compound	Part Number	Lot Number	Dilution Factor	Initial Vol. (mL)	Uncertainty Pipette (mL)	Nominal Conc. (µg/mL)	Initial Conc. (µg/mL)	**Final Conc. (µg/mL)**	Expanded Uncertainty +/- (µg/mL)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50	NIST SRM
1. Copper(II) nitrate trihydrate (Cu)	58129	021422	0.1000	200.0	0.084	1000	10000.8	**1000.0**	**2.2**	10031-43-3	1 mg/m3	orl-rat 794 mg/kg	3114



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

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

(T)= Target analyte

Physical Characterization:

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 prepared gravimetrically using balances that are calibrated with weights traceable to NIST (see above).
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QATS LABORATORY INORGANIC REFERENCE MATERIAL INITIAL CALIBRATION VERIFICATION SOLUTIONS (ICV1, ICV5, AND ICV6)

NOTE: These instructions are for advisory purposes only. If any apparent conflict exists between these instructions and the analytical protocol or your contract, disregard these instructions.

APPLICATION: For use with the CLP SFAM01.0 SOW and revisions.

CAUTION: Read instructions carefully before opening bottle(s) and proceeding with the analyses.

MSS28-37
MB

Contains Metals in Dilute Acidic or Cyanide in Basic Aqueous Solutions
HAZARDOUS MATERIAL

Safety Data Sheets Available Upon Request

(A) *SAMPLE DESCRIPTION*

Enclosed is a set of one (1) or more Aqueous Inorganic Reference Materials containing various analyte concentrations. ICV1 and ICV5 are in a matrix of dilute nitric acid. ICV6 is in a matrix of dilute basic solution. **For the reference material source in reporting ICVs use "USEPA". For the reference material lot number for the ICV1, ICV5, and ICV6 solutions use "ICV1-1014", "ICV5-0415", and "ICV6-0400", respectively.**

(B) *BREAKAGE OR MISSING ITEMS*

Check the contents of the shipment carefully for any broken, leaking, or missing items. Check that the seal is intact on each bottle. Refer to the enclosed chain of custody record. Report any problems to Mr. Keith Strout, APTIM Federal Services, LLC, at (702) 895-8722. If requested, return the chain-of-custody record with appropriate annotations and signatures to the address provided below.

QUALITY ASSURANCE TECHNICAL SUPPORT LABORATORY
APTIM Federal Services, LLC
2700 Chandler Avenue - Building C
Las Vegas, NV 89120

(C) *ANALYSIS OF SAMPLES*

The Initial Calibration Verification Solutions (ICVs) are to be used to evaluate the accuracy of the initial calibrations of ICP, AA, and Cyanide colorimetric instruments, and are to be used with the CLP SOWs and revisions. The values for each element in the ICVs are listed below in µg/L (ppb) for the resulting solution(s) after the dilution of the concentrate(s) according to the following instructions. Use Class 'A' glassware to prepare the solution(s).

ICV1-1014 For ICP-AES analysis, use a 10-fold dilution by pipetting 10 mL of the ICV1 concentrate into a 100 mL volumetric flask and dilute to volume with 2% (v/v) nitric acid.

The Quality Assurance Technical Support (QATS) contract is operated by APTIM Federal Services, LLC.

ICV1-1014 For ICP-MS analysis, use a 50-fold dilution by pipetting 2 mL of the ICV1 concentrate into a 100 mL volumetric flask and dilute to volume with 1% (v/v) nitric acid.

ICV5-0415 For the cold vapor analysis of mercury by AA, use a 100-fold dilution by pipetting 1 mL of the ICV5 concentrate into a 100 mL volumetric flask and dilute to volume with 2% (v/v) nitric acid. The ICV5 concentrate is prepared in 0.05% (w/v) $K_2Cr_2O_7$ and 5% (v/v) nitric acid.

ICV6-0400 For the analysis of cyanide, use a 100-fold dilution by pipetting 1 mL of the ICV6 concentrate into a 100 mL volumetric flask and dilute to volume with Type II water. Distill this solution along with the samples before analysis. The cyanide concentrate is prepared from $K_3Fe(CN)_6$, Type II water, and 0.1 % sodium hydroxide, and will decompose rapidly if exposed to light.

NOTE: USE TYPE II WATER AND HIGH-PURITY ACIDS FOR ALL DILUTIONS.

(D) ***CERTIFIED CONCENTRATIONS OF QATS ICV1, ICV5, AND ICV6 SOLUTIONS***

ICV1-1014		
Element	**Concentration (µg/L) (after 10-fold dilution)**	**Concentration (µg/L) (after 50-fold dilution)**
Al	2500	500
Sb	1000	200
As	1000	200
Ba	520	100
Be	510	100
Cd	510	100
Ca	10000	2000
Cr	520	100
Co	520	100
Cu	510	100
Fe	10000	2000
Pb	1000	200
Mg	6000	1200
Mn	520	100
Ni	530	110
K	9900	2000
Se	1000	200
Ag	250	50
Na	10000	2000
Tl	1000	210
V	500	100
Zn	1000	200

ICV5-0415		ICV6-0400	
Element	**Concentration (µg/L) (after 100-fold dilution)**	**Analyte**	**Concentration (µg/L) (after 100-fold dilution)**
Hg	4.0	**CN^-**	99

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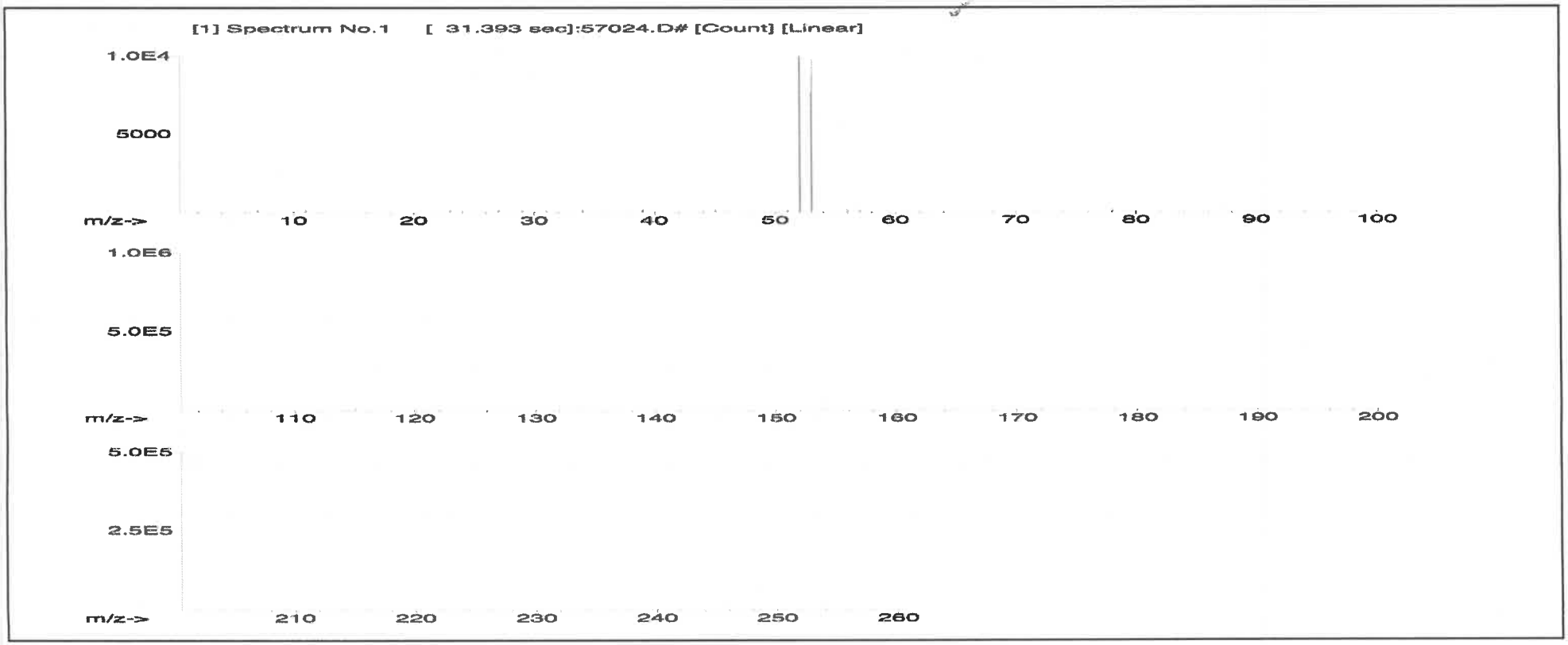
CERTIFIED WEIGHT REPORT:

		Lot #	Solvent:	
Part Number:	**58024**	21110221	Nitric Acid	
Lot Number:	**060523**			
Description:	**Chromium (Cr)**			
		2.0%	40.0 (mL)	Nitric Acid
Expiration Date:	060526			
Recommended Storage:	Ambient (20 °C)			
Nominal Concentration (µg/mL):	**1000**			
NIST Test Number:	6UTB	5E-05	Balance Uncertainty	
Volume shown below was diluted to (mL):	2000.02	0.058	Flask Uncertainty	

Formulated By:	Lawrence Barry	060523
Reviewed By:	Pedro L. Rentas	060523

Compound	Part Number	Lot Number	Dilution Factor	Initial Vol. (mL)	Uncertainty Pipette (mL)	Nominal Conc. (µg/mL)	Initial Conc. (µg/mL)	Final Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50	NIST SRM
1. Chromium(III) nitrate nonahydrate (Cr)	58124	071122	0.1000	200.0	0.084	1000	10000.1	**1000.0**	**2.2**	7789-02-8	0.5 mg(Cr)/m3	orl-rat 3250 mg/kg	3112a



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

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

(T)= Target analyte

Physical Characterization:

Certified by:

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

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* Uncertainty Reference: Taylor, B.N. and Kuyat, C.E., "Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Result," NIST Technical Note 1297, U.S. Government Printing Office, Washington, D.C. (1994).

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R: 12/20/23 M5747

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CERTIFIED WEIGHT REPORT:

Part Number: 57082
Lot Number: 100923
Description: Lead (Pb)

Expiration Date: 100926
Recommended Storage: Ambient (20 °C)
Nominal Concentration (µg/mL): 1000
NIST Test Number: 6UTB

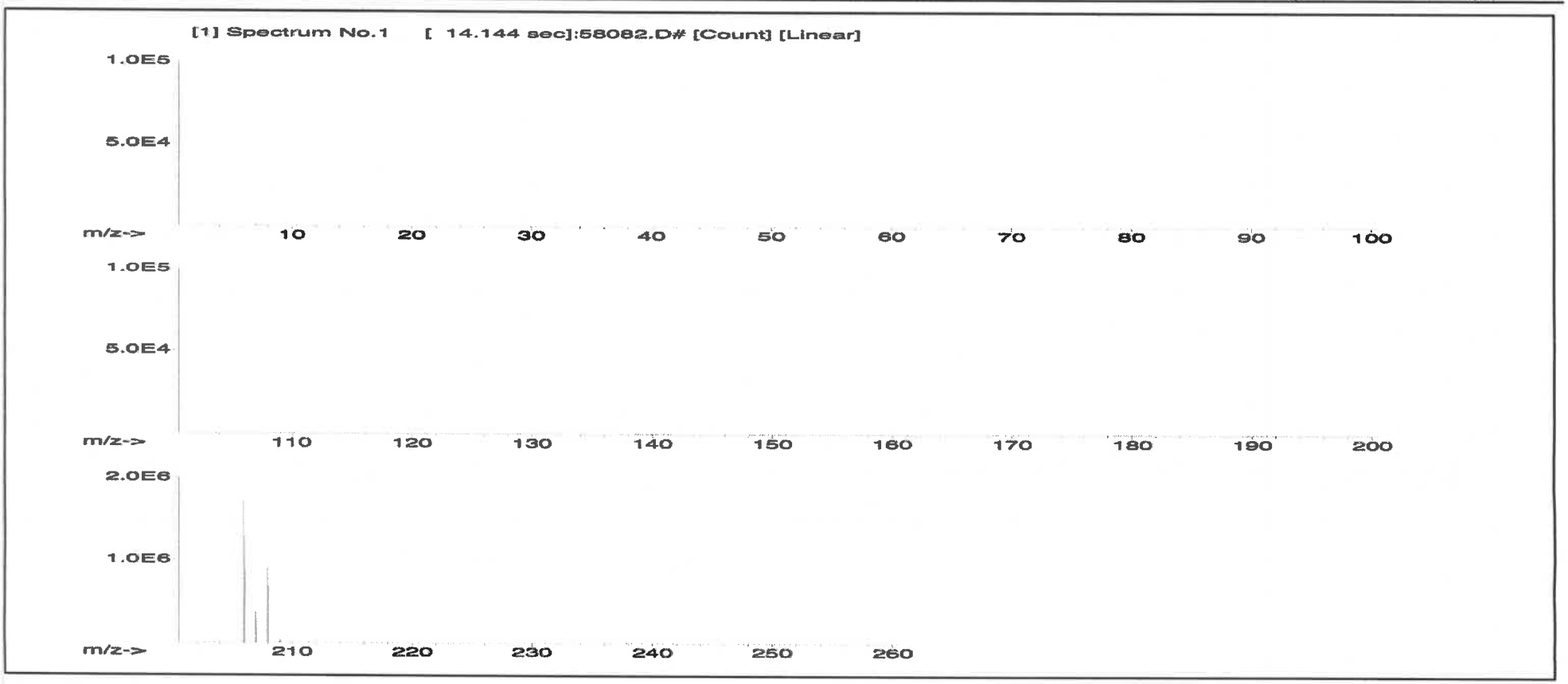
Weight shown below was diluted to (mL): 3000.41 ± 0.06 Flask Uncertainty

	Lot #		
Solvent:	24002546	Nitric Acid	
2%	60.0 (mL)	Nitric Acid	

5E-05 Balance Uncertainty

Formulated By:	Lawrence Barry	100923
Reviewed By:	Pedro L. Rentas	100923

Compound	RM#	Lot Number	Nominal Conc. (µg/mL)	Purity (%)	Uncertainty Purity (%)	Assay (%)	Target Weight (g)	Actual Weight (g)	Actual Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50	NIST SRM
1. Lead(II) nitrate (Pb)	IN029	PBD122016A1	1000	99.999	0.10	62.5	4.80071	4.80077	**1000.0**	**2.0**	10099-74-8	0.05 mg/m3	intrvns-rat 93 mg/kg	3128



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

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

(T)= Target analyte

Physical Characterization:

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

Certified by:

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R: 12/20/23 M5748

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AR-1539 Certificate Number
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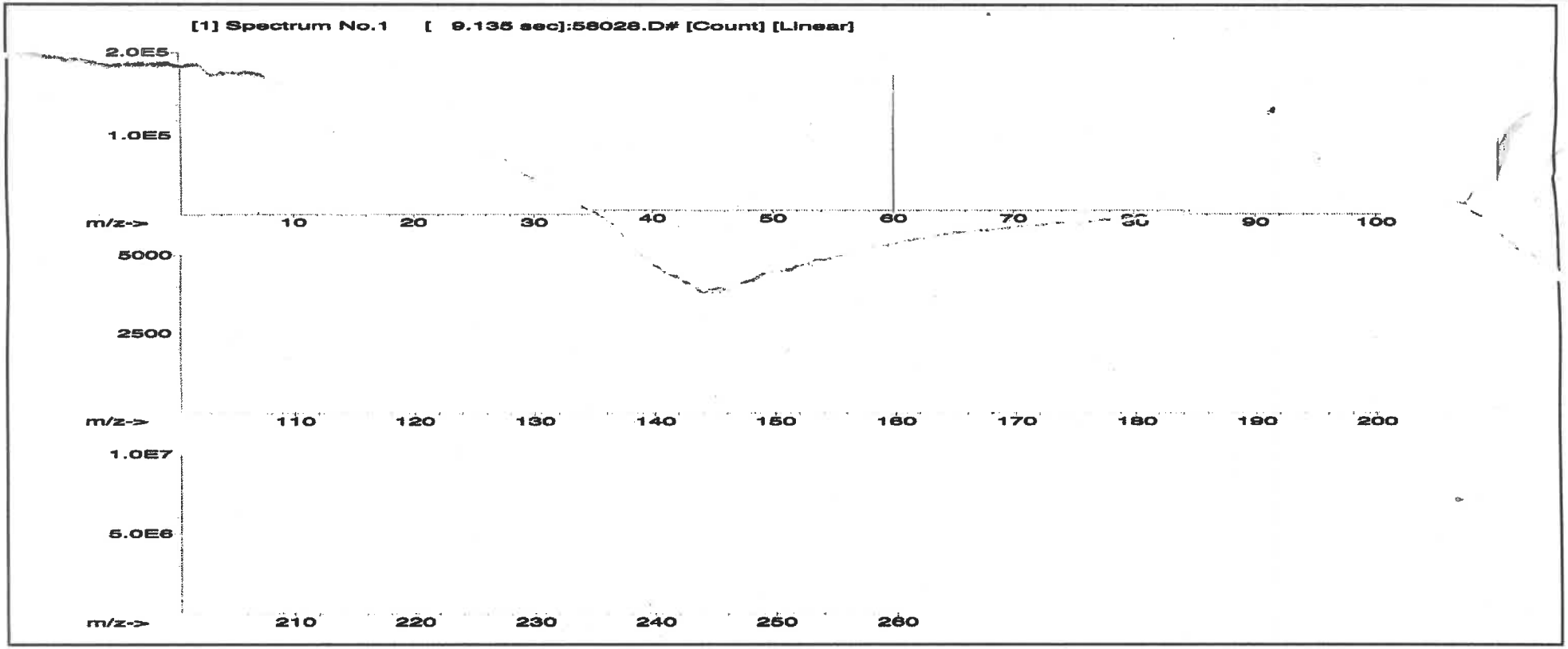
CERTIFIED WEIGHT REPORT:

		Lot #	Solvent:	
Part Number:	**57028**	24002546	Nitric Acid	
Lot Number:	**091223**			
Description:	**Nickel (Ni)**			
		2.0%	40.0 (mL)	Nitric Acid
Expiration Date:	091226			
Recommended Storage:	Ambient (20 °C)			
Nominal Concentration (µg/mL):	**1000**			
NIST Test Number:	6UTB	5E-05	Balance Uncertainty	
Volume shown below was diluted to (mL):	2000.02	0.058	Flask Uncertainty	

Formulated By:	Lawrence Barry	091223
Reviewed By:	Pedro L. Rentas	091223

Compound	Part Number	Lot Number	Dilution Factor	Initial Vol. (mL)	Uncertainty Pipette (mL)	Nominal Conc. (µg/mL)	Initial Conc. (µg/mL)	Final Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50	NIST SRM
1. Nickel(II) nitrate hexahydrate (Ni)	58128	062023	0.1000	200.0	0.084	1000	10000.4	**1000.0**	2.2	13478-00-7	1 mg/m3	orl-rat 1620 mg/kg	3136



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

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

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

(T) = Target analyte

Physical Characterization:

Certified by:

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

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* 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).
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* Uncertainty Reference: Taylor, B.N. and Kuyat, C.E., "Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Result," NIST Technical Note 1297, U.S. Government Printing Office, Washington, D.C. (1994).

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M5768 M5769 (BP) R:1/3/24

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CERTIFIED WEIGHT REPORT:

Part Number: 58112
Lot Number: 091823
Description: Magnesium (Mg)

Expiration Date: 091826
Recommended Storage: Ambient (20 °C)
Nominal Concentration (µg/mL): 10000
NIST Test Number: 6UTB

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

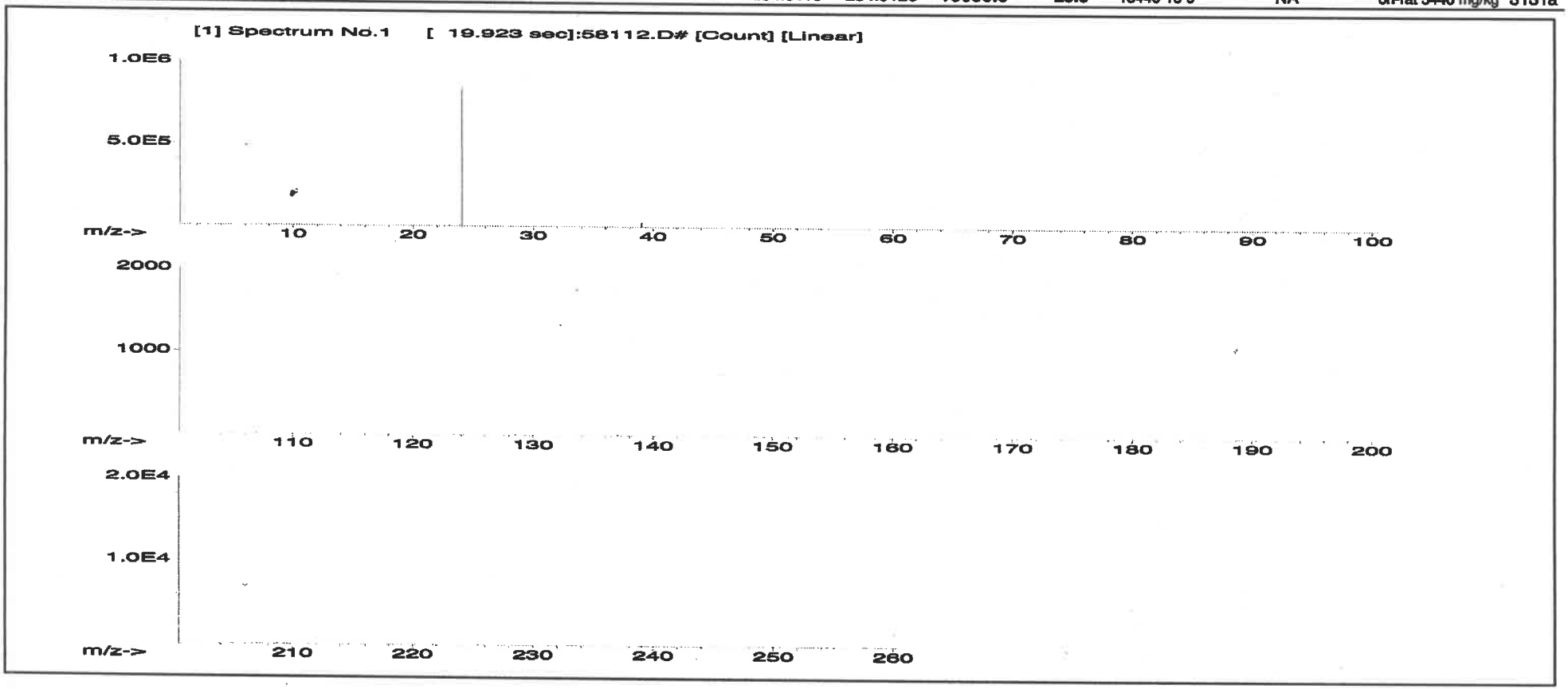
	Lot #		
Solvent:	24002546	Nitric Acid	
2%	40.0 (mL)	Nitric Acid	

5E-05 Balance Uncertainty

M5768, M5769 (BP) R: 1/3/24

Formulated By:	Lawrence Barry	091823
Reviewed By:	Pedro L. Rentas	091823

Compound	RM#	Lot Number	Nominal Conc. (µg/mL)	Purity (%)	Uncertainty Purity (%)	Assay (%)	Target Weight (g)	Actual Weight (g)	Actual Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50	NIST SRM
1. Magnesium nitrate hexahydrate (Mg)	IN030	MGD052023A1	10000	99.999	0.10	8.51	234.9118	234.9126	**10000.0**	**20.0**	13446-18-9	NA	orl-rat 5440 mg/kg	3131a



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

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

(T) = Target analyte

Physical Characterization:

Certified by:

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

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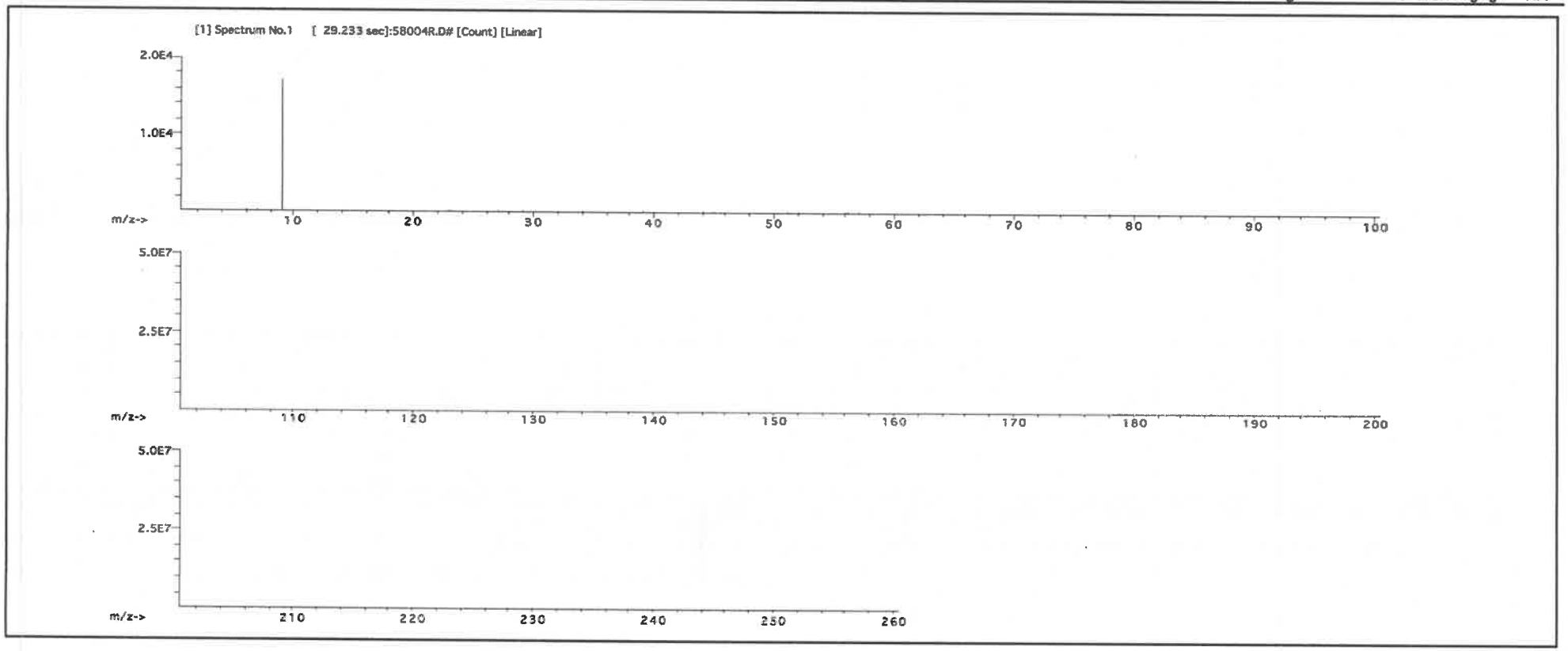
CERTIFIED WEIGHT REPORT:

		Lot #	Solvent:	
Part Number:	**57004**	24002546	Nitric Acid	
Lot Number:	**102523**			
Description:	**Beryllium (Be)**	2.0%	40.0 (mL)	Nitric Acid
Expiration Date:	102526			
Recommended Storage:	Ambient (20 °C)			
Nominal Concentration (µg/mL):	**1000**			
NIST Test Number:	6UTB	5E-05	Balance Uncertainty	
Volume shown below was diluted to (mL):	2000.02	0.058	Flask Uncertainty	

Formulated By:	Benson Chan	102523
Reviewed By:	Pedro L. Rentas	102523

Compound	Part Number	Lot Number	Dilution Factor	Initial Vol. (mL)	Uncertainty Pipette (mL)	Nominal Conc. (µg/mL)	Initial Conc. (µg/mL)	Final Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50	NIST SRM
1. Beryllium nitrate (Be)	58104	091423	0.1000	200.0	0.084	1000	10001.5	**1000.0**	**2.2**	13597-99-4	0.2ug/m3	intrvns-rat 3.16mg/kg	NA



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

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

(T) = Target analyte

Physical Characterization:

Certified by:

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

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CERTIFIED WEIGHT REPORT:

Part Number: 57050
Lot Number: 071123
Description: Tin (Sn)

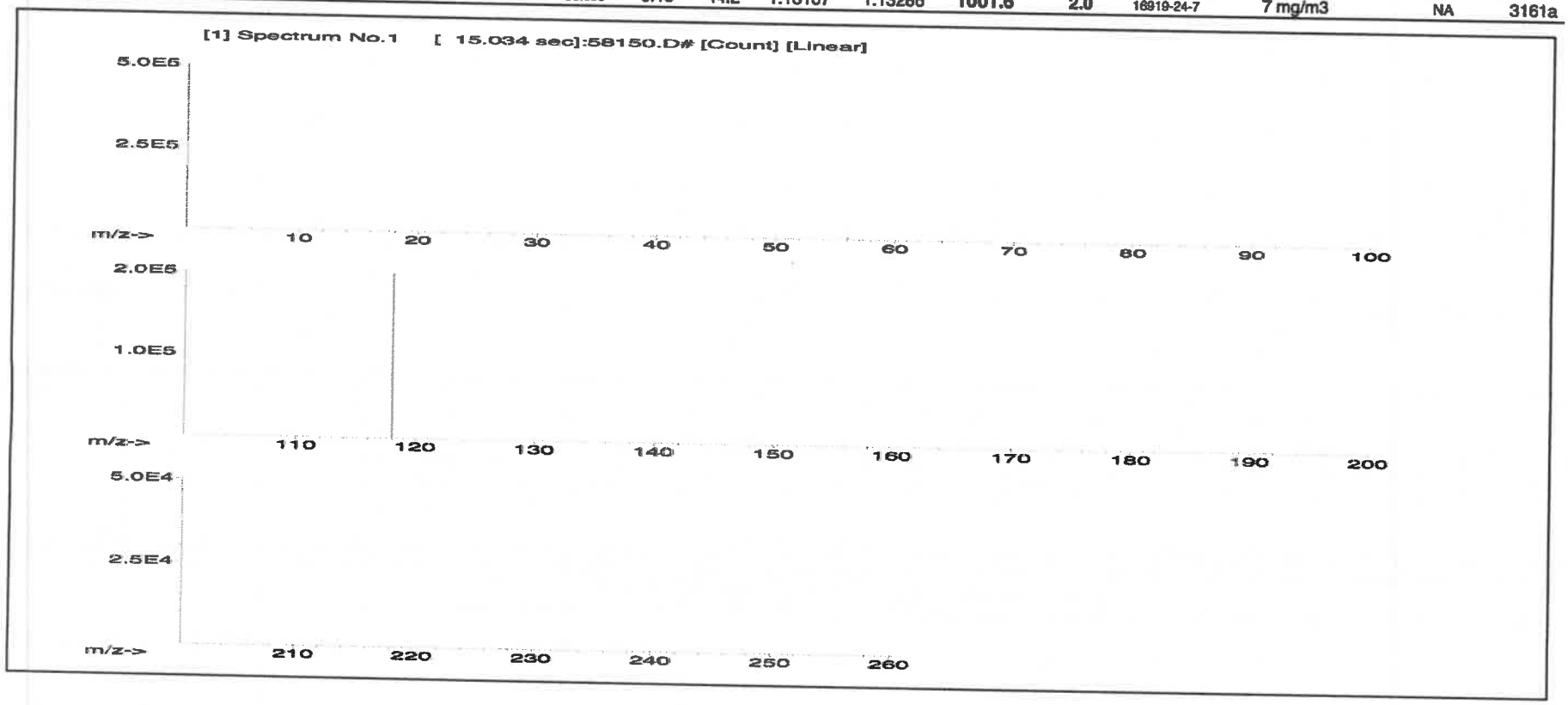
Expiration Date: 071126
Recommended Storage: Ambient (20 °C)
Nominal Concentration (µg/mL): 1000
NIST Test Number: 6UTB
Weight shown below was diluted to (mL): 499.93

	Lot #	
Solvents:	21110221	Nitric Acid
	22D0562008	Hydrochloric acid
2%	10.0	Nitric Acid
6%	30.0	Hydrochloric acid
	(mL)	

5E-05 Balance Uncertainty
0.058 Flask Uncertainty

Formulated By:	Benson Chan	071123
Reviewed By:	Pedro L. Rentas	071123

Compound	RM#	Lot Number	Nominal Conc. (µg/mL)	Purity (%)	Uncertainty Purity (%)	Assay (%)	Target Weight (g)	Actual Weight (g)	Actual Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50	NIST SRM
1. Ammonium hexafluorostannate(IV) (Sn)	IN010	SND042023A1	1000	99.999	0.10	44.2	1.13107	1.13286	**1001.6**	**2.0**	16919-24-7	7 mg/m3	NA	3161a



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

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

Al	<0.02	Cd	<0.02	Dy	<0.02	Hf	<0.02	Li	<0.02	Ni	<0.02	Pr	<0.02	Se	<0.2	Tb	<0.02	W	<0.02
Sb	<0.02	Ca	<0.2	Er	<0.02	Ho	<0.02	Lu	<0.02	Nb	<0.02	Re	<0.02	Si	<0.02	Te	<0.02	U	<0.02
As	<0.2	Ce	<0.02	Eu	<0.02	In	<0.02	Mg	<0.01	Os	<0.02	Rh	<0.02	Ag	<0.02	Tl	<0.02	V	<0.02
Ba	<0.02	Cs	<0.02	Gd	<0.02	Ir	<0.02	Mn	<0.02	Pd	<0.02	Rb	<0.02	Na	<500	Th	<0.02	Yb	<0.02
Be	<0.01	Cr	<0.02	Ga	<0.02	Fe	<0.2	Hg	<0.2	P	<0.02	Ru	<0.02	Sr	<0.02	Tm	<0.02	Y	<0.02
Bi	<0.02	Co	<0.02	Ge	<0.02	La	<0.02	Mo	<0.02	Pt	<0.02	Sm	<0.02	S	<0.02	Sn	T	Zn	<0.02
B	<0.02	Cu	<0.02	Au	<0.02	Pb	<0.02	Nd	<0.02	K	<0.2	Sc	<0.02	Ta	<0.02	Ti	<0.02	Zr	<0.02

(T) = Target analyte

Physical Characterization:

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

Certified by:

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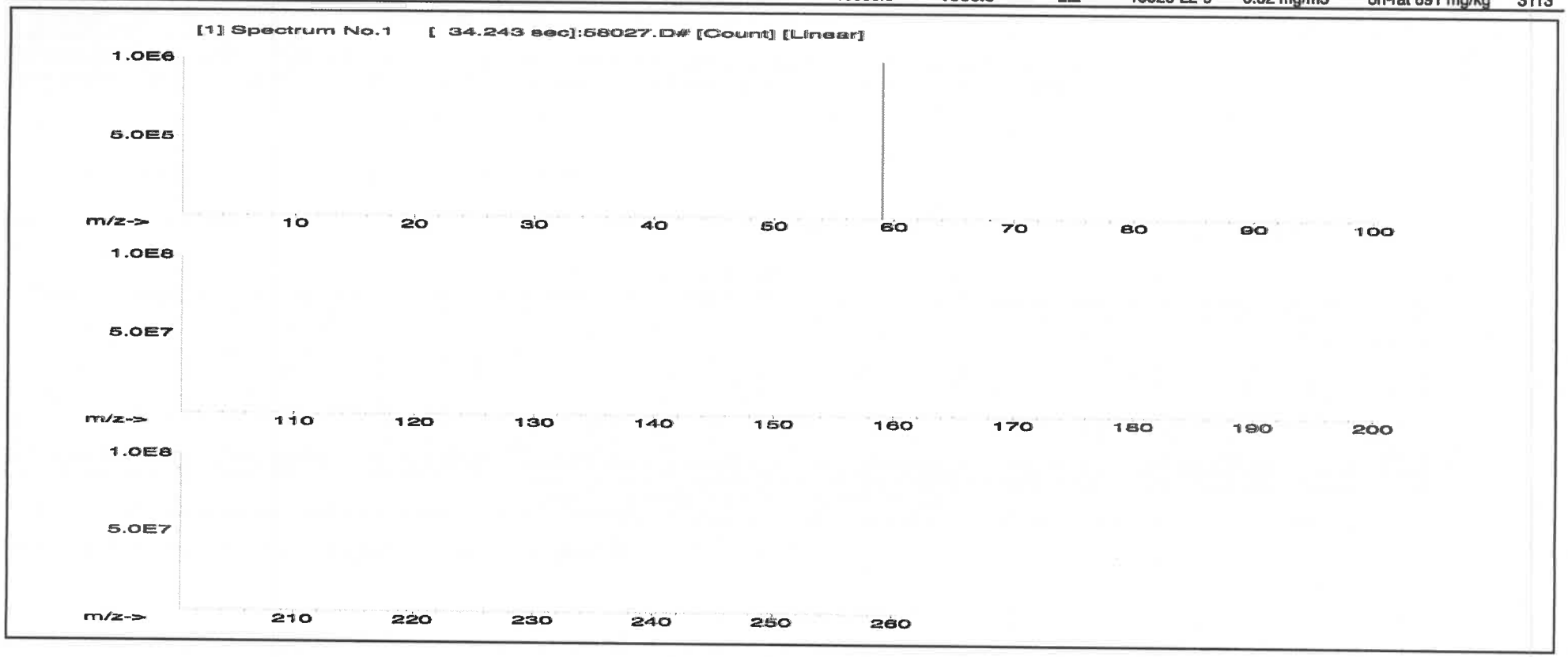
CERTIFIED WEIGHT REPORT:

		Lot #	Solvent:		
Part Number:	**57027**	24002546	Nitric Acid		
Lot Number:	**091923**				
Description:	**Cobalt (Co)**				
		2.0%	40.0 (mL)	Nitric Acid	
Expiration Date:	091926				
Recommended Storage:	Ambient (20 °C)				
Nominal Concentration (µg/mL):	**1000**				
NIST Test Number:	6UTB	5E-05	Balance Uncertainty		
Volume shown below was diluted to (mL):	2000.02	0.058	Flask Uncertainty		

Formulated By:	Lawrence Barry	091923
Reviewed By:	Pedro L. Rentas	091923

Compound	Part Number	Lot Number	Dilution Factor	Initial Vol. (mL)	Uncertainty Pipette (mL)	Nominal Conc. (µg/mL)	Initial Conc. (µg/mL)	Final Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50	NIST SRM
1. Cobalt(II) nitrate hexahydrate (Co)	58127	050923	0.1000	200.0	0.084	1000	10000.0	**1000.0**	**2.2**	10026-22-9	0.02 mg/m3	orl-rat 691 mg/kg	3113



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

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

(T)= Target analyte

Physical Characterization:

Certified by:

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

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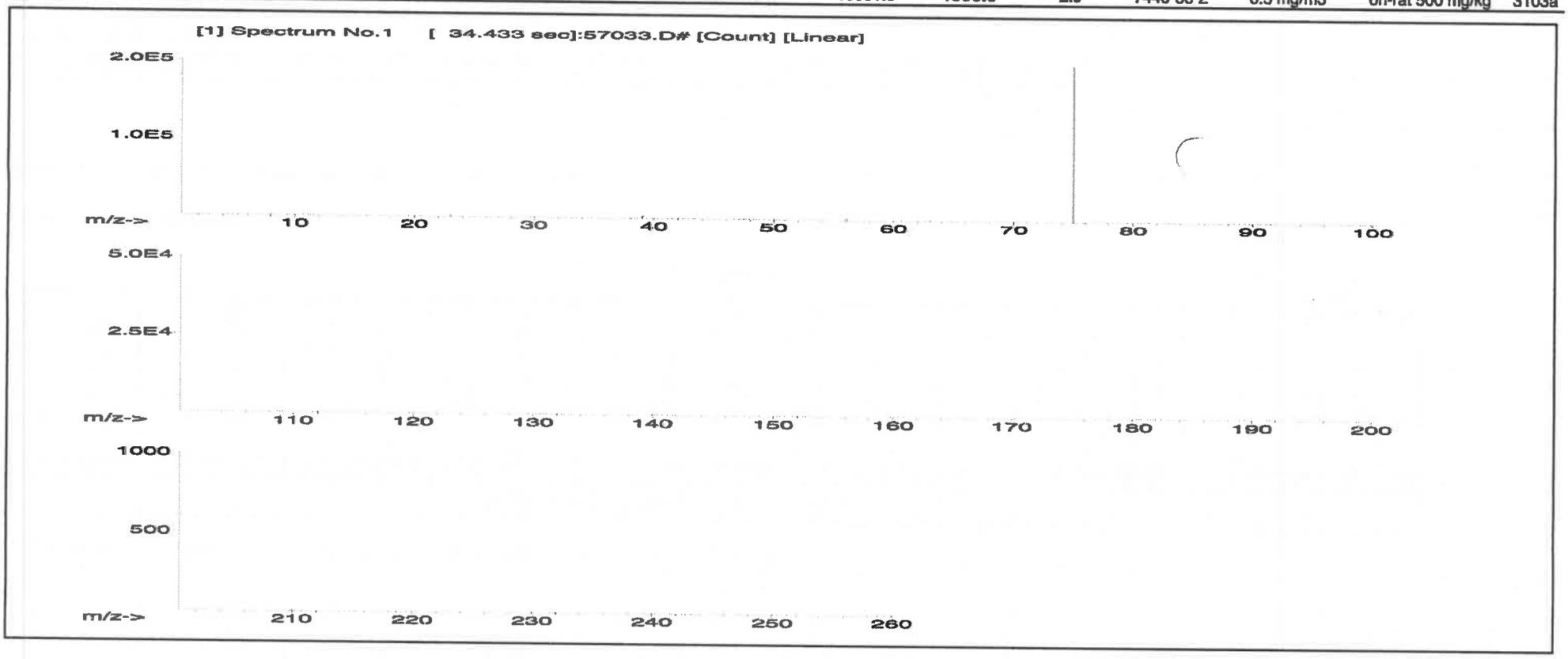
CERTIFIED **WEIGHT** REPORT:

		Lot #	Solvent:		
Part Number:	**57033**	24002546	Nitric Acid		
Lot Number:	**111323**				
Description:	**Arsenic (As)**	2.0%	80.0 (mL)	Nitric Acid	
Expiration Date:	111326				
Recommended Storage:	Ambient (20 °C)				
Nominal Concentration (µg/mL):	**1000**				
NIST Test Number:	6UTB	5E-05	Balance Uncertainty		
Volume shown below was diluted to (mL):	4000.0	0.06	Flask Uncertainty		

Formulated By:	Lawrence Barry	111323
Reviewed By:	Pedro L. Rentas	111323

Compound	Part Number	Lot Number	Dilution Factor	Initial Vol. (mL)	Uncertainty Pipette (mL)	Nominal Conc. (µg/mL)	Initial Conc. (µg/mL)	Final Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50	NIST SRM
1. Arsenic (As)	58133	020522	0.1000	400.0	0.084	1000	10001.0	**1000.0**	**2.0**	7440-38-2	0.5 mg/m3	orl-rat 500 mg/kg	3103a



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

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

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

(T) = Target analyte

Physical Characterization:

Certified by:

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* Standards are prepared gravimetrically using balances that are calibrated with weights traceable to NIST (see above).
* Standards are certifed (+/-) 0.5% of the stated value, unless otherwise stated.
* All standards should be stored with caps tight and under appropriate laboratory conditions.
* Uncertainty Reference: Taylor, B.N. and Kuyat, C.E., "Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Result," NIST Technical Note 1297, U.S. Government Printing Office, Washington, D.C. (1994).

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Certified Reference Material CRM

A: 02/09/24 M.5814

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AR-1539 Certificate Number
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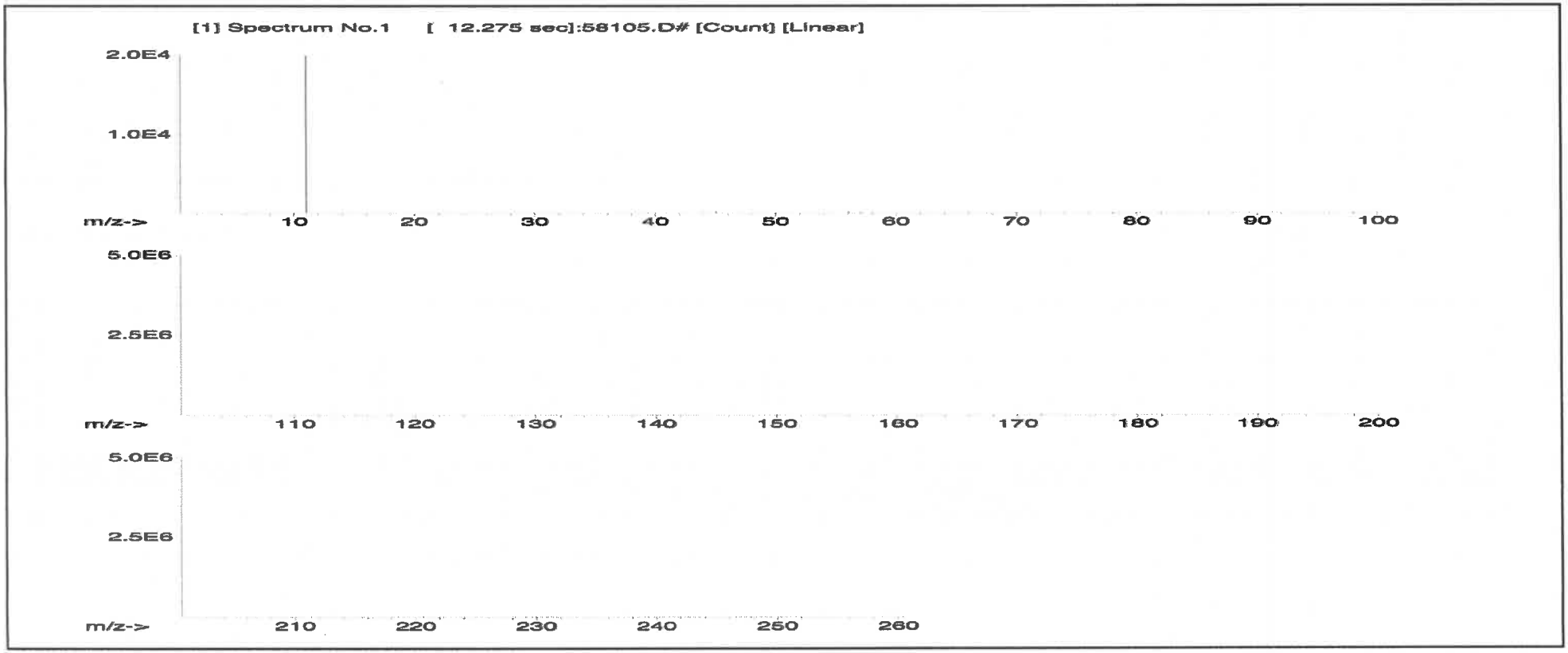
CERTIFIED WEIGHT REPORT:

Part Number:	**57005**		**Solvent:**	MKBQ8597V	Ammonium hydroxide
Lot Number:	**071123**				
Description:	**Boron (B)**		2.0%	40.0 (mL)	Ammonium hydroxide
Expiration Date:	071126				
Recommended Storage:	Ambient (20 °C)				
Nominal Concentration (µg/mL):	**1000**				
NIST Test Number:	6UTB	5E-05	Balance Uncertainty		
Weight shown below was diluted to (mL):	1999.48	0.058	Flask Uncertainty		

Formulated By:	Benson Chan	071123
Reviewed By:	Pedro L. Rentas	071123

Compound	RM#	Lot Number	Nominal Conc. (µg/mL)	Purity (%)	Uncertainty Purity (%)	Assay (%)	Target Weight (g)	Actual Weight (g)	Actual Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50	NIST SRM
1. Boric acid (B)	IN018	BV092016A1	1000	99.9999	0.10	17.3	11.55772	11.56201	**1000.4**	**2.0**	10043-35-3	2 mg/m3	orl-rat 2660 mg/kg	3107



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

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

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

(T) = Target analyte

Physical Characterization:

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

Certified by:

* 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).
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* All Standards should be stored with caps tight and under appropriate laboratory conditions.
* Uncertainty Reference: Taylor, B.N. and Kuyat, C.E., "Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Result," NIST Technical Note 1297, U.S. Government Printing Office, Washington, D.C. (1994).

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Certified Reference Material CRM

R: 02/09/24 M5816

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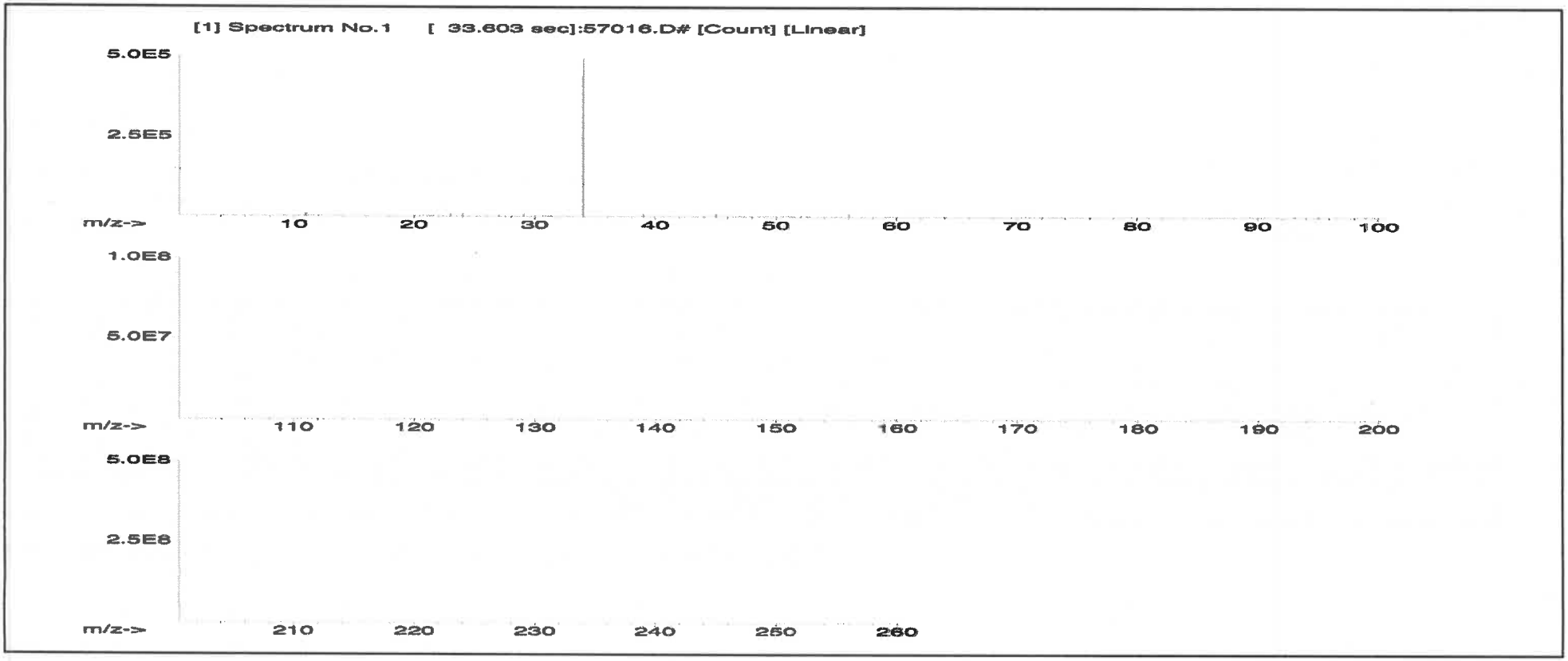
CERTIFIED WEIGHT REPORT:

Part Number:	**57016**	**Solvent:**	**Lot #** 122923	ASTM Type 1 Water
Lot Number:	**122923**			
Description:	**Sulfur (S)**			
Expiration Date:	122926			
Recommended Storage:	Ambient (20 °C)			
Nominal Concentration (µg/mL):	**1000**			
NIST Test Number:	6UTB	5E-05	Balance Uncertainty	
Weight shown below was diluted to (mL):	4000.0	0.06	Flask Uncertainty	

Formulated By:	Benson Chan	122923
Reviewed By:	Pedro L. Rentas	122923

Compound	RM#	Lot Number	Nominal Conc. (µg/mL)	Purity (%)	Uncertainty Purity (%)	Assay (%)	Target Weight (g)	Actual Weight (g)	Actual Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50	NIST SRM
1. Ammonium sulfate (S)	IN117	SLBR7225V	1000	99.9	0.10	24.3	16.4979	16.4980	**1000.0**	**2.0**	7783-20-2	NA	orl-rat 4250mg/kg	3181



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

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

(T) = Target analyte

Physical Characterization:

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

Certified by:

* The certified value is the concentration calculated from gravimetric and volumetric measurements unless otherwise stated.
* Purified acids, 18.2 megohm deionized water, calibrated Class A glassware and the highest purity raw materials are used in the preparation of all standards.
* All standard containers are meticulously cleaned prior to use.
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* Standards are certifed (+/-) 0.5% of the stated value, unless otherwise stated.
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Certified Reference Material CRM

R: 02/09/24 M5817

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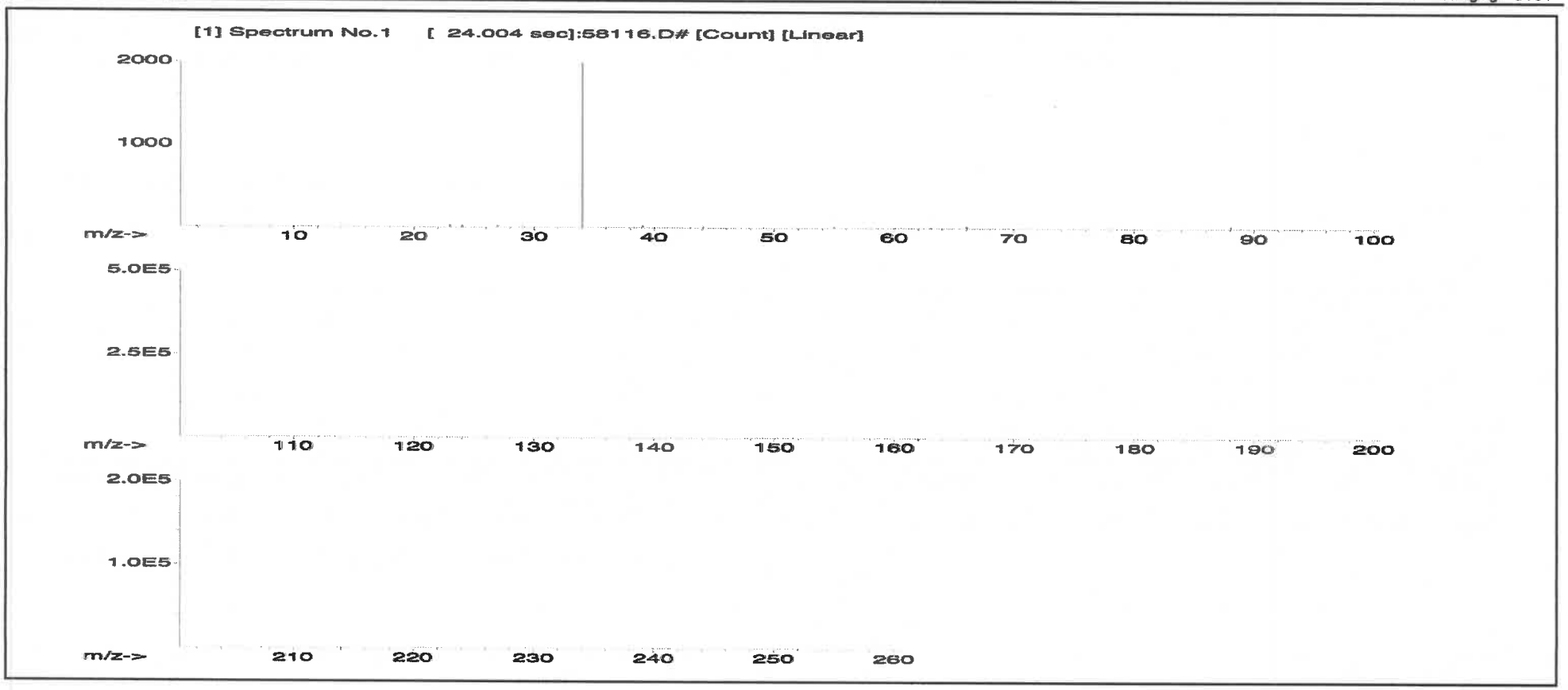
CERTIFIED WEIGHT REPORT:

Part Number:	**57116**			
Lot Number:	**071123**	**Solvent:**	071123	ASTM Type 1 Water
Description:	**Sulfur (S)**			
Expiration Date:	071126			
Recommended Storage:	Ambient (20 °C)			
Nominal Concentration (µg/mL):	**10000**			
NIST Test Number:	6UTB	5E-05	Balance Uncertainty	
Weight shown below was diluted to (mL):	1999.48	0.058	Flask Uncertainty	

Lot #

Formulated By:	Lawrence Barry	071123
Reviewed By:	Pedro L. Rentas	071123

Compound	RM#	Lot Number	Nominal Conc. (µg/mL)	Purity (%)	Uncertainty Purity (%)	Assay (%)	Target Weight (g)	Actual Weight (g)	Actual Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50	NIST SRM
1. Ammonium sulfate (S)	IN117	SLBR7225V	10000	99.9	0.10	24.3	82.4675	82.4682	**10000.1**	**20.0**	7783-20-2	NA	orl-rat 4250mg/kg	3181



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

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

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

(T)= Target analyte

Physical Characterization:

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

Certified by:

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* Uncertainty Reference: Taylor, B.N. and Kuyat, C.E., "Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Result," NIST Technical Note 1297, U.S. Government Printing Office, Washington, D.C. (1994).

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R: 02/09/24 M5820

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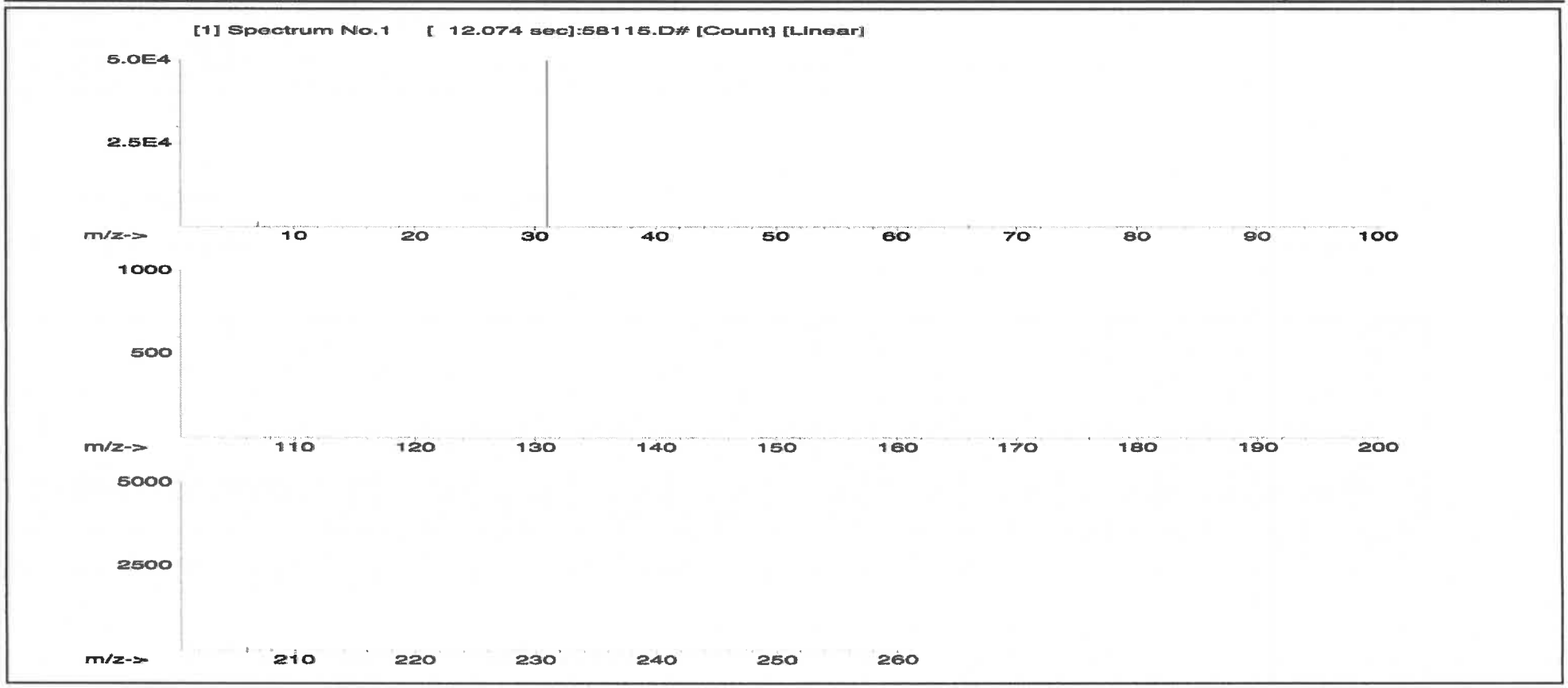
CERTIFIED WEIGHT REPORT:

Part Number:	**57015**		**Lot #**		
Lot Number:	**091123**	**Solvent:**	24002546	Nitric Acid	
Description:	**Phosphorous (P)**	2%	40.0 (mL)	Nitric Acid	
Expiration Date:	091126				
Recommended Storage:	Ambient (20 °C)				
Nominal Concentration (µg/mL):	**1000**				
NIST Test Number:	6UTB	5E-05	Balance Uncertainty		
Weight shown below was diluted to (mL):	2000.02	0.058	Flask Uncertainty		

Formulated By:	Lawrence Barry	091123
Reviewed By:	Pedro L. Rentas	091123

Compound	RM#	Lot Number	Nominal Conc. (µg/mL)	Purity (%)	Uncertainty Purity (%)	Assay (%)	Target Weight (g)	Actual Weight (g)	Actual Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50	NIST SRM
1. Ammonium dihydrogen phosphate (P)	IN008	PV082019A1	1000	99.999	0.10	27.5	7.2729	7.2730	**1000.0**	**2.0**	7722-76-1	5 mg/m3	orl-rat >2000mg/k	3186



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

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

(T) = Target analyte

Physical Characterization:

Certified by:

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Sodium Chloride, Crystal
BAKER ANALYZED® A.C.S. Reagent

MT884
MB

avantor™ | J.T.Baker®

Material No.: 3624-01
Batch No.: 0000281938
Manufactured Date: 2021-06-07
Retest Date: 2026-06-07
Revision No.: 1

Certificate of Analysis

Test	Specification	Result
Assay (NaCl) (by Ag titrn)	≥ 99.0 %	100.0 %
pH of 5% Solution at 25°C	5.0 - 9.0	6.3
Insoluble Matter	≤ 0.005 %	0.003 %
Iodide (I)	≤ 0.002 %	< 0.002 %
Bromide (Br)	≤ 0.01 %	< 0.01 %
Chlorate and Nitrate (as NO_3)	≤ 0.003 %	< 0.001 %
ACS - Phosphate (PO_4)	≤ 5 ppm	< 5 ppm
Sulfate (SO_4)	≤ 0.004 %	< 0.004 %
Barium (Ba)	Passes Test	Passes Test
ACS - Heavy Metals (as Pb)	≤ 5 ppm	< 5 ppm
Iron (Fe)	≤ 2 ppm	< 1 ppm
Calcium (Ca)	≤ 0.002 %	< 0.001 %
Magnesium (Mg)	≤ 0.001 %	< 0.001 %
Potassium (K)	≤ 0.005 %	0.001 %

For Laboratory,Research,or Manufacturing Use
Meets Reagent Specifications for testing USP/NF monographs
Country of Origin: USA
Packaging Site: Paris Mfg Ctr & DC

James T Ethier

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 Mansford Rd, Suite 200, Radnor, PA 19087. U.S.A. Phone 610.386.1700

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M5959 R: 6/14/24.

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inorganicventures.com

P: 800-669-6799/540-585-3030
F: 540-585-3012
info@inorganicventures.com

1.0 ACCREDITATION / REGISTRATION

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

ACCREDITED Testing Laboratory Certificate 863.01
ACCREDITED Reference Material Producer Certificate 863.02

2.0 PRODUCT DESCRIPTION

Product Code:	Single Analyte Custom Grade Solution
Catalog Number:	CGY10
Lot Number:	V2-Y740548
Matrix:	2% (v/v) HNO3
Value / Analyte(s):	10 000 µg/mL ea: Yttrium
Starting Material:	Yttrium Oxide
Starting Material Lot#:	2661 and 06230520YL
Starting Material Purity:	99.9984%

3.0 CERTIFIED VALUES AND UNCERTAINTIES

Certified Value: 10000 ± 30 µg/mL

Density: 1.032 g/mL (measured at 20 ± 4 °C)

Assay Information:

Assay Method #1	**10011 ± 25 µg/mL** EDTA NIST SRM 928 Lot Number: 928
Assay Method #2	**9997 ± 50 µg/mL** ICP Assay NIST SRM 3167a Lot Number: 190730
Assay Method #3	**9984 ± 31 µg/mL** Calculated NIST SRM Lot Number: See Sec. 4.2

- The Calculated Value is a value calculated from the weight of a starting material that has been certified directly vs. a National Institute of Standards and Technology (NIST) SRM/RM. See Sec 4.2 for balance traceability.

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

Characterization of CRM/RM by Two or More Methods

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

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

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

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

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

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{1/2}$

k = coverage factor = 2

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

u_{bb} = bottle to bottle homogeneity standard uncertainty

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

u_{ts} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

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

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

X_a = mean of Assay Method A with

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

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{1/2}$

k = coverage factor = 2

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

u_{bb} = bottle to bottle homogeneity standard uncertainty

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

u_{ts} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

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

4.1 Thermometer Calibration

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

4.2 Balance Calibration

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

4.3 Glassware Calibration

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

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

CRM/RMs are tested for trace metallic impurities by Axial ICP-OES and ICP-MS. The result from the most sensitive method for each element, is reported below. Solutions tested by ICP-MS were analyzed in an ULPA-Filtered Clean Room. An ULPA-Filter is 99.9985% efficient for the removal of particles down to 0.3 µm.

M	Ag	<	0.004600	M	Eu		0.009037	M	Na		0.086360	M	Se	<	0.005200	M	Zn		0.030125
M	Al		0.014862	O	Fe		0.002410	M	Nb	<	0.000570	O	Si		0.024100	O	Zr	<	0.002600
M	As	<	0.003500	M	Ga	<	0.000570	M	Nd		0.000923	M	Sm		0.000461				
M	Au	<	0.001700	M	Gd	<	0.003500	M	Ni	<	0.005700	M	Sn	<	0.002300				
O	B		0.002209	M	Ge	<	0.005200	M	Os	<	0.001200	M	Sr	<	0.004600				
O	Ba	<	0.002500	M	Hf	<	0.000570	n	P	<		M	Ta	<	0.000570				
O	Be	<	0.001400	M	Hg	<	0.000570	M	Pb		0.005020	M	Tb		0.001044				
M	Bi	<	0.003500	M	Ho		0.009037	M	Pd	<	0.005100	M	Te	<	0.002300				
O	Ca		0.009841	M	In	<	0.002300	M	Pr	<	0.002300	M	Th	<	0.000570				
M	Cd	<	0.000570	M	Ir	<	0.000570	M	Pt	<	0.000570	M	Ti	<	0.003500				
M	Ce	<	0.002300	O	K		0.018677	M	Rb	<	0.000570	M	Tl	<	0.000570				
M	Co	<	0.000570	M	La		0.000461	M	Re	<	0.000570	M	Tm	<	0.003500				
M	Cr	<	0.004000	O	Li	<	0.009300	M	Rh	<	0.008000	M	U	<	0.000570				
M	Cs	<	0.000570	M	Lu		0.000582	M	Ru	<	0.000570	M	V		0.001265				
M	Cu		0.002610	O	Mg		0.001486	n	S	<		M	W	<	0.002300				
M	Dy		0.003815	M	Mn		0.000582	M	Sb		0.005422	s	Y	<					
M	Er		0.003615	M	Mo	<	0.005700	M	Sc	<	0.001200	M	Yb		0.001827				

M - Checked by ICP-MS O - Checked by ICP-OES i - Spectral Interference
n - Not Checked For s - Solution Standard Element

6.0 INTENDED USE

6.1 This standard is intended for the calibration of analytical instruments and validation of analytical methods as appropriate. This CRM may be used in connection with EPA Methods 6010, 6020 (all versions), Standard Methods 3120 B and USP <232> / ICH Q3D.

6.2 For products attaining traceability through Inorganic Ventures' Primary Certified Reference Materials (PCRM™) see the Limited License to Use PCRM™ in the Inorganic Ventures Terms and Conditions of Sale, https://www.inorganicventures.com/terms-and-conditions-sale. The Terms and Conditions contain information on the use of materials traceable to PCRM™ certified reference materials. This Limited License agreement is especially pertinent for laboratories accredited under ISO:17034.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

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

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

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

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

Atomic Weight; Valence; Coordination Number; Chemical Form in Solution - 88.91 +3 6 Y(OH)(H2O)x+2

Chemical Compatibility -Soluble in HCl, H2SO4 and HNO3. Avoid HF, H3PO4 and neutral to basic media. Stable with most metals and inorganic anions forming an insoluble carbonate, oxide, oxalate, and fluoride. Avoid mixing with elements / solutions containing moderate amounts of fluoride.

Stability - 2-100 ppb levels stable for months in 1% HNO3 / LDPE container. 1-10,000 ppm solutions chemically stable for years in 2-5% HNO3 / LDPE container.

Y Containing Samples (Preparation and Solution) - Metal (Soluble in acids); Oxide (Dissolve by heating in H2O/ HNO3); Ores (Carbonate fusion in Pt0 followed by HCl dissolution); Organic Matrices (Dry ash and dissolve in 1:1 H2O / HCl or HNO3).

Atomic Spectroscopic Information (ICP-OES D.L.s are given as radial/axial view):

Technique/Line	**Estimated D.L.**	**Order**	**Interferences** (underlined indicates severe)
ICP-MS 89 amu	0.8 ppt	N/A	73Ge16O, 178Hf+2
ICP-OES 360.073 nm	0.005 / 0.000036 µg/mL	1	Ce, Th
ICP-OES 371.030 nm	0.004 / 0.00007 µg/mL	1	Ce
ICP-OES 377.433 nm	0.005 / 0.0009 µg/mL	1	Ta, Th

8.0 HAZARDOUS INFORMATION

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

9.0 HOMOGENEITY

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

10.0 QUALITY STANDARD DOCUMENTATION

10.1 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

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

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

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

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

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11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

February 20, 2024

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

11.2 Lot Expiration Date

- February 20, 2029

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

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

11.3 Period of Validity

- Sealed TCT Bag Open Date: _____

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

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Prepared By:

Uyen Truong
Custom Processing Supervisor

Certificate Approved By:

Muzzammil Khan
Stock Laboratory Supervisor

Certifying Officer:

Paul Gaines
Chairman / Senior Technical Director

Absolute Standards, Inc.
800-368-1131
www.absolutestandards.com

Certified Reference Material CRM

M5970, M5971 R: 7/01/24

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

CERTIFIED WEIGHT REPORT:

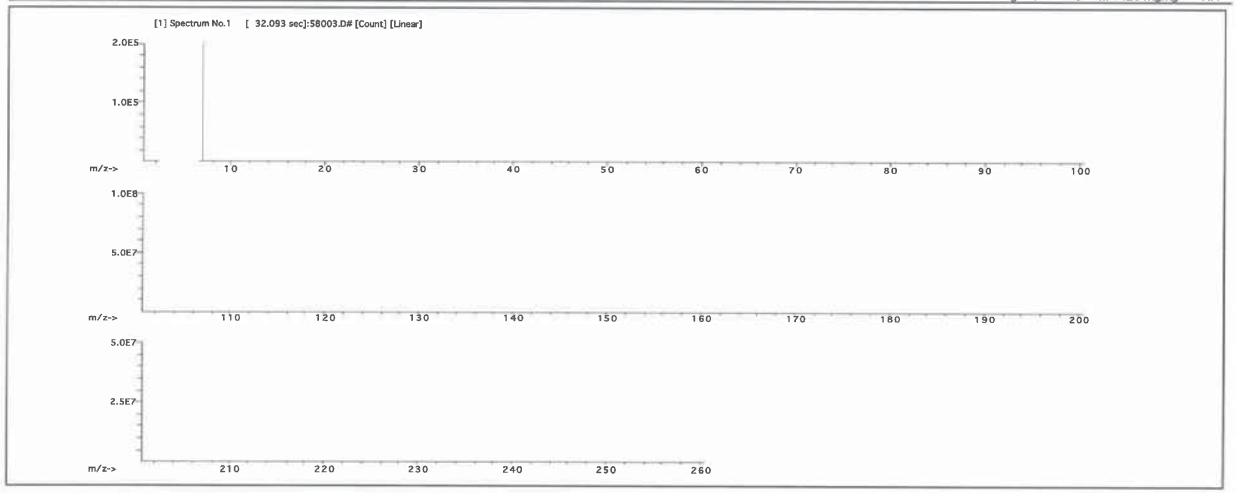
		Lot #	Solvent:
Part Number:	**57003**	24002546	Nitric Acid
Lot Number:	**062124**		
Description:	**Lithium (Li)**		
		2.0%	5.0 (mL) Nitric Acid
Expiration Date:	062127		
Recommended Storage:	Ambient (20 °C)		
Nominal Concentration (µg/mL):	**1000**		
NIST Test Number:	6UTB	5E-05 Balance Uncertainty	
Volume shown below was diluted to (mL):	250.11	0.016 Flask Uncertainty	

Giovanni Esposito

Formulated By: Giovanni Esposito 062124

Reviewed By: Pedro L. Rentas 062124

Compound	Part Number	Lot Number	Dilution Factor	Initial Vol. (mL)	Uncertainty Pipette (mL)	Nominal Conc. (µg/mL)	Initial Conc. (µg/mL)	Final Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50	NIST SRM
1. Lithium nitrate (Li)	58103	070622	0.1000	25.0	0.004	1000	10000.4	**1000.0**	**2.0**	7790-69-4	5 mg/m3	orl-rat 1426 mg/kg	NA



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

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

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

(T) = Target analyte

Physical Characterization:

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

Certified by:

* The certified value is the concentration calculated from gravimetric and volumetric measurements unless otherwise stated.
* Purified acids, 18.2 megohm deionized water, calibrated Class A glassware and the highest purity raw materials are used in the preparation of all standards.
* All standard containers are meticulously cleaned prior to use.
* Standards are prepared gravimetrically using balances that are calibrated with weights traceable to NIST (see above).
* Standards are certifed (+/-) 0.5% of the stated value, unless otherwise stated.
* All Standards should be stored with caps tight and under appropriate laboratory conditions.
* Uncertainty Reference: Taylor, B.N. and Kuyat, C.E., "Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Result," NIST Technical Note 1297, U.S. Government Printing Office, Washington, D.C. (1994).

M5978, M5979

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Certificate of Analysis

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1.0 ACCREDITATION / REGISTRATION

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

ACCREDITED Testing Laboratory Certificate 883.01 ACCREDITED Reference Material Producer Certificate 883.02

2.0 PRODUCT DESCRIPTION

Product Code:	Single Analyte Custom Grade Solution
Catalog Number:	CGTI1
Lot Number:	T2-TI719972
Matrix:	2% (v/v) HNO_3 tr. HF
Value / Analyte(s):	1 000 µg/mL ea: Titanium
Starting Material:	Ti Metal
Starting Material Lot#:	2094
Starting Material Purity:	99.9975%

3.0 CERTIFIED VALUES AND UNCERTAINTIES

Certified Value: 1002 ± 5 µg/mL

Density: 1.012 g/mL (measured at 20 ± 4 °C)

Assay Information:

Assay Method #1 **1002 ± 4 µg/mL**
ICP Assay NIST SRM 3162a Lot Number: 130925

- The Calculated Value is a value calculated from the weight of a starting material that has been certified directly vs. a National Institute of Standards and Technology (NIST) SRM/RM. See Sec 4.2 for balance traceability.

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

Characterization of CRM/RM by Two or More Methods

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

$X_{CRM/RM} = \Sigma(w_i)(\bar{x}_i)$

$\bar{x}_i$ = mean of Assay Method i with standard uncertainty $u_{char\ i}$

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

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

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{1/2}$

k = coverage factor = 2

$u_{char} = (\Sigma(w_i)^2\,(u_{char\ i})^2)^{1/2}$ where $u_{char\ i}$ are the errors from each characterization method

u_{bb} = bottle to bottle homogeneity standard uncertainty

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

u_{ts} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

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

$X_{CRM/RM} = (\bar{x}_a)\ (u_{char\ a})$

$\bar{x}_a$ = mean of Assay Method A with

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

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{1/2}$

k = coverage factor = 2

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

u_{bb} = bottle to bottle homogeneity standard uncertainty

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

u_{ts} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

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

4.1 Thermometer Calibration

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

4.2 Balance Calibration

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

4.3 Glassware Calibration

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

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

CRM/RMs are tested for trace metallic impurities by Axial ICP-OES and ICP-MS. The result from the most sensitive method for each element, is reported below. Solutions tested by ICP-MS were analyzed in an ULPA-Filtered Clean Room. An ULPA-Filter is 99.9985% efficient for the removal of particles down to 0.3 µm.

M	Ag	<	0.000536	M	Eu	<	0.000268	O	Na	<	0.032670	M	Se		0.001204	O	Zn	<	0.003267
O	Al		0.000872	O	Fe		0.003225	O	Nb	<	0.043560	O	Si		0.004735	O	Zr	<	0.043560
M	As	<	0.008586	M	Ga	<	0.000268	M	Nd	<	0.000268	M	Sm	<	0.000268				
M	Au	<	0.004577	M	Gd	<	0.000268	O	Ni	<	0.010890	M	Sn		0.000096				
O	B	<	0.008929	M	Ge	<	0.002146	M	Os	<	0.000269	O	Sr		0.000096				
M	Ba	<	0.002683	M	Hf		0.002161	O	P	<	0.054450	M	Ta		0.010560				
M	Be	<	0.005366	M	Hg	<	0.003231	M	Pb	<	0.001073	M	Tb	<	0.000268				
M	Bi	<	0.001609	M	Ho	<	0.000268	M	Pd	<	0.000268	M	Te	<	0.001341				
O	Ca		0.000676	M	In	<	0.002683	M	Pr	<	0.000268	M	Th	<	0.053663				
M	Cd	<	0.000268	M	Ir	<	0.000269	M	Pt	<	0.000536	s	Ti	<					
M	Ce	<	0.000268	M	K		0.001172	M	Rb	<	0.000268	M	Tl	<	0.000268				
M	Co	<	0.004293	M	La	<	0.000268	M	Re	<	0.000268	M	Tm	<	0.000268				
M	Cr		0.000752	O	Li	<	0.027225	M	Rh	<	0.000268	M	U	<	0.000268				
M	Cs	<	0.000268	M	Lu	<	0.000268	M	Ru	<	0.000269	M	V	<	0.019855				
O	Cu	<	0.010890	O	Mg	<	0.005445	i	S	<		M	W		0.000473				
M	Dy	<	0.000268	O	Mn	<	0.003267	M	Sb	<	0.006976	M	Y	<	0.002146				
M	Er	<	0.000268	M	Mo		0.000774	O	Sc	<	0.004900	M	Yb	<	0.000536				

M - Checked by ICP-MS O - Checked by ICP-OES i - Spectral Interference
n - Not Checked For s - Solution Standard Element

6.0 INTENDED USE

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

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

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

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

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

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

Atomic Weight; Valence; Coordination Number; Chemical Form in Solution - 47.87 +4 6 Ti(F)6-2

Chemical Compatibility - Soluble in concentrated HCl, HF, H3PO4 H2SO4 and HNO3. Avoid neutral to basic media. Unstable at ppm levels with metals that would pull F- away (i.e. Do not mix with Alkaline or Rare Earths or high levels of transition elements unless they are fluorinated). Stable with most inorganic anions with a tendency to hydrolyze forming the hydrated oxide in all dilute acids except HF.

Stability - 2-100 ppb levels stable (Alone or mixed with all other metals) as the Ti(F)6-2 for months in 1% HNO3 / LDPE container. 1-10,000 ppm single element solutions as the Ti(F)6-2 chemically stable for years in 2-5% HNO3 / trace HF in an LDPE container.

Ti Containing Samples (Preparation and Solution) - Metal (Soluble in H2O / HF caution -powder reacts violently); Oxide - low temperature history anatase or rutile (Dissolved by heating in 1:1:1 H2O / HF / H2SO4); Oxide - high temperature history (~800EC) brookite (fuse in Pt0 with K2S2O7); Ores (fuse in Pt0 with KF + K2S2O7 - no KF if silica not present); Organic Matrices (Dry ash at 450EC in Pt0 and dissolve by heating with 1:1:1 H2O / HF / H2SO4 or fuse ash with pyrosulfate if oxide is as plastic pigment and likely in brookite crystalline form).

Atomic Spectroscopic Information (ICP-OES D.L.s are given as radial/axial view):

Technique/Line	Estimated D.L.	Order	Interferences (underlined indicates severe)
ICP-MS 48 amu	14 ppt	N/A	32S16O, 32S14N, 14N16O18O, 14N17N2, 36Ar12C, 48Ca, [96X=2 (where X = Zr, Mo, Ru)]
ICP-OES 323.452 nm	0.0054 / 0.00092 µg/mL	1	Ce, Ar, Ni
ICP-OES 334.941 nm	0.0038 / 0.000028 µg/mL	1	Nb, Ta, Cr, U
ICP-OES 336.121 nm	0.0053 / 0.000034 µg/mL	1	W, Mo, Co

HF Note: This standard should not be prepared or stored in glass.

8.0 HAZARDOUS INFORMATION

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

9.0 HOMOGENEITY

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

10.0 QUALITY STANDARD DOCUMENTATION

10.1 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

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

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

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

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

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11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

June 17, 2022

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

11.2 Lot Expiration Date

- June 17, 2027

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

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

11.3 Period of Validity

- Sealed TCT Bag Open Date: _____

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

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Approved By:

Thomas Kozikowski
Manager, Quality Control

Certifying Officer:

Paul Gaines
Chairman / Senior Technical Director

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MS985
R: 6/14/24

1.0 ACCREDITATION / REGISTRATION

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ACCREDITED Testing Laboratory Certificate 863.01
ACCREDITED Reference Material Producer Certificate 863.02

2.0 PRODUCT DESCRIPTION

Product Code:	Single Analyte Custom Grade Solution
Catalog Number:	CGIN10
Lot Number:	U2-IN729349
Matrix:	5% (v/v) HNO3
Value / Analyte(s):	10 000 µg/mL ea: Indium
Starting Material:	Indium Metal
Starting Material Lot#:	2511
Starting Material Purity:	99.9995%

3.0 CERTIFIED VALUES AND UNCERTAINTIES

Certified Value: 10022 ± 30 µg/mL

Density: 1.044 g/mL (measured at 20 ± 4 °C)

Assay Information:

Assay Method #1	**10021 ± 56 µg/mL** ICP Assay NIST SRM 3124a Lot Number: 110516
Assay Method #2	**10035 ± 25 µg/mL** EDTA NIST SRM 928 Lot Number: 928
Assay Method #3	**10001 ± 33 µg/mL** Calculated NIST SRM Lot Number: See Sec. 4.2

- The Calculated Value is a value calculated from the weight of a starting material that has been certified directly vs. a National Institute of Standards and Technology (NIST) SRM/RM. See Sec 4.2 for balance traceability.

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

Characterization of CRM/RM by Two or More Methods

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

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

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

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

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

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

$u_{char} = [\Sigma((w_i)^2\,(u_{char\ i})^2)]^{½}$ where $u_{char\ i}$ are the errors from each characterization method

u_{bb} = bottle to bottle homogeneity standard uncertainty

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

u_{ts} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

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

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

X_a = mean of Assay Method A with

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

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

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

u_{bb} = bottle to bottle homogeneity standard uncertainty

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

u_{ts} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

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

4.1 Thermometer Calibration

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

4.2 Balance Calibration

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

4.3 Glassware Calibration

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

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

CRM/RMs are tested for trace metallic impurities by Axial ICP-OES and ICP-MS. The result from the most sensitive method for each element, is reported below. Solutions tested by ICP-MS were analyzed in an ULPA-Filtered Clean Room. An ULPA-Filter is 99.9985% efficient for the removal of particles down to 0.3 µm.

M	Ag	<	0.000760	M	Eu	<	0.000760	O	Na		0.012771	M	Se	<	0.023000	M	Zn	<	0.006100
M	Al		0.003385	O	Fe		0.004462	M	Nb	<	0.000760	O	Si		0.024619	M	Zr	<	0.000760
M	As	<	0.004600	M	Ga	<	0.000760	M	Nd	<	0.000760	M	Sm	<	0.000760				
M	Au	<	0.002300	M	Gd	<	0.000760	O	Ni	<	0.005100	M	Sn	<	0.000760				
O	B		0.003692	M	Ge	<	0.001600	M	Os	<	0.000760	O	Sr	<	0.000610				
M	Ba	<	0.001600	M	Hf	<	0.000760	n	P	<		M	Ta	<	0.000760				
O	Be	<	0.000130	M	Hg	<	0.003100	M	Pb		0.001400	M	Tb	<	0.000760				
M	Bi	<	0.000760	M	Ho	<	0.000760	M	Pd	<	0.001600	M	Te	<	0.000760				
O	Ca		0.004616	s	In	<		M	Pr	<	0.000760	M	Th	<	0.000760				
M	Cd	<	0.000760	M	Ir	<	0.000760	M	Pt	<	0.000760	O	Ti	<	0.001100				
M	Ce	<	0.000760	O	K		0.007078	M	Rb	<	0.000760	M	Tl	<	0.000760				
M	Co	<	0.000760	M	La	<	0.000760	M	Re	<	0.000760	M	Tm	<	0.000760				
O	Cr	<	0.001300	O	Li	<	0.000130	M	Rh	<	0.000760	M	U	<	0.000760				
M	Cs	<	0.000760	M	Lu	<	0.000760	M	Ru	<	0.000760	M	V	<	0.001600				
M	Cu	<	0.003800	O	Mg		0.000707	n	S	<		M	W	<	0.001600				
M	Dy	<	0.000760	O	Mn		0.000149	M	Sb	<	0.000760	M	Y	<	0.000760				
M	Er	<	0.000760	M	Mo	<	0.002300	M	Sc	<	0.000760	M	Yb	<	0.000760				

M - Checked by ICP-MS O - Checked by ICP-OES i - Spectral Interference
n - Not Checked For s - Solution Standard Element

6.0 INTENDED USE

6.1 This standard is intended for the calibration of analytical instruments and validation of analytical methods as appropriate. This CRM may be used in connection with EPA Methods 6010, 6020 (all versions), Standard Methods 3120 B and USP <232> / ICH Q3D.

6.2 For products attaining traceability through Inorganic Ventures' Primary Certified Reference Materials (PCRM™) see the Limited License to Use PCRM™ in the Inorganic Ventures Terms and Conditions of Sale, https://www.inorganicventures.com/terms-and-conditions-sale. The Terms and Conditions contain information on the use of materials traceable to PCRM™ certified reference materials. This Limited License agreement is especially pertinent for laboratories accredited under ISO:17034.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

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

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

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

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

Atomic Weight; Valence; Coordination Number; Chemical Form in Solution - 114.82 +3 6 In(H2O)6+3

Chemical Compatibility -Soluble in HCl, HNO3, and H2SO4. Avoid neutral and basic media. Stable with most metals and inorganic anions. The oxalate, sulfide, carbonate, hydroxide and phosphate are insoluble in water.

Stability - 2-100 ppb levels stable for months in 1% HNO3 / LDPE container. 1-10,000 ppm solutions chemically stable for years in 2-5% HNO3 / LDPE container.

In Containing Samples (Preparation and Solution) -Metal (Best dissolved in HCl / HNO3); Oxide (Soluble in mineral acids); Ores (Carbonate fusion in Pt0 followed by HCl dissolution); Organic Matrices (Sulfuric/peroxide digestion or dry ash and dissolution in dilute HCl).

Atomic Spectroscopic Information (ICP-OES D.L.s are given as radial/axial view):

Technique/Line	**Estimated D.L.**	**Order**	**Interferences** (underlined indicates severe)
ICP-MS 115 amu	1 ppt	n/a	115Sn, 99Ru16O
ICP-OES 158.583 nm	0.05 / 0.002 µg/mL	1	
ICP-OES 230.606 nm	0.1 / 0.03 µg/mL	1	Ni, Os
ICP-OES 325.609 nm	0.2 / 0.05 µg/mL	1	Mn, Mo, Th

8.0 HAZARDOUS INFORMATION

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

9.0 HOMOGENEITY

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

10.0 QUALITY STANDARD DOCUMENTATION

10.1 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

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

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

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

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

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

11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

February 21, 2023

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

11.2 Lot Expiration Date

- February 21, 2028

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

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

11.3 Period of Validity

- Sealed TCT Bag Open Date: _____

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

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Approved By:

Thomas Kozikowski
Manager, Quality Control

Certifying Officer:

Paul Gaines
Chairman / Senior Technical Director

Sulfuric Acid
BAKER INSTRA-ANALYZED® Reagent
For Trace Metal Analysis
Low Selenium

M 6041-46
MS

avantor™ | J.T.Baker®

Material No.: 9673-33
Batch No.: 23D2462010
Manufactured Date: 2023-03-22
Retest Date: 2028-03-20
Revision No.: 0

Certificate of Analysis

Test	Specification	Result
ACS – Assay (H_2SO_4)	95.0 – 98.0 %	96.1 %
Appearance	Passes Test	Passes Test
ACS – Color (APHA)	≤ 10	5
ACS – Residue after Ignition	≤ 3 ppm	< 1 ppm
ACS – Substances Reducing Permanganate (as SO2)	≤ 2 ppm	< 2 ppm
Ammonium (NH_4)	≤ 1 ppm	1 ppm
Chloride (Cl)	≤ 0.1 ppm	< 0.1 ppm
Nitrate (NO_3)	≤ 0.2 ppm	< 0.1 ppm
Phosphate (PO_4)	≤ 0.5 ppm	< 0.1 ppm
Trace Impurities – Aluminum (Al)	≤ 30.0 ppb	< 5.0 ppb
Arsenic and Antimony (as As)	≤ 4.0 ppb	< 2.0 ppb
Trace Impurities – Boron (B)	≤ 10.0 ppb	8.5 ppb
Trace Impurities – Cadmium (Cd)	≤ 2.0 ppb	< 0.3 ppb
Trace Impurities – Chromium (Cr)	≤ 6.0 ppb	< 0.4 ppb
Trace Impurities – Cobalt (Co)	≤ 0.5 ppb	< 0.3 ppb
Trace Impurities – Copper (Cu)	≤ 1.0 ppb	< 0.1 ppb
Trace Impurities – Gold (Au)	≤ 10.0 ppb	0.5 ppb
Heavy Metals (as Pb)	≤ 500.0 ppb	< 100.0 ppb
Trace Impurities – Iron (Fe)	≤ 50.0 ppb	1.3 ppb
Trace Impurities – Lead (Pb)	≤ 0.5 ppb	< 0.5 ppb
Trace Impurities – Magnesium (Mg)	≤ 7.0 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 – Nickel (Ni)	≤ 2.0 ppb	0.3 ppb
Trace Impurities – Potassium (K)	≤ 500.0 ppb	< 2.0 ppb
Trace Impurities – Selenium (Se)	≤ 50.0 ppb	< 0.1 ppb
Trace Impurities – Silicon (Si)	≤ 100.0 ppb	31.5 ppb
Trace Impurities – Silver (Ag)	≤ 1.0 ppb	< 0.3 ppb

>>> Continued on page 2 >>>

Sulfuric Acid
BAKER INSTRA-ANALYZED® Reagent
For Trace Metal Analysis
Low Selenium

avantor™ | J.T.Baker®

Material No.: 9673-33
Batch No.: 23D2462010

Test	Specification	Result
Trace Impurities - Sodium (Na)	≤ 500.0 ppb	5.4 ppb
Trace Impurities - Strontium (Sr)	≤ 5.0 ppb	< 0.2 ppb
Trace Impurities - Tin (Sn)	≤ 5.0 ppb	< 0.8 ppb
Trace Impurities - Zinc (Zn)	≤ 5.0 ppb	0.4 ppb

For Laboratory,Research,or Manufacturing Use

Country of Origin: USA
Packaging Site: Phillipsburg Mfg Ctr & DC

James T Ethier

Jamie Ethier
Vice President Global Quality

INORGANIC VENTURES
Refine your results. Redefine your industry.

Certificate of Analysis

R! 08/22/24 M6058, M6059

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1.0 ACCREDITATION / REGISTRATION

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

ACCREDITED Testing Laboratory Certificate 883.01
ACCREDITED Reference Material Producer Certificate 883.02

2.0 PRODUCT DESCRIPTION

Product Code:	Multi Analyte Custom Grade Solution
Catalog Number:	CHEM-CLP-4
Lot Number:	V2-MEB746172
Matrix:	3% (v/v) HNO3 3% (v/v) HF
Value / Analyte(s):	1 000 µg/mL ea: Boron, Molybdenum, Silicon, Tin, Titanium

3.0 CERTIFIED VALUES AND UNCERTAINTIES

ANALYTE	CERTIFIED VALUE	ANALYTE	CERTIFIED VALUE
Boron, B	1 000 ± 5 µg/mL	Molybdenum, Mo	1 000 ± 5 µg/mL
Silicon, Si	1 000 ± 7 µg/mL	Tin, Sn	1 000 ± 5 µg/mL
Titanium, Ti	1 000 ± 6 µg/mL		

Density: 1.032 g/mL (measured at 20 ± 4 °C)

Assay Information:

ANALYTE	METHOD	NIST SRM#	SRM LOT#
B	ICP Assay	3107	190605
B	Calculated		See Sec. 4.2
Mo	ICP Assay	traceable to 3134	U2-MO739068
Si	ICP Assay	Traceable to 3150	S2-SI702546
Sn	ICP Assay	3161a	140917
Ti	ICP Assay	traceable to 3162a	T2-TI725816

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

Characterization of CRM/RM by Two or More Methods

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

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

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

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

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

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\ (u^2_{char} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{1/2}$

k = coverage factor = 2

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

u_{bb} = bottle to bottle homogeneity standard uncertainty

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

u_{ts} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

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

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

X_a = mean of Assay Method A with

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

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\ (u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{1/2}$

k = coverage factor = 2

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

u_{bb} = bottle to bottle homogeneity standard uncertainty

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

u_{ts} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

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

4.1 Thermometer Calibration

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

4.2 Balance Calibration

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

4.3 Glassware Calibration

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

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

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

August 12, 2024

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

11.2 Lot Expiration Date

- August 12, 2029

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

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

11.3 Period of Validity

- Sealed TCT Bag Open Date: _____

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

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Approved By:

Joseph Burns
Custom VS Manager

Certifying Officer:

Paul Gaines
Chairman / Senior Technical Director

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Certificate of Analysis

M6074
M6075
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EXP.: 9/6/2029

1.0 ACCREDITATION / REGISTRATION

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

ACCREDITED Testing Laboratory Certificate 883.01
ACCREDITED Reference Material Producer Certificate 883.02

2.0 PRODUCT DESCRIPTION

Product Code:	Multi Analyte Custom Grade Solution
Catalog Number:	CHEM-CLP-4
Lot Number:	V2-MEB746762
Matrix:	3% (v/v) HNO3 3% (v/v) HF
Value / Analyte(s):	1 000 µg/mL ea: Boron, Molybdenum, Silicon, Tin, Titanium

3.0 CERTIFIED VALUES AND UNCERTAINTIES

ANALYTE	CERTIFIED VALUE	ANALYTE	CERTIFIED VALUE
Boron, B	1 000 ± 5 µg/mL	Molybdenum, Mo	1 000 ± 5 µg/mL
Silicon, Si	1 000 ± 7 µg/mL	Tin, Sn	1 000 ± 5 µg/mL
Titanium, Ti	1 000 ± 6 µg/mL		

Density: 1.033 g/mL (measured at 20 ± 4 °C)

Assay Information:

ANALYTE	METHOD	NIST SRM#	SRM LOT#
B	ICP Assay	3107	190605
B	Calculated		See Sec. 4.2
Mo	ICP Assay	traceable to 3134	U2-MO739068
Si	ICP Assay	Traceable to 3150	S2-SI702546
Sn	ICP Assay	3161a	140917
Ti	ICP Assay	traceable to 3162a	T2-TI725816

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

Characterization of CRM/RM by Two or More Methods

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

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

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

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

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

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{1/2}$

k = coverage factor = 2

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

u_{bb} = bottle to bottle homogeneity standard uncertainty

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

u_{ts} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

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

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

X_a = mean of Assay Method A with

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

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{1/2}$

k = coverage factor = 2

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

u_{bb} = bottle to bottle homogeneity standard uncertainty

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

u_{ts} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

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

4.1 Thermometer Calibration

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

4.2 Balance Calibration

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

4.3 Glassware Calibration

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

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

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.

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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

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

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

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11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

September 06, 2024

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

11.2 Lot Expiration Date

- September 06, 2029

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

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

11.3 Period of Validity

- Sealed TCT Bag Open Date: _____

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

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Approved By:

Joseph Burns
Custom VS Manager

Certifying Officer:

Paul Gaines
Chairman / Senior Technical Director

Absolute Standards, Inc.
800-368-1131
www.absolutestandards.com

Certified Reference Material CRM

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

CERTIFIED WEIGHT REPORT:

R->1/13/28

M6128

Part Number:	**58025**	**Solvent:**	**Lot #** 24002546	Nitric Acid
Lot Number:	**101124**			
Description:	**Manganese (Mn)**	2%	80.0 (mL)	Nitric Acid
Expiration Date:	101127			
Recommended Storage:	Ambient (20 °C)			
Nominal Concentration (µg/mL):	**1000**			
NIST Test Number:	6UTB	5E-05	Balance Uncertainty	
Weight shown below was diluted to (mL):	4000.2	0.10	Flask Uncertainty	

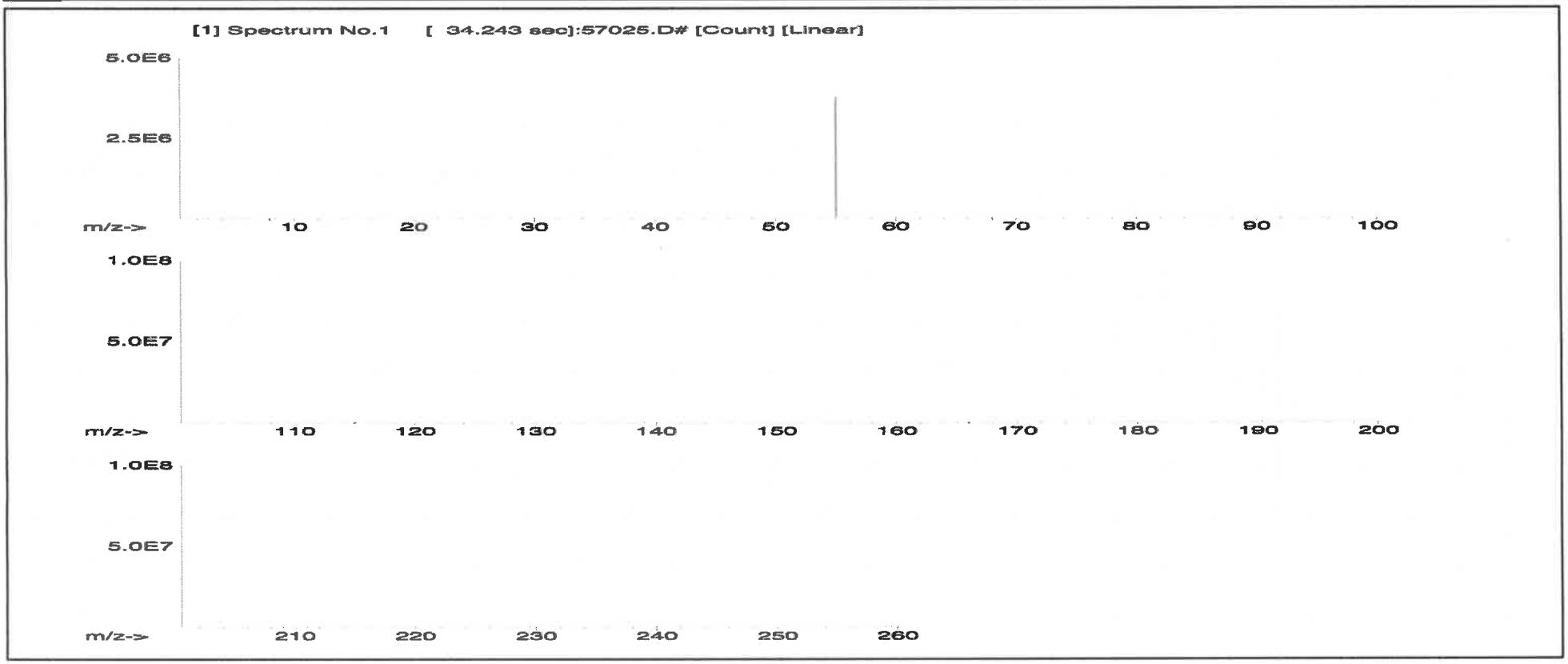
Giovanni Esposito

Formulated By:	Giovanni Esposito	101124

Pedro Rentas

Reviewed By:	Pedro L. Rentas	101124

Compound	RM#	Lot Number	Nominal Conc. (µg/mL)	Purity (%)	Uncertainty Purity (%)	Assay (%)	Target Weight (g)	Actual Weight (g)	**Actual Conc. (µg/mL)**	Expanded Uncertainty +/- (µg/mL)	**SDS Information** (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50	NIST SRM
1. Manganese(II) nitrate hydrate (Mn)	IN031	MNM092020A1	1000	99.999	0.10	20.8	19.2322	19.2344	**1000.1**	**2.0**	15710-66-4	5 mg/m3	orl-rat >300mg/kg	3132



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

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

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

(T) = Target analyte

Physical Characterization:

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

Certified by:

* The certified value is the concentration calculated from gravimetric and volumetric measurements unless otherwise stated.
* Purified acids, 18.2 megohm deionized water, calibrated Class A glassware and the highest purity raw materials are used in the preparation of all standards.
* All standard containers are meticulously cleaned prior to use.
* Standards are prepared gravimetrically using balances that are calibrated with weights traceable to NIST (see above).
* Standards are certifed (+/-) 0.5% of the stated value, unless otherwise stated.
* All standards should be stored with caps tight and under appropriate laboratory conditions.
* Uncertainty Reference: Taylor, B.N. and Kuyat, C.E., "Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Result," NIST Technical Note 1297, U.S. Government Printing Office, Washington, D.C. (1994).

INORGANIC VENTURES
Refine your results. Redefine your industry.

Certificate of Analysis

300 Technology Drive
Christiansburg, VA 24073 USA
inorganicventures.com

P: 800-669-6799/540-585-3030
F: 540-585-3012
info@inorganicventures.com

M6137 R→10/3/24

1.0 ACCREDITATION / REGISTRATION

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

ACCREDITED Testing Laboratory Certificate 883.01
ACCREDITED Reference Material Producer Certificate 883.02

2.0 PRODUCT DESCRIPTION

Product Code:	Single Analyte Custom Grade Solution
Catalog Number:	CGSI1
Lot Number:	V2-SI744713
Matrix:	tr. HNO3 tr. HF
Value / Analyte(s):	1 000 µg/mL ea: Silicon
Starting Material:	Silica
Starting Material Lot#:	1771
Starting Material Purity:	99.9981%

3.0 CERTIFIED VALUES AND UNCERTAINTIES

Certified Value: 999 ± 6 µg/mL

Density: 1.003 g/mL (measured at 20 ± 4 °C)

Assay Information:

Assay Method #1	**999 ± 5 µg/mL** ICP Assay NIST SRM Traceable to 3150 Lot Number: S2-SI702546
Assay Method #2	**1000 ± 7 µg/mL** Calculated NIST SRM Lot Number: See Sec. 4.2

- The Calculated Value is a value calculated from the weight of a starting material that has been certified directly vs. a National Institute of Standards and Technology (NIST) SRM/RM. See Sec 4.2 for balance traceability.

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

Characterization of CRM/RM by Two or More Methods

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

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

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

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

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

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{1/2}$

k = coverage factor = 2

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

u_{bb} = bottle to bottle homogeneity standard uncertainty

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

u_{ts} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

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

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

X_a = mean of Assay Method A with

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

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{1/2}$

k = coverage factor = 2

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

u_{bb} = bottle to bottle homogeneity standard uncertainty

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

u_{ts} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

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

4.1 Thermometer Calibration

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

4.2 Balance Calibration

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

4.3 Glassware Calibration

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

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

CRM/RMs are tested for trace metallic impurities by Axial ICP-OES and ICP-MS. The result from the most sensitive method for each element, is reported below. Solutions tested by ICP-MS were analyzed in an ULPA-Filtered Clean Room. An ULPA-Filter is 99.9985% efficient for the removal of particles down to 0.3 µm.

M	Ag	<	0.000310	M	Eu	<	0.000310	O	Na		0.001656	M	Se	<	0.022000	M	Zn	<	0.002500
M	Al		0.010787	M	Fe	<	0.027000	M	Nb	<	0.001300	s	Si	<		O	Zr	<	0.001900
M	As	<	0.001900	M	Ga	<	0.001300	M	Nd	<	0.000310	M	Sm	<	0.000310				
M	Au	<	0.000910	M	Gd	<	0.000310	M	Ni	<	0.005500	M	Sn		0.000096				
M	B		0.016180	M	Ge	<	0.001900	M	Os	<	0.000610	O	Sr		0.000092				
M	Ba		0.000096	M	Hf		0.000423	i	P	<		M	Ta		0.002542				
O	Be	<	0.000570	M	Hg	<	0.000610	M	Pb	<	0.000310	M	Tb	<	0.000310				
M	Bi	<	0.000310	M	Ho	<	0.000610	M	Pd	<	0.000610	M	Te	<	0.000910				
O	Ca		0.011557	M	In	<	0.000310	M	Pr	<	0.000310	M	Th	<	0.001900				
M	Cd	<	0.000310	M	Ir	<	0.000310	M	Pt	<	0.000310	M	Ti		0.001078				
M	Ce	<	0.000610	O	K		0.000577	M	Rb	<	0.009100	M	Tl	<	0.000310				
M	Co	<	0.001600	M	La	<	0.000310	M	Re	<	0.000310	M	Tm	<	0.000310				
M	Cr	<	0.010000	O	Li	<	0.000460	M	Rh	<	0.000310	M	U	<	0.000310				
M	Cs	<	0.000310	M	Lu	<	0.000310	M	Ru	<	0.000310	O	V	<	0.001300				
M	Cu	<	0.002500	O	Mg		0.001348	O	S	<	0.570000	M	W	<	0.001900				
M	Dy	<	0.000310	M	Mn	<	0.002500	M	Sb	<	0.000310	M	Y	<	0.000310				
M	Er	<	0.000310	M	Mo	<	0.000310	O	Sc	<	0.000590	M	Yb	<	0.000310				

M - Checked by ICP-MS O - Checked by ICP-OES i - Spectral Interference
n - Not Checked For s - Solution Standard Element

6.0 INTENDED USE

6.1 This standard is intended for the calibration of analytical instruments and validation of analytical methods as appropriate. This CRM may be used in connection with EPA Methods 6010, 6020 (all versions), Standard Methods 3120 B and USP <232> / ICH Q3D.

6.2 For products attaining traceability through Inorganic Ventures' Primary Certified Reference Materials (PCRM™) see the Limited License to Use PCRM™ in the Inorganic Ventures Terms and Conditions of Sale, https://www.inorganicventures.com/terms-and-conditions-sale. The Terms and Conditions contain information on the use of materials traceable to PCRM™ certified reference materials. This Limited License agreement is especially pertinent for laboratories accredited under ISO:17034.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

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

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

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

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

Atomic Weight; Valence; Coordination Number; Chemical Form in Solution - 28.09 +4 6 Si(OH)x(F)y2-

Chemical Compatibility -Soluble in HCl, HF, H3PO4 H2SO4 and HNO3 as the Si(OH)x(F)y2-. Avoid neutral to basic media. Unstable at ppm levels with metals that would pull F- away (i.e. Do not mix with Alkaline or Rare Earths, or high levels of transition elements unless they are fluorinated. Stable with most inorganic anions with a tendency to hydrolyze forming silicic acid (silicic acid is soluble up to ∼100 ppm in water) in all dilute acids except HF.

Stability - 2-100 ppb levels - stability unknown - (alone or mixed with all other metals) as the Si(OH)x(F)y2-. 1-10,000 ppm single element solutions as the Si(OH)x(F)y2- chemically stable for years in 2-5 % HNO3 / trace HF in a LDPE container.

Si Containing Samples (Preparation and Solution) -Metal (Soluble in 1:1:1 H2O / HF / HNO3); Oxide - SiO2, amorphic (dissolve by heating in 1:1:1 H2O / HF / HNO3); Oxide - quartz (fuse in Pt0 with Na2CO3); Geological Samples(fuse in Pt0with Na2CO3 followed by HCl solution of the fuseate); Organic Matrices containing silicates and non volatile silicon compounds (dry ash at 4500C in Pt0 and dissolve by gently warming with 1:1:1 H2O / HF / H2SO4 or fuse / ash with Na2CO3 and dissolve fuseate with HCl / H2O); Silicone Oils - dimethyl silicones depolymerize to form volatile monomer units when heated (Measure directly in alcoholic KOH / xylene mixture where sample is treated first with the KOH at 60-1000C to "unzip" the Si- O-Si polymeric structure or digest with conc. H2SO4 / H2O2 followed by cooling and dissolution of the dehydrated silica with HF.) Note that the direct analysis of silicone oils in an organic solvent will result in false high results due to high vapor pressure of volatile monomer units like hexamethylcyclotrisiloxane. The KOH forms the K2+Si(CH3)2O= salt which is not volatile at room temperature.

Atomic Spectroscopic Information (ICP-OES D.L.s are given as radial/axial view):

Technique/Line	**Estimated D.L.**	**Order**	**Interferences** (underlined indicates severe)
ICP-MS 28 amu	4000 - 8000 ppt	N/A	N2, 12C16O
ICP-OES 212.412 nm	0.02/0.01 µg/mL	1	Hf, Os, Mo, Ta
ICP-OES 251.611 nm	0.012/0.003 µg/mL	1	Ta, U, Zn, Th
ICP-OES 288.158 nm	0.03/0.004 µg/mL	1	Ta, Ce, Cr, Cd, Th

HF Note: This standard should not be prepared or stored in glass.

8.0 HAZARDOUS INFORMATION

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

9.0 HOMOGENEITY

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

10.0 QUALITY STANDARD DOCUMENTATION

10.1 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

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

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

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

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

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

11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

July 10, 2024

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

11.2 Lot Expiration Date

- **July 10, 2029**

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

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

11.3 Period of Validity

- Sealed TCT Bag Open Date: _____

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

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Prepared By:

Uyen Truong
Custom Processing Supervisor

Certificate Approved By:

Muzzammil Khan
Stock Laboratory Supervisor

Certifying Officer:

Paul Gaines
Chairman / Senior Technical Director

R : 4/20/21

QATS LABORATORY INORGANIC REFERENCE MATERIAL INITIAL CALIBRATION VERIFICATION SOLUTIONS (ICV1, ICV5, AND ICV6)

M6150

NOTE: These instructions are for advisory purposes only. If any apparent conflict exists between these instructions and the analytical protocol or your contract, disregard these instructions.

APPLICATION: For use with the CLP SFAM01.0 SOW and revisions.

CAUTION: Read instructions carefully before opening bottle(s) and proceeding with the analyses.

Contains Metals in Dilute Acidic or Cyanide in Basic Aqueous Solutions
HAZARDOUS MATERIAL

Safety Data Sheets Available Upon Request

(A) *SAMPLE DESCRIPTION*

Enclosed is a set of one (1) or more Aqueous Inorganic Reference Materials containing various analyte concentrations. ICV1 and ICV5 are in a matrix of dilute nitric acid. ICV6 is in a matrix of dilute basic solution. **For the reference material source in reporting ICVs use "USEPA". For the reference material lot number for the ICV1, ICV5, and ICV6 solutions use "ICV1-1014", "ICV5-0415", and "ICV6-0400", respectively.**

(B) *BREAKAGE OR MISSING ITEMS*

Check the contents of the shipment carefully for any broken, leaking, or missing items. Check that the seal is intact on each bottle. Refer to the enclosed chain of custody record. Report any problems to Mr. Keith Strout, APTIM Federal Services, LLC, at (702) 895-8722. If requested, return the chain-of-custody record with appropriate annotations and signatures to the address provided below.

QUALITY ASSURANCE TECHNICAL SUPPORT LABORATORY
APTIM Federal Services, LLC
2700 Chandler Avenue - Building C
Las Vegas, NV 89120

(C) *ANALYSIS OF SAMPLES*

The Initial Calibration Verification Solutions (ICVs) are to be used to evaluate the accuracy of the initial calibrations of ICP, AA, and Cyanide colorimetric instruments, and are to be used with the CLP SOWs and revisions. The values for each element in the ICVs are listed below in µg/L (ppb) for the resulting solution(s) after the dilution of the concentrate(s) according to the following instructions. Use Class 'A' glassware to prepare the solution(s).

ICV1-1014 For ICP-AES analysis, use a 10-fold dilution by pipetting 10 mL of the ICV1 concentrate into a 100 mL volumetric flask and dilute to volume with 2% (v/v) nitric acid.

The Quality Assurance Technical Support (QATS) contract is operated by APTIM Federal Services, LLC.

ICV1-1014 For ICP-MS analysis, use a 50-fold dilution by pipetting 2 mL of the ICV1 concentrate into a 100 mL volumetric flask and dilute to volume with 1% (v/v) nitric acid.

ICV5-0415 For the cold vapor analysis of mercury by AA, use a 100-fold dilution by pipetting 1 mL of the ICV5 concentrate into a 100 mL volumetric flask and dilute to volume with 2% (v/v) nitric acid. The ICV5 concentrate is prepared in 0.05% (w/v) $K_2Cr_2O_7$ and 5% (v/v) nitric acid.

ICV6-0400 For the analysis of cyanide, use a 100-fold dilution by pipetting 1 mL of the ICV6 concentrate into a 100 mL volumetric flask and dilute to volume with Type II water. Distill this solution along with the samples before analysis. The cyanide concentrate is prepared from $K_3Fe(CN)_6$, Type II water, and 0.1 % sodium hydroxide, and will decompose rapidly if exposed to light.

NOTE: USE TYPE II WATER AND HIGH-PURITY ACIDS FOR ALL DILUTIONS.

(D) *CERTIFIED CONCENTRATIONS OF QATS ICV1, ICV5, AND ICV6 SOLUTIONS*

ICV1-1014		
Element	**Concentration (µg/L) (after 10-fold dilution)**	**Concentration (µg/L) (after 50-fold dilution)**
Al	2500	500
Sb	1000	200
As	1000	200
Ba	520	100
Be	510	100
Cd	510	100
Ca	10000	2000
Cr	520	100
Co	520	100
Cu	510	100
Fe	10000	2000
Pb	1000	200
Mg	6000	1200
Mn	520	100
Ni	530	110
K	9900	2000
Se	1000	200
Ag	250	50
Na	10000	2000
Tl	1000	210
V	500	100
Zn	1000	200

ICV5-0415		ICV6-0400	
Element	**Concentration (µg/L) (after 100-fold dilution)**	**Analyte**	**Concentration (µg/L) (after 100-fold dilution)**
Hg	4.0	**CN^-**	99

Hydrochloric Acid, 36.5–38.0%
BAKER INSTRA-ANALYZED® Reagent
For Trace Metal Analysis

avantor™ | J.T.Baker®

M6151

R→ 1/15/25

Material No.: 9530-33
Batch No.: 22G2862015
Manufactured Date: 2022-06-15
Retest Date: 2027-06-14
Revision No.: 0

Certificate of Analysis

Test	Specification	Result
ACS – Assay (as HCl) (by acid-base titrn)	36.5 – 38.0 %	37.9 %
ACS – Color (APHA)	≤ 10	5
ACS – Residue after Ignition	≤ 3 ppm	< 1 ppm
ACS – Specific Gravity at 60°/60°F	1.185 – 1.192	1.191
ACS – Bromide (Br)	≤ 0.005 %	< 0.005 %
ACS – Extractable Organic Substances	≤ 5 ppm	< 1 ppm
ACS – Free Chlorine (as Cl_2)	≤ 0.5 ppm	< 0.5 ppm
Phosphate (PO_4)	≤ 0.05 ppm	< 0.03 ppm
Sulfate (SO_4)	≤ 0.5 ppm	< 0.3 ppm
Sulfite (SO_3)	≤ 0.8 ppm	0.3 ppm
Ammonium (NH_4)	≤ 3 ppm	< 1 ppm
Trace Impurities – Arsenic (As)	≤ 0.010 ppm	< 0.003 ppm
Trace Impurities – Aluminum (Al)	≤ 10.0 ppb	1.3 ppb
Arsenic and Antimony (as As)	≤ 5.0 ppb	< 3.0 ppb
Trace Impurities – Barium (Ba)	≤ 1.0 ppb	0.2 ppb
Trace Impurities – Beryllium (Be)	≤ 1.0 ppb	< 0.2 ppb
Trace Impurities – Bismuth (Bi)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities – Boron (B)	≤ 20.0 ppb	< 5.0 ppb
Trace Impurities – Cadmium (Cd)	≤ 1.0 ppb	< 0.3 ppb
Trace Impurities – Calcium (Ca)	≤ 50.0 ppb	163.0 ppb
Trace Impurities – Chromium (Cr)	≤ 1.0 ppb	0.7 ppb
Trace Impurities – Cobalt (Co)	≤ 1.0 ppb	< 0.3 ppb
Trace Impurities – Copper (Cu)	≤ 1.0 ppb	< 0.1 ppb
Trace Impurities – Gallium (Ga)	≤ 1.0 ppb	< 0.2 ppb
Trace Impurities – Germanium (Ge)	≤ 3.0 ppb	< 2.0 ppb
Trace Impurities – Gold (Au)	≤ 4.0 ppb	0.6 ppb
Heavy Metals (as Pb)	≤ 100 ppb	< 50 ppb
Trace Impurities – Iron (Fe)	≤ 15 ppb	6 ppb

>>> Continued on page 2 >>>

Hydrochloric Acid, 36.5-38.0%
BAKER INSTRA-ANALYZED® Reagent
For Trace Metal Analysis

avantor™ | J.T.Baker®

Material No.: 9530-33
Batch No.: 22G2862015

Test	Specification	Result
Trace Impurities - Lead (Pb)	≤ 1.0 ppb	< 0.5 ppb
Trace Impurities - Lithium (Li)	≤ 1.0 ppb	< 0.2 ppb
Trace Impurities - Magnesium (Mg)	≤ 10.0 ppb	2.9 ppb
Trace Impurities - Manganese (Mn)	≤ 1.0 ppb	< 0.4 ppb
Trace Impurities - Mercury (Hg)	≤ 0.5 ppb	0.1 ppb
Trace Impurities - Molybdenum (Mo)	≤ 10.0 ppb	< 3.0 ppb
Trace Impurities - Nickel (Ni)	≤ 4.0 ppb	< 0.3 ppb
Trace Impurities - Niobium (Nb)	≤ 1.0 ppb	0.8 ppb
Trace Impurities - Potassium (K)	≤ 9.0 ppb	< 2.0 ppb
Trace Impurities - Selenium (Se), For Information Only		< 1.0 ppb
Trace Impurities - Silicon (Si)	≤ 100.0 ppb	< 10.0 ppb
Trace Impurities - Silver (Ag)	≤ 1.0 ppb	0.5 ppb
Trace Impurities - Sodium (Na)	≤ 100.0 ppb	2.3 ppb
Trace Impurities - Strontium (Sr)	≤ 1.0 ppb	< 0.2 ppb
Trace Impurities - Tantalum (Ta)	≤ 1.0 ppb	1.6 ppb
Trace Impurities - Thallium (Tl)	≤ 5.0 ppb	< 2.0 ppb
Trace Impurities - Tin (Sn)	≤ 5.0 ppb	4.0 ppb
Trace Impurities - Titanium (Ti)	≤ 1.0 ppb	1.5 ppb
Trace Impurities - Vanadium (V)	≤ 1.0 ppb	< 0.2 ppb
Trace Impurities - Zinc (Zn)	≤ 5.0 ppb	0.8 ppb
Trace Impurities - Zirconium (Zr)	≤ 1.0 ppb	0.3 ppb

>>> Continued on page 3 >>>

Hydrochloric Acid, 36.5-38.0%
BAKER INSTRA-ANALYZED® Reagent
For Trace Metal Analysis

avantor™ | J.T.Baker®

Material No.: 9530-33
Batch No.: 22G2862015

Test	Specification	Result

For Laboratory,Research,or Manufacturing Use
Product Information (not specifications):
Appearance (clear, fuming liquid)
Meets ACS Specifications
Storage Condition: Store below 25 °C.

Country of Origin: USA
Packaging Site: Phillipsburg Mfg Ctr & DC

James T Ethier

Jamie Ethier
Vice President Global Quality

Absolute Standards, Inc.
800-368-1131
www.absolutestandards.com

M6156

Certified Reference Material CRM

R→ 6/12/24

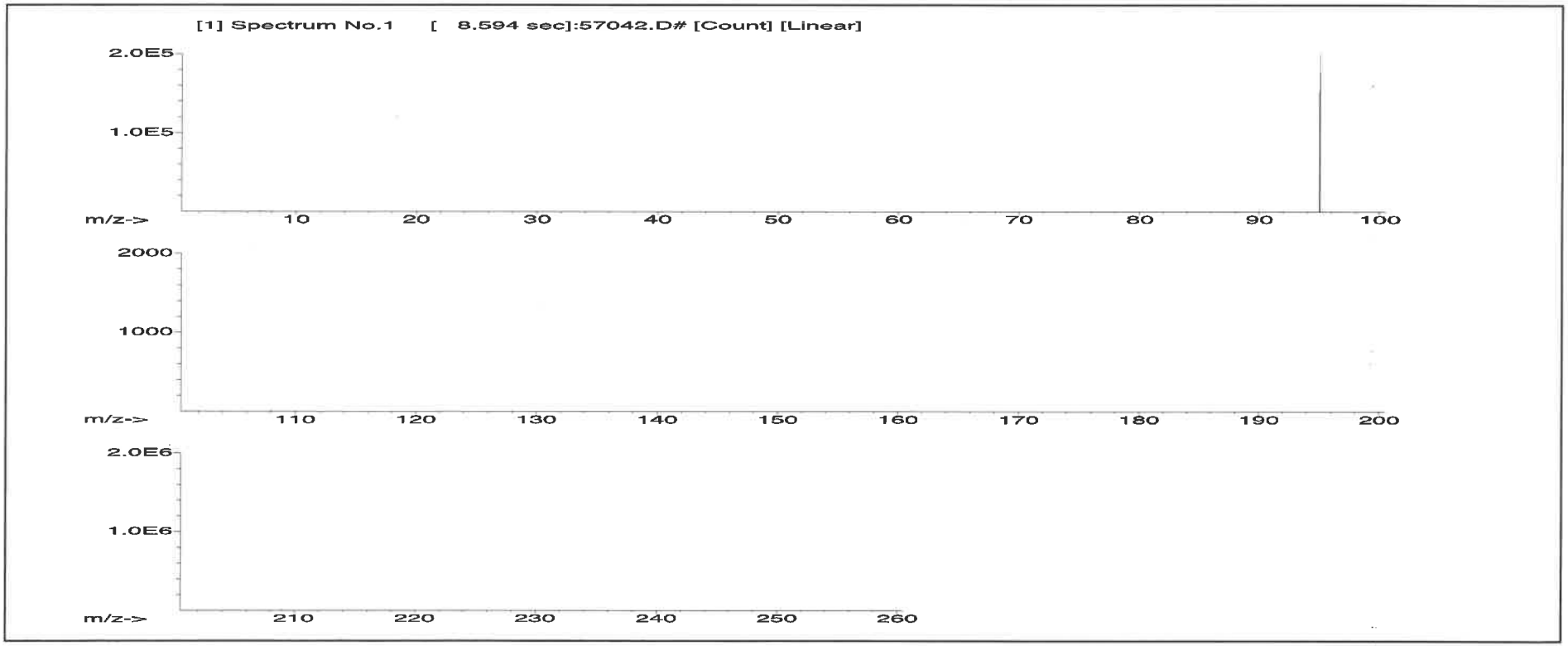
ANAB ISO 17034 Accredited
AR-1539 Certificate Number
https://Absolutestandards.com

CERTIFIED WEIGHT REPORT:

		Lot #	Solvent:	
Part Number:	**57042**			
Lot Number:	**032123**	MKBQ8597V	Ammonium hydroxide	
Description:	**Molybdenum (Mo)**			
		0.5%	15.0 (mL)	Ammonium hydroxide
Expiration Date:	032126			
Recommended Storage:	Ambient (20 °C)			
Nominal Concentration (µg/mL):	**1000**			
NIST Test Number:	6UTB	5E-05	Balance Uncertainty	
Volume shown below was diluted to (mL):	3000.41	0.058	Flask Uncertainty	

Formulated By:	Lawrence Barry	032123
Reviewed By:	Pedro L. Rentas	032123

Compound	Part Number	Lot Number	Dilution Factor	Initial Vol. (mL)	Uncertainty Pipette (mL)	Nominal Conc. (µg/mL)	Initial Conc. (µg/mL)	**Final Conc. (µg/mL)**	Expanded Uncertainty +/- (µg/mL)	**SDS Information** (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50	NIST SRM
1. Ammonium molybdate (Mo)	58142	112322	0.1000	300.0	0.084	1000	10001.4	**1000.0**	**2.1**	13106-76-8	5 mg(Mo)/m3	orl-rat 333 mg/kg	3134



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

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

(T)= Target analyte

Physical Characterization:

Certified by:

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

* The certified value is the concentration calculated from gravimetric and volumetric measurements unless otherwise stated.
* Purified acids, 18.2 megohm deionized water, calibrated Class A glassware and the highest purity raw materials are used in the preparation of all standards.
* All standard containers are meticulously cleaned prior to use.
* Standards are prepared gravimetrically using balances that are calibrated with weights traceable to NIST (see above).
* Standards are certifed (+/-) 0.5% of the stated value, unless otherwise stated.
* All Standards should be stored with caps tight and under appropriate laboratory conditions.
* Uncertainty Reference: Taylor, B.N. and Kuyat, C.E., "Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Result," NIST Technical Note 1297, U.S. Government Printing Office, Washington, D.C. (1994).

Nitric Acid 69%
CMOS

avantor™ | J.T.Baker®

R-02102/2025

M-6158

Material No.: 9606-03
Batch No.: 24D1062002
Manufactured Date: 2024-03-26
Retest Date: 2029-03-25
Revision No.: 0

Certificate of Analysis

Test	Specification	Result
Assay (HNO_3)	69.0 - 70.0 %	69.7 %
Appearance	Passes Test	Passes Test
Color (APHA)	≤ 10	5
Residue after Ignition	≤ 2 ppm	1 ppm
Chloride (Cl)	≤ 0.08 ppm	< 0.03 ppm
Phosphate (PO_4)	≤ 0.10 ppm	< 0.03 ppm
Sulfate (SO_4)	≤ 0.2 ppm	< 0.2 ppm
Trace Impurities - Aluminum (Al)	≤ 40.0 ppb	< 1.0 ppb
Arsenic and Antimony (as As)	≤ 5.0 ppb	< 2.0 ppb
Trace Impurities - Barium (Ba)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities - Beryllium (Be)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities - Bismuth (Bi)	≤ 20.0 ppb	< 10.0 ppb
Trace Impurities - Boron (B)	≤ 10.0 ppb	< 5.0 ppb
Trace Impurities - Cadmium (Cd)	≤ 50 ppb	< 1 ppb
Trace Impurities - Calcium (Ca)	≤ 50.0 ppb	2.3 ppb
Trace Impurities - Chromium (Cr)	≤ 30.0 ppb	< 1.0 ppb
Trace Impurities - Cobalt (Co)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities - Copper (Cu)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities - Gallium (Ga)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities - Germanium (Ge)	≤ 20 ppb	< 10 ppb
Trace Impurities - Gold (Au)	≤ 20 ppb	< 5 ppb
Heavy Metals (as Pb)	≤ 100 ppb	100 ppb
Trace Impurities - Iron (Fe)	≤ 40.0 ppb	< 1.0 ppb
Trace Impurities - Lead (Pb)	≤ 20.0 ppb	< 10.0 ppb
Trace Impurities - Lithium (Li)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities - Magnesium (Mg)	≤ 20 ppb	< 1 ppb
Trace Impurities - Manganese (Mn)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities - Nickel (Ni)	≤ 20.0 ppb	< 5.0 ppb

>>> Continued on page 2 >>>

Nitric Acid 69%
CMOS

avantor™ | J.T.Baker®

Material No.: 9606-03
Batch No.: 24D1062002

Test	Specification	Result
Trace Impurities - Niobium (Nb)	≤ 50.0 ppb	< 1.0 ppb
Trace Impurities - Potassium (K)	≤ 50 ppb	16 ppb
Trace Impurities - Silicon (Si)	≤ 50 ppb	< 10 ppb
Trace Impurities - Silver (Ag)	≤ 20.0 ppb	< 1.0 ppb
Trace Impurities - Sodium (Na)	≤ 150.0 ppb	< 5.0 ppb
Trace Impurities - Strontium (Sr)	≤ 30.0 ppb	< 1.0 ppb
Trace Impurities - Tantalum (Ta)	≤ 10.0 ppb	< 5.0 ppb
Trace Impurities - Thallium (Tl)	≤ 10.0 ppb	< 5.0 ppb
Trace Impurities - Tin (Sn)	≤ 20.0 ppb	< 10.0 ppb
Trace Impurities - Titanium (Ti)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities - Vanadium (V)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities - Zinc (Zn)	≤ 20.0 ppb	< 1.0 ppb
Trace Impurities - Zirconium (Zr)	≤ 10.0 ppb	< 1.0 ppb
Particle Count - 0.5 µm and greater	≤ 60 par/ml	10 par/ml
Particle Count - 1.0 µm and greater	≤ 10 par/ml	3 par/ml

>>> Continued on page 3 >>>

Nitric Acid 69%
CMOS

avantor™ | J.T.Baker®

Material No.: 9606-03
Batch No.: 24D1062002

Test	Specification	Result

For Microelectronic Use

Country of Origin: USA
Packaging Site: Phillipsburg Mfg Ctr & DC

Jamie Croak
Director Quality Operations, Bioscience Production

Absolute Standards, Inc.
800-368-1131
www.absolutestandards.com

Certified Reference Material CRM

M6030

R: 8/5/24

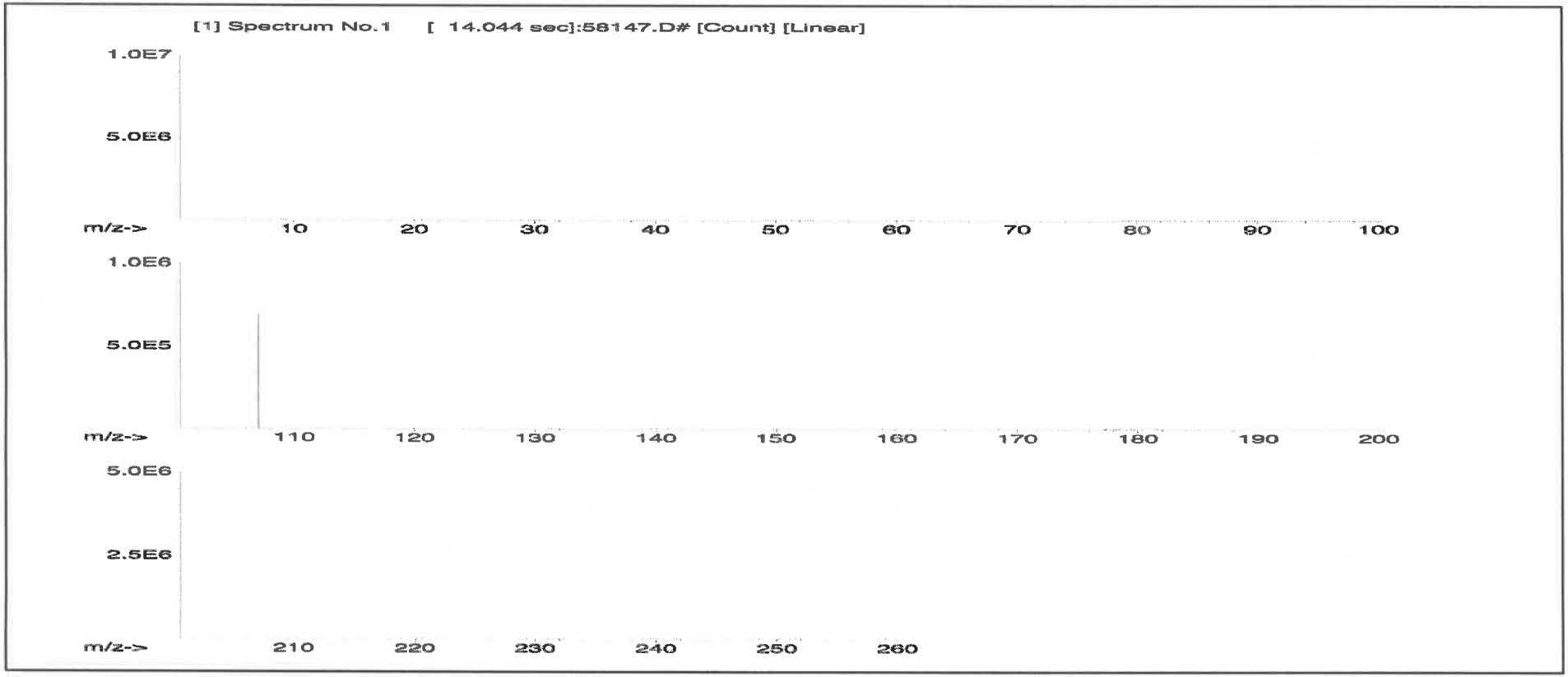
ANAB ISO 17034 Accredited
AR-1539 Certificate Number
https://Absolutestandards.com

CERTIFIED WEIGHT REPORT:

Part Number:	**57047**			**Lot #**	
Lot Number:	**122823**	**Solvent:**	24002546	Nitric Acid	
Description:	**Silver (Ag)**				
		2%	80.0 (mL)	Nitric Acid	
Expiration Date:	122826				
Recommended Storage:	Ambient (20 °C)				
Nominal Concentration (µg/mL):	**1000**				
NIST Test Number:	6UTB	5E-05	Balance Uncertainty		
Weight shown below was diluted to (mL):	4000.30	0.058	Flask Uncertainty		

Formulated By:	Benson Chan	122823
Reviewed By:	Pedro L. Rentas	122823

Compound	RM#	Lot Number	Nominal Conc. (µg/mL)	Purity (%)	Uncertainty Purity (%)	Assay (%)	Target Weight (g)	Actual Weight (g)	Actual Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50	NIST SRM
1. Silver nitrate (Ag)	IN035	J0612AGA1	1000.0	99.9999	0.10	63.7	6.27992	6.27998	**1000.0**	**2.0**	7761-88-8	10 ug/m3	NA	3151



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

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

(T)= Target analyte

Physical Characterization:

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

Certified by:

* The certified value is the concentration calculated from gravimetric and volumetric measurements unless otherwise stated.
* Purified acids, 18.2 megohm deionized water, calibrated Class A glassware and the highest purity raw materials are used in the preparation of all standards.
* All standard containers are meticulously cleaned prior to use.
* Standards are prepared gravimetrically using balances that are calibrated with weights traceable to NIST (see above).
* Standards are certifed (+/-) 0.5% of the stated value, unless otherwise stated.
* All Standards should be stored with caps tight and under appropriate laboratory conditions.
* Uncertainty Reference: Taylor, B.N. and Kuyat, C.E., "Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Result," NIST Technical Note 1297, U.S. Government Printing Office, Washington, D.C. (1994).

APTIM

QUALITY ASSURANCE TECHNICAL SUPPORT LABORATORY
"An ISO 9001:2015 Certified Program"

Instructions for QATS Reference Material: *ICP-AES ICS*

QATS LABORATORY INORGANIC REFERENCE MATERIAL INTERFERENCE CHECK SAMPLE SET FOR ICP-AES (ICSA WITH ICSB)

NOTE: These instructions are for advisory purposes only. If any apparent conflict exists between these instructions and the analytical protocol or your contract, disregard these instructions.

APPLICATION: For use with the CLP SFAM01.0 SOW and revisions.

CAUTION: Read instructions carefully before opening bottle(s) and proceeding with the analyses.

M6152

Contains Heavy Metals
HAZARDOUS MATERIAL

Safety Data Sheets
Available Upon Request

(A) *SAMPLE DESCRIPTION*

Enclosed is a set of one (1) or more bottles of Aqueous Reference Material, each composed of metals at various concentrations and prepared with nitrate salts and oxy-acids of the respective elements in a 5% nitric acid matrix. **For the reference material source in reporting ICSA and ICSAB mixture use "USEPA". For the reference material lot number for the ICSA use "ICSA-1211" and for the ICSAB mixture use "ICSA-1211+ICSB-0710".**

CAUTION: The bottle(s) should be protected from light during storage to ensure the stability of silver which is contained in the ICSB solution. The bottle(s) should be stored at room temperature. **Do not allow the solution(s) to freeze.**

(B) *BREAKAGE OR MISSING ITEMS*

Check the contents of the shipment carefully for any broken, leaking, or missing items. Check that the seal is intact on each bottle. Refer to the enclosed chain of custody record. Report any problems to Mr. Keith Strout, APTIM Federal Services, LLC, at (702) 895-8722. If requested, return the chain-of-custody record with appropriate annotations and signatures to the address provided below.

QUALITY ASSURANCE TECHNICAL SUPPORT LABORATORY
APTIM Federal Services, LLC
2700 Chandler Avenue - Building C
Las Vegas, NV 89120

(C) *ANALYSIS OF SAMPLES*

The interference check sample set is to be used to verify inter-element and background correction factors of inductively-coupled plasma (ICP) spectrometers. This reference material set consists of two (2) concentrated solutions. The ICSA solution contains the four (4) interferent elements: Al, Ca, Fe, and Mg. The ICSB solution contains the analytes: Ag, As, Sb, Ba, Be,

The Quality Assurance Technical Support (QATS) contract is operated by APTIM Federal Services, LLC.

Cd, Co, Cr, Cu, Mn, Ni, Pb, Tl, Se, V, and Zn. This instruction sheet provides the nominal values for ICP-AES Part A and Part B target analytes when diluted as directed.

Using Class "A" glassware, preparation and analysis must be performed according to the following instructions:

ICSA-1211, Interferents: Pipet 10 mL of the ICSA solution into a 100 mL volumetric flask and dilute to volume with 2% v/v HNO_3. Analyze this ICSA solution by ICP-AES.

ICSB-0710, Analytes, mixed with ICSA-1211, Interferents: Pipet 10 mL of the ICSA solution and 10 mL of the ICSB solution into a 100 mL volumetric flask and dilute to volume with 2% v/v HNO_3. Analyze this ICSAB solution by ICP-AES.

(D) *"CERTIFIED VALUE" CONCENTRATIONS OF QATS ICP-AES ICS SOLUTION(S)*

The "Certified Value" concentrations of the elements, listed in Table 1 below, were derived from statistically pooled analysis results from the following sources, if available: QATS Laboratory, CLP laboratories, Quarterly Blind (QB)/Proficiency Testing (PT) events, CLP pre-award events, and external referee laboratories.

Table 1. "CERTIFIED VALUES" FOR INTERFERENCE CHECK SAMPLE ICP-AES ICSA-1211, AND ICSA-1211 MIXED WITH ICSB-0710

Element	CRQL	Part A (µg/L)	Low Limit (µg/L)	High Limit (µg/L)	Part A +Part B (µg/L)	Low Limit (µg/L)	High Limit (µg/L)
Al	200	255000	216000	294000	247000	209000	285000
Sb	60	(0.0)	-60.0	60.0	618	525	711
As	10	(0.0)	-10.0	10.0	104	88.4	120
Ba	200	(6.0)	-194	206	(537)	337	737
Be	5.0	(0.0)	-5.0	5.0	495	420	570
Cd	5.0	(1.0)	-4.0	6.0	972	826	1120
Ca	5000	245000	208000	282000	235000	199000	271000
Cr	10	(52.0)	42.0	62.0	542	460	624
Co	50	(0.0)	-50.0	50.0	476	404	548
Cu	25	(2.0)	-23.0	27.0	511	434	588
Fe	100	101000	85600	116500	99300	84400	114500
Pb	10	(0.0)	-10.0	10.0	(49.0)	39.0	59.0
Mg	5000	255000	216000	294000	248000	210000	286000
Mn	15	(7.0)	-8.0	22.0	507	430	584
Ni	40	(2.0)	-38.0	42.0	954	810	1100
Se	35	(0.0)	-35.0	35.0	(46.0)	11.0	81.0
Ag	10	(0.0)	-10.0	10.0	201	170	232
Tl	25	(0.0)	-25.0	25.0	(108)	83.0	133
V	50	(0.0)	-50.0	50.0	491	417	565
Zn	60	(0.0)	-60.0	60.0	952	809	1095

The acceptance ranges for all analytes in parentheses in the above table were determined using the listed certified value ± 1 times the associated CLP SOW CRQL. The acceptance ranges for all other analytes were determined using the certified value ± 15 percent of the listed certified value.

QUALITY ASSURANCE TECHNICAL SUPPORT LABORATORY
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APTIM

Instructions for QATS Reference Material: *ICP-AES ICS*

QATS LABORATORY INORGANIC REFERENCE MATERIAL INTERFERENCE CHECK SAMPLE SET FOR ICP-AES (ICSA WITH ICSB)

NOTE: These instructions are for advisory purposes only. If any apparent conflict exists between these instructions and the analytical protocol or your contract, disregard these instructions.

APPLICATION: For use with the CLP SFAM01.0 SOW and revisions.

CAUTION: Read instructions carefully before opening bottle(s) and proceeding with the analyses.

M6155

Contains Heavy Metals
HAZARDOUS MATERIAL

Safety Data Sheets
Available Upon Request

(A) *SAMPLE DESCRIPTION*

Enclosed is a set of one (1) or more bottles of Aqueous Reference Material, each composed of metals at various concentrations and prepared with nitrate salts and oxy-acids of the respective elements in a 5% nitric acid matrix. **For the reference material source in reporting ICSA and ICSAB mixture use "USEPA". For the reference material lot number for the ICSA use "ICSA-1211" and for the ICSAB mixture use "ICSA-1211+ICSB-0710".**

CAUTION: The bottle(s) should be protected from light during storage to ensure the stability of silver which is contained in the ICSB solution. The bottle(s) should be stored at room temperature. **Do not allow the solution(s) to freeze.**

(B) *BREAKAGE OR MISSING ITEMS*

Check the contents of the shipment carefully for any broken, leaking, or missing items. Check that the seal is intact on each bottle. Refer to the enclosed chain of custody record. Report any problems to Mr. Keith Strout, APTIM Federal Services, LLC, at (702) 895-8722. If requested, return the chain-of-custody record with appropriate annotations and signatures to the address provided below.

QUALITY ASSURANCE TECHNICAL SUPPORT LABORATORY
APTIM Federal Services, LLC
2700 Chandler Avenue - Building C
Las Vegas, NV 89120

(C) *ANALYSIS OF SAMPLES*

The interference check sample set is to be used to verify inter-element and background correction factors of inductively-coupled plasma (ICP) spectrometers. This reference material set consists of two (2) concentrated solutions. The ICSA solution contains the four (4) interferent elements: Al, Ca, Fe, and Mg. The ICSB solution contains the analytes: Ag, As, Sb, Ba, Be,

The Quality Assurance Technical Support (QATS) contract is operated by APTIM Federal Services, LLC.

Cd, Co, Cr, Cu, Mn, Ni, Pb, Tl, Se, V, and Zn. This instruction sheet provides the nominal values for ICP-AES Part A and Part B target analytes when diluted as directed.

Using Class "A" glassware, preparation and analysis must be performed according to the following instructions:

ICSA-1211, Interferents: Pipet 10 mL of the ICSA solution into a 100 mL volumetric flask and dilute to volume with 2% v/v HNO_3. Analyze this ICSA solution by ICP-AES.

ICSB-0710, Analytes, mixed with ICSA-1211, Interferents: Pipet 10 mL of the ICSA solution and 10 mL of the ICSB solution into a 100 mL volumetric flask and dilute to volume with 2% v/v HNO_3. Analyze this ICSAB solution by ICP-AES.

(D) *"CERTIFIED VALUE" CONCENTRATIONS OF QATS ICP-AES ICS SOLUTION(S)*

The "Certified Value" concentrations of the elements, listed in Table 1 below, were derived from statistically pooled analysis results from the following sources, if available: QATS Laboratory, CLP laboratories, Quarterly Blind (QB)/Proficiency Testing (PT) events, CLP pre-award events, and external referee laboratories.

Table 1. "CERTIFIED VALUES" FOR INTERFERENCE CHECK SAMPLE ICP-AES ICSA-1211, AND ICSA-1211 MIXED WITH ICSB-0710

Element	CRQL	Part A (µg/L)	Low Limit (µg/L)	High Limit (µg/L)	Part A +Part B (µg/L)	Low Limit (µg/L)	High Limit (µg/L)
Al	200	255000	216000	294000	247000	209000	285000
Sb	60	(0.0)	-60.0	60.0	618	525	711
As	10	(0.0)	-10.0	10.0	104	88.4	120
Ba	200	(6.0)	-194	206	(537)	337	737
Be	5.0	(0.0)	-5.0	5.0	495	420	570
Cd	5.0	(1.0)	-4.0	6.0	972	826	1120
Ca	5000	245000	208000	282000	235000	199000	271000
Cr	10	(52.0)	42.0	62.0	542	460	624
Co	50	(0.0)	-50.0	50.0	476	404	548
Cu	25	(2.0)	-23.0	27.0	511	434	588
Fe	100	101000	85600	116500	99300	84400	114500
Pb	10	(0.0)	-10.0	10.0	(49.0)	39.0	59.0
Mg	5000	255000	216000	294000	248000	210000	286000
Mn	15	(7.0)	-8.0	22.0	507	430	584
Ni	40	(2.0)	-38.0	42.0	954	810	1100
Se	35	(0.0)	-35.0	35.0	(46.0)	11.0	81.0
Ag	10	(0.0)	-10.0	10.0	201	170	232
Tl	25	(0.0)	-25.0	25.0	(108)	83.0	133
V	50	(0.0)	-50.0	50.0	491	417	565
Zn	60	(0.0)	-60.0	60.0	952	809	1095

The acceptance ranges for all analytes in parentheses in the above table were determined using the listed certified value ± 1 times the associated CLP SOW CRQL. The acceptance ranges for all other analytes were determined using the certified value ± 15 percent of the listed certified value.

opened : 3/24/25

Absolute Standards, Inc.
800-368-1131
www.absolutestandards.com

Certified Reference Material CRM

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

CERTIFIED WEIGHT REPORT:

M6160

Part Number: 57051
Lot Number: 071724
Description: Antimony (Sb)

Expiration Date: 071727
Recommended Storage: Ambient (20 °C)
Nominal Concentration (µg/mL): 1000
NIST Test Number: 6UTB
Volume shown below was diluted to (mL): 2000.26

Lot #	Solvent:		
24002546	Nitric Acid		
2.0%	40.0 (mL)	Nitric Acid	

5E-05 Balance Uncertainty
0.058 Flask Uncertainty

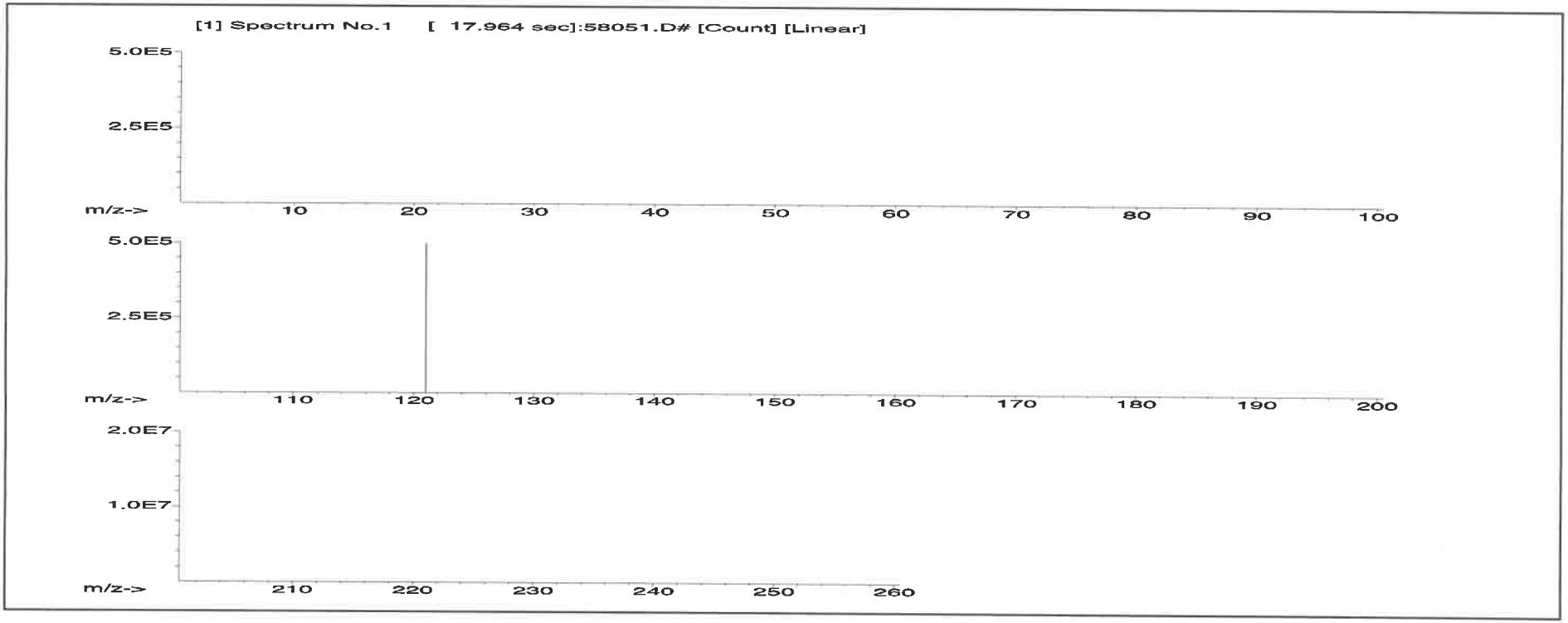
Giovanni Esposito

Formulated By:	Giovanni Esposito	071724

Pedro Rentas

Reviewed By:	Pedro L. Rentas	071724

Compound	Part Number	Lot Number	Dilution Factor	Initial Vol. (mL)	Uncertainty Pipette (mL)	Nominal Conc. (µg/mL)	Initial Conc. (µg/mL)	Final Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50	NIST SRM
1. Antimony (Sb)	58151	060324	0.1000	200.0	0.084	1000	10001.4	**1000.0**	**2.2**	7440-36-0	0.5 mg/m3	orl-rat 7000 mg/kg	3102a



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

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

(T) = Target analyte

Physical Characterization:

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

Certified by:

* The certified value is the concentration calculated from gravimetric and volumetric measurements unless otherwise stated.
* Purified acids, 18.2 megohm deionized water, calibrated Class A glassware and the highest purity raw materials are used in the preparation of all standards.
* All standard containers are meticulously cleaned prior to use.
* Standards are prepared gravimetrically using balances that are calibrated with weights traceable to NIST (see above).
* Standards are certifed (+/-) 0.5% of the stated value, unless otherwise stated.
* All Standards should be stored with caps tight and under appropriate laboratory conditions.
* Uncertainty Reference: Taylor, B.N. and Kuyat, C.E., "Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Result," NIST Technical Note 1297, U.S. Government Printing Office, Washington, D.C. (1994).

INORGANIC VENTURES™

Refine your results. Redefine your industry.

Certificate of Analysis

R: 8/5/24 M6019

300 Technology Drive
Christiansburg, VA 24073 USA
inorganicventures.com

P: 800-669-6799/540-585-3030
F: 540-585-3012
info@inorganicventures.com

1.0 ACCREDITATION / REGISTRATION

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

ACCREDITED Testing Laboratory Certificate 888.01 ACCREDITED Reference Material Producer Certificate 888.02

2.0 PRODUCT DESCRIPTION

Product Code:	Single Analyte Custom Grade Solution
Catalog Number:	CGSR1
Lot Number:	U2-SR730227
Matrix:	0.1% (v/v) HNO3
Value / Analyte(s):	1 000 µg/mL ea: Strontium
Starting Material:	SrCO3
Starting Material Lot#:	M2-2192
Starting Material Purity:	99.9993%

3.0 CERTIFIED VALUES AND UNCERTAINTIES

Certified Value: 1001 ± 3 µg/mL

Density: 1.000 g/mL (measured at 20 ± 4 °C)

Assay Information:

Assay Method #1 **998 ± 4 µg/mL**
ICP Assay NIST SRM Traceable to 3153a Lot Number: K2-SR650985

Assay Method #2 **1001 ± 3 µg/mL**
EDTA NIST SRM 928 Lot Number: 928

Assay Method #3 **1001 ± 2 µg/mL**
Calculated NIST SRM Lot Number: See Sec. 4.2

- The Calculated Value is a value calculated from the weight of a starting material that has been certified directly vs. a National Institute of Standards and Technology (NIST) SRM/RM. See Sec 4.2 for balance traceability.

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

Characterization of CRM/RM by Two or More Methods

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

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

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

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

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

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

$u_{char} = [\Sigma((w_i)^2\ (u_{char\ i})^2)]^{½}$ where $u_{char\ i}$ are the errors from each characterization method

u_{bb} = bottle to bottle homogeneity standard uncertainty

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

u_{ts} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

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

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

X_a = mean of Assay Method A with

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

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

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

u_{bb} = bottle to bottle homogeneity standard uncertainty

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

u_{ts} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

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

4.1 Thermometer Calibration

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

4.2 Balance Calibration

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

4.3 Glassware Calibration

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

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

CRM/RMs are tested for trace metallic impurities by Axial ICP-OES and ICP-MS. The result from the most sensitive method for each element, is reported below. Solutions tested by ICP-MS were analyzed in an ULPA-Filtered Clean Room. An ULPA-Filter is 99.9985% efficient for the removal of particles down to 0.3 µm.

M	Ag	<	0.001980	M	Eu	<	0.000495	O	Na		0.000200	M	Se	<	0.013862	O	Zn		0.000143
O	Al		0.000370	O	Fe		0.000410	M	Nb	<	0.000495	i	Si	<		M	Zr	<	0.000495
M	As	<	0.000495	M	Ga	<	0.000495	M	Nd	<	0.000495	M	Sm	<	0.000495				
M	Au	<	0.000989	M	Gd	<	0.000495	O	Ni	<	0.007631	M	Sn	<	0.000990				
M	B	<	0.039606	M	Ge	<	0.000495	M	Os	<	0.000494	s	Sr	<					
M	Ba		0.006486	M	Hf	<	0.000495	i	P	<		M	Ta	<	0.000495				
M	Be	<	0.000990	M	Hg	<	0.000989	M	Pb	<	0.002970	M	Tb	<	0.000495				
M	Bi	<	0.000495	M	Ho	<	0.000495	M	Pd	<	0.003957	M	Te	<	0.027724				
O	Ca		0.004255	M	In	<	0.000495	M	Pr	<	0.000495	M	Th	<	0.000990				
M	Cd		0.001339	M	Ir	<	0.000494	M	Pt	<	0.002970	M	Ti	<	0.005940				
M	Ce	<	0.004950	O	K	<	0.008184	M	Rb	<	0.002970	M	Tl	<	0.000495				
M	Co	<	0.000495	M	La	<	0.000495	M	Re	<	0.000495	M	Tm	<	0.000495				
O	Cr	<	0.003207	O	Li	<	0.000884	O	Rh	<	0.012829	M	U	<	0.001485				
M	Cs	<	0.000990	M	Lu	<	0.002970	M	Ru	<	0.000989	M	V	<	0.001980				
M	Cu		0.000099	O	Mg		0.000064	i	S	<		M	W	<	0.003960				
M	Dy	<	0.000495	O	Mn		0.000066	M	Sb	<	0.014852	O	Y	<	0.000995				
M	Er	<	0.000495	M	Mo	<	0.001980	M	Sc	<	0.001980	M	Yb	<	0.000495				

M - Checked by ICP-MS O - Checked by ICP-OES i - Spectral Interference
n - Not Checked For s - Solution Standard Element

6.0 INTENDED USE

6.1 This standard is intended for the calibration of analytical instruments and validation of analytical methods as appropriate. This CRM may be used in connection with EPA Methods 6010, 6020 (all versions), Standard Methods 3120 B and USP <232> / ICH Q3D.

6.2 For products attaining traceability through Inorganic Ventures' Primary Certified Reference Materials (PCRM™) see the Limited License to Use PCRM™ in the Inorganic Ventures Terms and Conditions of Sale, https://www.inorganicventures.com/terms-and-conditions-sale. The Terms and Conditions contain information on the use of materials traceable to PCRM™ certified reference materials. This Limited License agreement is especially pertinent for laboratories accredited under ISO:17034.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

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

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

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

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

Atomic Weight; Valence; Coordination Number; Chemical Form in Solution - 87.62 +2 6 $Sr(H_2O)_6^{+2}$

Chemical Compatibility - Soluble in HCl, and HNO_3. Avoid H_2SO_4, HF and neutral to basic media. Stable with most metals and inorganic anions forming insoluble silicate, carbonate, hydroxide, oxide, fluoride, sulfate, oxalate, chromate, arsenate and tungstate in neutral aqueous media.

Stability - 2-100 ppb levels stable for months in 1% HNO_3 / LDPE container. 1-10,000 ppm solutions chemically stable for years in 1 - 3.5% HNO_3 / LDPE container.

Sr Containing Samples (Preparation and Solution) -Metal (Best dissolved in diluted HNO_3); Ores (Carbonate fusion in Pt0 followed by HCl dissolution); Organic Matrices (Dry ash and dissolution in dilute HCl).

Atomic Spectroscopic Information (ICP-OES D.L.s are given as radial/axial view):

Technique/Line	**Estimated D.L.**	**Order**	**Interferences** (underlined indicates severe)
ICP-MS 88 amu	1200 ppt	N/A	72Ge16O, 176Yb+2, 176Lu+2 , 176Hf+2
ICP-OES 407.771 nm	0.0004 / 0.00006 µg/mL	1	U, Ce
ICP-OES 421.552 nm	0.0008 / 0.00004 µg/mL	1	Rb
ICP-OES 460.733 nm	0.07 / 0.003 µg/mL	1	Ce

8.0 HAZARDOUS INFORMATION

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

9.0 HOMOGENEITY

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

10.0 QUALITY STANDARD DOCUMENTATION

10.1 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

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

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

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

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

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

11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

March 03, 2023

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

11.2 Lot Expiration Date

- **March 03, 2028**

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

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

11.3 Period of Validity

- Sealed TCT Bag Open Date: _____

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

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Approved By:

Thomas Kozikowski
Manager, Quality Control

Certifying Officer:

Paul Gaines
Chairman / Senior Technical Director

Absolute Standards, Inc.
800-368-1131
www.absolutestandards.com

Certified Reference Material CRM

M6023

R ! 8/5/24

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

CERTIFIED WEIGHT REPORT:

Part Number:	**57081**		**Lot #**		
Lot Number:	**062724**	**Solvent:**	24002546	Nitric Acid	
Description:	**Thallium (Tl)**	2%	40.0 (mL)	Nitric Acid	
Expiration Date:	062727				
Recommended Storage:	Ambient (20 °C)				
Nominal Concentration (µg/mL):	**1000**				
NIST Test Number:	6UTB	5E-05	Balance Uncertainty		
Weight shown below was diluted to (mL):	2000.1	0.10	Flask Uncertainty		

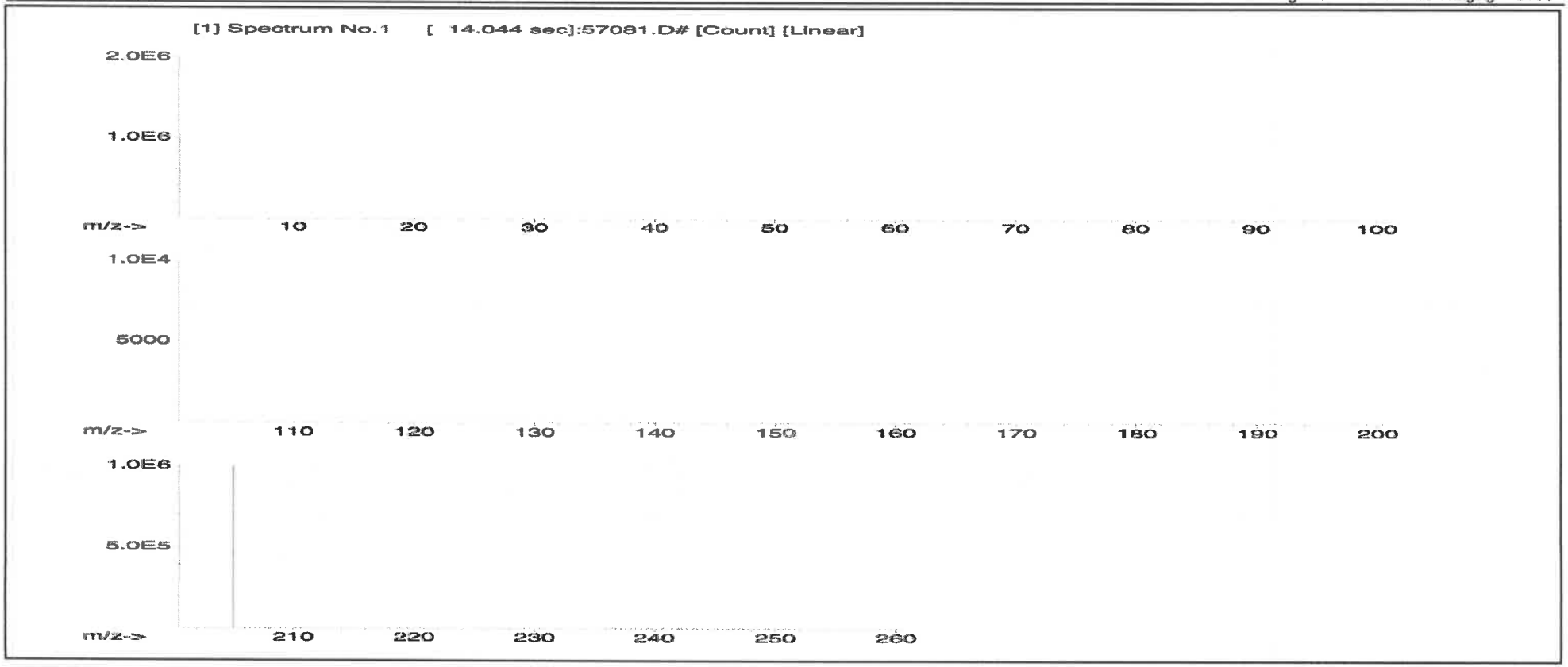
Aleah O'Brady

Formulated By:	Aleah O'Brady	062724

Pedro Rentas

Reviewed By:	Pedro L. Rentas	062724

Compound	RM#	Lot Number	Nominal Conc. (µg/mL)	Purity (%)	Uncertainty Purity (%)	Assay (%)	Target Weight (g)	Actual Weight (g)	Actual Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50	NIST SRM
1. Thallium nitrate (Tl)	IN037	BCCF4399	1000	99.999	0.10	77.0	2.5975	2.5977	**1000.1**	**2.0**	10102-45-1	0.1 mg/m3	orl-mus 15mg/kg	3158



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

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

(T) = Target analyte

Physical Characterization:

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

Certified by:

* The certified value is the concentration calculated from gravimetric and volumetric measurements unless otherwise stated.
* Purified acids, 18.2 megohm deionized water, calibrated Class A glassware and the highest purity raw materials are used in the preparation of all standards.
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Absolute Standards, Inc.
800-368-1131
www.absolutestandards.com

Certified Reference Material CRM

M6021

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

Rc. 8/5/24

CERTIFIED WEIGHT REPORT:

		Lot #	Solvent:	
Part Number:	**57023**			
Lot Number:	**062424**			
Description:	**Vanadium (V)**	24002546	Nitric Acid	
		2.0%	40.0 (mL)	Nitric Acid
Expiration Date:	062427			
Recommended Storage:	Ambient (20 °C)			
Nominal Concentration (µg/mL):	**1000**			
NIST Test Number:	6UTB	5E-05	Balance Uncertainty	
Volume shown below was diluted to (mL):	2000.3	0.06	Flask Uncertainty	

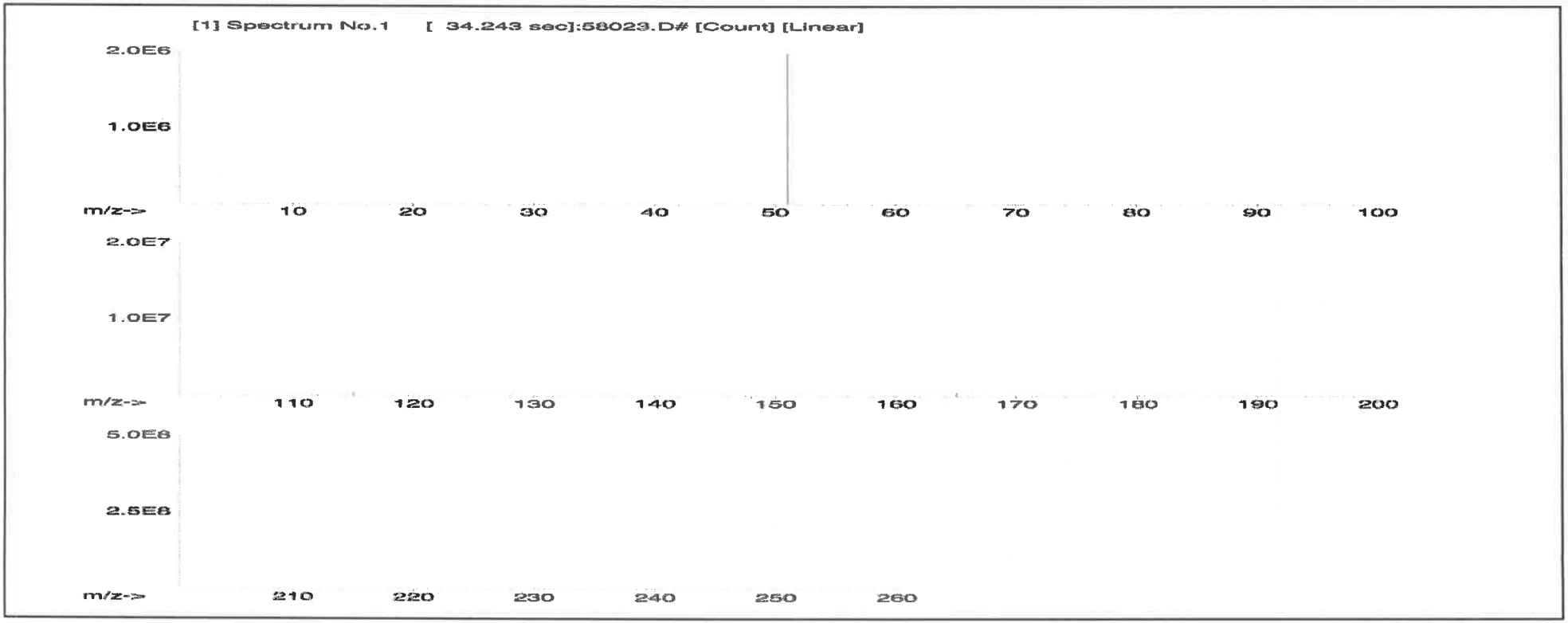
Aleah O'Brady

Formulated By:	Aleah O'Brady	062424

Pedro Rentas

Reviewed By:	Pedro L. Rentas	062424

Compound	Part Number	Lot Number	Dilution Factor	Initial Vol. (mL)	Uncertainty Pipette (mL)	Nominal Conc. (µg/mL)	Initial Conc. (µg/mL)	Final Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50	NIST SRM
1. Ammonium metavanadate (V)	58123	021224	0.1000	200.0	0.084	1000	10000.3	**1000.0**	**2.2**	7803-55-6	0.05 mg/m3	orl-rat 58.1mg/kg	3165



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

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

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

(T) = Target analyte

Physical Characterization:

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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SHIPPING DOCUMENTS

Alliance TECHNICAL GROUP

284 Sheffield Street, Mountainside, NJ 07092
(908) 789-8900 · Fax (908) 789-8922
www.chemtech.net

ALLIANCE PROJECT NO.
QUOTE NO. Q1833
COC Number 2045802

CLIENT INFORMATION

REPORT TO BE SENT TO:
COMPANY: ARDMORE
ADDRESS: 29 RIVERSIDE AVE
CITY NEWARK STATE NJ ZIP 07104
ATTENTION: MICHAEL SHARPHOUSE
PHONE: 973 481-2406 FAX:

CLIENT PROJECT INFORMATION

PROJECT NAME: PVSC MONTHLY
PROJECT NO.: LOCATION:
PROJECT MANAGER:
e-mail:
PHONE: FAX:

CLIENT BILLING INFORMATION

BILL TO: PO#:
ADDRESS:
CITY STATE: ZIP:
ATTENTION: PHONE:

DATA TURNAROUND INFORMATION

FAX (RUSH) _____ DAYS*
HARDCOPY (DATA PACKAGE): STANDARD DAYS*
EDD: _____ DAYS*
*TO BE APPROVED BY CHEMTECH
STANDARD HARDCOPY TURNAROUND TIME IS 10 BUSINESS

DATA DELIVERABLE INFORMATION

- ☐ Level 1 (Results Only)
- ☐ Level 2 (Results + QC)
- ☐ Level 3 (Results + QC + Raw Data)
- ☐ Level 4 (QC + Full Raw Data)
- ☐ NJ Reduced ☐ US EPA CLP
- ☐ NYS ASP A ☐ NYS ASP B
- ☐ Other
- ☐ EDD FORMAT

ANALYSIS

1: VOC 2: CN 3: SVOC 4: BOD/TSS 5: METALS 6 7 8 9

ALLIANCE SAMPLE ID	PROJECT SAMPLE IDENTIFICATION	SAMPLE MATRIX	SAMPLE TYPE COMP	SAMPLE TYPE GRAB	SAMPLE COLLECTION DATE	SAMPLE COLLECTION TIME	# OF BOTTLES	PRESERVATIVES 1	2	3	4	5	6	7	8	9	COMMENTS
1.	EFF WASTE WATER	WW		X	4/17/25	12:30 PM	3	X	X								PH-12 Lot # HC175724
2.	EFF WASTE WATER	WW	X		4/17/25	12:30 PM	3			X	X	X					PH-1-3 Lot # R0A0441
3.																	
4.																	
5.																	
6.																	
7.																	
8.																	
9.																	
10.																	

PRESERVATIVES: ← Specify Preservatives
A-HCl D-NaOH B-HN03 E-ICE C-H2SO4 F-OTHER

SAMPLE CUSTODY MUST BE DOCUMENTED BELOW EACH TIME SAMPLES CHANGE POSSESSION INCLUDING COURIER DELIVERY

RELINQUISHED BY SAMPLER:	DATE/TIME:	RECEIVED BY:
1 Albert Shanghou	4/17/25 12:30 PM	1. Albert Shanghou 4/17/25 12:30 PM
RELINQUISHED BY SAMPLER:	DATE/TIME: 1155	RECEIVED BY:
2.	4/17/25	2.
RELINQUISHED BY SAMPLER:	DATE/TIME:	RECEIVED BY:
3.		3.

Conditions of bottles or coolers at receipt: ☐ COMPLIANT ☐ NON COMPLIANT ☐ COOLER TEMP 3.3°C °C
Comments: METALS LEAD, ZINC (adjust Factor #1) IN ppm #1

Page _____ of

CLIENT: ☐ Hand Delivered ☐ Other

Shipment Complete ☐ YES ☐ NO

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WHITE - ALLIANCE COPY FOR RETURN TO CLIENT YELLOW - ALLIANCE COPY PINK - SAMPLER COPY

284 Sheffield Street, Mountainside NJ 07092 (908)-789-8900 Fax : 908 789 8922

Laboratory Certification

Certified By	License No.
CAS EPA CLP Contract	68HERH20D0011
Connecticut	PH-0830
DOD ELAP (ANAB)	L2219
Maine	2024021
Maryland	296
New Hampshire	255424 Rev 1
New Jersey	20012
New York	11376
Pennsylvania	68-00548
Soil Permit	525-24-234-08441
Texas	T104704488

QA Control Code: A2070148

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

LOGIN REPORT/SAMPLE TRANSFER

Order ID : Q1833 ARDM01
Client Name : Ardmore Chemical
Client Contact : Michael Sharphouse
Invoice Name : Ardmore Chemical
Invoice Contact : Michael Sharphouse

Order Date : 4/17/2025 2:07:00 PM
Project Name : PVSC Monthly 2025
Receive DateTime : 4/17/2025 11:55:00 AM
Purchase Order :

Project Mgr :
Report Type : Level 1
EDD Type : NONE
Hard Copy Date :
Date Signoff :

LAB ID	CLIENT ID	MATRIX	SAMPLE DATE	SAMPLE TIME	TEST	TEST GROUP	METHOD	FAX DATE	DUE DATES
Q1833-01	EFF-WASTE-WATER	Water	04/17/2025	12:30					
					VOC-PP		624.1		3 Bus. Days

stored in VOA
Sf # 05

Relinguished By : [signature]
Date / Time : 4/17/25 1572

Received By : [signature] 16:45
Date / Time : 4-17-25

Storage Area : VOA Refridgerator Room