

SDG COVER PAGE

Lab Name: Alliance Technical Group, LLC Contract: 68HERH20D0011
Lab Code: ACE Case No.: 51821 MA No.: _____ SDG No.: MJNKR9
SOW No. : SFAM01.1

EPA Sample No.	Lab Sample Id	ICP-AES	Analysis Method		
			ICP-MS	Mercury	Cyanide
<u>MJNKR9</u>	<u>P5165-01</u>	<u> </u>	<u>X</u>	<u> </u>	<u> </u>
<u>MJNKR9D</u>	<u>P5165-02</u>	<u> </u>	<u>X</u>	<u> </u>	<u> </u>
<u>MJNKR9S</u>	<u>P5165-03</u>	<u> </u>	<u>X</u>	<u> </u>	<u> </u>

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed in the SDG Narrative. All edits and manual integrations have been peer-reviewed. Release of the data contained in this hardcopy Complete SDG File and in the electronic data submitted has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signature.

Signature: _____ Name: _____
Date: _____ Title: _____

68HERH20D0011

SDG # MJNKR9

USEPA CLP COC (LAB COPY)

Date Shipped: 12/5/2024

Carrier Name: FedEx

Airbill No: 7705 3093 7563

CHAIN OF CUSTODY RECORD

Case #: 51821

Cooler #: 4

No: 10-120524-145421-0006

Lab: Alliance Technical Group LLC

Lab Contact: Mohammad Ahmed

Lab Phone: 908-728-3151

2

Sample Identifier	CLP Sample No.	Matrix/Sampler	Coll. Method	Analysis/Turnaround (Days)	Tag/Preservative/Bottles	Location	Collection Date/Time	For Lab Use Only
MJNKQ0	MJNKQ0	Sediment/ LV,HH	Grab	ICP-MS(21)/PR	1432 (< 6 C) (1)	OU6-CS-YB05-2.0-3.0	12/04/2024 10:25	
MJNKQ1	MJNKQ1	Sediment/ LV	Grab	ICP-MS(21)/PR	1433 (< 6 C) (1)	OU6-CS-YB05-3.0-4.0	12/04/2024 10:30	
MJNKQ2	MJNKQ2	Sediment/ HH	Grab	ICP-MS(21)/PR	1434 (< 6 C) (1)	OU6-CS-YB05-4.0-5.0	12/04/2024 10:35	
MJNKQ8	MJNKQ8	Sediment/ LV,CT	Grab	ICP-MS(21)/PR	1440 (< 6 C) (1)	OU6-CS-YB06-0.0-0.4	12/03/2024 09:40	
MJNKR9	MJNKR9	Sediment/ LV	Grab	ICP-MS(21)/PR	1451 (< 6 C) (1)	OU6-CS-YB07-0.0-0.7	12/04/2024 16:50	1-22
MJNL16	MJNL16	Sediment/ LV	Grab	ICP-MS(21)/PR	1528 (< 6 C) (1)	OU6-CS-YB14-0.0-1.0	12/04/2024 15:50	
MJNL17	MJNL17	Sediment/ LV	Grab	ICP-MS(21)/PR	1529 (< 6 C) (1)	OU6-CS-YB14-0.0-1.0-FD	12/04/2024 15:50	
MJNL18	MJNL18	Sediment/ MM	Grab	ICP-MS(21)/PR	1530 (< 6 C) (1)	OU6-CS-YB14-1.0-2.0	12/04/2024 16:15	
MJNL19	MJNL19	Sediment/ LV	Grab	ICP-MS(21)/PR	1531 (< 6 C) (1)	OU6-CS-YB14-2.0-2.6	12/04/2024 16:20	
MJNL49	MJNL49	Sediment/ MM, LV	Grab	ICP-MS(21)/PR	1561 (< 6 C) (1)	OU6-CS-YB17-0.0-0.5	12/04/2024 13:50	

Sample(s) to be used for Lab QC: MJNKR9 Tag 1451, MJNL16 Tag 1528, MJNL60 Tag 1572

0543408
0543409

Shipment for Case Complete? N

Samples Transferred From Chain of Custody #

Analysis Key: ICP-MS=CLP Metals (As, Cu, Pb, Zn)-Sediment

Items/Reason	Relinquished by (Signature and Organization)	Date/Time	Received by (Signature and Organization)	Date/Time	Sample Condition Upon Receipt
	<i>VF Jacobs</i>	12/5/2024	<i>QR</i>	12-6-24	TP-2-1 2.3°C
					Custody Seal intact
					Top Out present

FORM DC-1
SAMPLE LOG-IN SHEET

Lab Name : Alliance Technical Group, LLC		Page <u>1</u> of <u>1</u>
Received By (Print Name) <u>Cesquena Rera</u>		Log-in Date 12/6/2024
Received By (Signature) <u>[Signature]</u>		
Case Number 51821	SDG No. MJNKR9	MA No. N/A

Remarks:	
1. Custody Seal (s)	Present, Intact
2. Custody Seal Nos.	<u>0543408,0543409</u>
3. Traffic Reports/Chain Of Custody Records	Present
4. Airbill	Present
5. Airbill No. and Shipping Container ID No.	<u>770530937563</u> <u>1</u>
6. Shipping Container Temperature Indicator Bottle	Present
7. Shipping Container Temperature	<u>2.3</u> Degree C
8. Sample Condition	Intact
9. Sample Tags Sample Tag Numbers	Absent Listed on Traffic Report
10. Does information on Traffic Reports/Chain of Custody Records and Sample Tags agree ?	Yes
11. Date Received at Lab	<u>12/06/2024</u>
12. Time Received	<u>10:10</u>

	EPA Sample #	Aqueous/ Water Sample pH	Corresponding		Remarks: Condition of Sample Shipment, etc.
			Sample Tag #	Assigned Lab #	
1	MJNKR9	N/A	1451	P5165-01	Intact
2	MJNKR9D	N/A	1451	P5165-02	Intact
3	MJNKR9S	N/A	1451	P5165-03	Intact
4	N/A	N/A	N/A	N/A	N/A
5	N/A	N/A	N/A	N/A	N/A
6	N/A	N/A	N/A	N/A	N/A
7	N/A	N/A	N/A	N/A	N/A
8	N/A	N/A	N/A	N/A	N/A
9	N/A	N/A	N/A	N/A	N/A
10	N/A	N/A	N/A	N/A	N/A
11	N/A	N/A	N/A	N/A	N/A
12	N/A	N/A	N/A	N/A	N/A
13	N/A	N/A	N/A	N/A	N/A
14	N/A	N/A	N/A	N/A	N/A
15	N/A	N/A	N/A	N/A	N/A
16	N/A	N/A	N/A	N/A	N/A
17	N/A	N/A	N/A	N/A	N/A
18	N/A	N/A	N/A	N/A	N/A
19	N/A	N/A	N/A	N/A	N/A
20	N/A	N/A	N/A	N/A	N/A
21	N/A	N/A	N/A	N/A	N/A
22	N/A	N/A	N/A	N/A	N/A
23	N/A	N/A	N/A	N/A	N/A

* Contact SMO and attach record of resolution

Reviewed By <u>[Signature]</u>	Logbook No. N/A
Date <u>12/6/24</u>	Logbook Page No. N/A

FORM DC-2
COMPLETE SDG FILE (CSF) INVENTORY SHEET

LAB NAME	Alliance Technical Group, LLC		
LAB CODE	ACE		
CONTRACT NO.	68HERH20D0011		
CASE NO.	51821	SDG NO.	MJNKR9
MA NO.		SOW NO.	SFAM01.1

All documents delivered in the Complete SDG File must be original documents where possible.
(Reference - Exhibit B Section 2.4)

	PAGE NOS:		CHECK	
	FROM	TO	LAB	REGION
1. SDG Cover Page	1	1	✓	
2. Traffic Report/Chain of Custody Record(s)	2	2	✓	
3. Sample Log-In Sheet (DC-1)	3	3	✓	
4. CSF Inventory Sheet (DC-2)	4	6	✓	
5. SDG Narrative	7	9	✓	
6. Communication Logs	10	14	✓	
7. Percent Solids Log	15	16	✓	

Analysis Forms and Data (ICP-AES)

8. Sample Analysis Data Forms (1A-OR, 1B-OR, and 1-IN) for each sample or sample analysis, laboratory QC as applicable	NA	NA	✓	
9. Instrument raw data by instrument in analysis order	NA	NA	✓	

Other Data

10. Standard and Reagent Preparation Logs	NA	NA	✓	
11. Original Preparation and Cleanup forms or copies of Preparation and Cleanup Logbooks	NA	NA	✓	
12. Original Analysis or Instrument Run forms or copies of Analysis or Instrument Logbooks	NA	NA	✓	
13. Performance Evaluation (PE)/Proficiency Testing (PT) Sample Instructions	NA	NA	✓	
14. Extraction Logs for TCLP and SPLP	NA	NA	✓	
15. Raw GPC Data	NA	NA	✓	
16. Raw Florisil Data	NA	NA	✓	

Analysis Forms and Data (ICP-MS)

17. Sample Analysis Data Forms (1A-OR, 1B-OR, and 1-IN) for each sample or sample analysis, laboratory QC as applicable	17	17	✓	
18. Instrument raw data by instrument in analysis order	18	255	✓	

Other Data

19. Standard and Reagent Preparation Logs	256	392	✓	
20. Original Preparation and Cleanup forms or copies of Preparation and Cleanup Logbooks	393	394	✓	
21. Original Analysis or Instrument Run forms or copies of Analysis or Instrument Logbooks	395	404	✓	
22. Performance Evaluation (PE)/Proficiency Testing (PT) Sample Instructions	NA	NA	✓	

- 23 . Extraction Logs for TCLP and SPLP
- 24 . Raw GPC Data
- 25 . Raw Florisil Data

PAGE NOS:		CHECK	
FROM	TO	LAB	REGION
NA	NA	✓	
NA	NA	✓	
NA	NA	✓	

Analysis Forms and Data (Mercury)

- 26 . Sample Analysis Data Forms (1A-OR, 1B-OR, and 1-IN) for each sample or sample analysis, laboratory QC as applicable
- 27 . Instrument raw data by instrument in analysis order

NA	NA	✓	
NA	NA	✓	

Other Data

- 28 . Standard and Reagent Preparation Logs
- 29 . Original Preparation and Cleanup forms or copies of Preparation and Cleanup Logbooks
- 30 . Original Analysis or Instrument Run forms or copies of Analysis or Instrument Logbooks
- 31 . Performance Evaluation (PE)/Proficiency Testing (PT) Sample Instructions
- 32 . Extraction Logs for TCLP and SPLP
- 33 . Raw GPC Data
- 34 . Raw Florisil Data

NA	NA	✓	
NA	NA	✓	
NA	NA	✓	
NA	NA	✓	
NA	NA	✓	
NA	NA	✓	
NA	NA	✓	

Analysis Forms and Data (Cyanide)

- 35 . Sample Analysis Data Forms (1A-OR, 1B-OR, and 1-IN) for each sample or sample analysis, laboratory QC as applicable
- 36 . Instrument raw data by instrument in analysis order

NA	NA	✓	
NA	NA	✓	

Other Data

- 37 . Standard and Reagent Preparation Logs
- 38 . Original Preparation and Cleanup forms or copies of Preparation and Cleanup Logbooks
- 39 . Original Analysis or Instrument Run forms or copies of Analysis or Instrument Logbooks
- 40 . Performance Evaluation (PE)/Proficiency Testing (PT) Sample Instructions
- 41 . Extraction Logs for TCLP and SPLP
- 42 . Raw GPC Data
- 43 . Raw Florisil Data

NA	NA	✓	
NA	NA	✓	
NA	NA	✓	
NA	NA	✓	
NA	NA	✓	
NA	NA	✓	
NA	NA	✓	

Additional

44. EPA Shipping/Receiving Documents

Airbill (No. of Shipments 1)

Sample Tags

Sample Log-In Sheet (Lab)

45. Misc. Shipping/Receiving Records (list all individual records)

46. Internal Lab Sample Transfer Records and Tracking Sheets
(describe or list)47. Other Records and related Communication Logs
(describe or list)

48. Comments:

Completed by:
(CLP Lab)Audited by:
(EPA)Nimisha Pandya, Document Control Officer
(Print Name & Title)

PAGE NOs:		CHECK	
FROM	TO	LAB	REGION
405	405	✓	
NA	NA	✓	
406	406	✓	
NA	NA	✓	
407	407	✓	
NA	NA	✓	



**284 Sheffield Street
Mountainside, NJ 07092**

SDG NARRATIVE

USEPA

SDG # MJNKR9

CASE # 51821

CONTRACT # 68HERH20D0011

SOW# SFAM01.1

LAB NAME: Alliance Technical Group, LLC

LAB CODE: ACE

LAB ORDER ID # P5165

A. Number of Samples and Date of Receipt

01 Soil samples was delivered to the laboratory intact on 12/06/2024

B. Parameters

Test requested for Metals CLP4 MS = Arsenic, Copper, Lead, Zinc.

C. Cooler Temp

Indicator Bottle: Presence/Absence

Cooler: 2.3°C

D. Detail Documentation (related to Sample Handling Shipping, Analytical Problem, Temp of Cooler etc):

Issue 1 : A "P" or "M" prefix was listed at the beginning of a CLP sample ID.

Issue 2: The COC indicates PRs are required for all samples, but per scheduling there are no PRs requested for this Case. Please advise on how the laboratory may proceed.

E. Corrective Action taken for above:

Resolution 1 : To maintain COC integrity, ASB requests no changes to the Sample IDs. The laboratory will note the issue in the SDG Narrative and proceed with the analysis of the samples.

Resolution 2: Per Region 10, preliminary results were inadvertently included on the COC but are not needed for this project. Please proceed with the scheduled 21-day TAT. Please note the issue in the SDG Narrative and proceed with analysis of the samples



**284 Sheffield Street
Mountainside, NJ 07092**

F. Analytical Techniques:

All analyses were based on CLP Methodology by method SFAM01.1.

G. Calculation:

Calculation for ICP-MS Soil Sample:

Conversion of Results from $\mu\text{g/L}$ or ppb to mg/kg :

$$\text{Concentration (mg/kg)} = C \times \frac{V_f}{W \times S} \times \text{DF} / 1000$$

Where,

C = Instrument value in ppb (The average of all replicate integrations)

Vf = Final digestion volume (mL)

W = Initial aliquot amount (g) (Fraction of Sample amount taken in prep)

S = % Solids / 100 (Fraction of Percent Solids)

DF = Dilution Factor

Example Calculation For Sample MJNKR9 For Arsenic:

If C = 39.90 ppb

Vf = 500 ml

W = 1.32 g

S = 0.722(72.2/100)

DF = 1

$$\text{Concentration (mg/kg)} = 39.90 \times \frac{500}{1.32 \times 0.722} \times 1 / 1000$$

$$= 20.9330 \text{ mg/kg}$$

$$= 21 \text{ mg/kg (Reported Result with Signification)}$$

H. QA/ QC

Calibrations met requirements. Interference check met requirements. Blank analyses did not indicate any presence of contamination. Laboratory Control sample was within control limits. Spike sample did meet requirements. Duplicate sample did meet requirements except for Arsenic, Copper, Zinc. Serial Dilution did meet requirements.

Collision cell is being used to remove potential interferences. The analytes Na, Mg, Al, K, V, Cr, Mn, Fe, Co, Ni, Cu, Zn, As are being analyzed with collision cell and analytes Be, B, Ca, Ti, Se, Sr, Zr, Mo, Ag, Cd, Sn, Sb, Ba, Tl, Pb, U are being analyzed with Non-Collision Cell. Helium gas is used for the Collision Cell analysis.



**284 Sheffield Street
Mountainside, NJ 07092**

Internal Standard Association for ICP-MS analysis.

Target Analyte	Associated Internal Standard
Arsenic	89Y
Copper	45Sc
Lead	209Bi
Zinc	45Sc

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 Director or his designee, as verified by the following signature.

Signature_____

Name: Nimisha Pandya

Date _____

Title: Document Control Officer

From: Shaeffer, Casey <Casey.Shaeffer@gdit.com>
Sent: Friday, December 06, 2024 3:09 PM
To: Mohammad Ahmed; Deepak Parmar; Sohil Jodhani
Cc: Johnson, Matthew; Bauer, Heather E; Dunn, Meghan (she/her/hers); Reece, Caitlin
Subject: Region 10 | Case 51821 | Lab ACE | Issue Discrepancies with tags, jars, and/or COC | FINAL
Attachments: 51821-COC.pdf

This is the first time you received an email from this sender (Casey.Shaeffer@gdit.com). Exercise caution when clicking links, opening attachments or taking further action, before validating its authenticity.

Secured by Check Point

Good afternoon,

Please see the below resolutions from Region 10. Please note the added issue/resolution 2.

Discrepancies with tags, jars, and/or COC

Issue 1: The COC indicates PRs are required for all samples, but per scheduling there are no PRs requested for this Case. Please advise on how the laboratory may proceed.

Resolution 1: Per Region 10, preliminary results were inadvertently included on the COC but are not needed for this project. Please proceed with the scheduled 21-day TAT. Please note the issue in the SDG Narrative and proceed with analysis of the samples.

Issue 2: Samples under this Case are scheduled for TCLP ICP-AES 5-10 Metals and TCLP Hg, but the COC only indicates TCLP ICP-AES 5-10 Metals for CLP sample numbers MJNLH1 and MJNLH2.

Resolution 2: Per Region 10, the laboratory should proceed with TCLP ICP-AES 5-10 Metals and TCLP Hg as scheduled for CLP sample numbers MJNLH1 and MJNLH2. Please note the issue in the SDG Narrative and proceed with analysis of the samples.

Please note that the laboratory may contact the appropriate CLP PM should any defects need to be waived for this issue.

Thank you,

Casey Shaeffer

Associate Environmental Analyst
CLP QSS Coordinator – EPA Regions 4 & 10
Under contract to the EPA

T: (571) 454-2416
casey.shaeffer@gdit.com
15036 Conference Center Drive
Chantilly, VA 20151
www.gdit.com

Leave Alert: December 24, 2024

From: Dunn, Meghan (she/her/hers) <dunn.meghan@epa.gov>
Sent: Friday, December 6, 2024 3:06 PM
To: Shaeffer, Casey <Casey.Shaeffer@gdit.com>; Reece, Caitlin <Reece.Caitlin@epa.gov>
Subject: RE: Region 10 | Case 51821 | Lab ACE | Issue Discrepancies with tags, jars, and/or COC

This Message Is From an External Sender

Please use caution with links, attachments, and any requests for credentials.

Hi Casey,

Yes, that's correct!

Thanks,
Meghan

From: Shaeffer, Casey <Casey.Shaeffer@gdit.com>
Sent: Friday, December 6, 2024 12:03 PM
To: Dunn, Meghan (she/her/hers) <dunn.meghan@epa.gov>; Reece, Caitlin <Reece.Caitlin@epa.gov>
Subject: RE: Region 10 | Case 51821 | Lab ACE | Issue Discrepancies with tags, jars, and/or COC

Caution: This email originated from outside EPA, please exercise additional caution when deciding whether to open attachments or click on provided links.

Good afternoon,

Thank you, Meghan! I would just like to confirm that CLP sample number MJNLH1 and MJNLH2, per the COC, should be analyzed for both TCLP ICP-AES 5-10 Metals and TCLP Hg?

Thank you,

Casey Shaeffer

Associate Environmental Analyst
CLP QSS Coordinator – EPA Regions 4 & 10
Under contract to the EPA

T: (571) 454-2416
casey.shaeffer@gdit.com
15036 Conference Center Drive
Chantilly, VA 20151

Leave Alert: December 24, 2024

From: Dunn, Meghan (she/her/hers) <dunn.meghan@epa.gov>
Sent: Friday, December 6, 2024 2:48 PM
To: Shaeffer, Casey <Casey.Shaeffer@gdit.com>; Reece, Caitlin <Reece.Caitlin@epa.gov>
Subject: RE: Region 10 | Case 51821 | Lab ACE | Issue Discrepancies with tags, jars, and/or COC

This Message Is From an External Sender

Please use caution with links, attachments, and any requests for credentials.

Hi Casey,

The sampler accidentally included preliminary results for these samples No preliminary results are needed for this project. Please proceed with the 21 day TAT.

By the way: the COC may not have been very obvious, the TCLP analysis requested on the COC includes mercury (by CVAA) in addition to the 7 metals scheduled with ICP-AES.

Thank you,
Meghan



Meghan Dunn
QA Chemist / RSCC
(Regional Sample Control Coordinator)
U.S. EPA, Region 10
Cell (206) 330-6743
Office (206) 553-8561

From: Shaeffer, Casey <Casey.Shaeffer@gdit.com>
Sent: Friday, December 6, 2024 11:34 AM
To: Dunn, Meghan (she/her/hers) <dunn.meghan@epa.gov>; Reece, Caitlin <Reece.Caitlin@epa.gov>
Subject: Region 10 | Case 51821 | Lab ACE | Issue Discrepancies with tags, jars, and/or COC

Caution: This email originated from outside EPA, please exercise additional caution when deciding whether to open attachments or click on provided links.

Good afternoon,

Please see the below issue from ACE.

Issue: The COC indicates PRs are required for all samples, but per scheduling there are no PRs requested for this Case. Please advise on how the laboratory may proceed.

Thank you,

Casey Shaeffer

Associate Environmental Analyst
CLP QSS Coordinator – EPA Regions 4 & 10
Under contract to the EPA

T: (571) 454-2416
casey.shaeffer@gdit.com
15036 Conference Center Drive
Chantilly, VA 20151
www.gdit.com



Leave Alert: December 24, 2024

From: Deepak Parmar <Deepak.Parmar@alliancetg.com>
Sent: Friday, December 6, 2024 1:52 PM
To: Hairston, Miles (NE) <Miles.Hairston@gdit.com>
Cc: Sohil Jodhani <Sohil.Jodhani@AllianceTG.com>
Subject: Region 10 | Case 51821 | Lab ACE | Issue Discrepancies with tags, jars, and/or COC

This Message Is From an External Sender

Please use caution with links, attachments, and any requests for credentials.

Good afternoon,

As per ASR PR is not schedule for this case however on COC PR mentioned for all samples . There for Lab like to know how to proceed ?

Please see attachment for your reference.

Thanks & Regards,



Deepak Parmar

QA/QC

An Alliance Technical Group Company

Main: 908-789-8900

Direct: 908-728-3154

Address: 284 Sheffield St, Ste 1, Mountainside, NJ 07092

www.alliancetg.com



PERCENT SOLID

Supervisor: Iwona
Analyst: jignesh
Date: 12/12/2024

OVENTEMP IN Celsius(°C): 107
Time IN: 13:10
In Date: 12/11/2024
Weight Check 1.0g: 1.00
Weight Check 10g: 10.00
OvenID: M OVEN#1

OVENTEMP OUT Celsius(°C): 103
Time OUT: 07:50
Out Date: 12/12/2024
Weight Check 1.0g: 1.00
Weight Check 10g: 10.00
BalanceID: M SC-4
Thermometer ID: % SOLID- OVEN

QC:LB133888

Lab ID	Client SampleID	Dish #	Dish Wt(g) (A)	Sample Wt(g)	Dish + Sample Wt(g) (B)	Dish+Dry Sample Wt(g) (C)	% Solid	Comments
P5163-01	MJNKP7	1	1.15	8.38	9.53	7.32	73.6	
P5163-02	MJNKP7D	2	1.15	8.38	9.53	7.32	73.6	
P5163-03	MJNKP7S	3	1.15	8.38	9.53	7.32	73.6	
P5165-01	MJNKR9	4	1.15	8.81	9.96	7.51	72.2	
P5165-02	MJNKR9D	5	1.15	8.81	9.96	7.51	72.2	
P5165-03	MJNKR9S	6	1.15	8.81	9.96	7.51	72.2	
P5167-01	MJNL16	7	1.13	8.45	9.58	6.93	68.6	
P5167-02	MJNL16D	8	1.13	8.45	9.58	6.93	68.6	
P5167-03	MJNL16S	9	1.13	8.45	9.58	6.93	68.6	
P5168-01	MJNL60	10	1.17	8.60	9.77	4.87	43.0	
P5168-02	MJNL60D	11	1.17	8.60	9.77	4.87	43.0	
P5168-03	MJNL60S	12	1.17	8.60	9.77	4.87	43.0	

$$\% \text{ Solid} = \frac{(C-A) * 100}{(B-A)}$$

WORKLIST(Hardcopy Internal Chain)

133888

WorkList Name : %1-p5165

WorkList ID : 186229

Department : Wet-Chemistry

Date : 12-11-2024 11:49:03

Sample	Customer Sample	Matrix	Test	Preservative	Customer	Raw Sample Storage Location	Collect Date	Method
P5163-01	MJNKP7	Solid	Percent Solids	Cool 4 deg C	USEP01	Q32	12/04/2024	Chemtech -SO
P5163-02	MJNKP7D	Solid	Percent Solids	Cool 4 deg C	USEP01	Q32	12/04/2024	Chemtech -SO
P5163-03	MJNKP7S	Solid	Percent Solids	Cool 4 deg C	USEP01	Q32	12/04/2024	Chemtech -SO
P5165-01	MJNKR9	Solid	Percent Solids	Cool 4 deg C	USEP01	Q32	12/04/2024	Chemtech -SO
P5165-02	MJNKR9D	Solid	Percent Solids	Cool 4 deg C	USEP01	Q32	12/04/2024	Chemtech -SO
P5165-03	MJNKR9S	Solid	Percent Solids	Cool 4 deg C	USEP01	Q32	12/04/2024	Chemtech -SO
P5167-01	MJNL16	Solid	Percent Solids	Cool 4 deg C	USEP01	Q32	12/04/2024	Chemtech -SO
P5167-02	MJNL16D	Solid	Percent Solids	Cool 4 deg C	USEP01	Q32	12/04/2024	Chemtech -SO
P5167-03	MJNL16S	Solid	Percent Solids	Cool 4 deg C	USEP01	Q32	12/04/2024	Chemtech -SO
P5168-01	MJNL60	Solid	Percent Solids	Cool 4 deg C	USEP01	Q32	12/02/2024	Chemtech -SO
P5168-02	MJNL60D	Solid	Percent Solids	Cool 4 deg C	USEP01	Q32	12/02/2024	Chemtech -SO
P5168-03	MJNL60S	Solid	Percent Solids	Cool 4 deg C	USEP01	Q32	12/02/2024	Chemtech -SO

16

Date/Time 12-11-24 12:10

Raw Sample Received by: [Signature]

Raw Sample Relinquished by: [Signature]

Date/Time 12-11-24 13:15

Raw Sample Received by: [Signature]

Raw Sample Relinquished by: [Signature]

FORM 1 - IN
INORGANIC ANALYSIS DATA SHEET

MJNKR9

Lab Name: Alliance Technical Group, LLC Contract: 68HERH20D0011
Lab Code: ACE Case No.: 51821 MA No. : SDG No.: MJNKR9
Matrix: SOIL Lab Sample ID: P5165-01
% Solids: 72.2 Date Received: 12/06/2024
Analytical Method: ICP_MS
Concentration Units ($\mu\text{g/L}$, mg/L , mg/kg dry weight, μg , or $\mu\text{g/cm}^2$): mg/kg

CAS No.	Analyte	Concentration	Q	Date Analyzed	Time Analyzed
7440-38-2	Arsenic	21	*	12/13/2024	1547
7440-50-8	Copper	210	*	12/13/2024	1547
7439-92-1	Lead	63		12/13/2024	1547
7440-66-6	Zinc	150	*	12/13/2024	1547

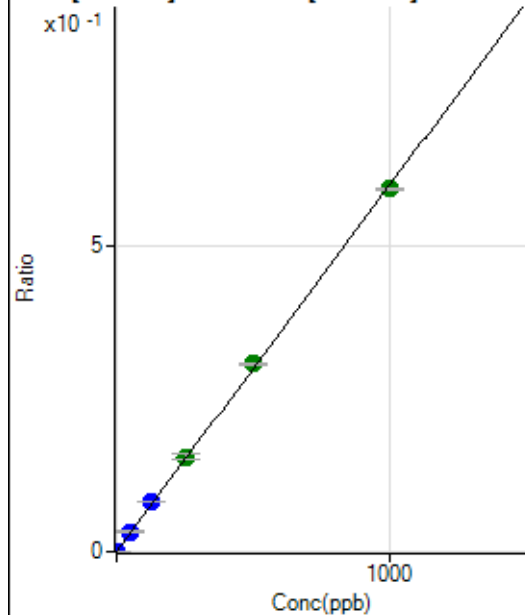
NOTE: Hardness (total) is reported in mg/L

Comments:

Batch Folder: D:\Agilent\ICPMH\1\DATA\P8121324 MS.b\
Analysis File: P8121324 MS.batch.bin
DA Date-Time: 2024-12-14 01:14:38
Calibration Title:
Calibration Method: External Calibration
VIS Interpolation Fit:

Level	Standard Data File	Sample Name	Acq. Date-Time
1	004CALB.d	S00	2024-12-13 12:46:05
2	006CALS.d	S02	2024-12-13 12:52:44
3	007CALB.d	S03	2024-12-13 12:56:02
4	008CALS.d	S04	2024-12-13 12:59:05
5	009CALS.d	S05	2024-12-13 13:01:57
6	010CALS.d	S06	2024-12-13 13:04:45
7	011CALS.d	S07	2024-12-13 13:07:30
8	012CALS.d	S08	2024-12-13 13:10:17

9 Be [No Gas] ISTD:6 Li [No Gas]



	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐	0.000	0.000	173.38	0.0000	P	3.0
2	☐	1.000	1.096	7968.02	0.0007	P	1.3
3	☐	50.000	54.252	387231.66	0.0324	P	5.4
4	☐	125.000	134.660	940954.69	0.0805	P	0.8
5	☐	250.000	258.635	1860407.74	0.1546	A	5.4
6	☐	500.000	512.133	3511199.04	0.3061	A	0.4
7	☐	1000.000	990.355	6528700.56	0.5919	A	0.5
8	☐			1598.73	0.0002	P	9.6

$$y = 5.9761E-004 * x + 1.4464E-005$$

$$R = 0.9998$$

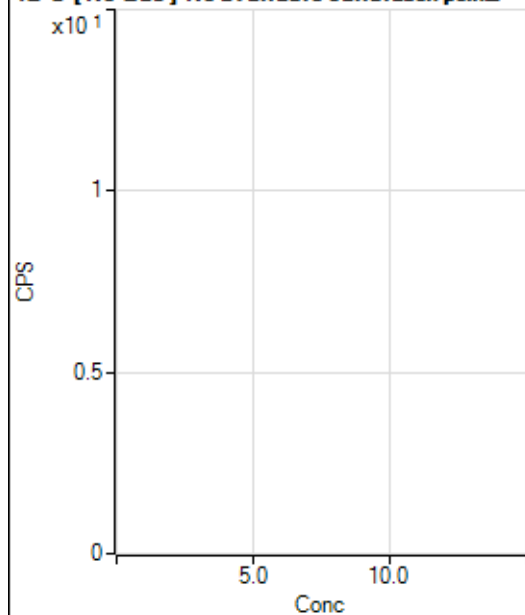
$$DL = 0.002188$$

$$BEC = 0.0242$$

Weight: <None>

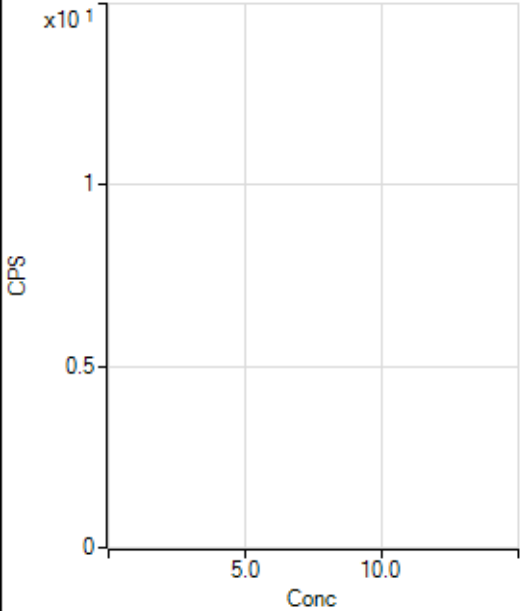
Min Conc: 0

12 C [No Gas] No available calibration points



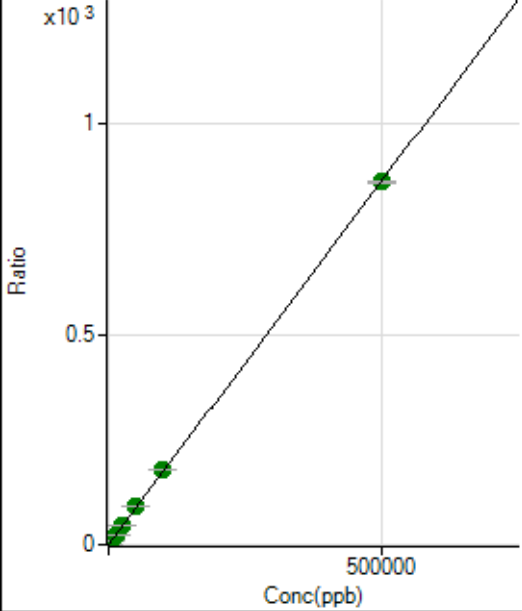
	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐			4838302.81		A	1.0
2	☐			5120772.21		A	0.6
3	☐			4655097.81		A	0.2
4	☐			4937663.61		A	0.1
5	☐			5128269.09		A	0.7
6	☐			5449089.71		A	1.8
7	☐			6172793.87		A	2.7
8	☐			5817088.25		A	1.9

12 C [He] No available calibration points



	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐			31961.38		P	0.5
2	☐			32749.76		P	0.3
3	☐			30060.76		P	2.3
4	☐			31728.61		P	1.3
5	☐			33504.83		P	2.0
6	☐			36935.25		P	0.6
7	☐			44595.17		P	0.6
8	☐			50050.33		P	0.3

23 Na [He] ISTD:45 Sc [He]



	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐	0.000	0.000	49447.79	0.1314	P	1.2
2	☐	500.000	536.923	404025.77	1.0581	P	0.7
3	☐	5000.000	5477.686	3648694.50	9.5859	A	0.5
4	☐	12500.000	13186.640	8532612.51	22.8917	A	4.1
5	☐	25000.000	26952.684	16719874.34	46.6522	A	0.8
6	☐	50000.000	52579.572	32061558.41	90.8846	A	1.5
7	☐	100000.00	102698.21	62547613.51	177.3903	A	1.0
8	☐	500000.00	499082.78	268567229.3	861.5570	A	0.3

$y = 0.0017 * x + 0.1314$

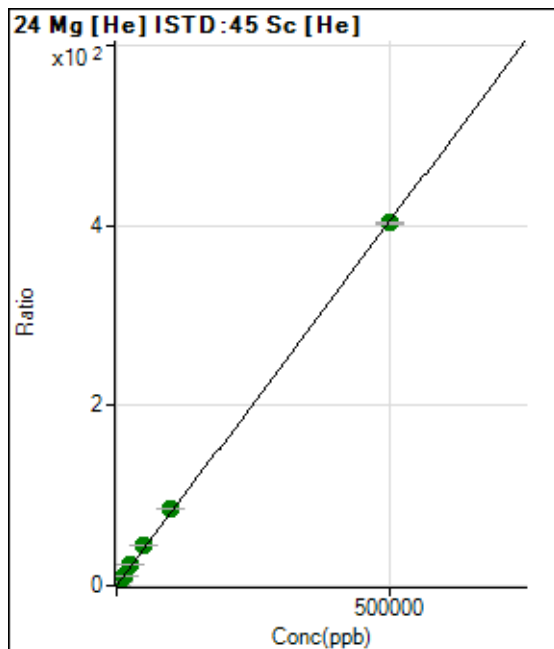
$R = 1.0000$

$DL = 2.734$

$BEC = 76.1$

Weight: <None>

Min Conc: 0



	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1357.85	0.0036	P	3.3
2	☐	500.000	574.762	179083.55	0.4690	P	0.5
3	☐	5000.000	5695.588	1756920.89	4.6153	A	1.6
4	☐	12500.000	13652.173	4121653.20	11.0578	A	4.1
5	☐	25000.000	28146.046	8168934.25	22.7935	A	0.5
6	☐	50000.000	54668.262	15616852.40	44.2687	A	1.0
7	☐	100000.00	105568.02	30140820.94	85.4823	A	0.6
8	☐	500000.00	498226.43	125755158.1	403.4190	A	0.7

$$y = 8.0970\text{E-}004 * x + 0.0036$$

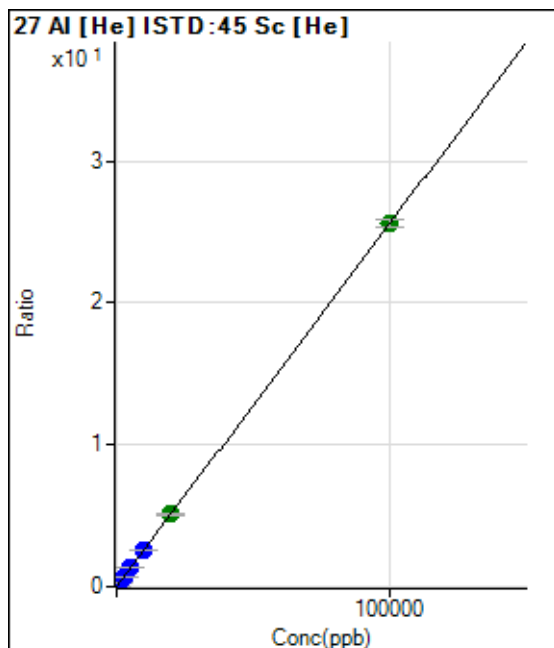
$$R = 0.9999$$

$$DL = 0.4348$$

$$BEC = 4.454$$

Weight: <None>

Min Conc: 0



	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	111.11	0.0003	P	18.8
2	☐	20.000	19.519	2017.94	0.0053	P	1.1
3	☐	1000.000	1049.408	102208.96	0.2685	P	0.9
4	☐	2500.000	2558.803	243906.54	0.6544	P	4.0
5	☐	5000.000	5182.063	474828.19	1.3249	P	0.3
6	☐	10000.000	9996.651	901568.51	2.5555	P	0.4
7	☐	20000.000	19962.202	1799263.27	5.1029	A	1.5
8	☐	100000.00	99996.827	7967275.37	25.5606	A	2.0

$$y = 2.5561\text{E-}004 * x + 2.9534\text{E-}004$$

$$R = 1.0000$$

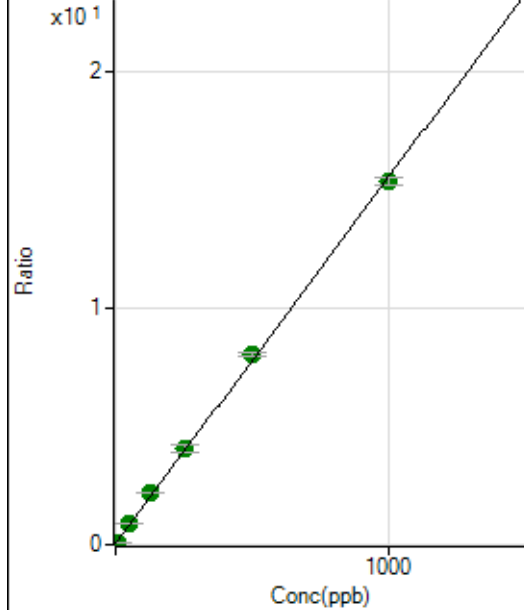
$$DL = 0.6515$$

$$BEC = 1.155$$

Weight: <None>

Min Conc: 0

28 Si [No Gas] ISTD : 45 Sc [No Gas]



	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	851987.01	0.0457	P	9.5
2	☐	10.000	0.387	955974.32	0.0517	A	1.7
3	☐	50.000	55.185	16840014.33	0.8996	A	4.4
4	☐	125.000	137.880	40104568.57	2.1790	A	1.1
5	☐	250.000	259.613	76879613.30	4.0625	A	8.4
6	☐	500.000	517.328	144696191.1	8.0500	A	1.9
7	☐	1000.000	987.160	275304467.0	15.3194	A	2.1
8	☐			934245.59	0.0606	A	3.9

$$y = 0.0155 * x + 0.0457$$

$$R = 0.9995$$

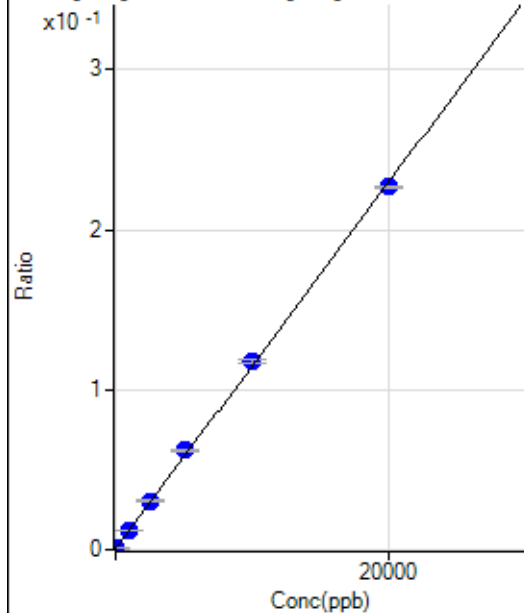
$$DL = 0.8425$$

$$BEC = 2.954$$

Weight: <None>

Min Conc: 0

31 P [He] ISTD : 45 Sc [He]



	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	-19.540	112.22	0.0003	P	17.2
2	☐	0.000	19.540	284.45	0.0007	P	14.9
3	☐	1000.000	1023.720	4659.68	0.0122	P	1.1
4	☐	2500.000	2630.444	11421.25	0.0306	P	3.6
5	☐	5000.000	5364.726	22200.38	0.0619	P	1.0
6	☐	10000.000	10267.462	41652.99	0.1181	P	1.9
7	☐	20000.000	19757.596	79944.33	0.2267	P	0.7
8	☐			122.22	0.0004	P	21.2

$$y = 1.1449E-005 * x + 5.2145E-004$$

$$R = 0.9997$$

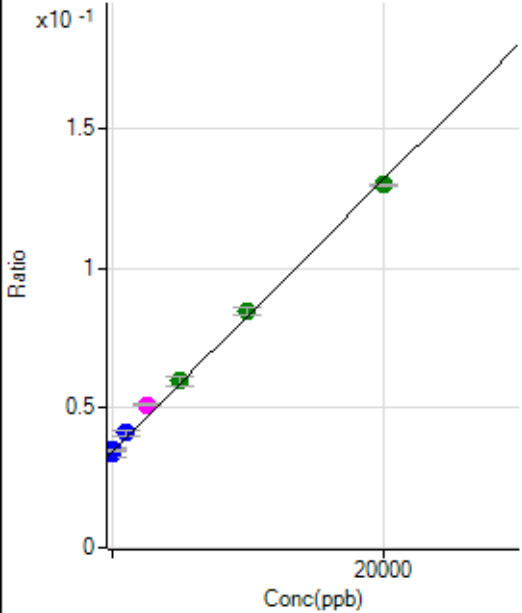
$$DL = 21.2$$

$$BEC = 45.54$$

Weight: <None>

Min Conc: 0

34 S [No Gas] ISTD:45 Sc [No Gas]



	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐	0.000	-80.903	635397.64	0.0341	P	9.0
2	☐	0.000	80.903	644852.99	0.0349	P	0.9
3	☐	1000.000	1363.420	769332.33	0.0411	P	4.2
4	☐	2500.000	3418.870	940047.08	0.0511	M	1.7
5	☐	5000.000	5176.328	1129168.59	0.0596	A	6.3
6	☐	10000.000	10331.861	1521424.77	0.0847	A	3.3
7	☐	20000.000	19656.958	2335658.30	0.1300	A	0.6
8	☐			491658.31	0.0319	P	2.0

$y = 4.8576E-006 * x + 0.0345$

R = 0.9988

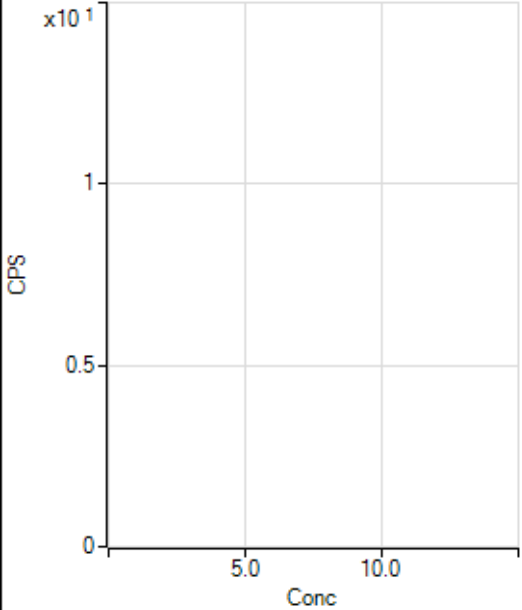
DL = 1044

BEC = 7096

Weight: <None>

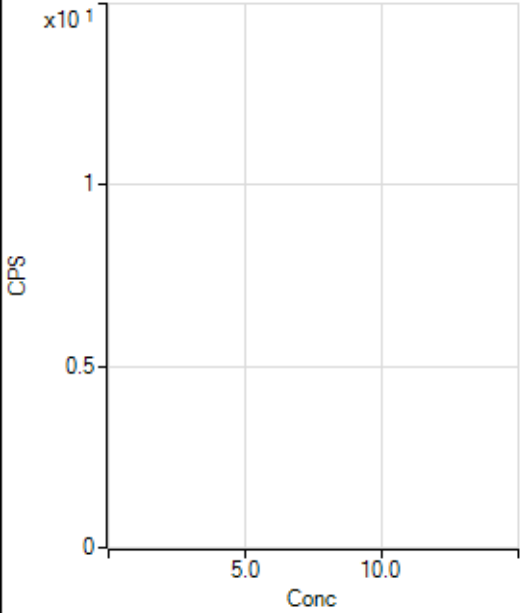
Min Conc: 0

35 Cl [No Gas] No available calibration points



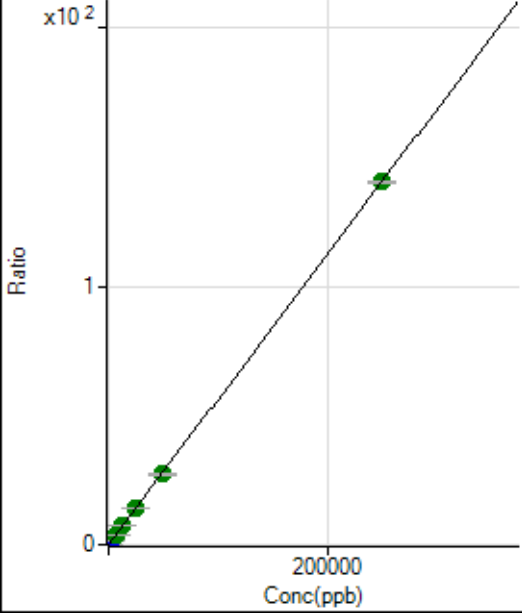
	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐			81686.47		P	0.5
2	☐			84653.22		P	0.2
3	☐			84561.76		P	0.8
4	☐			89702.20		P	1.2
5	☐			96042.49		P	2.4
6	☐			110629.83		P	0.8
7	☐			140723.12		P	2.1
8	☐			78595.17		P	2.3

35 Cl [He] No available calibration points



	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐			304.45		P	4.1
2	☐			352.23		P	9.7
3	☐			344.45		P	6.8
4	☐			345.57		P	11.4
5	☐			404.46		P	11.5
6	☐			462.23		P	4.0
7	☐			620.02		P	10.8
8	☐			316.68		P	12.1

39 K [He] ISTD:45 Sc [He]



	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐	0.000	0.000	13286.19	0.0353	P	1.2
2	☐	500.000	510.981	122908.95	0.3219	P	0.5
3	☐	2500.000	2526.188	552705.00	1.4521	P	0.7
4	☐	6250.000	6299.996	1329927.59	3.5687	A	4.9
5	☐	12500.000	12892.182	2604036.68	7.2659	A	0.7
6	☐	25000.000	24793.864	4918344.89	13.9411	A	0.4
7	☐	50000.000	48472.165	9598045.48	27.2212	A	0.7
8	☐	250000.00	250305.03	43771654.90	140.4202	A	0.8

$y = 5.6086E-004 * x + 0.0353$

$R = 1.0000$

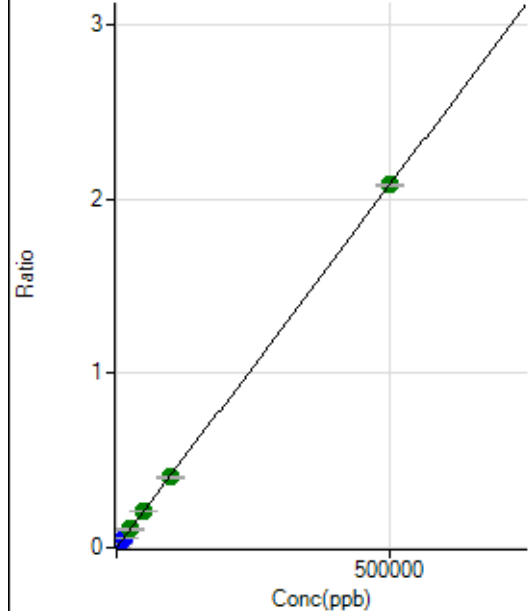
$DL = 2.314$

$BEC = 62.92$

Weight: <None>

Min Conc: 0

43 Ca [No Gas] ISTD:45 Sc [No Gas]



	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐	0.000	0.000	971.15	0.0001	P	19.0
2	☐	500.000	521.134	41035.08	0.0022	P	0.3
3	☐	5000.000	5112.827	398763.53	0.0213	P	4.8
4	☐	12500.000	12744.334	975747.22	0.0530	P	2.1
5	☐	25000.000	25242.443	1987446.53	0.1050	A	7.4
6	☐	50000.000	50962.612	3808920.25	0.2119	A	0.9
7	☐	100000.00	96971.188	7244527.11	0.4031	A	1.7
8	☐	500000.00	500490.12	32045643.97	2.0804	A	0.3

$$y = 4.1565E-006 * x + 5.2380E-005$$

$$R = 1.0000$$

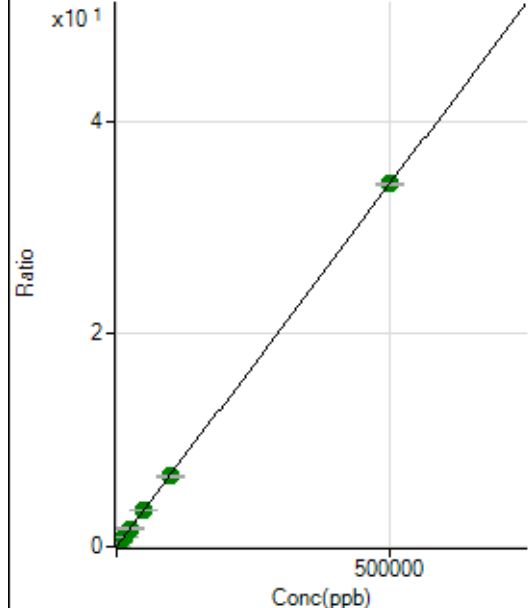
$$DL = 7.192$$

$$BEC = 12.6$$

Weight: <None>

Min Conc: 0

44 Ca [No Gas] ISTD:45 Sc [No Gas]



	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐	0.000	0.000	24943.95	0.0013	P	7.4
2	☐	500.000	521.176	681842.05	0.0369	P	0.7
3	☐	5000.000	5136.680	6579828.79	0.3515	A	4.5
4	☐	12500.000	12916.620	16228634.20	0.8818	A	1.8
5	☐	25000.000	24635.444	31806292.58	1.6807	A	8.4
6	☐	50000.000	50202.176	61544460.75	3.4235	A	1.2
7	☐	100000.00	97097.947	118976897.1	6.6203	A	1.6
8	☐	500000.00	500566.61	525638463.2	34.1238	A	0.3

$$y = 6.8168E-005 * x + 0.0013$$

$$R = 1.0000$$

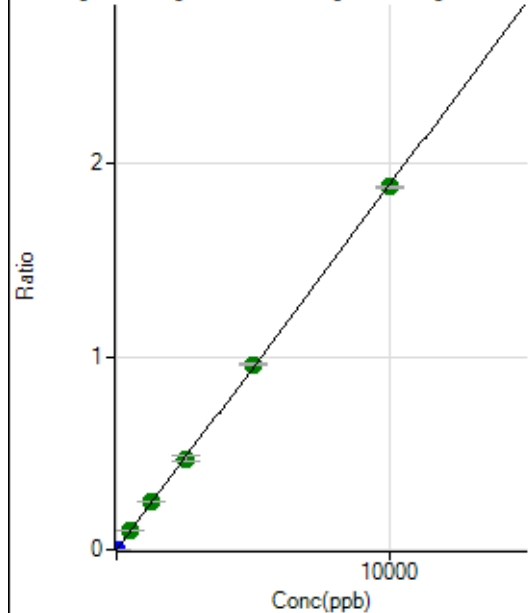
$$DL = 4.372$$

$$BEC = 19.61$$

Weight: <None>

Min Conc: 0

47 Ti [No Gas] ISTD :45 Sc [No Gas]



	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	290.00	0.0000	P	8.1
2	☐	5.000	5.295	18807.98	0.0010	P	1.1
3	☐	500.000	529.706	1875904.14	0.1002	A	4.2
4	☐	1250.000	1315.060	4577568.72	0.2487	A	1.0
5	☐	2500.000	2501.466	8954351.12	0.4731	A	8.0
6	☐	5000.000	5085.818	17293225.44	0.9618	A	0.6
7	☐	10000.000	9947.106	33809396.72	1.8812	A	0.7
8	☐			4929.80	0.0003	P	1.6

$$y = 1.8912E-004 * x + 1.5486E-005$$

$$R = 0.9999$$

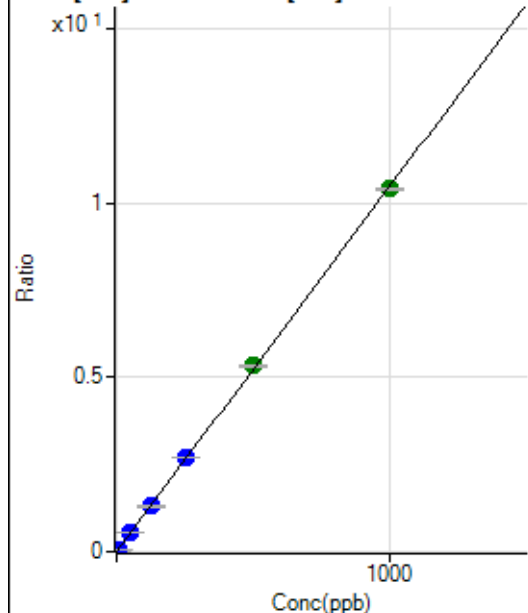
$$DL = 0.01991$$

$$BEC = 0.08188$$

Weight: <None>

Min Conc: 0

51 V [He] ISTD :45 Sc [He]



	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	12.22	0.0000	P	68.0
2	☐	5.000	5.206	20835.29	0.0546	P	1.7
3	☐	50.000	50.552	201567.42	0.5296	P	0.7
4	☐	125.000	124.532	486327.25	1.3045	P	3.4
5	☐	250.000	256.217	961908.97	2.6840	P	0.2
6	☐	500.000	509.129	1881428.53	5.3333	A	1.7
7	☐	1000.000	993.911	3671061.82	10.4115	A	0.3
8	☐			486.68	0.0016	P	8.1

$$y = 0.0105 * x + 3.2375E-005$$

$$R = 0.9999$$

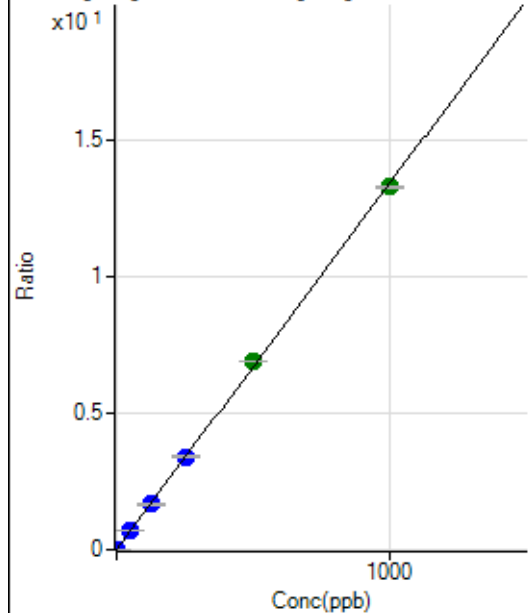
$$DL = 0.006306$$

$$BEC = 0.003091$$

Weight: <None>

Min Conc: 0

52 Cr [He] ISTD:45 Sc [He]



	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐	0.000	0.000	2024.61	0.0054	P	6.5
2	☐	2.000	2.117	12890.33	0.0338	P	1.2
3	☐	50.000	50.758	260997.06	0.6857	P	1.1
4	☐	125.000	125.160	627366.15	1.6830	P	3.9
5	☐	250.000	254.275	1223452.00	3.4137	P	0.4
6	☐	500.000	515.341	2438839.25	6.9131	A	0.6
7	☐	1000.000	991.203	4686601.18	13.2916	A	0.7
8	☐			7314.28	0.0235	P	16.7

$$y = 0.0134 * x + 0.0054$$

$$R = 0.9998$$

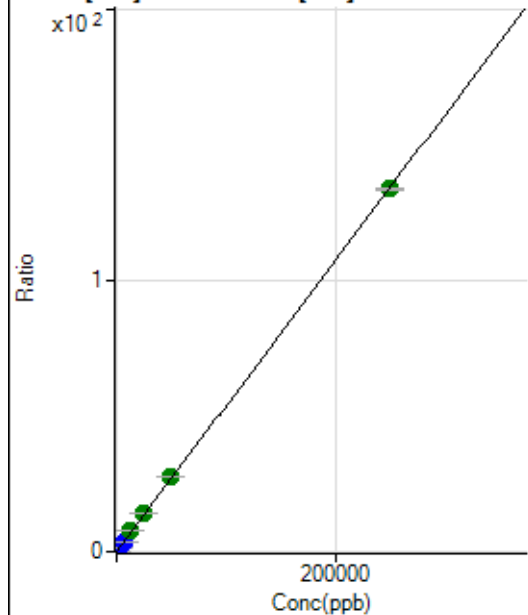
$$DL = 0.07815$$

$$BEC = 0.4013$$

Weight: <None>

Min Conc: 0

54 Fe [He] ISTD:45 Sc [He]



	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐	0.000	0.000	676.69	0.0018	P	7.9
2	☐	50.000	55.823	12125.25	0.0318	P	2.2
3	☐	2500.000	2685.015	549039.38	1.4425	P	0.8
4	☐	6250.000	6577.032	1315993.09	3.5308	P	4.3
5	☐	12500.000	13999.734	2692808.87	7.5136	A	0.9
6	☐	25000.000	26517.407	5019930.41	14.2301	A	1.4
7	☐	50000.000	51024.617	9654031.24	27.3798	A	0.3
8	☐	250000.00	249558.32	41742171.05	133.9059	A	0.8

$$y = 5.3656E-004 * x + 0.0018$$

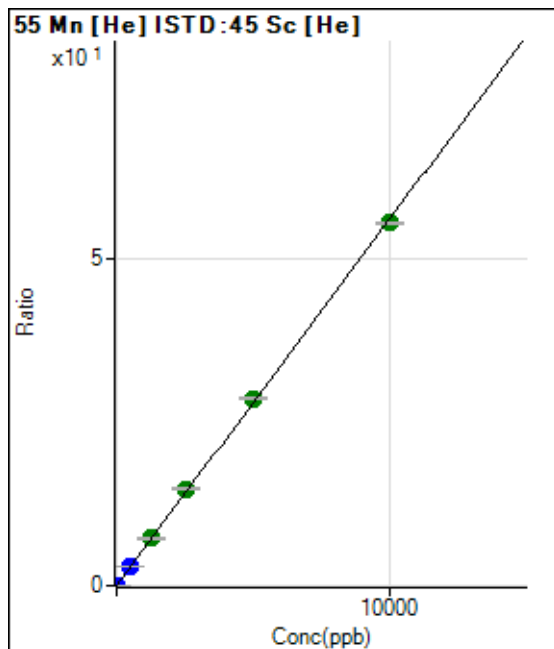
$$R = 1.0000$$

$$DL = 0.7908$$

$$BEC = 3.351$$

Weight: <None>

Min Conc: 0



	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	221.11	0.0006	P	4.8
2	☐	1.000	1.049	2469.13	0.0065	P	5.4
3	☐	500.000	513.739	1096372.02	2.8804	P	0.8
4	☐	1250.000	1298.031	2712394.16	7.2767	A	3.9
5	☐	2500.000	2642.588	5309041.38	14.8136	A	1.3
6	☐	5000.000	5109.932	10105581.31	28.6443	A	0.7
7	☐	10000.000	9902.696	19572729.71	55.5102	A	0.4
8	☐			5802.34	0.0186	P	2.6

$$y = 0.0056 * x + 5.8751E-004$$

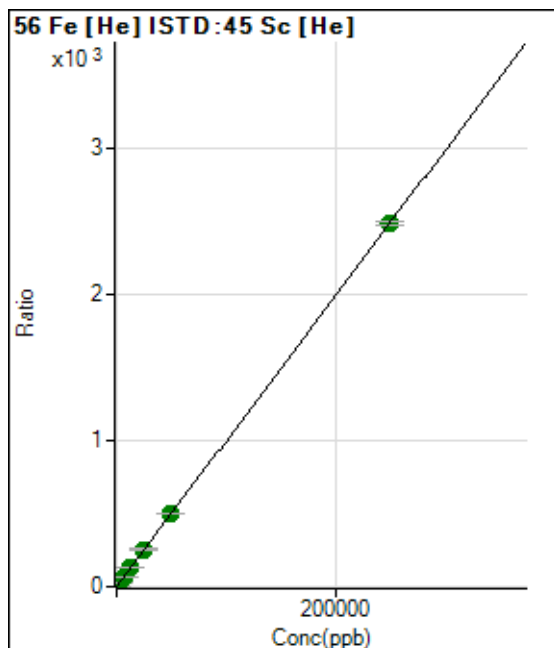
$$R = 0.9998$$

$$DL = 0.01523$$

$$BEC = 0.1048$$

Weight: <None>

Min Conc: 0



	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	8166.84	0.0217	P	2.1
2	☐	50.000	53.724	211926.91	0.5550	P	0.7
3	☐	2500.000	2647.424	10011533.46	26.3026	A	0.5
4	☐	6250.000	6558.345	24272108.53	65.1263	A	4.6
5	☐	12500.000	13354.717	47520293.74	132.5938	A	0.3
6	☐	25000.000	25817.346	90424170.87	256.3102	A	0.1
7	☐	50000.000	49888.712	174629232.9	495.2664	A	0.8
8	☐	250000.00	249888.60	773262432.9	2,480.663	A	1.1

$$y = 0.0099 * x + 0.0217$$

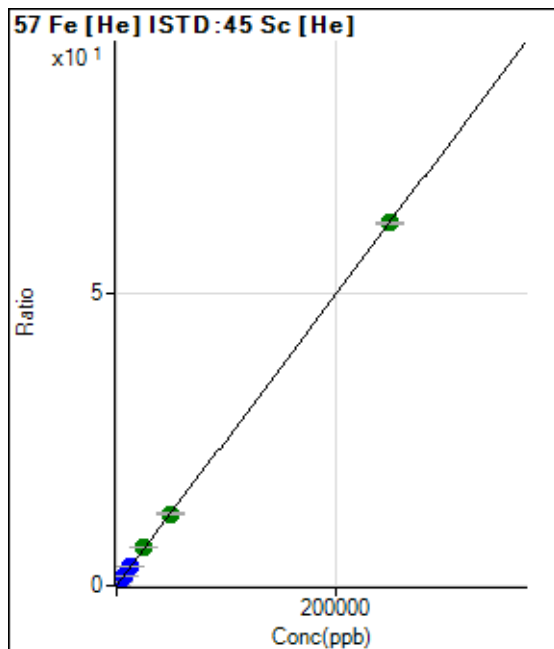
$$R = 1.0000$$

$$DL = 0.141$$

$$BEC = 2.185$$

Weight: <None>

Min Conc: 0



	R _j ct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	197.78	0.0005	P	2.1
2	☐	50.000	51.381	5088.74	0.0133	P	2.1
3	☐	2500.000	2605.813	247306.54	0.6497	P	0.1
4	☐	6250.000	6414.369	595823.19	1.5985	P	4.1
5	☐	12500.000	13116.906	1171335.28	3.2683	P	0.2
6	☐	25000.000	26176.139	2300668.53	6.5217	A	1.3
7	☐	50000.000	49663.747	4362722.96	12.3731	A	0.3
8	☐	250000.00	249913.62	19408141.24	62.2610	A	0.4

$$y = 2.4913E-004 * x + 5.2536E-004$$

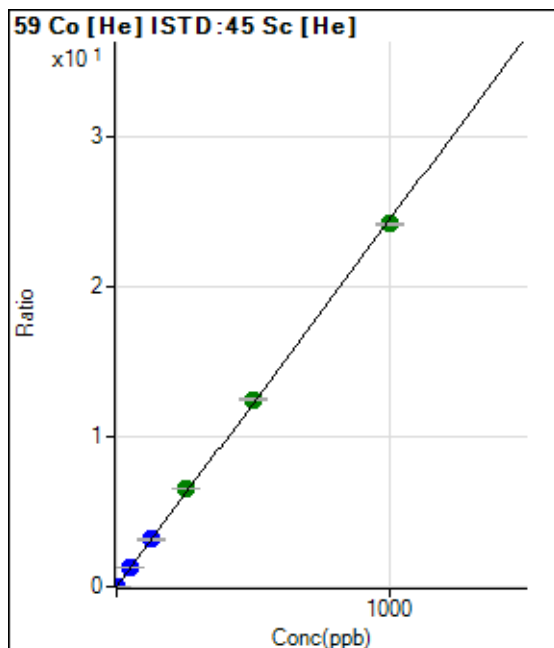
R = 1.0000

DL = 0.1317

BEC = 2.109

Weight: <None>

Min Conc: 0



	R _j ct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	117.78	0.0003	P	6.1
2	☐	1.000	1.131	10664.09	0.0279	P	2.2
3	☐	50.000	52.458	487807.94	1.2817	P	1.3
4	☐	125.000	129.001	1174588.23	3.1513	P	4.2
5	☐	250.000	268.924	2354323.84	6.5691	A	0.4
6	☐	500.000	511.010	4403652.57	12.4823	A	0.7
7	☐	1000.000	989.141	8519136.82	24.1612	A	0.5
8	☐			16217.11	0.0520	P	0.1

$$y = 0.0244 * x + 3.1288E-004$$

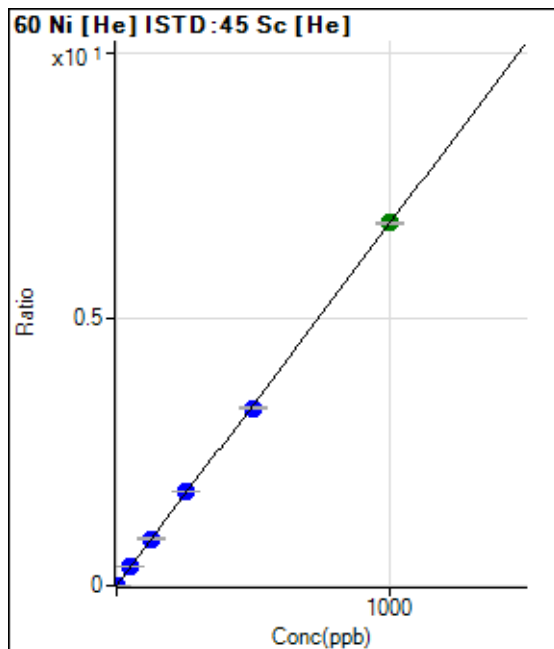
R = 0.9997

DL = 0.002349

BEC = 0.01281

Weight: <None>

Min Conc: 0



	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐	0.000	0.000	730.03	0.0019	P	6.2
2	☐	1.000	1.100	3594.94	0.0094	P	2.9
3	☐	50.000	52.158	135608.85	0.3563	P	1.4
4	☐	125.000	128.066	325050.23	0.8720	P	3.8
5	☐	250.000	259.194	631796.82	1.7629	P	0.6
6	☐	500.000	490.483	1176256.83	3.3342	P	0.5
7	☐	1000.000	1001.969	2400875.80	6.8091	A	0.9
8	☐			4942.02	0.0159	P	3.5

$$y = 0.0068 * x + 0.0019$$

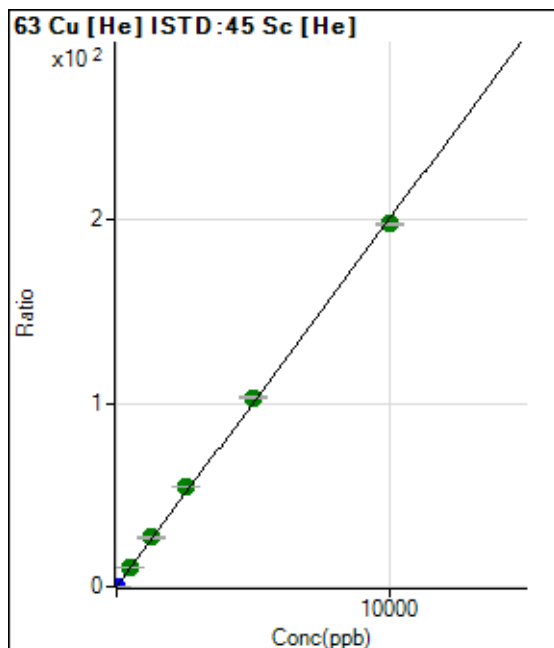
$$R = 0.9999$$

$$DL = 0.05306$$

$$BEC = 0.2854$$

Weight: <None>

Min Conc: 0



	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐	0.000	0.000	3533.80	0.0094	P	2.0
2	☐	2.000	2.091	19584.67	0.0513	P	1.5
3	☐	500.000	545.777	4166181.36	10.9457	A	0.6
4	☐	1250.000	1338.388	9999716.80	26.8281	A	4.1
5	☐	2500.000	2715.159	19502254.85	54.4159	A	0.3
6	☐	5000.000	5138.233	36324918.90	102.9696	A	1.2
7	☐	10000.000	9863.756	69694000.07	197.6599	A	0.5
8	☐			11245.67	0.0361	P	1.1

$$y = 0.0200 * x + 0.0094$$

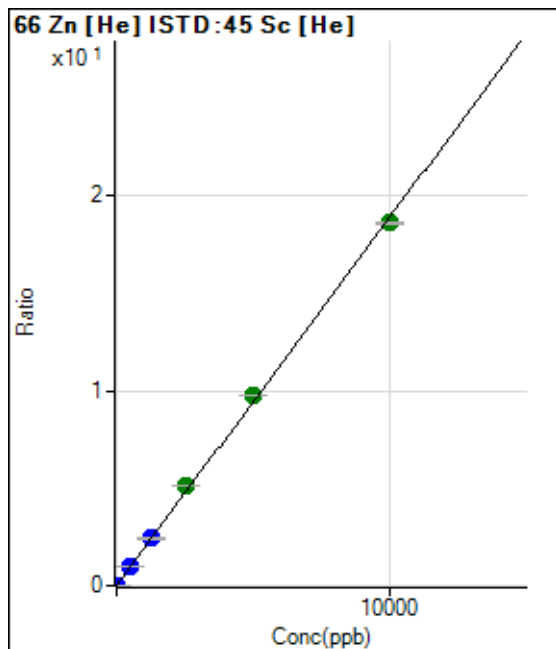
$$R = 0.9996$$

$$DL = 0.02811$$

$$BEC = 0.4684$$

Weight: <None>

Min Conc: 0



	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐	0.000	0.000	618.91	0.0016	P	2.3
2	☐	2.000	5.338	4470.74	0.0117	P	3.8
3	☐	500.000	524.842	377312.95	0.9913	P	1.0
4	☐	1250.000	1294.920	910854.19	2.4435	P	3.8
5	☐	2500.000	2704.613	1828443.88	5.1018	A	0.9
6	☐	5000.000	5166.100	3437337.38	9.7434	A	0.4
7	☐	10000.000	9858.939	6555713.10	18.5928	A	0.8
8	☐			2171.30	0.0070	P	7.5

$$y = 0.0019 * x + 0.0016$$

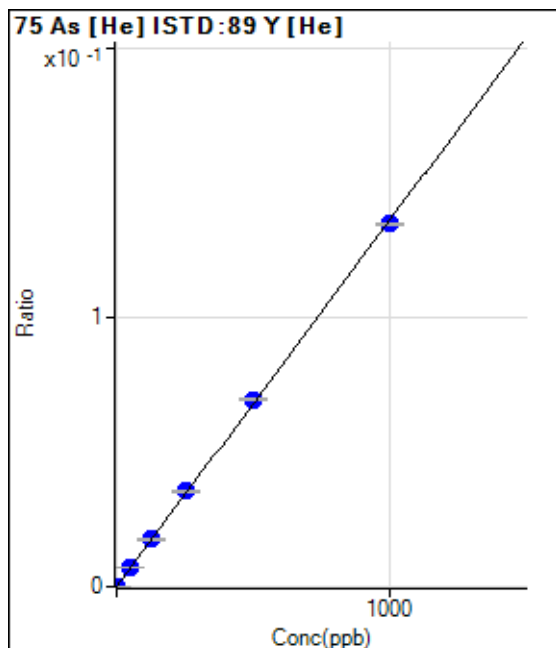
$$R = 0.9996$$

$$DL = 0.06039$$

$$BEC = 0.8717$$

Weight: <None>

Min Conc: 0



	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐	0.000	0.000	3.33	0.0000	P	99.4
2	☐	1.000	1.108	473.35	0.0002	P	3.6
3	☐	50.000	52.425	22301.05	0.0071	P	0.9
4	☐	125.000	129.277	54051.99	0.0176	P	2.5
5	☐	250.000	260.330	105988.09	0.0354	P	2.1
6	☐	500.000	511.501	201433.03	0.0696	P	0.6
7	☐	1000.000	991.011	391425.82	0.1348	P	0.8
8	☐			174.45	0.0001	P	18.8

$$y = 1.3602E-004 * x + 1.1097E-006$$

$$R = 0.9998$$

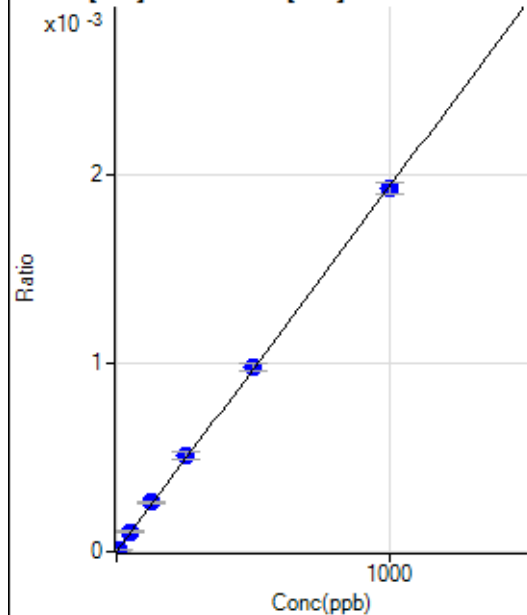
$$DL = 0.02434$$

$$BEC = 0.008159$$

Weight: <None>

Min Conc: 0

77 Se [He] ISTD:89 Y [He]



	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐	0.000	0.000	1.11	0.0000	P	173.
2	☐	5.000	4.570	28.89	0.0000	P	36.2
3	☐	50.000	53.314	324.45	0.0001	P	11.3
4	☐	125.000	134.856	805.59	0.0003	P	5.7
5	☐	250.000	261.354	1520.10	0.0005	P	7.5
6	☐	500.000	504.648	2838.09	0.0010	P	3.6
7	☐	1000.000	993.442	5602.27	0.0019	P	3.1
8	☐			4.44	0.0000	P	43.8

$$y = 1.9417\text{E-}006 * x + 3.6376\text{E-}007$$

$$R = 0.9999$$

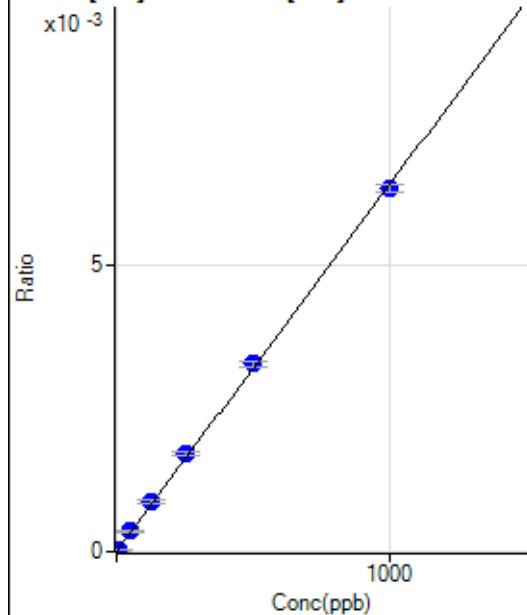
$$\text{DL} = 0.9734$$

$$\text{BEC} = 0.1873$$

Weight: <None>

Min Conc: 0

78 Se [He] ISTD:89 Y [He]



	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐	0.000	0.000	14.44	0.0000	P	14.8
2	☐	5.000	6.044	135.56	0.0000	P	4.7
3	☐	50.000	55.656	1127.83	0.0004	P	9.5
4	☐	125.000	134.814	2665.83	0.0009	P	6.5
5	☐	250.000	267.178	5133.22	0.0017	P	3.3
6	☐	500.000	511.374	9488.83	0.0033	P	3.4
7	☐	1000.000	988.504	18387.68	0.0063	P	2.0
8	☐			20.00	0.0000	P	43.9

$$y = 6.4005\text{E-}006 * x + 4.7990\text{E-}006$$

$$R = 0.9997$$

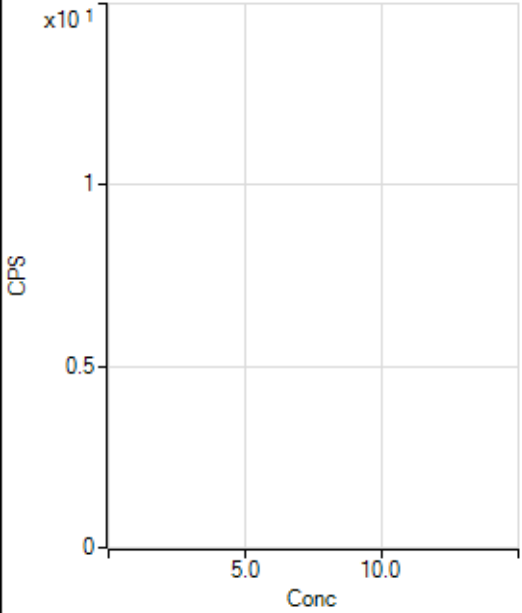
$$\text{DL} = 0.3327$$

$$\text{BEC} = 0.7498$$

Weight: <None>

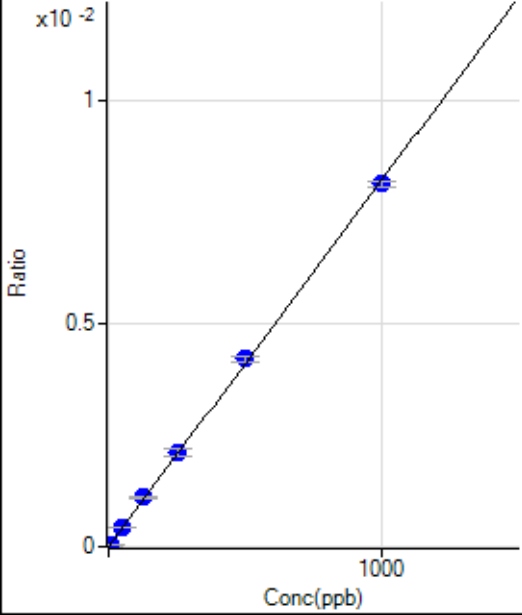
Min Conc: 0

81 Br [No Gas] No available calibration points



	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐			11236.83		P	0.1
2	☐			11687.18		P	2.8
3	☐			11433.62		P	2.3
4	☐			11653.84		P	3.5
5	☐			11229.06		P	0.5
6	☐			11062.21		P	3.6
7	☐			11042.22		P	1.4
8	☐			10995.51		P	3.8

82 Se [No Gas] ISTD:89 Y [No Gas]



	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐	0.000	0.000	32.24	0.0000	P	30.1
2	☐	5.000	5.560	1842.41	0.0000	P	5.3
3	☐	50.000	53.602	17744.96	0.0004	P	4.4
4	☐	125.000	133.904	44202.79	0.0011	P	1.2
5	☐	250.000	256.919	86064.41	0.0021	P	7.9
6	☐	500.000	512.251	164694.46	0.0042	P	2.3
7	☐	1000.000	990.849	317069.46	0.0081	P	1.4
8	☐			14.82	0.0000	P	207.

$y = 8.1940E-006 * x + 7.9631E-007$

$R = 0.9998$

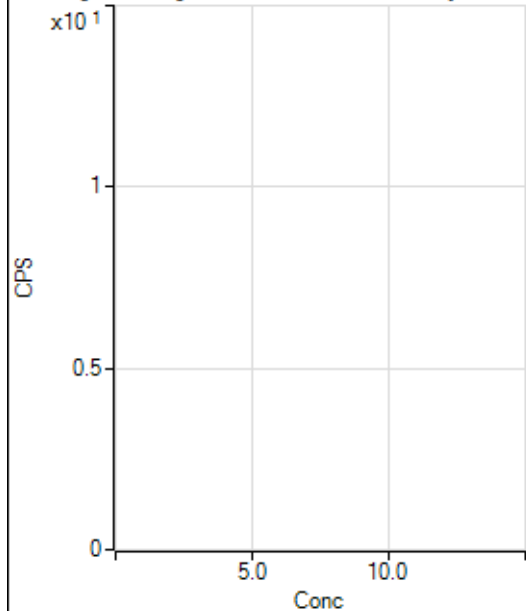
$DL = 0.08771$

$BEC = 0.09718$

Weight: <None>

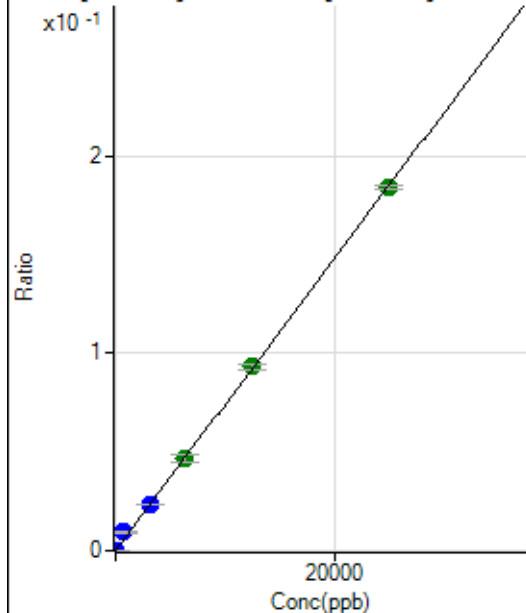
Min Conc: 0

83 Kr [No Gas] No available calibration points



	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐			263.34		P	5.8
2	☐			263.34		P	8.8
3	☐			310.01		P	11.8
4	☐			297.79		P	16.6
5	☐			373.34		P	14.0
6	☐			286.67		P	11.6
7	☐			345.56		P	3.1
8	☐			457.79		P	7.1

86 Sr [No Gas] ISTD : 89 Y [No Gas]



	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐	0.000	0.000	507.79	0.0000	P	14.1
2	☐	1.000	26.682	8329.20	0.0002	P	3.8
3	☐	625.000	1271.215	378951.79	0.0094	P	4.8
4	☐	3125.000	3146.963	935693.27	0.0232	P	1.2
5	☐	6250.000	6370.374	1921817.52	0.0470	A	8.7
6	☐	12500.000	12636.796	3660399.77	0.0933	A	3.0
7	☐	25000.000	24882.607	7174463.44	0.1837	A	1.0
8	☐			18442.28	0.0005	P	1.9

$$y = 7.3826E-006 * x + 1.2845E-005$$

$$R = 0.9997$$

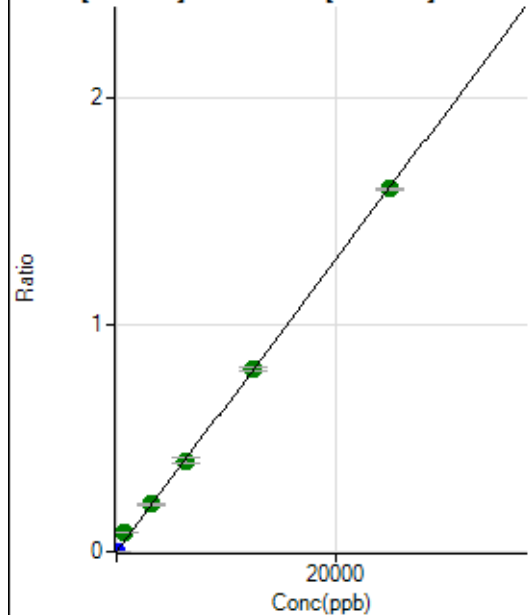
$$DL = 0.7371$$

$$BEC = 1.74$$

Weight: <None>

Min Conc: 0

88 Sr [No Gas] ISTD : 89 Y [No Gas]



	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐	0.000	0.000	494.46	0.0000	P	21.8
2	☐	1.000	26.389	67622.54	0.0017	P	0.4
3	☐	625.000	1315.110	3397564.01	0.0842	A	4.3
4	☐	3125.000	3245.592	8367932.37	0.2079	A	1.8
5	☐	6250.000	6260.291	16387271.01	0.4010	A	7.8
6	☐	12500.000	12593.542	31644471.47	0.8066	A	2.2
7	☐	25000.000	24918.329	62327071.30	1.5960	A	0.6
8	☐			157637.18	0.0046	P	1.3

$$y = 6.4050E-005 * x + 1.2575E-005$$

$$R = 0.9997$$

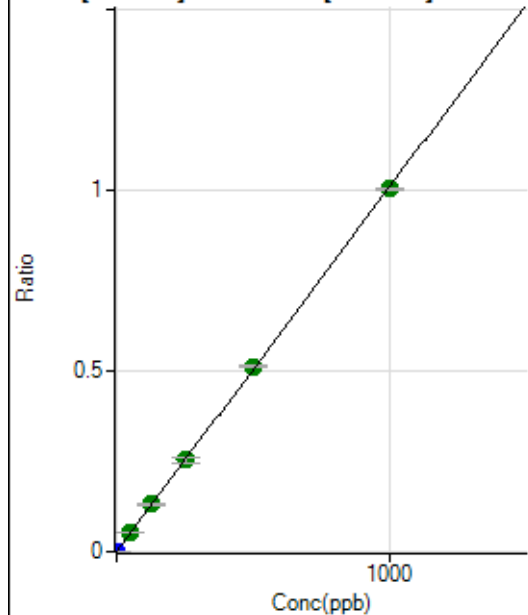
$$DL = 0.1285$$

$$BEC = 0.1963$$

Weight: <None>

Min Conc: 0

90 Zr [No Gas] ISTD : 89 Y [No Gas]



	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐	0.000	0.000	1546.77	0.0000	P	5.2
2	☐	1.000	0.998	41469.31	0.0010	P	0.5
3	☐	50.000	52.892	2150761.84	0.0533	A	4.6
4	☐	125.000	129.760	5264382.18	0.1308	A	1.8
5	☐	250.000	251.722	10374921.37	0.2537	A	6.0
6	☐	500.000	508.086	20088414.70	0.5120	A	1.2
7	☐	1000.000	994.787	39145679.14	1.0024	A	0.4
8	☐			18448.96	0.0005	P	2.2

$$y = 0.0010 * x + 3.8855E-005$$

$$R = 0.9999$$

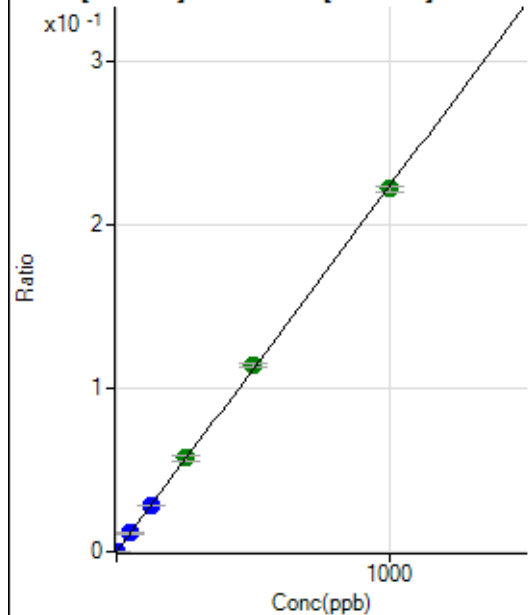
$$DL = 0.006027$$

$$BEC = 0.03856$$

Weight: <None>

Min Conc: 0

91 Zr [No Gas] ISTD : 89 Y [No Gas]



	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐	0.000	0.000	282.23	0.0000	P	6.4
2	☐	1.000	1.006	9215.34	0.0002	P	2.1
3	☐	50.000	50.372	454492.22	0.0113	P	5.4
4	☐	125.000	125.450	1129689.41	0.0281	P	1.4
5	☐	250.000	255.306	2334003.05	0.0571	A	7.8
6	☐	500.000	511.553	4488751.64	0.1144	A	2.3
7	☐	1000.000	992.822	8671494.73	0.2221	A	1.4
8	☐			4068.42	0.0001	P	1.6

$$y = 2.2366\text{E-}004 * x + 7.0434\text{E-}006$$

$$R = 0.9999$$

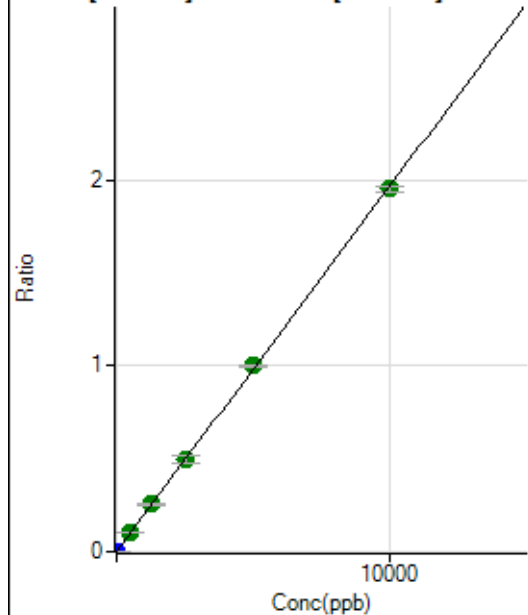
$$DL = 0.006011$$

$$BEC = 0.03149$$

Weight: <None>

Min Conc: 0

94 Mo [No Gas] ISTD : 89 Y [No Gas]



	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐	0.000	0.000	646.69	0.0000	P	8.7
2	☐	5.000	6.108	48305.80	0.0012	P	0.9
3	☐	500.000	521.005	4128162.65	0.1024	A	5.5
4	☐	1250.000	1297.512	10263976.03	0.2550	A	1.3
5	☐	2500.000	2526.570	20298686.64	0.4965	A	6.9
6	☐	5000.000	5103.923	39354599.97	1.0030	A	1.0
7	☐	10000.000	9934.406	76233000.53	1.9522	A	1.5
8	☐			13062.98	0.0004	P	8.0

$$y = 1.9651\text{E-}004 * x + 1.6279\text{E-}005$$

$$R = 0.9999$$

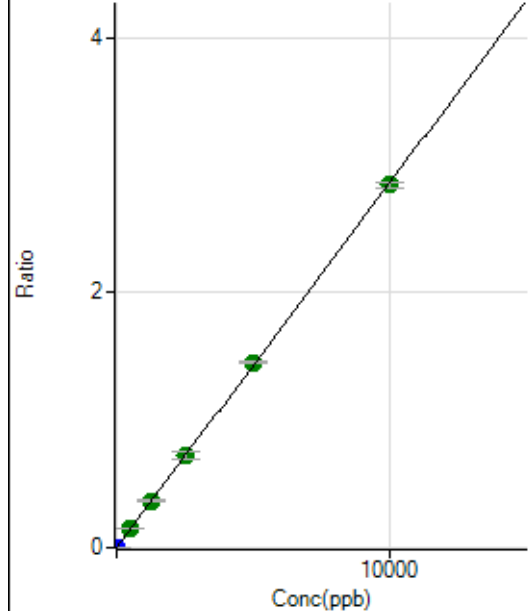
$$DL = 0.02161$$

$$BEC = 0.08284$$

Weight: <None>

Min Conc: 0

95 Mo [No Gas] ISTD:89 Y [No Gas]



	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐	0.000	0.000	413.35	0.0000	P	13.7
2	☐	5.000	5.116	58489.08	0.0015	P	1.2
3	☐	500.000	518.296	5975232.55	0.1482	A	4.5
4	☐	1250.000	1285.659	14794573.95	0.3675	A	1.1
5	☐	2500.000	2514.904	29373063.45	0.7189	A	8.5
6	☐	5000.000	5079.569	56972555.26	1.4521	A	1.4
7	☐	10000.000	9951.117	111083017.2	2.8447	A	1.3
8	☐			11715.20	0.0003	P	8.4

$$y = 2.8586E-004 * x + 1.0449E-005$$

$$R = 0.9999$$

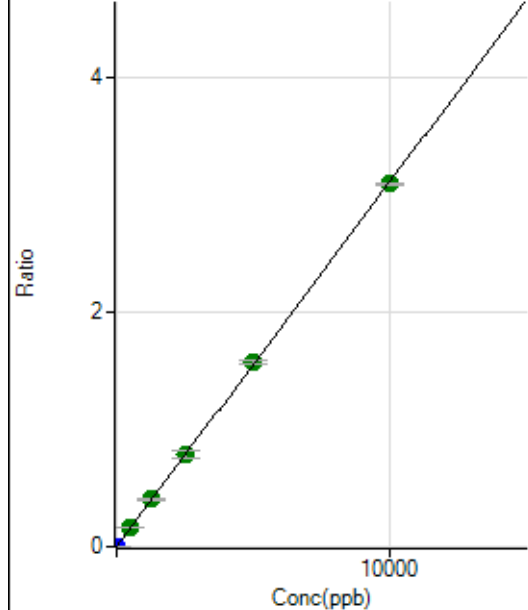
$$DL = 0.01507$$

$$BEC = 0.03655$$

Weight: <None>

Min Conc: 0

96 Mo [No Gas] ISTD:89 Y [No Gas]



	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐	0.000	0.000	488.90	0.0000	P	9.2
2	☐	5.000	5.174	64215.23	0.0016	P	3.5
3	☐	500.000	524.740	6566227.89	0.1628	A	4.6
4	☐	1250.000	1300.383	16241352.95	0.4035	A	1.6
5	☐	2500.000	2523.690	32001377.02	0.7831	A	7.9
6	☐	5000.000	5058.198	61587361.86	1.5695	A	1.6
7	☐	10000.000	9957.443	120652823.7	3.0896	A	0.4
8	☐			19500.63	0.0006	P	7.4

$$y = 3.1028E-004 * x + 1.2324E-005$$

$$R = 1.0000$$

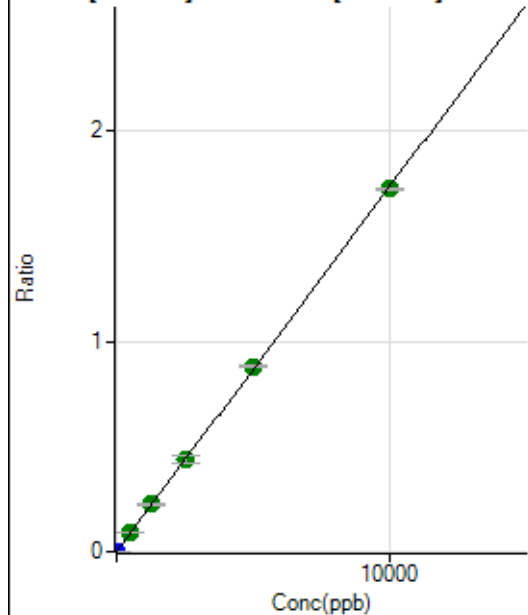
$$DL = 0.01095$$

$$BEC = 0.03972$$

Weight: <None>

Min Conc: 0

97 Mo [No Gas] ISTD:89 Y [No Gas]



	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐	0.000	0.000	217.78	0.0000	P	13.4
2	☐	5.000	5.197	36026.68	0.0009	P	0.8
3	☐	500.000	529.567	3704510.50	0.0919	A	5.4
4	☐	1250.000	1304.123	9107722.02	0.2263	A	2.1
5	☐	2500.000	2532.204	17960477.37	0.4394	A	7.1
6	☐	5000.000	5078.525	34574546.98	0.8812	A	1.6
7	☐	10000.000	9944.442	67377906.22	1.7254	A	0.7
8	☐			6633.99	0.0002	P	15.4

$y = 1.7350\text{E-}004 * x + 5.5020\text{E-}006$

$R = 0.9999$

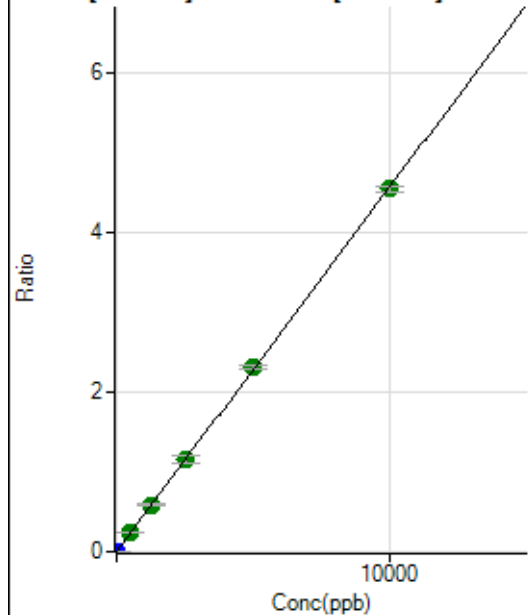
$DL = 0.01272$

$BEC = 0.03171$

Weight: <None>

Min Conc: 0

98 Mo [No Gas] ISTD:89 Y [No Gas]



	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐	0.000	0.000	565.57	0.0000	P	11.4
2	☐	5.000	5.084	92664.54	0.0023	P	1.3
3	☐	500.000	514.561	9466813.33	0.2348	A	4.8
4	☐	1250.000	1286.924	23634655.48	0.5872	A	1.1
5	☐	2500.000	2525.534	47100776.52	1.1523	A	7.2
6	☐	5000.000	5064.507	90649366.43	2.3106	A	2.3
7	☐	10000.000	9956.019	177372772.9	4.5423	A	1.4
8	☐			16260.32	0.0005	P	14.1

$y = 4.5624\text{E-}004 * x + 1.4275\text{E-}005$

$R = 1.0000$

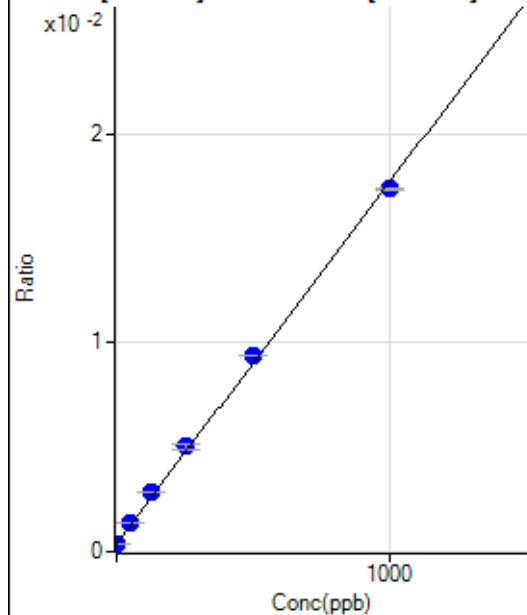
$DL = 0.01069$

$BEC = 0.03129$

Weight: <None>

Min Conc: 0

106 Cd [No Gas] ISTD :159 Tb [No Gas]



	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐	0.000	0.000	11947.50	0.0004	P	3.9
2	☐	1.000	1.368	12643.71	0.0004	P	2.0
3	☐	50.000	56.519	42865.24	0.0014	P	2.1
4	☐	125.000	142.082	89067.27	0.0028	P	1.7
5	☐	250.000	268.394	162845.50	0.0050	P	5.8
6	☐	500.000	522.087	295857.15	0.0094	P	0.1
7	☐	1000.000	981.896	551613.67	0.0174	P	0.6
8	☐			10142.70	0.0004	P	2.9

$$y = 1.7320E-005 * x + 3.7960E-004$$

$$R = 0.9994$$

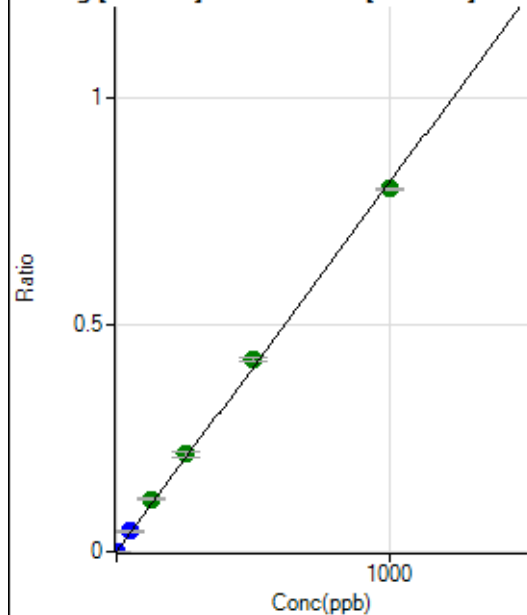
$$DL = 2.577$$

$$BEC = 21.92$$

Weight: <None>

Min Conc: 0

107 Ag [No Gas] ISTD :159 Tb [No Gas]



	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐	0.000	0.000	210.00	0.0000	P	15.0
2	☐	1.000	1.060	27196.92	0.0009	P	2.3
3	☐	50.000	54.923	1407376.13	0.0446	P	5.1
4	☐	125.000	141.738	3611621.48	0.1152	A	2.6
5	☐	250.000	264.867	6970891.28	0.2153	A	6.0
6	☐	500.000	521.604	13307616.61	0.4239	A	1.8
7	☐	1000.000	983.143	25350062.96	0.7990	A	0.4
8	☐			3220.41	0.0001	P	5.3

$$y = 8.1267E-004 * x + 6.6978E-006$$

$$R = 0.9994$$

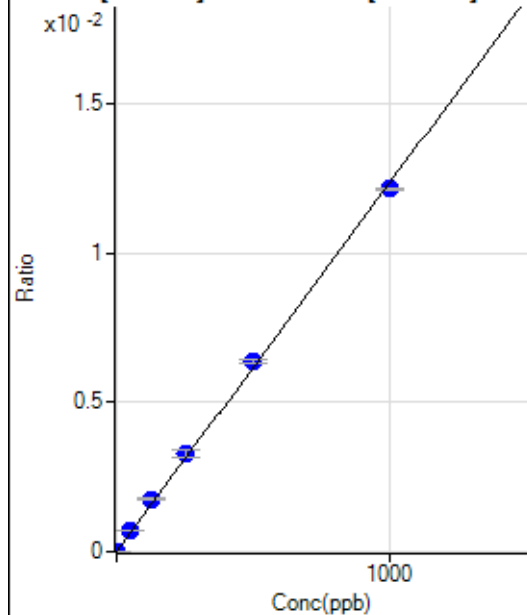
$$DL = 0.003714$$

$$BEC = 0.008242$$

Weight: <None>

Min Conc: 0

108 Cd [No Gas] ISTD :159 Tb [No Gas]



	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	26.67	0.0000	P	32.7
2	☐	1.000	1.142	467.79	0.0000	P	5.5
3	☐	50.000	56.511	21994.31	0.0007	P	4.0
4	☐	125.000	141.410	54676.78	0.0017	P	2.9
5	☐	250.000	266.657	106443.85	0.0033	P	6.9
6	☐	500.000	518.068	200503.90	0.0064	P	2.0
7	☐	1000.000	984.425	385038.32	0.0121	P	0.5
8	☐			160.00	0.0000	P	21.5

$$y = 1.2327\text{E-}005 * x + 8.4760\text{E-}007$$

$$R = 0.9995$$

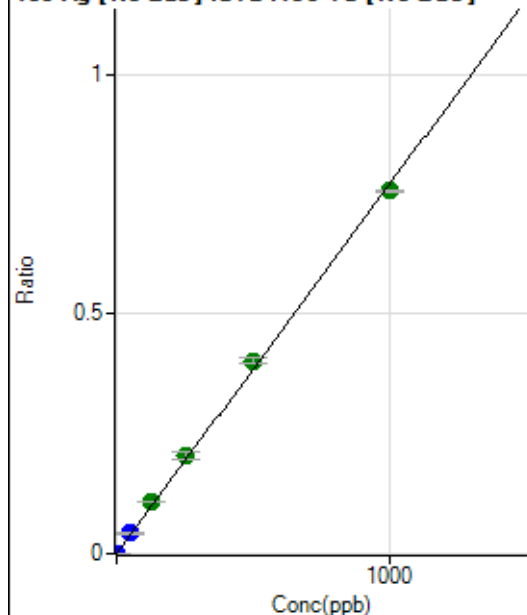
$$DL = 0.06748$$

$$BEC = 0.06876$$

Weight: <None>

Min Conc: 0

109 Ag [No Gas] ISTD :159 Tb [No Gas]



	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	81.11	0.0000	P	11.9
2	☐	1.000	1.089	26369.78	0.0008	P	0.6
3	☐	50.000	55.265	1341166.66	0.0426	P	5.9
4	☐	125.000	139.569	3369727.73	0.1075	A	1.8
5	☐	250.000	265.955	6630232.68	0.2048	A	6.3
6	☐	500.000	522.982	12639087.31	0.4026	A	2.6
7	☐	1000.000	982.436	23998036.31	0.7564	A	0.7
8	☐			2970.35	0.0001	P	5.4

$$y = 7.6989\text{E-}004 * x + 2.5873\text{E-}006$$

$$R = 0.9994$$

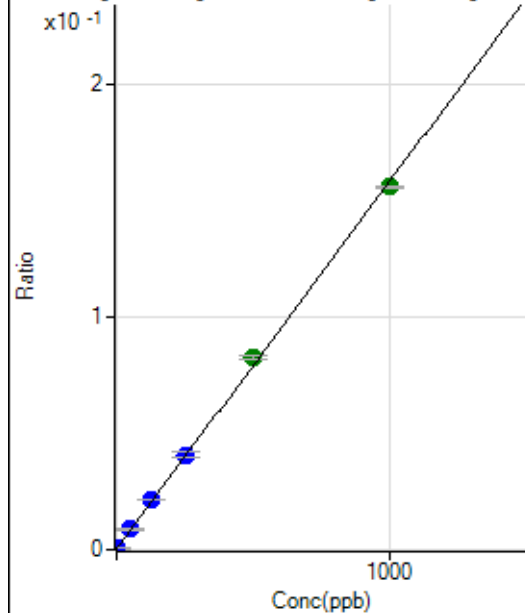
$$DL = 0.001202$$

$$BEC = 0.003361$$

Weight: <None>

Min Conc: 0

111 Cd [No Gas] ISTD :159 Tb [No Gas]



	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	8357.92	0.0003	P	4.0
2	☐	1.000	1.128	13903.13	0.0004	P	1.4
3	☐	50.000	54.358	278749.92	0.0088	P	4.7
4	☐	125.000	134.677	674523.01	0.0215	P	1.8
5	☐	250.000	256.005	1316216.68	0.0407	P	6.6
6	☐	500.000	522.520	2596342.22	0.0827	A	1.7
7	☐	1000.000	985.811	4942578.50	0.1558	A	0.8
8	☐			7550.13	0.0003	P	3.2

$$y = 1.5775\text{E-}004 * x + 2.6557\text{E-}004$$

$$R = 0.9996$$

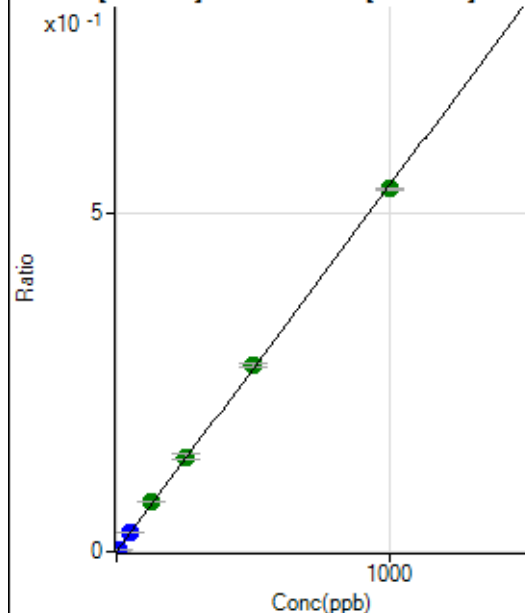
$$DL = 0.204$$

$$BEC = 1.683$$

Weight: <None>

Min Conc: 0

118 Sn [No Gas] ISTD :159 Tb [No Gas]



	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	4312.98	0.0001	P	13.2
2	☐	5.000	5.496	97386.66	0.0031	P	2.5
3	☐	50.000	53.050	907980.29	0.0288	P	4.9
4	☐	125.000	136.852	2322675.64	0.0741	A	2.7
5	☐	250.000	258.246	4523510.18	0.1397	A	5.6
6	☐	500.000	511.082	8673064.80	0.2763	A	1.9
7	☐	1000.000	990.761	16987578.64	0.5354	A	0.6
8	☐			6311.53	0.0002	P	2.7

$$y = 5.4027\text{E-}004 * x + 1.3804\text{E-}004$$

$$R = 0.9998$$

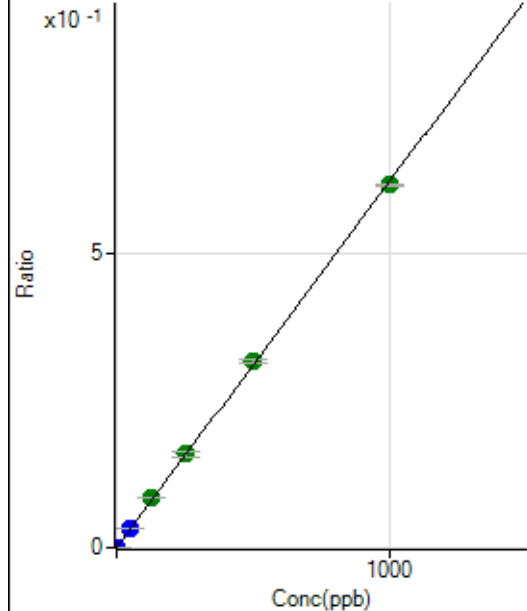
$$DL = 0.1013$$

$$BEC = 0.2555$$

Weight: <None>

Min Conc: 0

121 Sb [No Gas] ISTD :159 Tb [No Gas]



	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	46.67	0.0000	P	32.1
2	☐	2.000	2.139	41774.70	0.0013	P	1.2
3	☐	50.000	52.565	1031682.19	0.0327	P	4.8
4	☐	125.000	136.674	2667272.06	0.0851	A	3.1
5	☐	250.000	256.738	5175725.13	0.1598	A	5.9
6	☐	500.000	511.121	9988130.96	0.3182	A	2.1
7	☐	1000.000	991.168	19575429.43	0.6170	A	0.2
8	☐			5815.74	0.0002	P	5.1

$$y = 6.2247E-004 * x + 1.4878E-006$$

$$R = 0.9998$$

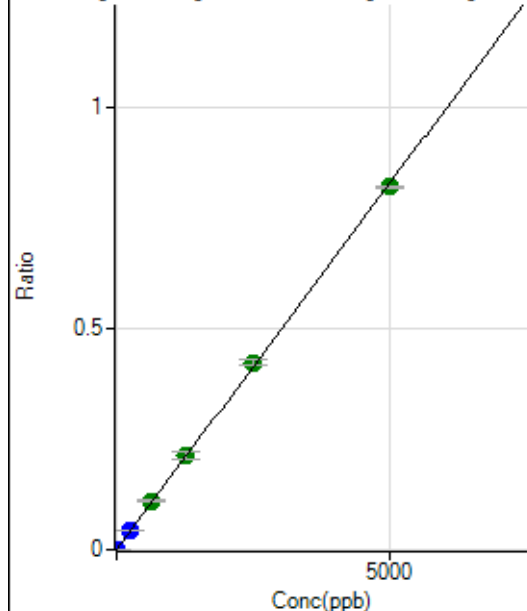
$$DL = 0.0023$$

$$BEC = 0.00239$$

Weight: <None>

Min Conc: 0

135 Ba [No Gas] ISTD :159 Tb [No Gas]



	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	98.89	0.0000	P	16.0
2	☐	10.000	10.361	53794.10	0.0017	P	2.3
3	☐	250.000	260.292	1357261.66	0.0430	P	4.6
4	☐	625.000	669.590	3471786.30	0.1107	A	2.4
5	☐	1250.000	1284.545	6877637.54	0.2124	A	6.7
6	☐	2500.000	2556.629	13270538.13	0.4228	A	2.8
7	☐	5000.000	4956.960	26007601.56	0.8197	A	0.2
8	☐			8522.75	0.0003	P	2.8

$$y = 1.6536E-004 * x + 3.1658E-006$$

$$R = 0.9999$$

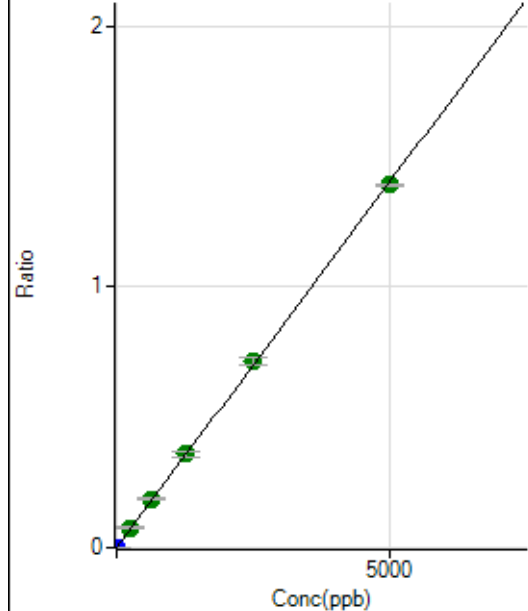
$$DL = 0.009209$$

$$BEC = 0.01914$$

Weight: <None>

Min Conc: 0

137 Ba [No Gas] ISTD :159 Tb [No Gas]



	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐	0.000	0.000	170.00	0.0000	P	11.9
2	☐	10.000	10.616	93410.90	0.0030	P	0.9
3	☐	250.000	273.898	2419894.30	0.0768	A	5.4
4	☐	625.000	661.566	5812144.43	0.1854	A	3.2
5	☐	1250.000	1286.393	11672686.22	0.3605	A	6.2
6	☐	2500.000	2542.474	22359159.67	0.7124	A	3.9
7	☐	5000.000	4963.898	44130861.56	1.3909	A	0.2
8	☐			14411.17	0.0005	P	2.1

$y = 2.8021E-004 * x + 5.4365E-006$

R = 0.9999

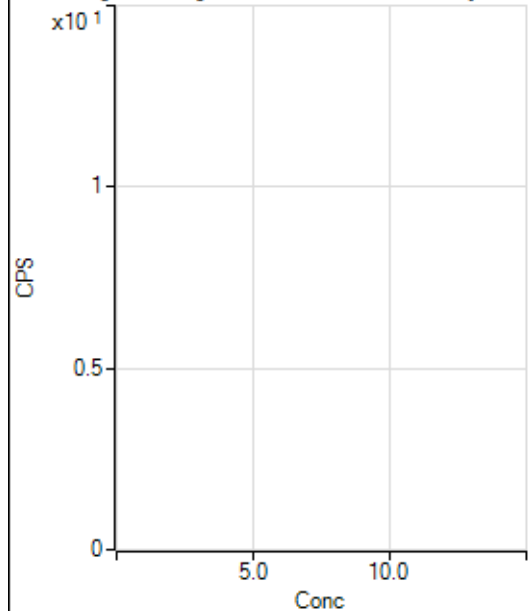
DL = 0.006939

BEC = 0.0194

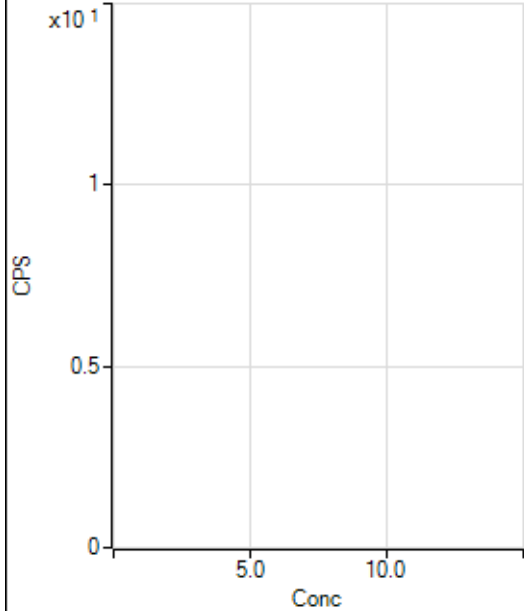
Weight: <None>

Min Conc: 0

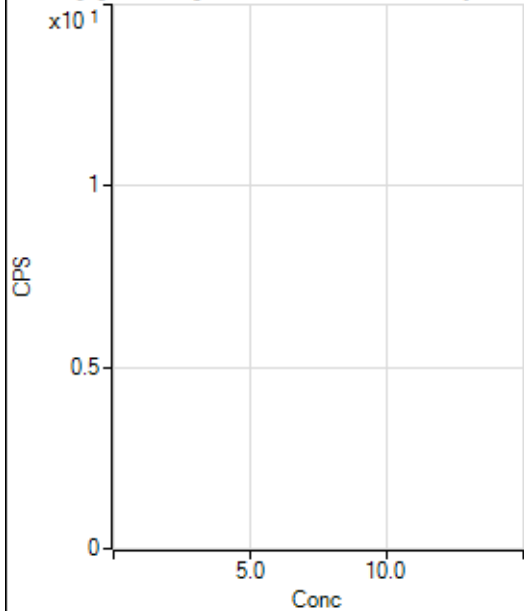
150 Nd [No Gas] No available calibration points



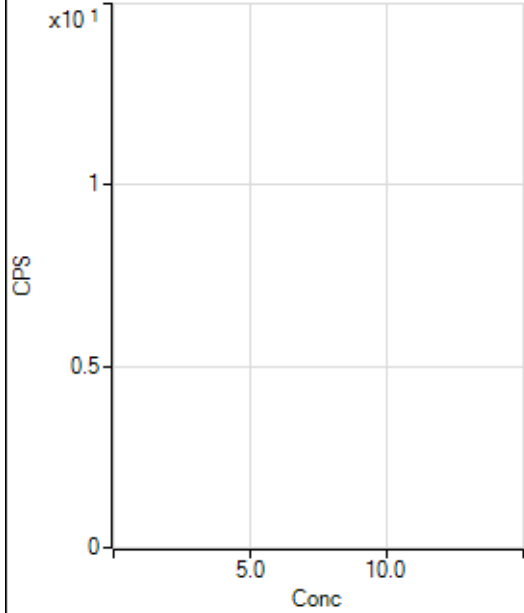
	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐			21.11		P	24.1
2	☐			23.33		P	14.3
3	☐			136.67		P	12.9
4	☐			291.12		P	5.8
5	☐			594.46		P	5.8
6	☐			1210.06		P	2.0
7	☐			2247.99		P	1.0
8	☐			387.79		P	9.5

150 Nd [He] No available calibration points

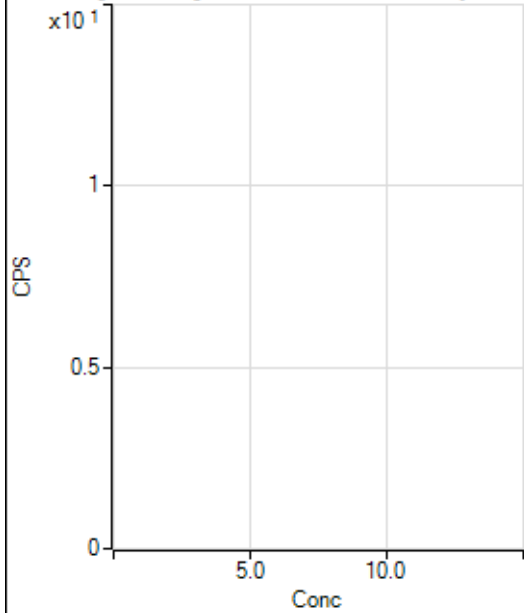
	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐			0.00		P	
2	☐			3.33		P	100.
3	☐			11.11		P	75.5
4	☐			18.89		P	20.4
5	☐			42.22		P	25.4
6	☐			87.78		P	11.0
7	☐			148.89		P	16.2
8	☐			110.00		P	8.0

156 Dy [No Gas] No available calibration points

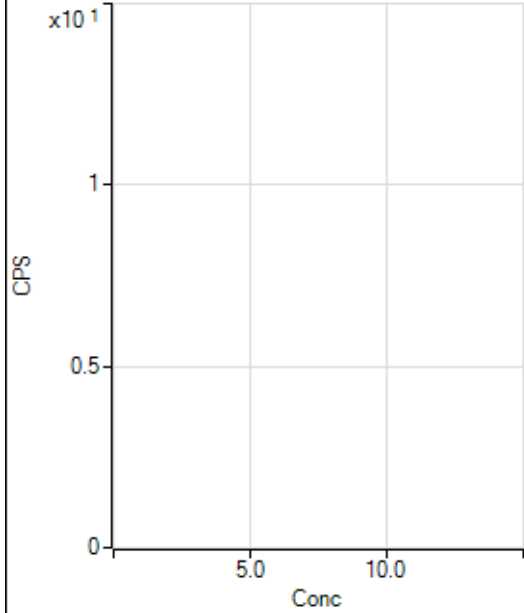
	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐			7.78		P	24.7
2	☐			18.89		P	66.8
3	☐			62.22		P	34.4
4	☐			108.89		P	11.6
5	☐			177.78		P	19.2
6	☐			335.57		P	4.1
7	☐			668.91		P	4.7
8	☐			725.58		P	7.2

156 Dy [He] No available calibration points

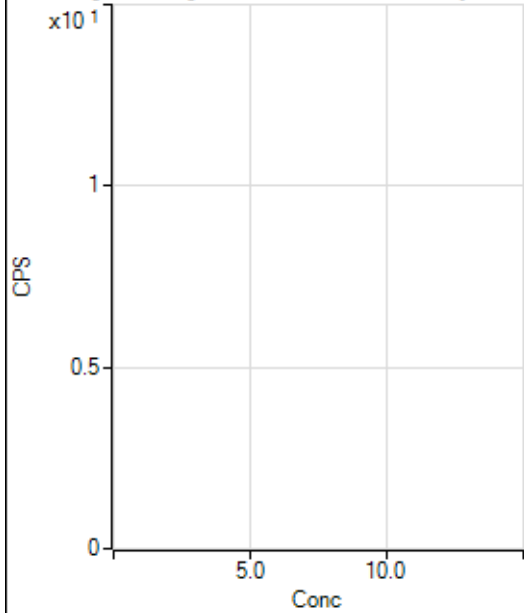
	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐			3.33		P	100.
2	☐			11.11		P	34.6
3	☐			10.00		P	88.2
4	☐			26.66		P	57.3
5	☐			44.45		P	8.7
6	☐			65.56		P	19.2
7	☐			128.89		P	3.9
8	☐			254.45		P	7.4

160 Gd [No Gas] Noavailable calibration poin...

	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐			181.11		P	14.9
2	☐			200.01		P	23.5
3	☐			220.01		P	18.4
4	☐			228.89		P	19.0
5	☐			243.34		P	7.6
6	☐			362.23		P	12.0
7	☐			542.24		P	3.2
8	☐			797.81		P	5.4

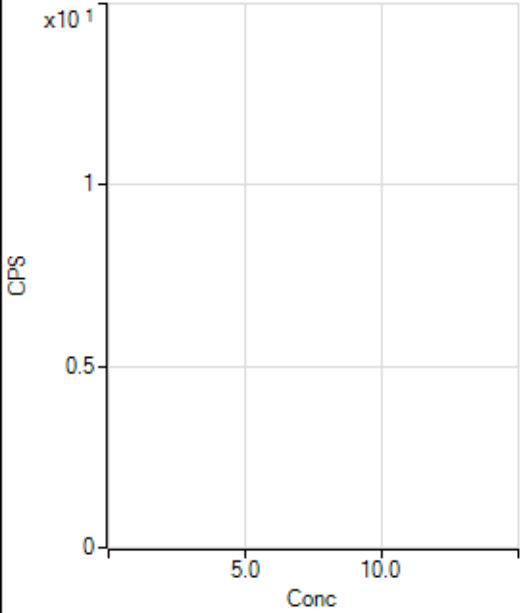
160 Gd [He] No available calibration points

	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐			37.78		P	22.2
2	☐			42.22		P	44.9
3	☐			38.89		P	47.2
4	☐			61.11		P	19.2
5	☐			76.67		P	15.7
6	☐			96.67		P	6.0
7	☐			183.34		P	25.5
8	☐			353.34		P	8.2

164 Er [No Gas] No available calibration points

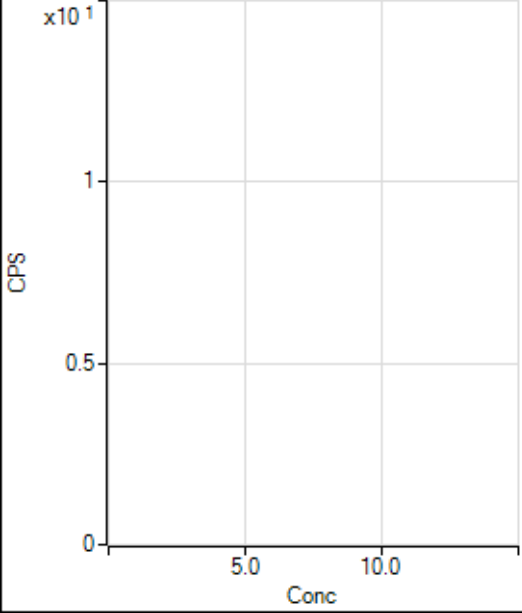
	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐			114.45		P	6.1
2	☐			126.67		P	16.0
3	☐			162.22		P	9.7
4	☐			233.34		P	3.8
5	☐			325.57		P	11.9
6	☐			430.01		P	6.3
7	☐			622.24		P	8.8
8	☐			833.37		P	5.0

164 Er [He] No available calibration points



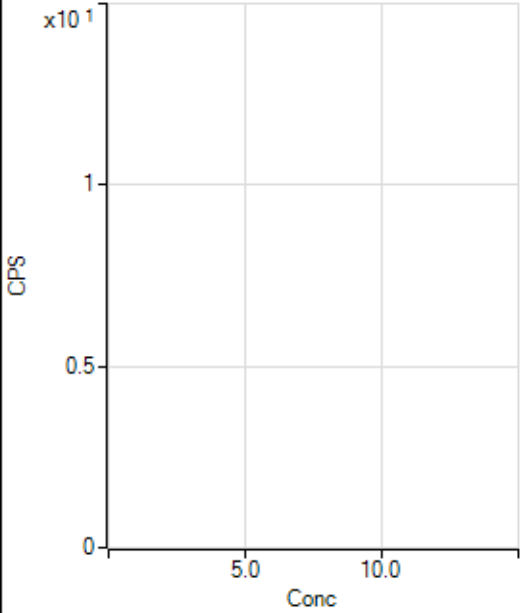
	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐			30.00		P	40.1
2	☐			46.67		P	18.9
3	☐			54.45		P	7.1
4	☐			85.55		P	27.4
5	☐			106.67		P	9.4
6	☐			120.00		P	43.7
7	☐			193.34		P	22.8
8	☐			294.45		P	9.9

172 Yb [No Gas] No available calibration points



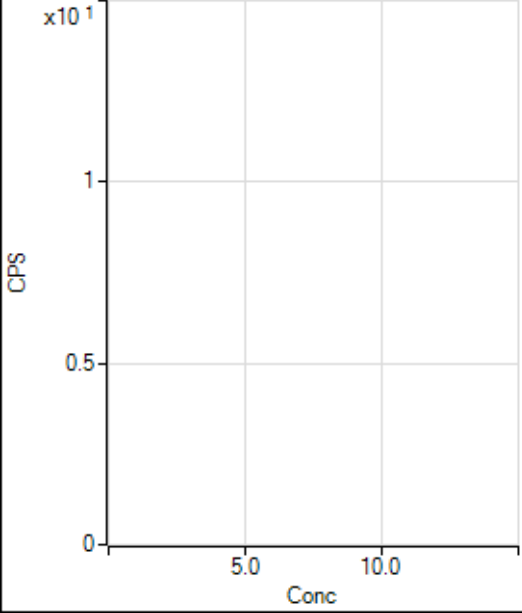
	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐			161.11		P	24.0
2	☐			146.67		P	3.9
3	☐			196.67		P	16.3
4	☐			261.11		P	14.8
5	☐			278.89		P	10.0
6	☐			390.01		P	3.1
7	☐			636.69		P	6.0
8	☐			926.71		P	7.6

172 Yb [He] No available calibration points



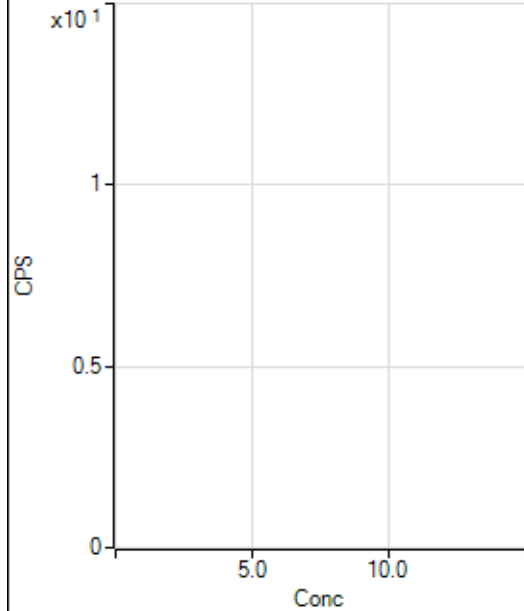
	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐			64.44		P	25.5
2	☐			57.78		P	13.3
3	☐			73.33		P	29.8
4	☐			97.78		P	13.8
5	☐			124.45		P	20.3
6	☐			153.34		P	23.9
7	☐			280.01		P	18.0
8	☐			438.90		P	19.7

176 Yb [No Gas] No available calibration points



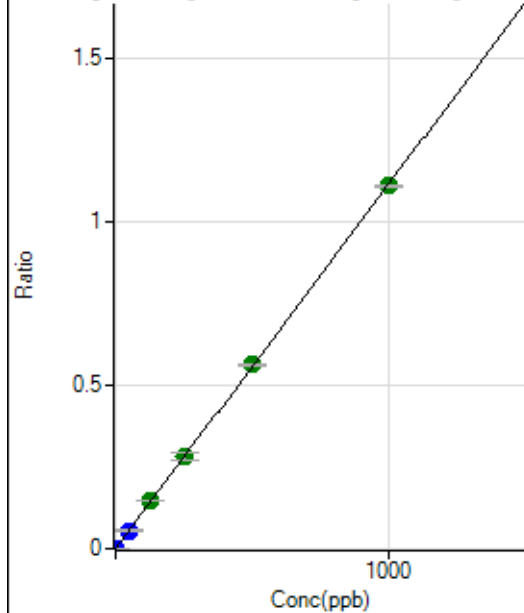
	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐			3708.34		P	9.3
2	☐			3707.23		P	4.3
3	☐			8801.90		P	2.1
4	☐			15836.25		P	1.4
5	☐			28161.22		P	0.5
6	☐			51204.37		P	1.1
7	☐			96699.56		P	0.9
8	☐			3835.04		P	2.6

176 Yb [He] No available calibration points



	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐			991.16		P	6.3
2	☐			826.70		P	6.3
3	☐			2710.31		P	1.2
4	☐			5313.34		P	3.0
5	☐			9595.81		P	2.2
6	☐			17444.95		P	1.2
7	☐			34173.07		P	0.6
8	☐			950.04		P	5.2

203 Tl [No Gas] ISTD : 209 Bi [No Gas]



	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	165.56	0.0000	P	25.4
2	☐	1.000	1.003	20871.28	0.0011	P	3.1
3	☐	50.000	50.010	1041612.21	0.0558	P	4.5
4	☐	125.000	131.226	2704889.54	0.1464	A	1.9
5	☐	250.000	253.274	5349935.92	0.2825	A	6.6
6	☐	500.000	504.842	10141066.93	0.5630	A	0.6
7	☐	1000.000	995.982	19876028.04	1.1108	A	0.3
8	☐			1203.41	0.0001	P	22.1

$$y = 0.0011 * x + 8.9821E-006$$

$$R = 1.0000$$

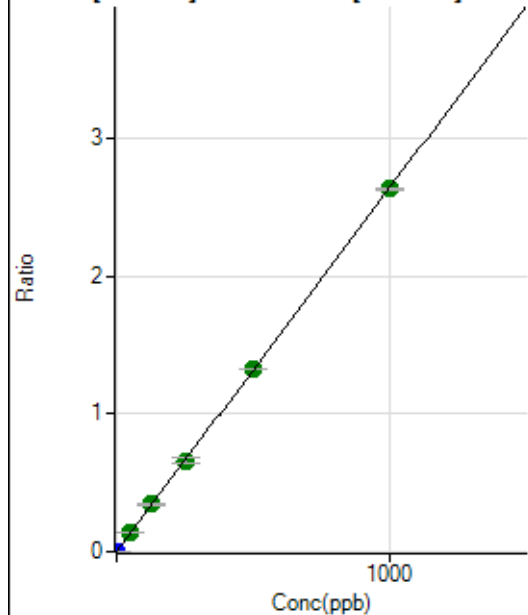
$$DL = 0.00613$$

$$BEC = 0.008054$$

Weight: <None>

Min Conc: 0

205 Tl [No Gas] ISTD :209 Bi [No Gas]



	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐	0.000	0.000	381.12	0.0000	P	2.8
2	☐	1.000	1.006	49588.94	0.0027	P	1.7
3	☐	50.000	51.798	2556518.09	0.1369	A	4.2
4	☐	125.000	129.638	6330215.18	0.3426	A	3.3
5	☐	250.000	251.149	12567836.34	0.6637	A	7.1
6	☐	500.000	502.782	23932527.98	1.3287	A	0.4
7	☐	1000.000	997.652	47175521.52	2.6364	A	0.3
8	☐			2823.69	0.0002	P	16.6

$$y = 0.0026 * x + 2.0448E-005$$

$$R = 1.0000$$

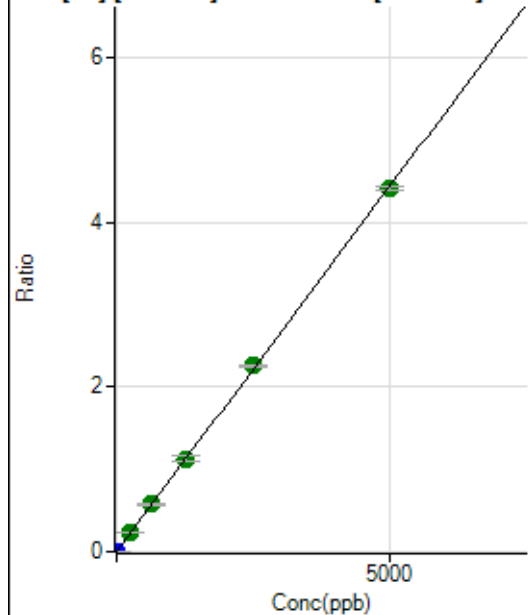
$$DL = 0.0006551$$

$$BEC = 0.007738$$

Weight: <None>

Min Conc: 0

206 [Pb] [No Gas] ISTD :209 Bi [No Gas]



	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐	0.000	0.000	1093.39	0.0001	P	10.0
2	☐	1.000	0.995	17439.56	0.0009	P	2.9
3	☐	250.000	264.512	4387140.98	0.2349	A	3.8
4	☐	625.000	651.092	10683633.59	0.5781	A	2.4
5	☐	1250.000	1267.441	21316000.38	1.1253	A	6.2
6	☐	2500.000	2545.780	40709414.11	2.2603	A	1.2
7	☐	5000.000	4968.763	78936059.93	4.4115	A	0.9
8	☐			10152.95	0.0007	P	1.7

$$y = 8.8783E-004 * x + 5.8923E-005$$

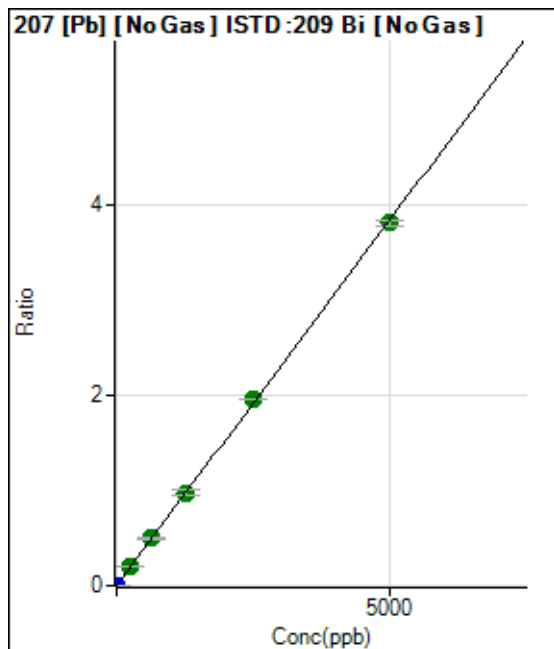
$$R = 0.9999$$

$$DL = 0.02$$

$$BEC = 0.06637$$

Weight: <None>

Min Conc: 0



	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐	0.000	0.000	1020.05	0.0001	P	7.6
2	☐	1.000	1.013	15437.08	0.0008	P	4.5
3	☐	250.000	264.240	3796890.95	0.2033	A	4.8
4	☐	625.000	651.221	9257092.71	0.5011	A	4.0
5	☐	1250.000	1265.965	18448205.14	0.9740	A	6.5
6	☐	2500.000	2551.927	35363620.86	1.9634	A	0.7
7	☐	5000.000	4966.055	68362541.20	3.8207	A	1.8
8	☐			8778.62	0.0006	P	3.6

$$y = 7.6935E-004 * x + 5.4896E-005$$

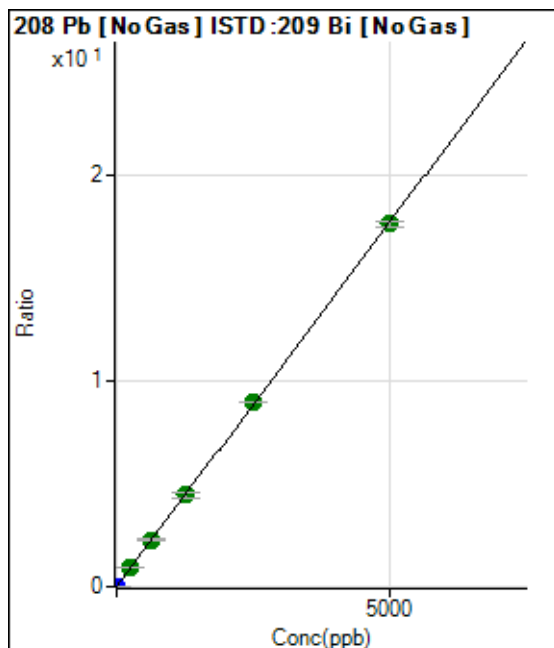
$$R = 0.9999$$

$$DL = 0.0163$$

$$BEC = 0.07135$$

Weight: <None>

Min Conc: 0



	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐	0.000	0.000	4421.46	0.0002	P	8.2
2	☐	1.000	1.005	70430.99	0.0038	P	2.1
3	☐	250.000	261.300	17309940.40	0.9270	A	4.7
4	☐	625.000	646.399	42365062.63	2.2930	A	3.6
5	☐	1250.000	1257.129	84444993.74	4.4592	A	6.8
6	☐	2500.000	2530.335	161657695.3	8.9751	A	0.6
7	☐	5000.000	4979.810	316049160.8	17.6632	A	1.3
8	☐			40682.64	0.0028	P	2.3

$$y = 0.0035 * x + 2.3802E-004$$

$$R = 1.0000$$

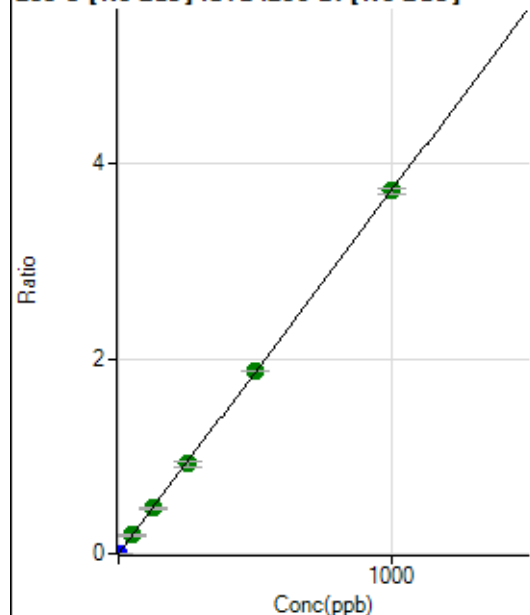
$$DL = 0.01648$$

$$BEC = 0.06711$$

Weight: <None>

Min Conc: 0

238 U [No Gas] ISTD :209 Bi [No Gas]



	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐	0.000	0.000	48.89	0.0000	P	46.4
2	☐	1.000	0.968	66752.91	0.0036	P	2.5
3	☐	50.000	50.320	3498483.94	0.1874	A	5.4
4	☐	125.000	124.648	8577221.75	0.4642	A	3.2
5	☐	250.000	246.433	17369832.80	0.9177	A	8.2
6	☐	500.000	503.587	33779443.11	1.8754	A	0.6
7	☐	1000.000	999.126	66583117.34	3.7208	A	1.5
8	☐			1883.58	0.0001	P	12.4

$$y = 0.0037 * x + 2.6723E-006$$

$$R = 1.0000$$

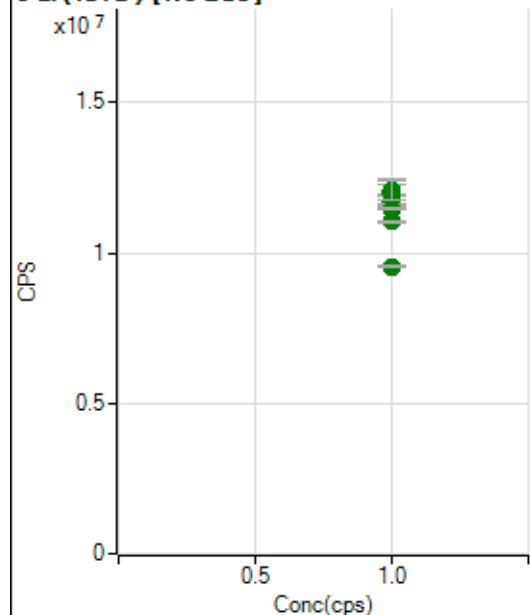
$$DL = 0.000998$$

$$BEC = 0.0007176$$

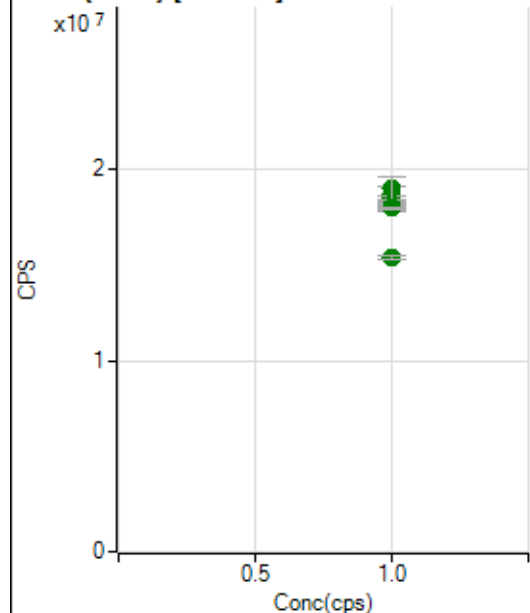
Weight: <None>

Min Conc: 0

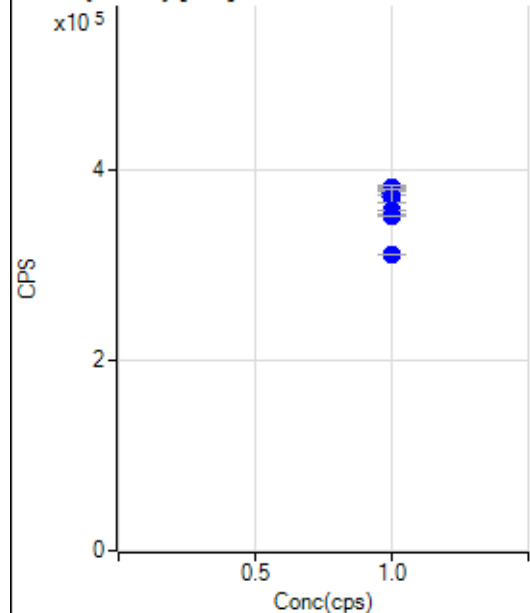
6 Li (ISTD) [No Gas]



	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐	1.000		12004663.50		A	7.3
2	☐	1.000		11901657.42		A	0.4
3	☐	1.000		11961183.94		A	5.3
4	☐	1.000		11690891.26		A	0.7
5	☐	1.000		12058517.60		A	5.3
6	☐	1.000		11471899.99		A	0.9
7	☐	1.000		11030912.71		A	0.3
8	☐	1.000		9552965.27		A	1.0

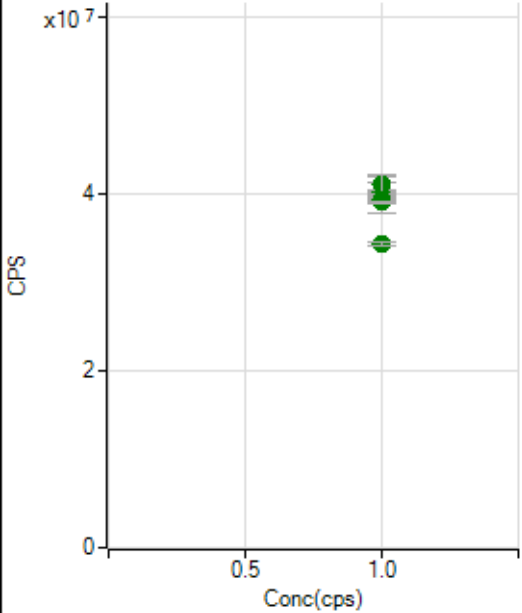
45 Sc (ISTD) [No Gas]

	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐	1.000		18748619.58		A	9.2
2	☐	1.000		18497075.00		A	1.0
3	☐	1.000		18743800.69		A	4.3
4	☐	1.000		18406775.98		A	2.0
5	☐	1.000		18990975.13		A	6.3
6	☐	1.000		17978109.04		A	1.8
7	☐	1.000		17972841.40		A	1.0
8	☐	1.000		15403974.63		A	0.8

45 Sc (ISTD) [He]

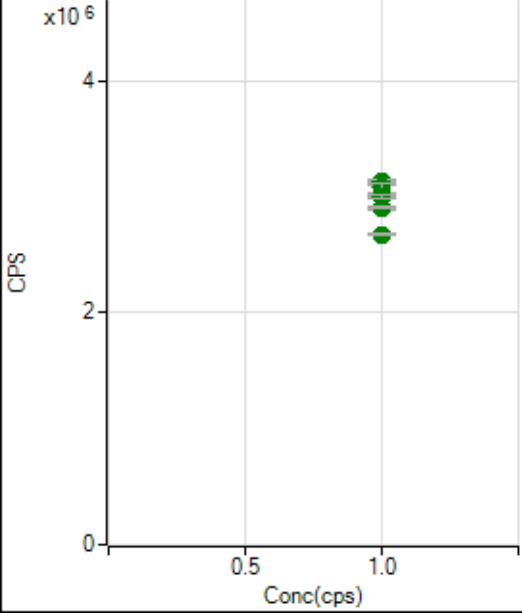
	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐	1.000		376485.05		P	1.1
2	☐	1.000		381854.71		P	0.6
3	☐	1.000		380646.93		P	1.6
4	☐	1.000		373117.83		P	3.8
5	☐	1.000		358391.00		P	0.2
6	☐	1.000		352791.58		P	0.7
7	☐	1.000		352596.50		P	0.1
8	☐	1.000		311726.04		P	0.6

89 Y (ISTD) [No Gas]

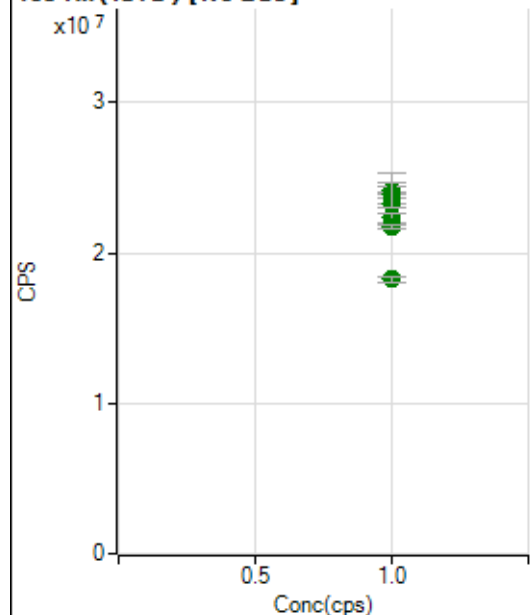


	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐	1.000		39928719.68		A	10.6
2	☐	1.000		39713997.46		A	2.1
3	☐	1.000		40381853.29		A	4.6
4	☐	1.000		40255944.68		A	1.1
5	☐	1.000		40994621.33		A	6.0
6	☐	1.000		39239769.14		A	1.7
7	☐	1.000		39051521.92		A	0.7
8	☐	1.000		34320793.38		A	1.1

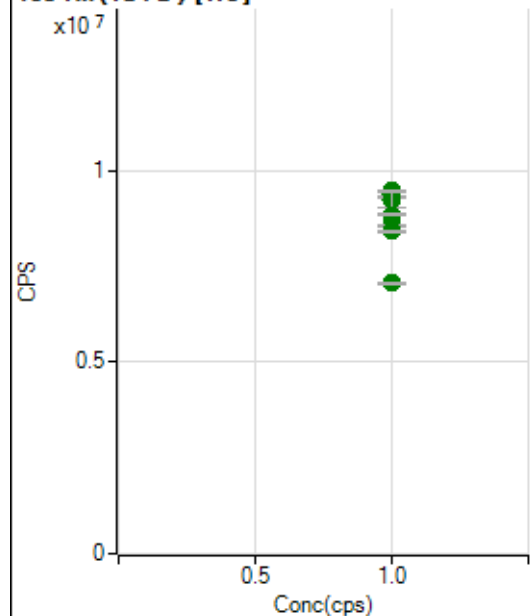
89 Y (ISTD) [He]



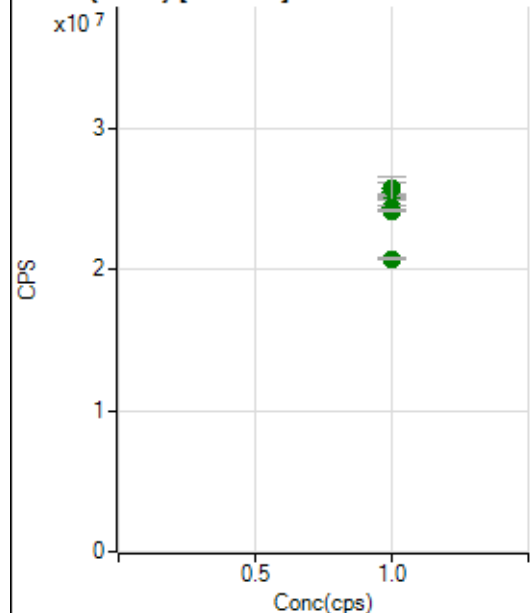
	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐	1.000		3013657.77		A	1.4
2	☐	1.000		3118463.25		A	1.3
3	☐	1.000		3127263.63		A	1.8
4	☐	1.000		3075105.03		A	2.8
5	☐	1.000		2993510.02		A	1.0
6	☐	1.000		2895157.84		A	0.5
7	☐	1.000		2903869.40		A	0.6
8	☐	1.000		2672978.80		A	0.4

103 Rh (ISTD) [No Gas]

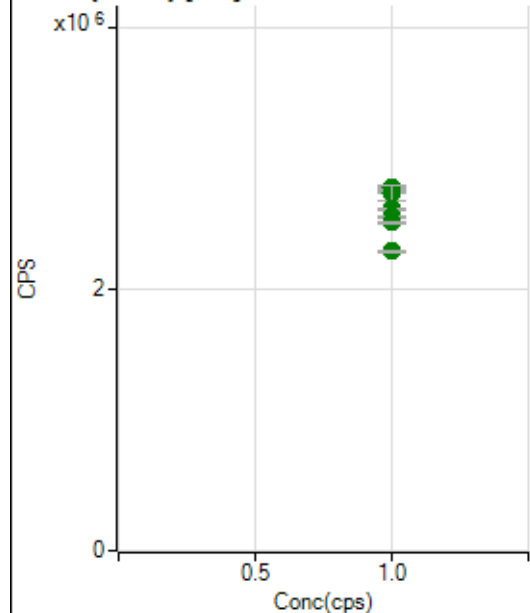
	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐	1.000		24119954.09		A	9.4
2	☐	1.000		23980469.37		A	0.8
3	☐	1.000		23844484.37		A	5.0
4	☐	1.000		23320708.54		A	2.3
5	☐	1.000		23848886.87		A	6.9
6	☐	1.000		22326742.44		A	2.9
7	☐	1.000		21754901.76		A	1.0
8	☐	1.000		18244679.45		A	1.9

103 Rh (ISTD) [He]

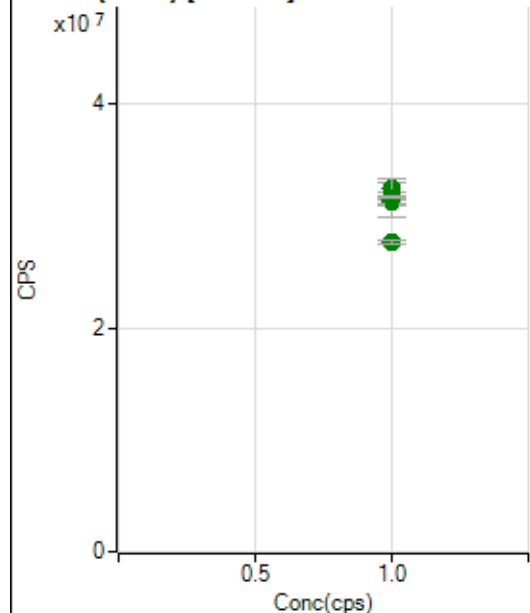
	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐	1.000		9318674.24		A	0.1
2	☐	1.000		9462372.29		A	0.7
3	☐	1.000		9385476.46		A	2.0
4	☐	1.000		9227222.08		A	4.5
5	☐	1.000		8843583.90		A	0.4
6	☐	1.000		8559484.25		A	0.6
7	☐	1.000		8422799.04		A	0.6
8	☐	1.000		7053017.81		A	0.3

115 In (ISTD) [No Gas]

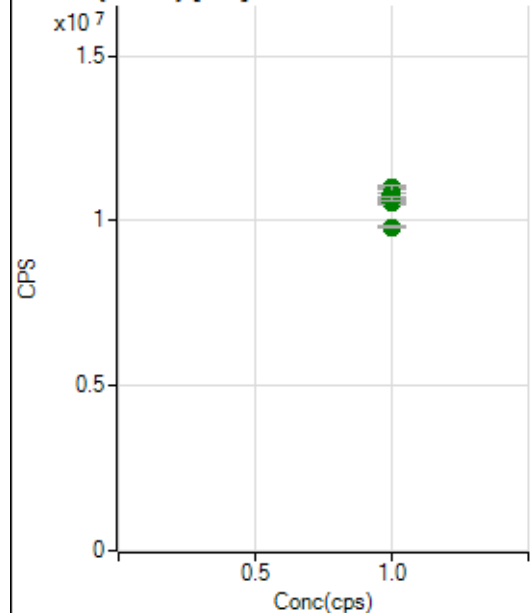
	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐	1.000		25389645.48		A	9.7
2	☐	1.000		25199639.03		A	1.2
3	☐	1.000		25535568.01		A	5.0
4	☐	1.000		25296626.43		A	0.8
5	☐	1.000		25719869.99		A	6.2
6	☐	1.000		24373389.04		A	1.6
7	☐	1.000		24187020.57		A	0.1
8	☐	1.000		20755081.35		A	0.9

115 In (ISTD) [He]

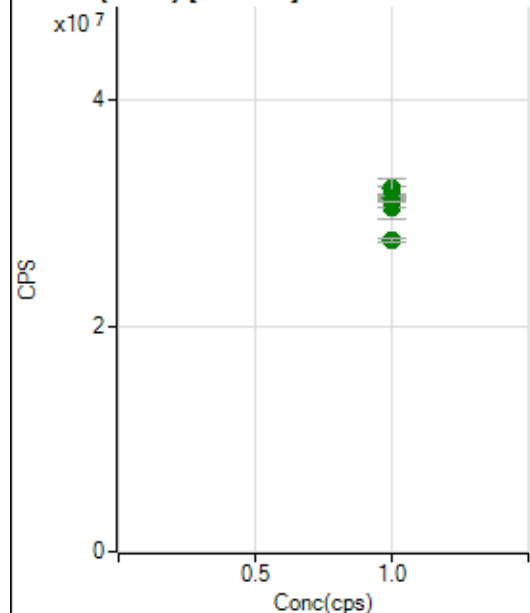
	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐	1.000		2752613.86		A	1.6
2	☐	1.000		2763855.18		A	0.9
3	☐	1.000		2775554.84		A	1.1
4	☐	1.000		2736745.50		A	4.5
5	☐	1.000		2613562.38		A	0.5
6	☐	1.000		2556616.08		A	0.7
7	☐	1.000		2508450.39		A	1.0
8	☐	1.000		2291467.77		A	0.8

159 Tb (ISTD) [No Gas]

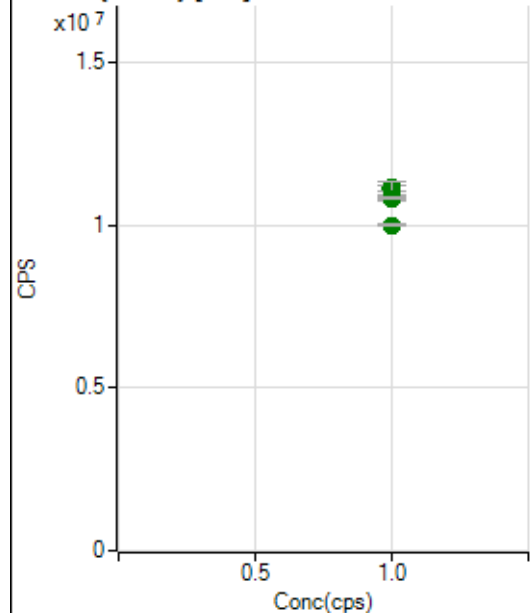
	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐	1.000		31519806.20		A	10.0
2	☐	1.000		31346960.36		A	1.4
3	☐	1.000		31568975.92		A	4.0
4	☐	1.000		31364470.37		A	2.1
5	☐	1.000		32451603.68		A	5.2
6	☐	1.000		31400850.92		A	2.0
7	☐	1.000		31728075.08		A	0.4
8	☐	1.000		27712803.76		A	1.2

159 Tb (ISTD) [He]

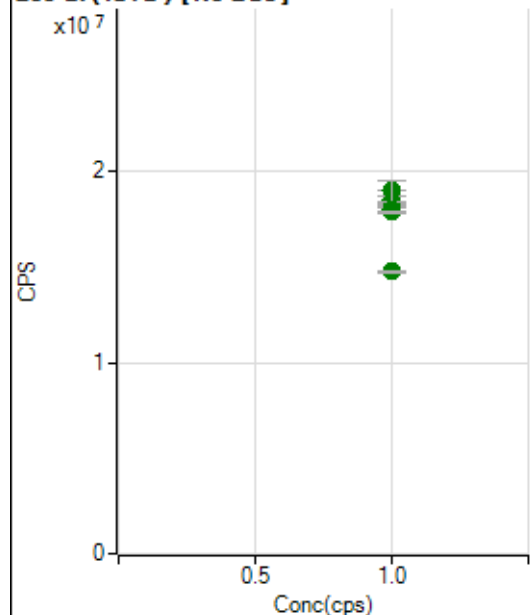
	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐	1.000		10674004.01		A	0.7
2	☐	1.000		10793550.54		A	0.8
3	☐	1.000		10992630.25		A	0.8
4	☐	1.000		10839810.60		A	4.3
5	☐	1.000		10556629.43		A	0.6
6	☐	1.000		10553265.61		A	1.0
7	☐	1.000		10639496.23		A	1.1
8	☐	1.000		9794210.55		A	0.6

165 Ho (ISTD) [No Gas]

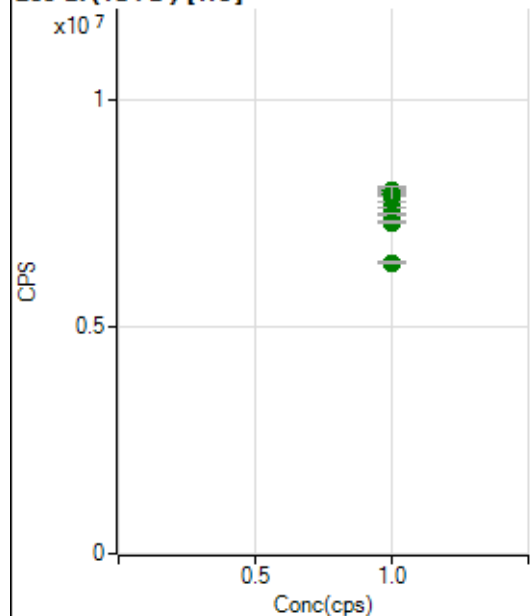
	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐	1.000		30943772.87		A	9.2
2	☐	1.000		30475035.10		A	0.3
3	☐	1.000		31064848.70		A	3.9
4	☐	1.000		30961717.60		A	2.7
5	☐	1.000		32154123.97		A	5.2
6	☐	1.000		31333874.81		A	1.3
7	☐	1.000		31090488.15		A	0.0
8	☐	1.000		27599511.81		A	0.8

165 Ho (ISTD) [He]

	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐	1.000		10889918.52		A	1.3
2	☐	1.000		11068766.50		A	0.1
3	☐	1.000		11162208.45		A	1.3
4	☐	1.000		11151390.04		A	3.9
5	☐	1.000		10842581.85		A	0.9
6	☐	1.000		10801870.54		A	1.1
7	☐	1.000		10853116.78		A	0.2
8	☐	1.000		10021389.50		A	0.8

209 Bi (ISTD) [No Gas]

	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐	1.000		18670849.03		A	9.5
2	☐	1.000		18518518.33		A	1.9
3	☐	1.000		18694726.11		A	3.9
4	☐	1.000		18487494.45		A	2.6
5	☐	1.000		18989094.16		A	6.0
6	☐	1.000		18012651.68		A	1.3
7	☐	1.000		17894002.93		A	0.7
8	☐	1.000		14746845.06		A	0.5

209 Bi (ISTD) [He]

	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐	1.000		7870303.63		A	0.1
2	☐	1.000		7976620.30		A	0.3
3	☐	1.000		7989597.04		A	1.5
4	☐	1.000		7926724.12		A	4.4
5	☐	1.000		7623576.35		A	0.5
6	☐	1.000		7459110.93		A	0.7
7	☐	1.000		7298141.14		A	0.5
8	☐	1.000		6402646.29		A	0.4

US EPA Tune Check Report

Operator Name Jaswal

Acq/Data Batch D:\Agilent\ICPMH\1\DATA\IP8121324 MS.b

Acq. Date-Time 2024-12-13 11:23:45

Report Comment ---

Instrument Name G8403A SG19224459

[No Gas]

Sensitivity

Mass	Conc. [ug/l]	Count	CPS	Resp (Required) [cps/ug/l]	Resp (Flag)	RSD%	RSD% (Required)
9		35252	352518.96			1.536	5.000
24		747741	7477414.03			1.819	5.000
25		103733	1037329.11			2.094	5.000
26		116255	1162551.09			1.544	5.000
59		196422	1964223.86			2.213	5.000
113		22031	220307.44			2.075	5.000
115		289455	2894551.22			2.269	5.000
206		68579	685789.94			1.949	5.000
207		58843	588432.93			1.689	5.000
208		145356	1453560.19			1.122	5.000
220		1	5.50			11.134	

Mass	RSD% (Flag)
9	
24	
25	
26	
59	
113	
115	
206	
207	
208	
220	

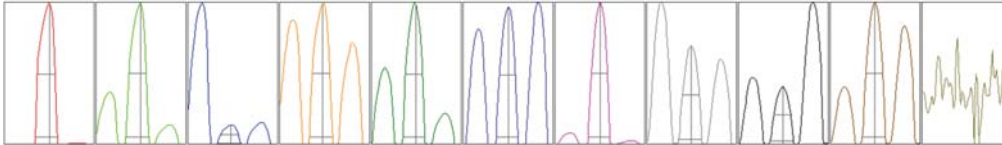
Mass	Rep#1 Count	Rep#2 Count	Rep#3 Count	Rep#4 Count	Rep#5 Count
9	35155	35594	34633	35984	34894
24	744993	763946	728322	756847	744599
25	103236	105937	100446	105450	103596
26	117033	117809	113743	117676	115015
59	197577	200166	189024	198760	196586
113	22299	22589	21369	21971	21926
115	290572	298279	280575	286272	291578
206	68353	69409	66336	69267	69529
207	57948	58919	57753	59541	60055
208	144469	146243	143063	145736	147268

US EPA Tune Check Report

Mass	Rep#1 Count	Rep#2 Count	Rep#3 Count	Rep#4 Count	Rep#5 Count
220	1	1	1	1	1

Integration Time [sec] 0.1

Resolution/Axis



Mass	Peak Height	Axis	Axis (Required)	Axis (Flag)
9	63934.82	9.05	8.90 - 9.10	
24	1384561.53	24.00	23.90 - 24.10	
25	182378.65	24.95	24.90 - 25.10	
26	207737.78	25.95	25.90 - 26.10	
59	365322.86	59.00	58.90 - 59.10	
113	43932.83	113.05	112.90 - 113.10	
115	578012.80	115.05	114.90 - 115.10	
206	129010.77	206.00	205.90 - 206.10	
207	110985.46	207.00	206.90 - 207.10	
208	272084.70	208.00	207.90 - 208.10	
220			-	

Mass	W-50%	W-5%	W-5% (Required)	W-5% (Flag)
9	0.59	0.735	0.900	
24	0.58	0.775	0.900	
25	0.60	0.778	0.900	
26	0.60	0.780	0.900	
59	0.57	0.736	0.900	
113	0.52	0.727	0.900	
115	0.52	0.726	0.900	
206	0.56	0.771	0.900	
207	0.56	0.783	0.900	
208	0.56	0.778	0.900	
220	0.21			

Integration Time [sec] 0.1

Acquisition Time [sec] 256.770000000002

Y Axis Linear

Tune Parameters

Plasma Parameters

Plasma Mode --- Nebulizer Gas 0.78 L/min Dilution Gas 0.40 L/min

US EPA Tune Check Report

RF Power	1600 W	Option Gas	---	Auxiliary Gas	0.90 L/min
RF Matching	1.80 V	Nebulizer Pump	0.10 rps	Plasma Gas	15.0 L/min
Sample Depth	9.0 mm	S/C Temp	2 °C		

Lens Parameters

Extract 1	-6.0 V	Omega Lens	9.7 V	Deflect	15.2 V
Extract 2	-205.0 V	Cell Entrance	-30 V	Plate Bias	-50 V
Omega Bias	-95 V	Cell Exit	-50 V		

Cell Parameters

Use Gas	No	3rd Gas Flow	---	Energy Discrimination	4.0 V
He Flow	0.0 mL/min	OctP Bias	-8.0 V		
H2 Flow	---	OctP RF	170 V		

QP Parameters

Mass Gain	121	Axis Gain	0.9967	QP Bias	-4.0 V
Mass Offset	126	Axis Offset	-0.02		

Hardware Settings

Torch

Torch H	0.7 mm	Torch V	-1.0 mm
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EM

Discriminator	4.1 mV	Analog HV	2165 V	Pulse HV	1040 V
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[He]

Sensitivity

Mass	Conc. [ug/l]	Count	CPS	Resp (Required) [cps/ug/l]	Resp (Flag)	RSD%	RSD% (Required)
59		36436	364359.82			1.585	
89		29047	290468.07			2.031	
205		42306	423055.71			1.278	

Mass	RSD% (Flag)
59	
89	
205	

Mass	Rep#1 Count	Rep#2 Count	Rep#3 Count	Rep#4 Count	Rep#5 Count
59	37363	36409	35783	36401	36223
89	30006	29102	28429	28781	28916
205	43204	42332	41787	42170	42035

Integration Time [sec] 0.1

Tune Parameters

Plasma Parameters

Plasma Mode	---	Nebulizer Gas	0.78 L/min	Dilution Gas	0.40 L/min
RF Power	1600 W	Option Gas	---	Auxiliary Gas	0.90 L/min
RF Matching	1.80 V	Nebulizer Pump	0.10 rps	Plasma Gas	15.0 L/min
Sample Depth	9.0 mm	S/C Temp	2 °C		

Lens Parameters

Extract 1	-6.0 V	Omega Lens	9.7 V	Deflect	3.6 V
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US EPA Tune Check Report

Extract 2	-205.0 V	Cell Entrance	-50 V	Plate Bias	-60 V
Omega Bias	-95 V	Cell Exit	-70 V		
Cell Parameters					
Use Gas	Yes	3rd Gas Flow	---	Energy Discrimination	5.0 V
He Flow	4.5 mL/min	OctP Bias	-18.0 V		
H2 Flow	---	OctP RF	200 V		
QP Parameters					
Mass Gain	121	Axis Gain	0.9967	QP Bias	-13.0 V
Mass Offset	126	Axis Offset	-0.02		
Hardware Settings					
Torch					
Torch H	0.7 mm	Torch V	-1.0 mm		
EM					
Discriminator	4.1 mV	Analog HV	2165 V	Pulse HV	1040 V

LB Number :
Lab Sample ID :
Client Sample ID :
Date & Time Acquired :

LB133950
S00
S0
2024-12-13 12:46:05

Operator :
Instrumnet Name :
Dilution Factor :
DataFile Name :

Jaswal
P8
1
004CALB.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Aluminium	27-2	0.23	-0.04	-0.20	0.00	N/A	ppb
Antimony	121-1	0.00	0.00	0.00	0.00	N/A	ppb
Arsenic	75-2	0.00	0.01	-0.01	0.00	N/A	ppb
Barium	135-1	0.00	0.00	0.00	0.00	N/A	ppb
Barium	137-1	0.00	0.00	0.00	0.00	N/A	ppb
Beryllium	9-1	0.00	0.00	0.00	0.00	N/A	ppb
Bismuth	209-1				100		%
Bismuth	209-2				100		%
Bromine	81-1						cps
Cadmium	108-1	-0.01	-0.01	0.03	0.00	N/A	ppb
Cadmium	106-1	0.90	-0.10	-0.80	0.00	N/A	ppb
Cadmium	111-1	0.07	-0.01	-0.06	0.00	N/A	ppb
Calcium	43-1	2.70	-1.87	-0.83	0.00	N/A	ppb
Calcium	44-1	1.39	-1.52	0.13	0.00	N/A	ppb
Carbon	12-1						cps
Carbon	12-2						cps
Chlorine	35-1						cps
Chlorine	35-2						cps
Chromium	52-2	-0.02	0.03	-0.01	0.00	N/A	ppb
Cobalt	59-2	0.00	0.00	0.00	0.00	N/A	ppb
Copper	63-2	-0.01	0.01	0.00	0.00	N/A	ppb
Dysprosium	156-1						cps
Dysprosium	156-2						cps
Erbium	164-1						cps
Erbium	164-2						cps
Gadolinium	160-1						cps
Gadolinium	160-2						cps
Holmium	165-1				100		%
Holmium	165-2				100		%
Indium	115-1				100		%
Indium	115-2				100		%
Iron	54-2	0.19	0.11	-0.30	0.00	N/A	ppb
Iron	56-2	0.04	0.01	-0.05	0.00	N/A	ppb
Iron	57-2	-0.04	0.04	0.00	0.00	N/A	ppb
Krypton	83-1						cps
Lead	206-1	0.00	-0.01	0.00	0.00	N/A	ppb

LB Number : LB133950 Operator : Jaswal
Lab Sample ID : S0 Instrumnet Name : P8
Client Sample ID : S0 Dilution Factor : 1
Date & Time Acquired : 2024-12-13 12:46:05 DataFile Name : 004CALB.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Lead	207-1	0.00	-0.01	0.00	0.00	N/A	ppb
Lead	208-1	0.00	-0.01	0.00	0.00	N/A	ppb
Lithium	6-1				100		%
Magnesium	24-2	0.13	-0.16	0.03	0.00	N/A	ppb
Manganese	55-2	0.00	0.01	0.00	0.00	N/A	ppb
Molybdenum	94-1	0.01	0.00	0.00	0.00	N/A	ppb
Molybdenum	95-1	0.00	-0.01	0.00	0.00	N/A	ppb
Molybdenum	96-1	0.00	0.00	0.00	0.00	N/A	ppb
Molybdenum	97-1	0.00	0.00	0.00	0.00	N/A	ppb
Molybdenum	98-1	0.00	0.00	0.00	0.00	N/A	ppb
Neodymium	150-1						cps
Neodymium	150-2						cps
Nickel	60-2	-0.02	0.01	0.01	0.00	N/A	ppb
Phosphorus	31-2	-18.42	-24.46	-15.74	-19.54		ppb
Potassium	39-2	0.86	-0.64	-0.21	0.00	N/A	ppb
Rhodium	103-1				100		%
Rhodium	103-2				100		%
Scandium	45-1				100		%
Scandium	45-2				100		%
Selenium	82-1	-0.01	0.03	-0.03	0.00	N/A	ppb
Selenium	77-2	-0.19	-0.19	0.37	0.00	N/A	ppb
Selenium	78-2	0.13	-0.06	-0.07	0.00	N/A	ppb
Silicon	28-1	0.29	-0.27	-0.02	0.00	N/A	ppb
Silver	107-1	0.00	0.00	0.00	0.00	N/A	ppb
Silver	109-1	0.00	0.00	0.00	0.00	N/A	ppb
Sodium	23-2	0.10	0.86	-0.96	0.00	N/A	ppb
Strontium	86-1	0.24	-0.25	0.00	0.00	N/A	ppb
Strontium	88-1	0.05	-0.04	-0.01	0.00	N/A	ppb
Sulfur	34-1	568.09	-696.89	-113.91	-80.90		ppb
Terbium	159-1				100		%
Terbium	159-2				100		%
Thallium	203-1	0.00	0.00	0.00	0.00	N/A	ppb
Thallium	205-1	0.00	0.00	0.00	0.00	N/A	ppb
Tin	118-1	0.03	-0.03	0.00	0.00	N/A	ppb
Titanium	47-1	0.00	-0.01	0.01	0.00	N/A	ppb
Uranium	238-1	0.00	0.00	0.00	0.00	N/A	ppb

LB Number :

LB133950

Operator :

Jaswal

Lab Sample ID :

S00

Instrumnet Name :

P8

Client Sample ID :

S0

Dilution Factor :

1

Date & Time Acquired :

2024-12-13 12:46:05

DataFile Name :

004CALB.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Vanadium	51-2	0.00	0.00	0.00	0.00	N/A	ppb
Ytterbium	172-1						cps
Ytterbium	172-2						cps
Ytterbium	176-1						cps
Ytterbium	176-2						cps
Yttrium	89-1				100		%
Yttrium	89-2				100		%
Zinc	66-2	0.01	-0.02	0.01	0.00	N/A	ppb
Zirconium	90-1	0.00	0.00	0.00	0.00	N/A	ppb
Zirconium	91-1	0.00	0.00	0.00	0.00	N/A	ppb

LB Number :LB133950Operator :Jaswal

Lab Sample ID :S02Instrumnet Name :P8

Client Sample ID :S02Dilution Factor :1

Date & Time Acquired :2024-12-13 12:52:44DataFile Name :006CALS.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Aluminium	27-2	19.27	19.59	19.70	19.52	1.14	ppb
Antimony	121-1	2.15	2.11	2.15	2.14	1.21	ppb
Arsenic	75-2	1.15	1.09	1.08	1.11	3.60	ppb
Barium	135-1	10.31	10.15	10.62	10.36	2.29	ppb
Barium	137-1	10.54	10.59	10.72	10.62	0.89	ppb
Beryllium	9-1	1.08	1.11	1.10	1.10	1.30	ppb
Bismuth	209-1				99		%
Bismuth	209-2				101		%
Bromine	81-1						cps
Cadmium	108-1	1.18	1.07	1.18	1.14	5.84	ppb
Cadmium	106-1	1.00	1.90	1.20	1.37	34.53	ppb
Cadmium	111-1	1.08	1.14	1.16	1.13	3.45	ppb
Calcium	43-1	519.98	523.23	520.20	521.13	0.35	ppb
Calcium	44-1	522.61	523.83	517.08	521.18	0.69	ppb
Carbon	12-1						cps
Carbon	12-2						cps
Chlorine	35-1						cps
Chlorine	35-2						cps
Chromium	52-2	2.08	2.12	2.15	2.12	1.46	ppb
Cobalt	59-2	1.10	1.15	1.14	1.13	2.19	ppb
Copper	63-2	2.13	2.09	2.05	2.09	1.84	ppb
Dysprosium	156-1						cps
Dysprosium	156-2						cps
Erbium	164-1						cps
Erbium	164-2						cps
Gadolinium	160-1						cps
Gadolinium	160-2						cps
Holmium	165-1				98		%
Holmium	165-2				102		%
Indium	115-1				99		%
Indium	115-2				100		%
Iron	54-2	57.11	54.47	55.89	55.82	2.37	ppb
Iron	56-2	53.72	54.11	53.34	53.72	0.72	ppb
Iron	57-2	52.70	50.73	50.71	51.38	2.22	ppb
Krypton	83-1						cps
Lead	206-1	0.98	1.03	0.97	0.99	3.06	ppb

LB Number : LB133950 Operator : Jaswal
Lab Sample ID : S02 Instrumnet Name : P8
Client Sample ID : S02 Dilution Factor : 1
Date & Time Acquired : 2024-12-13 12:52:44 DataFile Name : 006CAL.S.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Lead	207-1	1.03	1.05	0.96	1.01	4.82	ppb
Lead	208-1	1.00	1.03	0.98	1.01	2.28	ppb
Lithium	6-1				99		%
Magnesium	24-2	573.05	577.83	573.40	574.76	0.46	ppb
Manganese	55-2	1.11	1.05	0.98	1.05	5.90	ppb
Molybdenum	94-1	6.17	6.07	6.09	6.11	0.91	ppb
Molybdenum	95-1	5.19	5.07	5.09	5.12	1.19	ppb
Molybdenum	96-1	5.39	5.10	5.04	5.17	3.57	ppb
Molybdenum	97-1	5.24	5.16	5.19	5.20	0.76	ppb
Molybdenum	98-1	5.16	5.06	5.03	5.08	1.32	ppb
Neodymium	150-1						cps
Neodymium	150-2						cps
Nickel	60-2	1.13	1.11	1.05	1.10	3.68	ppb
Phosphorus	31-2	25.13	25.11	8.38	19.54	49.46	ppb
Potassium	39-2	507.61	512.34	513.00	510.98	0.58	ppb
Rhodium	103-1				99		%
Rhodium	103-2				102		%
Scandium	45-1				99		%
Scandium	45-2				101		%
Selenium	82-1	5.22	5.76	5.71	5.56	5.37	ppb
Selenium	77-2	5.27	2.61	5.83	4.57	37.71	ppb
Selenium	78-2	6.04	6.37	5.72	6.04	5.33	ppb
Silicon	28-1	0.42	0.42	0.32	0.39	14.82	ppb
Silver	107-1	1.04	1.05	1.09	1.06	2.30	ppb
Silver	109-1	1.08	1.09	1.10	1.09	0.60	ppb
Sodium	23-2	536.28	541.47	533.02	536.92	0.79	ppb
Strontium	86-1	27.73	25.57	26.74	26.68	4.05	ppb
Strontium	88-1	26.49	26.28	26.41	26.39	0.40	ppb
Sulfur	34-1	74.97	146.75	20.99	80.90	77.98	ppb
Terbium	159-1				99		%
Terbium	159-2				101		%
Thallium	203-1	1.03	1.01	0.97	1.00	3.16	ppb
Thallium	205-1	1.01	1.02	0.99	1.01	1.75	ppb
Tin	118-1	5.40	5.43	5.66	5.50	2.62	ppb
Titanium	47-1	5.36	5.27	5.25	5.29	1.10	ppb
Uranium	238-1	0.98	0.98	0.94	0.97	2.50	ppb

LB Number :

LB133950

Operator :

Jaswal

Lab Sample ID :

S02

Instrumnet Name :

P8

Client Sample ID :

S02

Dilution Factor :

1

Date & Time Acquired :

2024-12-13 12:52:44

DataFile Name :

006CALS.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Vanadium	51-2	5.31	5.15	5.15	5.21	1.71	ppb
Ytterbium	172-1						cps
Ytterbium	172-2						cps
Ytterbium	176-1						cps
Ytterbium	176-2						cps
Yttrium	89-1				99		%
Yttrium	89-2				103		%
Zinc	66-2	5.06	5.50	5.45	5.34	4.48	ppb
Zirconium	90-1	1.00	0.99	1.00	1.00	0.49	ppb
Zirconium	91-1	1.02	1.01	0.98	1.01	2.17	ppb

LB Number :

LB133950

Operator :

Jaswal

Lab Sample ID :

S03

Instrumnet Name :

P8

Client Sample ID :

S03

Dilution Factor :

1

Date & Time Acquired :

2024-12-13 12:56:02

DataFile Name :

007CALB.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Aluminium	27-2	1043.68	1043.83	1060.71	1049.41	0.93	ppb
Antimony	121-1	50.64	51.64	55.42	52.57	4.79	ppb
Arsenic	75-2	52.18	52.12	52.97	52.42	0.90	ppb
Barium	135-1	251.41	255.71	273.76	260.29	4.56	ppb
Barium	137-1	258.28	275.53	287.88	273.90	5.43	ppb
Beryllium	9-1	52.08	53.11	57.57	54.25	5.37	ppb
Bismuth	209-1				100		%
Bismuth	209-2				102		%
Bromine	81-1						cps
Cadmium	108-1	54.74	55.72	59.07	56.51	4.02	ppb
Cadmium	106-1	56.18	55.05	58.33	56.52	2.95	ppb
Cadmium	111-1	52.48	53.26	57.34	54.36	4.80	ppb
Calcium	43-1	4951.68	4989.23	5397.58	5112.83	4.84	ppb
Calcium	44-1	4972.90	5036.32	5400.82	5136.68	4.50	ppb
Carbon	12-1						cps
Carbon	12-2						cps
Chlorine	35-1						cps
Chlorine	35-2						cps
Chromium	52-2	50.16	50.90	51.21	50.76	1.06	ppb
Cobalt	59-2	51.69	53.05	52.63	52.46	1.33	ppb
Copper	63-2	542.18	546.34	548.81	545.78	0.61	ppb
Dysprosium	156-1						cps
Dysprosium	156-2						cps
Erbium	164-1						cps
Erbium	164-2						cps
Gadolinium	160-1						cps
Gadolinium	160-2						cps
Holmium	165-1				100		%
Holmium	165-2				103		%
Indium	115-1				101		%
Indium	115-2				101		%
Iron	54-2	2660.72	2700.69	2693.63	2685.02	0.79	ppb
Iron	56-2	2635.36	2646.47	2660.44	2647.42	0.47	ppb
Iron	57-2	2602.61	2608.49	2606.34	2605.81	0.11	ppb
Krypton	83-1						cps
Lead	206-1	257.07	260.54	275.92	264.51	3.79	ppb

LB Number :
Lab Sample ID :
Client Sample ID :
Date & Time Acquired :

LB133950
S03
S03
2024-12-13 12:56:02

Operator :
Instrumnet Name :
Dilution Factor :
DataFile Name :

Jaswal
P8
1
007CALB.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Lead	207-1	258.88	255.21	278.63	264.24	4.77	ppb
Lead	208-1	254.92	253.59	275.39	261.30	4.68	ppb
Lithium	6-1				100		%
Magnesium	24-2	5686.47	5791.53	5608.77	5695.59	1.61	ppb
Manganese	55-2	510.54	518.18	512.49	513.74	0.77	ppb
Molybdenum	94-1	500.52	508.76	553.74	521.01	5.50	ppb
Molybdenum	95-1	499.93	510.08	544.88	518.30	4.55	ppb
Molybdenum	96-1	506.03	516.18	552.02	524.74	4.60	ppb
Molybdenum	97-1	512.39	514.00	562.31	529.57	5.36	ppb
Molybdenum	98-1	497.06	503.86	542.76	514.56	4.79	ppb
Neodymium	150-1						cps
Neodymium	150-2						cps
Nickel	60-2	51.36	52.84	52.28	52.16	1.43	ppb
Phosphorus	31-2	1021.24	1013.71	1036.21	1023.72	1.12	ppb
Potassium	39-2	2509.34	2524.98	2544.24	2526.19	0.69	ppb
Rhodium	103-1				99		%
Rhodium	103-2				101		%
Scandium	45-1				100		%
Scandium	45-2				101		%
Selenium	82-1	52.53	51.99	56.29	53.60	4.37	ppb
Selenium	77-2	50.09	49.53	60.32	53.31	11.39	ppb
Selenium	78-2	53.38	51.79	61.80	55.66	9.66	ppb
Silicon	28-1	53.21	54.28	58.07	55.19	4.63	ppb
Silver	107-1	52.70	54.03	58.04	54.92	5.06	ppb
Silver	109-1	52.97	53.83	58.99	55.27	5.89	ppb
Sodium	23-2	5461.72	5459.91	5511.43	5477.69	0.53	ppb
Strontium	86-1	1221.71	1252.66	1339.28	1271.21	4.79	ppb
Strontium	88-1	1285.94	1279.36	1380.03	1315.11	4.28	ppb
Sulfur	34-1	1152.89	1164.17	1773.20	1363.42	26.03	ppb
Terbium	159-1				100		%
Terbium	159-2				103		%
Thallium	203-1	48.59	48.83	52.61	50.01	4.51	ppb
Thallium	205-1	50.38	50.70	54.32	51.80	4.23	ppb
Tin	118-1	51.08	52.05	56.01	53.05	4.92	ppb
Titanium	47-1	508.94	527.13	553.04	529.71	4.18	ppb
Uranium	238-1	48.88	48.65	53.43	50.32	5.36	ppb

LB Number :

LB133950

Operator :

Jaswal

Lab Sample ID :

S03

Instrumnet Name :

P8

Client Sample ID :

S03

Dilution Factor :

1

Date & Time Acquired :

2024-12-13 12:56:02

DataFile Name :

007CALB.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Vanadium	51-2	50.14	50.65	50.87	50.55	0.74	ppb
Ytterbium	172-1						cps
Ytterbium	172-2						cps
Ytterbium	176-1						cps
Ytterbium	176-2						cps
Yttrium	89-1				101		%
Yttrium	89-2				104		%
Zinc	66-2	518.99	525.91	529.62	524.84	1.03	ppb
Zirconium	90-1	50.93	52.12	55.63	52.89	4.63	ppb
Zirconium	91-1	48.45	49.18	53.48	50.37	5.39	ppb

LB Number :
Lab Sample ID :
Client Sample ID :
Date & Time Acquired :

LB133950
S04
S04
2024-12-13 12:59:05

Operator :
Instrumnet Name :
Dilution Factor :
DataFile Name :

Jaswal
P8
1
008CAL.S.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Aluminium	27-2	2652.39	2448.09	2575.93	2558.80	4.03	ppb
Antimony	121-1	141.52	133.47	135.03	136.67	3.13	ppb
Arsenic	75-2	133.00	126.92	127.91	129.28	2.53	ppb
Barium	135-1	687.99	656.81	663.97	669.59	2.44	ppb
Barium	137-1	686.06	651.29	647.34	661.57	3.22	ppb
Beryllium	9-1	134.74	135.67	133.57	134.66	0.78	ppb
Bismuth	209-1				99		%
Bismuth	209-2				101		%
Bromine	81-1						cps
Cadmium	108-1	146.04	137.98	140.21	141.41	2.94	ppb
Cadmium	106-1	144.88	139.28	142.08	142.08	1.97	ppb
Cadmium	111-1	137.34	132.45	134.24	134.68	1.84	ppb
Calcium	43-1	13004.90	12459.98	12768.12	12744.33	2.14	ppb
Calcium	44-1	13167.22	12725.87	12856.77	12916.62	1.75	ppb
Carbon	12-1						cps
Carbon	12-2						cps
Chlorine	35-1						cps
Chlorine	35-2						cps
Chromium	52-2	130.10	120.42	124.95	125.16	3.87	ppb
Cobalt	59-2	134.56	123.84	128.60	129.00	4.17	ppb
Copper	63-2	1392.07	1281.88	1341.21	1338.39	4.12	ppb
Dysprosium	156-1						cps
Dysprosium	156-2						cps
Erbium	164-1						cps
Erbium	164-2						cps
Gadolinium	160-1						cps
Gadolinium	160-2						cps
Holmium	165-1				100		%
Holmium	165-2				102		%
Indium	115-1				100		%
Indium	115-2				99		%
Iron	54-2	6849.52	6287.11	6594.47	6577.03	4.28	ppb
Iron	56-2	6826.95	6231.22	6616.86	6558.34	4.61	ppb
Iron	57-2	6669.80	6142.38	6430.93	6414.37	4.12	ppb
Krypton	83-1						cps
Lead	206-1	669.05	641.42	642.81	651.09	2.39	ppb

LB Number :	LB133950	Operator :	Jaswal
Lab Sample ID :	S04	Instrumnet Name :	P8
Client Sample ID :	S04	Dilution Factor :	1
Date & Time Acquired :	2024-12-13 12:59:05	DataFile Name :	008CAL.S.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Lead	207-1	681.52	636.09	636.05	651.22	4.03	ppb
Lead	208-1	672.77	635.50	630.92	646.40	3.55	ppb
Lithium	6-1				97		%
Magnesium	24-2	14187.25	13074.59	13694.69	13652.17	4.08	ppb
Manganese	55-2	1350.98	1248.75	1294.36	1298.03	3.95	ppb
Molybdenum	94-1	1316.36	1284.17	1292.01	1297.51	1.29	ppb
Molybdenum	95-1	1296.20	1269.61	1291.17	1285.66	1.10	ppb
Molybdenum	96-1	1323.92	1292.60	1284.63	1300.38	1.60	ppb
Molybdenum	97-1	1331.68	1303.34	1277.35	1304.12	2.08	ppb
Molybdenum	98-1	1302.41	1284.60	1273.75	1286.92	1.12	ppb
Neodymium	150-1						cps
Neodymium	150-2						cps
Nickel	60-2	133.03	123.34	127.83	128.07	3.79	ppb
Phosphorus	31-2	2725.33	2531.46	2634.55	2630.44	3.69	ppb
Potassium	39-2	6584.94	5971.54	6343.51	6300.00	4.90	ppb
Rhodium	103-1				97		%
Rhodium	103-2				99		%
Scandium	45-1				98		%
Scandium	45-2				99		%
Selenium	82-1	133.16	132.78	135.78	133.90	1.22	ppb
Selenium	77-2	143.65	131.04	129.87	134.86	5.67	ppb
Selenium	78-2	139.07	124.64	140.73	134.81	6.57	ppb
Silicon	28-1	139.70	136.73	137.21	137.88	1.16	ppb
Silver	107-1	145.70	138.40	141.11	141.74	2.60	ppb
Silver	109-1	140.07	136.81	141.83	139.57	1.82	ppb
Sodium	23-2	13659.48	12583.18	13317.26	13186.64	4.17	ppb
Strontium	86-1	3189.14	3120.63	3131.12	3146.96	1.17	ppb
Strontium	88-1	3302.93	3188.08	3245.76	3245.59	1.77	ppb
Sulfur	34-1	3385.03	3261.73	3609.85	3418.87	5.16	ppb
Terbium	159-1				100		%
Terbium	159-2				102		%
Thallium	203-1	134.12	129.86	129.70	131.23	1.91	ppb
Thallium	205-1	134.55	127.84	126.52	129.64	3.32	ppb
Tin	118-1	141.00	135.56	133.99	136.85	2.69	ppb
Titanium	47-1	1328.56	1302.37	1314.25	1315.06	1.00	ppb
Uranium	238-1	129.20	122.56	122.19	124.65	3.17	ppb

LB Number :

LB133950

Operator :

Jaswal

Lab Sample ID :

S04

Instrumnet Name :

P8

Client Sample ID :

S04

Dilution Factor :

1

Date & Time Acquired :

2024-12-13 12:59:05

DataFile Name :

008CALS.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Vanadium	51-2	128.70	120.19	124.71	124.53	3.42	ppb
Ytterbium	172-1						cps
Ytterbium	172-2						cps
Ytterbium	176-1						cps
Ytterbium	176-2						cps
Yttrium	89-1				101		%
Yttrium	89-2				102		%
Zinc	66-2	1339.66	1242.57	1302.53	1294.92	3.78	ppb
Zirconium	90-1	132.43	128.50	128.35	129.76	1.78	ppb
Zirconium	91-1	127.47	124.70	124.18	125.45	1.41	ppb

LB Number :LB133950Operator :Jaswal

Lab Sample ID :S05Instrumnet Name :P8

Client Sample ID :S05Dilution Factor :1

Date & Time Acquired :2024-12-13 13:01:57DataFile Name :009CAL.S.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Aluminium	27-2	5166.87	5200.46	5178.86	5182.06	0.33	ppb
Antimony	121-1	239.51	267.29	263.41	256.74	5.86	ppb
Arsenic	75-2	266.21	259.33	255.46	260.33	2.09	ppb
Barium	135-1	1185.65	1333.04	1334.95	1284.54	6.67	ppb
Barium	137-1	1194.95	1337.38	1326.85	1286.39	6.17	ppb
Beryllium	9-1	243.21	270.24	262.46	258.63	5.38	ppb
Bismuth	209-1				102		%
Bismuth	209-2				97		%
Bromine	81-1						cps
Cadmium	108-1	245.61	279.45	274.91	266.66	6.89	ppb
Cadmium	106-1	249.13	280.11	275.93	268.39	6.26	ppb
Cadmium	111-1	236.34	266.34	265.34	256.01	6.66	ppb
Calcium	43-1	23224.28	26882.57	25620.48	25242.44	7.36	ppb
Calcium	44-1	22352.22	26351.69	25202.42	24635.44	8.36	ppb
Carbon	12-1						cps
Carbon	12-2						cps
Chlorine	35-1						cps
Chlorine	35-2						cps
Chromium	52-2	255.34	253.97	253.51	254.28	0.37	ppb
Cobalt	59-2	269.27	269.72	267.78	268.92	0.38	ppb
Copper	63-2	2721.14	2717.53	2706.81	2715.16	0.27	ppb
Dysprosium	156-1						cps
Dysprosium	156-2						cps
Erbium	164-1						cps
Erbium	164-2						cps
Gadolinium	160-1						cps
Gadolinium	160-2						cps
Holmium	165-1				104		%
Holmium	165-2				100		%
Indium	115-1				101		%
Indium	115-2				95		%
Iron	54-2	14139.90	13940.61	13918.69	13999.73	0.87	ppb
Iron	56-2	13383.40	13301.92	13378.83	13354.72	0.34	ppb
Iron	57-2	13096.00	13150.33	13104.39	13116.91	0.22	ppb
Krypton	83-1						cps
Lead	206-1	1177.33	1324.43	1300.57	1267.44	6.23	ppb

LB Number : LB133950 Operator : Jaswal
Lab Sample ID : S05 Instrumnet Name : P8
Client Sample ID : S05 Dilution Factor : 1
Date & Time Acquired : 2024-12-13 13:01:57 DataFile Name : 009CAL.S.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Lead	207-1	1172.45	1323.52	1301.92	1265.97	6.45	ppb
Lead	208-1	1158.76	1317.39	1295.24	1257.13	6.83	ppb
Lithium	6-1				100		%
Magnesium	24-2	28088.55	28040.21	28309.39	28146.05	0.51	ppb
Manganese	55-2	2671.22	2605.78	2650.76	2642.59	1.27	ppb
Molybdenum	94-1	2326.00	2644.54	2609.17	2526.57	6.91	ppb
Molybdenum	95-1	2272.70	2675.57	2596.44	2514.90	8.49	ppb
Molybdenum	96-1	2299.36	2682.45	2589.26	2523.69	7.92	ppb
Molybdenum	97-1	2328.62	2668.58	2599.42	2532.20	7.10	ppb
Molybdenum	98-1	2318.70	2665.43	2592.47	2525.53	7.24	ppb
Neodymium	150-1						cps
Neodymium	150-2						cps
Nickel	60-2	259.31	260.74	257.53	259.19	0.62	ppb
Phosphorus	31-2	5367.55	5418.90	5307.72	5364.73	1.04	ppb
Potassium	39-2	12783.81	12951.99	12940.75	12892.18	0.73	ppb
Rhodium	103-1				99		%
Rhodium	103-2				95		%
Scandium	45-1				101		%
Scandium	45-2				95		%
Selenium	82-1	233.66	270.52	266.58	256.92	7.88	ppb
Selenium	77-2	251.20	284.03	248.84	261.35	7.53	ppb
Selenium	78-2	262.87	277.47	261.20	267.18	3.35	ppb
Silicon	28-1	234.77	277.20	266.87	259.61	8.52	ppb
Silver	107-1	246.61	276.08	271.91	264.87	6.02	ppb
Silver	109-1	246.77	278.46	272.63	265.96	6.34	ppb
Sodium	23-2	26902.63	27180.34	26775.09	26952.68	0.77	ppb
Strontium	86-1	5737.15	6783.79	6590.18	6370.37	8.74	ppb
Strontium	88-1	5700.98	6602.92	6476.97	6260.29	7.80	ppb
Sulfur	34-1	4294.51	5766.36	5468.11	5176.33	15.03	ppb
Terbium	159-1				103		%
Terbium	159-2				99		%
Thallium	203-1	235.28	268.21	256.33	253.27	6.59	ppb
Thallium	205-1	231.82	267.17	254.46	251.15	7.13	ppb
Tin	118-1	241.76	268.89	264.08	258.25	5.61	ppb
Titanium	47-1	2276.71	2662.26	2565.42	2501.47	8.02	ppb
Uranium	238-1	223.70	262.58	253.02	246.43	8.22	ppb

LB Number :

LB133950

Operator :

Jaswal

Lab Sample ID :

S05

Instrumnet Name :

P8

Client Sample ID :

S05

Dilution Factor :

1

Date & Time Acquired :

2024-12-13 13:01:57

DataFile Name :

009CALS.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Vanadium	51-2	255.78	256.72	256.15	256.22	0.18	ppb
Ytterbium	172-1						cps
Ytterbium	172-2						cps
Ytterbium	176-1						cps
Ytterbium	176-2						cps
Yttrium	89-1				103		%
Yttrium	89-2				99		%
Zinc	66-2	2732.44	2694.57	2686.83	2704.61	0.90	ppb
Zirconium	90-1	234.23	261.28	259.66	251.72	6.03	ppb
Zirconium	91-1	232.42	267.30	266.20	255.31	7.77	ppb

LB Number :LB133950Operator :Jaswal

Lab Sample ID :S06Instrumnet Name :P8

Client Sample ID :S06Dilution Factor :1

Date & Time Acquired :2024-12-13 13:04:45DataFile Name :010CAL.S.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Aluminium	27-2	10028.51	10003.70	9957.75	9996.65	0.36	ppb
Antimony	121-1	523.15	507.37	502.84	511.12	2.09	ppb
Arsenic	75-2	512.67	514.02	507.82	511.50	0.64	ppb
Barium	135-1	2635.59	2497.89	2536.41	2556.63	2.78	ppb
Barium	137-1	2653.95	2467.18	2506.29	2542.47	3.87	ppb
Beryllium	9-1	513.93	512.76	509.71	512.13	0.43	ppb
Bismuth	209-1				96		%
Bismuth	209-2				95		%
Bromine	81-1						cps
Cadmium	108-1	529.51	510.14	514.55	518.07	1.96	ppb
Cadmium	106-1	522.44	521.46	522.36	522.09	0.10	ppb
Cadmium	111-1	531.47	522.85	513.24	522.52	1.75	ppb
Calcium	43-1	51369.52	51011.56	50506.75	50962.61	0.85	ppb
Calcium	44-1	50552.93	50569.45	49484.15	50202.18	1.24	ppb
Carbon	12-1						cps
Carbon	12-2						cps
Chlorine	35-1						cps
Chlorine	35-2						cps
Chromium	52-2	512.15	518.16	515.71	515.34	0.59	ppb
Cobalt	59-2	515.15	510.01	507.87	511.01	0.73	ppb
Copper	63-2	5158.79	5189.32	5066.59	5138.23	1.24	ppb
Dysprosium	156-1						cps
Dysprosium	156-2						cps
Erbium	164-1						cps
Erbium	164-2						cps
Gadolinium	160-1						cps
Gadolinium	160-2						cps
Holmium	165-1				101		%
Holmium	165-2				99		%
Indium	115-1				96		%
Indium	115-2				93		%
Iron	54-2	26429.36	26918.16	26204.70	26517.41	1.38	ppb
Iron	56-2	25788.32	25820.91	25842.81	25817.35	0.11	ppb
Iron	57-2	26036.64	26573.19	25918.58	26176.14	1.33	ppb
Krypton	83-1						cps
Lead	206-1	2582.03	2526.01	2529.30	2545.78	1.23	ppb

LB Number :	LB133950	Operator :	Jaswal
Lab Sample ID :	S06	Instrumnet Name :	P8
Client Sample ID :	S06	Dilution Factor :	1
Date & Time Acquired :	2024-12-13 13:04:45	DataFile Name :	010CAL.S.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Lead	207-1	2571.19	2544.24	2540.35	2551.93	0.66	ppb
Lead	208-1	2548.07	2523.96	2518.98	2530.33	0.61	ppb
Lithium	6-1				96		%
Magnesium	24-2	54542.68	55281.10	54181.01	54668.26	1.03	ppb
Manganese	55-2	5071.77	5111.86	5146.16	5109.93	0.73	ppb
Molybdenum	94-1	5101.60	5157.24	5052.93	5103.92	1.02	ppb
Molybdenum	95-1	5085.98	5149.67	5003.06	5079.57	1.45	ppb
Molybdenum	96-1	4994.94	5145.96	5033.70	5058.20	1.55	ppb
Molybdenum	97-1	5038.71	5173.51	5023.36	5078.53	1.63	ppb
Molybdenum	98-1	5097.29	5160.67	4935.57	5064.51	2.29	ppb
Neodymium	150-1						cps
Neodymium	150-2						cps
Nickel	60-2	488.30	492.85	490.30	490.48	0.47	ppb
Phosphorus	31-2	10132.89	10492.14	10177.36	10267.46	1.91	ppb
Potassium	39-2	24882.65	24704.44	24794.50	24793.86	0.36	ppb
Rhodium	103-1				93		%
Rhodium	103-2				92		%
Scandium	45-1				96		%
Scandium	45-2				94		%
Selenium	82-1	518.95	519.41	498.39	512.25	2.34	ppb
Selenium	77-2	516.64	513.60	483.70	504.65	3.61	ppb
Selenium	78-2	519.72	491.13	523.27	511.37	3.45	ppb
Silicon	28-1	527.24	516.80	507.94	517.33	1.87	ppb
Silver	107-1	530.89	512.62	521.29	521.60	1.75	ppb
Silver	109-1	538.85	515.30	514.80	522.98	2.63	ppb
Sodium	23-2	53012.33	53065.43	51660.96	52579.57	1.51	ppb
Strontium	86-1	13069.02	12385.02	12456.35	12636.80	2.98	ppb
Strontium	88-1	12899.36	12528.57	12352.70	12593.54	2.22	ppb
Sulfur	34-1	10970.60	9879.21	10145.77	10331.86	5.51	ppb
Terbium	159-1				100		%
Terbium	159-2				99		%
Thallium	203-1	508.42	502.00	504.10	504.84	0.65	ppb
Thallium	205-1	504.34	503.48	500.52	502.78	0.40	ppb
Tin	118-1	522.10	508.45	502.70	511.08	1.95	ppb
Titanium	47-1	5053.66	5088.95	5114.84	5085.82	0.60	ppb
Uranium	238-1	506.74	502.66	501.36	503.59	0.56	ppb

LB Number :

LB133950

Operator :

Jaswal

Lab Sample ID :

S06

Instrumnet Name :

P8

Client Sample ID :

S06

Dilution Factor :

1

Date & Time Acquired :

2024-12-13 13:04:45

DataFile Name :

010CALS.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Vanadium	51-2	500.85	518.11	508.42	509.13	1.70	ppb
Ytterbium	172-1						cps
Ytterbium	172-2						cps
Ytterbium	176-1						cps
Ytterbium	176-2						cps
Yttrium	89-1				98		%
Yttrium	89-2				96		%
Zinc	66-2	5172.34	5185.02	5140.94	5166.10	0.44	ppb
Zirconium	90-1	514.90	507.01	502.35	508.09	1.25	ppb
Zirconium	91-1	520.04	516.60	498.01	511.55	2.32	ppb

LB Number :LB133950Operator :Jaswal

Lab Sample ID :S07Instrumnet Name :P8

Client Sample ID :S07Dilution Factor :1

Date & Time Acquired :2024-12-13 13:07:30DataFile Name :011CAL.S.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Aluminium	27-2	20256.41	19980.59	19649.61	19962.20	1.52	ppb
Antimony	121-1	988.59	991.52	993.39	991.17	0.24	ppb
Arsenic	75-2	995.05	995.90	982.08	991.01	0.78	ppb
Barium	135-1	4955.69	4948.00	4967.19	4956.96	0.19	ppb
Barium	137-1	4958.24	4977.93	4955.52	4963.90	0.25	ppb
Beryllium	9-1	993.80	992.84	984.43	990.35	0.52	ppb
Bismuth	209-1				96		%
Bismuth	209-2				93		%
Bromine	81-1						cps
Cadmium	108-1	987.98	985.92	979.37	984.42	0.46	ppb
Cadmium	106-1	975.80	988.05	981.84	981.90	0.62	ppb
Cadmium	111-1	990.44	990.20	976.79	985.81	0.79	ppb
Calcium	43-1	96789.59	98712.74	95411.24	96971.19	1.71	ppb
Calcium	44-1	96653.75	98815.75	95824.34	97097.95	1.59	ppb
Carbon	12-1						cps
Carbon	12-2						cps
Chlorine	35-1						cps
Chlorine	35-2						cps
Chromium	52-2	996.73	993.60	983.28	991.20	0.71	ppb
Cobalt	59-2	989.31	984.26	993.85	989.14	0.49	ppb
Copper	63-2	9895.19	9805.94	9890.14	9863.76	0.51	ppb
Dysprosium	156-1						cps
Dysprosium	156-2						cps
Erbium	164-1						cps
Erbium	164-2						cps
Gadolinium	160-1						cps
Gadolinium	160-2						cps
Holmium	165-1				100		%
Holmium	165-2				100		%
Indium	115-1				95		%
Indium	115-2				91		%
Iron	54-2	51215.06	50996.81	50861.98	51024.62	0.35	ppb
Iron	56-2	50336.38	49598.09	49731.66	49888.71	0.79	ppb
Iron	57-2	49785.01	49505.68	49700.56	49663.75	0.29	ppb
Krypton	83-1						cps
Lead	206-1	4921.92	4972.42	5011.95	4968.76	0.91	ppb

LB Number :
Lab Sample ID :
Client Sample ID :
Date & Time Acquired :

LB133950
S07
S07
2024-12-13 13:07:30

Operator :
Instrumnet Name :
Dilution Factor :
DataFile Name :

Jaswal
P8
1
011CAL.S.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Lead	207-1	4945.19	4888.45	5064.53	4966.06	1.81	ppb
Lead	208-1	4954.85	4933.46	5051.12	4979.81	1.26	ppb
Lithium	6-1				92		%
Magnesium	24-2	106296.28	105284.07	105123.73	105568.02	0.60	ppb
Manganese	55-2	9951.44	9882.58	9874.07	9902.70	0.43	ppb
Molybdenum	94-1	9763.14	10026.67	10013.41	9934.41	1.49	ppb
Molybdenum	95-1	9809.98	10044.77	9998.60	9951.12	1.25	ppb
Molybdenum	96-1	9914.48	9954.85	10003.00	9957.44	0.45	ppb
Molybdenum	97-1	9893.65	9921.50	10018.18	9944.44	0.66	ppb
Molybdenum	98-1	9792.80	10039.52	10035.74	9956.02	1.42	ppb
Neodymium	150-1						cps
Neodymium	150-2						cps
Nickel	60-2	1011.53	995.11	999.27	1001.97	0.85	ppb
Phosphorus	31-2	19802.51	19595.27	19875.00	19757.60	0.73	ppb
Potassium	39-2	48160.34	48412.78	48843.38	48472.16	0.71	ppb
Rhodium	103-1				90		%
Rhodium	103-2				90		%
Scandium	45-1				96		%
Scandium	45-2				94		%
Selenium	82-1	977.04	991.35	1004.16	990.85	1.37	ppb
Selenium	77-2	958.06	1015.64	1006.63	993.44	3.12	ppb
Selenium	78-2	994.27	966.97	1004.27	988.50	1.95	ppb
Silicon	28-1	1010.03	981.36	970.09	987.16	2.09	ppb
Silver	107-1	987.40	979.73	982.31	983.14	0.40	ppb
Silver	109-1	990.39	980.55	976.38	982.44	0.73	ppb
Sodium	23-2	103491.29	103038.08	101565.26	102698.21	0.98	ppb
Strontium	86-1	25137.17	24667.78	24842.87	24882.61	0.95	ppb
Strontium	88-1	24821.31	25087.75	24845.92	24918.33	0.59	ppb
Sulfur	34-1	19836.61	19556.78	19577.49	19656.96	0.79	ppb
Terbium	159-1				101		%
Terbium	159-2				100		%
Thallium	203-1	993.72	998.77	995.46	995.98	0.26	ppb
Thallium	205-1	996.74	994.92	1001.30	997.65	0.33	ppb
Tin	118-1	987.28	997.47	987.53	990.76	0.59	ppb
Titanium	47-1	9946.45	10016.66	9878.22	9947.11	0.70	ppb
Uranium	238-1	1016.04	986.34	995.00	999.13	1.53	ppb

LB Number :

LB133950

Operator :

Jaswal

Lab Sample ID :

S07

Instrumnet Name :

P8

Client Sample ID :

S07

Dilution Factor :

1

Date & Time Acquired :

2024-12-13 13:07:30

DataFile Name :

011CALS.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Vanadium	51-2	993.41	997.19	991.13	993.91	0.31	ppb
Ytterbium	172-1						cps
Ytterbium	172-2						cps
Ytterbium	176-1						cps
Ytterbium	176-2						cps
Yttrium	89-1				98		%
Yttrium	89-2				96		%
Zinc	66-2	9845.13	9791.31	9940.38	9858.94	0.77	ppb
Zirconium	90-1	990.65	994.81	998.90	994.79	0.41	ppb
Zirconium	91-1	977.94	1004.13	996.39	992.82	1.36	ppb

LB Number :

LB133950

Operator :

Jaswal

Lab Sample ID :

S08

Instrumnet Name :

P8

Client Sample ID :

S08

Dilution Factor :

1

Date & Time Acquired :

2024-12-13 13:10:17

DataFile Name :

012CALS.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Aluminium	27-2	97902.60	100246.43	101841.45	99996.83	1.98	ppb
Antimony	121-1	0.35	0.33	0.32	0.33	5.12	ppb
Arsenic	75-2	0.56	0.48	0.38	0.47	19.16	ppb
Barium	135-1	1.80	1.90	1.82	1.84	2.84	ppb
Barium	137-1	1.84	1.87	1.79	1.84	2.10	ppb
Beryllium	9-1	0.28	0.26	0.23	0.26	10.47	ppb
Bismuth	209-1				79		%
Bismuth	209-2				81		%
Bromine	81-1						cps
Cadmium	108-1	0.51	0.37	0.32	0.40	25.20	ppb
Cadmium	106-1	-1.42	-0.20	-0.73	-0.78		ppb
Cadmium	111-1	-0.02	0.10	0.05	0.04	127.90	ppb
Calcium	43-1	499205.10	502007.56	500257.71	500490.12	0.28	ppb
Calcium	44-1	499230.40	501840.82	500628.64	500566.62	0.26	ppb
Carbon	12-1						cps
Carbon	12-2						cps
Chlorine	35-1						cps
Chlorine	35-2						cps
Chromium	52-2	1.23	1.68	1.14	1.35	21.69	ppb
Cobalt	59-2	2.12	2.12	2.12	2.12	0.11	ppb
Copper	63-2	1.34	1.34	1.31	1.33	1.44	ppb
Dysprosium	156-1						cps
Dysprosium	156-2						cps
Erbium	164-1						cps
Erbium	164-2						cps
Gadolinium	160-1						cps
Gadolinium	160-2						cps
Holmium	165-1				89		%
Holmium	165-2				92		%
Indium	115-1				82		%
Indium	115-2				83		%
Iron	54-2	249026.32	251843.66	247804.99	249558.32	0.83	ppb
Iron	56-2	246897.67	252321.60	250446.54	249888.60	1.10	ppb
Iron	57-2	248784.95	250945.14	250010.78	249913.62	0.43	ppb
Krypton	83-1						cps
Lead	206-1	0.72	0.71	0.70	0.71	1.86	ppb

LB Number : LB133950 Operator : Jaswal
Lab Sample ID : S08 Instrumnet Name : P8
Client Sample ID : S08 Dilution Factor : 1
Date & Time Acquired : 2024-12-13 13:10:17 DataFile Name : 012CALS.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Lead	207-1	0.73	0.70	0.68	0.70	4.00	ppb
Lead	208-1	0.73	0.70	0.70	0.71	2.57	ppb
Lithium	6-1				80		%
Magnesium	24-2	495764.07	501901.41	497013.81	498226.43	0.65	ppb
Manganese	55-2	3.23	3.12	3.29	3.22	2.64	ppb
Molybdenum	94-1	2.03	1.75	1.77	1.85	8.33	ppb
Molybdenum	95-1	1.27	1.08	1.11	1.16	8.70	ppb
Molybdenum	96-1	1.95	1.73	1.70	1.79	7.51	ppb
Molybdenum	97-1	1.28	1.00	0.97	1.08	15.82	ppb
Molybdenum	98-1	1.17	0.96	0.89	1.01	14.52	ppb
Neodymium	150-1						cps
Neodymium	150-2						cps
Nickel	60-2	2.04	2.13	1.97	2.05	3.98	ppb
Phosphorus	31-2	-13.06	-17.50	-3.29	-11.28		ppb
Potassium	39-2	249325.42	249071.72	252517.97	250305.04	0.77	ppb
Rhodium	103-1				76		%
Rhodium	103-2				76		%
Scandium	45-1				82		%
Scandium	45-2				83		%
Selenium	82-1	-0.10	-0.12	0.08	-0.04		ppb
Selenium	77-2	0.45	0.45	1.10	0.67	56.05	ppb
Selenium	78-2	0.22	1.00	0.03	0.42	122.61	ppb
Silicon	28-1	1.11	0.98	0.80	0.96	15.91	ppb
Silver	107-1	0.14	0.13	0.13	0.13	5.62	ppb
Silver	109-1	0.14	0.14	0.13	0.14	5.58	ppb
Sodium	23-2	497435.42	500245.71	499567.23	499082.79	0.29	ppb
Strontium	86-1	72.46	69.69	70.99	71.05	1.95	ppb
Strontium	88-1	71.49	70.64	72.43	71.52	1.26	ppb
Sulfur	34-1	-411.41	-501.95	-665.86	-526.41		ppb
Terbium	159-1				88		%
Terbium	159-2				92		%
Thallium	203-1	0.08	0.06	0.05	0.07	24.80	ppb
Thallium	205-1	0.08	0.06	0.06	0.06	18.55	ppb
Tin	118-1	0.18	0.16	0.16	0.17	6.95	ppb
Titanium	47-1	1.60	1.59	1.64	1.61	1.71	ppb
Uranium	238-1	0.04	0.04	0.03	0.03	12.68	ppb

LB Number :

LB133950

Operator :

Jaswal

Lab Sample ID :

S08

Instrumnet Name :

P8

Client Sample ID :

S08

Dilution Factor :

1

Date & Time Acquired :

2024-12-13 13:10:17

DataFile Name :

012CALS.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Vanadium	51-2	0.16	0.14	0.14	0.15	8.23	ppb
Ytterbium	172-1						cps
Ytterbium	172-2						cps
Ytterbium	176-1						cps
Ytterbium	176-2						cps
Yttrium	89-1				86		%
Yttrium	89-2				89		%
Zinc	66-2	3.12	2.58	2.76	2.82	9.83	ppb
Zirconium	90-1	0.50	0.48	0.51	0.49	2.42	ppb
Zirconium	91-1	0.50	0.51	0.49	0.50	1.69	ppb

LB Number :LB133950Operator :Jaswal

Lab Sample ID :ICV001Instrumnet Name :P8

Client Sample ID :ICV001Dilution Factor :1

Date & Time Acquired :2024-12-13 13:58:15DataFile Name :016ICV.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Aluminium	27-2	505.39	497.17	501.72	501.43	0.82	ppb
Antimony	121-1	218.13	212.48	223.08	217.90	2.43	ppb
Arsenic	75-2	218.48	216.40	221.81	218.90	1.25	ppb
Barium	135-1	102.56	103.31	106.95	104.27	2.25	ppb
Barium	137-1	105.57	104.79	109.42	106.59	2.33	ppb
Beryllium	9-1	98.57	101.50	103.21	101.09	2.32	ppb
Bismuth	209-1				101		%
Bismuth	209-2				102		%
Bromine	81-1						cps
Cadmium	108-1	90.70	90.64	93.73	91.69	1.93	ppb
Cadmium	106-1	88.25	90.93	90.09	89.76	1.53	ppb
Cadmium	111-1	106.90	108.05	111.86	108.94	2.38	ppb
Calcium	43-1	1936.72	1961.89	1968.90	1955.83	0.87	ppb
Calcium	44-1	1997.34	1998.28	2022.96	2006.19	0.72	ppb
Carbon	12-1						cps
Carbon	12-2						cps
Chlorine	35-1						cps
Chlorine	35-2						cps
Chromium	52-2	105.42	103.01	104.93	104.46	1.22	ppb
Cobalt	59-2	108.88	106.48	108.49	107.95	1.19	ppb
Copper	63-2	104.07	102.31	102.82	103.07	0.88	ppb
Dysprosium	156-1						cps
Dysprosium	156-2						cps
Erbium	164-1						cps
Erbium	164-2						cps
Gadolinium	160-1						cps
Gadolinium	160-2						cps
Holmium	165-1				101		%
Holmium	165-2				102		%
Indium	115-1				102		%
Indium	115-2				102		%
Iron	54-2	2196.76	2144.42	2186.79	2175.99	1.28	ppb
Iron	56-2	2123.49	2065.62	2102.57	2097.22	1.40	ppb
Iron	57-2	2087.68	2047.70	2092.71	2076.03	1.19	ppb
Krypton	83-1						cps
Lead	206-1	219.59	212.55	219.84	217.33	1.90	ppb

LB Number : LB133950 Operator : Jaswal
Lab Sample ID : ICV001 Instrumnet Name : P8
Client Sample ID : ICV001 Dilution Factor : 1
Date & Time Acquired : 2024-12-13 13:58:15 DataFile Name : 016ICV.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Lead	207-1	211.58	198.95	209.62	206.72	3.29	ppb
Lead	208-1	210.03	202.92	211.95	208.30	2.28	ppb
Lithium	6-1				102		%
Magnesium	24-2	1299.72	1264.70	1285.64	1283.35	1.37	ppb
Manganese	55-2	104.36	101.74	104.32	103.47	1.45	ppb
Molybdenum	94-1	0.05	0.05	0.06	0.06	11.30	ppb
Molybdenum	95-1	0.03	0.03	0.03	0.03	7.92	ppb
Molybdenum	96-1	0.07	0.07	0.06	0.06	9.87	ppb
Molybdenum	97-1	0.03	0.02	0.03	0.03	27.21	ppb
Molybdenum	98-1	0.03	0.03	0.02	0.03	19.88	ppb
Neodymium	150-1						cps
Neodymium	150-2						cps
Nickel	60-2	108.69	106.34	108.05	107.69	1.13	ppb
Phosphorus	31-2	-13.64	-17.25	-8.38	-13.09		ppb
Potassium	39-2	2033.82	2000.87	2038.51	2024.40	1.01	ppb
Rhodium	103-1				101		%
Rhodium	103-2				102		%
Scandium	45-1				103		%
Scandium	45-2				103		%
Selenium	82-1	214.30	218.27	222.70	218.42	1.92	ppb
Selenium	77-2	231.90	227.22	215.29	224.80	3.81	ppb
Selenium	78-2	246.29	223.29	224.30	231.30	5.62	ppb
Silicon	28-1	-0.31	-0.30	-0.27	-0.29		ppb
Silver	107-1	52.36	53.22	55.00	53.53	2.51	ppb
Silver	109-1	52.92	53.18	55.25	53.79	2.38	ppb
Sodium	23-2	2177.13	2144.98	2182.09	2168.07	0.93	ppb
Strontium	86-1	6.40	6.25	6.42	6.36	1.43	ppb
Strontium	88-1	6.29	6.27	6.36	6.31	0.74	ppb
Sulfur	34-1	-405.50	-325.49	-158.91	-296.63		ppb
Terbium	159-1				102		%
Terbium	159-2				102		%
Thallium	203-1	209.27	203.53	214.31	209.03	2.58	ppb
Thallium	205-1	207.20	199.90	211.71	206.27	2.89	ppb
Tin	118-1	-0.05	-0.05	-0.06	-0.05		ppb
Titanium	47-1	0.05	0.04	0.05	0.05	11.93	ppb
Uranium	238-1	0.00	0.00	0.00	0.00		ppb

LB Number :

LB133950

Operator :

Jaswal

Lab Sample ID :

ICV001

Instrumnet Name :

P8

Client Sample ID :

ICV001

Dilution Factor :

1

Date & Time Acquired :

2024-12-13 13:58:15

DataFile Name :

016ICV.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Vanadium	51-2	101.70	100.35	102.14	101.40	0.92	ppb
Ytterbium	172-1						cps
Ytterbium	172-2						cps
Ytterbium	176-1						cps
Ytterbium	176-2						cps
Yttrium	89-1				102		%
Yttrium	89-2				105		%
Zinc	66-2	211.13	208.43	209.43	209.67	0.65	ppb
Zirconium	90-1	0.00	0.00	0.01	0.00	46.71	ppb
Zirconium	91-1	0.09	0.07	0.07	0.08	8.64	ppb

LB Number :LB133950Operator :Jaswal

Lab Sample ID :ICB001Instrumnet Name :P8

Client Sample ID :ICB001Dilution Factor :1

Date & Time Acquired :2024-12-13 14:14:02DataFile Name :020CCBE.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Aluminium	27-2	-0.14	-0.18	-0.22	-0.18		ppb
Antimony	121-1	0.05	0.05	0.05	0.05	3.55	ppb
Arsenic	75-2	0.01	0.01	0.01	0.01	40.81	ppb
Barium	135-1	0.00	0.00	0.00	0.00	251.92	ppb
Barium	137-1	0.00	0.00	0.00	0.00		ppb
Beryllium	9-1	0.05	0.05	0.05	0.05	3.06	ppb
Bismuth	209-1				104		%
Bismuth	209-2				102		%
Bromine	81-1						cps
Cadmium	108-1	0.03	0.01	0.05	0.03	68.09	ppb
Cadmium	106-1	-0.55	-0.63	0.39	-0.26		ppb
Cadmium	111-1	-0.04	-0.04	0.03	-0.02		ppb
Calcium	43-1	-0.69	-3.29	-1.94	-1.97		ppb
Calcium	44-1	-1.33	-0.74	0.25	-0.61		ppb
Carbon	12-1						cps
Carbon	12-2						cps
Chlorine	35-1						cps
Chlorine	35-2						cps
Chromium	52-2	0.05	0.05	0.07	0.06	12.22	ppb
Cobalt	59-2	0.00	0.00	0.00	0.00		ppb
Copper	63-2	0.00	-0.01	-0.01	-0.01		ppb
Dysprosium	156-1						cps
Dysprosium	156-2						cps
Erbium	164-1						cps
Erbium	164-2						cps
Gadolinium	160-1						cps
Gadolinium	160-2						cps
Holmium	165-1				105		%
Holmium	165-2				104		%
Indium	115-1				107		%
Indium	115-2				104		%
Iron	54-2	-0.14	0.35	-0.04	0.05	469.86	ppb
Iron	56-2	0.16	0.28	0.25	0.23	27.23	ppb
Iron	57-2	0.12	0.55	0.36	0.34	62.71	ppb
Krypton	83-1						cps
Lead	206-1	0.03	0.03	0.03	0.03	9.15	ppb

LB Number : LB133950 Operator : Jaswal
Lab Sample ID : ICB001 Instrumnet Name : P8
Client Sample ID : ICB001 Dilution Factor : 1
Date & Time Acquired : 2024-12-13 14:14:02 DataFile Name : 020CCBE.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Lead	207-1	0.02	0.02	0.02	0.02	10.93	ppb
Lead	208-1	0.02	0.02	0.03	0.02	5.72	ppb
Lithium	6-1				102		%
Magnesium	24-2	-1.70	-1.54	-1.70	-1.65		ppb
Manganese	55-2	-0.01	0.00	0.01	0.00		ppb
Molybdenum	94-1	0.00	0.00	0.01	0.00	165.50	ppb
Molybdenum	95-1	0.00	0.01	0.01	0.00	152.69	ppb
Molybdenum	96-1	0.00	0.01	0.00	0.00	531.09	ppb
Molybdenum	97-1	0.00	0.00	0.00	0.00		ppb
Molybdenum	98-1	0.00	0.00	0.00	0.00		ppb
Neodymium	150-1						cps
Neodymium	150-2						cps
Nickel	60-2	0.00	0.02	0.03	0.02	121.49	ppb
Phosphorus	31-2	-18.36	-18.54	-4.56	-13.82		ppb
Potassium	39-2	19.36	17.58	17.15	18.03	6.49	ppb
Rhodium	103-1				106		%
Rhodium	103-2				103		%
Scandium	45-1				107		%
Scandium	45-2				104		%
Selenium	82-1	0.08	-0.01	0.20	0.09	120.01	ppb
Selenium	77-2	-0.19	-0.19	0.90	0.17	360.08	ppb
Selenium	78-2	-0.27	-0.42	0.73	0.01	5137.01	ppb
Silicon	28-1	-0.16	-0.05	0.06	-0.05		ppb
Silver	107-1	0.04	0.03	0.03	0.03	22.30	ppb
Silver	109-1	0.04	0.03	0.02	0.03	26.64	ppb
Sodium	23-2	39.13	38.83	40.43	39.46	2.16	ppb
Strontium	86-1	-0.16	0.25	-0.17	-0.03		ppb
Strontium	88-1	0.01	0.01	0.00	0.01	151.60	ppb
Sulfur	34-1	-719.49	-414.52	-184.16	-439.39		ppb
Terbium	159-1				104		%
Terbium	159-2				102		%
Thallium	203-1	0.03	0.02	0.02	0.03	20.09	ppb
Thallium	205-1	0.03	0.02	0.03	0.03	7.35	ppb
Tin	118-1	0.02	0.02	0.03	0.02	39.44	ppb
Titanium	47-1	0.03	0.04	0.04	0.03	18.22	ppb
Uranium	238-1	0.00	0.00	0.00	0.00		ppb

LB Number :

LB133950

Operator :

Jaswal

Lab Sample ID :

ICB001

Instrumnet Name :

P8

Client Sample ID :

ICB001

Dilution Factor :

1

Date & Time Acquired :

2024-12-13 14:14:02

DataFile Name :

020CCBE.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Vanadium	51-2	0.00	0.01	0.00	0.00	117.64	ppb
Ytterbium	172-1						cps
Ytterbium	172-2						cps
Ytterbium	176-1						cps
Ytterbium	176-2						cps
Yttrium	89-1				108		%
Yttrium	89-2				106		%
Zinc	66-2	0.00	-0.04	-0.13	-0.06		ppb
Zirconium	90-1	0.00	0.00	0.00	0.00		ppb
Zirconium	91-1	0.00	-0.01	0.00	0.00		ppb

LB Number :

LB133950

Operator :

Jaswal

Lab Sample ID :

ICSA001

Instrumnet Name :

P8

Client Sample ID :

ICSA001

Dilution Factor :

1

Date & Time Acquired :

2024-12-13 14:30:36

DataFile Name :

023ICSA.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Aluminium	27-2	93160.45	90124.68	93327.71	92204.28	1.96	ppb
Antimony	121-1	1.14	1.27	1.28	1.23	6.29	ppb
Arsenic	75-2	0.33	0.33	0.28	0.32	9.23	ppb
Barium	135-1	1.29	1.46	1.43	1.39	6.83	ppb
Barium	137-1	1.31	1.50	1.50	1.44	7.64	ppb
Beryllium	9-1	0.26	0.30	0.28	0.28	6.11	ppb
Bismuth	209-1				91		%
Bismuth	209-2				90		%
Bromine	81-1						cps
Cadmium	108-1	14.26	15.14	14.85	14.75	3.03	ppb
Cadmium	106-1	-2.53	-2.24	-2.24	-2.34		ppb
Cadmium	111-1	0.31	0.40	0.41	0.37	15.29	ppb
Calcium	43-1	91089.77	98653.28	98660.91	96134.66	4.54	ppb
Calcium	44-1	92099.23	98016.63	98835.86	96317.24	3.82	ppb
Carbon	12-1						cps
Carbon	12-2						cps
Chlorine	35-1						cps
Chlorine	35-2						cps
Chromium	52-2	19.92	19.68	19.99	19.86	0.82	ppb
Cobalt	59-2	1.19	1.15	1.15	1.16	1.96	ppb
Copper	63-2	7.74	7.45	7.66	7.62	1.96	ppb
Dysprosium	156-1						cps
Dysprosium	156-2						cps
Erbium	164-1						cps
Erbium	164-2						cps
Gadolinium	160-1						cps
Gadolinium	160-2						cps
Holmium	165-1				99		%
Holmium	165-2				97		%
Indium	115-1				97		%
Indium	115-2				93		%
Iron	54-2	103888.65	103581.99	101650.12	103040.25	1.18	ppb
Iron	56-2	101921.71	100843.62	102747.76	101837.70	0.94	ppb
Iron	57-2	104829.95	101349.21	101718.48	102632.55	1.86	ppb
Krypton	83-1						cps
Lead	206-1	4.40	4.79	4.74	4.64	4.49	ppb

LB Number : LB133950 Operator : Jaswal
Lab Sample ID : ICSA001 Instrumnet Name : P8
Client Sample ID : ICSA001 Dilution Factor : 1
Date & Time Acquired : 2024-12-13 14:30:36 DataFile Name : 023ICSA.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Lead	207-1	4.12	4.40	4.40	4.31	3.81	ppb
Lead	208-1	4.16	4.50	4.52	4.39	4.64	ppb
Lithium	6-1				88		%
Magnesium	24-2	104203.78	99948.44	103254.44	102468.89	2.18	ppb
Manganese	55-2	7.80	7.67	7.56	7.68	1.55	ppb
Molybdenum	94-1	1495.30	1581.21	1604.02	1560.18	3.67	ppb
Molybdenum	95-1	1807.27	1942.05	1974.80	1908.04	4.65	ppb
Molybdenum	96-1	1799.39	1899.54	1930.84	1876.59	3.66	ppb
Molybdenum	97-1	1843.51	1930.36	1977.59	1917.15	3.55	ppb
Molybdenum	98-1	1809.19	1912.55	1942.32	1888.02	3.70	ppb
Neodymium	150-1						cps
Neodymium	150-2						cps
Nickel	60-2	5.89	5.78	5.88	5.85	1.00	ppb
Phosphorus	31-2	107155.37	106089.85	105792.59	106345.94	0.67	ppb
Potassium	39-2	101465.70	98128.88	99381.12	99658.57	1.69	ppb
Rhodium	103-1				91		%
Rhodium	103-2				90		%
Scandium	45-1				99		%
Scandium	45-2				94		%
Selenium	82-1	-0.06	-0.33	-0.11	-0.17		ppb
Selenium	77-2	-0.19	-0.19	0.39	0.01	5710.46	ppb
Selenium	78-2	0.30	0.98	-0.05	0.41	126.85	ppb
Silicon	28-1	0.68	1.03	1.01	0.91	21.92	ppb
Silver	107-1	0.06	0.06	0.07	0.06	3.64	ppb
Silver	109-1	0.07	0.06	0.07	0.07	4.07	ppb
Sodium	23-2	104420.52	102010.28	103201.78	103210.86	1.17	ppb
Strontium	86-1	781.86	849.96	852.31	828.04	4.83	ppb
Strontium	88-1	829.46	889.85	916.06	878.46	5.06	ppb
Sulfur	34-1	95256.43	101588.40	104826.76	100557.20	4.84	ppb
Terbium	159-1				99		%
Terbium	159-2				97		%
Thallium	203-1	0.06	0.08	0.08	0.07	15.81	ppb
Thallium	205-1	0.06	0.07	0.08	0.07	16.62	ppb
Tin	118-1	0.15	0.17	0.15	0.15	6.56	ppb
Titanium	47-1	1882.76	2058.25	2083.13	2008.05	5.44	ppb
Uranium	238-1	0.02	0.02	0.02	0.02	7.20	ppb

LB Number :

LB133950

Operator :

Jaswal

Lab Sample ID :

ICSA001

Instrumnet Name :

P8

Client Sample ID :

ICSA001

Dilution Factor :

1

Date & Time Acquired :

2024-12-13 14:30:36

DataFile Name :

023ICSA.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Vanadium	51-2	0.13	0.14	0.16	0.14	10.85	ppb
Ytterbium	172-1						cps
Ytterbium	172-2						cps
Ytterbium	176-1						cps
Ytterbium	176-2						cps
Yttrium	89-1				99		%
Yttrium	89-2				99		%
Zinc	66-2	13.35	13.99	13.91	13.75	2.53	ppb
Zirconium	90-1	0.01	0.01	0.01	0.01	8.36	ppb
Zirconium	91-1	0.01	0.01	0.02	0.02	24.89	ppb

LB Number :

LB133950

Operator :

Jaswal

Lab Sample ID :

ICSAB001

Instrumnet Name :

P8

Client Sample ID :

ICSAB001

Dilution Factor :

1

Date & Time Acquired :

2024-12-13 14:38:39

DataFile Name :

025ICSB.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Aluminium	27-2	89841.60	91755.33	91252.01	90949.65	1.09	ppb
Antimony	121-1	21.07	21.49	21.37	21.31	1.01	ppb
Arsenic	75-2	21.12	20.32	21.17	20.87	2.26	ppb
Barium	135-1	20.94	21.12	21.10	21.05	0.49	ppb
Barium	137-1	21.10	21.54	21.53	21.39	1.17	ppb
Beryllium	9-1	19.16	19.68	18.81	19.22	2.29	ppb
Bismuth	209-1				94		%
Bismuth	209-2				94		%
Bromine	81-1						cps
Cadmium	108-1	32.52	32.80	32.18	32.50	0.96	ppb
Cadmium	106-1	14.10	14.76	14.65	14.50	2.42	ppb
Cadmium	111-1	19.58	19.69	19.82	19.70	0.62	ppb
Calcium	43-1	95598.73	99084.61	98340.90	97674.75	1.88	ppb
Calcium	44-1	96983.71	101240.19	99973.15	99399.02	2.20	ppb
Carbon	12-1						cps
Carbon	12-2						cps
Chlorine	35-1						cps
Chlorine	35-2						cps
Chromium	52-2	38.35	38.69	38.82	38.62	0.63	ppb
Cobalt	59-2	20.55	20.66	20.74	20.65	0.46	ppb
Copper	63-2	25.67	25.51	25.70	25.63	0.40	ppb
Dysprosium	156-1						cps
Dysprosium	156-2						cps
Erbium	164-1						cps
Erbium	164-2						cps
Gadolinium	160-1						cps
Gadolinium	160-2						cps
Holmium	165-1				103		%
Holmium	165-2				103		%
Indium	115-1				100		%
Indium	115-2				99		%
Iron	54-2	101524.06	101746.08	102746.73	102005.63	0.64	ppb
Iron	56-2	100903.71	101977.09	99207.28	100696.03	1.39	ppb
Iron	57-2	101835.35	101470.87	102295.77	101867.33	0.41	ppb
Krypton	83-1						cps
Lead	206-1	24.42	24.23	24.69	24.45	0.95	ppb

LB Number : LB133950 Operator : Jaswal
Lab Sample ID : ICSAB001 Instrumnet Name : P8
Client Sample ID : ICSAB001 Dilution Factor : 1
Date & Time Acquired : 2024-12-13 14:38:39 DataFile Name : 025ICSB.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Lead	207-1	23.57	23.69	23.94	23.73	0.80	ppb
Lead	208-1	23.51	23.75	23.86	23.70	0.76	ppb
Lithium	6-1				91		%
Magnesium	24-2	101890.24	101657.55	100339.18	101295.66	0.83	ppb
Manganese	55-2	26.14	26.87	26.80	26.60	1.52	ppb
Molybdenum	94-1	1600.95	1594.02	1572.19	1589.05	0.94	ppb
Molybdenum	95-1	1963.90	1919.13	1946.83	1943.29	1.16	ppb
Molybdenum	96-1	1925.06	1890.31	1917.40	1910.92	0.96	ppb
Molybdenum	97-1	1964.74	1955.24	1950.59	1956.86	0.37	ppb
Molybdenum	98-1	1967.41	1902.43	1940.63	1936.83	1.69	ppb
Neodymium	150-1						cps
Neodymium	150-2						cps
Nickel	60-2	23.49	24.01	23.99	23.83	1.25	ppb
Phosphorus	31-2	105054.82	106369.88	105074.59	105499.76	0.71	ppb
Potassium	39-2	98498.24	99292.31	97663.04	98484.53	0.83	ppb
Rhodium	103-1				95		%
Rhodium	103-2				95		%
Scandium	45-1				103		%
Scandium	45-2				101		%
Selenium	82-1	19.26	19.28	18.97	19.17	0.89	ppb
Selenium	77-2	20.64	19.90	19.23	19.92	3.55	ppb
Selenium	78-2	23.53	20.99	22.31	22.27	5.70	ppb
Silicon	28-1	0.98	1.11	1.10	1.06	7.05	ppb
Silver	107-1	18.21	18.65	18.33	18.39	1.25	ppb
Silver	109-1	18.44	18.72	18.64	18.60	0.79	ppb
Sodium	23-2	101888.32	101948.38	101876.08	101904.26	0.04	ppb
Strontium	86-1	842.21	834.06	839.68	838.65	0.50	ppb
Strontium	88-1	883.60	869.82	877.29	876.90	0.79	ppb
Sulfur	34-1	102780.33	106065.24	104814.20	104553.26	1.59	ppb
Terbium	159-1				102		%
Terbium	159-2				101		%
Thallium	203-1	19.54	19.65	20.11	19.77	1.51	ppb
Thallium	205-1	19.80	19.75	20.38	19.98	1.75	ppb
Tin	118-1	0.19	0.15	0.17	0.17	11.58	ppb
Titanium	47-1	2020.37	2059.86	2052.05	2044.09	1.02	ppb
Uranium	238-1	0.02	0.02	0.02	0.02	1.97	ppb

LB Number :

LB133950

Operator :

Jaswal

Lab Sample ID :

ICSAB001

Instrumnet Name :

P8

Client Sample ID :

ICSAB001

Dilution Factor :

1

Date & Time Acquired :

2024-12-13 14:38:39

DataFile Name :

025ICSB.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Vanadium	51-2	19.39	19.58	19.41	19.46	0.52	ppb
Ytterbium	172-1						cps
Ytterbium	172-2						cps
Ytterbium	176-1						cps
Ytterbium	176-2						cps
Yttrium	89-1				104		%
Yttrium	89-2				104		%
Zinc	66-2	30.92	29.90	29.67	30.16	2.20	ppb
Zirconium	90-1	0.01	0.01	0.01	0.01	25.97	ppb
Zirconium	91-1	0.02	0.02	0.02	0.02	13.32	ppb

LB Number :

LB133950

Operator :

Jaswal

Lab Sample ID :

CCV001

Instrumnet Name :

P8

Client Sample ID :

CCV001

Dilution Factor :

1

Date & Time Acquired :

2024-12-13 14:41:43

DataFile Name :

026CCV.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Aluminium	27-2	50019.78	49101.91	48495.47	49205.72	1.56	ppb
Antimony	121-1	485.99	482.87	487.53	485.46	0.49	ppb
Arsenic	75-2	478.72	469.26	475.89	474.63	1.02	ppb
Barium	135-1	2479.42	2482.63	2465.87	2475.97	0.36	ppb
Barium	137-1	2439.58	2488.28	2467.43	2465.10	0.99	ppb
Beryllium	9-1	510.42	526.81	515.02	517.41	1.63	ppb
Bismuth	209-1				90		%
Bismuth	209-2				89		%
Bromine	81-1						cps
Cadmium	108-1	477.03	476.45	481.53	478.34	0.58	ppb
Cadmium	106-1	479.01	487.36	482.97	483.11	0.86	ppb
Cadmium	111-1	465.18	482.87	474.83	474.29	1.87	ppb
Calcium	43-1	238435.70	234951.77	235913.34	236433.61	0.76	ppb
Calcium	44-1	236668.64	237551.07	241255.41	238491.71	1.02	ppb
Carbon	12-1						cps
Carbon	12-2						cps
Chlorine	35-1						cps
Chlorine	35-2						cps
Chromium	52-2	494.37	486.90	489.24	490.17	0.78	ppb
Cobalt	59-2	489.44	478.66	475.34	481.15	1.53	ppb
Copper	63-2	4666.61	4545.90	4571.13	4594.55	1.39	ppb
Dysprosium	156-1						cps
Dysprosium	156-2						cps
Erbium	164-1						cps
Erbium	164-2						cps
Gadolinium	160-1						cps
Gadolinium	160-2						cps
Holmium	165-1				99		%
Holmium	165-2				99		%
Indium	115-1				94		%
Indium	115-2				94		%
Iron	54-2	125468.52	122278.30	122316.84	123354.55	1.48	ppb
Iron	56-2	122470.02	120498.10	120452.47	121140.20	0.95	ppb
Iron	57-2	124727.68	121923.21	121180.58	122610.49	1.53	ppb
Krypton	83-1						cps
Lead	206-1	2520.71	2487.61	2519.26	2509.19	0.75	ppb

LB Number : LB133950 Operator : Jaswal
Lab Sample ID : CCV001 Instrumnet Name : P8
Client Sample ID : CCV001 Dilution Factor : 1
Date & Time Acquired : 2024-12-13 14:41:43 DataFile Name : 026CCV.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Lead	207-1	2466.73	2456.91	2497.68	2473.77	0.86	ppb
Lead	208-1	2475.27	2488.01	2498.50	2487.26	0.47	ppb
Lithium	6-1				85		%
Magnesium	24-2	250466.56	244761.89	245314.81	246847.76	1.27	ppb
Manganese	55-2	4900.49	4812.04	4797.16	4836.56	1.15	ppb
Molybdenum	94-1	4831.42	4867.54	4894.28	4864.41	0.65	ppb
Molybdenum	95-1	4760.50	4834.97	4981.59	4859.02	2.32	ppb
Molybdenum	96-1	4768.97	4796.96	4952.93	4839.62	2.05	ppb
Molybdenum	97-1	4821.74	4806.37	4899.48	4842.53	1.03	ppb
Molybdenum	98-1	4716.51	4781.43	4890.59	4796.18	1.83	ppb
Neodymium	150-1						cps
Neodymium	150-2						cps
Nickel	60-2	517.91	508.63	509.36	511.97	1.01	ppb
Phosphorus	31-2	9959.29	9855.86	9932.44	9915.86	0.54	ppb
Potassium	39-2	123287.83	121116.30	121457.57	121953.90	0.96	ppb
Rhodium	103-1				89		%
Rhodium	103-2				89		%
Scandium	45-1				100		%
Scandium	45-2				97		%
Selenium	82-1	462.24	470.97	477.53	470.25	1.63	ppb
Selenium	77-2	448.98	436.91	474.55	453.48	4.24	ppb
Selenium	78-2	483.02	470.49	482.32	478.61	1.47	ppb
Silicon	28-1	484.26	489.91	493.11	489.10	0.92	ppb
Silver	107-1	467.80	470.77	467.13	468.57	0.41	ppb
Silver	109-1	464.32	477.63	475.37	472.44	1.51	ppb
Sodium	23-2	252223.78	243548.32	245636.50	247136.20	1.83	ppb
Strontium	86-1	12120.13	12474.00	12566.49	12386.87	1.90	ppb
Strontium	88-1	12008.11	12240.55	12421.71	12223.46	1.70	ppb
Sulfur	34-1	9731.72	9357.13	9714.83	9601.23	2.20	ppb
Terbium	159-1				100		%
Terbium	159-2				98		%
Thallium	203-1	502.21	492.21	502.65	499.03	1.18	ppb
Thallium	205-1	494.56	497.87	502.79	498.41	0.83	ppb
Tin	118-1	478.77	490.07	485.97	484.94	1.18	ppb
Titanium	47-1	4710.31	4851.74	4880.02	4814.02	1.89	ppb
Uranium	238-1	502.16	502.24	514.65	506.35	1.42	ppb

LB Number :

LB133950

Operator :

Jaswal

Lab Sample ID :

CCV001

Instrumnet Name :

P8

Client Sample ID :

CCV001

Dilution Factor :

1

Date & Time Acquired :

2024-12-13 14:41:43

DataFile Name :

026CCV.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Vanadium	51-2	500.71	487.64	493.38	493.91	1.33	ppb
Ytterbium	172-1						cps
Ytterbium	172-2						cps
Ytterbium	176-1						cps
Ytterbium	176-2						cps
Yttrium	89-1				100		%
Yttrium	89-2				101		%
Zinc	66-2	5043.92	4944.53	4952.70	4980.38	1.11	ppb
Zirconium	90-1	489.87	489.85	491.09	490.27	0.14	ppb
Zirconium	91-1	480.69	490.95	504.29	491.98	2.40	ppb

LB Number :LB133950Operator :Jaswal

Lab Sample ID :CCB001Instrumnet Name :P8

Client Sample ID :CCB001Dilution Factor :1

Date & Time Acquired :2024-12-13 14:55:06DataFile Name :027CCBE.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Aluminium	27-2	-0.09	-0.36	-0.12	-0.19		ppb
Antimony	121-1	0.02	0.02	0.01	0.02	13.59	ppb
Arsenic	75-2	-0.01	0.00	-0.01	-0.01		ppb
Barium	135-1	0.00	0.01	0.00	0.00	104.40	ppb
Barium	137-1	0.00	0.00	0.00	0.00	1349.48	ppb
Beryllium	9-1	0.04	0.03	0.04	0.04	6.87	ppb
Bismuth	209-1				105		%
Bismuth	209-2				95		%
Bromine	81-1						cps
Cadmium	108-1	0.04	0.04	0.00	0.03	96.50	ppb
Cadmium	106-1	0.75	-0.11	0.13	0.26	172.67	ppb
Cadmium	111-1	0.06	-0.01	0.02	0.02	157.99	ppb
Calcium	43-1	2.50	0.25	1.39	1.38	81.76	ppb
Calcium	44-1	5.50	4.26	5.30	5.02	13.20	ppb
Carbon	12-1						cps
Carbon	12-2						cps
Chlorine	35-1						cps
Chlorine	35-2						cps
Chromium	52-2	0.03	0.13	0.10	0.09	61.63	ppb
Cobalt	59-2	0.00	0.00	0.00	0.00	32.81	ppb
Copper	63-2	0.13	0.27	0.21	0.20	34.10	ppb
Dysprosium	156-1						cps
Dysprosium	156-2						cps
Erbium	164-1						cps
Erbium	164-2						cps
Gadolinium	160-1						cps
Gadolinium	160-2						cps
Holmium	165-1				104		%
Holmium	165-2				95		%
Indium	115-1				106		%
Indium	115-2				95		%
Iron	54-2	1.63	1.79	0.87	1.43	34.37	ppb
Iron	56-2	0.98	1.64	1.15	1.26	27.08	ppb
Iron	57-2	0.62	2.19	1.23	1.34	58.75	ppb
Krypton	83-1						cps
Lead	206-1	0.04	0.03	0.05	0.04	16.31	ppb

LB Number : LB133950 Operator : Jaswal
Lab Sample ID : CCB001 Instrumnet Name : P8
Client Sample ID : CCB001 Dilution Factor : 1
Date & Time Acquired : 2024-12-13 14:55:06 DataFile Name : 027CCBE.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Lead	207-1	0.03	0.04	0.04	0.04	9.18	ppb
Lead	208-1	0.04	0.04	0.04	0.04	4.91	ppb
Lithium	6-1				97		%
Magnesium	24-2	-1.72	-1.30	-1.62	-1.54		ppb
Manganese	55-2	0.01	0.04	0.02	0.02	64.39	ppb
Molybdenum	94-1	0.09	0.03	0.03	0.05	67.21	ppb
Molybdenum	95-1	0.10	0.04	0.02	0.05	77.28	ppb
Molybdenum	96-1	0.09	0.03	0.02	0.05	73.60	ppb
Molybdenum	97-1	0.08	0.04	0.03	0.05	60.20	ppb
Molybdenum	98-1	0.09	0.03	0.03	0.05	62.25	ppb
Neodymium	150-1						cps
Neodymium	150-2						cps
Nickel	60-2	0.00	0.05	-0.01	0.01	190.88	ppb
Phosphorus	31-2	-6.97	-12.62	-12.82	-10.80		ppb
Potassium	39-2	34.32	52.66	39.98	42.32	22.19	ppb
Rhodium	103-1				106		%
Rhodium	103-2				97		%
Scandium	45-1				106		%
Scandium	45-2				96		%
Selenium	82-1	-0.12	-0.02	-0.07	-0.07		ppb
Selenium	77-2	-0.19	-0.19	-0.19	-0.19		ppb
Selenium	78-2	0.06	0.21	-0.23	0.01	1817.58	ppb
Silicon	28-1	-0.08	-0.18	-0.07	-0.11		ppb
Silver	107-1	0.01	0.01	0.01	0.01	13.73	ppb
Silver	109-1	0.01	0.01	0.01	0.01	14.14	ppb
Sodium	23-2	74.96	105.34	87.79	89.36	17.06	ppb
Strontium	86-1	0.00	-0.29	-0.22	-0.17		ppb
Strontium	88-1	0.05	0.05	0.05	0.05	7.26	ppb
Sulfur	34-1	-100.83	-336.08	-55.57	-164.16		ppb
Terbium	159-1				103		%
Terbium	159-2				97		%
Thallium	203-1	0.02	0.02	0.02	0.02	9.12	ppb
Thallium	205-1	0.02	0.02	0.02	0.02	6.02	ppb
Tin	118-1	0.03	0.02	0.03	0.02	28.29	ppb
Titanium	47-1	0.07	0.04	0.06	0.06	25.12	ppb
Uranium	238-1	0.00	0.00	0.00	0.00		ppb

LB Number :

LB133950

Operator :

Jaswal

Lab Sample ID :

CCB001

Instrumnet Name :

P8

Client Sample ID :

CCB001

Dilution Factor :

1

Date & Time Acquired :

2024-12-13 14:55:06

DataFile Name :

027CCBE.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Vanadium	51-2	0.00	0.00	0.00	0.00	227.76	ppb
Ytterbium	172-1						cps
Ytterbium	172-2						cps
Ytterbium	176-1						cps
Ytterbium	176-2						cps
Yttrium	89-1				107		%
Yttrium	89-2				99		%
Zinc	66-2	0.34	0.45	0.37	0.39	13.56	ppb
Zirconium	90-1	0.00	0.01	0.00	0.01	30.18	ppb
Zirconium	91-1	0.01	0.01	0.01	0.01	5.58	ppb

LB Number :

LB133950

Operator :

Jaswal

Lab Sample ID :

PB165564BL

Instrumnet Name :

P8

Client Sample ID :

PBS564

Dilution Factor :

1

Date & Time Acquired :

2024-12-13 14:58:25

DataFile Name :

028AREF.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Aluminium	27-2	-0.21	-0.23	-0.24	-0.23		ppb
Antimony	121-1	0.01	0.01	0.01	0.01	9.29	ppb
Arsenic	75-2	0.00	0.00	0.00	0.00		ppb
Barium	135-1	0.01	0.01	0.01	0.01	31.69	ppb
Barium	137-1	0.01	0.01	0.01	0.01	18.00	ppb
Beryllium	9-1	0.03	0.03	0.03	0.03	4.46	ppb
Bismuth	209-1				103		%
Bismuth	209-2				108		%
Bromine	81-1						cps
Cadmium	108-1	0.03	-0.01	0.01	0.01	170.71	ppb
Cadmium	106-1	-0.31	0.05	0.42	0.05	713.79	ppb
Cadmium	111-1	-0.03	0.00	0.03	0.00	805.60	ppb
Calcium	43-1	-2.21	-0.72	-0.49	-1.14		ppb
Calcium	44-1	0.86	1.06	1.29	1.07	20.19	ppb
Carbon	12-1						cps
Carbon	12-2						cps
Chlorine	35-1						cps
Chlorine	35-2						cps
Chromium	52-2	0.11	0.01	0.07	0.06	74.73	ppb
Cobalt	59-2	0.00	0.00	0.00	0.00	584.66	ppb
Copper	63-2	0.16	0.06	0.12	0.11	45.98	ppb
Dysprosium	156-1						cps
Dysprosium	156-2						cps
Erbium	164-1						cps
Erbium	164-2						cps
Gadolinium	160-1						cps
Gadolinium	160-2						cps
Holmium	165-1				104		%
Holmium	165-2				108		%
Indium	115-1				105		%
Indium	115-2				108		%
Iron	54-2	1.77	-0.02	1.42	1.05	90.22	ppb
Iron	56-2	1.22	0.65	1.05	0.97	29.93	ppb
Iron	57-2	0.93	0.70	0.78	0.80	14.89	ppb
Krypton	83-1						cps
Lead	206-1	0.05	0.04	0.05	0.04	4.89	ppb

LB Number : LB133950 Operator : Jaswal
Lab Sample ID : PB165564BL Instrumnet Name : P8
Client Sample ID : PBS564 Dilution Factor : 1
Date & Time Acquired : 2024-12-13 14:58:25 DataFile Name : 028AREF.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Lead	207-1	0.03	0.04	0.04	0.04	8.68	ppb
Lead	208-1	0.04	0.04	0.04	0.04	3.47	ppb
Lithium	6-1				99		%
Magnesium	24-2	-1.29	-2.03	-1.90	-1.74		ppb
Manganese	55-2	-0.01	0.00	0.00	0.00		ppb
Molybdenum	94-1	0.03	0.02	0.03	0.02	26.90	ppb
Molybdenum	95-1	0.04	0.03	0.02	0.03	37.51	ppb
Molybdenum	96-1	0.02	0.02	0.02	0.02	19.10	ppb
Molybdenum	97-1	0.02	0.02	0.02	0.02	9.20	ppb
Molybdenum	98-1	0.03	0.02	0.02	0.03	34.61	ppb
Neodymium	150-1						cps
Neodymium	150-2						cps
Nickel	60-2	0.03	-0.02	0.03	0.01	201.83	ppb
Phosphorus	31-2	-12.04	-22.47	-7.58	-14.03		ppb
Potassium	39-2	37.58	17.19	31.09	28.62	36.40	ppb
Rhodium	103-1				104		%
Rhodium	103-2				111		%
Scandium	45-1				106		%
Scandium	45-2				110		%
Selenium	82-1	0.03	-0.30	-0.01	-0.09		ppb
Selenium	77-2	-0.19	-0.19	-0.19	-0.19		ppb
Selenium	78-2	-0.06	-0.61	-0.10	-0.26		ppb
Silicon	28-1	-0.37	-0.36	-0.35	-0.36		ppb
Silver	107-1	0.00	0.00	0.01	0.01	41.63	ppb
Silver	109-1	0.01	0.01	0.00	0.01	21.42	ppb
Sodium	23-2	71.37	40.52	59.36	57.08	27.24	ppb
Strontium	86-1	-0.26	-0.19	0.14	-0.10		ppb
Strontium	88-1	0.02	0.06	0.06	0.05	44.29	ppb
Sulfur	34-1	-174.82	-25.68	-17.47	-72.66		ppb
Terbium	159-1				103		%
Terbium	159-2				109		%
Thallium	203-1	0.02	0.02	0.02	0.02	1.81	ppb
Thallium	205-1	0.02	0.02	0.02	0.02	2.30	ppb
Tin	118-1	-0.02	-0.01	-0.01	-0.01		ppb
Titanium	47-1	0.06	0.04	0.07	0.06	23.22	ppb
Uranium	238-1	0.00	0.00	0.00	0.00		ppb

LB Number :

LB133950

Operator :

Jaswal

Lab Sample ID :

PB165564BL

Instrumnet Name :

P8

Client Sample ID :

PBS564

Dilution Factor :

1

Date & Time Acquired :

2024-12-13 14:58:25

DataFile Name :

028AREF.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Vanadium	51-2	0.00	0.00	0.00	0.00	1812.19	ppb
Ytterbium	172-1						cps
Ytterbium	172-2						cps
Ytterbium	176-1						cps
Ytterbium	176-2						cps
Yttrium	89-1				106		%
Yttrium	89-2				111		%
Zinc	66-2	0.01	-0.12	-0.04	-0.05		ppb
Zirconium	90-1	0.00	0.00	0.00	0.00	35.54	ppb
Zirconium	91-1	0.00	0.00	-0.01	0.00		ppb

LB Number :LB133950Operator :Jaswal

Lab Sample ID :PB165564BSInstrumnet Name :P8

Client Sample ID :LCS564Dilution Factor :1

Date & Time Acquired :2024-12-13 15:01:46DataFile Name :029AREF.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Aluminium	27-2	43.79	39.71	47.97	43.83	9.42	ppb
Antimony	121-1	3.99	4.06	4.03	4.03	0.89	ppb
Arsenic	75-2	2.47	2.21	2.44	2.37	6.04	ppb
Barium	135-1	19.12	19.53	19.16	19.27	1.18	ppb
Barium	137-1	19.38	19.87	19.62	19.63	1.24	ppb
Beryllium	9-1	2.14	2.13	2.11	2.13	0.81	ppb
Bismuth	209-1				104		%
Bismuth	209-2				95		%
Bromine	81-1						cps
Cadmium	108-1	2.04	2.06	2.20	2.10	4.02	ppb
Cadmium	106-1	1.90	2.23	2.04	2.06	8.08	ppb
Cadmium	111-1	2.04	2.10	2.06	2.07	1.59	ppb
Calcium	43-1	960.78	975.63	955.10	963.84	1.10	ppb
Calcium	44-1	1005.13	1025.81	1002.33	1011.09	1.27	ppb
Carbon	12-1						cps
Carbon	12-2						cps
Chlorine	35-1						cps
Chlorine	35-2						cps
Chromium	52-2	4.13	3.78	4.38	4.10	7.39	ppb
Cobalt	59-2	2.21	2.05	2.46	2.24	9.24	ppb
Copper	63-2	4.59	4.35	5.16	4.70	8.80	ppb
Dysprosium	156-1						cps
Dysprosium	156-2						cps
Erbium	164-1						cps
Erbium	164-2						cps
Gadolinium	160-1						cps
Gadolinium	160-2						cps
Holmium	165-1				104		%
Holmium	165-2				96		%
Indium	115-1				106		%
Indium	115-2				95		%
Iron	54-2	442.34	413.25	485.29	446.96	8.11	ppb
Iron	56-2	442.54	414.55	489.88	448.99	8.48	ppb
Iron	57-2	427.61	401.65	468.93	432.73	7.84	ppb
Krypton	83-1						cps
Lead	206-1	1.97	1.95	1.95	1.96	0.53	ppb

LB Number : LB133950 Operator : Jaswal
Lab Sample ID : PB165564BS Instrumnet Name : P8
Client Sample ID : LCS564 Dilution Factor : 1
Date & Time Acquired : 2024-12-13 15:01:46 DataFile Name : 029AREF.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Lead	207-1	2.00	2.01	1.99	2.00	0.56	ppb
Lead	208-1	1.96	1.99	1.97	1.97	0.81	ppb
Lithium	6-1				99		%
Magnesium	24-2	1113.57	1044.06	1214.65	1124.09	7.63	ppb
Manganese	55-2	2.01	1.91	2.42	2.11	12.93	ppb
Molybdenum	94-1	10.92	11.31	11.17	11.13	1.79	ppb
Molybdenum	95-1	9.27	9.45	9.65	9.45	2.02	ppb
Molybdenum	96-1	9.44	9.66	9.69	9.60	1.43	ppb
Molybdenum	97-1	9.32	9.62	9.85	9.60	2.75	ppb
Molybdenum	98-1	9.22	9.40	9.43	9.35	1.23	ppb
Neodymium	150-1						cps
Neodymium	150-2						cps
Nickel	60-2	2.18	2.00	2.36	2.18	8.06	ppb
Phosphorus	31-2	50.17	21.92	41.35	37.82	38.22	ppb
Potassium	39-2	1074.87	1004.15	1196.04	1091.68	8.89	ppb
Rhodium	103-1				104		%
Rhodium	103-2				98		%
Scandium	45-1				106		%
Scandium	45-2				96		%
Selenium	82-1	9.75	10.17	10.80	10.24	5.16	ppb
Selenium	77-2	15.22	11.25	10.43	12.30	20.82	ppb
Selenium	78-2	9.46	12.64	11.75	11.28	14.52	ppb
Silicon	28-1	0.63	0.59	0.55	0.59	6.68	ppb
Silver	107-1	1.99	2.05	2.04	2.02	1.52	ppb
Silver	109-1	2.02	2.08	2.05	2.05	1.39	ppb
Sodium	23-2	1150.07	1076.50	1270.42	1165.66	8.40	ppb
Strontium	86-1	48.75	48.16	48.04	48.31	0.79	ppb
Strontium	88-1	48.51	49.27	48.96	48.91	0.78	ppb
Sulfur	34-1	-126.72	-124.23	-151.66	-134.20		ppb
Terbium	159-1				106		%
Terbium	159-2				95		%
Thallium	203-1	1.91	1.95	1.90	1.92	1.24	ppb
Thallium	205-1	1.90	1.91	1.92	1.91	0.62	ppb
Tin	118-1	9.75	10.10	9.90	9.92	1.77	ppb
Titanium	47-1	2.48	2.43	2.47	2.46	1.23	ppb
Uranium	238-1	1.82	1.77	1.79	1.79	1.56	ppb

LB Number :

LB133950

Operator :

Jaswal

Lab Sample ID :

PB165564BS

Instrumnet Name :

P8

Client Sample ID :

LCS564

Dilution Factor :

1

Date & Time Acquired :

2024-12-13 15:01:46

DataFile Name :

029AREF.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Vanadium	51-2	10.69	10.12	11.70	10.84	7.42	ppb
Ytterbium	172-1						cps
Ytterbium	172-2						cps
Ytterbium	176-1						cps
Ytterbium	176-2						cps
Yttrium	89-1				107		%
Yttrium	89-2				99		%
Zinc	66-2	10.85	11.17	12.40	11.48	7.13	ppb
Zirconium	90-1	1.78	1.82	1.86	1.82	2.38	ppb
Zirconium	91-1	1.78	1.88	1.86	1.84	2.98	ppb

LB Number :

LB133950

Operator :

Jaswal

Lab Sample ID :

PB165532BL

Instrumnet Name :

P8

Client Sample ID :

PBS532

Dilution Factor :

1

Date & Time Acquired :

2024-12-13 15:15:38

DataFile Name :

030AREF.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Aluminium	27-2	0.07	-0.05	-0.05	-0.01		ppb
Antimony	121-1	0.00	0.00	0.00	0.00	59.06	ppb
Arsenic	75-2	-0.01	0.01	0.01	0.00	396.58	ppb
Barium	135-1	0.01	0.01	0.00	0.01	136.64	ppb
Barium	137-1	0.00	0.00	0.00	0.00	56.68	ppb
Beryllium	9-1	0.02	0.02	0.02	0.02	10.99	ppb
Bismuth	209-1				100		%
Bismuth	209-2				100		%
Bromine	81-1						cps
Cadmium	108-1	-0.01	0.00	-0.02	-0.01		ppb
Cadmium	106-1	-0.21	-1.23	-0.05	-0.50		ppb
Cadmium	111-1	-0.02	-0.10	0.00	-0.04		ppb
Calcium	43-1	-1.33	-1.00	-2.16	-1.49		ppb
Calcium	44-1	1.46	1.31	0.79	1.18	29.30	ppb
Carbon	12-1						cps
Carbon	12-2						cps
Chlorine	35-1						cps
Chlorine	35-2						cps
Chromium	52-2	0.08	0.06	0.11	0.09	33.02	ppb
Cobalt	59-2	0.00	0.00	0.00	0.00		ppb
Copper	63-2	0.02	0.01	0.05	0.03	84.97	ppb
Dysprosium	156-1						cps
Dysprosium	156-2						cps
Erbium	164-1						cps
Erbium	164-2						cps
Gadolinium	160-1						cps
Gadolinium	160-2						cps
Holmium	165-1				100		%
Holmium	165-2				101		%
Indium	115-1				102		%
Indium	115-2				101		%
Iron	54-2	1.43	0.73	1.17	1.11	31.80	ppb
Iron	56-2	0.74	1.57	0.70	1.01	48.64	ppb
Iron	57-2	0.33	0.99	0.81	0.71	47.75	ppb
Krypton	83-1						cps
Lead	206-1	0.02	0.04	0.02	0.03	30.49	ppb

LB Number : LB133950 Operator : Jaswal
Lab Sample ID : PB165532BL Instrumnet Name : P8
Client Sample ID : PBS532 Dilution Factor : 1
Date & Time Acquired : 2024-12-13 15:15:38 DataFile Name : 030AREF.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Lead	207-1	0.01	0.02	0.02	0.02	24.54	ppb
Lead	208-1	0.02	0.03	0.02	0.02	17.74	ppb
Lithium	6-1				97		%
Magnesium	24-2	-1.05	-1.14	-1.01	-1.07		ppb
Manganese	55-2	0.01	-0.01	-0.01	-0.01		ppb
Molybdenum	94-1	0.01	0.01	0.01	0.01	26.62	ppb
Molybdenum	95-1	0.02	0.01	0.02	0.01	45.49	ppb
Molybdenum	96-1	0.02	0.01	0.01	0.01	60.25	ppb
Molybdenum	97-1	0.03	0.01	0.02	0.02	38.70	ppb
Molybdenum	98-1	0.02	0.01	0.01	0.01	23.67	ppb
Neodymium	150-1						cps
Neodymium	150-2						cps
Nickel	60-2	0.04	0.02	0.02	0.03	34.04	ppb
Phosphorus	31-2	-3.01	-14.03	-11.22	-9.42		ppb
Potassium	39-2	25.94	26.82	24.04	25.60	5.56	ppb
Rhodium	103-1				101		%
Rhodium	103-2				103		%
Scandium	45-1				103		%
Scandium	45-2				103		%
Selenium	82-1	-0.08	-0.32	0.11	-0.09		ppb
Selenium	77-2	-0.19	-0.19	0.36	0.00		ppb
Selenium	78-2	0.08	-0.09	-0.58	-0.20		ppb
Silicon	28-1	-0.22	-0.27	-0.29	-0.26		ppb
Silver	107-1	0.00	0.00	0.00	0.00	9.07	ppb
Silver	109-1	0.00	0.00	0.00	0.00	8.63	ppb
Sodium	23-2	53.65	52.98	51.16	52.60	2.46	ppb
Strontium	86-1	0.14	0.19	0.11	0.15	27.48	ppb
Strontium	88-1	0.03	0.03	0.05	0.03	39.05	ppb
Sulfur	34-1	187.91	119.07	100.97	135.98	33.73	ppb
Terbium	159-1				101		%
Terbium	159-2				101		%
Thallium	203-1	0.01	0.01	0.00	0.01	39.47	ppb
Thallium	205-1	0.01	0.01	0.01	0.01	25.79	ppb
Tin	118-1	0.00	-0.02	0.09	0.02	259.38	ppb
Titanium	47-1	0.05	0.04	0.07	0.05	26.49	ppb
Uranium	238-1	0.00	0.00	0.00	0.00		ppb

LB Number :

LB133950

Operator :

Jaswal

Lab Sample ID :

PB165532BL

Instrumnet Name :

P8

Client Sample ID :

PBS532

Dilution Factor :

1

Date & Time Acquired :

2024-12-13 15:15:38

DataFile Name :

030AREF.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Vanadium	51-2	0.00	0.00	0.00	0.00	15.27	ppb
Ytterbium	172-1						cps
Ytterbium	172-2						cps
Ytterbium	176-1						cps
Ytterbium	176-2						cps
Yttrium	89-1				102		%
Yttrium	89-2				104		%
Zinc	66-2	0.06	0.00	0.02	0.03	117.58	ppb
Zirconium	90-1	0.00	0.00	0.00	0.00		ppb
Zirconium	91-1	0.00	0.00	0.00	0.00	15.94	ppb

LB Number :

LB133950

Operator :

Jaswal

Lab Sample ID :

PB165532BS

Instrumnet Name :

P8

Client Sample ID :

LCS532

Dilution Factor :

1

Date & Time Acquired :

2024-12-13 15:18:57

DataFile Name :

031AREF.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Aluminium	27-2	32.51	37.93	42.44	37.63	13.20	ppb
Antimony	121-1	4.16	4.42	3.92	4.17	6.01	ppb
Arsenic	75-2	1.88	2.11	2.32	2.10	10.65	ppb
Barium	135-1	20.44	21.16	19.08	20.23	5.20	ppb
Barium	137-1	20.52	21.46	19.28	20.42	5.36	ppb
Beryllium	9-1	2.13	2.40	2.05	2.19	8.16	ppb
Bismuth	209-1				104		%
Bismuth	209-2				107		%
Bromine	81-1						cps
Cadmium	108-1	1.99	2.22	2.20	2.14	5.88	ppb
Cadmium	106-1	2.64	2.39	2.15	2.40	10.23	ppb
Cadmium	111-1	2.22	2.26	2.03	2.17	5.61	ppb
Calcium	43-1	1030.67	1049.34	980.66	1020.22	3.48	ppb
Calcium	44-1	1078.24	1081.69	1007.40	1055.77	3.97	ppb
Carbon	12-1						cps
Carbon	12-2						cps
Chlorine	35-1						cps
Chlorine	35-2						cps
Chromium	52-2	3.26	3.77	3.96	3.66	9.93	ppb
Cobalt	59-2	1.81	2.11	2.14	2.02	8.94	ppb
Copper	63-2	3.65	4.22	4.40	4.09	9.56	ppb
Dysprosium	156-1						cps
Dysprosium	156-2						cps
Erbium	164-1						cps
Erbium	164-2						cps
Gadolinium	160-1						cps
Gadolinium	160-2						cps
Holmium	165-1				105		%
Holmium	165-2				108		%
Indium	115-1				106		%
Indium	115-2				108		%
Iron	54-2	357.39	413.70	425.37	398.82	9.11	ppb
Iron	56-2	363.10	415.50	433.70	404.10	9.07	ppb
Iron	57-2	352.77	399.16	412.92	388.28	8.12	ppb
Krypton	83-1						cps
Lead	206-1	1.97	2.07	1.87	1.97	5.27	ppb

LB Number : LB133950 Operator : Jaswal
Lab Sample ID : PB165532BS Instrumnet Name : P8
Client Sample ID : LCS532 Dilution Factor : 1
Date & Time Acquired : 2024-12-13 15:18:57 DataFile Name : 031AREF.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Lead	207-1	1.96	2.14	1.94	2.01	5.43	ppb
Lead	208-1	1.95	2.11	1.89	1.98	5.64	ppb
Lithium	6-1				101		%
Magnesium	24-2	918.79	1048.97	1088.32	1018.69	8.71	ppb
Manganese	55-2	1.71	1.92	2.00	1.88	7.85	ppb
Molybdenum	94-1	11.55	11.84	10.75	11.38	4.97	ppb
Molybdenum	95-1	9.73	10.18	9.12	9.68	5.53	ppb
Molybdenum	96-1	9.83	10.28	9.23	9.78	5.41	ppb
Molybdenum	97-1	9.75	10.24	9.29	9.76	4.88	ppb
Molybdenum	98-1	9.67	10.15	9.16	9.66	5.12	ppb
Neodymium	150-1						cps
Neodymium	150-2						cps
Nickel	60-2	1.81	2.02	2.00	1.94	5.92	ppb
Phosphorus	31-2	28.72	36.28	35.79	33.60	12.59	ppb
Potassium	39-2	875.03	1008.37	1048.38	977.26	9.29	ppb
Rhodium	103-1				105		%
Rhodium	103-2				109		%
Scandium	45-1				108		%
Scandium	45-2				110		%
Selenium	82-1	10.44	10.40	10.09	10.31	1.85	ppb
Selenium	77-2	6.86	11.98	10.23	9.69	26.84	ppb
Selenium	78-2	10.66	10.96	9.07	10.23	9.96	ppb
Silicon	28-1	0.63	0.68	0.47	0.59	18.52	ppb
Silver	107-1	2.09	2.20	1.96	2.09	5.68	ppb
Silver	109-1	2.10	2.19	2.02	2.11	4.08	ppb
Sodium	23-2	940.13	1072.16	1112.92	1041.74	8.67	ppb
Strontium	86-1	50.40	50.68	46.46	49.18	4.80	ppb
Strontium	88-1	50.00	52.26	48.03	50.09	4.23	ppb
Sulfur	34-1	-15.03	239.18	-167.77	18.79	1093.94	ppb
Terbium	159-1				104		%
Terbium	159-2				107		%
Thallium	203-1	1.90	2.09	1.87	1.95	6.08	ppb
Thallium	205-1	1.92	2.09	1.86	1.96	6.11	ppb
Tin	118-1	10.37	10.75	9.70	10.28	5.17	ppb
Titanium	47-1	2.57	2.58	2.37	2.51	4.78	ppb
Uranium	238-1	1.80	1.93	1.73	1.82	5.59	ppb

LB Number :

LB133950

Operator :

Jaswal

Lab Sample ID :

PB165532BS

Instrumnet Name :

P8

Client Sample ID :

LCS532

Dilution Factor :

1

Date & Time Acquired :

2024-12-13 15:18:57

DataFile Name :

031AREF.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Vanadium	51-2	8.61	10.20	10.38	9.73	10.03	ppb
Ytterbium	172-1						cps
Ytterbium	172-2						cps
Ytterbium	176-1						cps
Ytterbium	176-2						cps
Yttrium	89-1				107		%
Yttrium	89-2				111		%
Zinc	66-2	9.87	11.33	11.18	10.79	7.43	ppb
Zirconium	90-1	1.86	1.93	1.75	1.85	4.89	ppb
Zirconium	91-1	1.79	1.90	1.70	1.80	5.48	ppb

LB Number :

LB133950

Operator :

Jaswal

Lab Sample ID :

PB165606BL

Instrumnet Name :

P8

Client Sample ID :

PBS606

Dilution Factor :

1

Date & Time Acquired :

2024-12-13 15:22:15

DataFile Name :

032AREF.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Aluminium	27-2	-0.09	-0.34	-0.15	-0.19		ppb
Antimony	121-1	0.00	0.00	0.00	0.00	8.05	ppb
Arsenic	75-2	0.01	0.02	0.01	0.01	40.82	ppb
Barium	135-1	0.01	0.01	0.00	0.01	79.58	ppb
Barium	137-1	0.00	0.00	0.00	0.00	120.41	ppb
Beryllium	9-1	0.01	0.01	0.01	0.01	10.20	ppb
Bismuth	209-1				100		%
Bismuth	209-2				95		%
Bromine	81-1						cps
Cadmium	108-1	0.00	-0.02	0.03	0.00	836.16	ppb
Cadmium	106-1	0.57	0.72	0.20	0.50	53.55	ppb
Cadmium	111-1	0.05	0.06	0.01	0.04	59.16	ppb
Calcium	43-1	0.11	-0.62	-0.57	-0.36		ppb
Calcium	44-1	0.45	1.21	1.21	0.96	46.27	ppb
Carbon	12-1						cps
Carbon	12-2						cps
Chlorine	35-1						cps
Chlorine	35-2						cps
Chromium	52-2	0.16	0.13	0.13	0.14	13.69	ppb
Cobalt	59-2	0.00	-0.01	0.00	0.00		ppb
Copper	63-2	0.08	0.05	0.01	0.05	65.86	ppb
Dysprosium	156-1						cps
Dysprosium	156-2						cps
Erbium	164-1						cps
Erbium	164-2						cps
Gadolinium	160-1						cps
Gadolinium	160-2						cps
Holmium	165-1				100		%
Holmium	165-2				97		%
Indium	115-1				102		%
Indium	115-2				96		%
Iron	54-2	0.80	1.06	0.75	0.87	19.13	ppb
Iron	56-2	0.93	0.83	0.94	0.90	6.43	ppb
Iron	57-2	0.60	1.66	0.88	1.05	52.40	ppb
Krypton	83-1						cps
Lead	206-1	0.02	0.03	0.03	0.02	17.38	ppb

LB Number : LB133950 Operator : Jaswal
Lab Sample ID : PB165606BL Instrumnet Name : P8
Client Sample ID : PBS606 Dilution Factor : 1
Date & Time Acquired : 2024-12-13 15:22:15 DataFile Name : 032AREF.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Lead	207-1	0.02	0.03	0.02	0.02	18.77	ppb
Lead	208-1	0.02	0.03	0.02	0.02	4.88	ppb
Lithium	6-1				98		%
Magnesium	24-2	-0.89	-0.77	-0.74	-0.80		ppb
Manganese	55-2	0.04	0.02	0.01	0.02	52.28	ppb
Molybdenum	94-1	0.02	0.03	0.02	0.02	29.58	ppb
Molybdenum	95-1	0.01	0.01	0.02	0.01	29.44	ppb
Molybdenum	96-1	0.01	0.01	0.01	0.01	21.88	ppb
Molybdenum	97-1	0.01	0.00	0.01	0.01	43.63	ppb
Molybdenum	98-1	0.01	0.01	0.01	0.01	6.79	ppb
Neodymium	150-1						cps
Neodymium	150-2						cps
Nickel	60-2	0.05	0.05	0.03	0.05	23.37	ppb
Phosphorus	31-2	-17.67	-10.84	-9.89	-12.80		ppb
Potassium	39-2	28.76	26.83	25.92	27.17	5.34	ppb
Rhodium	103-1				101		%
Rhodium	103-2				99		%
Scandium	45-1				103		%
Scandium	45-2				98		%
Selenium	82-1	-0.22	-0.12	-0.07	-0.13		ppb
Selenium	77-2	-0.19	-0.19	0.38	0.00	12373.40	ppb
Selenium	78-2	0.31	0.11	0.12	0.18	65.03	ppb
Silicon	28-1	-0.30	-0.25	-0.19	-0.24		ppb
Silver	107-1	0.01	0.01	0.01	0.01	23.54	ppb
Silver	109-1	0.01	0.01	0.01	0.01	19.17	ppb
Sodium	23-2	56.84	54.66	51.80	54.43	4.65	ppb
Strontium	86-1	0.18	0.17	0.24	0.20	20.48	ppb
Strontium	88-1	0.06	0.05	0.04	0.05	16.39	ppb
Sulfur	34-1	106.44	341.46	335.89	261.26	51.33	ppb
Terbium	159-1				100		%
Terbium	159-2				95		%
Thallium	203-1	0.01	0.01	0.01	0.01	14.06	ppb
Thallium	205-1	0.01	0.01	0.01	0.01	3.44	ppb
Tin	118-1	-0.01	0.03	-0.02	0.00	10154.92	ppb
Titanium	47-1	0.04	0.05	0.06	0.05	24.00	ppb
Uranium	238-1	0.00	0.00	0.00	0.00		ppb

LB Number :

LB133950

Operator :

Jaswal

Lab Sample ID :

PB165606BL

Instrumnet Name :

P8

Client Sample ID :

PBS606

Dilution Factor :

1

Date & Time Acquired :

2024-12-13 15:22:15

DataFile Name :

032AREF.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Vanadium	51-2	0.00	0.00	0.00	0.00	313.65	ppb
Ytterbium	172-1						cps
Ytterbium	172-2						cps
Ytterbium	176-1						cps
Ytterbium	176-2						cps
Yttrium	89-1				102		%
Yttrium	89-2				100		%
Zinc	66-2	0.02	0.00	0.03	0.01	122.43	ppb
Zirconium	90-1	0.00	0.00	0.00	0.00	63.21	ppb
Zirconium	91-1	0.01	0.01	0.00	0.00	138.74	ppb

LB Number :

LB133950

Operator :

Jaswal

Lab Sample ID :

PB165606BS

Instrumnet Name :

P8

Client Sample ID :

LCS606

Dilution Factor :

1

Date & Time Acquired :

2024-12-13 15:25:35

DataFile Name :

033AREF.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Aluminium	27-2	37.57	37.45	38.67	37.90	1.78	ppb
Antimony	121-1	4.11	4.18	3.97	4.08	2.60	ppb
Arsenic	75-2	2.08	2.22	2.06	2.12	4.17	ppb
Barium	135-1	19.92	20.04	19.34	19.77	1.89	ppb
Barium	137-1	20.04	20.46	19.76	20.09	1.74	ppb
Beryllium	9-1	2.10	2.13	2.08	2.11	1.19	ppb
Bismuth	209-1				103		%
Bismuth	209-2				103		%
Bromine	81-1						cps
Cadmium	108-1	1.99	1.98	2.32	2.10	9.21	ppb
Cadmium	106-1	1.70	2.71	2.11	2.17	23.21	ppb
Cadmium	111-1	2.07	2.23	2.08	2.12	4.28	ppb
Calcium	43-1	974.34	978.75	962.12	971.74	0.89	ppb
Calcium	44-1	1028.16	1025.55	988.07	1013.93	2.21	ppb
Carbon	12-1						cps
Carbon	12-2						cps
Chlorine	35-1						cps
Chlorine	35-2						cps
Chromium	52-2	3.70	3.68	3.68	3.69	0.35	ppb
Cobalt	59-2	2.00	1.97	2.03	2.00	1.32	ppb
Copper	63-2	4.22	4.01	4.09	4.11	2.53	ppb
Dysprosium	156-1						cps
Dysprosium	156-2						cps
Erbium	164-1						cps
Erbium	164-2						cps
Gadolinium	160-1						cps
Gadolinium	160-2						cps
Holmium	165-1				103		%
Holmium	165-2				104		%
Indium	115-1				105		%
Indium	115-2				104		%
Iron	54-2	400.77	402.44	399.98	401.06	0.31	ppb
Iron	56-2	399.50	405.19	410.41	405.03	1.35	ppb
Iron	57-2	387.12	394.32	396.34	392.59	1.23	ppb
Krypton	83-1						cps
Lead	206-1	1.98	2.00	1.90	1.96	2.79	ppb

LB Number : LB133950 Operator : Jaswal
Lab Sample ID : PB165606BS Instrumnet Name : P8
Client Sample ID : LCS606 Dilution Factor : 1
Date & Time Acquired : 2024-12-13 15:25:35 DataFile Name : 033AREF.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Lead	207-1	1.97	1.96	1.91	1.95	1.69	ppb
Lead	208-1	1.96	1.96	1.93	1.95	0.85	ppb
Lithium	6-1				101		%
Magnesium	24-2	1025.88	1022.91	1023.95	1024.25	0.15	ppb
Manganese	55-2	1.99	1.90	1.88	1.93	3.09	ppb
Molybdenum	94-1	11.27	11.33	11.00	11.20	1.58	ppb
Molybdenum	95-1	9.64	9.69	9.34	9.56	1.97	ppb
Molybdenum	96-1	9.73	9.70	9.47	9.63	1.50	ppb
Molybdenum	97-1	9.78	9.84	9.37	9.66	2.63	ppb
Molybdenum	98-1	9.54	9.66	9.28	9.49	2.04	ppb
Neodymium	150-1						cps
Neodymium	150-2						cps
Nickel	60-2	1.93	1.89	1.85	1.89	2.07	ppb
Phosphorus	31-2	37.31	28.88	31.58	32.59	13.21	ppb
Potassium	39-2	985.64	979.20	988.63	984.49	0.49	ppb
Rhodium	103-1				103		%
Rhodium	103-2				105		%
Scandium	45-1				105		%
Scandium	45-2				106		%
Selenium	82-1	10.13	9.92	9.95	10.00	1.14	ppb
Selenium	77-2	14.14	11.10	7.39	10.88	31.07	ppb
Selenium	78-2	11.65	11.97	10.75	11.45	5.53	ppb
Silicon	28-1	0.68	0.68	0.61	0.65	5.96	ppb
Silver	107-1	2.04	2.10	2.01	2.05	2.09	ppb
Silver	109-1	2.07	2.11	2.03	2.07	1.92	ppb
Sodium	23-2	1053.61	1047.55	1045.46	1048.87	0.40	ppb
Strontium	86-1	50.35	50.30	47.76	49.47	2.99	ppb
Strontium	88-1	49.62	50.26	48.37	49.42	1.94	ppb
Sulfur	34-1	-35.86	45.03	-51.66	-14.16		ppb
Terbium	159-1				103		%
Terbium	159-2				104		%
Thallium	203-1	1.91	1.90	1.88	1.89	0.80	ppb
Thallium	205-1	1.94	1.92	1.88	1.91	1.76	ppb
Tin	118-1	10.03	10.35	9.81	10.06	2.70	ppb
Titanium	47-1	2.58	2.56	2.34	2.50	5.27	ppb
Uranium	238-1	1.84	1.81	1.75	1.80	2.51	ppb

LB Number :

LB133950

Operator :

Jaswal

Lab Sample ID :

PB165606BS

Instrumnet Name :

P8

Client Sample ID :

LCS606

Dilution Factor :

1

Date & Time Acquired :

2024-12-13 15:25:35

DataFile Name :

033AREF.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Vanadium	51-2	9.82	9.88	9.76	9.82	0.57	ppb
Ytterbium	172-1						cps
Ytterbium	172-2						cps
Ytterbium	176-1						cps
Ytterbium	176-2						cps
Yttrium	89-1				105		%
Yttrium	89-2				106		%
Zinc	66-2	10.04	10.35	9.91	10.10	2.28	ppb
Zirconium	90-1	1.87	1.85	1.80	1.84	1.84	ppb
Zirconium	91-1	1.86	1.89	1.78	1.84	3.17	ppb

LB Number :
Lab Sample ID :
Client Sample ID :
Date & Time Acquired :

LB133950
PB165563BL
PBS563
2024-12-13 15:28:53

Operator :
Instrumnet Name :
Dilution Factor :
DataFile Name :

Jaswal
P8
1
034AREF.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Aluminium	27-2	-0.21	-0.09	-0.47	-0.26		ppb
Antimony	121-1	0.00	0.00	0.00	0.00	21.60	ppb
Arsenic	75-2	-0.01	0.00	-0.01	-0.01		ppb
Barium	135-1	0.00	0.00	0.00	0.00	224.71	ppb
Barium	137-1	0.00	0.00	0.00	0.00		ppb
Beryllium	9-1	0.01	0.01	0.01	0.01	7.78	ppb
Bismuth	209-1				99		%
Bismuth	209-2				101		%
Bromine	81-1						cps
Cadmium	108-1	0.05	0.01	-0.01	0.02	181.17	ppb
Cadmium	106-1	-1.68	-0.12	-0.40	-0.74		ppb
Cadmium	111-1	-0.13	-0.01	-0.03	-0.06		ppb
Calcium	43-1	-2.19	-0.19	-1.27	-1.22		ppb
Calcium	44-1	0.02	0.90	0.01	0.31	164.96	ppb
Carbon	12-1						cps
Carbon	12-2						cps
Chlorine	35-1						cps
Chlorine	35-2						cps
Chromium	52-2	0.08	0.07	0.13	0.09	35.21	ppb
Cobalt	59-2	0.00	0.00	0.00	0.00		ppb
Copper	63-2	0.00	0.04	0.02	0.02	121.55	ppb
Dysprosium	156-1						cps
Dysprosium	156-2						cps
Erbium	164-1						cps
Erbium	164-2						cps
Gadolinium	160-1						cps
Gadolinium	160-2						cps
Holmium	165-1				100		%
Holmium	165-2				101		%
Indium	115-1				101		%
Indium	115-2				101		%
Iron	54-2	0.80	1.06	0.70	0.85	21.24	ppb
Iron	56-2	0.53	0.69	0.71	0.64	14.77	ppb
Iron	57-2	-0.10	0.78	0.38	0.36	124.52	ppb
Krypton	83-1						cps
Lead	206-1	0.02	0.03	0.03	0.03	17.64	ppb

LB Number : LB133950 Operator : Jaswal
Lab Sample ID : PB165563BL Instrumnet Name : P8
Client Sample ID : PBS563 Dilution Factor : 1
Date & Time Acquired : 2024-12-13 15:28:53 DataFile Name : 034AREF.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Lead	207-1	0.02	0.02	0.02	0.02	17.90	ppb
Lead	208-1	0.02	0.02	0.02	0.02	10.63	ppb
Lithium	6-1				98		%
Magnesium	24-2	-1.18	-0.81	-0.85	-0.94		ppb
Manganese	55-2	0.00	0.00	0.01	0.00	774.04	ppb
Molybdenum	94-1	0.02	0.02	0.03	0.02	15.78	ppb
Molybdenum	95-1	0.00	0.01	0.01	0.01	43.22	ppb
Molybdenum	96-1	0.01	0.01	0.01	0.01	31.35	ppb
Molybdenum	97-1	0.00	0.01	0.01	0.01	48.22	ppb
Molybdenum	98-1	0.01	0.01	0.01	0.01	13.06	ppb
Neodymium	150-1						cps
Neodymium	150-2						cps
Nickel	60-2	-0.02	0.01	0.03	0.01	297.10	ppb
Phosphorus	31-2	-23.69	-7.16	-11.19	-14.01		ppb
Potassium	39-2	18.94	22.19	22.29	21.14	9.01	ppb
Rhodium	103-1				99		%
Rhodium	103-2				103		%
Scandium	45-1				102		%
Scandium	45-2				103		%
Selenium	82-1	-0.15	-0.17	-0.05	-0.12		ppb
Selenium	77-2	0.34	-0.19	-0.19	-0.01		ppb
Selenium	78-2	-0.11	0.78	-0.41	0.09	696.41	ppb
Silicon	28-1	-0.30	-0.18	-0.26	-0.25		ppb
Silver	107-1	0.02	0.01	0.01	0.01	24.99	ppb
Silver	109-1	0.01	0.01	0.01	0.01	28.47	ppb
Sodium	23-2	40.98	46.71	47.82	45.17	8.13	ppb
Strontium	86-1	0.12	0.34	-0.18	0.09	273.84	ppb
Strontium	88-1	0.02	0.06	0.04	0.04	44.99	ppb
Sulfur	34-1	-9.73	346.19	93.76	143.40	127.67	ppb
Terbium	159-1				101		%
Terbium	159-2				102		%
Thallium	203-1	0.00	0.01	0.00	0.01	7.92	ppb
Thallium	205-1	0.01	0.01	0.01	0.01	4.90	ppb
Tin	118-1	0.00	0.00	-0.02	0.00		ppb
Titanium	47-1	0.04	0.04	0.05	0.04	6.73	ppb
Uranium	238-1	0.00	0.00	0.00	0.00		ppb

LB Number :

LB133950

Operator :

Jaswal

Lab Sample ID :

PB165563BL

Instrumnet Name :

P8

Client Sample ID :

PBS563

Dilution Factor :

1

Date & Time Acquired :

2024-12-13 15:28:53

DataFile Name :

034AREF.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Vanadium	51-2	0.00	0.00	0.00	0.00	182.91	ppb
Ytterbium	172-1						cps
Ytterbium	172-2						cps
Ytterbium	176-1						cps
Ytterbium	176-2						cps
Yttrium	89-1				102		%
Yttrium	89-2				103		%
Zinc	66-2	-0.07	0.04	-0.06	-0.03		ppb
Zirconium	90-1	0.00	0.00	0.00	0.00	73.33	ppb
Zirconium	91-1	0.00	0.01	0.00	0.00	87.92	ppb

LB Number :LB133950Operator :Jaswal

Lab Sample ID :PB165563BSInstrumnet Name :P8

Client Sample ID :LCS563Dilution Factor :1

Date & Time Acquired :2024-12-13 15:32:13DataFile Name :035AREF.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Aluminium	27-2	39.39	39.06	38.18	38.88	1.61	ppb
Antimony	121-1	4.24	4.17	4.17	4.19	0.90	ppb
Arsenic	75-2	2.32	2.36	2.48	2.39	3.66	ppb
Barium	135-1	19.96	20.08	20.01	20.02	0.30	ppb
Barium	137-1	20.16	20.28	20.57	20.34	1.02	ppb
Beryllium	9-1	2.24	2.19	2.23	2.22	1.02	ppb
Bismuth	209-1				102		%
Bismuth	209-2				101		%
Bromine	81-1						cps
Cadmium	108-1	2.26	2.07	2.01	2.11	6.24	ppb
Cadmium	106-1	2.22	2.16	1.25	1.88	28.89	ppb
Cadmium	111-1	2.16	2.24	2.10	2.16	3.20	ppb
Calcium	43-1	989.58	981.20	1043.80	1004.86	3.38	ppb
Calcium	44-1	997.95	1001.13	1051.08	1016.72	2.93	ppb
Carbon	12-1						cps
Carbon	12-2						cps
Chlorine	35-1						cps
Chlorine	35-2						cps
Chromium	52-2	3.91	3.94	3.97	3.94	0.81	ppb
Cobalt	59-2	2.17	2.20	2.20	2.19	0.76	ppb
Copper	63-2	4.33	4.37	4.46	4.39	1.41	ppb
Dysprosium	156-1						cps
Dysprosium	156-2						cps
Erbium	164-1						cps
Erbium	164-2						cps
Gadolinium	160-1						cps
Gadolinium	160-2						cps
Holmium	165-1				103		%
Holmium	165-2				101		%
Indium	115-1				105		%
Indium	115-2				101		%
Iron	54-2	427.07	436.51	428.37	430.65	1.19	ppb
Iron	56-2	425.41	435.63	438.58	433.21	1.60	ppb
Iron	57-2	422.59	422.26	418.81	421.22	0.50	ppb
Krypton	83-1						cps
Lead	206-1	1.99	1.99	2.01	1.99	0.55	ppb

LB Number : LB133950 Operator : Jaswal
Lab Sample ID : PB165563BS Instrumnet Name : P8
Client Sample ID : LCS563 Dilution Factor : 1
Date & Time Acquired : 2024-12-13 15:32:13 DataFile Name : 035AREF.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Lead	207-1	2.02	2.01	2.00	2.01	0.67	ppb
Lead	208-1	2.02	2.00	2.01	2.01	0.44	ppb
Lithium	6-1				99		%
Magnesium	24-2	1084.82	1075.66	1100.37	1086.95	1.15	ppb
Manganese	55-2	2.12	2.07	2.24	2.14	4.12	ppb
Molybdenum	94-1	11.53	11.54	11.60	11.56	0.31	ppb
Molybdenum	95-1	9.83	9.67	9.85	9.78	1.01	ppb
Molybdenum	96-1	9.92	9.89	9.91	9.91	0.16	ppb
Molybdenum	97-1	9.86	9.91	9.76	9.85	0.80	ppb
Molybdenum	98-1	9.60	9.60	9.66	9.62	0.32	ppb
Neodymium	150-1						cps
Neodymium	150-2						cps
Nickel	60-2	2.12	2.03	2.00	2.05	3.02	ppb
Phosphorus	31-2	48.55	40.68	39.90	43.04	11.12	ppb
Potassium	39-2	1031.74	1033.62	1036.80	1034.05	0.25	ppb
Rhodium	103-1				103		%
Rhodium	103-2				103		%
Scandium	45-1				105		%
Scandium	45-2				102		%
Selenium	82-1	10.37	10.41	10.86	10.54	2.59	ppb
Selenium	77-2	8.44	11.84	11.56	10.61	17.79	ppb
Selenium	78-2	10.87	10.03	13.68	11.53	16.58	ppb
Silicon	28-1	0.67	0.55	0.78	0.66	17.54	ppb
Silver	107-1	2.10	2.14	2.09	2.11	1.15	ppb
Silver	109-1	2.07	2.10	2.11	2.09	1.07	ppb
Sodium	23-2	1090.49	1101.35	1118.93	1103.59	1.30	ppb
Strontium	86-1	50.56	51.02	50.16	50.58	0.86	ppb
Strontium	88-1	49.83	50.42	49.89	50.05	0.65	ppb
Sulfur	34-1	2.36	-113.99	337.98	75.45	311.04	ppb
Terbium	159-1				104		%
Terbium	159-2				101		%
Thallium	203-1	1.97	1.96	1.99	1.97	0.73	ppb
Thallium	205-1	1.98	1.97	1.97	1.97	0.12	ppb
Tin	118-1	10.27	10.19	10.20	10.22	0.39	ppb
Titanium	47-1	2.52	2.51	2.63	2.55	2.63	ppb
Uranium	238-1	1.85	1.87	1.87	1.86	0.67	ppb

LB Number :

LB133950

Operator :

Jaswal

Lab Sample ID :

PB165563BS

Instrumnet Name :

P8

Client Sample ID :

LCS563

Dilution Factor :

1

Date & Time Acquired :

2024-12-13 15:32:13

DataFile Name :

035AREF.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Vanadium	51-2	10.30	10.41	10.55	10.42	1.20	ppb
Ytterbium	172-1						cps
Ytterbium	172-2						cps
Ytterbium	176-1						cps
Ytterbium	176-2						cps
Yttrium	89-1				105		%
Yttrium	89-2				104		%
Zinc	66-2	10.14	11.04	10.96	10.71	4.63	ppb
Zirconium	90-1	1.89	1.87	1.91	1.89	1.11	ppb
Zirconium	91-1	1.82	1.88	1.85	1.85	1.68	ppb

LB Number :

LB133950

Operator :

Jaswal

Lab Sample ID :

P5163-01

Instrumnet Name :

P8

Client Sample ID :

MJNKP7

Dilution Factor :

1

Date & Time Acquired :

2024-12-13 15:35:32

DataFile Name :

036AREF.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Aluminium	27-2	10351.04	9488.79	9787.70	9875.84	4.43	ppb
Antimony	121-1	81.87	82.06	82.51	82.14	0.40	ppb
Arsenic	75-2	188.27	171.52	176.13	178.64	4.84	ppb
Barium	135-1	129.87	131.77	127.01	129.55	1.85	ppb
Barium	137-1	131.63	133.62	129.87	131.71	1.43	ppb
Beryllium	9-1	0.52	0.52	0.52	0.52	0.30	ppb
Bismuth	209-1				101		%
Bismuth	209-2				99		%
Bromine	81-1						cps
Cadmium	108-1	2.85	2.91	2.91	2.89	1.18	ppb
Cadmium	106-1	4.30	3.75	4.13	4.06	6.92	ppb
Cadmium	111-1	1.97	1.99	1.93	1.96	1.49	ppb
Calcium	43-1	21279.24	21724.02	20818.10	21273.79	2.13	ppb
Calcium	44-1	21023.46	21224.99	20687.37	20978.61	1.29	ppb
Carbon	12-1						cps
Carbon	12-2						cps
Chlorine	35-1						cps
Chlorine	35-2						cps
Chromium	52-2	34.03	30.49	31.42	31.98	5.74	ppb
Cobalt	59-2	34.95	32.07	33.59	33.54	4.30	ppb
Copper	63-2	1261.44	1140.04	1184.04	1195.17	5.14	ppb
Dysprosium	156-1						cps
Dysprosium	156-2						cps
Erbium	164-1						cps
Erbium	164-2						cps
Gadolinium	160-1						cps
Gadolinium	160-2						cps
Holmium	165-1				103		%
Holmium	165-2				101		%
Indium	115-1				104		%
Indium	115-2				101		%
Iron	54-2	37899.36	34663.29	35638.61	36067.09	4.60	ppb
Iron	56-2	37164.16	34250.03	35107.34	35507.18	4.22	ppb
Iron	57-2	38109.29	33622.89	36050.90	35927.69	6.25	ppb
Krypton	83-1						cps
Lead	206-1	365.47	369.97	361.27	365.57	1.19	ppb

LB Number : LB133950 Operator : Jaswal
Lab Sample ID : P5163-01 Instrumnet Name : P8
Client Sample ID : MJNKP7 Dilution Factor : 1
Date & Time Acquired : 2024-12-13 15:35:32 DataFile Name : 036AREF.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Lead	207-1	362.35	368.23	353.35	361.31	2.07	ppb
Lead	208-1	360.45	364.63	352.89	359.32	1.66	ppb
Lithium	6-1				97		%
Magnesium	24-2	6980.81	6209.38	6659.36	6616.52	5.86	ppb
Manganese	55-2	240.23	220.58	226.96	229.26	4.37	ppb
Molybdenum	94-1	18.49	18.81	18.17	18.49	1.74	ppb
Molybdenum	95-1	6.58	6.59	6.43	6.53	1.34	ppb
Molybdenum	96-1	7.81	8.07	7.85	7.91	1.79	ppb
Molybdenum	97-1	6.64	6.67	6.51	6.60	1.26	ppb
Molybdenum	98-1	6.52	6.71	6.43	6.55	2.19	ppb
Neodymium	150-1						cps
Neodymium	150-2						cps
Nickel	60-2	28.62	25.84	27.33	27.26	5.10	ppb
Phosphorus	31-2	956.55	918.34	909.04	927.97	2.71	ppb
Potassium	39-2	2175.24	2009.54	2062.31	2082.36	4.07	ppb
Rhodium	103-1				101		%
Rhodium	103-2				101		%
Scandium	45-1				107		%
Scandium	45-2				105		%
Selenium	82-1	0.92	0.95	1.01	0.96	4.34	ppb
Selenium	77-2	22.80	17.36	18.98	19.71	14.19	ppb
Selenium	78-2	4.86	4.26	2.64	3.92	29.28	ppb
Silicon	28-1	40.59	47.69	40.51	42.93	9.61	ppb
Silver	107-1	3.60	3.57	3.49	3.55	1.60	ppb
Silver	109-1	3.59	3.67	3.57	3.61	1.47	ppb
Sodium	23-2	10936.11	9732.92	10213.60	10294.21	5.88	ppb
Strontium	86-1	4873.67	4896.00	4830.90	4866.85	0.68	ppb
Strontium	88-1	4766.68	4873.50	4792.75	4810.98	1.16	ppb
Sulfur	34-1	7413.24	8119.71	7401.94	7644.96	5.38	ppb
Terbium	159-1				102		%
Terbium	159-2				102		%
Thallium	203-1	0.42	0.44	0.44	0.43	2.69	ppb
Thallium	205-1	0.43	0.45	0.44	0.44	2.70	ppb
Tin	118-1	30.06	30.89	30.19	30.38	1.48	ppb
Titanium	47-1	653.89	651.84	644.24	649.99	0.78	ppb
Uranium	238-1	2.69	2.65	2.66	2.67	0.71	ppb

LB Number :

LB133950

Operator :

Jaswal

Lab Sample ID :

P5163-01

Instrumnet Name :

P8

Client Sample ID :

MJNKP7

Dilution Factor :

1

Date & Time Acquired :

2024-12-13 15:35:32

DataFile Name :

036AREF.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Vanadium	51-2	48.34	43.72	45.06	45.71	5.20	ppb
Ytterbium	172-1						cps
Ytterbium	172-2						cps
Ytterbium	176-1						cps
Ytterbium	176-2						cps
Yttrium	89-1				107		%
Yttrium	89-2				106		%
Zinc	66-2	1832.73	1667.49	1737.64	1745.95	4.75	ppb
Zirconium	90-1	7.00	7.24	7.02	7.08	1.88	ppb
Zirconium	91-1	7.21	7.27	6.97	7.15	2.18	ppb

LB Number :LB133950Operator :Jaswal

Lab Sample ID :P5163-02Instrumnet Name :P8

Client Sample ID :MJNKP7DDilution Factor :1

Date & Time Acquired :2024-12-13 15:38:37DataFile Name :037AREF.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Aluminium	27-2	9686.78	9804.45	9790.18	9760.47	0.66	ppb
Antimony	121-1	80.67	82.93	81.38	81.66	1.42	ppb
Arsenic	75-2	172.00	178.65	174.18	174.94	1.94	ppb
Barium	135-1	128.71	130.94	132.38	130.68	1.42	ppb
Barium	137-1	131.84	133.46	132.60	132.64	0.61	ppb
Beryllium	9-1	0.52	0.52	0.53	0.52	1.26	ppb
Bismuth	209-1				101		%
Bismuth	209-2				101		%
Bromine	81-1						cps
Cadmium	108-1	3.07	3.07	3.00	3.05	1.38	ppb
Cadmium	106-1	3.75	4.58	4.29	4.21	9.98	ppb
Cadmium	111-1	1.95	2.08	2.07	2.03	3.71	ppb
Calcium	43-1	21526.94	21390.83	21283.81	21400.53	0.57	ppb
Calcium	44-1	20931.79	21305.94	21032.69	21090.14	0.92	ppb
Carbon	12-1						cps
Carbon	12-2						cps
Chlorine	35-1						cps
Chlorine	35-2						cps
Chromium	52-2	31.35	31.54	31.05	31.31	0.78	ppb
Cobalt	59-2	32.66	33.31	33.66	33.21	1.53	ppb
Copper	63-2	1201.38	1191.19	1201.32	1197.96	0.49	ppb
Dysprosium	156-1						cps
Dysprosium	156-2						cps
Erbium	164-1						cps
Erbium	164-2						cps
Gadolinium	160-1						cps
Gadolinium	160-2						cps
Holmium	165-1				102		%
Holmium	165-2				102		%
Indium	115-1				105		%
Indium	115-2				104		%
Iron	54-2	36046.32	34904.21	35521.15	35490.56	1.61	ppb
Iron	56-2	35055.25	35119.41	34828.81	35001.16	0.44	ppb
Iron	57-2	34549.83	36156.53	35361.54	35355.97	2.27	ppb
Krypton	83-1						cps
Lead	206-1	363.22	362.64	375.86	367.24	2.03	ppb

LB Number : LB133950 Operator : Jaswal
Lab Sample ID : P5163-02 Instrumnet Name : P8
Client Sample ID : MJNKP7D Dilution Factor : 1
Date & Time Acquired : 2024-12-13 15:38:37 DataFile Name : 037AREF.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Lead	207-1	362.48	353.83	365.54	360.62	1.68	ppb
Lead	208-1	360.49	355.03	364.13	359.88	1.27	ppb
Lithium	6-1				97		%
Magnesium	24-2	6533.90	6523.40	6672.83	6576.71	1.27	ppb
Manganese	55-2	226.68	224.75	224.48	225.30	0.53	ppb
Molybdenum	94-1	18.22	18.11	18.79	18.37	1.98	ppb
Molybdenum	95-1	6.58	6.54	6.76	6.63	1.78	ppb
Molybdenum	96-1	7.88	7.93	8.02	7.94	0.90	ppb
Molybdenum	97-1	6.66	6.65	6.93	6.75	2.41	ppb
Molybdenum	98-1	6.45	6.51	6.77	6.58	2.59	ppb
Neodymium	150-1						cps
Neodymium	150-2						cps
Nickel	60-2	26.07	25.93	26.33	26.11	0.78	ppb
Phosphorus	31-2	886.66	977.30	950.91	938.29	4.97	ppb
Potassium	39-2	2059.70	2071.66	2080.86	2070.74	0.51	ppb
Rhodium	103-1				103		%
Rhodium	103-2				103		%
Scandium	45-1				109		%
Scandium	45-2				106		%
Selenium	82-1	1.14	0.86	0.89	0.96	16.11	ppb
Selenium	77-2	13.34	26.75	21.40	20.50	32.93	ppb
Selenium	78-2	3.51	3.74	6.28	4.51	34.10	ppb
Silicon	28-1	42.55	44.57	39.89	42.34	5.54	ppb
Silver	107-1	3.39	3.55	3.57	3.50	2.82	ppb
Silver	109-1	3.53	3.52	3.60	3.55	1.20	ppb
Sodium	23-2	10303.65	10232.38	10271.78	10269.27	0.35	ppb
Strontium	86-1	4718.72	4727.17	4905.37	4783.75	2.20	ppb
Strontium	88-1	4723.24	4755.63	4842.83	4773.90	1.30	ppb
Sulfur	34-1	7281.50	7713.26	7036.39	7343.72	4.67	ppb
Terbium	159-1				103		%
Terbium	159-2				103		%
Thallium	203-1	0.43	0.45	0.48	0.45	6.31	ppb
Thallium	205-1	0.42	0.45	0.47	0.45	5.51	ppb
Tin	118-1	30.33	30.91	30.39	30.54	1.05	ppb
Titanium	47-1	637.13	660.34	651.29	649.59	1.80	ppb
Uranium	238-1	2.65	2.67	2.71	2.68	1.20	ppb

LB Number :

LB133950

Operator :

Jaswal

Lab Sample ID :

P5163-02

Instrumnet Name :

P8

Client Sample ID :

MJNKP7D

Dilution Factor :

1

Date & Time Acquired :

2024-12-13 15:38:37

DataFile Name :

037AREF.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Vanadium	51-2	45.30	45.07	44.66	45.01	0.73	ppb
Ytterbium	172-1						cps
Ytterbium	172-2						cps
Ytterbium	176-1						cps
Ytterbium	176-2						cps
Yttrium	89-1				107		%
Yttrium	89-2				109		%
Zinc	66-2	1910.45	1933.07	1935.60	1926.37	0.72	ppb
Zirconium	90-1	7.08	7.22	7.27	7.19	1.32	ppb
Zirconium	91-1	7.09	7.15	7.34	7.19	1.76	ppb

LB Number :LB133950Operator :Jaswal

Lab Sample ID :P5163-01LX5Instrumnet Name :P8

Client Sample ID :MJNKP7LDilution Factor :5

Date & Time Acquired :2024-12-13 15:41:43DataFile Name :038AREF.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Aluminium	27-2	1852.78	1692.54	1692.17	1745.83	5.31	ppb
Antimony	121-1	15.02	15.43	15.16	15.20	1.36	ppb
Arsenic	75-2	33.66	30.01	30.13	31.27	6.62	ppb
Barium	135-1	24.35	25.46	25.38	25.06	2.48	ppb
Barium	137-1	25.09	25.33	25.37	25.26	0.60	ppb
Beryllium	9-1	0.10	0.11	0.11	0.11	3.76	ppb
Bismuth	209-1				102		%
Bismuth	209-2				107		%
Bromine	81-1						cps
Cadmium	108-1	0.39	0.69	0.50	0.53	28.33	ppb
Cadmium	106-1	0.84	1.33	0.88	1.02	26.59	ppb
Cadmium	111-1	0.40	0.45	0.41	0.42	6.53	ppb
Calcium	43-1	4006.15	3979.27	3911.88	3965.77	1.22	ppb
Calcium	44-1	4079.36	4139.02	3989.37	4069.25	1.85	ppb
Carbon	12-1						cps
Carbon	12-2						cps
Chlorine	35-1						cps
Chlorine	35-2						cps
Chromium	52-2	5.90	5.27	5.37	5.51	6.17	ppb
Cobalt	59-2	6.35	5.79	5.75	5.96	5.63	ppb
Copper	63-2	235.13	217.15	207.65	219.98	6.35	ppb
Dysprosium	156-1						cps
Dysprosium	156-2						cps
Erbium	164-1						cps
Erbium	164-2						cps
Gadolinium	160-1						cps
Gadolinium	160-2						cps
Holmium	165-1				103		%
Holmium	165-2				109		%
Indium	115-1				106		%
Indium	115-2				109		%
Iron	54-2	6953.00	6383.43	6205.50	6513.98	5.99	ppb
Iron	56-2	6682.53	6190.80	6156.51	6343.28	4.64	ppb
Iron	57-2	6521.70	6005.79	5946.43	6157.97	5.14	ppb
Krypton	83-1						cps
Lead	206-1	65.66	67.82	66.73	66.74	1.62	ppb

LB Number : LB133950 Operator : Jaswal
Lab Sample ID : P5163-01LX5 Instrumnet Name : P8
Client Sample ID : MJNKP7L Dilution Factor : 5
Date & Time Acquired : 2024-12-13 15:41:43 DataFile Name : 038AREF.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Lead	207-1	65.13	66.77	66.99	66.29	1.53	ppb
Lead	208-1	66.89	68.45	68.24	67.86	1.25	ppb
Lithium	6-1				98		%
Magnesium	24-2	1259.17	1139.94	1117.07	1172.06	6.51	ppb
Manganese	55-2	43.43	39.54	39.41	40.79	5.60	ppb
Molybdenum	94-1	3.45	3.43	3.45	3.44	0.24	ppb
Molybdenum	95-1	1.24	1.25	1.24	1.25	0.46	ppb
Molybdenum	96-1	1.47	1.51	1.49	1.49	1.13	ppb
Molybdenum	97-1	1.22	1.25	1.28	1.25	2.37	ppb
Molybdenum	98-1	1.21	1.28	1.24	1.24	2.61	ppb
Neodymium	150-1						cps
Neodymium	150-2						cps
Nickel	60-2	5.02	4.82	4.66	4.83	3.81	ppb
Phosphorus	31-2	152.30	128.35	152.12	144.25	9.55	ppb
Potassium	39-2	418.81	378.67	376.27	391.25	6.11	ppb
Rhodium	103-1				104		%
Rhodium	103-2				111		%
Scandium	45-1				108		%
Scandium	45-2				112		%
Selenium	82-1	0.20	-0.08	0.19	0.11	149.84	ppb
Selenium	77-2	2.47	2.78	2.73	2.66	6.41	ppb
Selenium	78-2	0.54	0.90	0.14	0.53	72.98	ppb
Silicon	28-1	8.07	7.03	7.09	7.39	7.88	ppb
Silver	107-1	0.67	0.70	0.70	0.69	2.47	ppb
Silver	109-1	0.69	0.68	0.70	0.69	1.49	ppb
Sodium	23-2	2134.64	1902.73	1819.69	1952.36	8.36	ppb
Strontium	86-1	886.96	901.19	896.73	894.96	0.81	ppb
Strontium	88-1	926.46	939.23	928.27	931.32	0.74	ppb
Sulfur	34-1	1376.78	1483.67	1213.49	1357.98	10.02	ppb
Terbium	159-1				102		%
Terbium	159-2				109		%
Thallium	203-1	0.10	0.10	0.10	0.10	1.60	ppb
Thallium	205-1	0.10	0.10	0.09	0.10	5.17	ppb
Tin	118-1	5.73	5.89	5.92	5.85	1.77	ppb
Titanium	47-1	122.03	123.40	119.12	121.52	1.80	ppb
Uranium	238-1	0.50	0.51	0.51	0.51	2.06	ppb

LB Number :

LB133950

Operator :

Jaswal

Lab Sample ID :

P5163-01LX5

Instrumnet Name :

P8

Client Sample ID :

MJNKP7L

Dilution Factor :

5

Date & Time Acquired :

2024-12-13 15:41:43

DataFile Name :

038AREF.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Vanadium	51-2	8.53	7.66	7.83	8.01	5.81	ppb
Ytterbium	172-1						cps
Ytterbium	172-2						cps
Ytterbium	176-1						cps
Ytterbium	176-2						cps
Yttrium	89-1				108		%
Yttrium	89-2				113		%
Zinc	66-2	330.95	303.21	299.07	311.08	5.57	ppb
Zirconium	90-1	1.28	1.30	1.27	1.29	1.43	ppb
Zirconium	91-1	1.28	1.31	1.32	1.30	1.64	ppb

LB Number :LB133950Operator :Jaswal

Lab Sample ID :P5163-03Instrumnet Name :P8

Client Sample ID :MJNKP7SDilution Factor :1

Date & Time Acquired :2024-12-13 15:44:53DataFile Name :039AREF.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Aluminium	27-2	10264.53	10202.22	9920.44	10129.06	1.81	ppb
Antimony	121-1	103.04	105.41	103.94	104.13	1.15	ppb
Arsenic	75-2	183.16	181.90	184.37	183.14	0.67	ppb
Barium	135-1	549.38	555.45	561.69	555.51	1.11	ppb
Barium	137-1	543.63	553.80	559.38	552.27	1.45	ppb
Beryllium	9-1	9.87	10.06	10.09	10.01	1.18	ppb
Bismuth	209-1				100		%
Bismuth	209-2				100		%
Bromine	81-1						cps
Cadmium	108-1	11.15	11.17	11.96	11.43	4.03	ppb
Cadmium	106-1	12.08	13.36	13.27	12.91	5.52	ppb
Cadmium	111-1	12.16	12.54	12.61	12.44	1.95	ppb
Calcium	43-1	20728.04	21193.44	20871.99	20931.16	1.14	ppb
Calcium	44-1	20791.12	21137.11	20605.98	20844.74	1.29	ppb
Carbon	12-1						cps
Carbon	12-2						cps
Chlorine	35-1						cps
Chlorine	35-2						cps
Chromium	52-2	72.41	71.51	70.63	71.52	1.25	ppb
Cobalt	59-2	135.30	135.90	133.94	135.05	0.74	ppb
Copper	63-2	1246.28	1237.93	1213.44	1232.55	1.38	ppb
Dysprosium	156-1						cps
Dysprosium	156-2						cps
Erbium	164-1						cps
Erbium	164-2						cps
Gadolinium	160-1						cps
Gadolinium	160-2						cps
Holmium	165-1				102		%
Holmium	165-2				103		%
Indium	115-1				106		%
Indium	115-2				103		%
Iron	54-2	35720.10	35730.14	34642.09	35364.11	1.77	ppb
Iron	56-2	35047.72	34748.36	34985.66	34927.25	0.45	ppb
Iron	57-2	35881.04	35367.16	35233.31	35493.83	0.96	ppb
Krypton	83-1						cps
Lead	206-1	365.58	377.49	374.04	372.37	1.65	ppb

LB Number : LB133950 Operator : Jaswal
Lab Sample ID : P5163-03 Instrumnet Name : P8
Client Sample ID : MJNKP7S Dilution Factor : 1
Date & Time Acquired : 2024-12-13 15:44:53 DataFile Name : 039AREF.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Lead	207-1	364.32	368.35	369.45	367.37	0.74	ppb
Lead	208-1	364.15	366.73	364.14	365.01	0.41	ppb
Lithium	6-1				97		%
Magnesium	24-2	6631.78	6580.13	6467.26	6559.72	1.28	ppb
Manganese	55-2	320.14	322.00	319.77	320.64	0.37	ppb
Molybdenum	94-1	18.08	18.28	17.90	18.09	1.06	ppb
Molybdenum	95-1	6.45	6.55	6.50	6.50	0.75	ppb
Molybdenum	96-1	7.53	7.85	7.81	7.73	2.25	ppb
Molybdenum	97-1	6.52	6.63	6.40	6.52	1.77	ppb
Molybdenum	98-1	6.33	6.50	6.39	6.41	1.38	ppb
Neodymium	150-1						cps
Neodymium	150-2						cps
Nickel	60-2	129.09	128.70	126.42	128.07	1.13	ppb
Phosphorus	31-2	937.14	939.79	935.25	937.39	0.24	ppb
Potassium	39-2	2063.79	2073.05	2051.94	2062.93	0.51	ppb
Rhodium	103-1				103		%
Rhodium	103-2				104		%
Scandium	45-1				109		%
Scandium	45-2				106		%
Selenium	82-1	20.92	21.29	20.70	20.97	1.43	ppb
Selenium	77-2	36.19	39.61	40.24	38.68	5.64	ppb
Selenium	78-2	22.92	22.75	24.74	23.47	4.69	ppb
Silicon	28-1	42.44	41.01	39.36	40.93	3.77	ppb
Silver	107-1	13.62	14.05	13.97	13.88	1.64	ppb
Silver	109-1	13.87	14.16	14.08	14.04	1.05	ppb
Sodium	23-2	10403.42	10566.28	10210.93	10393.55	1.71	ppb
Strontium	86-1	4800.13	4890.67	4786.67	4825.82	1.17	ppb
Strontium	88-1	4715.01	4827.75	4676.00	4739.59	1.66	ppb
Sulfur	34-1	6899.08	7221.29	7419.09	7179.82	3.66	ppb
Terbium	159-1				102		%
Terbium	159-2				103		%
Thallium	203-1	9.91	9.92	10.11	9.98	1.11	ppb
Thallium	205-1	10.04	10.12	10.09	10.08	0.41	ppb
Tin	118-1	29.63	30.82	30.46	30.31	2.02	ppb
Titanium	47-1	652.57	655.86	651.89	653.44	0.32	ppb
Uranium	238-1	2.73	2.69	2.71	2.71	0.67	ppb

LB Number :

LB133950

Operator :

Jaswal

Lab Sample ID :

P5163-03

Instrumnet Name :

P8

Client Sample ID :

MJNKP7S

Dilution Factor :

1

Date & Time Acquired :

2024-12-13 15:44:53

DataFile Name :

039AREF.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Vanadium	51-2	145.82	145.38	144.25	145.15	0.56	ppb
Ytterbium	172-1						cps
Ytterbium	172-2						cps
Ytterbium	176-1						cps
Ytterbium	176-2						cps
Yttrium	89-1				109		%
Yttrium	89-2				108		%
Zinc	66-2	2047.61	2042.51	2011.23	2033.79	0.97	ppb
Zirconium	90-1	6.83	6.93	7.00	6.92	1.23	ppb
Zirconium	91-1	6.84	7.11	6.93	6.96	1.92	ppb

LB Number :LB133950Operator :Jaswal

Lab Sample ID :P5165-01Instrumnet Name :P8

Client Sample ID :MJNKR9Dilution Factor :1

Date & Time Acquired :2024-12-13 15:47:57DataFile Name :040AREF.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Aluminium	27-2	4415.60	5119.70	5671.17	5068.82	12.42	ppb
Antimony	121-1	11.19	12.47	12.32	11.99	5.81	ppb
Arsenic	75-2	34.68	40.35	44.67	39.90	12.56	ppb
Barium	135-1	29.48	32.41	32.00	31.29	5.06	ppb
Barium	137-1	29.98	32.92	32.62	31.84	5.08	ppb
Beryllium	9-1	0.36	0.40	0.40	0.39	5.60	ppb
Bismuth	209-1				101		%
Bismuth	209-2				111		%
Bromine	81-1						cps
Cadmium	108-1	1.22	1.00	1.24	1.15	11.22	ppb
Cadmium	106-1	1.21	1.28	0.95	1.15	14.99	ppb
Cadmium	111-1	0.64	0.73	0.71	0.69	6.14	ppb
Calcium	43-1	5505.80	6081.95	5942.65	5843.46	5.14	ppb
Calcium	44-1	5573.70	6263.14	6031.27	5956.04	5.89	ppb
Carbon	12-1						cps
Carbon	12-2						cps
Chlorine	35-1						cps
Chlorine	35-2						cps
Chromium	52-2	16.17	18.79	20.43	18.46	11.65	ppb
Cobalt	59-2	7.39	8.68	9.43	8.50	12.14	ppb
Copper	63-2	357.51	417.19	451.37	408.69	11.62	ppb
Dysprosium	156-1						cps
Dysprosium	156-2						cps
Erbium	164-1						cps
Erbium	164-2						cps
Gadolinium	160-1						cps
Gadolinium	160-2						cps
Holmium	165-1				104		%
Holmium	165-2				114		%
Indium	115-1				107		%
Indium	115-2				115		%
Iron	54-2	11545.71	13698.97	14727.58	13324.09	12.19	ppb
Iron	56-2	11291.82	13262.49	14477.07	13010.46	12.36	ppb
Iron	57-2	11550.72	13427.87	14530.13	13169.57	11.44	ppb
Krypton	83-1						cps
Lead	206-1	114.68	126.09	121.72	120.83	4.77	ppb

LB Number : LB133950 Operator : Jaswal
Lab Sample ID : P5165-01 Instrumnet Name : P8
Client Sample ID : MJNKR9 Dilution Factor : 1
Date & Time Acquired : 2024-12-13 15:47:57 DataFile Name : 040AREF.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Lead	207-1	112.62	126.09	121.16	119.96	5.68	ppb
Lead	208-1	113.02	125.22	120.54	119.59	5.15	ppb
Lithium	6-1				96		%
Magnesium	24-2	3331.75	3893.44	4262.26	3829.15	12.24	ppb
Manganese	55-2	87.51	103.91	111.15	100.86	12.01	ppb
Molybdenum	94-1	8.62	9.53	9.58	9.24	5.87	ppb
Molybdenum	95-1	3.94	4.30	4.43	4.22	6.00	ppb
Molybdenum	96-1	4.48	4.99	4.95	4.80	5.89	ppb
Molybdenum	97-1	4.03	4.46	4.51	4.33	6.15	ppb
Molybdenum	98-1	3.85	4.32	4.36	4.18	6.85	ppb
Neodymium	150-1						cps
Neodymium	150-2						cps
Nickel	60-2	13.44	15.24	17.05	15.24	11.85	ppb
Phosphorus	31-2	609.89	739.64	822.07	723.87	14.78	ppb
Potassium	39-2	1004.66	1163.19	1272.33	1146.73	11.74	ppb
Rhodium	103-1				105		%
Rhodium	103-2				115		%
Scandium	45-1				111		%
Scandium	45-2				119		%
Selenium	82-1	0.38	0.80	0.61	0.60	35.51	ppb
Selenium	77-2	14.17	13.91	15.81	14.63	7.03	ppb
Selenium	78-2	1.43	3.09	3.29	2.60	39.27	ppb
Silicon	28-1	14.22	17.02	15.56	15.60	8.97	ppb
Silver	107-1	1.35	1.49	1.46	1.43	4.89	ppb
Silver	109-1	1.35	1.47	1.45	1.42	4.86	ppb
Sodium	23-2	7956.32	9199.91	10190.84	9115.69	12.28	ppb
Strontium	86-1	999.45	1106.18	1112.05	1072.56	5.91	ppb
Strontium	88-1	1053.28	1158.44	1141.62	1117.78	5.05	ppb
Sulfur	34-1	5025.23	5853.99	5816.74	5565.32	8.41	ppb
Terbium	159-1				105		%
Terbium	159-2				114		%
Thallium	203-1	0.39	0.42	0.41	0.41	4.37	ppb
Thallium	205-1	0.39	0.43	0.41	0.41	5.17	ppb
Tin	118-1	7.58	8.38	8.23	8.06	5.31	ppb
Titanium	47-1	450.75	504.30	493.49	482.85	5.87	ppb
Uranium	238-1	2.23	2.42	2.37	2.34	4.21	ppb

LB Number :

LB133950

Operator :

Jaswal

Lab Sample ID :

P5165-01

Instrumnet Name :

P8

Client Sample ID :

MJNKR9

Dilution Factor :

1

Date & Time Acquired :

2024-12-13 15:47:57

DataFile Name :

040AREF.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Vanadium	51-2	25.68	30.13	32.51	29.44	11.78	ppb
Ytterbium	172-1						cps
Ytterbium	172-2						cps
Ytterbium	176-1						cps
Ytterbium	176-2						cps
Yttrium	89-1				110		%
Yttrium	89-2				120		%
Zinc	66-2	250.88	287.48	312.26	283.54	10.89	ppb
Zirconium	90-1	2.94	3.26	3.21	3.13	5.49	ppb
Zirconium	91-1	2.83	3.25	3.12	3.07	7.09	ppb

LB Number :LB133950Operator :Jaswal

Lab Sample ID :P5165-02Instrumnet Name :P8

Client Sample ID :MJNKR9DDilution Factor :1

Date & Time Acquired :2024-12-13 15:51:04DataFile Name :041AREF.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Aluminium	27-2	5682.40	5932.12	5986.58	5867.03	2.76	ppb
Antimony	121-1	12.23	12.39	12.79	12.47	2.32	ppb
Arsenic	75-2	44.36	46.17	45.92	45.48	2.16	ppb
Barium	135-1	31.59	31.74	33.18	32.17	2.73	ppb
Barium	137-1	32.12	32.58	33.77	32.82	2.60	ppb
Beryllium	9-1	0.38	0.39	0.41	0.39	3.24	ppb
Bismuth	209-1				101		%
Bismuth	209-2				99		%
Bromine	81-1						cps
Cadmium	108-1	1.07	0.93	1.25	1.08	14.66	ppb
Cadmium	106-1	0.29	1.00	0.33	0.54	73.75	ppb
Cadmium	111-1	0.63	0.72	0.64	0.66	7.85	ppb
Calcium	43-1	5863.48	6019.95	6081.91	5988.45	1.88	ppb
Calcium	44-1	5907.08	6098.92	6072.69	6026.23	1.73	ppb
Carbon	12-1						cps
Carbon	12-2						cps
Chlorine	35-1						cps
Chlorine	35-2						cps
Chromium	52-2	21.00	21.76	22.17	21.64	2.75	ppb
Cobalt	59-2	9.59	9.69	10.04	9.77	2.43	ppb
Copper	63-2	462.35	477.06	482.72	474.05	2.22	ppb
Dysprosium	156-1						cps
Dysprosium	156-2						cps
Erbium	164-1						cps
Erbium	164-2						cps
Gadolinium	160-1						cps
Gadolinium	160-2						cps
Holmium	165-1				103		%
Holmium	165-2				101		%
Indium	115-1				103		%
Indium	115-2				102		%
Iron	54-2	14983.46	15438.56	15673.25	15365.09	2.28	ppb
Iron	56-2	14652.16	15053.57	15435.93	15047.22	2.60	ppb
Iron	57-2	14881.16	15614.14	15366.58	15287.29	2.44	ppb
Krypton	83-1						cps
Lead	206-1	124.58	123.03	124.07	123.89	0.64	ppb

LB Number : LB133950 Operator : Jaswal
Lab Sample ID : P5165-02 Instrumnet Name : P8
Client Sample ID : MJNKR9D Dilution Factor : 1
Date & Time Acquired : 2024-12-13 15:51:04 DataFile Name : 041AREF.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Lead	207-1	119.77	123.13	121.92	121.61	1.40	ppb
Lead	208-1	121.66	121.92	121.82	121.80	0.11	ppb
Lithium	6-1				93		%
Magnesium	24-2	4314.92	4377.71	4430.51	4374.38	1.32	ppb
Manganese	55-2	112.56	118.27	118.69	116.50	2.94	ppb
Molybdenum	94-1	9.20	9.76	9.79	9.58	3.47	ppb
Molybdenum	95-1	4.23	4.38	4.49	4.37	2.94	ppb
Molybdenum	96-1	4.84	5.00	5.07	4.97	2.33	ppb
Molybdenum	97-1	4.33	4.65	4.53	4.50	3.55	ppb
Molybdenum	98-1	4.19	4.42	4.42	4.34	3.05	ppb
Neodymium	150-1						cps
Neodymium	150-2						cps
Nickel	60-2	17.19	17.88	18.20	17.76	2.91	ppb
Phosphorus	31-2	817.09	804.55	839.53	820.39	2.16	ppb
Potassium	39-2	1285.11	1343.83	1352.74	1327.22	2.77	ppb
Rhodium	103-1				103		%
Rhodium	103-2				102		%
Scandium	45-1				109		%
Scandium	45-2				104		%
Selenium	82-1	0.36	0.48	0.26	0.37	29.28	ppb
Selenium	77-2	13.99	8.03	14.09	12.04	28.82	ppb
Selenium	78-2	2.28	2.24	1.92	2.14	9.31	ppb
Silicon	28-1	15.17	15.74	17.01	15.97	5.90	ppb
Silver	107-1	1.42	1.44	1.49	1.45	2.62	ppb
Silver	109-1	1.40	1.45	1.51	1.45	3.55	ppb
Sodium	23-2	9957.16	10272.94	10210.18	10146.76	1.65	ppb
Strontium	86-1	1083.18	1109.27	1130.32	1107.59	2.13	ppb
Strontium	88-1	1133.02	1140.65	1160.35	1144.67	1.23	ppb
Sulfur	34-1	5473.63	5892.41	5776.88	5714.31	3.79	ppb
Terbium	159-1				102		%
Terbium	159-2				101		%
Thallium	203-1	0.38	0.40	0.42	0.40	4.32	ppb
Thallium	205-1	0.40	0.40	0.41	0.40	1.16	ppb
Tin	118-1	8.09	8.15	8.42	8.22	2.16	ppb
Titanium	47-1	485.01	495.42	509.31	496.58	2.45	ppb
Uranium	238-1	2.29	2.34	2.41	2.35	2.61	ppb

LB Number :

LB133950

Operator :

Jaswal

Lab Sample ID :

P5165-02

Instrumnet Name :

P8

Client Sample ID :

MJNKR9D

Dilution Factor :

1

Date & Time Acquired :

2024-12-13 15:51:04

DataFile Name :

041AREF.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Vanadium	51-2	33.41	34.83	34.82	34.35	2.38	ppb
Ytterbium	172-1						cps
Ytterbium	172-2						cps
Ytterbium	176-1						cps
Ytterbium	176-2						cps
Yttrium	89-1				107		%
Yttrium	89-2				105		%
Zinc	66-2	319.26	331.76	333.58	328.20	2.37	ppb
Zirconium	90-1	3.17	3.33	3.37	3.29	3.20	ppb
Zirconium	91-1	3.15	3.25	3.39	3.26	3.55	ppb

LB Number :LB133950Operator :Jaswal

Lab Sample ID :P5165-01LX5Instrumnet Name :P8

Client Sample ID :MJNKR9LDilution Factor :5

Date & Time Acquired :2024-12-13 15:54:13DataFile Name :042AREF.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Aluminium	27-2	1096.87	1079.58	1105.24	1093.90	1.20	ppb
Antimony	121-1	2.30	2.35	2.37	2.34	1.65	ppb
Arsenic	75-2	8.16	8.06	9.17	8.46	7.23	ppb
Barium	135-1	6.00	6.19	6.14	6.11	1.58	ppb
Barium	137-1	6.19	6.28	6.33	6.27	1.08	ppb
Beryllium	9-1	0.08	0.08	0.09	0.09	6.66	ppb
Bismuth	209-1				103		%
Bismuth	209-2				101		%
Bromine	81-1						cps
Cadmium	108-1	0.12	0.09	0.20	0.14	41.96	ppb
Cadmium	106-1	-0.84	-0.33	-0.95	-0.70		ppb
Cadmium	111-1	0.05	0.10	0.04	0.06	47.97	ppb
Calcium	43-1	1135.46	1135.30	1127.06	1132.61	0.42	ppb
Calcium	44-1	1180.68	1192.16	1178.62	1183.82	0.62	ppb
Carbon	12-1						cps
Carbon	12-2						cps
Chlorine	35-1						cps
Chlorine	35-2						cps
Chromium	52-2	3.83	4.04	3.88	3.92	2.73	ppb
Cobalt	59-2	1.81	1.76	1.85	1.81	2.33	ppb
Copper	63-2	84.97	86.47	86.16	85.87	0.92	ppb
Dysprosium	156-1						cps
Dysprosium	156-2						cps
Erbium	164-1						cps
Erbium	164-2						cps
Gadolinium	160-1						cps
Gadolinium	160-2						cps
Holmium	165-1				103		%
Holmium	165-2				102		%
Indium	115-1				106		%
Indium	115-2				105		%
Iron	54-2	2788.27	2790.74	2802.26	2793.76	0.27	ppb
Iron	56-2	2835.32	2823.92	2879.20	2846.15	1.03	ppb
Iron	57-2	2751.73	2732.54	2784.69	2756.32	0.96	ppb
Krypton	83-1						cps
Lead	206-1	21.57	22.28	21.94	21.93	1.62	ppb

LB Number : LB133950 Operator : Jaswal
Lab Sample ID : P5165-01LX5 Instrumnet Name : P8
Client Sample ID : MJNKR9L Dilution Factor : 5
Date & Time Acquired : 2024-12-13 15:54:13 DataFile Name : 042AREF.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Lead	207-1	21.70	22.22	22.10	22.01	1.25	ppb
Lead	208-1	21.55	22.09	21.93	21.86	1.27	ppb
Lithium	6-1				94		%
Magnesium	24-2	801.69	801.84	818.70	807.41	1.21	ppb
Manganese	55-2	21.65	21.71	21.82	21.72	0.40	ppb
Molybdenum	94-1	1.72	1.69	1.74	1.72	1.48	ppb
Molybdenum	95-1	0.85	0.84	0.85	0.85	0.90	ppb
Molybdenum	96-1	0.91	0.93	0.93	0.92	1.53	ppb
Molybdenum	97-1	0.84	0.84	0.87	0.85	2.35	ppb
Molybdenum	98-1	0.81	0.83	0.88	0.84	4.04	ppb
Neodymium	150-1						cps
Neodymium	150-2						cps
Nickel	60-2	3.16	3.23	3.33	3.24	2.65	ppb
Phosphorus	31-2	141.63	153.89	164.41	153.31	7.44	ppb
Potassium	39-2	268.99	276.20	273.17	272.78	1.33	ppb
Rhodium	103-1				106		%
Rhodium	103-2				107		%
Scandium	45-1				109		%
Scandium	45-2				107		%
Selenium	82-1	0.20	-0.17	0.11	0.05	419.31	ppb
Selenium	77-2	1.86	5.99	1.40	3.08	81.99	ppb
Selenium	78-2	-0.44	0.81	0.86	0.41	179.47	ppb
Silicon	28-1	2.77	3.03	6.95	4.25	55.15	ppb
Silver	107-1	0.27	0.28	0.29	0.28	2.43	ppb
Silver	109-1	0.27	0.28	0.29	0.28	2.07	ppb
Sodium	23-2	2051.97	2028.68	2063.62	2048.09	0.87	ppb
Strontium	86-1	206.09	209.50	209.54	208.38	0.95	ppb
Strontium	88-1	207.59	207.07	212.71	209.12	1.49	ppb
Sulfur	34-1	643.51	576.08	606.54	608.71	5.55	ppb
Terbium	159-1				103		%
Terbium	159-2				102		%
Thallium	203-1	0.08	0.09	0.09	0.08	2.10	ppb
Thallium	205-1	0.09	0.09	0.09	0.09	1.10	ppb
Tin	118-1	1.47	1.46	1.48	1.47	0.47	ppb
Titanium	47-1	92.08	90.88	89.43	90.80	1.46	ppb
Uranium	238-1	0.45	0.44	0.44	0.45	0.53	ppb

LB Number :

LB133950

Operator :

Jaswal

Lab Sample ID :

P5165-01LX5

Instrumnet Name :

P8

Client Sample ID :

MJNKR9L

Dilution Factor :

5

Date & Time Acquired :

2024-12-13 15:54:13

DataFile Name :

042AREF.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Vanadium	51-2	6.30	6.43	6.43	6.39	1.22	ppb
Ytterbium	172-1						cps
Ytterbium	172-2						cps
Ytterbium	176-1						cps
Ytterbium	176-2						cps
Yttrium	89-1				108		%
Yttrium	89-2				110		%
Zinc	66-2	61.94	61.21	61.51	61.55	0.60	ppb
Zirconium	90-1	0.57	0.57	0.59	0.58	2.44	ppb
Zirconium	91-1	0.57	0.56	0.56	0.57	0.67	ppb

LB Number :LB133950Operator :Jaswal

Lab Sample ID :P5165-03Instrumnet Name :P8

Client Sample ID :MJNKR9SDilution Factor :1

Date & Time Acquired :2024-12-13 15:57:27DataFile Name :043AREF.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Aluminium	27-2	5960.04	5841.07	5813.50	5871.53	1.33	ppb
Antimony	121-1	32.85	32.37	32.42	32.55	0.82	ppb
Arsenic	75-2	48.35	50.26	51.59	50.06	3.25	ppb
Barium	135-1	453.75	446.11	433.21	444.36	2.34	ppb
Barium	137-1	457.92	438.80	445.32	447.35	2.17	ppb
Beryllium	9-1	10.57	10.17	10.26	10.33	2.04	ppb
Bismuth	209-1				100		%
Bismuth	209-2				100		%
Bromine	81-1						cps
Cadmium	108-1	9.64	9.78	9.20	9.54	3.16	ppb
Cadmium	106-1	9.04	9.35	9.83	9.41	4.23	ppb
Cadmium	111-1	11.18	11.06	11.01	11.08	0.78	ppb
Calcium	43-1	5746.29	5613.02	5642.79	5667.36	1.23	ppb
Calcium	44-1	5965.80	5707.61	5789.45	5820.95	2.27	ppb
Carbon	12-1						cps
Carbon	12-2						cps
Chlorine	35-1						cps
Chlorine	35-2						cps
Chromium	52-2	60.31	59.92	59.62	59.95	0.57	ppb
Cobalt	59-2	111.08	110.62	109.77	110.49	0.60	ppb
Copper	63-2	492.34	495.97	488.16	492.16	0.79	ppb
Dysprosium	156-1						cps
Dysprosium	156-2						cps
Erbium	164-1						cps
Erbium	164-2						cps
Gadolinium	160-1						cps
Gadolinium	160-2						cps
Holmium	165-1				102		%
Holmium	165-2				103		%
Indium	115-1				106		%
Indium	115-2				104		%
Iron	54-2	14917.21	14550.84	14809.38	14759.14	1.28	ppb
Iron	56-2	14496.90	14198.93	14138.00	14277.94	1.35	ppb
Iron	57-2	14741.61	14283.05	14541.86	14522.17	1.58	ppb
Krypton	83-1						cps
Lead	206-1	127.87	125.47	120.29	124.54	3.11	ppb

LB Number : LB133950 Operator : Jaswal
Lab Sample ID : P5165-03 Instrumnet Name : P8
Client Sample ID : MJNKR9S Dilution Factor : 1
Date & Time Acquired : 2024-12-13 15:57:27 DataFile Name : 043AREF.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Lead	207-1	125.44	123.84	118.71	122.66	2.87	ppb
Lead	208-1	124.28	123.38	119.24	122.30	2.20	ppb
Lithium	6-1				92		%
Magnesium	24-2	4135.34	4051.13	4009.98	4065.48	1.57	ppb
Manganese	55-2	206.45	203.40	203.66	204.50	0.83	ppb
Molybdenum	94-1	9.32	8.81	8.61	8.91	4.14	ppb
Molybdenum	95-1	4.24	4.13	4.04	4.14	2.50	ppb
Molybdenum	96-1	4.81	4.67	4.62	4.70	2.09	ppb
Molybdenum	97-1	4.36	4.22	4.11	4.23	2.96	ppb
Molybdenum	98-1	4.18	4.05	3.99	4.07	2.48	ppb
Neodymium	150-1						cps
Neodymium	150-2						cps
Nickel	60-2	117.54	116.65	116.28	116.82	0.55	ppb
Phosphorus	31-2	828.01	825.32	843.63	832.32	1.19	ppb
Potassium	39-2	1258.57	1242.61	1242.00	1247.73	0.75	ppb
Rhodium	103-1				103		%
Rhodium	103-2				105		%
Scandium	45-1				111		%
Scandium	45-2				106		%
Selenium	82-1	20.06	20.34	19.52	19.97	2.10	ppb
Selenium	77-2	35.10	29.22	34.01	32.78	9.54	ppb
Selenium	78-2	20.97	23.95	25.11	23.34	9.15	ppb
Silicon	28-1	15.87	15.02	20.23	17.04	16.39	ppb
Silver	107-1	11.61	11.62	11.63	11.62	0.09	ppb
Silver	109-1	11.92	11.83	11.94	11.90	0.52	ppb
Sodium	23-2	9760.85	9585.76	9629.53	9658.71	0.94	ppb
Strontium	86-1	1071.32	1063.58	1033.64	1056.18	1.88	ppb
Strontium	88-1	1149.38	1092.75	1077.42	1106.52	3.43	ppb
Sulfur	34-1	5606.01	5260.08	5260.72	5375.60	3.71	ppb
Terbium	159-1				104		%
Terbium	159-2				103		%
Thallium	203-1	10.06	9.94	9.83	9.94	1.12	ppb
Thallium	205-1	9.97	9.97	9.86	9.93	0.64	ppb
Tin	118-1	7.92	7.87	8.05	7.94	1.17	ppb
Titanium	47-1	496.68	477.06	481.28	485.01	2.13	ppb
Uranium	238-1	2.30	2.30	2.26	2.28	1.02	ppb

LB Number :

LB133950

Operator :

Jaswal

Lab Sample ID :

P5165-03

Instrumnet Name :

P8

Client Sample ID :

MJNKR9S

Dilution Factor :

1

Date & Time Acquired :

2024-12-13 15:57:27

DataFile Name :

043AREF.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Vanadium	51-2	129.58	130.25	129.29	129.71	0.38	ppb
Ytterbium	172-1						cps
Ytterbium	172-2						cps
Ytterbium	176-1						cps
Ytterbium	176-2						cps
Yttrium	89-1				110		%
Yttrium	89-2				110		%
Zinc	66-2	410.15	412.89	405.41	409.48	0.92	ppb
Zirconium	90-1	3.14	3.06	2.96	3.05	2.98	ppb
Zirconium	91-1	3.10	3.07	2.89	3.02	3.78	ppb

LB Number :	LB133950	Operator :	Jaswal
Lab Sample ID :	CCV002	Instrumnet Name :	P8
Client Sample ID :	CCV002	Dilution Factor :	1
Date & Time Acquired :	2024-12-13 16:00:40	DataFile Name :	044CCV.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Aluminium	27-2	48849.96	48397.62	48522.95	48590.17	0.48	ppb
Antimony	121-1	567.96	496.54	489.91	518.14	8.35	ppb
Arsenic	75-2	482.79	479.52	490.27	484.19	1.14	ppb
Barium	135-1	2870.38	2479.11	2459.56	2603.01	8.90	ppb
Barium	137-1	2841.47	2489.08	2461.73	2597.43	8.15	ppb
Beryllium	9-1	611.33	519.62	508.51	546.49	10.33	ppb
Bismuth	209-1				83		%
Bismuth	209-2				87		%
Bromine	81-1						cps
Cadmium	108-1	572.13	498.54	484.29	518.32	9.10	ppb
Cadmium	106-1	578.79	506.53	492.91	526.08	8.77	ppb
Cadmium	111-1	560.70	487.53	483.11	510.45	8.54	ppb
Calcium	43-1	285041.02	244500.01	241763.59	257101.54	9.43	ppb
Calcium	44-1	282378.50	241092.00	241286.47	254918.99	9.33	ppb
Carbon	12-1						cps
Carbon	12-2						cps
Chlorine	35-1						cps
Chlorine	35-2						cps
Chromium	52-2	493.59	487.25	488.35	489.73	0.69	ppb
Cobalt	59-2	489.35	475.20	477.58	480.71	1.58	ppb
Copper	63-2	4693.76	4576.94	4594.63	4621.78	1.36	ppb
Dysprosium	156-1						cps
Dysprosium	156-2						cps
Erbium	164-1						cps
Erbium	164-2						cps
Gadolinium	160-1						cps
Gadolinium	160-2						cps
Holmium	165-1				93		%
Holmium	165-2				96		%
Indium	115-1				88		%
Indium	115-2				90		%
Iron	54-2	124598.45	123875.55	121573.05	123349.02	1.28	ppb
Iron	56-2	123330.07	122458.13	120666.81	122151.67	1.11	ppb
Iron	57-2	123794.90	121368.73	121570.46	122244.70	1.10	ppb
Krypton	83-1						cps
Lead	206-1	2948.71	2530.29	2455.99	2645.00	10.04	ppb

LB Number : LB133950 Operator : Jaswal
Lab Sample ID : CCV002 Instrumnet Name : P8
Client Sample ID : CCV002 Dilution Factor : 1
Date & Time Acquired : 2024-12-13 16:00:40 DataFile Name : 044CCV.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Lead	207-1	2915.82	2512.62	2500.46	2642.97	8.94	ppb
Lead	208-1	2896.53	2492.95	2470.44	2619.97	9.15	ppb
Lithium	6-1				79		%
Magnesium	24-2	251568.72	250020.73	248297.18	249962.21	0.65	ppb
Manganese	55-2	4858.22	4863.85	4798.52	4840.19	0.75	ppb
Molybdenum	94-1	5623.38	4924.83	4889.53	5145.91	8.04	ppb
Molybdenum	95-1	5546.37	4887.82	4828.01	5087.40	7.84	ppb
Molybdenum	96-1	5576.53	4872.56	4803.37	5084.15	8.41	ppb
Molybdenum	97-1	5709.62	4881.99	4897.61	5163.07	9.17	ppb
Molybdenum	98-1	5583.63	4839.22	4819.59	5080.81	8.57	ppb
Neodymium	150-1						cps
Neodymium	150-2						cps
Nickel	60-2	517.82	506.74	506.51	510.36	1.27	ppb
Phosphorus	31-2	10198.68	9688.42	9752.53	9879.88	2.81	ppb
Potassium	39-2	123583.35	119962.06	123461.15	122335.52	1.68	ppb
Rhodium	103-1				83		%
Rhodium	103-2				87		%
Scandium	45-1				92		%
Scandium	45-2				94		%
Selenium	82-1	548.43	474.45	476.19	499.69	8.45	ppb
Selenium	77-2	479.29	479.73	487.55	482.19	0.96	ppb
Selenium	78-2	468.17	489.49	476.39	478.02	2.25	ppb
Silicon	28-1	582.21	507.39	491.38	526.99	9.20	ppb
Silver	107-1	560.61	490.09	478.79	509.83	8.70	ppb
Silver	109-1	558.46	478.80	467.48	501.58	9.89	ppb
Sodium	23-2	251705.58	251975.13	246842.51	250174.40	1.15	ppb
Strontium	86-1	14336.36	12288.09	12149.92	12924.79	9.47	ppb
Strontium	88-1	14045.95	12257.17	12102.48	12801.87	8.44	ppb
Sulfur	34-1	14011.19	11307.28	10754.20	12024.22	14.49	ppb
Terbium	159-1				91		%
Terbium	159-2				95		%
Thallium	203-1	594.71	497.87	492.03	528.20	10.92	ppb
Thallium	205-1	585.51	497.42	488.36	523.76	10.25	ppb
Tin	118-1	574.49	499.06	491.54	521.70	8.79	ppb
Titanium	47-1	5713.90	4914.15	4878.90	5168.98	9.14	ppb
Uranium	238-1	590.39	509.79	502.75	534.31	9.11	ppb

LB Number :

LB133950

Operator :

Jaswal

Lab Sample ID :

CCV002

Instrumnet Name :

P8

Client Sample ID :

CCV002

Dilution Factor :

1

Date & Time Acquired :

2024-12-13 16:00:40

DataFile Name :

044CCV.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Vanadium	51-2	497.77	488.96	481.91	489.54	1.62	ppb
Ytterbium	172-1						cps
Ytterbium	172-2						cps
Ytterbium	176-1						cps
Ytterbium	176-2						cps
Yttrium	89-1				93		%
Yttrium	89-2				96		%
Zinc	66-2	4980.48	5015.22	4983.63	4993.11	0.38	ppb
Zirconium	90-1	577.29	501.67	494.18	524.38	8.77	ppb
Zirconium	91-1	565.89	501.73	489.31	518.97	7.92	ppb

LB Number :

LB133950

Operator :

Jaswal

Lab Sample ID :

CCB002

Instrumnet Name :

P8

Client Sample ID :

CCB002

Dilution Factor :

1

Date & Time Acquired :

2024-12-13 16:03:21

DataFile Name :

045CCBE.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Aluminium	27-2	0.71	0.58	0.90	0.73	22.02	ppb
Antimony	121-1	0.15	0.13	0.11	0.13	16.40	ppb
Arsenic	75-2	0.04	0.01	0.02	0.02	64.46	ppb
Barium	135-1	0.08	0.04	0.03	0.05	46.06	ppb
Barium	137-1	0.06	0.04	0.04	0.05	25.22	ppb
Beryllium	9-1	0.12	0.11	0.09	0.11	17.89	ppb
Bismuth	209-1				102		%
Bismuth	209-2				92		%
Bromine	81-1						cps
Cadmium	108-1	0.09	0.03	0.02	0.05	85.22	ppb
Cadmium	106-1	0.07	0.33	0.28	0.23	60.69	ppb
Cadmium	111-1	0.04	0.06	0.05	0.05	13.67	ppb
Calcium	43-1	13.59	7.93	5.52	9.01	45.99	ppb
Calcium	44-1	13.06	9.68	8.77	10.50	21.52	ppb
Carbon	12-1						cps
Carbon	12-2						cps
Chlorine	35-1						cps
Chlorine	35-2						cps
Chromium	52-2	0.09	0.10	0.07	0.08	19.78	ppb
Cobalt	59-2	0.01	0.01	0.01	0.01	23.49	ppb
Copper	63-2	0.41	0.35	0.37	0.38	8.65	ppb
Dysprosium	156-1						cps
Dysprosium	156-2						cps
Erbium	164-1						cps
Erbium	164-2						cps
Gadolinium	160-1						cps
Gadolinium	160-2						cps
Holmium	165-1				102		%
Holmium	165-2				91		%
Indium	115-1				104		%
Indium	115-2				92		%
Iron	54-2	2.42	3.26	2.32	2.67	19.27	ppb
Iron	56-2	2.29	2.57	2.50	2.45	6.03	ppb
Iron	57-2	2.66	1.72	0.98	1.79	47.31	ppb
Krypton	83-1						cps
Lead	206-1	0.20	0.17	0.14	0.17	18.34	ppb

LB Number : LB133950 Operator : Jaswal
Lab Sample ID : CCB002 Instrumnet Name : P8
Client Sample ID : CCB002 Dilution Factor : 1
Date & Time Acquired : 2024-12-13 16:03:21 DataFile Name : 045CCBE.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Lead	207-1	0.20	0.16	0.14	0.17	17.49	ppb
Lead	208-1	0.19	0.16	0.14	0.17	16.35	ppb
Lithium	6-1				93		%
Magnesium	24-2	0.99	1.62	0.38	0.99	62.48	ppb
Manganese	55-2	0.11	0.11	0.08	0.10	21.82	ppb
Molybdenum	94-1	0.40	0.30	0.23	0.31	27.02	ppb
Molybdenum	95-1	0.43	0.31	0.21	0.32	33.60	ppb
Molybdenum	96-1	0.42	0.28	0.22	0.31	32.11	ppb
Molybdenum	97-1	0.39	0.29	0.22	0.30	28.29	ppb
Molybdenum	98-1	0.40	0.26	0.21	0.29	33.85	ppb
Neodymium	150-1						cps
Neodymium	150-2						cps
Nickel	60-2	0.03	-0.01	0.04	0.02	128.40	ppb
Phosphorus	31-2	-8.94	-10.18	-9.86	-9.66		ppb
Potassium	39-2	50.49	50.22	48.04	49.58	2.71	ppb
Rhodium	103-1				103		%
Rhodium	103-2				94		%
Scandium	45-1				103		%
Scandium	45-2				91		%
Selenium	82-1	-0.15	0.13	-0.24	-0.09		ppb
Selenium	77-2	0.42	0.41	-0.19	0.21	162.15	ppb
Selenium	78-2	-0.01	-0.02	-0.02	-0.02		ppb
Silicon	28-1	0.14	0.02	0.03	0.06	103.53	ppb
Silver	107-1	0.09	0.08	0.06	0.08	14.54	ppb
Silver	109-1	0.09	0.21	0.07	0.12	63.36	ppb
Sodium	23-2	157.18	150.88	151.28	153.11	2.30	ppb
Strontium	86-1	0.40	0.39	0.21	0.33	32.99	ppb
Strontium	88-1	0.42	0.27	0.29	0.33	25.27	ppb
Sulfur	34-1	-152.13	-304.37	-229.79	-228.76		ppb
Terbium	159-1				101		%
Terbium	159-2				91		%
Thallium	203-1	0.09	0.07	0.07	0.07	13.90	ppb
Thallium	205-1	0.08	0.07	0.06	0.07	10.21	ppb
Tin	118-1	0.05	0.06	0.04	0.05	13.46	ppb
Titanium	47-1	0.22	0.17	0.13	0.18	26.73	ppb
Uranium	238-1	0.02	0.01	0.01	0.01	35.92	ppb

LB Number :

LB133950

Operator :

Jaswal

Lab Sample ID :

CCB002

Instrumnet Name :

P8

Client Sample ID :

CCB002

Dilution Factor :

1

Date & Time Acquired :

2024-12-13 16:03:21

DataFile Name :

045CCBE.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Vanadium	51-2	0.01	0.01	0.01	0.01	19.08	ppb
Ytterbium	172-1						cps
Ytterbium	172-2						cps
Ytterbium	176-1						cps
Ytterbium	176-2						cps
Yttrium	89-1				105		%
Yttrium	89-2				94		%
Zinc	66-2	0.44	0.60	0.55	0.53	15.35	ppb
Zirconium	90-1	0.03	0.02	0.02	0.02	30.11	ppb
Zirconium	91-1	0.03	0.02	0.02	0.02	29.05	ppb

LB Number : LB133950 Operator : Jaswal
Lab Sample ID : S0 Instrumnet Name : P8
Client Sample ID : S0 Dilution Factor : 1
Date & Time Acquired : 2024-12-13 12:46:05 DataFile Name : 004CALB.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Aluminium	27-2	133	107	93	111	18.33	cps
Antimony	121-1	53	57	30	47	31.14	cps
Arsenic	75-2	3	7	0	3	100.05	cps
Barium	135-1	107	100	90	99	8.48	cps
Barium	137-1	173	167	170	170	1.96	cps
Beryllium	9-1	164	179	177	173	4.53	cps
Bismuth	209-1	17100557	20600273	18311717	18670849	9.52	cps
Bismuth	209-2	7868214	7879272	7863424	7870304	0.10	cps
Bromine	81-1	11241	11228	11241	11237	0.07	cps
Cadmium	108-1	20	23	37	27	33.08	cps
Cadmium	106-1	11238	13116	11488	11948	8.54	cps
Cadmium	111-1	7873	9172	8029	8358	8.48	cps
Calcium	43-1	1083	913	917	971	10.01	cps
Calcium	44-1	24371	25242	25219	24944	1.99	cps
Carbon	12-1	4891081	4832686	4791141	4838303	1.04	cps
Carbon	12-2	32075	32021	31788	31961	0.48	cps
Chlorine	35-1	82074	81260	81726	81686	0.50	cps
Chlorine	35-2	290	310	313	304	4.14	cps
Chromium	52-2	1923	2154	1997	2025	5.80	cps
Cobalt	59-2	110	123	120	118	5.89	cps
Copper	63-2	3447	3554	3600	3534	2.22	cps
Dysprosium	156-1	7	10	7	8	24.71	cps
Dysprosium	156-2	0	3	7	3	100.05	cps
Erbium	164-1	107	120	117	114	6.06	cps
Erbium	164-2	43	20	27	30	40.05	cps
Gadolinium	160-1	150	197	197	181	14.88	cps
Gadolinium	160-2	30	47	37	38	22.21	cps
Holmium	165-1	28064885	33756292	31010142	30943773	9.20	cps
Holmium	165-2	10931406	10734517	11003833	10889919	1.28	cps
Indium	115-1	22982873	27909892	25276171	25389645	9.71	cps
Indium	115-2	2753216	2708434	2796191	2752614	1.59	cps
Iron	54-2	713	693	623	677	6.98	cps
Iron	56-2	8309	8119	8072	8167	1.54	cps
Iron	57-2	193	200	200	198	1.94	cps
Krypton	83-1	277	247	267	263	5.80	cps
Lead	206-1	1073	1073	1133	1093	3.17	cps

LB Number : LB133950 Operator : Jaswal
Lab Sample ID : S0 Instrumnet Name : P8
Client Sample ID : S0 Dilution Factor : 1
Date & Time Acquired : 2024-12-13 12:46:05 DataFile Name : 004CALB.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Lead	207-1	993	1033	1033	1020	2.26	cps
Lead	208-1	4304	4444	4517	4421	2.45	cps
Lithium	6-1	11050990	12788014	12174986	12004664	7.34	cps
Magnesium	24-2	1393	1297	1383	1358	3.92	cps
Manganese	55-2	220	230	213	221	3.79	cps
Molybdenum	94-1	640	687	613	647	5.74	cps
Molybdenum	95-1	413	390	437	413	5.65	cps
Molybdenum	96-1	480	493	493	489	1.58	cps
Molybdenum	97-1	227	220	207	218	4.68	cps
Molybdenum	98-1	557	550	590	566	3.79	cps
Neodymium	150-1	20	27	17	21	24.12	cps
Neodymium	150-2	0	0	0	0	0.00	cps
Nickel	60-2	677	743	770	730	6.59	cps
Phosphorus	31-2	117	90	130	112	18.15	cps
Potassium	39-2	13440	13023	13396	13286	1.73	cps
Rhodium	103-1	22196098	26624178	23539586	24119954	9.41	cps
Rhodium	103-2	9319106	9331603	9305314	9318674	0.14	cps
Scandium	45-1	17030224	20473135	18742501	18748620	9.18	cps
Scandium	45-2	375729	372826	380900	376485	1.09	cps
Selenium	82-1	27	47	23	32	39.14	cps
Selenium	77-2	0	0	3	1	173.21	cps
Selenium	78-2	17	13	13	14	13.35	cps
Silicon	28-1	855238	850657	850066	851987	0.33	cps
Silver	107-1	220	230	180	210	12.60	cps
Silver	109-1	83	87	73	81	8.56	cps
Sodium	23-2	49417	49524	49403	49448	0.13	cps
Strontium	86-1	523	487	513	508	3.73	cps
Strontium	88-1	553	443	487	494	11.21	cps
Sulfur	34-1	634052	636432	635709	635398	0.19	cps
Terbium	159-1	28430801	34712486	31416131	31519806	9.97	cps
Terbium	159-2	10705519	10584896	10731597	10674004	0.73	cps
Thallium	203-1	163	133	200	166	20.17	cps
Thallium	205-1	360	410	373	381	6.79	cps
Tin	118-1	4448	4164	4327	4313	3.30	cps
Titanium	47-1	257	297	317	290	10.53	cps
Uranium	238-1	70	43	33	49	38.78	cps

LB Number :

LB133950

Operator :

Jaswal

Lab Sample ID :

S00

Instrumnet Name :

P8

Client Sample ID :

S0

Dilution Factor :

1

Date & Time Acquired :

2024-12-13 12:46:05

DataFile Name :

004CALB.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Vanadium	51-2	3	13	20	12	68.66	cps
Ytterbium	172-1	120	197	167	161	23.98	cps
Ytterbium	172-2	57	83	53	64	25.51	cps
Ytterbium	176-1	3317	3971	3837	3708	9.31	cps
Ytterbium	176-2	923	1003	1047	991	6.31	cps
Yttrium	89-1	35734430	44170426	39881303	39928720	10.56	cps
Yttrium	89-2	2967148	3022380	3051445	3013658	1.42	cps
Zinc	66-2	623	597	637	619	3.29	cps
Zirconium	90-1	1423	1613	1603	1547	6.91	cps
Zirconium	91-1	233	320	293	282	15.73	cps

LB Number : LB133950 Operator : Jaswal
Lab Sample ID : S02 Instrumnet Name : P8
Client Sample ID : S02 Dilution Factor : 1
Date & Time Acquired : 2024-12-13 12:52:44 DataFile Name : 006CALS.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Aluminium	27-2	2000	2010	2044	2018	1.12	cps
Antimony	121-1	42222	41677	41426	41775	0.97	cps
Arsenic	75-2	497	460	463	473	4.28	cps
Barium	135-1	53726	53335	54322	53794	0.92	cps
Barium	137-1	92997	94303	92933	93411	0.83	cps
Beryllium	9-1	7828	8056	8020	7968	1.54	cps
Bismuth	209-1	18293052	18342050	18920453	18518518	1.88	cps
Bismuth	209-2	7985733	7953229	7990898	7976620	0.26	cps
Bromine	81-1	11862	11888	11311	11687	2.79	cps
Cadmium	108-1	483	443	477	468	4.58	cps
Cadmium	106-1	12482	13083	12366	12644	3.04	cps
Cadmium	111-1	13727	14145	13837	13903	1.56	cps
Calcium	43-1	40791	40865	41450	41035	0.88	cps
Calcium	44-1	681082	679705	684739	681842	0.38	cps
Carbon	12-1	5093734	5151434	5117149	5120772	0.57	cps
Carbon	12-2	32806	32650	32793	32750	0.27	cps
Chlorine	35-1	84813	84461	84685	84653	0.21	cps
Chlorine	35-2	367	313	377	352	9.67	cps
Chromium	52-2	12766	12816	13089	12890	1.35	cps
Cobalt	59-2	10444	10784	10764	10664	1.79	cps
Copper	63-2	19954	19423	19377	19585	1.64	cps
Dysprosium	156-1	13	10	33	19	66.81	cps
Dysprosium	156-2	7	13	13	11	34.61	cps
Erbium	164-1	140	103	137	127	16.01	cps
Erbium	164-2	57	43	40	47	18.90	cps
Gadolinium	160-1	193	250	157	200	23.51	cps
Gadolinium	160-2	63	37	27	42	44.88	cps
Holmium	165-1	30423660	30420665	30580780	30475035	0.30	cps
Holmium	165-2	11081617	11050510	11074172	11068767	0.15	cps
Indium	115-1	25253265	25472853	24872800	25199639	1.20	cps
Indium	115-2	2785499	2736252	2769815	2763855	0.91	cps
Iron	54-2	12429	11762	12185	12125	2.78	cps
Iron	56-2	212610	211870	211300	211927	0.31	cps
Iron	57-2	5231	4991	5044	5089	2.48	cps
Krypton	83-1	277	237	277	263	8.77	cps
Lead	206-1	17075	17832	17412	17440	2.18	cps

LB Number : LB133950 Operator : Jaswal
Lab Sample ID : S02 Instrumnet Name : P8
Client Sample ID : S02 Dilution Factor : 1
Date & Time Acquired : 2024-12-13 12:52:44 DataFile Name : 006CAL.S.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Lead	207-1	15553	15790	14969	15437	2.74	cps
Lead	208-1	69497	71313	70483	70431	1.29	cps
Lithium	6-1	11856985	11901160	11946827	11901657	0.38	cps
Magnesium	24-2	179140	178748	179363	179084	0.17	cps
Manganese	55-2	2604	2464	2340	2469	5.34	cps
Molybdenum	94-1	47611	48631	48675	48306	1.25	cps
Molybdenum	95-1	57840	58794	58834	58489	0.96	cps
Molybdenum	96-1	65209	64134	63303	64215	1.49	cps
Molybdenum	97-1	35442	36281	36358	36027	1.41	cps
Molybdenum	98-1	91751	93489	92754	92665	0.94	cps
Neodymium	150-1	20	23	27	23	14.29	cps
Neodymium	150-2	7	0	3	3	100.05	cps
Nickel	60-2	3691	3604	3490	3595	2.79	cps
Phosphorus	31-2	310	307	237	284	14.56	cps
Potassium	39-2	122585	122320	123822	122909	0.65	cps
Rhodium	103-1	24093144	24099591	23748673	23980469	0.84	cps
Rhodium	103-2	9513720	9486153	9387244	9462372	0.70	cps
Scandium	45-1	18426649	18348068	18716508	18497075	1.05	cps
Scandium	45-2	383098	379125	383342	381855	0.62	cps
Selenium	82-1	1687	1930	1910	1842	7.33	cps
Selenium	77-2	33	17	37	29	37.08	cps
Selenium	78-2	137	140	130	136	3.76	cps
Silicon	28-1	961292	958351	948280	955974	0.71	cps
Silver	107-1	26820	27277	27494	27197	1.27	cps
Silver	109-1	26288	26693	26128	26370	1.10	cps
Sodium	23-2	404926	404123	403029	404026	0.24	cps
Strontium	86-1	8429	8116	8443	8329	2.22	cps
Strontium	88-1	66209	68239	68420	67623	1.82	cps
Sulfur	34-1	641903	645563	647093	644853	0.41	cps
Terbium	159-1	31444473	31713011	30883397	31346960	1.35	cps
Terbium	159-2	10755484	10730465	10894702	10793551	0.82	cps
Thallium	203-1	21164	20860	20590	20871	1.38	cps
Thallium	205-1	49420	49681	49665	49589	0.29	cps
Tin	118-1	96051	97383	98726	97387	1.37	cps
Titanium	47-1	18969	18565	18889	18808	1.14	cps
Uranium	238-1	66989	67012	66258	66753	0.64	cps

LB Number : LB133950 Operator : Jaswal
Lab Sample ID : S02 Instrumnet Name : P8
Client Sample ID : S02 Dilution Factor : 1
Date & Time Acquired : 2024-12-13 12:52:44 DataFile Name : 006CALS.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Vanadium	51-2	21316	20478	20712	20835	2.08	cps
Ytterbium	172-1	140	150	150	147	3.94	cps
Ytterbium	172-2	53	53	67	58	13.33	cps
Ytterbium	176-1	3861	3721	3541	3707	4.33	cps
Ytterbium	176-2	770	837	873	827	6.34	cps
Yttrium	89-1	38740553	40246048	40155392	39713997	2.13	cps
Yttrium	89-2	3144981	3073085	3137324	3118463	1.27	cps
Zinc	66-2	4287	4554	4571	4471	3.56	cps
Zirconium	90-1	40552	41796	42060	41469	1.94	cps
Zirconium	91-1	9133	9417	9096	9215	1.90	cps

LB Number : LB133950 Operator : Jaswal
Lab Sample ID : S03 Instrumnet Name : P8
Client Sample ID : S03 Dilution Factor : 1
Date & Time Acquired : 2024-12-13 12:56:02 DataFile Name : 007CALB.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Aluminium	27-2	103300	101551	101776	102209	0.93	cps
Antimony	121-1	1023763	1031975	1039309	1031682	0.75	cps
Arsenic	75-2	22541	22281	22081	22301	1.04	cps
Barium	135-1	1350326	1357463	1363996	1357262	0.50	cps
Barium	137-1	2350611	2478536	2430536	2419894	2.67	cps
Beryllium	9-1	388007	386840	386848	387232	0.17	cps
Bismuth	209-1	19140799	19088771	17854608	18694726	3.89	cps
Bismuth	209-2	8090638	8025393	7852761	7989597	1.54	cps
Bromine	81-1	11675	11465	11161	11434	2.26	cps
Cadmium	108-1	21944	22074	21964	21994	0.32	cps
Cadmium	106-1	43930	42793	41873	42865	2.40	cps
Cadmium	111-1	277498	278220	280532	278750	0.57	cps
Calcium	43-1	397049	398793	400449	398764	0.43	cps
Calcium	44-1	6548668	6610980	6579838	6579829	0.47	cps
Carbon	12-1	4644694	4666168	4654432	4655098	0.23	cps
Carbon	12-2	30101	30729	29353	30061	2.29	cps
Chlorine	35-1	84535	85236	83915	84562	0.78	cps
Chlorine	35-2	347	367	320	344	6.80	cps
Chromium	52-2	262144	261422	259426	260997	0.54	cps
Cobalt	59-2	488477	492776	482170	487808	1.09	cps
Copper	63-2	4205774	4165672	4127098	4166181	0.94	cps
Dysprosium	156-1	87	47	53	62	34.44	cps
Dysprosium	156-2	0	13	17	10	88.20	cps
Erbium	164-1	180	150	157	162	9.71	cps
Erbium	164-2	57	50	57	54	7.07	cps
Gadolinium	160-1	243	173	243	220	18.37	cps
Gadolinium	160-2	40	57	20	39	47.21	cps
Holmium	165-1	31582173	31938713	29673660	31064849	3.92	cps
Holmium	165-2	11326255	11105501	11054870	11162208	1.29	cps
Indium	115-1	26260219	26271300	24075185	25535568	4.95	cps
Indium	115-2	2797253	2787544	2741867	2775555	1.07	cps
Iron	54-2	552891	551609	542619	549039	1.02	cps
Iron	56-2	10127196	9996281	9911123	10011533	1.09	cps
Iron	57-2	250989	247262	243669	247307	1.48	cps
Krypton	83-1	273	310	347	310	11.83	cps
Lead	206-1	4369750	4416729	4374944	4387141	0.59	cps

LB Number : LB133950 Operator : Jaswal
Lab Sample ID : S03 Instrumnet Name : P8
Client Sample ID : S03 Dilution Factor : 1
Date & Time Acquired : 2024-12-13 12:56:02 DataFile Name : 007CALB.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Lead	207-1	3813282	3748994	3828396	3796891	1.11	cps
Lead	208-1	17311235	17174266	17444321	17309940	0.78	cps
Lithium	6-1	12460487	12182843	11240222	11961184	5.35	cps
Magnesium	24-2	1782295	1784219	1704248	1756921	2.60	cps
Manganese	55-2	1107148	1104544	1077425	1096372	1.50	cps
Molybdenum	94-1	4090021	4132061	4162406	4128163	0.88	cps
Molybdenum	95-1	5942178	6025818	5957702	5975233	0.74	cps
Molybdenum	96-1	6528487	6618844	6551352	6566228	0.72	cps
Molybdenum	97-1	3696433	3685447	3731651	3704511	0.65	cps
Molybdenum	98-1	9429196	9499955	9471289	9466813	0.38	cps
Neodymium	150-1	123	130	157	137	12.91	cps
Neodymium	150-2	3	20	10	11	75.52	cps
Nickel	60-2	135713	137217	133896	135609	1.23	cps
Phosphorus	31-2	4724	4611	4644	4660	1.25	cps
Potassium	39-2	558005	551815	548295	552705	0.89	cps
Rhodium	103-1	24691070	24357740	22484643	23844484	4.99	cps
Rhodium	103-2	9604559	9274054	9277817	9385476	2.02	cps
Scandium	45-1	19242234	19181674	17807493	18743801	4.33	cps
Scandium	45-2	386787	380185	374969	380647	1.56	cps
Selenium	82-1	17928	17636	17671	17745	0.90	cps
Selenium	77-2	310	303	360	324	9.55	cps
Selenium	78-2	1100	1057	1227	1128	7.83	cps
Silicon	28-1	16721388	16985150	16813506	16840014	0.79	cps
Silver	107-1	1391176	1409740	1421213	1407376	1.08	cps
Silver	109-1	1324620	1330450	1368429	1341167	1.77	cps
Sodium	23-2	3697052	3632766	3616266	3648694	1.17	cps
Strontium	86-1	375530	382681	378645	378952	0.95	cps
Strontium	88-1	3424954	3386639	3381099	3397564	0.70	cps
Sulfur	34-1	771069	769694	767234	769332	0.25	cps
Terbium	159-1	32477839	32100633	30128456	31568976	4.00	cps
Terbium	159-2	11054140	11025289	10898462	10992630	0.75	cps
Thallium	203-1	1037382	1039753	1047701	1041612	0.52	cps
Thallium	205-1	2548456	2557660	2563438	2556518	0.30	cps
Tin	118-1	900825	907218	915898	907980	0.83	cps
Titanium	47-1	1852377	1912544	1862791	1875904	1.71	cps
Uranium	238-1	3484174	3458341	3552936	3498484	1.40	cps

LB Number :LB133950

Operator :Jaswal

Lab Sample ID :S03

Instrumnet Name :P8

Client Sample ID :S03

Dilution Factor :1

Date & Time Acquired :2024-12-13 12:56:02

DataFile Name :007CALB.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Vanadium	51-2	203164	201727	199812	201567	0.83	cps
Ytterbium	172-1	210	220	160	197	16.35	cps
Ytterbium	172-2	77	50	93	73	29.80	cps
Ytterbium	176-1	8970	8833	8603	8802	2.11	cps
Ytterbium	176-2	2704	2747	2680	2710	1.25	cps
Yttrium	89-1	41576424	41322981	38246154	40381853	4.59	cps
Yttrium	89-2	3175227	3142151	3064412	3127264	1.82	cps
Zinc	66-2	379171	377664	375104	377313	0.54	cps
Zirconium	90-1	2135190	2171630	2145466	2150762	0.87	cps
Zirconium	91-1	450868	454859	457749	454492	0.76	cps

LB Number : LB133950 Operator : Jaswal
Lab Sample ID : S04 Instrumnet Name : P8
Client Sample ID : S04 Dilution Factor : 1
Date & Time Acquired : 2024-12-13 12:59:05 DataFile Name : 008CAL.S.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Aluminium	27-2	243618	242414	245688	243907	0.68	cps
Antimony	121-1	2703642	2660122	2638052	2667272	1.25	cps
Arsenic	75-2	53983	54431	53742	54052	0.65	cps
Barium	135-1	3491619	3477672	3446067	3471786	0.67	cps
Barium	137-1	5899939	5843348	5693146	5812144	1.84	cps
Beryllium	9-1	943624	940741	938500	940955	0.27	cps
Bismuth	209-1	17935542	18710603	18816339	18487494	2.60	cps
Bismuth	209-2	7585060	8274722	7920390	7926724	4.35	cps
Bromine	81-1	11261	11615	12085	11654	3.55	cps
Cadmium	108-1	55274	54484	54273	54677	0.96	cps
Cadmium	106-1	88659	89394	89149	89067	0.42	cps
Cadmium	111-1	673093	677497	672978	674523	0.38	cps
Calcium	43-1	982274	976692	968275	975747	0.72	cps
Calcium	44-1	16318942	16368306	15998654	16228634	1.24	cps
Carbon	12-1	4931378	4943941	4937672	4937664	0.13	cps
Carbon	12-2	31343	31677	32165	31729	1.30	cps
Chlorine	35-1	88542	89991	90574	89702	1.17	cps
Chlorine	35-2	370	300	367	346	11.43	cps
Chromium	52-2	628291	627108	626700	627366	0.13	cps
Cobalt	59-2	1180662	1171383	1171720	1174588	0.45	cps
Copper	63-2	10022282	9949687	10027182	9999717	0.43	cps
Dysprosium	156-1	123	100	103	109	11.59	cps
Dysprosium	156-2	13	23	43	27	57.29	cps
Erbium	164-1	237	240	223	233	3.78	cps
Erbium	164-2	83	110	63	86	27.37	cps
Gadolinium	160-1	263	180	243	229	19.01	cps
Gadolinium	160-2	50	60	73	61	19.15	cps
Holmium	165-1	30016905	31585606	31282641	30961718	2.69	cps
Holmium	165-2	10696317	11570745	11187108	11151390	3.93	cps
Indium	115-1	25076233	25463280	25350366	25296626	0.79	cps
Indium	115-2	2620644	2865762	2723830	2736746	4.50	cps
Iron	54-2	1320677	1306927	1320375	1315993	0.60	cps
Iron	56-2	24349279	23960166	24506880	24272109	1.16	cps
Iron	57-2	597001	592727	597742	595823	0.45	cps
Krypton	83-1	310	243	340	298	16.62	cps
Lead	206-1	10654859	10656334	10739708	10683634	0.45	cps

LB Number : LB133950 Operator : Jaswal
Lab Sample ID : S04 Instrumnet Name : P8
Client Sample ID : S04 Dilution Factor : 1
Date & Time Acquired : 2024-12-13 12:59:05 DataFile Name : 008CALS.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Lead	207-1	9405107	9157468	9208704	9257093	1.41	cps
Lead	208-1	42803263	42179733	42112192	42365063	0.90	cps
Lithium	6-1	11716342	11600750	11755582	11690891	0.69	cps
Magnesium	24-2	4127269	4100608	4137082	4121653	0.46	cps
Manganese	55-2	2720199	2710656	2706327	2712394	0.26	cps
Molybdenum	94-1	10276765	10230293	10284869	10263976	0.29	cps
Molybdenum	95-1	14720094	14712634	14950994	14794574	0.92	cps
Molybdenum	96-1	16319302	16258751	16146006	16241353	0.54	cps
Molybdenum	97-1	9178814	9167031	8977322	9107722	1.24	cps
Molybdenum	98-1	23605665	23758531	23539770	23634655	0.47	cps
Neodymium	150-1	293	307	273	291	5.76	cps
Neodymium	150-2	23	17	17	19	20.36	cps
Nickel	60-2	325304	325210	324637	325050	0.11	cps
Phosphorus	31-2	11395	11425	11445	11421	0.22	cps
Potassium	39-2	1339170	1310498	1340115	1329928	1.27	cps
Rhodium	103-1	22720789	23783085	23458252	23320709	2.33	cps
Rhodium	103-2	8786110	9609618	9285938	9227222	4.50	cps
Scandium	45-1	18154025	18839480	18226823	18406776	2.05	cps
Scandium	45-2	359172	387210	372971	373118	3.76	cps
Selenium	82-1	43375	44136	45097	44203	1.95	cps
Selenium	77-2	833	803	780	806	3.32	cps
Selenium	78-2	2670	2530	2797	2666	5.00	cps
Silicon	28-1	40070616	40715967	39527123	40104569	1.48	cps
Silver	107-1	3634116	3601343	3599406	3611621	0.54	cps
Silver	109-1	3309663	3372447	3427073	3369728	1.74	cps
Sodium	23-2	8515203	8460597	8622037	8532613	0.96	cps
Strontium	86-1	935811	934425	936844	935693	0.13	cps
Strontium	88-1	8404512	8278003	8421283	8367932	0.94	cps
Sulfur	34-1	924304	947921	947916	940047	1.45	cps
Terbium	159-1	30689816	32018128	31385467	31364470	2.12	cps
Terbium	159-2	10319453	11207920	10992059	10839811	4.27	cps
Thallium	203-1	2682855	2710024	2721790	2704890	0.74	cps
Thallium	205-1	6377488	6321636	6291521	6330215	0.69	cps
Tin	118-1	2342218	2349493	2276317	2322676	1.74	cps
Titanium	47-1	4561589	4640547	4530570	4577569	1.24	cps
Uranium	238-1	8629660	8539682	8562323	8577222	0.55	cps

LB Number : LB133950 Operator : Jaswal
Lab Sample ID : S04 Instrumnet Name : P8
Client Sample ID : S04 Dilution Factor : 1
Date & Time Acquired : 2024-12-13 12:59:05 DataFile Name : 008CALS.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Vanadium	51-2	484225	487523	487234	486327	0.38	cps
Ytterbium	172-1	297	220	267	261	14.80	cps
Ytterbium	172-2	83	110	100	98	13.78	cps
Ytterbium	176-1	16053	15843	15613	15836	1.39	cps
Ytterbium	176-2	5138	5448	5354	5313	2.99	cps
Yttrium	89-1	39725296	40536844	40505694	40255945	1.14	cps
Yttrium	89-2	2983794	3152821	3088700	3075105	2.77	cps
Zinc	66-2	907936	907923	916703	910854	0.56	cps
Zirconium	90-1	5302500	5250510	5240137	5264382	0.63	cps
Zirconium	91-1	1132836	1130917	1125315	1129689	0.35	cps

LB Number : LB133950 Operator : Jaswal
Lab Sample ID : S05 Instrumnet Name : P8
Client Sample ID : S05 Dilution Factor : 1
Date & Time Acquired : 2024-12-13 13:01:57 DataFile Name : 009CALS.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Aluminium	27-2	473979	477259	473247	474828	0.45	cps
Antimony	121-1	5124772	5205875	5196528	5175725	0.86	cps
Arsenic	75-2	107325	105474	105165	105988	1.10	cps
Barium	135-1	6739451	6897244	6996218	6877638	1.88	cps
Barium	137-1	11509548	11725400	11783111	11672686	1.24	cps
Beryllium	9-1	1855941	1859603	1865679	1860408	0.26	cps
Bismuth	209-1	20278335	18124519	18564429	18989094	5.99	cps
Bismuth	209-2	7617131	7588668	7664931	7623576	0.51	cps
Bromine	81-1	11228	11281	11178	11229	0.46	cps
Cadmium	108-1	104100	107807	107424	106444	1.92	cps
Cadmium	106-1	161369	163675	163493	162846	0.79	cps
Cadmium	111-1	1290703	1322939	1335008	1316217	1.74	cps
Calcium	43-1	1963022	2015632	1983686	1987447	1.33	cps
Calcium	44-1	30995246	32412673	32010959	31806293	2.30	cps
Carbon	12-1	5124244	5166458	5094105	5128269	0.71	cps
Carbon	12-2	33916	32723	33876	33505	2.02	cps
Chlorine	35-1	93925	95764	98438	96042	2.36	cps
Chlorine	35-2	357	407	450	404	11.55	cps
Chromium	52-2	1229974	1223913	1216469	1223452	0.55	cps
Cobalt	59-2	2360078	2364951	2337943	2354324	0.61	cps
Copper	63-2	19567552	19549760	19389453	19502255	0.50	cps
Dysprosium	156-1	207	187	140	178	19.24	cps
Dysprosium	156-2	40	47	47	44	8.66	cps
Erbium	164-1	290	367	320	326	11.87	cps
Erbium	164-2	117	97	107	107	9.37	cps
Gadolinium	160-1	260	247	223	243	7.63	cps
Gadolinium	160-2	80	63	87	77	15.68	cps
Holmium	165-1	34059888	30895613	31506871	32154124	5.22	cps
Holmium	165-2	10834559	10744953	10948234	10842582	0.94	cps
Indium	115-1	27539604	24529924	25090081	25719870	6.22	cps
Indium	115-2	2628035	2599683	2612969	2613562	0.54	cps
Iron	54-2	2722861	2685619	2669946	2692809	1.01	cps
Iron	56-2	47677063	47406691	47477128	47520294	0.30	cps
Iron	57-2	1170808	1176156	1167042	1171335	0.39	cps
Krypton	83-1	430	363	327	373	14.03	cps
Lead	206-1	21197564	21313161	21437276	21316000	0.56	cps

LB Number : LB133950 Operator : Jaswal
Lab Sample ID : S05 Instrumnet Name : P8
Client Sample ID : S05 Dilution Factor : 1
Date & Time Acquired : 2024-12-13 13:01:57 DataFile Name : 009CAL.S.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Lead	207-1	18292586	18456271	18595759	18448205	0.82	cps
Lead	208-1	83349661	84694172	85291148	84444994	1.18	cps
Lithium	6-1	12767940	11513797	11893815	12058518	5.33	cps
Magnesium	24-2	8161657	8151028	8194117	8168934	0.27	cps
Manganese	55-2	5372747	5243324	5311053	5309041	1.22	cps
Molybdenum	94-1	20016895	20413338	20465827	20298687	1.21	cps
Molybdenum	95-1	28450598	30042915	29625677	29373063	2.81	cps
Molybdenum	96-1	31243262	32693331	32067538	32001377	2.27	cps
Molybdenum	97-1	17692807	18186803	18001822	17960477	1.39	cps
Molybdenum	98-1	46325866	47766584	47209879	47100777	1.54	cps
Neodymium	150-1	557	603	623	594	5.75	cps
Neodymium	150-2	30	47	50	42	25.38	cps
Nickel	60-2	632793	636559	626039	631797	0.84	cps
Phosphorus	31-2	22237	22457	21907	22200	1.25	cps
Potassium	39-2	2585224	2620165	2606722	2604037	0.68	cps
Rhodium	103-1	25725177	22639351	23182133	23848887	6.91	cps
Rhodium	103-2	8864943	8807534	8858275	8843584	0.36	cps
Scandium	45-1	20324268	18030365	18618293	18990975	6.27	cps
Scandium	45-2	358802	358952	357419	358391	0.24	cps
Selenium	82-1	83878	87097	87218	86064	2.20	cps
Selenium	77-2	1447	1650	1463	1520	7.43	cps
Selenium	78-2	5001	5324	5074	5133	3.30	cps
Silicon	28-1	74755129	78156136	77727576	76879613	2.41	cps
Silver	107-1	6889128	7020236	7003310	6970891	1.02	cps
Silver	109-1	6530667	6707930	6652102	6630233	1.37	cps
Sodium	23-2	16707876	16886939	16564808	16719874	0.97	cps
Strontium	86-1	1855331	1967684	1942438	1921818	3.07	cps
Strontium	88-1	15990678	16612310	16558825	16387271	2.10	cps
Sulfur	34-1	1124592	1126576	1136337	1129169	0.56	cps
Terbium	159-1	34373609	31288824	31692378	32451604	5.17	cps
Terbium	159-2	10567925	10487011	10614952	10556629	0.61	cps
Thallium	203-1	5321047	5421572	5307189	5349936	1.17	cps
Thallium	205-1	12423093	12796763	12483653	12567836	1.60	cps
Tin	118-1	4494565	4549811	4526155	4523510	0.61	cps
Titanium	47-1	8751368	9078325	9033360	8954351	1.98	cps
Uranium	238-1	16893422	17723708	17492369	17369833	2.47	cps

LB Number :

LB133950

Operator :

Jaswal

Lab Sample ID :

S05

Instrumnet Name :

P8

Client Sample ID :

S05

Dilution Factor :

1

Date & Time Acquired :

2024-12-13 13:01:57

DataFile Name :

009CALS.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Vanadium	51-2	961376	965291	959061	961909	0.33	cps
Ytterbium	172-1	297	293	247	279	10.02	cps
Ytterbium	172-2	153	107	113	124	20.28	cps
Ytterbium	176-1	28204	27990	28290	28161	0.55	cps
Ytterbium	176-2	9684	9350	9754	9596	2.25	cps
Yttrium	89-1	43790823	39279076	39913965	40994621	5.96	cps
Yttrium	89-2	2963952	2990053	3026525	2993510	1.05	cps
Zinc	66-2	1849355	1824494	1811483	1828444	1.05	cps
Zirconium	90-1	10337168	10342781	10444815	10374921	0.58	cps
Zirconium	91-1	2276709	2348577	2376723	2334003	2.21	cps

LB Number : LB133950 Operator : Jaswal
Lab Sample ID : S06 Instrumnet Name : P8
Client Sample ID : S06 Dilution Factor : 1
Date & Time Acquired : 2024-12-13 13:04:45 DataFile Name : 010CAL.S.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Aluminium	27-2	905890	895232	903583	901569	0.62	cps
Antimony	121-1	10003656	10096382	9864355	9988131	1.17	cps
Arsenic	75-2	201307	203497	199494	201433	1.00	cps
Barium	135-1	13388515	13204782	13218317	13270538	0.77	cps
Barium	137-1	22844773	22100305	22132401	22359160	1.88	cps
Beryllium	9-1	3496983	3549404	3487210	3511199	0.95	cps
Bismuth	209-1	17742285	18196149	18099521	18012652	1.33	cps
Bismuth	209-2	7404918	7499158	7473257	7459111	0.65	cps
Bromine	81-1	11425	11124	10637	11062	3.59	cps
Cadmium	108-1	200537	201056	199919	200504	0.28	cps
Cadmium	106-1	289630	300857	297084	295857	1.93	cps
Cadmium	111-1	2583740	2645299	2559988	2596342	1.70	cps
Calcium	43-1	3759663	3859411	3807686	3808920	1.31	cps
Calcium	44-1	60687337	62754979	61191066	61544461	1.75	cps
Carbon	12-1	5338683	5519986	5488600	5449090	1.78	cps
Carbon	12-2	36910	36719	37177	36935	0.62	cps
Chlorine	35-1	109688	110770	111432	110630	0.80	cps
Chlorine	35-2	443	480	463	462	3.97	cps
Chromium	52-2	2427666	2433245	2455608	2438839	0.61	cps
Cobalt	59-2	4446413	4361030	4403515	4403653	0.97	cps
Copper	63-2	36530299	36404134	36040324	36324919	0.70	cps
Dysprosium	156-1	347	320	340	336	4.14	cps
Dysprosium	156-2	57	60	80	66	19.25	cps
Erbium	164-1	407	423	460	430	6.34	cps
Erbium	164-2	177	110	73	120	43.66	cps
Gadolinium	160-1	397	313	377	362	12.01	cps
Gadolinium	160-2	90	100	100	97	5.97	cps
Holmium	165-1	30917688	31715160	31368776	31333875	1.28	cps
Holmium	165-2	10759195	10706089	10940328	10801871	1.14	cps
Indium	115-1	24258469	24805803	24055895	24373389	1.59	cps
Indium	115-2	2556933	2539665	2573251	2556616	0.66	cps
Iron	54-2	5011563	5056697	4991532	5019930	0.66	cps
Iron	56-2	90466369	89736995	91069149	90424171	0.74	cps
Iron	57-2	2292199	2317641	2292166	2300669	0.64	cps
Krypton	83-1	253	287	320	287	11.63	cps
Lead	206-1	40673702	40809169	40645372	40709414	0.22	cps

LB Number : LB133950 Operator : Jaswal
Lab Sample ID : S06 Instrumnet Name : P8
Client Sample ID : S06 Dilution Factor : 1
Date & Time Acquired : 2024-12-13 13:04:45 DataFile Name : 010CAL.S.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Lead	207-1	35097741	35618192	35374929	35363621	0.74	cps
Lead	208-1	160355103	162901676	161716307	161657695	0.79	cps
Lithium	6-1	11385487	11582575	11447639	11471900	0.88	cps
Magnesium	24-2	15606568	15670506	15573483	15616852	0.32	cps
Manganese	55-2	10046004	10031106	10239634	10105581	1.15	cps
Molybdenum	94-1	38736374	39642021	39685404	39354600	1.36	cps
Molybdenum	95-1	56176336	57581709	57159621	56972555	1.27	cps
Molybdenum	96-1	59883834	62455687	62422564	61587362	2.40	cps
Molybdenum	97-1	33779154	35110809	34833679	34574547	2.03	cps
Molybdenum	98-1	89856295	92096169	89995635	90649366	1.38	cps
Neodymium	150-1	1203	1190	1237	1210	1.99	cps
Neodymium	150-2	93	77	93	88	10.96	cps
Nickel	60-2	1172906	1172815	1183050	1176257	0.50	cps
Phosphorus	31-2	41178	42235	41546	41653	1.29	cps
Potassium	39-2	4943724	4862688	4948623	4918345	0.98	cps
Rhodium	103-1	21650378	22920075	22409774	22326742	2.86	cps
Rhodium	103-2	8612850	8553498	8512104	8559484	0.59	cps
Scandium	45-1	17603723	18197546	18133057	17978109	1.81	cps
Scandium	45-2	353354	350063	354958	352792	0.71	cps
Selenium	82-1	164331	166507	163245	164694	1.01	cps
Selenium	77-2	2897	2904	2714	2838	3.80	cps
Selenium	78-2	9617	9163	9687	9489	3.00	cps
Silicon	28-1	144410298	146341374	143336901	144696191	1.05	cps
Silver	107-1	13253825	13317907	13351118	13307617	0.37	cps
Silver	109-1	12744134	12682442	12490685	12639087	1.05	cps
Sodium	23-2	32378365	32108869	31697442	32061558	1.07	cps
Strontium	86-1	3728447	3576935	3675817	3660400	2.10	cps
Strontium	88-1	31923550	31388526	31621339	31644471	0.85	cps
Sulfur	34-1	1544944	1500584	1518746	1521425	1.47	cps
Terbium	159-1	30719500	31968101	31514952	31400851	2.01	cps
Terbium	159-2	10590480	10439346	10629970	10553266	0.95	cps
Thallium	203-1	10060290	10187378	10175533	10141067	0.69	cps
Thallium	205-1	23646951	24210472	23940160	23932528	1.18	cps
Tin	118-1	8669450	8786067	8563678	8673065	1.28	cps
Titanium	47-1	16824980	17513988	17540708	17293225	2.35	cps
Uranium	238-1	33482206	34062059	33794064	33779443	0.86	cps

LB Number :

LB133950

Operator :

Jaswal

Lab Sample ID :

S06

Instrumnet Name :

P8

Client Sample ID :

S06

Dilution Factor :

1

Date & Time Acquired :

2024-12-13 13:04:45

DataFile Name :

010CAL.S.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Vanadium	51-2	1853889	1899924	1890472	1881429	1.29	cps
Ytterbium	172-1	377	400	393	390	3.08	cps
Ytterbium	172-2	153	190	117	153	23.91	cps
Ytterbium	176-1	51627	50566	51419	51204	1.10	cps
Ytterbium	176-2	17251	17415	17669	17445	1.21	cps
Yttrium	89-1	38638202	39114984	39966121	39239769	1.71	cps
Yttrium	89-2	2886812	2910534	2888128	2895158	0.46	cps
Zinc	66-2	3447037	3423303	3441673	3437337	0.36	cps
Zirconium	90-1	20048426	19984713	20232105	20088415	0.64	cps
Zirconium	91-1	4494428	4519828	4451999	4488752	0.76	cps

LB Number : LB133950 Operator : Jaswal
Lab Sample ID : S07 Instrumnet Name : P8
Client Sample ID : S07 Dilution Factor : 1
Date & Time Acquired : 2024-12-13 13:07:30 DataFile Name : 011CAL.S.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Aluminium	27-2	1826306	1802781	1768703	1799263	1.61	cps
Antimony	121-1	19545889	19496026	19684373	19575429	0.50	cps
Arsenic	75-2	393855	390854	389568	391426	0.56	cps
Barium	135-1	26029210	25846104	26147491	26007602	0.58	cps
Barium	137-1	44128991	44060961	44202633	44130862	0.16	cps
Beryllium	9-1	6546808	6529518	6509776	6528701	0.28	cps
Bismuth	209-1	18004593	17922721	17754695	17894003	0.71	cps
Bismuth	209-2	7338727	7296505	7259191	7298141	0.55	cps
Bromine	81-1	10864	11088	11175	11042	1.45	cps
Cadmium	108-1	386854	383929	384332	385038	0.41	cps
Cadmium	106-1	548867	552558	553416	551614	0.44	cps
Cadmium	111-1	4971230	4942759	4913747	4942579	0.58	cps
Calcium	43-1	7186363	7337375	7209844	7244527	1.12	cps
Calcium	44-1	117700215	120467768	118762708	118976897	1.17	cps
Carbon	12-1	5998925	6184564	6334893	6172794	2.73	cps
Carbon	12-2	44878	44407	44500	44595	0.56	cps
Chlorine	35-1	137496	141484	143190	140723	2.08	cps
Chlorine	35-2	690	613	557	620	10.79	cps
Chromium	52-2	4714098	4702784	4642922	4686601	0.82	cps
Cobalt	59-2	8523178	8485929	8548303	8519137	0.37	cps
Copper	63-2	69937079	69357894	69787027	69694000	0.43	cps
Dysprosium	156-1	633	693	680	669	4.71	cps
Dysprosium	156-2	133	130	123	129	3.95	cps
Erbium	164-1	607	683	577	622	8.84	cps
Erbium	164-2	177	160	243	193	22.81	cps
Gadolinium	160-1	547	557	523	542	3.16	cps
Gadolinium	160-2	217	203	130	183	25.46	cps
Holmium	165-1	31078850	31092223	31100391	31090488	0.03	cps
Holmium	165-2	10835335	10840248	10883767	10853117	0.25	cps
Indium	115-1	24194388	24210111	24156563	24187021	0.11	cps
Indium	115-2	2537519	2492766	2495067	2508450	1.00	cps
Iron	54-2	9692927	9658807	9610361	9654031	0.43	cps
Iron	56-2	176248497	173792797	173846404	174629233	0.80	cps
Iron	57-2	4374680	4353373	4360116	4362723	0.25	cps
Krypton	83-1	353	350	333	346	3.10	cps
Lead	206-1	78678380	79124222	79005577	78936060	0.29	cps

LB Number : LB133950 Operator : Jaswal
Lab Sample ID : S07 Instrumnet Name : P8
Client Sample ID : S07 Dilution Factor : 1
Date & Time Acquired : 2024-12-13 13:07:30 DataFile Name : 011CAL.S.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Lead	207-1	68500662	67406854	69180107	68362541	1.31	cps
Lead	208-1	316425294	313626620	318095569	316049161	0.71	cps
Lithium	6-1	11023091	11004561	11065086	11030913	0.28	cps
Magnesium	24-2	30357707	30091016	29973740	30140821	0.65	cps
Manganese	55-2	19674890	19553303	19489997	19572730	0.48	cps
Molybdenum	94-1	75513666	76838316	76347021	76233001	0.88	cps
Molybdenum	95-1	110375365	111977205	110896482	111083017	0.74	cps
Molybdenum	96-1	121080618	120455002	120422852	120652824	0.31	cps
Molybdenum	97-1	67563429	67130171	67440119	67377906	0.33	cps
Molybdenum	98-1	175849757	178621291	177647271	177372773	0.79	cps
Neodymium	150-1	2270	2224	2250	2248	1.04	cps
Neodymium	150-2	133	177	137	149	16.19	cps
Nickel	60-2	2424498	2386919	2391210	2400876	0.86	cps
Phosphorus	31-2	80150	79372	80311	79944	0.63	cps
Potassium	39-2	9539257	9596331	9658548	9598045	0.62	cps
Rhodium	103-1	21955155	21771320	21538231	21754902	0.96	cps
Rhodium	103-2	8470133	8372344	8425920	8422799	0.58	cps
Scandium	45-1	17860419	17880502	18177603	17972841	0.99	cps
Scandium	45-2	352701	352964	352124	352597	0.12	cps
Selenium	82-1	315132	316805	319271	317069	0.66	cps
Selenium	77-2	5414	5691	5701	5602	2.91	cps
Selenium	78-2	18532	17871	18759	18388	2.51	cps
Silicon	28-1	279931703	272313083	273668616	275304467	1.48	cps
Silver	107-1	25487391	25150529	25412269	25350063	0.70	cps
Silver	109-1	24218673	23846411	23929025	23998036	0.81	cps
Sodium	23-2	63048576	62819401	61774864	62547614	1.09	cps
Strontium	86-1	7304668	7102320	7116403	7174463	1.57	cps
Strontium	88-1	62573649	62663389	61744176	62327071	0.81	cps
Sulfur	34-1	2336679	2315001	2355295	2335658	0.86	cps
Terbium	159-1	31762733	31588315	31833178	31728075	0.40	cps
Terbium	159-2	10753915	10527742	10636832	10639496	1.06	cps
Thallium	203-1	19953423	19963626	19711034	19876028	0.72	cps
Thallium	205-1	47424363	47122246	46979956	47175522	0.48	cps
Tin	118-1	16946671	17027510	16988555	16987579	0.24	cps
Titanium	47-1	33596966	33872162	33959062	33809397	0.56	cps
Uranium	238-1	68125797	65834079	65789476	66583117	2.01	cps

LB Number :LB133950

Operator :Jaswal

Lab Sample ID :S07

Instrumnet Name :P8

Client Sample ID :S07

Dilution Factor :1

Date & Time Acquired :2024-12-13 13:07:30

DataFile Name :011CALS.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Vanadium	51-2	3670300	3686993	3655893	3671062	0.42	cps
Ytterbium	172-1	667	593	650	637	6.04	cps
Ytterbium	172-2	273	233	333	280	17.98	cps
Ytterbium	176-1	97580	96694	95825	96700	0.91	cps
Ytterbium	176-2	33960	34375	34184	34173	0.61	cps
Yttrium	89-1	39358975	38996819	38798772	39051522	0.73	cps
Yttrium	89-2	2909968	2885347	2916293	2903869	0.56	cps
Zinc	66-2	6548515	6517571	6601054	6555713	0.64	cps
Zirconium	90-1	39290657	39092487	39053894	39145679	0.32	cps
Zirconium	91-1	8609224	8758469	8646790	8671495	0.90	cps

LB Number : LB133950 Operator : Jaswal
Lab Sample ID : S08 Instrumnet Name : P8
Client Sample ID : S08 Dilution Factor : 1
Date & Time Acquired : 2024-12-13 13:10:17 DataFile Name : 012CAL.S.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Aluminium	27-2	7850161	7980511	8071154	7967275	1.39	cps
Antimony	121-1	6191	5781	5474	5816	6.19	cps
Arsenic	75-2	207	177	140	174	19.14	cps
Barium	135-1	8436	8826	8306	8523	3.18	cps
Barium	137-1	14618	14718	13897	14411	3.11	cps
Beryllium	9-1	1742	1629	1425	1599	10.06	cps
Bismuth	209-1	14688791	14831584	14720160	14746845	0.51	cps
Bismuth	209-2	6382054	6391654	6434231	6402646	0.43	cps
Bromine	81-1	11155	11315	10517	10996	3.84	cps
Cadmium	108-1	200	150	130	160	22.53	cps
Cadmium	106-1	9934	10457	10037	10143	2.73	cps
Cadmium	111-1	7364	7805	7482	7550	3.03	cps
Calcium	43-1	32223862	32136822	31776248	32045644	0.74	cps
Calcium	44-1	528508725	526879365	521527299	525638463	0.69	cps
Carbon	12-1	5748722	5945718	5756825	5817088	1.92	cps
Carbon	12-2	50242	49904	50005	50050	0.35	cps
Chlorine	35-1	80271	78783	76732	78595	2.26	cps
Chlorine	35-2	280	357	313	317	12.14	cps
Chromium	52-2	6858	8700	6385	7314	16.72	cps
Cobalt	59-2	16339	16196	16116	16217	0.70	cps
Copper	63-2	11391	11298	11048	11246	1.58	cps
Dysprosium	156-1	743	667	767	726	7.21	cps
Dysprosium	156-2	233	270	260	254	7.45	cps
Erbium	164-1	800	880	820	833	5.00	cps
Erbium	164-2	327	287	270	294	9.89	cps
Gadolinium	160-1	810	750	833	798	5.39	cps
Gadolinium	160-2	367	373	320	353	8.22	cps
Holmium	165-1	27850203	27478914	27469419	27599512	0.79	cps
Holmium	165-2	10024597	10097856	9941715	10021390	0.78	cps
Indium	115-1	20911827	20803010	20550407	20755081	0.89	cps
Indium	115-2	2302143	2269587	2302673	2291468	0.83	cps
Iron	54-2	41915315	42085839	41225359	41742171	1.09	cps
Iron	56-2	768844069	780105188	770838042	773262433	0.78	cps
Iron	57-2	19442402	19470725	19311296	19408141	0.44	cps
Krypton	83-1	450	430	493	458	7.07	cps
Lead	206-1	10294	10191	9974	10153	1.61	cps

LB Number : LB133950 Operator : Jaswal
Lab Sample ID : S08 Instrumnet Name : P8
Client Sample ID : S08 Dilution Factor : 1
Date & Time Acquired : 2024-12-13 13:10:17 DataFile Name : 012CALS.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Lead	207-1	9070	8813	8453	8779	3.53	cps
Lead	208-1	41608	40529	39911	40683	2.11	cps
Lithium	6-1	9545338	9652949	9460608	9552965	1.01	cps
Magnesium	24-2	125922841	126568428	124774205	125755158	0.72	cps
Manganese	55-2	5865	5638	5905	5802	2.48	cps
Molybdenum	94-1	14351	12472	12366	13063	8.55	cps
Molybdenum	95-1	12923	11075	11148	11715	8.93	cps
Molybdenum	96-1	21277	18930	18296	19501	8.05	cps
Molybdenum	97-1	7852	6165	5885	6634	16.05	cps
Molybdenum	98-1	18937	15603	14241	16260	14.86	cps
Neodymium	150-1	427	353	383	388	9.51	cps
Neodymium	150-2	100	113	117	110	8.02	cps
Nickel	60-2	4948	5121	4758	4942	3.68	cps
Phosphorus	31-2	117	100	150	122	20.83	cps
Potassium	39-2	43875998	43517358	43921609	43771655	0.51	cps
Rhodium	103-1	18454317	18442708	17837013	18244679	1.94	cps
Rhodium	103-2	7064290	7068893	7025871	7053018	0.33	cps
Scandium	45-1	15529421	15401018	15281484	15403975	0.80	cps
Scandium	45-2	313689	311442	310046	311726	0.59	cps
Selenium	82-1	0	-6	50	15	208.72	cps
Selenium	77-2	3	3	7	4	43.40	cps
Selenium	78-2	17	30	13	20	44.10	cps
Silicon	28-1	976054	938404	888279	934246	4.71	cps
Silver	107-1	3427	3220	3014	3220	6.42	cps
Silver	109-1	3167	2967	2777	2970	6.57	cps
Sodium	23-2	269369396	268950336	267381956	268567229	0.39	cps
Strontium	86-1	18920	18219	18189	18442	2.24	cps
Strontium	88-1	158589	156729	157594	157637	0.59	cps
Sulfur	34-1	504286	493343	477346	491658	2.76	cps
Terbium	159-1	27982368	27806445	27349598	27712804	1.18	cps
Terbium	159-2	9857217	9776284	9749130	9794211	0.57	cps
Thallium	203-1	1470	1197	943	1203	21.89	cps
Thallium	205-1	3347	2634	2490	2824	16.25	cps
Tin	118-1	6562	6295	6078	6312	3.84	cps
Titanium	47-1	4941	4868	4981	4930	1.17	cps
Uranium	238-1	1974	2064	1613	1884	12.65	cps

3

LB Number : LB133950 Operator : Jaswal
Lab Sample ID : ICV001 Instrumnet Name : P8
Client Sample ID : ICV001 Dilution Factor : 1
Date & Time Acquired : 2024-12-13 13:58:15 DataFile Name : 016ICV.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Aluminium	27-2	49631	49812	49343	49595	0.48	cps
Antimony	121-1	4401788	4271976	4360934	4344899	1.53	cps
Arsenic	75-2	93431	94444	93994	93956	0.54	cps
Barium	135-1	549927	551851	555482	552420	0.51	cps
Barium	137-1	959125	948526	963064	956905	0.79	cps
Beryllium	9-1	737769	740449	739462	739227	0.18	cps
Bismuth	209-1	18687013	19610945	18382859	18893606	3.39	cps
Bismuth	209-2	8053955	8094639	7890015	8012870	1.35	cps
Bromine	81-1	11802	12082	11942	11942	1.17	cps
Cadmium	108-1	36274	36114	36311	36233	0.29	cps
Cadmium	106-1	61854	63127	60924	61968	1.78	cps
Cadmium	111-1	555327	559087	562503	558972	0.64	cps
Calcium	43-1	157518	158188	156707	157471	0.47	cps
Calcium	44-1	2672930	2651323	2649207	2657820	0.49	cps
Carbon	12-1	5005143	4980703	4915950	4967265	0.93	cps
Carbon	12-2	32793	33091	33047	32977	0.49	cps
Chlorine	35-1	77714	76524	76799	77012	0.81	cps
Chlorine	35-2	297	350	323	323	8.25	cps
Chromium	52-2	543732	542066	541994	542597	0.18	cps
Cobalt	59-2	1019526	1017223	1017439	1018062	0.12	cps
Copper	63-2	802970	805346	794542	800953	0.71	cps
Dysprosium	156-1	33	20	20	24	31.49	cps
Dysprosium	156-2	3	3	0	2	86.60	cps
Erbium	164-1	170	130	127	142	16.95	cps
Erbium	164-2	47	47	57	50	11.55	cps
Gadolinium	160-1	257	197	213	222	13.94	cps
Gadolinium	160-2	50	37	53	47	18.89	cps
Holmium	165-1	31284128	31749396	30625099	31219541	1.81	cps
Holmium	165-2	11050122	11261641	11118615	11143460	0.97	cps
Indium	115-1	26167644	26203040	25312280	25894321	1.95	cps
Indium	115-2	2794190	2797694	2825403	2805762	0.61	cps
Iron	54-2	452502	450659	451115	451426	0.21	cps
Iron	56-2	8088508	8027232	8020684	8045475	0.46	cps
Iron	57-2	199563	199698	200338	199866	0.21	cps
Krypton	83-1	353	367	273	331	15.24	cps
Lead	206-1	3644318	3701978	3589155	3645150	1.55	cps

LB Number : LB133950 Operator : Jaswal
Lab Sample ID : ICV001 Instrumnet Name : P8
Client Sample ID : ICV001 Dilution Factor : 1
Date & Time Acquired : 2024-12-13 13:58:15 DataFile Name : 016ICV.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Lead	207-1	3042822	3002810	2965677	3003769	1.28	cps
Lead	208-1	13925766	14119140	13823726	13956211	1.08	cps
Lithium	6-1	12521951	12204419	11986537	12237636	2.20	cps
Magnesium	24-2	404776	401863	400997	402546	0.49	cps
Manganese	55-2	224461	223250	224702	224138	0.35	cps
Molybdenum	94-1	1090	1117	1140	1116	2.24	cps
Molybdenum	95-1	783	743	707	744	5.15	cps
Molybdenum	96-1	1367	1413	1200	1327	8.45	cps
Molybdenum	97-1	447	360	433	413	11.29	cps
Molybdenum	98-1	1123	1127	920	1057	11.20	cps
Neodymium	150-1	70	47	63	60	20.03	cps
Neodymium	150-2	3	7	7	6	34.70	cps
Nickel	60-2	283791	283278	282540	283203	0.22	cps
Phosphorus	31-2	140	127	163	143	12.95	cps
Potassium	39-2	450764	452642	452437	451948	0.23	cps
Rhodium	103-1	24445330	24360973	24079015	24295106	0.79	cps
Rhodium	103-2	9370109	9537033	9500102	9469082	0.93	cps
Scandium	45-1	19440839	19274668	19026591	19247366	1.08	cps
Scandium	45-2	383314	391056	383878	386082	1.12	cps
Selenium	82-1	72826	74317	72558	73234	1.29	cps
Selenium	77-2	1417	1417	1303	1379	4.75	cps
Selenium	78-2	4971	4601	4487	4686	5.40	cps
Silicon	28-1	794288	792590	790297	792392	0.25	cps
Silver	107-1	1379580	1397242	1403816	1393546	0.90	cps
Silver	109-1	1320946	1322501	1335998	1326482	0.62	cps
Sodium	23-2	1490751	1499164	1496229	1495382	0.29	cps
Strontium	86-1	2490	2450	2394	2445	1.99	cps
Strontium	88-1	17214	17204	16687	17035	1.77	cps
Sulfur	34-1	631860	633949	641187	635665	0.77	cps
Terbium	159-1	32418511	32298130	31404217	32040286	1.73	cps
Terbium	159-2	10963481	10996639	10815540	10925220	0.88	cps
Thallium	203-1	4361440	4451468	4393769	4402226	1.04	cps
Thallium	205-1	10232178	10359912	10284762	10292284	0.62	cps
Tin	118-1	3644	3517	3337	3499	4.40	cps
Titanium	47-1	497	457	490	481	4.45	cps
Uranium	238-1	47	50	53	50	6.66	cps

LB Number :

LB133950

Operator :

Jaswal

Lab Sample ID :

ICV001

Instrumnet Name :

P8

Client Sample ID :

ICV001

Dilution Factor :

1

Date & Time Acquired :

2024-12-13 13:58:15

DataFile Name :

016ICV.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Vanadium	51-2	408367	411079	410732	410059	0.36	cps
Ytterbium	172-1	187	163	157	169	9.33	cps
Ytterbium	172-2	93	53	47	64	39.16	cps
Ytterbium	176-1	3541	3704	3607	3617	2.27	cps
Ytterbium	176-2	780	887	917	861	8.34	cps
Yttrium	89-1	41454752	41533455	39745107	40911105	2.47	cps
Yttrium	89-2	3143832	3208453	3115300	3155862	1.51	cps
Zinc	66-2	153241	154345	152237	153274	0.69	cps
Zirconium	90-1	1733	1780	1830	1781	2.71	cps
Zirconium	91-1	1093	987	943	1008	7.66	cps

LB Number : LB133950 Operator : Jaswal
Lab Sample ID : ICB001 Instrumnet Name : P8
Client Sample ID : ICB001 Dilution Factor : 1
Date & Time Acquired : 2024-12-13 14:14:02 DataFile Name : 020CCBE.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Aluminium	27-2	103	97	93	98	5.21	cps
Antimony	121-1	1067	1003	1003	1024	3.57	cps
Arsenic	75-2	10	7	7	8	24.71	cps
Barium	135-1	103	107	117	109	6.37	cps
Barium	137-1	173	200	163	179	10.59	cps
Beryllium	9-1	545	531	505	527	3.87	cps
Bismuth	209-1	19852614	19838308	18654314	19448412	3.54	cps
Bismuth	209-2	8163353	7860310	8115395	8046353	2.02	cps
Bromine	81-1	12656	12806	12359	12607	1.80	cps
Cadmium	108-1	40	33	47	40	16.68	cps
Cadmium	106-1	12773	12236	12002	12337	3.20	cps
Cadmium	111-1	8946	8585	8419	8650	3.12	cps
Calcium	43-1	1033	777	853	888	14.84	cps
Calcium	44-1	26001	25813	26071	25962	0.51	cps
Carbon	12-1	5101886	5116835	4943833	5054185	1.90	cps
Carbon	12-2	33385	33682	32646	33238	1.60	cps
Chlorine	35-1	84351	85789	84414	84851	0.96	cps
Chlorine	35-2	303	363	283	317	13.15	cps
Chromium	52-2	2417	2367	2447	2410	1.68	cps
Cobalt	59-2	123	80	110	104	21.25	cps
Copper	63-2	3681	3550	3570	3600	1.94	cps
Dysprosium	156-1	33	13	20	22	45.83	cps
Dysprosium	156-2	10	3	0	4	114.60	cps
Erbium	164-1	130	137	187	151	20.50	cps
Erbium	164-2	43	60	43	49	19.69	cps
Gadolinium	160-1	220	210	217	216	2.36	cps
Gadolinium	160-2	50	30	37	39	26.18	cps
Holmium	165-1	34218477	32334630	30557622	32370243	5.66	cps
Holmium	165-2	11536979	11085939	11219914	11280944	2.05	cps
Indium	115-1	28348444	27242409	25804980	27131944	4.70	cps
Indium	115-2	2938803	2801660	2841613	2860692	2.47	cps
Iron	54-2	683	770	693	716	6.63	cps
Iron	56-2	9233	9510	9460	9401	1.57	cps
Iron	57-2	220	257	240	239	7.69	cps
Krypton	83-1	233	237	250	240	3.68	cps
Lead	206-1	1617	1657	1603	1626	1.71	cps

LB Number : LB133950 Operator : Jaswal
Lab Sample ID : ICB001 Instrumnet Name : P8
Client Sample ID : ICB001 Dilution Factor : 1
Date & Time Acquired : 2024-12-13 14:14:02 DataFile Name : 020CCBE.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Lead	207-1	1377	1323	1253	1318	4.69	cps
Lead	208-1	6427	6354	6157	6313	2.21	cps
Lithium	6-1	12370885	12551769	11637444	12186699	3.97	cps
Magnesium	24-2	883	917	870	890	2.70	cps
Manganese	55-2	217	220	243	227	6.41	cps
Molybdenum	94-1	740	687	763	730	5.38	cps
Molybdenum	95-1	433	513	533	493	10.73	cps
Molybdenum	96-1	490	610	527	542	11.34	cps
Molybdenum	97-1	240	250	200	230	11.51	cps
Molybdenum	98-1	660	547	627	611	9.53	cps
Neodymium	150-1	20	7	17	14	48.02	cps
Neodymium	150-2	3	3	3	3	0.00	cps
Nickel	60-2	757	800	850	802	5.82	cps
Phosphorus	31-2	123	120	183	142	25.06	cps
Potassium	39-2	18288	17524	17547	17787	2.44	cps
Rhodium	103-1	26891292	25234530	24422738	25516187	4.93	cps
Rhodium	103-2	9825707	9525989	9537103	9629600	1.76	cps
Scandium	45-1	20874064	20066717	19260185	20066989	4.02	cps
Scandium	45-2	396308	388115	390739	391721	1.07	cps
Selenium	82-1	63	30	100	64	54.33	cps
Selenium	77-2	0	0	7	2	173.21	cps
Selenium	78-2	10	7	30	16	81.11	cps
Silicon	28-1	902859	900305	899142	900769	0.21	cps
Silver	107-1	1397	997	937	1110	22.53	cps
Silver	109-1	1107	753	647	836	28.82	cps
Sodium	23-2	78825	76989	78593	78135	1.28	cps
Strontium	86-1	520	627	483	543	13.70	cps
Strontium	88-1	603	567	510	560	8.40	cps
Sulfur	34-1	646603	651322	646696	648207	0.42	cps
Terbium	159-1	34514950	33181325	31062875	32919717	5.29	cps
Terbium	159-2	11206169	10655738	10823661	10895189	2.59	cps
Thallium	203-1	877	720	613	737	17.98	cps
Thallium	205-1	1907	1713	1647	1756	7.69	cps
Tin	118-1	5045	4911	4811	4922	2.39	cps
Titanium	47-1	430	457	433	440	3.30	cps
Uranium	238-1	30	10	13	18	60.28	cps

LB Number :

LB133950

Operator :

Jaswal

Lab Sample ID :

ICB001

Instrumnet Name :

P8

Client Sample ID :

ICB001

Dilution Factor :

1

Date & Time Acquired :

2024-12-13 14:14:02

DataFile Name :

020CCBE.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Vanadium	51-2	10	40	27	26	58.81	cps
Ytterbium	172-1	200	97	173	157	34.24	cps
Ytterbium	172-2	83	60	80	74	16.95	cps
Ytterbium	176-1	4067	3801	3554	3807	6.75	cps
Ytterbium	176-2	677	857	800	778	11.83	cps
Yttrium	89-1	44714799	42660634	41608205	42994546	3.67	cps
Yttrium	89-2	3284294	3134677	3172031	3197001	2.44	cps
Zinc	66-2	653	610	547	603	8.89	cps
Zirconium	90-1	1557	1657	1590	1601	3.18	cps
Zirconium	91-1	310	233	257	267	14.74	cps

LB Number : LB133950 Operator : Jaswal
Lab Sample ID : ICSA001 Instrumnet Name : P8
Client Sample ID : ICSA001 Dilution Factor : 1
Date & Time Acquired : 2024-12-13 14:30:36 DataFile Name : 023ICSA.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Aluminium	27-2	8347039	8307467	8491418	8381975	1.16	cps
Antimony	121-1	23484	24091	24078	23884	1.45	cps
Arsenic	75-2	137	140	117	131	9.62	cps
Barium	135-1	7122	7475	7239	7279	2.47	cps
Barium	137-1	12309	13013	12830	12717	2.87	cps
Beryllium	9-1	1881	1970	1919	1923	2.34	cps
Bismuth	209-1	17769432	16743301	16571660	17028131	3.80	cps
Bismuth	209-2	7061033	7051749	7099904	7070895	0.36	cps
Bromine	81-1	14498	14771	15065	14778	1.92	cps
Cadmium	108-1	5831	5715	5545	5697	2.53	cps
Cadmium	106-1	11085	10387	10274	10582	4.15	cps
Cadmium	111-1	10359	10016	9949	10108	2.18	cps
Calcium	43-1	7345239	7413335	7360059	7372878	0.49	cps
Calcium	44-1	121806682	120803552	120928275	121179503	0.45	cps
Carbon	12-1	57201997	57559049	59187436	57982827	1.83	cps
Carbon	12-2	378223	381864	381794	380627	0.55	cps
Chlorine	35-1	106418135	110642085	112773242	109944487	2.94	cps
Chlorine	35-2	493288	501010	490399	494899	1.11	cps
Chromium	52-2	95462	97059	97281	96601	1.03	cps
Cobalt	59-2	10277	10224	10094	10198	0.93	cps
Copper	63-2	57633	57205	57978	57605	0.67	cps
Dysprosium	156-1	110	97	90	99	10.30	cps
Dysprosium	156-2	40	23	27	30	29.40	cps
Erbium	164-1	210	160	203	191	14.21	cps
Erbium	164-2	50	67	57	58	14.52	cps
Gadolinium	160-1	233	243	237	238	2.14	cps
Gadolinium	160-2	80	87	60	76	18.37	cps
Holmium	165-1	32425285	30229748	29246210	30633747	5.31	cps
Holmium	165-2	10532918	10631500	10546107	10570175	0.51	cps
Indium	115-1	25527510	24267137	23917482	24570710	3.45	cps
Indium	115-2	2583335	2580564	2541233	2568377	0.92	cps
Iron	54-2	19539796	20042876	19414616	19665763	1.69	cps
Iron	56-2	354657955	361006795	363064661	359576470	1.22	cps
Iron	57-2	9154456	9105245	9020196	9093299	0.75	cps
Krypton	83-1	403	440	413	419	4.53	cps
Lead	206-1	70527	72143	70708	71126	1.24	cps

LB Number : LB133950 Operator : Jaswal
Lab Sample ID : ICSA001 Instrumnet Name : P8
Client Sample ID : ICSA001 Dilution Factor : 1
Date & Time Acquired : 2024-12-13 14:30:36 DataFile Name : 023ICSA.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Lead	207-1	57242	57561	57048	57284	0.45	cps
Lead	208-1	266157	270950	269682	268930	0.92	cps
Lithium	6-1	11003320	10314075	10406891	10574762	3.54	cps
Magnesium	24-2	29576303	29185090	29760347	29507247	1.00	cps
Manganese	55-2	15535	15722	15302	15520	1.36	cps
Molybdenum	94-1	12136842	12266763	12100674	12168093	0.72	cps
Molybdenum	95-1	21338154	21915705	21670917	21641592	1.34	cps
Molybdenum	96-1	23060053	23267317	22998615	23108662	0.61	cps
Molybdenum	97-1	13210818	13221593	13171683	13201365	0.20	cps
Molybdenum	98-1	34091547	34445974	34017754	34185091	0.67	cps
Neodymium	150-1	97	127	100	108	15.26	cps
Neodymium	150-2	27	27	37	30	19.24	cps
Nickel	60-2	14701	14871	14918	14830	0.77	cps
Phosphorus	31-2	430222	438206	431325	433251	1.00	cps
Potassium	39-2	19959775	19859403	19852472	19890550	0.30	cps
Rhodium	103-1	23060897	21393725	21094787	21849803	4.85	cps
Rhodium	103-2	8297205	8546235	8273716	8372385	1.80	cps
Scandium	45-1	19397416	18076497	17945203	18473038	4.35	cps
Scandium	45-2	350523	360612	355947	355694	1.42	cps
Selenium	82-1	14	-76	-3	-22	-218.12	cps
Selenium	77-2	0	0	3	1	173.21	cps
Selenium	78-2	20	33	13	22	45.83	cps
Silicon	28-1	1089635	1114344	1100498	1101492	1.12	cps
Silver	107-1	1940	1770	1860	1857	4.58	cps
Silver	109-1	1833	1567	1613	1671	8.52	cps
Sodium	23-2	63221329	63540846	63450842	63404339	0.26	cps
Strontium	86-1	238931	248212	242036	243060	1.94	cps
Strontium	88-1	2194750	2250411	2252814	2232659	1.47	cps
Sulfur	34-1	9644209	9543462	9756437	9648036	1.10	cps
Terbium	159-1	33011025	30483595	30153348	31215989	5.01	cps
Terbium	159-2	10238064	10454073	10285766	10325968	1.10	cps
Thallium	203-1	1303	1610	1547	1487	10.89	cps
Thallium	205-1	3154	3571	3984	3569	11.63	cps
Tin	118-1	7219	6945	6575	6913	4.67	cps
Titanium	47-1	6907088	7036665	7069973	7004575	1.23	cps
Uranium	238-1	1317	1420	1363	1367	3.79	cps

LB Number : LB133950 Operator : Jaswal
Lab Sample ID : ICSA001 Instrumnet Name : P8
Client Sample ID : ICSA001 Dilution Factor : 1
Date & Time Acquired : 2024-12-13 14:30:36 DataFile Name : 023ICSA.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Vanadium	51-2	477	533	597	536	11.21	cps
Ytterbium	172-1	227	193	183	201	11.28	cps
Ytterbium	172-2	83	77	53	71	22.15	cps
Ytterbium	176-1	3374	3157	3027	3186	5.50	cps
Ytterbium	176-2	567	693	747	669	13.82	cps
Yttrium	89-1	41301534	39475635	38387315	39721495	3.71	cps
Yttrium	89-2	2974173	3005984	2958891	2979682	0.81	cps
Zinc	66-2	9400	10104	9924	9809	3.73	cps
Zirconium	90-1	2060	2044	1977	2027	2.18	cps
Zirconium	91-1	417	387	437	413	6.09	cps

LB Number : LB133950 Operator : Jaswal
Lab Sample ID : ICSAB001 Instrumnet Name : P8
Client Sample ID : ICSAB001 Dilution Factor : 1
Date & Time Acquired : 2024-12-13 14:38:39 DataFile Name : 025ICSB.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Aluminium	27-2	8748014	8913994	8842747	8834918	0.94	cps
Antimony	121-1	421726	428835	430257	426939	1.07	cps
Arsenic	75-2	9000	8746	8913	8886	1.45	cps
Barium	135-1	111400	112082	112949	112144	0.69	cps
Barium	137-1	190275	193683	195330	193096	1.34	cps
Beryllium	9-1	125890	126653	125988	126177	0.33	cps
Bismuth	209-1	17709098	17620737	17572423	17634086	0.39	cps
Bismuth	209-2	7498034	7361612	7261636	7373761	1.61	cps
Bromine	81-1	16550	17204	17090	16948	2.06	cps
Cadmium	108-1	12916	12990	12859	12922	0.51	cps
Cadmium	106-1	20058	20365	20485	20303	1.09	cps
Cadmium	111-1	107843	108114	109747	108568	0.95	cps
Calcium	43-1	7731128	7878313	7824339	7811260	0.95	cps
Calcium	44-1	128637198	132024735	130458645	130373526	1.30	cps
Carbon	12-1	58951046	60206862	60606561	59921490	1.44	cps
Carbon	12-2	387314	384744	382127	384728	0.67	cps
Chlorine	35-1	105868295	112004122	114724085	110865501	4.09	cps
Chlorine	35-2	505150	514289	508647	509362	0.91	cps
Chromium	52-2	197860	199133	199298	198763	0.40	cps
Cobalt	59-2	191304	191905	192149	191786	0.23	cps
Copper	63-2	199531	197832	198768	198710	0.43	cps
Dysprosium	156-1	130	93	153	126	24.09	cps
Dysprosium	156-2	30	40	40	37	15.75	cps
Erbium	164-1	217	203	240	220	8.43	cps
Erbium	164-2	97	77	70	81	17.11	cps
Gadolinium	160-1	277	273	263	271	2.56	cps
Gadolinium	160-2	80	90	50	73	28.39	cps
Holmium	165-1	32410428	31549445	31919100	31959658	1.35	cps
Holmium	165-2	11275051	11192908	11178704	11215554	0.46	cps
Indium	115-1	25268831	25272422	25405921	25315724	0.31	cps
Indium	115-2	2738477	2715382	2698824	2717561	0.73	cps
Iron	54-2	20751626	20749613	20900846	20800695	0.42	cps
Iron	56-2	381576074	384756261	373362381	379898239	1.55	cps
Iron	57-2	9664443	9607910	9661594	9644649	0.33	cps
Krypton	83-1	397	433	320	383	15.09	cps
Lead	206-1	385069	380097	386253	383806	0.85	cps

LB Number : LB133950 Operator : Jaswal
Lab Sample ID : ICSAB001 Instrumnet Name : P8
Client Sample ID : ICSAB001 Dilution Factor : 1
Date & Time Acquired : 2024-12-13 14:38:39 DataFile Name : 025ICSB.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Lead	207-1	322157	322064	324680	322967	0.46	cps
Lead	208-1	1480736	1488302	1491222	1486753	0.36	cps
Lithium	6-1	10981076	10753585	11193323	10975994	2.00	cps
Magnesium	24-2	31428545	31285320	30801754	31171873	1.05	cps
Manganese	55-2	56039	57478	57171	56896	1.33	cps
Molybdenum	94-1	12939612	13126147	12717799	12927853	1.58	cps
Molybdenum	95-1	23089703	22988117	22908272	22995364	0.40	cps
Molybdenum	96-1	24566628	24577255	24489365	24544416	0.20	cps
Molybdenum	97-1	14020216	14215061	13930927	14055401	1.03	cps
Molybdenum	98-1	36916809	36369654	36444914	36577126	0.81	cps
Neodymium	150-1	140	127	100	122	16.66	cps
Neodymium	150-2	30	40	40	37	15.75	cps
Nickel	60-2	61522	62744	62516	62261	1.04	cps
Phosphorus	31-2	458384	463062	456272	459239	0.76	cps
Potassium	39-2	21057355	21178635	20778817	21004936	0.98	cps
Rhodium	103-1	23048124	22954276	22896230	22966210	0.33	cps
Rhodium	103-2	9016675	8839774	8820976	8892475	1.21	cps
Scandium	45-1	19453653	19126673	19139276	19239867	0.96	cps
Scandium	45-2	380932	380064	379105	380034	0.24	cps
Selenium	82-1	6522	6652	6432	6535	1.69	cps
Selenium	77-2	127	123	117	122	4.17	cps
Selenium	78-2	487	440	457	461	5.13	cps
Silicon	28-1	1182929	1202673	1200908	1195503	0.91	cps
Silver	107-1	475877	486082	481959	481306	1.07	cps
Silver	109-1	456509	462208	464361	461026	0.88	cps
Sodium	23-2	67041071	66927696	66711647	66893471	0.25	cps
Strontium	86-1	256249	258550	255692	256830	0.59	cps
Strontium	88-1	2328109	2334951	2313424	2325495	0.47	cps
Sulfur	34-1	10383166	10513844	10404461	10433824	0.67	cps
Terbium	159-1	32149556	32057130	32346636	32184441	0.46	cps
Terbium	159-2	10798569	10713549	10949631	10820583	1.11	cps
Thallium	203-1	386084	386387	394179	388884	1.18	cps
Thallium	205-1	927145	920054	946878	931359	1.49	cps
Tin	118-1	7666	6975	7385	7342	4.73	cps
Titanium	47-1	7433379	7451276	7427921	7437525	0.16	cps
Uranium	238-1	1093	1053	1050	1066	2.26	cps

LB Number :

LB133950

Operator :

Jaswal

Lab Sample ID :

ICSAB001

Instrumnet Name :

P8

Client Sample ID :

ICSAB001

Dilution Factor :

1

Date & Time Acquired :

2024-12-13 14:38:39

DataFile Name :

025ICSB.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Vanadium	51-2	77394	77950	77090	77478	0.56	cps
Ytterbium	172-1	233	183	197	204	12.66	cps
Ytterbium	172-2	87	100	90	92	7.52	cps
Ytterbium	176-1	3471	3611	3440	3507	2.59	cps
Ytterbium	176-2	620	680	697	666	6.06	cps
Yttrium	89-1	41127540	41901787	41162014	41397114	1.06	cps
Yttrium	89-2	3132246	3162476	3094792	3129838	1.08	cps
Zinc	66-2	22835	22054	21837	22242	2.36	cps
Zirconium	90-1	2134	1983	2194	2104	5.14	cps
Zirconium	91-1	443	470	490	468	5.01	cps

LB Number : LB133950 Operator : Jaswal
Lab Sample ID : CCV001 Instrumnet Name : P8
Client Sample ID : CCV001 Dilution Factor : 1
Date & Time Acquired : 2024-12-13 14:41:43 DataFile Name : 026CCV.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Aluminium	27-2	4606406	4589849	4529550	4575268	0.88	cps
Antimony	121-1	9551509	9464559	9512486	9509518	0.46	cps
Arsenic	75-2	196630	196812	194770	196070	0.58	cps
Barium	135-1	12945452	12927149	12781421	12884674	0.70	cps
Barium	137-1	21583571	21954864	21671727	21736721	0.89	cps
Beryllium	9-1	3136513	3153030	3210387	3166643	1.22	cps
Bismuth	209-1	16806294	16918127	16550357	16758259	1.13	cps
Bismuth	209-2	6903145	7096119	7001721	7000328	1.38	cps
Bromine	81-1	14317	14094	14377	14263	1.05	cps
Cadmium	108-1	185690	184960	186082	185577	0.31	cps
Cadmium	106-1	273933	277745	274099	275259	0.78	cps
Cadmium	111-1	2325391	2406999	2356276	2362889	1.74	cps
Calcium	43-1	18699909	18346873	18087984	18378255	1.67	cps
Calcium	44-1	304416662	304228109	303370455	304005075	0.18	cps
Carbon	12-1	6028626	5983843	6090794	6034421	0.89	cps
Carbon	12-2	46099	46329	45463	45964	0.98	cps
Chlorine	35-1	6449572	5926516	5610390	5995493	7.07	cps
Chlorine	35-2	20471	19567	18812	19617	4.23	cps
Chromium	52-2	2389327	2388643	2398185	2392052	0.22	cps
Cobalt	59-2	4307229	4275663	4242610	4275167	0.76	cps
Copper	63-2	33692412	33314322	33472473	33493069	0.57	cps
Dysprosium	156-1	713	677	787	726	7.72	cps
Dysprosium	156-2	137	167	177	160	13.01	cps
Erbium	164-1	700	653	707	687	4.23	cps
Erbium	164-2	237	247	193	226	12.57	cps
Gadolinium	160-1	707	630	613	650	7.66	cps
Gadolinium	160-2	213	230	250	231	7.94	cps
Holmium	165-1	31003532	30615384	30696285	30771733	0.67	cps
Holmium	165-2	10790948	10826616	10774841	10797468	0.25	cps
Indium	115-1	23863815	24164722	23844044	23957527	0.75	cps
Indium	115-2	2605124	2570142	2557406	2577557	0.96	cps
Iron	54-2	24254883	23993494	23981925	24076767	0.64	cps
Iron	56-2	438012127	437437553	436923380	437457687	0.12	cps
Iron	57-2	11194984	11107762	11031307	11111351	0.74	cps
Krypton	83-1	487	447	477	470	4.43	cps
Lead	206-1	37612976	37366085	37018940	37332667	0.80	cps

LB Number : LB133950 Operator : Jaswal
Lab Sample ID : CCV001 Instrumnet Name : P8
Client Sample ID : CCV001 Dilution Factor : 1
Date & Time Acquired : 2024-12-13 14:41:43 DataFile Name : 026CCV.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Lead	207-1	31895455	31979858	31803820	31893044	0.28	cps
Lead	208-1	147556169	149302485	146673082	147843912	0.91	cps
Lithium	6-1	10282180	10014687	10430325	10242397	2.06	cps
Magnesium	24-2	73065809	72474932	72580756	72707166	0.43	cps
Manganese	55-2	9896801	9864240	9825912	9862317	0.36	cps
Molybdenum	94-1	38467134	38189774	37572379	38076429	1.20	cps
Molybdenum	95-1	55135908	55182023	55630553	55316161	0.49	cps
Molybdenum	96-1	59952431	59425252	60035514	59804399	0.55	cps
Molybdenum	97-1	33895061	33294455	33208305	33465940	1.12	cps
Molybdenum	98-1	87183172	87094792	87164119	87147361	0.05	cps
Neodymium	150-1	1347	1330	1240	1306	4.40	cps
Neodymium	150-2	137	123	113	124	9.41	cps
Nickel	60-2	1268342	1264368	1265162	1265957	0.17	cps
Phosphorus	31-2	41269	41456	41743	41489	0.58	cps
Potassium	39-2	24924347	24853615	24903742	24893901	0.15	cps
Rhodium	103-1	21553072	21386356	21172836	21370755	0.89	cps
Rhodium	103-2	8362140	8327100	8321131	8336790	0.27	cps
Scandium	45-1	18867437	18785713	18445147	18699433	1.20	cps
Scandium	45-2	360272	365688	365396	363786	0.84	cps
Selenium	82-1	153488	154106	152886	153493	0.40	cps
Selenium	77-2	2634	2617	2774	2675	3.22	cps
Selenium	78-2	9350	9300	9303	9318	0.30	cps
Silicon	28-1	142230048	143255595	141572645	142352762	0.60	cps
Silver	107-1	12003520	12047040	11899373	11983311	0.63	cps
Silver	109-1	11286988	11579131	11471662	11445927	1.29	cps
Sodium	23-2	156889291	153771724	154966134	155209050	1.01	cps
Strontium	86-1	3625762	3677212	3624666	3642546	0.82	cps
Strontium	88-1	31161677	31301820	31080756	31181418	0.36	cps
Sulfur	34-1	1542306	1501443	1506273	1516674	1.47	cps
Terbium	159-1	31573812	31488406	31344957	31469058	0.37	cps
Terbium	159-2	10540917	10475880	10466080	10494292	0.39	cps
Thallium	203-1	9413163	9287053	9277945	9326054	0.81	cps
Thallium	205-1	21965027	22259092	21990259	22071459	0.74	cps
Tin	118-1	8171466	8341537	8234113	8249039	1.04	cps
Titanium	47-1	16807628	17237302	17023463	17022797	1.26	cps
Uranium	238-1	31429482	31643500	31720299	31597760	0.48	cps

LB Number :

LB133950

Operator :

Jaswal

Lab Sample ID :

CCV001

Instrumnet Name :

P8

Client Sample ID :

CCV001

Dilution Factor :

1

Date & Time Acquired :

2024-12-13 14:41:43

DataFile Name :

026CCV.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Vanadium	51-2	1889656	1867993	1888485	1882045	0.65	cps
Ytterbium	172-1	817	843	730	797	7.44	cps
Ytterbium	172-2	343	317	320	327	4.45	cps
Ytterbium	176-1	49021	49001	49338	49120	0.39	cps
Ytterbium	176-2	17131	17568	17625	17442	1.55	cps
Yttrium	89-1	40515332	39924737	39064624	39834898	1.83	cps
Yttrium	89-2	3019667	3083373	3008897	3037312	1.33	cps
Zinc	66-2	3427287	3410263	3413178	3416909	0.27	cps
Zirconium	90-1	20000617	19708181	19332365	19680387	1.70	cps
Zirconium	91-1	4356219	4384284	4406403	4382302	0.57	cps

LB Number : LB133950 Operator : Jaswal
Lab Sample ID : CCB001 Instrumnet Name : P8
Client Sample ID : CCB001 Dilution Factor : 1
Date & Time Acquired : 2024-12-13 14:55:06 DataFile Name : 027CCBE.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Aluminium	27-2	107	67	97	90	23.13	cps
Antimony	121-1	363	437	343	381	12.89	cps
Arsenic	75-2	0	3	0	1	173.21	cps
Barium	135-1	110	150	110	123	18.72	cps
Barium	137-1	190	160	183	178	8.86	cps
Beryllium	9-1	432	405	433	423	3.66	cps
Bismuth	209-1	19221479	20041923	19442333	19568578	2.17	cps
Bismuth	209-2	8221679	6709835	7589259	7506924	10.11	cps
Bromine	81-1	12879	12849	12953	12894	0.41	cps
Cadmium	108-1	43	43	27	38	25.46	cps
Cadmium	106-1	12416	12476	12529	12474	0.46	cps
Cadmium	111-1	8687	8726	8792	8735	0.60	cps
Calcium	43-1	1233	1087	1140	1153	6.44	cps
Calcium	44-1	33616	33112	33269	33332	0.77	cps
Carbon	12-1	5047258	5166144	5100531	5104644	1.17	cps
Carbon	12-2	32155	33542	33041	32912	2.13	cps
Chlorine	35-1	933539	928770	900123	920811	1.96	cps
Chlorine	35-2	3684	3574	3567	3608	1.82	cps
Chromium	52-2	2254	2330	2464	2349	4.52	cps
Cobalt	59-2	140	127	130	132	5.25	cps
Copper	63-2	4721	4844	4951	4839	2.38	cps
Dysprosium	156-1	10	33	17	20	60.08	cps
Dysprosium	156-2	7	3	0	3	100.05	cps
Erbium	164-1	127	157	133	139	11.34	cps
Erbium	164-2	37	47	20	34	39.11	cps
Gadolinium	160-1	150	190	173	171	11.74	cps
Gadolinium	160-2	47	37	20	34	39.11	cps
Holmium	165-1	31185245	32801387	32303666	32096766	2.58	cps
Holmium	165-2	11363807	9474125	10245629	10361187	9.17	cps
Indium	115-1	26186469	26962228	27230405	26793034	2.02	cps
Indium	115-2	2837997	2384257	2649269	2623841	8.69	cps
Iron	54-2	1050	903	827	927	12.25	cps
Iron	56-2	12352	12419	12065	12279	1.53	cps
Iron	57-2	267	350	303	307	13.62	cps
Krypton	83-1	310	257	267	278	10.21	cps
Lead	206-1	1887	1773	1930	1863	4.34	cps

LB Number : LB133950 Operator : Jaswal
Lab Sample ID : CCB001 Instrumnet Name : P8
Client Sample ID : CCB001 Dilution Factor : 1
Date & Time Acquired : 2024-12-13 14:55:06 DataFile Name : 027CCBE.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Lead	207-1	1567	1643	1677	1629	3.46	cps
Lead	208-1	7218	7424	7464	7369	1.80	cps
Lithium	6-1	11634961	11766183	11707192	11702779	0.56	cps
Magnesium	24-2	870	837	837	848	2.27	cps
Manganese	55-2	260	270	250	260	3.85	cps
Molybdenum	94-1	1403	963	973	1113	22.56	cps
Molybdenum	95-1	1647	910	750	1102	43.39	cps
Molybdenum	96-1	1670	1007	830	1169	37.89	cps
Molybdenum	97-1	817	513	443	591	33.57	cps
Molybdenum	98-1	2214	1300	1207	1573	35.36	cps
Neodymium	150-1	10	13	13	12	15.73	cps
Neodymium	150-2	0	0	3	1	173.21	cps
Nickel	60-2	773	737	690	733	5.70	cps
Phosphorus	31-2	173	123	137	144	17.92	cps
Potassium	39-2	21406	21209	21052	21222	0.84	cps
Rhodium	103-1	24949358	26090102	25527072	25522177	2.23	cps
Rhodium	103-2	9843053	8202830	9142293	9062725	9.08	cps
Scandium	45-1	19645774	20350934	19597790	19864833	2.12	cps
Scandium	45-2	392480	327165	364759	361468	9.07	cps
Selenium	82-1	-7	27	10	10	166.53	cps
Selenium	77-2	0	0	0	0	0.00	cps
Selenium	78-2	17	17	10	14	26.66	cps
Silicon	28-1	873670	874812	874544	874342	0.07	cps
Silver	107-1	483	440	453	459	4.84	cps
Silver	109-1	260	233	230	241	6.82	cps
Sodium	23-2	102335	102456	103181	102657	0.45	cps
Strontium	86-1	530	467	480	492	6.78	cps
Strontium	88-1	660	680	670	670	1.49	cps
Sulfur	34-1	667595	668302	670273	668723	0.21	cps
Terbium	159-1	31620861	33033731	32806438	32487010	2.34	cps
Terbium	159-2	11014668	9414324	10562031	10330341	7.99	cps
Thallium	203-1	590	557	610	586	4.60	cps
Thallium	205-1	1477	1510	1593	1527	3.94	cps
Tin	118-1	4881	4861	5011	4918	1.66	cps
Titanium	47-1	570	480	543	531	8.70	cps
Uranium	238-1	50	50	47	49	3.93	cps

LB Number :LB133950

Operator :Jaswal

Lab Sample ID :CCB001

Instrumnet Name :P8

Client Sample ID :CCB001

Dilution Factor :1

Date & Time Acquired :2024-12-13 14:55:06

DataFile Name :027CCBE.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Vanadium	51-2	13	10	13	12	15.73	cps
Ytterbium	172-1	150	140	227	172	27.53	cps
Ytterbium	172-2	73	27	67	56	45.43	cps
Ytterbium	176-1	3491	3651	3554	3565	2.26	cps
Ytterbium	176-2	693	677	837	736	11.96	cps
Yttrium	89-1	41207569	43620433	42806686	42544896	2.89	cps
Yttrium	89-2	3229578	2702204	3024761	2985514	8.91	cps
Zinc	66-2	900	813	857	857	5.06	cps
Zirconium	90-1	1767	2004	1867	1879	6.32	cps
Zirconium	91-1	350	377	363	363	3.67	cps

LB Number : LB133950 Operator : Jaswal
Lab Sample ID : PB165564BL Instrumnet Name : P8
Client Sample ID : PBS564 Dilution Factor : 1
Date & Time Acquired : 2024-12-13 14:58:25 DataFile Name : 028AREF.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Aluminium	27-2	90	110	93	98	10.96	cps
Antimony	121-1	237	197	213	216	9.32	cps
Arsenic	75-2	3	3	3	3	0.00	cps
Barium	135-1	143	170	153	156	8.66	cps
Barium	137-1	240	247	260	249	4.09	cps
Beryllium	9-1	378	379	394	384	2.37	cps
Bismuth	209-1	19488537	19162239	19237076	19295951	0.89	cps
Bismuth	209-2	7805355	9678962	8131854	8538723	11.72	cps
Bromine	81-1	12396	13753	13443	13197	5.39	cps
Cadmium	108-1	40	23	33	32	26.04	cps
Cadmium	106-1	12439	12125	12569	12378	1.84	cps
Cadmium	111-1	8689	8481	8805	8659	1.89	cps
Calcium	43-1	867	980	997	948	7.46	cps
Calcium	44-1	27994	27948	28198	28047	0.47	cps
Carbon	12-1	4452464	4452737	4413397	4439532	0.51	cps
Carbon	12-2	27940	28137	27539	27872	1.09	cps
Chlorine	35-1	746859	729932	718294	731695	1.96	cps
Chlorine	35-2	2927	2647	3094	2889	7.81	cps
Chromium	52-2	2554	2590	2540	2561	1.01	cps
Cobalt	59-2	150	127	120	132	11.91	cps
Copper	63-2	4671	4901	4697	4756	2.65	cps
Dysprosium	156-1	10	13	17	13	25.01	cps
Dysprosium	156-2	7	7	3	6	34.70	cps
Erbium	164-1	157	167	140	154	8.72	cps
Erbium	164-2	23	60	53	46	42.88	cps
Gadolinium	160-1	157	190	163	170	10.37	cps
Gadolinium	160-2	30	57	27	38	43.52	cps
Holmium	165-1	32434008	31417063	32250716	32033929	1.69	cps
Holmium	165-2	10770813	13281991	11370180	11807662	11.11	cps
Indium	115-1	27234177	26162615	26562337	26653043	2.03	cps
Indium	115-2	2719160	3375533	2860004	2984899	11.58	cps
Iron	54-2	1027	833	1020	960	11.43	cps
Iron	56-2	12626	13146	12803	12858	2.06	cps
Iron	57-2	283	327	287	299	8.07	cps
Krypton	83-1	320	357	287	321	10.91	cps
Lead	206-1	1934	1837	1907	1892	2.64	cps

LB Number : LB133950 Operator : Jaswal
Lab Sample ID : PB165564BL Instrumnet Name : P8
Client Sample ID : PBS564 Dilution Factor : 1
Date & Time Acquired : 2024-12-13 14:58:25 DataFile Name : 028AREF.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Lead	207-1	1583	1627	1657	1622	2.27	cps
Lead	208-1	7431	7481	7348	7420	0.91	cps
Lithium	6-1	11797785	11910863	11838497	11849049	0.48	cps
Magnesium	24-2	957	917	823	899	7.61	cps
Manganese	55-2	203	283	223	237	17.59	cps
Molybdenum	94-1	933	817	913	888	7.03	cps
Molybdenum	95-1	910	747	650	769	17.09	cps
Molybdenum	96-1	863	747	763	791	7.98	cps
Molybdenum	97-1	377	393	383	384	2.18	cps
Molybdenum	98-1	1307	1040	950	1099	16.88	cps
Neodymium	150-1	17	7	7	10	57.72	cps
Neodymium	150-2	0	7	0	2	173.21	cps
Nickel	60-2	803	850	843	832	3.03	cps
Phosphorus	31-2	143	123	173	147	17.16	cps
Potassium	39-2	21065	20979	21025	21023	0.21	cps
Rhodium	103-1	25438909	24640359	25152535	25077268	1.61	cps
Rhodium	103-2	9303738	11799131	10009014	10370628	12.40	cps
Scandium	45-1	20070142	19835888	19798907	19901646	0.74	cps
Scandium	45-2	373719	466905	398746	413123	11.67	cps
Selenium	82-1	47	-70	30	2	2838.44	cps
Selenium	77-2	0	0	0	0	0.00	cps
Selenium	78-2	13	3	13	10	57.75	cps
Silicon	28-1	801519	797095	798202	798939	0.29	cps
Silver	107-1	353	323	450	376	17.63	cps
Silver	109-1	247	247	193	229	13.45	cps
Sodium	23-2	95124	93983	93228	94112	1.01	cps
Strontium	86-1	473	480	587	513	12.39	cps
Strontium	88-1	607	677	697	660	7.16	cps
Sulfur	34-1	674803	681296	680816	678972	0.53	cps
Terbium	159-1	33244775	31876133	32483933	32534947	2.11	cps
Terbium	159-2	10715465	13117816	11137937	11657073	11.00	cps
Thallium	203-1	557	553	563	558	0.91	cps
Thallium	205-1	1317	1303	1340	1320	1.41	cps
Tin	118-1	4261	4241	4394	4299	1.94	cps
Titanium	47-1	533	473	573	527	9.56	cps
Uranium	238-1	23	20	33	26	27.15	cps

LB Number :

LB133950

Operator :

Jaswal

Lab Sample ID :

PB165564BL

Instrumnet Name :

P8

Client Sample ID :

PBS564

Dilution Factor :

1

Date & Time Acquired :

2024-12-13 14:58:25

DataFile Name :

028AREF.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Vanadium	51-2	13	7	20	13	49.99	cps
Ytterbium	172-1	177	117	173	156	21.68	cps
Ytterbium	172-2	80	97	70	82	16.39	cps
Ytterbium	176-1	4014	3864	3897	3925	2.01	cps
Ytterbium	176-2	790	943	847	860	9.02	cps
Yttrium	89-1	43221804	41993430	42312629	42509288	1.50	cps
Yttrium	89-2	3009213	3811318	3224051	3348194	12.40	cps
Zinc	66-2	623	660	623	636	3.33	cps
Zirconium	90-1	1730	1703	1747	1727	1.27	cps
Zirconium	91-1	283	287	243	271	8.89	cps

LB Number : LB133950 Operator : Jaswal
Lab Sample ID : PB165564BS Instrumnet Name : P8
Client Sample ID : LCS564 Dilution Factor : 1
Date & Time Acquired : 2024-12-13 15:01:46 DataFile Name : 029AREF.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Aluminium	27-2	4194	4057	4207	4153	2.00	cps
Antimony	121-1	83986	83714	83527	83742	0.28	cps
Arsenic	75-2	1013	950	917	960	5.11	cps
Barium	135-1	106931	106951	105453	106445	0.81	cps
Barium	137-1	183666	184372	183015	183684	0.37	cps
Beryllium	9-1	15590	15263	15273	15375	1.21	cps
Bismuth	209-1	19643663	19367497	19408795	19473318	0.76	cps
Bismuth	209-2	7494013	8053028	6924098	7490380	7.54	cps
Bromine	81-1	12602	12666	12486	12585	0.73	cps
Cadmium	108-1	880	870	930	893	3.60	cps
Cadmium	106-1	13934	13834	13797	13855	0.51	cps
Cadmium	111-1	19832	19755	19634	19741	0.50	cps
Calcium	43-1	80876	81673	80215	80921	0.90	cps
Calcium	44-1	1396351	1416966	1389257	1400858	1.03	cps
Carbon	12-1	4340309	4312533	4261506	4304783	0.93	cps
Carbon	12-2	27389	27486	26417	27097	2.18	cps
Chlorine	35-1	2548349	2825832	2865660	2746614	6.29	cps
Chlorine	35-2	12552	12522	12422	12499	0.55	cps
Chromium	52-2	22151	21767	21486	21801	1.53	cps
Cobalt	59-2	19807	19537	20211	19852	1.71	cps
Copper	63-2	37035	37506	37770	37437	0.99	cps
Dysprosium	156-1	33	23	37	31	22.31	cps
Dysprosium	156-2	7	10	7	8	24.71	cps
Erbium	164-1	120	133	127	127	5.27	cps
Erbium	164-2	43	40	57	47	18.90	cps
Gadolinium	160-1	197	210	177	194	8.63	cps
Gadolinium	160-2	33	53	50	46	23.52	cps
Holmium	165-1	32767704	31768885	32264473	32267020	1.55	cps
Holmium	165-2	10480588	11170262	9667966	10439605	7.20	cps
Indium	115-1	27179493	26918655	26665757	26921302	0.95	cps
Indium	115-2	2657632	2794978	2429032	2627214	7.04	cps
Iron	54-2	87291	86818	87844	87318	0.59	cps
Iron	56-2	1611473	1606732	1636611	1618272	0.99	cps
Iron	57-2	39077	39067	39317	39154	0.36	cps
Krypton	83-1	377	357	280	338	15.11	cps
Lead	206-1	35519	34733	34766	35006	1.27	cps

LB Number : LB133950 Operator : Jaswal
Lab Sample ID : PB165564BS Instrumnet Name : P8
Client Sample ID : LCS564 Dilution Factor : 1
Date & Time Acquired : 2024-12-13 15:01:46 DataFile Name : 029AREF.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Lead	207-1	31371	31061	30797	31076	0.93	cps
Lead	208-1	141429	141463	140012	140968	0.59	cps
Lithium	6-1	12028991	11833364	11969343	11943899	0.84	cps
Magnesium	24-2	330438	329738	330726	330301	0.15	cps
Manganese	55-2	4321	4387	4751	4486	5.16	cps
Molybdenum	94-1	94427	94864	92730	94007	1.20	cps
Molybdenum	95-1	116130	114853	116056	115680	0.62	cps
Molybdenum	96-1	128457	127566	126513	127512	0.76	cps
Molybdenum	97-1	70896	70920	71881	71233	0.79	cps
Molybdenum	98-1	184250	182200	180936	182462	0.92	cps
Neodymium	150-1	23	13	23	20	28.87	cps
Neodymium	150-2	0	7	13	7	99.98	cps
Nickel	60-2	6105	6041	6011	6052	0.79	cps
Phosphorus	31-2	400	300	333	344	14.78	cps
Potassium	39-2	232929	232440	236573	233981	0.97	cps
Rhodium	103-1	25688332	24937644	24880625	25168867	1.79	cps
Rhodium	103-2	9200542	9615953	8448919	9088471	6.51	cps
Scandium	45-1	19989512	19883396	19942524	19938477	0.27	cps
Scandium	45-2	365017	388389	335045	362817	7.37	cps
Selenium	82-1	3524	3563	3743	3610	3.24	cps
Selenium	77-2	90	70	57	72	23.23	cps
Selenium	78-2	197	270	220	229	16.37	cps
Silicon	28-1	1108120	1090979	1081210	1093436	1.25	cps
Silver	107-1	54849	55274	55237	55120	0.43	cps
Silver	109-1	52653	53005	52583	52747	0.43	cps
Sodium	23-2	772516	772665	778683	774621	0.45	cps
Strontium	86-1	16280	15606	15405	15763	2.91	cps
Strontium	88-1	136247	134214	131987	134149	1.59	cps
Sulfur	34-1	676762	673410	672755	674309	0.32	cps
Terbium	159-1	33780970	33078734	33252315	33370673	1.10	cps
Terbium	159-2	10192315	10903973	9342370	10146219	7.71	cps
Thallium	203-1	42078	42259	41376	41904	1.11	cps
Thallium	205-1	98839	98007	98870	98572	0.50	cps
Tin	118-1	182672	185107	182459	183413	0.80	cps
Titanium	47-1	9703	9430	9613	9582	1.45	cps
Uranium	238-1	133378	127485	129529	130131	2.30	cps

LB Number :

LB133950

Operator :

Jaswal

Lab Sample ID :

PB165564BS

Instrumnet Name :

P8

Client Sample ID :

LCS564

Dilution Factor :

1

Date & Time Acquired :

2024-12-13 15:01:46

DataFile Name :

029AREF.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Vanadium	51-2	40895	41166	41089	41050	0.34	cps
Ytterbium	172-1	180	167	153	167	8.00	cps
Ytterbium	172-2	40	50	50	47	12.37	cps
Ytterbium	176-1	4074	3837	3841	3917	3.46	cps
Ytterbium	176-2	723	803	740	756	5.59	cps
Yttrium	89-1	43674804	42363632	41922078	42653505	2.14	cps
Yttrium	89-2	3009080	3151689	2749813	2970194	6.86	cps
Zinc	66-2	8069	8823	8386	8426	4.49	cps
Zirconium	90-1	79828	79341	80281	79816	0.59	cps
Zirconium	91-1	17665	18105	17755	17842	1.30	cps

LB Number : LB133950 Operator : Jaswal
Lab Sample ID : PB165532BL Instrumnet Name : P8
Client Sample ID : PBS532 Dilution Factor : 1
Date & Time Acquired : 2024-12-13 15:15:38 DataFile Name : 030AREF.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Aluminium	27-2	120	110	110	113	5.09	cps
Antimony	121-1	137	130	67	111	34.77	cps
Arsenic	75-2	0	7	7	4	86.60	cps
Barium	135-1	163	160	80	134	35.09	cps
Barium	137-1	203	187	203	198	4.87	cps
Beryllium	9-1	282	284	303	289	3.99	cps
Bismuth	209-1	18855194	18592827	18766618	18738213	0.71	cps
Bismuth	209-2	7798515	7828811	7956364	7861230	1.07	cps
Bromine	81-1	12532	12606	12592	12577	0.31	cps
Cadmium	108-1	23	27	20	23	14.29	cps
Cadmium	106-1	11838	11708	11802	11783	0.57	cps
Cadmium	111-1	8281	8184	8261	8242	0.62	cps
Calcium	43-1	897	933	847	892	4.88	cps
Calcium	44-1	27470	27590	27123	27394	0.89	cps
Carbon	12-1	4423052	4467860	4472080	4454331	0.61	cps
Carbon	12-2	28498	27927	27947	28124	1.15	cps
Chlorine	35-1	359221	351237	353578	354679	1.16	cps
Chlorine	35-2	1423	1567	1367	1452	7.10	cps
Chromium	52-2	2497	2390	2700	2529	6.23	cps
Cobalt	59-2	123	117	113	118	4.32	cps
Copper	63-2	3714	3741	4084	3846	5.37	cps
Dysprosium	156-1	20	7	17	14	48.02	cps
Dysprosium	156-2	3	3	17	8	99.04	cps
Erbium	164-1	133	133	147	138	5.59	cps
Erbium	164-2	60	30	50	47	32.73	cps
Gadolinium	160-1	180	140	217	179	21.44	cps
Gadolinium	160-2	37	57	40	44	24.11	cps
Holmium	165-1	30526435	31724954	30594555	30948648	2.18	cps
Holmium	165-2	10852014	11081598	11137974	11023862	1.37	cps
Indium	115-1	25901892	26127026	25852772	25960564	0.56	cps
Indium	115-2	2755770	2796250	2803799	2785273	0.93	cps
Iron	54-2	983	850	947	927	7.43	cps
Iron	56-2	11144	14467	11191	12268	15.53	cps
Iron	57-2	233	300	283	272	12.75	cps
Krypton	83-1	307	303	287	299	3.59	cps
Lead	206-1	1523	1693	1443	1553	8.22	cps

LB Number : LB133950 Operator : Jaswal
Lab Sample ID : PB165532BL Instrumnet Name : P8
Client Sample ID : PBS532 Dilution Factor : 1
Date & Time Acquired : 2024-12-13 15:15:38 DataFile Name : 030AREF.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Lead	207-1	1247	1367	1333	1316	4.71	cps
Lead	208-1	5897	6287	5864	6016	3.91	cps
Lithium	6-1	11746432	11677122	11601376	11674977	0.62	cps
Magnesium	24-2	1057	1040	1087	1061	2.23	cps
Manganese	55-2	240	197	210	216	10.30	cps
Molybdenum	94-1	747	740	777	754	2.59	cps
Molybdenum	95-1	650	500	613	588	13.31	cps
Molybdenum	96-1	773	577	627	659	15.51	cps
Molybdenum	97-1	417	313	333	354	15.46	cps
Molybdenum	98-1	887	780	770	812	7.96	cps
Neodymium	150-1	7	20	7	11	69.25	cps
Neodymium	150-2	0	0	0	0	0.00	cps
Nickel	60-2	847	813	817	826	2.22	cps
Phosphorus	31-2	187	140	153	160	15.02	cps
Potassium	39-2	19103	19530	19029	19221	1.41	cps
Rhodium	103-1	24755686	24088938	24447172	24430599	1.37	cps
Rhodium	103-2	9562220	9592570	9658048	9604279	0.51	cps
Scandium	45-1	19133508	19353866	19504346	19330573	0.96	cps
Scandium	45-2	383294	388013	390181	387163	0.91	cps
Selenium	82-1	7	-73	70	1	6433.14	cps
Selenium	77-2	0	0	3	1	173.21	cps
Selenium	78-2	17	13	3	11	62.48	cps
Silicon	28-1	809555	803431	803414	805467	0.44	cps
Silver	107-1	297	320	290	302	5.21	cps
Silver	109-1	147	143	147	146	1.32	cps
Sodium	23-2	85840	86451	85703	85998	0.46	cps
Strontium	86-1	573	577	553	568	2.22	cps
Strontium	88-1	590	580	640	603	5.33	cps
Sulfur	34-1	677024	678349	681909	679094	0.37	cps
Terbium	159-1	31490926	32676173	31163708	31776936	2.50	cps
Terbium	159-2	10660537	10728932	10829592	10739687	0.79	cps
Thallium	203-1	327	383	263	324	18.50	cps
Thallium	205-1	810	647	670	709	12.46	cps
Tin	118-1	4307	4171	5798	4759	18.97	cps
Titanium	47-1	480	450	557	496	11.10	cps
Uranium	238-1	30	20	13	21	39.75	cps

LB Number :

LB133950

Operator :

Jaswal

Lab Sample ID :

PB165532BL

Instrumnet Name :

P8

Client Sample ID :

PBS532

Dilution Factor :

1

Date & Time Acquired :

2024-12-13 15:15:38

DataFile Name :

030AREF.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Vanadium	51-2	13	13	13	13	0.00	cps
Ytterbium	172-1	190	150	183	174	12.29	cps
Ytterbium	172-2	40	43	57	47	18.90	cps
Ytterbium	176-1	3480	3420	3444	3448	0.88	cps
Ytterbium	176-2	693	837	847	792	10.83	cps
Yttrium	89-1	41351220	40472547	40496319	40773362	1.23	cps
Yttrium	89-2	3152089	3137756	3126237	3138694	0.41	cps
Zinc	66-2	673	637	657	656	2.80	cps
Zirconium	90-1	1473	1530	1627	1543	5.02	cps
Zirconium	91-1	323	323	313	320	1.80	cps

LB Number : LB133950 Operator : Jaswal
Lab Sample ID : PB165532BS Instrumnet Name : P8
Client Sample ID : LCS532 Dilution Factor : 1
Date & Time Acquired : 2024-12-13 15:18:57 DataFile Name : 031AREF.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Aluminium	27-2	3914	4017	4347	4093	5.53	cps
Antimony	121-1	84798	86200	83563	84854	1.55	cps
Arsenic	75-2	937	933	993	954	3.53	cps
Barium	135-1	110577	109723	108208	109502	1.10	cps
Barium	137-1	188122	188622	185268	187337	0.97	cps
Beryllium	9-1	16007	16297	15703	16002	1.86	cps
Bismuth	209-1	19749028	18405277	20246828	19467044	4.89	cps
Bismuth	209-2	9234016	8120264	7956738	8437006	8.24	cps
Bromine	81-1	12459	12676	12412	12516	1.12	cps
Cadmium	108-1	830	883	957	890	7.15	cps
Cadmium	106-1	13907	13193	14281	13794	4.01	cps
Cadmium	111-1	20105	19481	20061	19882	1.75	cps
Calcium	43-1	87222	86374	86152	86583	0.65	cps
Calcium	44-1	1505267	1469040	1460906	1478404	1.60	cps
Carbon	12-1	4412075	4279817	4288399	4326764	1.71	cps
Carbon	12-2	26951	27135	27539	27209	1.11	cps
Chlorine	35-1	2323797	2615359	2729543	2556233	8.19	cps
Chlorine	35-2	11638	11805	12095	11846	1.95	cps
Chromium	52-2	22311	22471	22825	22536	1.17	cps
Cobalt	59-2	20268	20842	20495	20535	1.41	cps
Copper	63-2	37526	37787	38044	37786	0.69	cps
Dysprosium	156-1	40	33	20	31	32.73	cps
Dysprosium	156-2	17	3	7	9	78.08	cps
Erbium	164-1	127	143	150	140	8.58	cps
Erbium	164-2	67	57	53	59	11.79	cps
Gadolinium	160-1	197	133	207	179	22.23	cps
Gadolinium	160-2	40	30	17	29	40.51	cps
Holmium	165-1	32478347	31419926	33748524	32548932	3.58	cps
Holmium	165-2	13015446	11304864	11074930	11798413	8.99	cps
Indium	115-1	26983082	25866942	27741762	26863929	3.51	cps
Indium	115-2	3301353	2848556	2800288	2983399	9.26	cps
Iron	54-2	88026	89981	89750	89252	1.20	cps
Iron	56-2	1649075	1667266	1688201	1668181	1.17	cps
Iron	57-2	40207	40197	40340	40248	0.20	cps
Krypton	83-1	330	357	310	332	7.05	cps
Lead	206-1	35676	34967	34733	35125	1.40	cps

LB Number : LB133950 Operator : Jaswal
Lab Sample ID : PB165532BS Instrumnet Name : P8
Client Sample ID : LCS532 Dilution Factor : 1
Date & Time Acquired : 2024-12-13 15:18:57 DataFile Name : 031AREF.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Lead	207-1	30847	31311	31381	31180	0.93	cps
Lead	208-1	141541	141991	140583	141372	0.51	cps
Lithium	6-1	12417522	11266159	12639452	12107711	6.09	cps
Magnesium	24-2	339964	342976	345218	342720	0.77	cps
Manganese	55-2	4631	4557	4597	4595	0.80	cps
Molybdenum	94-1	97325	96240	94649	96071	1.40	cps
Molybdenum	95-1	118916	120003	116383	118434	1.57	cps
Molybdenum	96-1	130355	131583	127898	129945	1.44	cps
Molybdenum	97-1	72310	73232	71938	72493	0.92	cps
Molybdenum	98-1	188398	190786	186502	188562	1.14	cps
Neodymium	150-1	23	13	37	24	47.91	cps
Neodymium	150-2	3	13	0	6	124.93	cps
Nickel	60-2	6472	6288	6055	6271	3.33	cps
Phosphorus	31-2	387	377	363	376	3.12	cps
Potassium	39-2	239235	241598	243176	241336	0.82	cps
Rhodium	103-1	25324710	24131464	26231637	25229270	4.18	cps
Rhodium	103-2	11279088	9765533	9481234	10175285	9.50	cps
Scandium	45-1	20113832	19568218	20867594	20183215	3.23	cps
Scandium	45-2	454771	402102	390155	415676	8.27	cps
Selenium	82-1	3677	3534	3713	3641	2.61	cps
Selenium	77-2	50	77	63	63	21.06	cps
Selenium	78-2	267	243	197	236	15.13	cps
Silicon	28-1	1114150	1101469	1105951	1107190	0.58	cps
Silver	107-1	55836	56241	54895	55657	1.24	cps
Silver	109-1	52971	53025	53437	53144	0.48	cps
Sodium	23-2	797687	796932	800705	798441	0.25	cps
Strontium	86-1	16393	15896	15826	16038	1.93	cps
Strontium	88-1	136910	138000	137364	137425	0.40	cps
Sulfur	34-1	691884	697279	702329	697164	0.75	cps
Terbium	159-1	32690935	31333337	34253428	32759233	4.46	cps
Terbium	159-2	12521762	11016110	10697745	11411872	8.54	cps
Thallium	203-1	41958	42991	42362	42437	1.23	cps
Thallium	205-1	100650	101973	99817	100813	1.08	cps
Tin	118-1	187617	186381	184324	186107	0.89	cps
Titanium	47-1	10094	9863	9677	9878	2.11	cps
Uranium	238-1	132566	132580	130741	131963	0.80	cps

LB Number : LB133950 Operator : Jaswal
Lab Sample ID : PB165532BS Instrumnet Name : P8
Client Sample ID : LCS532 Dilution Factor : 1
Date & Time Acquired : 2024-12-13 15:18:57 DataFile Name : 031AREF.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Vanadium	51-2	41009	42968	42433	42136	2.40	cps
Ytterbium	172-1	173	187	230	197	15.07	cps
Ytterbium	172-2	80	87	103	90	13.35	cps
Ytterbium	176-1	3954	3677	4177	3936	6.37	cps
Ytterbium	176-2	1003	710	887	867	17.04	cps
Yttrium	89-1	42586524	41074154	44473571	42711416	3.99	cps
Yttrium	89-2	3653194	3245475	3130249	3342973	8.22	cps
Zinc	66-2	9213	9250	8870	9111	2.30	cps
Zirconium	90-1	81307	81448	80140	80965	0.89	cps
Zirconium	91-1	17364	17705	17214	17428	1.44	cps

LB Number : LB133950 Operator : Jaswal
Lab Sample ID : PB165606BL Instrumnet Name : P8
Client Sample ID : PBS606 Dilution Factor : 1
Date & Time Acquired : 2024-12-13 15:22:15 DataFile Name : 032AREF.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Aluminium	27-2	100	77	97	91	13.85	cps
Antimony	121-1	87	90	87	88	2.19	cps
Arsenic	75-2	7	10	7	8	24.71	cps
Barium	135-1	157	137	103	132	20.38	cps
Barium	137-1	180	210	177	189	9.72	cps
Beryllium	9-1	270	263	273	269	1.91	cps
Bismuth	209-1	19092075	18439656	18672354	18734695	1.76	cps
Bismuth	209-2	7318799	7563398	7497758	7459985	1.70	cps
Bromine	81-1	12496	12499	12559	12518	0.29	cps
Cadmium	108-1	27	20	37	28	30.20	cps
Cadmium	106-1	12549	12189	12039	12259	2.14	cps
Cadmium	111-1	8786	8528	8408	8574	2.25	cps
Calcium	43-1	1040	953	950	981	5.20	cps
Calcium	44-1	26899	27176	26965	27013	0.54	cps
Carbon	12-1	4544053	4490961	4501508	4512174	0.62	cps
Carbon	12-2	28371	28701	28514	28529	0.58	cps
Chlorine	35-1	452802	429810	408268	430293	5.18	cps
Chlorine	35-2	1600	1587	1443	1543	5.63	cps
Chromium	52-2	2754	2630	2654	2679	2.45	cps
Cobalt	59-2	130	67	107	101	31.68	cps
Copper	63-2	3984	3851	3631	3822	4.67	cps
Dysprosium	156-1	13	23	17	18	28.64	cps
Dysprosium	156-2	0	7	13	7	99.98	cps
Erbium	164-1	130	100	130	120	14.43	cps
Erbium	164-2	30	50	50	43	26.65	cps
Gadolinium	160-1	187	197	167	183	8.33	cps
Gadolinium	160-2	43	33	60	46	29.58	cps
Holmium	165-1	31259390	31015450	30715680	30996840	0.88	cps
Holmium	165-2	10435831	10537738	10653980	10542517	1.04	cps
Indium	115-1	25755570	25672964	26184948	25871161	1.06	cps
Indium	115-2	2586488	2671822	2664998	2641103	1.80	cps
Iron	54-2	813	873	827	838	3.76	cps
Iron	56-2	11298	11068	11658	11341	2.62	cps
Iron	57-2	247	347	280	291	17.49	cps
Krypton	83-1	323	313	310	316	2.20	cps
Lead	206-1	1453	1530	1533	1506	3.01	cps

LB Number : LB133950 Operator : Jaswal
Lab Sample ID : PB165606BL Instrumnet Name : P8
Client Sample ID : PBS606 Dilution Factor : 1
Date & Time Acquired : 2024-12-13 15:22:15 DataFile Name : 032AREF.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Lead	207-1	1320	1397	1373	1363	2.88	cps
Lead	208-1	6087	6031	6054	6057	0.47	cps
Lithium	6-1	11618935	12042325	11682183	11781148	1.94	cps
Magnesium	24-2	1053	1100	1130	1094	3.53	cps
Manganese	55-2	287	267	243	266	8.17	cps
Molybdenum	94-1	787	893	857	846	6.41	cps
Molybdenum	95-1	567	553	643	588	8.26	cps
Molybdenum	96-1	643	637	597	626	4.04	cps
Molybdenum	97-1	317	260	297	291	9.87	cps
Molybdenum	98-1	743	753	770	756	1.78	cps
Neodymium	150-1	17	13	37	22	56.80	cps
Neodymium	150-2	3	0	0	1	173.21	cps
Nickel	60-2	830	850	813	831	2.21	cps
Phosphorus	31-2	117	147	153	139	14.06	cps
Potassium	39-2	18796	18582	18716	18698	0.58	cps
Rhodium	103-1	24178527	24435685	24419575	24344596	0.59	cps
Rhodium	103-2	9117771	9317093	9124790	9186551	1.23	cps
Scandium	45-1	19678587	19148398	19000501	19275829	1.85	cps
Scandium	45-2	365517	369134	375612	370088	1.38	cps
Selenium	82-1	-40	-7	10	-12	-208.45	cps
Selenium	77-2	0	0	3	1	173.21	cps
Selenium	78-2	20	17	17	18	10.81	cps
Silicon	28-1	809454	801501	813753	808236	0.77	cps
Silver	107-1	553	487	413	484	14.46	cps
Silver	109-1	387	377	290	351	15.14	cps
Sodium	23-2	83872	83312	82917	83367	0.58	cps
Strontium	86-1	577	577	600	584	2.30	cps
Strontium	88-1	667	643	627	646	3.11	cps
Sulfur	34-1	688524	691833	685975	688777	0.43	cps
Terbium	159-1	32214430	31090578	31425053	31576687	1.83	cps
Terbium	159-2	10064064	10266386	10228557	10186336	1.06	cps
Thallium	203-1	337	333	377	349	6.91	cps
Thallium	205-1	800	747	773	773	3.45	cps
Tin	118-1	4247	4765	4067	4360	8.30	cps
Titanium	47-1	440	467	507	471	7.12	cps
Uranium	238-1	27	43	30	33	26.45	cps

LB Number :

LB133950

Operator :

Jaswal

Lab Sample ID :

PB165606BL

Instrumnet Name :

P8

Client Sample ID :

PBS606

Dilution Factor :

1

Date & Time Acquired :

2024-12-13 15:22:15

DataFile Name :

032AREF.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Vanadium	51-2	23	10	10	14	53.28	cps
Ytterbium	172-1	167	123	137	142	15.60	cps
Ytterbium	172-2	97	80	57	78	25.83	cps
Ytterbium	176-1	3457	3751	3384	3531	5.50	cps
Ytterbium	176-2	610	667	677	651	5.52	cps
Yttrium	89-1	40789274	40855491	40979583	40874782	0.24	cps
Yttrium	89-2	2950185	3046584	3008730	3001833	1.62	cps
Zinc	66-2	613	603	637	618	2.77	cps
Zirconium	90-1	1733	1617	1740	1697	4.09	cps
Zirconium	91-1	340	347	270	319	13.32	cps

LB Number : LB133950 Operator : Jaswal
Lab Sample ID : PB165606BS Instrumnet Name : P8
Client Sample ID : LCS606 Dilution Factor : 1
Date & Time Acquired : 2024-12-13 15:25:35 DataFile Name : 033AREF.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Aluminium	27-2	3931	3937	4074	3981	2.03	cps
Antimony	121-1	83520	82218	81266	82335	1.37	cps
Arsenic	75-2	917	967	890	924	4.21	cps
Barium	135-1	107623	104852	105275	105917	1.41	cps
Barium	137-1	183451	181410	182294	182385	0.56	cps
Beryllium	9-1	15547	15256	15501	15435	1.01	cps
Bismuth	209-1	19161849	19144669	19479898	19262139	0.98	cps
Bismuth	209-2	8102760	8040886	8181625	8108424	0.87	cps
Bromine	81-1	11682	12372	11665	11906	3.39	cps
Cadmium	108-1	830	800	970	867	10.47	cps
Cadmium	106-1	13350	13483	13687	13507	1.26	cps
Cadmium	111-1	19298	19506	19499	19434	0.61	cps
Calcium	43-1	80661	80135	80728	80508	0.40	cps
Calcium	44-1	1404373	1385552	1368701	1386209	1.29	cps
Carbon	12-1	4416379	4403370	4280048	4366599	1.72	cps
Carbon	12-2	27890	27502	27886	27760	0.80	cps
Chlorine	35-1	2375412	2651866	2748168	2591816	7.47	cps
Chlorine	35-2	12082	12185	12479	12249	1.68	cps
Chromium	52-2	21833	21840	21870	21848	0.09	cps
Cobalt	59-2	19533	19363	19934	19610	1.49	cps
Copper	63-2	37292	35822	36587	36567	2.01	cps
Dysprosium	156-1	40	20	23	28	38.58	cps
Dysprosium	156-2	0	13	13	9	86.60	cps
Erbium	164-1	167	137	153	152	9.87	cps
Erbium	164-2	63	60	57	60	5.55	cps
Gadolinium	160-1	220	207	157	194	17.17	cps
Gadolinium	160-2	33	47	27	36	28.64	cps
Holmium	165-1	32147516	31097823	32192551	31812630	1.95	cps
Holmium	165-2	11270027	11367022	11377107	11338052	0.52	cps
Indium	115-1	26760958	25936335	27175065	26624119	2.37	cps
Indium	115-2	2867721	2821003	2866038	2851587	0.93	cps
Iron	54-2	86104	86879	86600	86528	0.45	cps
Iron	56-2	1583419	1613632	1639016	1612022	1.73	cps
Iron	57-2	38505	39408	39722	39212	1.61	cps
Krypton	83-1	363	380	273	339	16.93	cps
Lead	206-1	34860	35067	33934	34621	1.74	cps

LB Number : LB133950 Operator : Jaswal
Lab Sample ID : PB165606BS Instrumnet Name : P8
Client Sample ID : LCS606 Dilution Factor : 1
Date & Time Acquired : 2024-12-13 15:25:35 DataFile Name : 033AREF.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Lead	207-1	30108	29921	29684	29905	0.71	cps
Lead	208-1	137681	137494	137964	137713	0.17	cps
Lithium	6-1	12260467	11833614	12299374	12131152	2.13	cps
Magnesium	24-2	331281	331927	333217	332142	0.30	cps
Manganese	55-2	4671	4494	4454	4540	2.54	cps
Molybdenum	94-1	93378	92723	93153	93084	0.36	cps
Molybdenum	95-1	115777	114869	114621	115089	0.53	cps
Molybdenum	96-1	126900	124862	126140	125967	0.82	cps
Molybdenum	97-1	71245	70756	69767	70589	1.07	cps
Molybdenum	98-1	182706	182788	181714	182403	0.33	cps
Neodymium	150-1	27	13	20	20	33.35	cps
Neodymium	150-2	3	3	3	3	0.00	cps
Nickel	60-2	5978	5908	5811	5899	1.42	cps
Phosphorus	31-2	377	340	353	357	5.20	cps
Potassium	39-2	233526	233218	236003	234249	0.65	cps
Rhodium	103-1	24472702	24876158	24970560	24773140	1.07	cps
Rhodium	103-2	9849809	9773531	9642085	9755142	1.08	cps
Scandium	45-1	19662490	19447380	19925486	19678452	1.22	cps
Scandium	45-2	397093	399018	400164	398758	0.39	cps
Selenium	82-1	3507	3393	3519	3473	2.00	cps
Selenium	77-2	90	70	47	69	31.48	cps
Selenium	78-2	257	260	233	250	5.81	cps
Silicon	28-1	1104802	1092168	1098499	1098490	0.58	cps
Silver	107-1	54413	54092	53992	54166	0.41	cps
Silver	109-1	51981	51462	51519	51654	0.55	cps
Sodium	23-2	774289	773870	774650	774270	0.05	cps
Strontium	86-1	16093	15876	15629	15866	1.46	cps
Strontium	88-1	133531	133548	133023	133367	0.22	cps
Sulfur	34-1	674369	674632	681860	676954	0.63	cps
Terbium	159-1	32633834	31616115	32883122	32377690	2.07	cps
Terbium	159-2	11171606	10985854	11020672	11059377	0.89	cps
Thallium	203-1	40887	40717	40938	40847	0.28	cps
Thallium	205-1	98685	97624	96959	97756	0.89	cps
Tin	118-1	181408	181152	178785	180448	0.80	cps
Titanium	47-1	9907	9720	9143	9590	4.15	cps
Uranium	238-1	131414	129101	127129	129215	1.66	cps

LB Number :

LB133950

Operator :

Jaswal

Lab Sample ID :

PB165606BS

Instrumnet Name :

P8

Client Sample ID :

LCS606

Dilution Factor :

1

Date & Time Acquired :

2024-12-13 15:25:35

DataFile Name :

033AREF.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Vanadium	51-2	40841	41293	40945	41026	0.58	cps
Ytterbium	172-1	147	183	137	156	15.80	cps
Ytterbium	172-2	67	77	103	82	23.05	cps
Ytterbium	176-1	3791	3787	3931	3836	2.13	cps
Ytterbium	176-2	700	827	780	769	8.33	cps
Yttrium	89-1	41846341	41326036	42763062	41978480	1.73	cps
Yttrium	89-2	3235171	3193838	3171049	3200019	1.02	cps
Zinc	66-2	8169	8446	8132	8249	2.08	cps
Zirconium	90-1	80533	78518	79412	79487	1.27	cps
Zirconium	91-1	17671	17775	17304	17584	1.41	cps

LB Number : LB133950 Operator : Jaswal
Lab Sample ID : PB165563BL Instrumnet Name : P8
Client Sample ID : PBS563 Dilution Factor : 1
Date & Time Acquired : 2024-12-13 15:28:53 DataFile Name : 034AREF.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Aluminium	27-2	97	103	67	89	21.97	cps
Antimony	121-1	83	67	80	77	11.50	cps
Arsenic	75-2	0	3	0	1	173.21	cps
Barium	135-1	113	87	123	108	17.59	cps
Barium	137-1	187	147	180	171	12.52	cps
Beryllium	9-1	255	253	280	263	5.84	cps
Bismuth	209-1	18659689	17606821	19332532	18533014	4.69	cps
Bismuth	209-2	8017311	7932513	7979938	7976588	0.53	cps
Bromine	81-1	12125	12135	12249	12170	0.56	cps
Cadmium	108-1	47	30	23	33	36.07	cps
Cadmium	106-1	11348	11498	12065	11637	3.25	cps
Cadmium	111-1	7928	8031	8436	8132	3.30	cps
Calcium	43-1	847	963	910	907	6.44	cps
Calcium	44-1	26164	26117	25844	26042	0.66	cps
Carbon	12-1	4468438	4537206	4489334	4498326	0.78	cps
Carbon	12-2	28414	27696	28474	28195	1.54	cps
Chlorine	35-1	417877	397819	381047	398914	4.62	cps
Chlorine	35-2	1410	1363	1470	1415	3.78	cps
Chromium	52-2	2567	2400	2720	2562	6.25	cps
Cobalt	59-2	87	140	130	119	23.84	cps
Copper	63-2	3721	3854	3714	3763	2.10	cps
Dysprosium	156-1	20	23	30	24	20.83	cps
Dysprosium	156-2	3	0	10	4	114.60	cps
Erbium	164-1	137	140	147	141	3.61	cps
Erbium	164-2	43	60	33	46	29.58	cps
Gadolinium	160-1	163	180	127	157	17.41	cps
Gadolinium	160-2	17	10	40	22	70.88	cps
Holmium	165-1	31243426	29912605	31483384	30879805	2.74	cps
Holmium	165-2	11272872	10941713	10881846	11032143	1.91	cps
Indium	115-1	26061331	24816418	26384864	25754204	3.22	cps
Indium	115-2	2814472	2774887	2733005	2774121	1.47	cps
Iron	54-2	890	897	830	872	4.21	cps
Iron	56-2	10791	10831	10948	10856	0.75	cps
Iron	57-2	200	273	237	237	15.49	cps
Krypton	83-1	283	300	290	291	2.88	cps
Lead	206-1	1457	1493	1660	1537	7.05	cps

LB Number : LB133950 Operator : Jaswal
Lab Sample ID : PB165563BL Instrumnet Name : P8
Client Sample ID : PBS563 Dilution Factor : 1
Date & Time Acquired : 2024-12-13 15:28:53 DataFile Name : 034AREF.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Lead	207-1	1320	1263	1290	1291	2.20	cps
Lead	208-1	5801	5734	6027	5854	2.63	cps
Lithium	6-1	11675088	11509519	12216532	11800380	3.13	cps
Magnesium	24-2	1060	1120	1113	1098	3.00	cps
Manganese	55-2	233	213	240	229	6.06	cps
Molybdenum	94-1	840	793	890	841	5.75	cps
Molybdenum	95-1	483	553	553	530	7.63	cps
Molybdenum	96-1	673	577	687	646	9.30	cps
Molybdenum	97-1	257	297	277	277	7.23	cps
Molybdenum	98-1	760	737	817	771	5.34	cps
Neodymium	150-1	17	20	13	17	20.01	cps
Neodymium	150-2	7	10	0	6	91.64	cps
Nickel	60-2	723	770	820	771	6.27	cps
Phosphorus	31-2	100	167	150	139	24.98	cps
Potassium	39-2	18348	18105	18225	18226	0.67	cps
Rhodium	103-1	24097975	23172088	24511475	23927179	2.87	cps
Rhodium	103-2	9857755	9526952	9496689	9627132	2.08	cps
Scandium	45-1	19556541	18681126	19327116	19188261	2.37	cps
Scandium	45-2	399631	379264	381351	386749	2.90	cps
Selenium	82-1	-17	-23	17	-8	-275.61	cps
Selenium	77-2	3	0	0	1	173.21	cps
Selenium	78-2	13	30	7	17	72.11	cps
Silicon	28-1	802288	801067	804240	802532	0.20	cps
Silver	107-1	683	517	510	570	17.23	cps
Silver	109-1	390	430	290	370	19.49	cps
Sodium	23-2	80762	80397	81569	80909	0.74	cps
Strontium	86-1	563	607	480	550	11.71	cps
Strontium	88-1	580	653	623	619	5.96	cps
Sulfur	34-1	673217	675380	675035	674544	0.17	cps
Terbium	159-1	32376916	30463670	32379637	31740074	3.48	cps
Terbium	159-2	11041585	10879811	10681103	10867500	1.66	cps
Thallium	203-1	267	267	280	271	2.84	cps
Thallium	205-1	667	620	663	650	4.01	cps
Tin	118-1	4504	4274	4107	4295	4.64	cps
Titanium	47-1	457	437	470	454	3.69	cps
Uranium	238-1	37	10	47	31	60.93	cps

LB Number :

LB133950

Operator :

Jaswal

Lab Sample ID :

PB165563BL

Instrumnet Name :

P8

Client Sample ID :

PBS563

Dilution Factor :

1

Date & Time Acquired :

2024-12-13 15:28:53

DataFile Name :

034AREF.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Vanadium	51-2	23	7	23	18	54.11	cps
Ytterbium	172-1	150	113	160	141	17.41	cps
Ytterbium	172-2	103	67	43	71	42.53	cps
Ytterbium	176-1	3474	3340	3601	3472	3.75	cps
Ytterbium	176-2	587	640	687	638	7.85	cps
Yttrium	89-1	40959994	39588412	41594557	40714321	2.52	cps
Yttrium	89-2	3233989	3064845	3047999	3115611	3.30	cps
Zinc	66-2	607	653	583	614	5.80	cps
Zirconium	90-1	1613	1577	1713	1635	4.33	cps
Zirconium	91-1	290	337	333	320	8.14	cps

LB Number : LB133950 Operator : Jaswal
Lab Sample ID : PB165563BS Instrumnet Name : P8
Client Sample ID : LCS563 Dilution Factor : 1
Date & Time Acquired : 2024-12-13 15:32:13 DataFile Name : 035AREF.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Aluminium	27-2	4041	3957	3837	3945	2.59	cps
Antimony	121-1	86337	84921	84911	85390	0.96	cps
Arsenic	75-2	1007	1010	1040	1019	1.80	cps
Barium	135-1	108127	108652	108315	108365	0.25	cps
Barium	137-1	185086	185980	188660	186575	1.00	cps
Beryllium	9-1	16176	15755	15839	15923	1.40	cps
Bismuth	209-1	19095749	19041845	19008893	19048829	0.23	cps
Bismuth	209-2	7917690	7972625	7880632	7923649	0.58	cps
Bromine	81-1	11959	12155	11942	12019	0.99	cps
Cadmium	108-1	940	863	837	880	6.10	cps
Cadmium	106-1	13684	13630	13123	13479	2.30	cps
Cadmium	111-1	19858	20208	19502	19856	1.78	cps
Calcium	43-1	82599	82991	82907	82832	0.25	cps
Calcium	44-1	1375403	1397937	1378067	1383802	0.89	cps
Carbon	12-1	4353029	4327177	4316605	4332270	0.43	cps
Carbon	12-2	27643	27569	27690	27634	0.22	cps
Chlorine	35-1	2462350	2727238	2830143	2673244	7.10	cps
Chlorine	35-2	12305	12549	12112	12322	1.78	cps
Chromium	52-2	22514	22388	22364	22422	0.36	cps
Cobalt	59-2	20759	20772	20582	20704	0.51	cps
Copper	63-2	37519	37346	37653	37506	0.41	cps
Dysprosium	156-1	27	20	43	30	40.05	cps
Dysprosium	156-2	0	3	7	3	100.05	cps
Erbium	164-1	157	153	153	154	1.24	cps
Erbium	164-2	47	53	43	48	10.66	cps
Gadolinium	160-1	183	180	167	177	4.99	cps
Gadolinium	160-2	33	47	27	36	28.64	cps
Holmium	165-1	32379811	31803869	31495340	31893006	1.41	cps
Holmium	165-2	11175009	10891507	10812097	10959538	1.74	cps
Indium	115-1	27044386	26704015	26303972	26684124	1.39	cps
Indium	115-2	2816840	2757349	2802712	2792300	1.11	cps
Iron	54-2	90038	90846	88405	89763	1.39	cps
Iron	56-2	1654867	1672928	1669845	1665880	0.58	cps
Iron	57-2	41249	40694	40019	40654	1.52	cps
Krypton	83-1	360	260	250	290	20.97	cps
Lead	206-1	34803	34763	34990	34852	0.35	cps

LB Number : LB133950 Operator : Jaswal
Lab Sample ID : PB165563BS Instrumnet Name : P8
Client Sample ID : LCS563 Dilution Factor : 1
Date & Time Acquired : 2024-12-13 15:32:13 DataFile Name : 035AREF.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Lead	207-1	30790	30469	30255	30505	0.88	cps
Lead	208-1	141447	139869	140305	140540	0.58	cps
Lithium	6-1	11977251	11882714	11750053	11870006	0.96	cps
Magnesium	24-2	343853	336637	341402	340631	1.08	cps
Manganese	55-2	4858	4687	5014	4853	3.37	cps
Molybdenum	94-1	96129	95878	96072	96026	0.14	cps
Molybdenum	95-1	118761	116463	118221	117815	1.02	cps
Molybdenum	96-1	130113	129342	129235	129563	0.37	cps
Molybdenum	97-1	72300	72431	71081	71937	1.04	cps
Molybdenum	98-1	185044	184536	184952	184844	0.15	cps
Neodymium	150-1	23	20	37	27	33.08	cps
Neodymium	150-2	0	7	7	4	86.60	cps
Nickel	60-2	6372	6058	5928	6119	3.73	cps
Phosphorus	31-2	420	380	373	391	6.45	cps
Potassium	39-2	239354	236724	235386	237155	0.85	cps
Rhodium	103-1	25324537	24595729	24640063	24853443	1.64	cps
Rhodium	103-2	9720795	9527267	9524974	9591012	1.17	cps
Scandium	45-1	19828688	20090801	18881261	19600250	3.25	cps
Scandium	45-2	389862	384917	381635	385471	1.07	cps
Selenium	82-1	3610	3614	3757	3660	2.29	cps
Selenium	77-2	53	73	70	66	16.35	cps
Selenium	78-2	237	217	283	246	13.93	cps
Silicon	28-1	1110481	1088546	1091137	1096721	1.09	cps
Silver	107-1	56080	56940	55722	56247	1.11	cps
Silver	109-1	52249	52921	53323	52831	1.03	cps
Sodium	23-2	785008	782270	787175	784817	0.31	cps
Strontium	86-1	16260	16353	16033	16215	1.02	cps
Strontium	88-1	134908	136099	134255	135087	0.69	cps
Sulfur	34-1	683750	681434	681862	682349	0.18	cps
Terbium	159-1	32727615	32689338	32702158	32706370	0.06	cps
Terbium	159-2	10950507	10787565	10701998	10813356	1.17	cps
Thallium	203-1	42182	41717	42255	42051	0.69	cps
Thallium	205-1	100066	99555	99579	99733	0.29	cps
Tin	118-1	186080	184559	184816	185152	0.44	cps
Titanium	47-1	9763	9847	9690	9767	0.80	cps
Uranium	238-1	131654	132704	132691	132350	0.46	cps

LB Number :

LB133950

Operator :

Jaswal

Lab Sample ID :

PB165563BS

Instrumnet Name :

P8

Client Sample ID :

LCS563

Dilution Factor :

1

Date & Time Acquired :

2024-12-13 15:32:13

DataFile Name :

035AREF.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Vanadium	51-2	42062	41995	42175	42077	0.22	cps
Ytterbium	172-1	160	163	157	160	2.08	cps
Ytterbium	172-2	77	57	63	66	15.54	cps
Ytterbium	176-1	3751	3961	3751	3821	3.17	cps
Ytterbium	176-2	763	720	670	718	6.51	cps
Yttrium	89-1	42107139	41980829	41847442	41978470	0.31	cps
Yttrium	89-2	3183484	3139820	3067958	3130421	1.86	cps
Zinc	66-2	8096	8643	8513	8417	3.39	cps
Zirconium	90-1	81951	80553	82032	81512	1.02	cps
Zirconium	91-1	17454	17985	17638	17693	1.52	cps

LB Number : LB133950 Operator : Jaswal
Lab Sample ID : P5163-01 Instrumnet Name : P8
Client Sample ID : MJNKP7 Dilution Factor : 1
Date & Time Acquired : 2024-12-13 15:35:32 DataFile Name : 036AREF.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Aluminium	27-2	998809	998093	992993	996632	0.32	cps
Antimony	121-1	1646250	1632409	1671921	1650194	1.21	cps
Arsenic	75-2	78403	77626	77237	77755	0.76	cps
Barium	135-1	693847	696500	683811	691386	0.97	cps
Barium	137-1	1191668	1196742	1184792	1191067	0.50	cps
Beryllium	9-1	3850	3804	3807	3820	0.67	cps
Bismuth	209-1	19002403	18744728	19071181	18939437	0.91	cps
Bismuth	209-2	7490623	8049697	7834173	7791498	3.62	cps
Bromine	81-1	62000	65281	65894	64391	3.25	cps
Cadmium	108-1	1163	1173	1197	1178	1.45	cps
Cadmium	106-1	14668	14207	14685	14520	1.87	cps
Cadmium	111-1	18620	18510	18561	18564	0.29	cps
Calcium	43-1	1801022	1779676	1761953	1780884	1.10	cps
Calcium	44-1	29191842	28526187	28724573	28814201	1.19	cps
Carbon	12-1	7482994	7533451	7665684	7560710	1.25	cps
Carbon	12-2	49436	49496	48995	49309	0.56	cps
Chlorine	35-1	216301370	229984477	233423463	226569770	4.00	cps
Chlorine	35-2	1042215	1051316	1059617	1051049	0.83	cps
Chromium	52-2	174207	170381	169282	171290	1.51	cps
Cobalt	59-2	322326	322419	325743	323496	0.60	cps
Copper	63-2	9544488	9403347	9419506	9455780	0.82	cps
Dysprosium	156-1	50880	51636	50294	50937	1.32	cps
Dysprosium	156-2	17064	16550	16894	16836	1.56	cps
Erbium	164-1	43792	43093	43444	43443	0.80	cps
Erbium	164-2	14762	15012	14598	14791	1.41	cps
Gadolinium	160-1	46317	46805	46026	46382	0.85	cps
Gadolinium	160-2	19551	19341	19942	19611	1.55	cps
Holmium	165-1	32246419	31585736	31846774	31892976	1.04	cps
Holmium	165-2	10354020	11631498	11127981	11037833	5.83	cps
Indium	115-1	26138374	26686724	26647211	26490770	1.15	cps
Indium	115-2	2628329	2962513	2781482	2790774	5.99	cps
Iron	54-2	7676486	7653522	7589593	7639867	0.59	cps
Iron	56-2	139263641	139905271	138317691	139162201	0.57	cps
Iron	57-2	3583830	3446771	3564503	3531701	2.10	cps
Krypton	83-1	523	573	537	544	4.76	cps
Lead	206-1	6166915	6158161	6118244	6147773	0.42	cps

LB Number : LB133950 Operator : Jaswal
Lab Sample ID : P5163-01 Instrumnet Name : P8
Client Sample ID : MJNKP7 Dilution Factor : 1
Date & Time Acquired : 2024-12-13 15:35:32 DataFile Name : 036AREF.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Lead	207-1	5298338	5311351	5185538	5265076	1.31	cps
Lead	208-1	24299170	24246952	23875661	24140594	0.96	cps
Lithium	6-1	11760048	11607354	11679669	11682357	0.65	cps
Magnesium	24-2	2134908	2070204	2141331	2115481	1.86	cps
Manganese	55-2	508512	509002	505120	507544	0.42	cps
Molybdenum	94-1	156060	157251	155134	156149	0.68	cps
Molybdenum	95-1	80881	80216	79995	80364	0.57	cps
Molybdenum	96-1	104194	106635	105896	105575	1.19	cps
Molybdenum	97-1	49468	49237	49096	49267	0.38	cps
Molybdenum	98-1	127728	130268	127519	128505	1.19	cps
Neodymium	150-1	75394	76191	75923	75836	0.54	cps
Neodymium	150-2	19508	19154	19711	19457	1.45	cps
Nickel	60-2	74118	73030	74467	73871	1.01	cps
Phosphorus	31-2	4331	4541	4337	4403	2.71	cps
Potassium	39-2	473820	478260	473035	475038	0.59	cps
Rhodium	103-1	24307045	24160001	24529271	24332106	0.76	cps
Rhodium	103-2	8960036	9913449	9396994	9423493	5.06	cps
Scandium	45-1	20350429	19697745	20349699	20132624	1.87	cps
Scandium	45-2	377460	411460	396858	395259	4.32	cps
Selenium	82-1	358	364	391	371	4.77	cps
Selenium	77-2	137	113	120	123	9.75	cps
Selenium	78-2	110	107	70	96	23.23	cps
Silicon	28-1	13710412	15435793	13684830	14277012	7.03	cps
Silver	107-1	94689	92880	92507	93359	1.25	cps
Silver	109-1	89324	90427	89636	89795	0.63	cps
Sodium	23-2	7174473	6966249	7048279	7063000	1.49	cps
Strontium	86-1	1539224	1531414	1543168	1537935	0.39	cps
Strontium	88-1	13056691	13221031	13278236	13185319	0.87	cps
Sulfur	34-1	1434340	1455936	1433172	1441149	0.89	cps
Terbium	159-1	32304023	31958709	32553490	32272074	0.93	cps
Terbium	159-2	10248940	11381702	10908097	10846246	5.25	cps
Thallium	203-1	9087	9430	9484	9333	2.31	cps
Thallium	205-1	21755	22603	22653	22337	2.26	cps
Tin	118-1	529028	537843	535516	534129	0.86	cps
Titanium	47-1	2516914	2428575	2479710	2475066	1.79	cps
Uranium	238-1	190358	185281	188966	188202	1.39	cps

LB Number : LB133950 Operator : Jaswal
Lab Sample ID : P5163-01 Instrumnet Name : P8
Client Sample ID : MJNKP7 Dilution Factor : 1
Date & Time Acquired : 2024-12-13 15:35:32 DataFile Name : 036AREF.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Vanadium	51-2	191158	188461	187339	188986	1.04	cps
Ytterbium	172-1	12646	12760	12406	12604	1.43	cps
Ytterbium	172-2	5184	5044	5358	5196	3.02	cps
Ytterbium	176-1	12066	11599	11919	11861	2.01	cps
Ytterbium	176-2	4351	4271	4321	4314	0.94	cps
Yttrium	89-1	42764182	42353272	43253236	42790230	1.05	cps
Yttrium	89-2	3061533	3327125	3223885	3204181	4.18	cps
Zinc	66-2	1305122	1294474	1301032	1300210	0.41	cps
Zirconium	90-1	303130	310435	307460	307008	1.20	cps
Zirconium	91-1	69231	69134	67746	68704	1.21	cps

LB Number : LB133950 Operator : Jaswal
Lab Sample ID : P5163-02 Instrumnet Name : P8
Client Sample ID : MJNKP7D Dilution Factor : 1
Date & Time Acquired : 2024-12-13 15:38:37 DataFile Name : 037AREF.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Aluminium	27-2	991646	999668	993933	995082	0.42	cps
Antimony	121-1	1647225	1665226	1622167	1644872	1.31	cps
Arsenic	75-2	77210	78996	77234	77813	1.32	cps
Barium	135-1	698282	698590	701091	699321	0.22	cps
Barium	137-1	1212029	1206513	1189985	1202843	0.95	cps
Beryllium	9-1	3823	3837	3775	3812	0.84	cps
Bismuth	209-1	19098681	18992573	18536519	18875924	1.58	cps
Bismuth	209-2	7867445	7901093	7998408	7922315	0.86	cps
Bromine	81-1	63520	66025	66741	65428	2.59	cps
Cadmium	108-1	1270	1247	1210	1242	2.43	cps
Cadmium	106-1	14584	14805	14534	14641	0.98	cps
Cadmium	111-1	18777	19154	18961	18964	0.99	cps
Calcium	43-1	1831855	1788199	1820438	1813497	1.25	cps
Calcium	44-1	29222279	29219925	29513135	29318446	0.58	cps
Carbon	12-1	7807846	7631713	7737120	7725560	1.15	cps
Carbon	12-2	49440	49831	49607	49626	0.40	cps
Chlorine	35-1	231356043	236774136	243181850	237104010	2.50	cps
Chlorine	35-2	1051808	1070114	1054070	1058664	0.94	cps
Chromium	52-2	170429	170743	167436	169536	1.08	cps
Cobalt	59-2	319562	324668	326622	323617	1.13	cps
Copper	63-2	9643894	9523742	9563567	9577068	0.64	cps
Dysprosium	156-1	50542	50993	50385	50640	0.62	cps
Dysprosium	156-2	16811	16414	16934	16719	1.63	cps
Erbium	164-1	43558	43384	42889	43277	0.80	cps
Erbium	164-2	14999	14725	14722	14815	1.07	cps
Gadolinium	160-1	47595	46899	46307	46933	1.37	cps
Gadolinium	160-2	19755	19621	19284	19553	1.24	cps
Holmium	165-1	32152440	30994438	31774723	31640534	1.87	cps
Holmium	165-2	11191393	11172756	11116787	11160312	0.35	cps
Indium	115-1	27140929	26884981	26133179	26719696	1.96	cps
Indium	115-2	2836730	2854509	2870372	2853870	0.59	cps
Iron	54-2	7745850	7470388	7569816	7595351	1.84	cps
Iron	56-2	139361801	139057238	137315315	138578118	0.80	cps
Iron	57-2	3446996	3592826	3498765	3512862	2.10	cps
Krypton	83-1	453	543	523	507	9.33	cps
Lead	206-1	6160089	6116061	6186745	6154298	0.58	cps

LB Number : LB133950 Operator : Jaswal
Lab Sample ID : P5163-02 Instrumnet Name : P8
Client Sample ID : MJNKP7D Dilution Factor : 1
Date & Time Acquired : 2024-12-13 15:38:37 DataFile Name : 037AREF.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Lead	207-1	5327165	5171241	5213937	5237448	1.54	cps
Lead	208-1	24424462	23920853	23945155	24096823	1.18	cps
Lithium	6-1	11843505	11700243	11422891	11655546	1.83	cps
Magnesium	24-2	2120022	2108132	2147142	2125099	0.94	cps
Manganese	55-2	509072	502707	499965	503915	0.93	cps
Molybdenum	94-1	156193	154575	155586	155451	0.53	cps
Molybdenum	95-1	82114	81286	81517	81639	0.52	cps
Molybdenum	96-1	106736	106851	104936	106174	1.01	cps
Molybdenum	97-1	50418	50097	50709	50408	0.61	cps
Molybdenum	98-1	128492	129074	130261	129275	0.70	cps
Neodymium	150-1	76238	74947	75863	75683	0.88	cps
Neodymium	150-2	19321	19150	19127	19199	0.55	cps
Nickel	60-2	71709	71043	71820	71524	0.59	cps
Phosphorus	31-2	4274	4671	4531	4492	4.48	cps
Potassium	39-2	476728	477490	477492	477237	0.09	cps
Rhodium	103-1	25239728	24495278	24705200	24813402	1.55	cps
Rhodium	103-2	9630971	9529437	9568451	9576286	0.53	cps
Scandium	45-1	20460783	20100190	20565398	20375457	1.20	cps
Scandium	45-2	400448	398843	397133	398808	0.42	cps
Selenium	82-1	441	338	341	373	15.74	cps
Selenium	77-2	87	170	137	131	31.99	cps
Selenium	78-2	90	93	147	110	28.91	cps
Silicon	28-1	14406427	14778897	13632580	14272635	4.10	cps
Silver	107-1	90622	93343	93149	92371	1.64	cps
Silver	109-1	89274	87539	88824	88545	1.02	cps
Sodium	23-2	7174280	7096463	7093036	7121260	0.65	cps
Strontium	86-1	1513294	1509434	1519807	1514178	0.35	cps
Strontium	88-1	13137309	13170084	13013337	13106910	0.63	cps
Sulfur	34-1	1429024	1445996	1411845	1428955	1.19	cps
Terbium	159-1	32803193	32257675	32021990	32360952	1.24	cps
Terbium	159-2	10928444	10909429	11000654	10946175	0.44	cps
Thallium	203-1	9257	9720	10164	9714	4.67	cps
Thallium	205-1	21758	22854	23535	22716	3.95	cps
Tin	118-1	542015	543225	530234	538492	1.33	cps
Titanium	47-1	2465708	2510492	2533400	2503200	1.38	cps
Uranium	238-1	188522	188912	187306	188247	0.45	cps

LB Number : LB133950 Operator : Jaswal
Lab Sample ID : P5163-02 Instrumnet Name : P8
Client Sample ID : MJNKP7D Dilution Factor : 1
Date & Time Acquired : 2024-12-13 15:38:37 DataFile Name : 037AREF.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Vanadium	51-2	190050	188303	185789	188047	1.14	cps
Ytterbium	172-1	12539	12523	12192	12418	1.58	cps
Ytterbium	172-2	5318	4931	5334	5194	4.39	cps
Ytterbium	176-1	11912	11392	11735	11680	2.27	cps
Ytterbium	176-2	4067	4221	4164	4151	1.87	cps
Yttrium	89-1	43423923	43235751	41951979	42870551	1.87	cps
Yttrium	89-2	3300025	3250752	3259824	3270200	0.80	cps
Zinc	66-2	1443296	1454525	1450184	1449335	0.39	cps
Zirconium	90-1	311631	316304	308772	312236	1.22	cps
Zirconium	91-1	69194	69482	69134	69270	0.27	cps

LB Number : LB133950 Operator : Jaswal
Lab Sample ID : P5163-01LX5 Instrumnet Name : P8
Client Sample ID : MJNKP7L Dilution Factor : 5
Date & Time Acquired : 2024-12-13 15:41:43 DataFile Name : 038AREF.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Aluminium	27-2	189690	186287	189356	188444	1.00	cps
Antimony	121-1	306026	307758	302916	305567	0.80	cps
Arsenic	75-2	14821	14161	14464	14482	2.28	cps
Barium	135-1	131878	135038	134850	133922	1.32	cps
Barium	137-1	230263	227624	228356	228748	0.60	cps
Beryllium	9-1	931	917	935	927	1.01	cps
Bismuth	209-1	19477025	18855057	18987628	19106570	1.71	cps
Bismuth	209-2	7905725	8544216	8759898	8403280	5.29	cps
Bromine	81-1	22986	23787	23320	23364	1.72	cps
Cadmium	108-1	187	300	227	238	24.17	cps
Cadmium	106-1	12903	12903	12676	12827	1.02	cps
Cadmium	111-1	10735	10782	10618	10712	0.79	cps
Calcium	43-1	337626	332201	334968	334932	0.81	cps
Calcium	44-1	5647631	5675712	5611792	5645045	0.57	cps
Carbon	12-1	5146198	5150748	5096732	5131226	0.58	cps
Carbon	12-2	32944	32292	31581	32272	2.11	cps
Chlorine	35-1	53779496	54282876	54682939	54248437	0.83	cps
Chlorine	35-2	228455	229671	228946	229024	0.27	cps
Chromium	52-2	33817	32694	33853	33455	1.97	cps
Cobalt	59-2	62215	60983	61582	61593	1.00	cps
Copper	63-2	1889760	1876399	1824430	1863529	1.85	cps
Dysprosium	156-1	9764	9594	9477	9611	1.50	cps
Dysprosium	156-2	3157	3127	3317	3200	3.19	cps
Erbium	164-1	8389	8436	8700	8508	1.97	cps
Erbium	164-2	2774	2777	2850	2800	1.55	cps
Gadolinium	160-1	9006	9137	9033	9059	0.76	cps
Gadolinium	160-2	3744	3711	3504	3653	3.56	cps
Holmium	165-1	31958752	31608180	31759131	31775355	0.55	cps
Holmium	165-2	11157406	12182783	12270320	11870170	5.21	cps
Indium	115-1	27063638	26470260	26964121	26832673	1.18	cps
Indium	115-2	2814090	3056503	3129166	2999920	5.50	cps
Iron	54-2	1494082	1474591	1457446	1475373	1.24	cps
Iron	56-2	26562695	26453592	26746425	26587571	0.56	cps
Iron	57-2	650571	644039	648324	647645	0.51	cps
Krypton	83-1	347	423	330	367	13.57	cps
Lead	206-1	1136555	1136448	1126002	1133002	0.54	cps

LB Number : LB133950 Operator : Jaswal
Lab Sample ID : P5163-01LX5 Instrumnet Name : P8
Client Sample ID : MJNKP7L Dilution Factor : 5
Date & Time Acquired : 2024-12-13 15:41:43 DataFile Name : 038AREF.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Lead	207-1	976979	969542	979633	975384	0.54	cps
Lead	208-1	4625537	4582370	4600466	4602791	0.47	cps
Lithium	6-1	12101733	11704333	11446460	11750842	2.81	cps
Magnesium	24-2	409557	398720	397277	401851	1.67	cps
Manganese	55-2	97691	95621	96909	96740	1.08	cps
Molybdenum	94-1	30220	29578	29785	29861	1.10	cps
Molybdenum	95-1	15899	15769	15726	15798	0.57	cps
Molybdenum	96-1	20435	20539	20418	20464	0.32	cps
Molybdenum	97-1	9453	9540	9770	9588	1.71	cps
Molybdenum	98-1	24669	25513	24839	25007	1.79	cps
Neodymium	150-1	14798	14021	14638	14486	2.83	cps
Neodymium	150-2	3767	3664	3801	3744	1.90	cps
Nickel	60-2	14437	14918	14688	14681	1.64	cps
Phosphorus	31-2	907	857	990	918	7.34	cps
Potassium	39-2	108151	106570	107761	107494	0.77	cps
Rhodium	103-1	25468592	24942650	25111330	25174191	1.07	cps
Rhodium	103-2	9800240	10340482	10824610	10321778	4.96	cps
Scandium	45-1	20212159	20021287	20534761	20256069	1.28	cps
Scandium	45-2	400287	430296	437481	422688	4.67	cps
Selenium	82-1	107	7	101	72	77.99	cps
Selenium	77-2	17	20	20	19	10.18	cps
Selenium	78-2	27	37	20	28	30.20	cps
Silicon	28-1	3446402	3093320	3189839	3243187	5.63	cps
Silver	107-1	18039	18489	18389	18306	1.29	cps
Silver	109-1	17521	16797	17318	17212	2.17	cps
Sodium	23-2	1527409	1469676	1431516	1476200	3.27	cps
Strontium	86-1	285627	285346	284968	285314	0.12	cps
Strontium	88-1	2583864	2575670	2554877	2571470	0.58	cps
Sulfur	34-1	831917	834458	828907	831761	0.33	cps
Terbium	159-1	32730243	32047268	32104730	32294080	1.17	cps
Terbium	159-2	10822256	11892023	12120367	11611548	5.97	cps
Thallium	203-1	2284	2210	2284	2259	1.87	cps
Thallium	205-1	5485	5531	5061	5359	4.83	cps
Tin	118-1	105852	106473	107161	106495	0.62	cps
Titanium	47-1	466777	467554	462935	465756	0.53	cps
Uranium	238-1	35977	36198	36215	36130	0.37	cps

LB Number : LB133950 Operator : Jaswal
Lab Sample ID : P5163-01LX5 Instrumnet Name : P8
Client Sample ID : MJNKP7L Dilution Factor : 5
Date & Time Acquired : 2024-12-13 15:41:43 DataFile Name : 038AREF.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Vanadium	51-2	35795	34525	35875	35398	2.14	cps
Ytterbium	172-1	2610	2427	2520	2519	3.64	cps
Ytterbium	172-2	990	1117	980	1029	7.40	cps
Ytterbium	176-1	5154	5338	5198	5230	1.83	cps
Ytterbium	176-2	1407	1423	1413	1415	0.59	cps
Yttrium	89-1	43534279	42806123	42961959	43100787	0.89	cps
Yttrium	89-2	3236553	3467904	3528114	3410857	4.51	cps
Zinc	66-2	250465	246736	247441	248214	0.80	cps
Zirconium	90-1	58031	57950	56578	57519	1.42	cps
Zirconium	91-1	12723	12813	12946	12827	0.88	cps

LB Number : LB133950 Operator : Jaswal
Lab Sample ID : P5163-03 Instrumnet Name : P8
Client Sample ID : MJNKP7S Dilution Factor : 1
Date & Time Acquired : 2024-12-13 15:44:53 DataFile Name : 039AREF.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Aluminium	27-2	1041914	1041282	1029259	1037485	0.69	cps
Antimony	121-1	2102168	2110078	2067571	2093272	1.08	cps
Arsenic	75-2	81128	80052	81993	81058	1.20	cps
Barium	135-1	2977423	2953831	2968190	2966481	0.40	cps
Barium	137-1	4992445	4990367	5008946	4997253	0.20	cps
Beryllium	9-1	69558	69615	69601	69591	0.04	cps
Bismuth	209-1	18757999	18589739	18508414	18618717	0.68	cps
Bismuth	209-2	7911126	7819311	7821183	7850540	0.67	cps
Bromine	81-1	59204	63017	63962	62061	4.06	cps
Cadmium	108-1	4534	4454	4738	4575	3.19	cps
Cadmium	106-1	19300	19647	19477	19475	0.89	cps
Cadmium	111-1	71565	72155	72049	71923	0.44	cps
Calcium	43-1	1781774	1785266	1768447	1778496	0.50	cps
Calcium	44-1	29320006	29210444	28643024	29057825	1.25	cps
Carbon	12-1	7473867	7592547	7658870	7575095	1.24	cps
Carbon	12-2	49005	50128	50041	49725	1.26	cps
Chlorine	35-1	243492036	256333976	261403856	253743290	3.64	cps
Chlorine	35-2	1136816	1132672	1148394	1139294	0.72	cps
Chromium	52-2	387530	384845	386389	386254	0.35	cps
Cobalt	59-2	1312377	1325491	1327944	1321937	0.63	cps
Copper	63-2	9919731	9907395	9871983	9899703	0.25	cps
Dysprosium	156-1	49572	50301	49732	49868	0.77	cps
Dysprosium	156-2	16504	16494	16500	16499	0.03	cps
Erbium	164-1	42294	43026	42845	42722	0.89	cps
Erbium	164-2	14661	14868	14575	14702	1.03	cps
Gadolinium	160-1	46718	46230	46608	46519	0.55	cps
Gadolinium	160-2	19571	19387	19377	19445	0.56	cps
Holmium	165-1	31635455	31453352	31576992	31555266	0.29	cps
Holmium	165-2	11223164	11199410	11235264	11219279	0.16	cps
Indium	115-1	27447858	26441267	26475797	26788307	2.13	cps
Indium	115-2	2836632	2870914	2832073	2846540	0.75	cps
Iron	54-2	7610972	7654949	7544523	7603481	0.73	cps
Iron	56-2	138155838	137728638	140960895	138948457	1.26	cps
Iron	57-2	3549585	3517980	3562588	3543384	0.65	cps
Krypton	83-1	490	523	577	530	8.25	cps
Lead	206-1	6089404	6231343	6147478	6156075	1.16	cps

LB Number : LB133950 Operator : Jaswal
Lab Sample ID : P5163-03 Instrumnet Name : P8
Client Sample ID : MJNKP7S Dilution Factor : 1
Date & Time Acquired : 2024-12-13 15:44:53 DataFile Name : 039AREF.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Lead	207-1	5258657	5269180	5261730	5263189	0.10	cps
Lead	208-1	24232379	24185318	23909515	24109071	0.72	cps
Lithium	6-1	11759839	11552620	11511711	11608057	1.15	cps
Magnesium	24-2	2133595	2128625	2126713	2129644	0.17	cps
Manganese	55-2	712791	720874	727711	720459	1.04	cps
Molybdenum	94-1	156904	155883	153938	155575	0.97	cps
Molybdenum	95-1	81524	81289	81457	81423	0.15	cps
Molybdenum	96-1	103300	105802	106064	105055	1.45	cps
Molybdenum	97-1	50013	49923	48608	49515	1.59	cps
Molybdenum	98-1	127594	128794	127698	128029	0.52	cps
Neodymium	150-1	74163	75323	76033	75173	1.26	cps
Neodymium	150-2	19074	19050	19054	19059	0.07	cps
Nickel	60-2	348991	349874	349359	349408	0.13	cps
Phosphorus	31-2	4467	4504	4557	4510	1.00	cps
Potassium	39-2	473615	478289	481390	477765	0.82	cps
Rhodium	103-1	24887089	24767555	24630522	24761722	0.52	cps
Rhodium	103-2	9655878	9638725	9669617	9654740	0.16	cps
Scandium	45-1	20667978	20254010	20372000	20431330	1.04	cps
Scandium	45-2	397068	399250	405849	400722	1.14	cps
Selenium	82-1	7570	7570	7423	7521	1.13	cps
Selenium	77-2	230	250	257	246	5.65	cps
Selenium	78-2	493	487	533	504	5.00	cps
Silicon	28-1	14515306	13777557	13336614	13876492	4.29	cps
Silver	107-1	363066	367477	363046	364529	0.70	cps
Silver	109-1	350051	350568	346437	349019	0.64	cps
Sodium	23-2	7182102	7333801	7206086	7240663	1.13	cps
Strontium	86-1	1558678	1560053	1540089	1552940	0.72	cps
Strontium	88-1	13278736	13356351	13048381	13227823	1.21	cps
Sulfur	34-1	1405102	1408660	1436440	1416734	1.21	cps
Terbium	159-1	32772930	32157661	31955374	32295321	1.32	cps
Terbium	159-2	11177792	10997295	10866709	11013932	1.42	cps
Thallium	203-1	207563	205742	208786	207364	0.74	cps
Thallium	205-1	497937	497482	493997	496472	0.43	cps
Tin	118-1	529178	539987	530340	533168	1.11	cps
Titanium	47-1	2551046	2512558	2511902	2525169	0.89	cps
Uranium	238-1	190628	186402	187065	188031	1.21	cps

LB Number : LB133950 Operator : Jaswal
Lab Sample ID : P5163-03 Instrumnet Name : P8
Client Sample ID : MJNKP7S Dilution Factor : 1
Date & Time Acquired : 2024-12-13 15:44:53 DataFile Name : 039AREF.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Vanadium	51-2	606516	608047	613274	609279	0.58	cps
Ytterbium	172-1	11742	12252	12319	12104	2.61	cps
Ytterbium	172-2	5188	5171	5004	5121	1.98	cps
Ytterbium	176-1	11915	11552	11405	11624	2.26	cps
Ytterbium	176-2	4031	4171	4194	4132	2.14	cps
Yttrium	89-1	43967941	43192284	43565646	43575290	0.89	cps
Yttrium	89-2	3256345	3235354	3269462	3253721	0.53	cps
Zinc	66-2	1533817	1538404	1539894	1537372	0.21	cps
Zirconium	90-1	304376	303363	309030	305590	0.99	cps
Zirconium	91-1	67620	68959	67817	68132	1.06	cps

LB Number : LB133950 Operator : Jaswal
Lab Sample ID : P5165-01 Instrumnet Name : P8
Client Sample ID : MJNKR9 Dilution Factor : 1
Date & Time Acquired : 2024-12-13 15:47:57 DataFile Name : 040AREF.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Aluminium	27-2	565243	569393	584416	573018	1.76	cps
Antimony	121-1	244697	246338	245728	245588	0.34	cps
Arsenic	75-2	19176	19380	19564	19373	1.00	cps
Barium	135-1	171298	170168	169641	170369	0.50	cps
Barium	137-1	295215	292923	293034	293724	0.44	cps
Beryllium	9-1	2800	2811	2817	2809	0.30	cps
Bismuth	209-1	19930518	18273097	18548754	18917456	4.69	cps
Bismuth	209-2	9806435	8499018	7918813	8741422	11.06	cps
Bromine	81-1	53753	56145	55241	55046	2.20	cps
Cadmium	108-1	557	420	517	498	14.12	cps
Cadmium	106-1	14067	12749	12693	13170	5.91	cps
Cadmium	111-1	12898	12064	12080	12347	3.86	cps
Calcium	43-1	501596	508881	501436	503971	0.84	cps
Calcium	44-1	8337881	8603404	8355652	8432312	1.76	cps
Carbon	12-1	6915085	6929175	6883104	6909121	0.34	cps
Carbon	12-2	44159	43414	43956	43843	0.88	cps
Chlorine	35-1	161982451	164621624	164483148	163695741	0.91	cps
Chlorine	35-2	701674	712812	719251	711245	1.25	cps
Chromium	52-2	111202	111873	112565	111880	0.61	cps
Cobalt	59-2	90499	92407	92921	91942	1.39	cps
Copper	63-2	3591444	3640582	3649374	3627133	0.86	cps
Dysprosium	156-1	42410	41896	41852	42053	0.74	cps
Dysprosium	156-2	13597	13687	13644	13643	0.33	cps
Erbium	164-1	33215	32781	32877	32957	0.69	cps
Erbium	164-2	11288	10991	11151	11144	1.33	cps
Gadolinium	160-1	38856	38769	37643	38423	1.76	cps
Gadolinium	160-2	15529	15496	16153	15726	2.35	cps
Holmium	165-1	34437822	30927880	31466925	32277543	5.86	cps
Holmium	165-2	14035449	12200774	11106553	12447592	11.89	cps
Indium	115-1	28874839	26060393	26625755	27186996	5.48	cps
Indium	115-2	3574318	3089938	2831841	3165366	11.91	cps
Iron	54-2	3102568	3198208	3185910	3162229	1.65	cps
Iron	56-2	56133031	57280276	57935586	57116297	1.60	cps
Iron	57-2	1440998	1455421	1459272	1451897	0.66	cps
Krypton	83-1	443	433	463	447	3.42	cps
Lead	206-1	2030403	2046760	2005640	2027601	1.02	cps

LB Number : LB133950 Operator : Jaswal
Lab Sample ID : P5165-01 Instrumnet Name : P8
Client Sample ID : MJNKR9 Dilution Factor : 1
Date & Time Acquired : 2024-12-13 15:47:57 DataFile Name : 040AREF.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Lead	207-1	1728026	1773559	1730010	1743865	1.48	cps
Lead	208-1	7994378	8120116	7935039	8016511	1.18	cps
Lithium	6-1	12154558	11090888	11177663	11474369	5.15	cps
Magnesium	24-2	1352481	1372925	1392517	1372641	1.46	cps
Manganese	55-2	245887	253634	251377	250299	1.59	cps
Molybdenum	94-1	80210	81021	80573	80601	0.50	cps
Molybdenum	95-1	53365	53121	54212	53566	1.07	cps
Molybdenum	96-1	65785	66906	65674	66122	1.03	cps
Molybdenum	97-1	33056	33444	33470	33323	0.70	cps
Molybdenum	98-1	83043	85129	85098	84423	1.42	cps
Neodymium	150-1	65288	65100	65211	65200	0.14	cps
Neodymium	150-2	16357	16133	16410	16300	0.90	cps
Nickel	60-2	46680	45874	47469	46674	1.71	cps
Phosphorus	31-2	3757	3911	4004	3891	3.20	cps
Potassium	39-2	299782	299139	301853	300258	0.47	cps
Rhodium	103-1	26495642	24347539	24801532	25214904	4.49	cps
Rhodium	103-2	12089222	10654132	9495202	10746185	12.09	cps
Scandium	45-1	21867974	20088247	20257365	20737862	4.74	cps
Scandium	45-2	500672	435002	403071	446248	11.15	cps
Selenium	82-1	183	316	246	249	26.80	cps
Selenium	77-2	113	97	100	103	8.54	cps
Selenium	78-2	57	87	83	76	21.76	cps
Silicon	28-1	5811634	6207851	5802722	5940736	3.89	cps
Silver	107-1	38878	38577	38173	38543	0.92	cps
Silver	109-1	36462	36111	35927	36166	0.75	cps
Sodium	23-2	6941360	6964619	7142789	7016256	1.57	cps
Strontium	86-1	346841	350817	348944	348867	0.57	cps
Strontium	88-1	3166279	3182950	3103550	3150926	1.33	cps
Sulfur	34-1	1287631	1263708	1270681	1274007	0.97	cps
Terbium	159-1	35116369	31734773	32043494	32964878	5.67	cps
Terbium	159-2	13712828	11924359	11000161	12212449	11.29	cps
Thallium	203-1	8750	8696	8716	8721	0.31	cps
Thallium	205-1	20820	21114	20667	20867	1.09	cps
Tin	118-1	148593	148124	146844	147854	0.61	cps
Titanium	47-1	1864480	1916202	1890920	1890534	1.37	cps
Uranium	238-1	165620	164689	164044	164784	0.48	cps

LB Number :

LB133950

Operator :

Jaswal

Lab Sample ID :

P5165-01

Instrumnet Name :

P8

Client Sample ID :

MJNKR9

Dilution Factor :

1

Date & Time Acquired :

2024-12-13 15:47:57

DataFile Name :

040AREF.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Vanadium	51-2	134690	137304	137287	136427	1.10	cps
Ytterbium	172-1	8506	8803	8313	8541	2.89	cps
Ytterbium	172-2	3367	3437	3357	3387	1.29	cps
Ytterbium	176-1	9600	8676	8973	9083	5.19	cps
Ytterbium	176-2	2987	2944	2814	2915	3.10	cps
Yttrium	89-1	46924981	42890678	42436882	44084180	5.60	cps
Yttrium	89-2	4064193	3530394	3219091	3604559	11.86	cps
Zinc	66-2	237686	236530	238007	237408	0.33	cps
Zirconium	90-1	140746	142483	138773	140667	1.32	cps
Zirconium	91-1	30016	31516	29925	30486	2.93	cps

LB Number : LB133950 Operator : Jaswal
Lab Sample ID : P5165-02 Instrumnet Name : P8
Client Sample ID : MJNKR9D Dilution Factor : 1
Date & Time Acquired : 2024-12-13 15:51:04 DataFile Name : 041AREF.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Aluminium	27-2	584537	590651	589130	588106	0.54	cps
Antimony	121-1	251222	250429	250358	250670	0.19	cps
Arsenic	75-2	19731	19680	19534	19648	0.52	cps
Barium	135-1	172439	170515	172568	171841	0.67	cps
Barium	137-1	297057	296605	297630	297097	0.17	cps
Beryllium	9-1	2790	2787	2817	2798	0.59	cps
Bismuth	209-1	19167536	18760813	18497352	18808567	1.80	cps
Bismuth	209-2	8062017	7547766	7678926	7762903	3.44	cps
Bromine	81-1	53348	55506	55556	54803	2.30	cps
Cadmium	108-1	463	400	510	458	12.06	cps
Cadmium	106-1	12689	12886	12112	12562	3.20	cps
Cadmium	111-1	12039	12324	11502	11955	3.49	cps
Calcium	43-1	509900	505925	507133	507653	0.40	cps
Calcium	44-1	8434423	8415467	8314003	8387964	0.77	cps
Carbon	12-1	6782761	6767018	6826213	6791997	0.45	cps
Carbon	12-2	42391	42826	42889	42702	0.63	cps
Chlorine	35-1	157413801	159914961	160684371	159337711	1.07	cps
Chlorine	35-2	685986	694841	690210	690346	0.64	cps
Chromium	52-2	115414	115700	116456	115857	0.46	cps
Cobalt	59-2	94370	92280	94531	93727	1.34	cps
Copper	63-2	3731491	3726608	3726869	3728323	0.07	cps
Dysprosium	156-1	42003	42390	42742	42378	0.87	cps
Dysprosium	156-2	14041	14034	13584	13886	1.89	cps
Erbium	164-1	33409	33729	33495	33544	0.49	cps
Erbium	164-2	11345	11699	11665	11570	1.69	cps
Gadolinium	160-1	38499	39378	38292	38723	1.49	cps
Gadolinium	160-2	15866	16674	16430	16323	2.54	cps
Holmium	165-1	32605161	31396472	31274615	31758749	2.32	cps
Holmium	165-2	11373634	10794439	10990958	11053010	2.66	cps
Indium	115-1	26560997	26611859	25634255	26269037	2.09	cps
Indium	115-2	2907407	2732774	2752382	2797521	3.42	cps
Iron	54-2	3235513	3226860	3237748	3233374	0.18	cps
Iron	56-2	58532391	58207312	58990391	58576698	0.67	cps
Iron	57-2	1491877	1515153	1473766	1493598	1.39	cps
Krypton	83-1	503	507	537	516	3.56	cps
Lead	206-1	2121204	2050343	2038667	2070071	2.16	cps

LB Number : LB133950 Operator : Jaswal
Lab Sample ID : P5165-02 Instrumnet Name : P8
Client Sample ID : MJNKR9D Dilution Factor : 1
Date & Time Acquired : 2024-12-13 15:51:04 DataFile Name : 041AREF.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Lead	207-1	1767168	1778284	1736046	1760500	1.24	cps
Lead	208-1	8275856	8117271	7996999	8130042	1.72	cps
Lithium	6-1	11527757	11129826	10950234	11202606	2.64	cps
Magnesium	24-2	1407208	1381883	1382246	1390446	1.04	cps
Manganese	55-2	254109	258413	256312	256278	0.84	cps
Molybdenum	94-1	80793	82147	81286	81409	0.84	cps
Molybdenum	95-1	54034	53643	54185	53954	0.52	cps
Molybdenum	96-1	67118	66337	66461	66639	0.63	cps
Molybdenum	97-1	33540	34493	33146	33727	2.05	cps
Molybdenum	98-1	85324	86222	85132	85559	0.68	cps
Neodymium	150-1	65800	67170	65167	66046	1.55	cps
Neodymium	150-2	16787	16497	16620	16635	0.88	cps
Nickel	60-2	47770	48074	48339	48061	0.59	cps
Phosphorus	31-2	3974	3791	3901	3888	2.37	cps
Potassium	39-2	304202	307273	305619	305698	0.50	cps
Rhodium	103-1	25274537	25224520	24198408	24899155	2.44	cps
Rhodium	103-2	9876938	9193891	9442746	9504525	3.64	cps
Scandium	45-1	20876843	20176805	20019364	20357671	2.24	cps
Scandium	45-2	402358	389455	384919	392244	2.31	cps
Selenium	82-1	166	199	123	163	23.43	cps
Selenium	77-2	90	50	87	76	29.38	cps
Selenium	78-2	63	60	53	59	8.65	cps
Silicon	28-1	5855184	5835169	6184519	5958291	3.29	cps
Silver	107-1	38233	38193	38313	38246	0.16	cps
Silver	109-1	35703	36408	36518	36210	1.22	cps
Sodium	23-2	6967867	6956689	6833971	6919509	1.07	cps
Strontium	86-1	354724	348266	350221	351070	0.94	cps
Strontium	88-1	3214490	3102616	3114898	3144001	1.95	cps
Sulfur	34-1	1274744	1273045	1251876	1266555	1.01	cps
Terbium	159-1	32990699	32465749	31433211	32296553	2.45	cps
Terbium	159-2	11132536	10419893	10710775	10754401	3.33	cps
Thallium	203-1	8336	8526	8756	8540	2.46	cps
Thallium	205-1	20647	20182	20306	20378	1.18	cps
Tin	118-1	148785	147454	147403	147881	0.53	cps
Titanium	47-1	1915239	1890753	1928570	1911521	1.00	cps
Uranium	238-1	163679	163737	166354	164590	0.93	cps

LB Number :

LB133950

Operator :

Jaswal

Lab Sample ID :

P5165-02

Instrumnet Name :

P8

Client Sample ID :

MJNKR9D

Dilution Factor :

1

Date & Time Acquired :

2024-12-13 15:51:04

DataFile Name :

041AREF.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Vanadium	51-2	140821	142098	140397	141105	0.63	cps
Ytterbium	172-1	8283	8613	8696	8531	2.56	cps
Ytterbium	172-2	3474	3404	3344	3407	1.91	cps
Ytterbium	176-1	9290	9020	9250	9187	1.59	cps
Ytterbium	176-2	3124	3074	2904	3034	3.80	cps
Yttrium	89-1	44287504	42460297	41904550	42884117	2.91	cps
Yttrium	89-2	3269462	3133095	3126737	3176431	2.54	cps
Zinc	66-2	242898	244287	242759	243315	0.35	cps
Zirconium	90-1	143396	144301	144096	143931	0.33	cps
Zirconium	91-1	31562	31145	32023	31577	1.39	cps

LB Number : LB133950 Operator : Jaswal
Lab Sample ID : P5165-01LX5 Instrumnet Name : P8
Client Sample ID : MJNKR9L Dilution Factor : 5
Date & Time Acquired : 2024-12-13 15:54:13 DataFile Name : 042AREF.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Aluminium	27-2	113949	110499	112554	112334	1.54	cps
Antimony	121-1	47352	47653	47606	47537	0.34	cps
Arsenic	75-2	3731	3661	4041	3811	5.31	cps
Barium	135-1	32940	33361	32803	33035	0.88	cps
Barium	137-1	57568	57328	57287	57394	0.26	cps
Beryllium	9-1	730	714	771	738	3.99	cps
Bismuth	209-1	19689593	19003909	19113886	19269129	1.91	cps
Bismuth	209-2	7999354	8004046	7920430	7974610	0.59	cps
Bromine	81-1	21143	21480	21193	21272	0.86	cps
Cadmium	108-1	77	63	107	82	27.00	cps
Cadmium	106-1	12075	12149	11702	11975	2.00	cps
Cadmium	111-1	9062	9117	8747	8975	2.23	cps
Calcium	43-1	97470	97752	97199	97474	0.28	cps
Calcium	44-1	1671227	1692332	1675982	1679847	0.66	cps
Carbon	12-1	4977945	5015517	4850172	4947878	1.75	cps
Carbon	12-2	30515	30138	30996	30550	1.41	cps
Chlorine	35-1	36796824	37133414	36688254	36872831	0.63	cps
Chlorine	35-2	158141	156768	155185	156698	0.94	cps
Chromium	52-2	23052	23796	22822	23223	2.19	cps
Cobalt	59-2	18058	17351	18082	17830	2.33	cps
Copper	63-2	695075	696818	690888	694260	0.44	cps
Dysprosium	156-1	8133	7852	8109	8031	1.94	cps
Dysprosium	156-2	2740	2737	2644	2707	2.03	cps
Erbium	164-1	6702	6518	6392	6537	2.39	cps
Erbium	164-2	2187	2237	2220	2215	1.15	cps
Gadolinium	160-1	7729	7656	7662	7682	0.53	cps
Gadolinium	160-2	2984	3117	3280	3127	4.75	cps
Holmium	165-1	31979504	32063033	31638850	31893796	0.70	cps
Holmium	165-2	11087564	11174252	11019774	11093864	0.70	cps
Indium	115-1	27346116	26589482	26818052	26917884	1.44	cps
Indium	115-2	2871792	2898173	2900273	2890079	0.55	cps
Iron	54-2	608132	599682	599130	602315	0.84	cps
Iron	56-2	11435997	11221852	11383867	11347239	0.98	cps
Iron	57-2	278536	272510	276312	275786	1.10	cps
Krypton	83-1	330	367	370	356	6.24	cps
Lead	206-1	378252	377074	373462	376263	0.66	cps

LB Number : LB133950 Operator : Jaswal
Lab Sample ID : P5165-01LX5 Instrumnet Name : P8
Client Sample ID : MJNKR9L Dilution Factor : 5
Date & Time Acquired : 2024-12-13 15:54:13 DataFile Name : 042AREF.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Lead	207-1	329759	325930	326108	327266	0.66	cps
Lead	208-1	1509669	1493605	1491010	1498094	0.67	cps
Lithium	6-1	11479367	11305786	11137410	11307521	1.51	cps
Magnesium	24-2	265007	261142	265265	263805	0.88	cps
Manganese	55-2	49505	48907	48907	49106	0.70	cps
Molybdenum	94-1	15572	15122	15088	15261	1.77	cps
Molybdenum	95-1	11121	10848	10708	10892	1.93	cps
Molybdenum	96-1	12936	12996	12706	12879	1.19	cps
Molybdenum	97-1	6645	6552	6602	6599	0.71	cps
Molybdenum	98-1	16894	17131	17418	17147	1.53	cps
Neodymium	150-1	12866	12923	12823	12871	0.39	cps
Neodymium	150-2	3240	3177	3247	3222	1.20	cps
Nickel	60-2	9500	9543	9773	9606	1.53	cps
Phosphorus	31-2	870	913	957	913	4.74	cps
Potassium	39-2	75577	76079	75020	75559	0.70	cps
Rhodium	103-1	25993700	25272191	25268663	25511518	1.64	cps
Rhodium	103-2	9909913	9898186	10010047	9939382	0.62	cps
Scandium	45-1	20425501	20487492	20518803	20477266	0.23	cps
Scandium	45-2	405994	399999	397989	401327	1.04	cps
Selenium	82-1	107	-27	73	51	136.69	cps
Selenium	77-2	13	40	10	21	77.90	cps
Selenium	78-2	7	33	33	24	62.97	cps
Silicon	28-1	1808587	1895838	3144058	2282828	32.73	cps
Silver	107-1	7575	7642	7736	7651	1.05	cps
Silver	109-1	7082	7125	7185	7131	0.73	cps
Sodium	23-2	1491251	1453152	1469854	1471419	1.30	cps
Strontium	86-1	67599	67612	65606	66939	1.72	cps
Strontium	88-1	586349	575572	573565	578495	1.19	cps
Sulfur	34-1	767944	763564	767768	766425	0.32	cps
Terbium	159-1	33074364	32490570	32216406	32593780	1.34	cps
Terbium	159-2	11018574	10912695	10854337	10928535	0.76	cps
Thallium	203-1	1997	1994	2004	1998	0.25	cps
Thallium	205-1	4934	4718	4694	4782	2.77	cps
Tin	118-1	30905	30190	30167	30421	1.38	cps
Titanium	47-1	356010	352454	347335	351933	1.24	cps
Uranium	238-1	32889	31509	31599	31999	2.41	cps

LB Number : LB133950 Operator : Jaswal
Lab Sample ID : P5165-01LX5 Instrumnet Name : P8
Client Sample ID : MJNKR9L Dilution Factor : 5
Date & Time Acquired : 2024-12-13 15:54:13 DataFile Name : 042AREF.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Vanadium	51-2	26788	26965	26815	26856	0.36	cps
Ytterbium	172-1	1703	1853	1773	1777	4.22	cps
Ytterbium	172-2	880	790	847	839	5.42	cps
Ytterbium	176-1	4764	4611	4571	4649	2.20	cps
Ytterbium	176-2	1037	1143	1133	1105	5.33	cps
Yttrium	89-1	44058318	43355831	42060118	43158089	2.35	cps
Yttrium	89-2	3358953	3334400	3238034	3310462	1.93	cps
Zinc	66-2	48091	46824	46814	47243	1.56	cps
Zirconium	90-1	27053	26452	26766	26757	1.12	cps
Zirconium	91-1	5941	5781	5611	5778	2.86	cps

LB Number : LB133950 Operator : Jaswal
Lab Sample ID : P5165-03 Instrumnet Name : P8
Client Sample ID : MJNKR9S Dilution Factor : 1
Date & Time Acquired : 2024-12-13 15:57:27 DataFile Name : 043AREF.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Aluminium	27-2	604918	601172	596234	600775	0.73	cps
Antimony	121-1	666519	662365	657699	662194	0.67	cps
Arsenic	75-2	22398	22348	22899	22548	1.35	cps
Barium	135-1	2445424	2425219	2334439	2401694	2.46	cps
Barium	137-1	4181828	4042160	4066264	4096751	1.82	cps
Beryllium	9-1	68875	68396	67650	68307	0.90	cps
Bismuth	209-1	18646183	18458106	18959386	18687892	1.36	cps
Bismuth	209-2	7786550	7995471	7913610	7898543	1.33	cps
Bromine	81-1	51009	52598	53016	52208	2.03	cps
Cadmium	108-1	3901	3991	3724	3872	3.50	cps
Cadmium	106-1	17475	17805	17918	17733	1.30	cps
Cadmium	111-1	66128	66072	65260	65820	0.74	cps
Calcium	43-1	491213	492118	487394	490241	0.51	cps
Calcium	44-1	8372802	8216543	8210493	8266613	1.11	cps
Carbon	12-1	6591307	6670498	6786106	6682637	1.47	cps
Carbon	12-2	41963	42893	42638	42498	1.13	cps
Chlorine	35-1	148375481	156205508	159387138	154656042	3.66	cps
Chlorine	35-2	683440	695299	694524	691088	0.96	cps
Chromium	52-2	323062	325517	322756	323778	0.47	cps
Cobalt	59-2	1077294	1087850	1075763	1080302	0.61	cps
Copper	63-2	3920294	4004600	3927800	3950898	1.18	cps
Dysprosium	156-1	41906	41274	40999	41393	1.12	cps
Dysprosium	156-2	13720	13634	13273	13543	1.75	cps
Erbium	164-1	32613	32089	32620	32441	0.94	cps
Erbium	164-2	10945	10961	10955	10953	0.08	cps
Gadolinium	160-1	38445	38576	37636	38219	1.33	cps
Gadolinium	160-2	15542	15860	15212	15538	2.08	cps
Holmium	165-1	31066010	31811950	31821942	31566634	1.37	cps
Holmium	165-2	11037876	11381780	11204638	11208098	1.53	cps
Indium	115-1	26429217	27138038	27307939	26958398	1.73	cps
Indium	115-2	2855880	2889435	2826838	2857385	1.10	cps
Iron	54-2	3178272	3143772	3188383	3170142	0.74	cps
Iron	56-2	57140259	56752016	56310087	56734121	0.73	cps
Iron	57-2	1458188	1432678	1453512	1448126	0.94	cps
Krypton	83-1	513	480	460	484	5.56	cps
Lead	206-1	2117950	2057260	2025870	2067027	2.26	cps

LB Number : LB133950 Operator : Jaswal
Lab Sample ID : P5165-03 Instrumnet Name : P8
Client Sample ID : MJNKR9S Dilution Factor : 1
Date & Time Acquired : 2024-12-13 15:57:27 DataFile Name : 043AREF.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Lead	207-1	1800555	1759582	1732642	1764259	1.94	cps
Lead	208-1	8224007	8081785	8022945	8109579	1.27	cps
Lithium	6-1	10877742	11226147	11008547	11037479	1.59	cps
Magnesium	24-2	1330724	1321965	1303957	1318882	1.03	cps
Manganese	55-2	459656	459227	458204	459029	0.16	cps
Molybdenum	94-1	79885	76878	76476	77746	2.40	cps
Molybdenum	95-1	52873	52392	52147	52471	0.70	cps
Molybdenum	96-1	65034	64268	64773	64692	0.60	cps
Molybdenum	97-1	32892	32435	32144	32490	1.16	cps
Molybdenum	98-1	83110	81970	82061	82380	0.77	cps
Neodymium	150-1	64749	64078	64477	64435	0.52	cps
Neodymium	150-2	16250	16290	16170	16237	0.38	cps
Nickel	60-2	317777	319818	317693	318429	0.38	cps
Phosphorus	31-2	3971	4014	4084	4023	1.42	cps
Potassium	39-2	294239	294767	293594	294200	0.20	cps
Rhodium	103-1	24432974	25078727	24896925	24802875	1.34	cps
Rhodium	103-2	9871284	9824202	9591957	9762481	1.53	cps
Scandium	45-1	20521007	21045863	20734081	20766984	1.27	cps
Scandium	45-2	396994	402570	401156	400240	0.72	cps
Selenium	82-1	7137	7367	7197	7234	1.65	cps
Selenium	77-2	233	187	217	212	11.14	cps
Selenium	78-2	473	517	540	510	6.63	cps
Silicon	28-1	5976424	5853369	7436319	6422037	13.71	cps
Silver	107-1	307790	310560	308284	308878	0.48	cps
Silver	109-1	299195	299416	299738	299450	0.09	cps
Sodium	23-2	6740463	6713474	6720209	6724715	0.21	cps
Strontium	86-1	342315	345931	342274	343507	0.61	cps
Strontium	88-1	3181632	3079053	3090651	3117112	1.80	cps
Sulfur	34-1	1266212	1263233	1244583	1258009	0.93	cps
Terbium	159-1	32589715	32873962	32585710	32683129	0.51	cps
Terbium	159-2	10811124	11150857	11052826	11004936	1.59	cps
Thallium	203-1	209273	204844	208060	207393	1.10	cps
Thallium	205-1	491615	486446	494242	490768	0.81	cps
Tin	118-1	143914	144254	146164	144777	0.84	cps
Titanium	47-1	1927886	1899129	1887528	1904848	1.09	cps
Uranium	238-1	159770	157911	159480	159054	0.63	cps

LB Number :

LB133950

Operator :

Jaswal

Lab Sample ID :

P5165-03

Instrumnet Name :

P8

Client Sample ID :

MJNKR9S

Dilution Factor :

1

Date & Time Acquired :

2024-12-13 15:57:27

DataFile Name :

043AREF.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Vanadium	51-2	538885	549285	543310	543826	0.96	cps
Ytterbium	172-1	8516	8186	7959	8220	3.41	cps
Ytterbium	172-2	3567	3460	3501	3509	1.54	cps
Ytterbium	176-1	9073	8920	8993	8995	0.85	cps
Ytterbium	176-2	2950	2860	2957	2923	1.85	cps
Yttrium	89-1	43210718	43984584	44777956	43991086	1.78	cps
Yttrium	89-2	3405397	3268597	3262870	3312288	2.44	cps
Zinc	66-2	307698	314099	307342	309713	1.23	cps
Zirconium	90-1	138261	137171	135081	136838	1.18	cps
Zirconium	91-1	30283	30533	29267	30028	2.23	cps

LB Number : LB133950 Operator : Jaswal
Lab Sample ID : CCV002 Instrumnet Name : P8
Client Sample ID : CCV002 Dilution Factor : 1
Date & Time Acquired : 2024-12-13 16:00:40 DataFile Name : 044CCV.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Aluminium	27-2	4384647	4405172	4414655	4401491	0.35	cps
Antimony	121-1	9138226	9341198	9260112	9246512	1.10	cps
Arsenic	75-2	191881	190405	191786	191357	0.43	cps
Barium	135-1	12268820	12389844	12350154	12336272	0.50	cps
Barium	137-1	20580069	21078934	20945732	20868245	1.24	cps
Beryllium	9-1	3135200	3123890	3026703	3095264	1.93	cps
Bismuth	209-1	13749164	16237623	16558331	15515039	9.91	cps
Bismuth	209-2	6784896	6812886	6858144	6818642	0.54	cps
Bromine	81-1	14087	14244	13567	13966	2.54	cps
Cadmium	108-1	182315	185756	181297	183123	1.28	cps
Cadmium	106-1	268926	276615	270757	272099	1.48	cps
Cadmium	111-1	2293187	2332441	2322270	2315966	0.88	cps
Calcium	43-1	18276543	18292131	18286796	18285156	0.04	cps
Calcium	44-1	296944802	295820069	299322116	297362329	0.60	cps
Carbon	12-1	5553816	5724456	5720467	5666246	1.72	cps
Carbon	12-2	43688	43935	43691	43772	0.32	cps
Chlorine	35-1	8719605	8200899	7629939	8183481	6.66	cps
Chlorine	35-2	27576	27079	25816	26824	3.38	cps
Chromium	52-2	2325082	2327522	2331780	2328128	0.15	cps
Cobalt	59-2	4197300	4133241	4152155	4160899	0.79	cps
Copper	63-2	33029434	32660639	32772585	32820886	0.58	cps
Dysprosium	156-1	667	653	673	664	1.53	cps
Dysprosium	156-2	193	157	240	197	21.24	cps
Erbium	164-1	633	633	637	634	0.30	cps
Erbium	164-2	210	260	210	227	12.74	cps
Gadolinium	160-1	620	597	683	633	7.08	cps
Gadolinium	160-2	240	260	263	254	4.96	cps
Holmium	165-1	25890799	30050405	30102637	28681280	8.43	cps
Holmium	165-2	10371808	10424969	10425948	10407575	0.30	cps
Indium	115-1	20078076	23358591	23428318	22288328	8.59	cps
Indium	115-2	2465168	2474979	2518933	2486360	1.15	cps
Iron	54-2	23476150	23668365	23218327	23454281	0.96	cps
Iron	56-2	429907500	432874567	426356714	429712927	0.76	cps
Iron	57-2	10829620	10766779	10779974	10792124	0.31	cps
Krypton	83-1	547	427	367	447	20.52	cps
Lead	206-1	35995638	36478471	36106692	36193600	0.70	cps

LB Number : LB133950

Operator : Jaswal

Lab Sample ID : CCV002

Instrumnet Name : P8

Client Sample ID : CCV002

Dilution Factor : 1

Date & Time Acquired : 2024-12-13 16:00:40

DataFile Name : 044CCV.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Lead	207-1	30843995	31389460	31854606	31362687	1.61	cps
Lead	208-1	141258675	143581474	145095279	143311809	1.35	cps
Lithium	6-1	8581360	10059363	9959286	9533336	8.66	cps
Magnesium	24-2	71527132	72087272	71559144	71724516	0.44	cps
Manganese	55-2	9562736	9708527	9573953	9615072	0.84	cps
Molybdenum	94-1	36873156	37594194	37279146	37248832	0.97	cps
Molybdenum	95-1	52904021	54276404	53546816	53575747	1.28	cps
Molybdenum	96-1	57735626	58729131	57824541	58096432	0.95	cps
Molybdenum	97-1	33055015	32903610	32968587	32975738	0.23	cps
Molybdenum	98-1	85001565	85763322	85311235	85358708	0.45	cps
Neodymium	150-1	1263	1293	1313	1290	1.95	cps
Neodymium	150-2	143	167	160	157	7.67	cps
Nickel	60-2	1235990	1226567	1225492	1229349	0.47	cps
Phosphorus	31-2	41185	39684	39928	40266	2.00	cps
Potassium	39-2	24350775	23970207	24658260	24326414	1.42	cps
Rhodium	103-1	17994154	21044493	20898108	19978918	8.61	cps
Rhodium	103-2	8080818	8071068	8050380	8067422	0.19	cps
Scandium	45-1	15425354	17998268	18196662	17206761	8.98	cps
Scandium	45-2	351140	356081	355926	354383	0.79	cps
Selenium	82-1	149971	151046	151413	150810	0.50	cps
Selenium	77-2	2720	2720	2724	2721	0.07	cps
Selenium	78-2	8769	9160	8783	8904	2.49	cps
Silicon	28-1	139658451	142117988	139177128	140317856	1.12	cps
Silver	107-1	11776125	12037207	11815276	11876203	1.19	cps
Silver	109-1	11113384	11140734	10928619	11060912	1.04	cps
Sodium	23-2	152598458	154911341	151690684	153066828	1.08	cps
Strontium	86-1	3531995	3524438	3480560	3512331	0.79	cps
Strontium	88-1	30018907	30496540	30074895	30196781	0.86	cps
Sulfur	34-1	1581598	1609006	1577854	1589486	1.07	cps
Terbium	159-1	25847814	30222470	30365118	28811801	8.91	cps
Terbium	159-2	10059502	10270364	10150398	10160088	1.04	cps
Thallium	203-1	9119232	9015912	9086238	9073794	0.58	cps
Thallium	205-1	21274084	21344273	21369777	21329378	0.23	cps
Tin	118-1	8026188	8153062	8068089	8082447	0.80	cps
Titanium	47-1	16669061	16727204	16790261	16728842	0.36	cps
Uranium	238-1	30229540	30827422	31001664	30686208	1.32	cps

LB Number :

LB133950

Operator :

Jaswal

Lab Sample ID :

CCV002

Instrumnet Name :

P8

Client Sample ID :

CCV002

Dilution Factor :

1

Date & Time Acquired :

2024-12-13 16:00:40

DataFile Name :

044CCV.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Vanadium	51-2	1830958	1823832	1796757	1817183	0.99	cps
Ytterbium	172-1	753	717	873	781	10.49	cps
Ytterbium	172-2	277	383	297	319	17.78	cps
Ytterbium	176-1	47077	48217	47977	47757	1.26	cps
Ytterbium	176-2	15933	16557	16414	16301	2.00	cps
Yttrium	89-1	33367066	38844874	38797457	37003132	8.51	cps
Yttrium	89-2	2921903	2919206	2875926	2905678	0.89	cps
Zinc	66-2	3298405	3368142	3345477	3337341	1.07	cps
Zirconium	90-1	19411178	19637617	19321108	19456634	0.84	cps
Zirconium	91-1	4223438	4359353	4246284	4276358	1.70	cps

LB Number : LB133950 Operator : Jaswal
Lab Sample ID : CCB002 Instrumnet Name : P8
Client Sample ID : CCB002 Dilution Factor : 1
Date & Time Acquired : 2024-12-13 16:03:21 DataFile Name : 045CCBE.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Aluminium	27-2	163	153	180	166	8.13	cps
Antimony	121-1	3084	2570	2240	2631	16.15	cps
Arsenic	75-2	17	7	10	11	45.82	cps
Barium	135-1	503	337	263	368	33.44	cps
Barium	137-1	750	547	563	620	18.21	cps
Beryllium	9-1	974	902	739	872	13.85	cps
Bismuth	209-1	19092094	19027303	18943966	19021121	0.39	cps
Bismuth	209-2	7156712	7291755	7305336	7251268	1.13	cps
Bromine	81-1	13013	13200	13143	13118	0.73	cps
Cadmium	108-1	63	40	33	46	34.58	cps
Cadmium	106-1	12182	12316	12286	12261	0.57	cps
Cadmium	111-1	8717	8776	8763	8752	0.36	cps
Calcium	43-1	2067	1660	1457	1728	17.98	cps
Calcium	44-1	42269	38833	37413	39505	6.32	cps
Carbon	12-1	5163278	5121238	5130595	5138370	0.43	cps
Carbon	12-2	32726	31333	32115	32058	2.18	cps
Chlorine	35-1	4155718	3850012	3651651	3885794	6.53	cps
Chlorine	35-2	13276	12702	12002	12660	5.04	cps
Chromium	52-2	2230	2324	2150	2235	3.88	cps
Cobalt	59-2	183	200	163	182	10.07	cps
Copper	63-2	6021	5638	5775	5811	3.34	cps
Dysprosium	156-1	10	20	10	13	43.30	cps
Dysprosium	156-2	3	0	10	4	114.60	cps
Erbium	164-1	177	137	143	152	14.08	cps
Erbium	164-2	23	47	37	36	32.93	cps
Gadolinium	160-1	193	163	203	187	11.15	cps
Gadolinium	160-2	57	20	33	37	50.62	cps
Holmium	165-1	31443806	32042739	30857374	31447973	1.88	cps
Holmium	165-2	9914636	10101421	9854973	9957010	1.29	cps
Indium	115-1	26710902	26002698	26254018	26322539	1.36	cps
Indium	115-2	2503958	2521962	2562643	2529521	1.19	cps
Iron	54-2	1060	1227	1043	1110	9.13	cps
Iron	56-2	15192	16337	15934	15821	3.67	cps
Iron	57-2	407	330	263	333	21.52	cps
Krypton	83-1	280	267	297	281	5.35	cps
Lead	206-1	4457	3984	3394	3945	13.51	cps

LB Number : LB133950 Operator : Jaswal
Lab Sample ID : CCB002 Instrumnet Name : P8
Client Sample ID : CCB002 Dilution Factor : 1
Date & Time Acquired : 2024-12-13 16:03:21 DataFile Name : 045CCBE.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Lead	207-1	3971	3377	3110	3486	12.63	cps
Lead	208-1	17742	15521	13973	15745	12.03	cps
Lithium	6-1	11064053	11112433	11234191	11136892	0.79	cps
Magnesium	24-2	1507	1700	1340	1516	11.89	cps
Manganese	55-2	420	423	347	397	10.92	cps
Molybdenum	94-1	4021	3117	2590	3243	22.31	cps
Molybdenum	95-1	5585	4044	2987	4205	31.06	cps
Molybdenum	96-1	5985	4091	3421	4499	29.56	cps
Molybdenum	97-1	3060	2300	1803	2388	26.51	cps
Molybdenum	98-1	8289	5538	4544	6124	31.68	cps
Neodymium	150-1	7	10	13	10	33.30	cps
Neodymium	150-2	0	0	3	1	173.21	cps
Nickel	60-2	740	647	763	717	8.61	cps
Phosphorus	31-2	143	140	140	141	1.37	cps
Potassium	39-2	21756	21940	21322	21673	1.46	cps
Rhodium	103-1	24422964	24767555	25113642	24768054	1.39	cps
Rhodium	103-2	8729069	8611573	8918992	8753211	1.77	cps
Scandium	45-1	18984557	19454214	19343298	19260690	1.27	cps
Scandium	45-2	342053	345759	342632	343482	0.58	cps
Selenium	82-1	-20	77	-50	2	2758.04	cps
Selenium	77-2	3	3	0	2	86.60	cps
Selenium	78-2	13	13	13	13	0.00	cps
Silicon	28-1	907806	895930	892446	898727	0.90	cps
Silver	107-1	2454	2164	1883	2167	13.16	cps
Silver	109-1	2234	5152	1687	3024	61.61	cps
Sodium	23-2	137726	135462	134469	135885	1.23	cps
Strontium	86-1	670	647	600	639	5.58	cps
Strontium	88-1	1683	1240	1297	1407	17.15	cps
Sulfur	34-1	640395	641851	645199	642482	0.38	cps
Terbium	159-1	31988937	31962026	31957350	31969438	0.05	cps
Terbium	159-2	9673381	9803639	9607832	9694951	1.03	cps
Thallium	203-1	1997	1737	1543	1759	12.93	cps
Thallium	205-1	4327	4027	3571	3975	9.59	cps
Tin	118-1	5284	5391	5158	5278	2.21	cps
Titanium	47-1	1100	940	777	939	17.22	cps
Uranium	238-1	1207	790	627	874	34.20	cps

LB Number :

LB133950

Operator :

Jaswal

Lab Sample ID :

CCB002

Instrumnet Name :

P8

Client Sample ID :

CCB002

Dilution Factor :

1

Date & Time Acquired :

2024-12-13 16:03:21

DataFile Name :

045CCBE.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Vanadium	51-2	43	33	40	39	13.09	cps
Ytterbium	172-1	140	143	123	136	7.90	cps
Ytterbium	172-2	57	57	77	63	18.23	cps
Ytterbium	176-1	3514	3527	3400	3480	2.00	cps
Ytterbium	176-2	493	493	587	524	10.28	cps
Yttrium	89-1	42320281	41169366	41755688	41748445	1.38	cps
Yttrium	89-2	2833677	2853204	2846778	2844553	0.35	cps
Zinc	66-2	847	960	917	908	6.30	cps
Zirconium	90-1	2937	2570	2307	2605	12.15	cps
Zirconium	91-1	597	480	470	516	13.66	cps

Prep Standard - Chemical Standard Summary

Order ID : P5165
Test : Metals CLP4 MS
Prepbatch ID : PB165564,
Sequence ID/Qc Batch ID: LB133950,

Standard ID :
MP82128,MP83014,MP83016,MP83032,MP83033,MP83034,MP83035,MP83036,MP83037,MP83038,MP83039,MP83041,MP83042,MP83043,MP83044,MP83046,MP83047,MP83048,MP83049,MP83050,MP83498,

Chemical ID :
M5192,M5288,M5289,M5294,M5304,M5390,M5476,M5498,M5513,M5515,M5519,M5658,M5698,M5739,M5751,M5769,M5798,M5799,M5800,M5801,M5802,M5806,M5815,M5816,M5817,M5818,M5819,M5820,M5873,M5874,M5961,M5962,M5976,M5978,M5981,M5982,M5983,M5993,M5999,M6021,M6023,M6025,M6028,M6030,M6033,M6040,M6055,M6095,M6115,M6126,W3112,

Metals STANDARD PREPARATION LOG

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
641	1:4 HCL	MP82128	09/03/2024	02/08/2025	Janvi Patel	None	None	Sarabjit Jaswal
								09/03/2024

FROM 1500.00000ml of W3112 + 500.00000ml of M6040 = Final Quantity: 2000.000 ml

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
1122	ICPMS CALIB BLANK(S0/ICB/CCB)	MP83014	11/02/2024	12/14/2024	Sarabjit Jaswal	None	None	Mohan Bera
								11/04/2024

FROM 25.00000ml of M6095 + 4925.00000ml of W3112 + 50.00000ml of M6115 = Final Quantity: 5000.000 ml

Metals STANDARD PREPARATION LOG

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
2902	S8 ICPMS	MP83016	11/02/2024	12/14/2024	Sarabjit Jaswal	None	METALS_PIPETTE_3 (A)	Mohan Bera 11/04/2024
FROM 1.00000ml of M6033 + 2.50000ml of M5288 + 2.50000ml of M5515 + 5.00000ml of M5498 + 5.00000ml of M5769 + 5.00000ml of M5806 + 79.00000ml of MP83014 = Final Quantity: 100.000 ml								

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
3947	S7(SFAM,6020,200.8)	MP83032	11/02/2024	12/14/2024	Sarabjit Jaswal	None	METALS_PIPETTE_3 (A)	Mohan Bera 11/04/2024
FROM 0.40000ml of M5513 + 1.00000ml of M5799 + 1.00000ml of M5818 + 1.00000ml of M5981 + 1.00000ml of M5983 + 1.90000ml of M6033 + 10.00000ml of M6115 + 2.00000ml of M5815 + 2.00000ml of M5817 + 2.50000ml of M5476 + 4.00000ml of M5390 + 4.90000ml of M5515 + 4.90000ml of M5519 + 5.00000ml of M6095 + 50.00000ml of M5304 + 832.80000ml of W3112 + 9.00000ml of M5698 + 9.00000ml of M5819 + 9.00000ml of M5976 + 9.00000ml of M5978 + 9.90000ml of M5498 + 9.90000ml of M5751 + 9.90000ml of M5769 + 9.90000ml of M5806 = Final Quantity: 1000.000 ml								

Metals STANDARD PREPARATION LOG

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
3948	S6(SFAM,6020,200.8)	MP83033	11/02/2024	12/14/2024	Sarabjit Jaswal	None	METALS_PIPETTE_3 (A)	Mohan Bera 11/04/2024

FROM 0.50000ml of M6095 + 1.00000ml of M6115 + 48.50000ml of W3112 + 50.00000ml of MP83032 = Final Quantity: 100.000 ml

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
3954	S4(SFAM,6020,200.8)	MP83034	11/02/2024	12/14/2024	Sarabjit Jaswal	None	METALS_PIPETTE_3 (A)	Mohan Bera 11/04/2024

FROM 0.50000ml of M6095 + 1.00000ml of M6115 + 86.00000ml of W3112 + 12.50000ml of MP83032 = Final Quantity: 100.000 ml

Metals STANDARD PREPARATION LOG

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
3949	S5(SFAM,6020,200.8)	MP83035	11/02/2024	12/14/2024	Sarabjit Jaswal	None	METALS_PIPETTE_3 (A)	Mohan Bera 11/04/2024

FROM 0.50000ml of M6095 + 1.00000ml of M6115 + 73.50000ml of W3112 + 25.00000ml of MP83032 = Final Quantity: 100.000 ml

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
3951	S3(SFAM, 6020,200.8)	MP83036	11/02/2024	12/14/2024	Sarabjit Jaswal	None	METALS_PIPETTE_3 (A)	Mohan Bera 11/04/2024

FROM 0.50000ml of M6095 + 1.00000ml of M6115 + 48.50000ml of W3112 + 10.00000ml of MP83033 = Final Quantity: 100.000 ml

Metals STANDARD PREPARATION LOG

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
3955	S2CONC(SFAM,6020,200.8)	MP83037	11/02/2024	12/14/2024	Sarabjit Jaswal	None	METALS_PIPETTE_3 (A)	Mohan Bera 11/04/2024

FROM 0.05000ml of M5698 + 0.05000ml of M5798 + 0.05000ml of M5800 + 0.05000ml of M5801 + 0.05000ml of M5961 + 0.05000ml of M5981 + 0.05000ml of M5982 + 0.05000ml of M5983 + 0.05000ml of M6023 + 0.05000ml of M6025 + 0.05000ml of M6028 + 0.05000ml of M6030 + 0.10000ml of M5658 + 0.10000ml of M5751 + 0.10000ml of M5802 + 0.10000ml of M6033 + 0.25000ml of M5515 + 0.25000ml of M5799 + 0.25000ml of M5819 + 0.25000ml of M5962 + 0.25000ml of M5976 + 0.25000ml of M5978 + 0.25000ml of M6021 + 0.50000ml of M5390 + 0.50000ml of M5818 + 1.25000ml of M5815 + 1.25000ml of M5817 + 2.50000ml of M5498 + 2.50000ml of M5519 + 2.50000ml of M5769 + 2.50000ml of M5806 + 2.50000ml of M6095 + 226.25000ml of W3112 + 5.00000ml of M6115 = Final Quantity: 250.000 ml

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
3956	S2(SFAM,6020,200.8)	MP83038	11/02/2024	12/14/2024	Sarabjit Jaswal	None	METALS_PIPETTE_3 (A)	Mohan Bera 11/04/2024

FROM 0.50000ml of M6095 + 1.00000ml of M6115 + 88.50000ml of W3112 + 0.50000ml of MP83037 = Final Quantity: 100.000 ml

Metals STANDARD PREPARATION LOG

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
3957	S1(SFAM,6020,200.8)	MP83039	11/02/2024	12/14/2024	Sarabjit Jaswal	None	METALS_PIPETTE_3 (A)	Mohan Bera 11/04/2024

FROM 0.50000ml of M6095 + 1.00000ml of M6115 + 88.50000ml of W3112 + 10.00000ml of MP83038 = Final Quantity: 100.000 ml

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
3958	ICV(SFAM)	MP83041	11/02/2024	12/13/2024	Sarabjit Jaswal	None	METALS_PIPETTE_3 (A)	Mohan Bera 11/04/2024

FROM 2.00000ml of M5294 + 98.00000ml of MP83014 = Final Quantity: 100.000 ml

Metals STANDARD PREPARATION LOG

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
3961	CCV	MP83042	11/02/2024	12/14/2024	Sarabjit Jaswal	None	METALS_PIPETTE_3 (A)	Mohan Bera 11/04/2024
FROM 0.20000ml of M5513 + 0.50000ml of M5799 + 0.50000ml of M5818 + 0.50000ml of M5981 + 0.50000ml of M5983 + 1.00000ml of M5815 + 1.00000ml of M5817 + 1.25000ml of M5476 + 10.00000ml of M6115 + 12.45000ml of M5515 + 12.45000ml of M5519 + 2.00000ml of M5390 + 24.95000ml of M5498 + 24.95000ml of M5769 + 24.95000ml of M5806 + 25.00000ml of M5304 + 4.50000ml of M5698 + 4.50000ml of M5751 + 4.50000ml of M5819 + 4.95000ml of M6033 + 5.00000ml of M5976 + 5.00000ml of M5978 + 5.00000ml of M6095 + 823.45000ml of W3112 = Final Quantity: 1000.000 ml								

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
1142	ICSA ICPMS	MP83043	11/02/2024	12/13/2024	Sarabjit Jaswal	None	METALS_PIPETTE_3 (A)	Mohan Bera 11/04/2024
FROM 10.00000ml of M5873 + 90.00000ml of MP83014 = Final Quantity: 100.000 ml								

Metals STANDARD PREPARATION LOG

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
1143	ICSAB ICPMS	MP83044	11/02/2024	12/14/2024	Sarabjit Jaswal	None	METALS_PIPETTE_3 (A)	Mohan Bera 11/04/2024

FROM 10.00000ml of M5873 + 10.00000ml of M5874 + 80.00000ml of MP83014 = Final Quantity: 100.000 ml

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
3964	CONC.LCSS SPIKE	MP83046	11/02/2024	12/14/2024	Sarabjit Jaswal	None	METALS_PIPETTE_3 (A)	Mohan Bera 11/04/2024

FROM 0.25000ml of M5698 + 0.25000ml of M5798 + 0.25000ml of M5800 + 0.25000ml of M5801 + 0.25000ml of M5961 + 0.25000ml of M5981 + 0.25000ml of M5982 + 0.25000ml of M5983 + 0.25000ml of M6023 + 0.25000ml of M6025 + 0.25000ml of M6028 + 0.25000ml of M6030 + 0.50000ml of M5289 + 0.50000ml of M5658 + 0.50000ml of M5751 + 0.50000ml of M5802 + 1.25000ml of M5192 + 1.25000ml of M5799 + 1.25000ml of M5819 + 1.25000ml of M5962 + 1.25000ml of M6021 + 12.50000ml of M5498 + 12.50000ml of M5769 + 12.50000ml of M5806 + 12.52000ml of M5519 + 156.23000ml of W3112 + 2.50000ml of M5390 + 2.50000ml of M5818 + 5.00000ml of M5515 + 5.00000ml of M6095 + 5.00000ml of M6115 + 6.25000ml of M5816 + 6.25000ml of M5820 = Final Quantity: 250.000 ml

Metals STANDARD PREPARATION LOG

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
870	ICPMS SPIKE SOL.B	MP83047	11/02/2024	12/14/2024	Sarabjit Jaswal	None	METALS_PIPETTE_3 (A)	Mohan Bera 11/04/2024

FROM 0.45000ml of M5962 + 5.00000ml of M5993 + 5.00000ml of M5999 + 39.55000ml of MP83014 = Final Quantity: 50.000 ml

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
3962	MG 10PPM FOR TUNE	MP83048	11/02/2024	12/14/2024	Sarabjit Jaswal	None	METALS_PIPETTE_3 (A)	Mohan Bera 11/04/2024

FROM 0.01000ml of M5769 + 9.99000ml of MP83014 = Final Quantity: 100.000 ml

Metals STANDARD PREPARATION LOG

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
3894	TUNE 200PPB	MP83049	11/02/2024	12/14/2024	Sarabjit Jaswal	None	METALS_PIPETTE_3 (A)	Mohan Bera 11/04/2024

FROM 2.00000ml of M6055 + 2.00000ml of MP83048 + 98.00000ml of MP83014 = Final Quantity: 100.000 ml

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
3903	ISS 3PPM	MP83050	11/02/2024	12/14/2024	Sarabjit Jaswal	None	METALS_PIPETTE_3 (A)	Mohan Bera 11/04/2024

FROM 5.00000ml of M6115 + 75.00000ml of M5739 + 30.00000ml of MP83014 = Final Quantity: 100.000 ml

Metals STANDARD PREPARATION LOG

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
169	1:1HNO3	MP83498	12/09/2024	12/28/2024	Janvi Patel	None	None	Sarabjit Jaswal
FROM 1250.00000ml of M6126 + 1250.00000ml of W3112 = Final Quantity: 2500.000 ml								
12/09/2024								

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	051722	05/17/2025	07/01/2022 / bin	06/17/2022 / jaswal	M5192

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
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.	58113 / Aluminum (Al) 10,000PPM	070622	07/06/2025	09/02/2022 / jaswal	07/12/2022 / jaswal	M5289

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
EPA	ICV-1 / ICV (ICP/ICPMS) STOCK SOLN	ICV-1014	01/01/2025	12/13/2023 / bin	04/20/2021 / bin	M5294

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Inorganic Ventures	6020CAL-1 / Calibration Standard Method 6020	S2-MEB711244	10/20/2026	08/07/2024 / jaswal	04/01/2022 / jaswal	M5304

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	57056 / Ba, 1000 PPM, 125 ml	072122	07/21/2025	08/07/2024 / jaswal	09/18/2022 / bin	M5390

CHEMICAL RECEIPT LOG BOOK

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	57138 / Sr, 10000 PPM, 125 ml	082922	08/29/2025	07/29/2024 / jaswal	03/16/2023 / jaswal	M5476

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	58120 / Ca, 10000 PPM, 500 ml	031523	03/15/2026	08/15/2023 / jaswal	03/17/2023 / bin	M5498

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	57182 / Pb, 10000 PPM, 125 ml	061522	06/15/2025	03/19/2023 / bin	03/17/2023 / bin	M5513

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	58126 / Fe, 10000 PPM, 500 ml	092122	09/21/2025	08/01/2024 / Jaswal	03/17/2023 / bin	M5515

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	57119 / Potassium (K) 10,000PPM	120822	12/08/2025	01/08/2024 / bin	03/17/2023 / bin	M5519

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

CHEMICAL RECEIPT LOG BOOK

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	58025 / Mn, 1000 PPM, 500 ml	102623	10/26/2026	04/18/2024 / jaswal	10/27/2023 / jaswal	M5698

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Inorganic Ventures	6020ISS / 6020ISS, 10 ug/ml, Bi, Ho, In, 6Li, Rh, Sc, TB, Y	T2-MEB709511	09/03/2026	08/07/2024 / jaswal	04/11/2022 / jaswal	M5739

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	071723	07/17/2026	10/01/2024 / Jaswal	08/25/2023 / jaswal	M5751

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	58112 / Mg, 10000 PPM, 500 ml	091823	09/18/2026	05/24/2024 / Jaswal	01/03/2024 / bin	M5769

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

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

CHEMICAL RECEIPT LOG BOOK

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

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

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	57051 / Sb, 1000 PPM, 125 ml	120523	12/05/2026	08/07/2024 / jaswal	01/03/2024 / jaswal	M5802

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	58111 / Na, 10000 PPM, 500 ml	122223	12/22/2026	08/01/2024 / Jaswal	01/03/2024 / jaswal	M5806

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	57115 / P, 10000 PPM, 125 ml	041723	04/17/2026	05/21/2024 / Jaswal	02/09/2024 / jaswal	M5815

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

CHEMICAL RECEIPT LOG BOOK

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

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	57014 / Si, 1000 PPM, 125 ml	122023	12/20/2026	03/06/2024 / jaswal	02/09/2024 / jaswal	M5818

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	58030 / Zinc, Zn, 500 ml, 1000 PPM	111623	11/16/2026	03/20/2024 / jaswal	02/09/2024 / jaswal	M5819

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	57015 / P, 1000 PPM, 125 ml	091123	09/11/2026	05/01/2024 / jaswal	02/09/2024 / jaswal	M5820

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
EPA	PART A / ICSA (ICPMS) STOCK SOLN	CP-MS ICSA-0803	04/30/2025	04/17/2024 / jaswal	07/14/2022 / jaswal	M5873

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
EPA	PART B / ICSB (ICPMS) STOCK SOLUTION	CP-MS ICSB-0803	04/30/2025	04/17/2024 / jaswal	07/14/2022 / jaswal	M5874

CHEMICAL RECEIPT LOG BOOK

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	57028 / Ni, 1000 PPM, 125 ml	041124	04/11/2027	07/02/2024 / Jaswal	06/11/2024 / Jaswal	M5961

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	57034 / Se, 1000 PPM, 125 ml	060624	06/06/2027	07/02/2024 / Jaswal	06/14/2024 / Jaswal	M5962

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Inorganic Ventures	CGMO1-1 / MOLYBDENUM 125mL 1000ug/mL	T2-MO720876	07/17/2027	08/07/2024 / jaswal	02/22/2024 / Jaswal	M5976

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

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	57092 / U, 1000 PPM, 125 ml	060724	06/07/2027	07/29/2024 / Jaswal	06/11/2024 / Jaswal	M5981

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	57038 / Sr, 1000 PPM, 125 ml	031524	03/15/2027	07/01/2024 / Jaswal	06/11/2024 / Jaswal	M5982

CHEMICAL RECEIPT LOG BOOK

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	57040 / Zr, 1000 PPM, 125 ml	071423	07/14/2026	07/29/2024 / Jaswal	06/11/2024 / Jaswal	M5983

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Inorganic Ventures	CLPP-SPK-4 / SOIL/WATER SPIKE SOLN 4, 125mL	V2-MEB742036	03/12/2029	10/04/2024 / Jaswal	02/22/2024 / Jaswal	M5993

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Inorganic Ventures	CLPP-SPK-1 / SOIL/WATER SPIKE SOLN 1, 125mL	T2-MEB721963	07/27/2027	09/04/2024 / Jaswal	02/22/2024 / kareem	M5999

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	57023 / V, 1000 PPM, 125 ml	062424	06/24/2027	09/28/2024 / jaswal	08/05/2024 / Jaswal	M6021

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	57081 / TI, 1000 PPM, 125 ml	0624724	06/27/2027	08/05/2024 / kareem	08/05/2024 / Jaswal	M6023

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	57082 / Pb, 1000 PPM, 125 ml	061224	11/09/2026	08/05/2024 / Jaswal	08/05/2024 / Jaswal	M6025

CHEMICAL RECEIPT LOG BOOK

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

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

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	58113 / Al, 10000 PPM, 500 ml	011623	01/16/2026	08/07/2024 / Jaswal	01/03/2024 / Jaswal	M6033

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Seidler Chemical	BA-9530-33 / Hydrochloric Acid, Instra-Analyzed (cs/6x2.5L)	24D1562005	02/08/2025	08/09/2024 / jaswal	08/01/2024 / Janvi	M6040

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Inorganic Ventures	IV-STOCK-12 / ICP-MS TUNING SOLUTION, 125mL	U2-MEB734294	06/21/2028	08/21/2024 / Jaswal	08/19/2024 / Jaswal	M6055

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)		03/17/2029	10/26/2024 / Janvi	10/21/2024 / Janvi	M6095

CHEMICAL RECEIPT LOG BOOK

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Seidler Chemical	BA-9598-34 / Nitric Acid, Instra-Analyzed (cs/4x2.5L)	24B1362001	05/04/2025	11/02/2024 / Janvi	09/29/2024 / Eman	M6115

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

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Seidler Chemical	DIW / DI Water	Daily Lab-Certified	07/03/2029	07/03/2024 / lwona	07/03/2024 / lwona	W3112

Certificate of Analysis

R: 02/22/24 M5991 M5992 M5993 M5994 M5995

P: 800-669-6799/540-585-3030

F: 540-585-3012

info@inorganicventures.com

1.0 ACCREDITATION / REGISTRATION

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



2.0 PRODUCT DESCRIPTION

Product Code: Multi Analyte Custom Grade Solution

Catalog Number: CLPP-SPK-4

Lot Number: V2-MEB742036

Matrix: 3% (v/v) HNO₃

Value / Analyte(s):

- 100 µg/mL ea:
- Antimony,
- 50 µg/mL ea:
- Cadmium, Thallium,
- 40 µg/mL ea:
- Arsenic,
- 20 µg/mL ea:
- Lead,
- 10 µg/mL ea:
- Selenium

3.0 CERTIFIED VALUES AND UNCERTAINTIES

ANALYTE	CERTIFIED VALUE	ANALYTE	CERTIFIED VALUE
Antimony, Sb	100.0 ± 0.7 µg/mL	Arsenic, As	40.00 ± 0.26 µg/mL
Cadmium, Cd	50.00 ± 0.22 µg/mL	Lead, Pb	20.00 ± 0.09 µg/mL
Selenium, Se	10.00 ± 0.04 µg/mL	Thallium, Tl	50.00 ± 0.22 µg/mL

Density: 1.016 g/mL (measured at 20 ± 4 °C)

Assay Information:

ANALYTE	METHOD	NIST SRM#	SRM LOT#
As	ICP Assay	3103a	100818
Cd	ICP Assay	3108	130116
Cd	EDTA	928	928
Cd	Calculated		See Sec. 4.2
Pb	ICP Assay	3128	101026
Pb	EDTA	928	928
Pb	Calculated		See Sec. 4.2
Sb	ICP Assay	3102a	140911
Se	ICP Assay	3149	100901
Se	Calculated		See Sec. 4.2
Tl	ICP Assay	3158	151215
Tl	Calculated		See Sec. 4.2

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of $k = 2$.

Characterization of CRM/RM by Two or More Methods

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

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

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

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

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

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

k = coverage factor = 2

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

u_{bb} = bottle to bottle homogeneity standard uncertainty

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

u_{TS} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

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

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

X_a = mean of Assay Method A with

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

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

k = coverage factor = 2

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

u_{bb} = bottle to bottle homogeneity standard uncertainty

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

u_{TS} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

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

4.1 Thermometer Calibration

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

4.2 Balance Calibration

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

4.3 Glassware Calibration

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

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

N/A

6.0 INTENDED USE

6.1 This standard is intended for the calibration of analytical instruments and validation of analytical methods as appropriate. This CRM may be used in connection with EPA Methods 6010, 6020 (all versions), Standard Methods 3120 B and USP <232> / ICH Q3D.

6.2 For products attaining traceability through Inorganic Ventures' Primary Certified Reference Materials (PCRM™) see the Limited License to Use PCRM™ in the Inorganic Ventures Terms and Conditions of Sale, <https://www.inorganicventures.com/terms-and-conditions-sale>. The Terms and Conditions contain information on the use of materials traceable to PCRM™ certified reference materials. This Limited License agreement is especially pertinent for laboratories accredited under ISO:17034.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

- Store between approximately 4° - 30° C while in sealed TCT bag.
- While stored in the sealed TCT bag, transpiration of this CRM/RM is negligible. After opening the sealed TCT bag transpiration of the CRM/RM will occur, resulting in a gradual increase in the analyte concentration(s). It is the responsibility of the user to account for this effect. When the bottle is weighed both before and after being placed in storage, the mass difference observed will be a measure of transpiration mass loss.
- After opening the sealed TCT bag, keep cap tightly sealed when not in use and store between 4° - 24° C to minimize the effects of transpiration. Use at 20° ± 4° C to minimize volumetric dilution error when using the reported density. Do not pipette from the container. Do not return removed aliquots to container.

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

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 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

- **March 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





CERTIFIED WEIGHT REPORT:

Part Number:
Lot Number:
Description:

57048
070124
Cadmium (Cd)

Solvent: 24002546 Nitric Acid

R: 815/24

Lot #

2% 40.0 Nitric Acid (mL)

Expiration Date:

070127

Recommended Storage: Ambient (20 °C)

Nominal Concentration (µg/mL):

1000

NIST Test Number:

6UTB

SE-05 Balance Uncertainty

Weight shown below was diluted to (mL): 2000.07

0.100 Flask Uncertainty

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

Compound

Lot
Number

Nominal
Conc. (µg/mL)

Purity
(%)

Uncertainty
Assay (%)

Target
Weight (g)

Actual
Weight (g)

Actual
Conc. (µg/mL)

Expanded
Uncertainty
+/- (µg/mL)

CAS#
OSHA PEL (TWA)
LD50

SDS Information

1. Cadmium nitrate tetrahydrate (Cd)

IN024 CDM09221A1

1000

99.999

0.10

36.5

5.4797

5.4804

1000.1

2.0

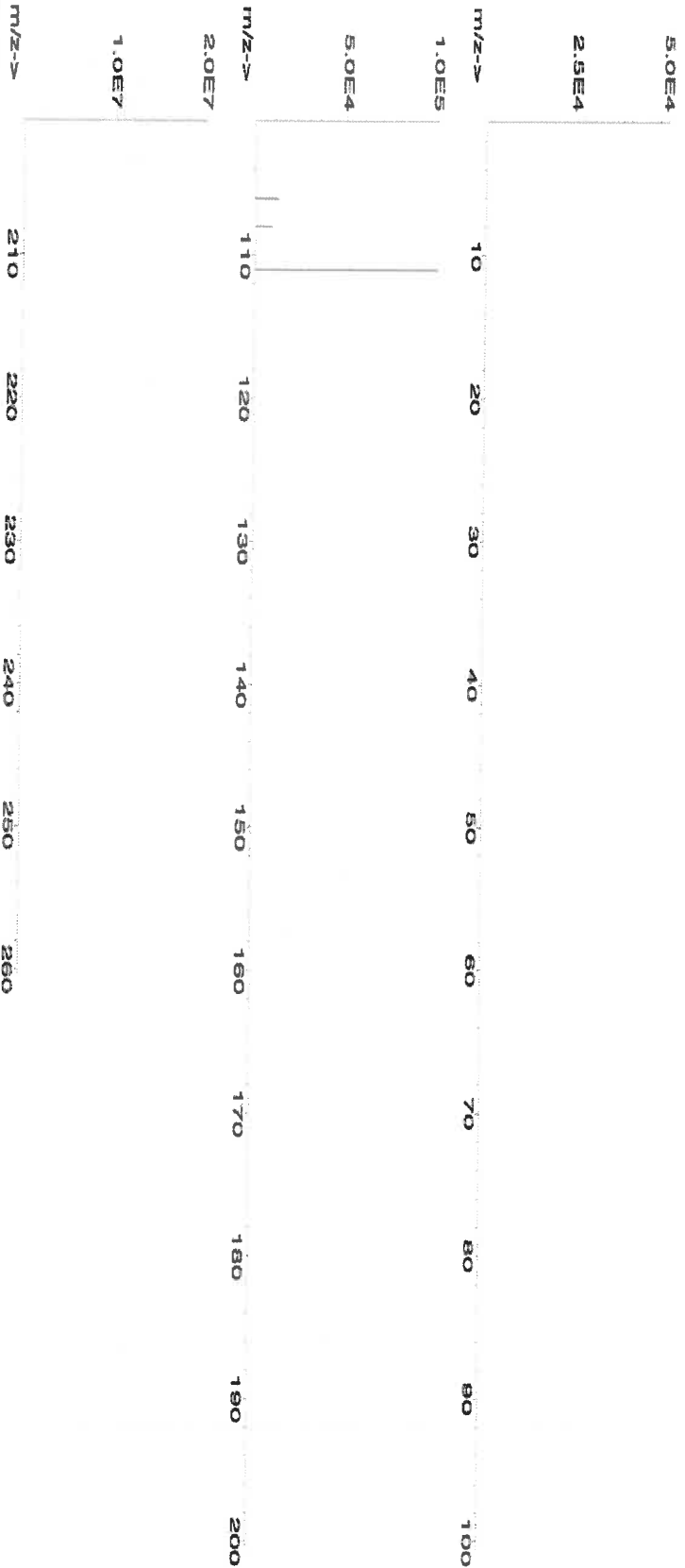
10022-68-1

0.01 mg/m3

or-rat 60.2mg/kg

3108

[T1 Spectrum No.1 [12.514 sec]:\$8148.D# [Count] [Linear]





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

282

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

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

(T) = Target analyte

Physical Characterization:

Certified by:

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

- * The certified value is the concentration calculated from gravimetric and volumetric measurements unless otherwise stated.
- * Purified acids, 18.2 megohm deionized water, calibrated Class A glassware and the highest purity raw materials are used in the preparation of all standards.
- * All standard containers are meticulously cleaned prior to use.
- * Standards are prepared gravimetrically using balances that are calibrated with weights traceable to NIST (see above).
- * Standards are certified (+/-) 0.5% of the stated value, unless otherwise stated.
- * All standards should be stored with caps tight and under appropriate laboratory conditions.
- * Uncertainty Reference: Taylor, B.N. and Kuyat, C.E., "Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Result," NIST Technical Note 1297, U.S. Government Printing Office, Washington, D.C. (1994).



Certified Reference Material CRM



CERTIFIED WEIGHT REPORT:

Part Number: **57182**
Lot Number: **110923**
Description: **Lead (Pb)**

Solvent: **24002546 Nitric Acid**
Lot #: **M6025**

Expiration Date: **110926**
Recommended Storage: **Ambient (20 °C)**
Nominal Concentration (µg/mL): **10000**
NIST Test Number: **6UTB**

2% **40.0** **Nitric Acid**
(mL)

Weight shown below was diluted to (mL):

2000.02 **5E-05** **Balance Uncertainty**
0.058 **Flask Uncertainty**

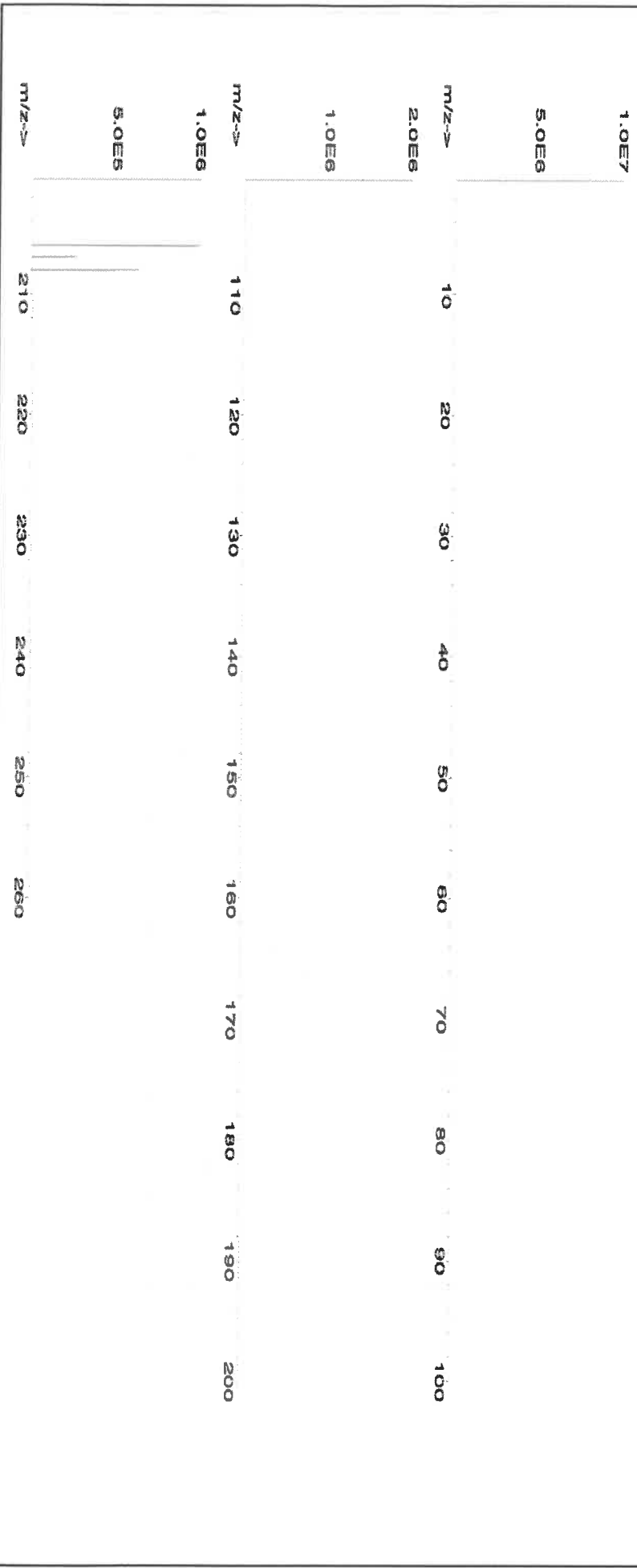
Formulated By:	Lawrence Barry
110923	
Reviewed By:	Pedro L. Rentas
110923	

Compound

RM#	Lot Number	Nominal Conc. (µg/mL)	Purity (%)	Uncertainty Purity (%)	Assay (%)	Target Weight (g)	Actual Weight (g)	Actual Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	CAS#	OSHA PEL (TWA)	LD50	NIST SRM
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1. **Lead(II) nitrate (Pb)** **IN029** **PED12016A1** **10000** **99.999** **0.10** **62.5** **32.0006** **32.0040** **10001.1** **20.0** **10099-74-8** **0.05 mg/m3** **inhalant rat 83 mg/kg** **3128**

[1] Spectrum No.1 [17.284 sec]:58182.D# [Count] [Linear]





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

284

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

Al	<0.02	Cd	<0.02	Dy	<0.02	Hf	<0.02	Li	<0.02	Ni	<0.02	Pt	<0.02	Se	<0.2	Tb	<0.02	W	<0.02
Sb	<0.02	Ca	<0.2	Er	<0.02	Ho	<0.02	Lu	<0.02	Nb	<0.02	Re	<0.02	Si	<0.02	Te	<0.02	U	<0.02
As	<0.2	Ce	<0.02	Eu	<0.02	In	<0.02	Mg	<0.01	Os	<0.02	Rh	<0.02	Ag	<0.02	Tl	<0.02	V	<0.02
Ba	<0.02	Cs	<0.02	Gd	<0.02	Ir	<0.02	Mn	<0.02	Pd	<0.02	Rb	<0.02	Na	<0.2	Th	<0.02	Yb	<0.02
Be	<0.01	Cr	<0.02	Ga	<0.02	Fe	<0.2	Hg	<0.2	P	<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

Physical Characterization:

(T)= Target analyte

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

Certified by:

- * The certified value is the concentration calculated from gravimetric and volumetric measurements unless otherwise stated.
- * Purified acids, 18.2 megohm deionized water, calibrated Class A glassware and the highest purity raw materials are used in the preparation of all standards.
- * All standard containers are meticulously cleaned prior to use.
- * Standards are prepared gravimetrically using balances that are calibrated with weights traceable to NIST (see above).
- * Standards are certified (+/-) 0.5% of the stated value, unless otherwise stated.
- * All Standards should be stored with caps tight and under appropriate laboratory conditions.
- * Uncertainty Reference: Taylor, B.N. and Kuyat, C.E., "Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Result," NIST Technical Note 1297, U.S. Government Printing Office, Washington, D.C. (1994).



CERTIFIED WEIGHT REPORT:

Part Number:
Lot Number:
Description:

57042
051722
Molybdenum (Mo)

Lot #
Solvent:

MKB08597V Ammonium hydroxide

0.5%

15.0 (mL)

Ammonium hydroxide

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

051725
Ambient (20 °C)
1000

NIST Test Number:

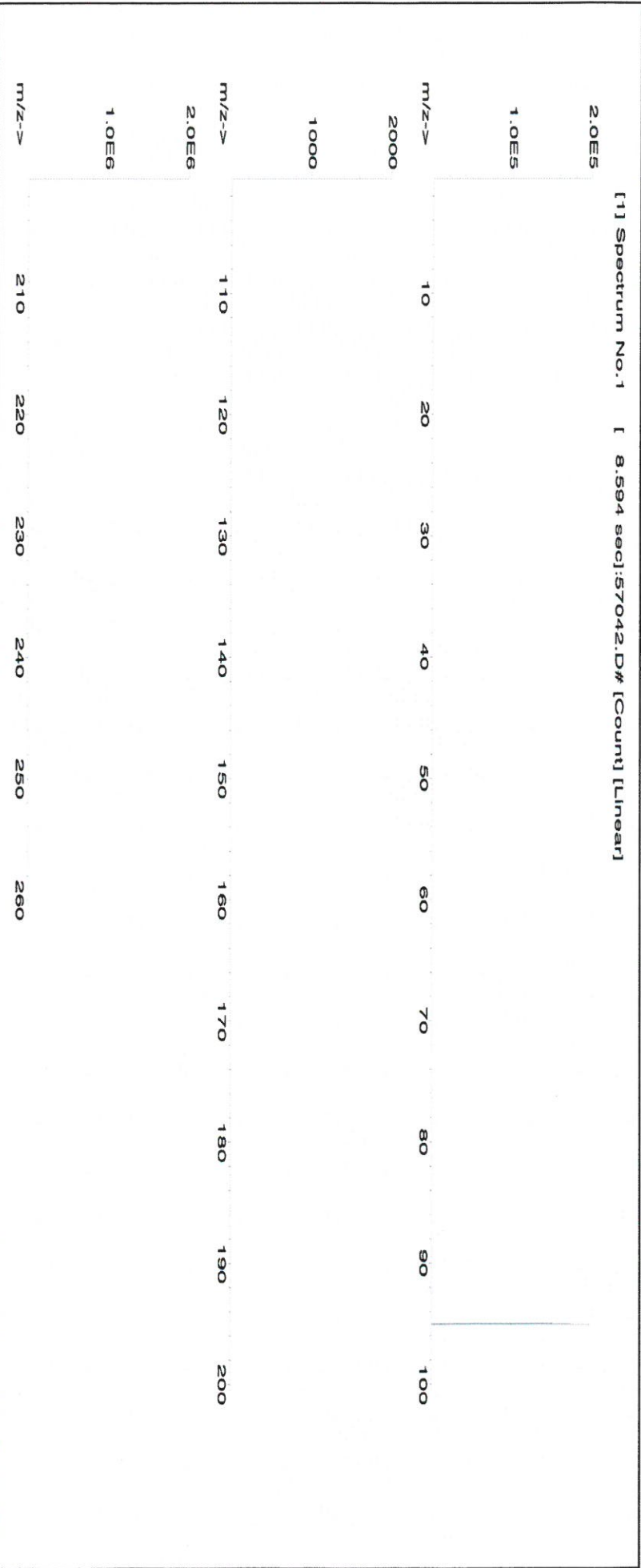
6UTB
5E-05 Balance Uncertainty
0.058 Flask Uncertainty

Formulated By:	Lawrence Barry
Reviewed By:	Pedro L. Rentas
	051722

SDS Information

Compound	Part Number	Lot Number	Dilution Factor	Initial Vol. (mL)	Uncertainty Pipette (mL)	Nominal Conc. (µg/mL)	Initial Conc. (µg/mL)	Final Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	(Solvent Safety Info. On Attached pg.)	NIST SRM
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1. Ammonium molybdate (Mo) 58142 022222 0.1000 300.0 0.084 1000 10001.0 1000.0 2.1 13106-76-8 5 mg(Mo)/m3 or-rat 333 mg/kg 3134





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

286

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

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

(T) = Target analyte

Physical Characterization:

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

Certified by:

- * The certified value is the concentration calculated from gravimetric and volumetric measurements unless otherwise stated.
- * Purified acids, 18.2 megohm deionized water, calibrated Class A glassware and the highest purity raw materials are used in the preparation of all standards.
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- * Uncertainty Reference: Taylor, B.N. and Kuyat, C.E., "Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Result," NIST Technical Note 1297, U.S. Government Printing Office, Washington, D.C. (1994).



Certified Reference Material CRM



CERTIFIED WEIGHT REPORT:

M5288 R: 07/21/2022

Part Number: 58119

Lot Number: 071122

Description: Potassium (K)

Solvent: 20510011 Nitric Acid

Lot #

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

5E-05 Balance Uncertainty

0.058 Flask Uncertainty

2% 40.0 (mL) Nitric Acid

<i>Lawrence Barry</i>	
Formulated By:	Lawrence Barry
	071122
<i>Pedro L. Rentas</i>	
Reviewed By:	Pedro L. Rentas
	071122

Compound

Lot Number

Nominal Conc. (µg/mL)

Purity (%)

Uncertainty Purity (%)

Assay (%)

Target Weight (g)

Actual Weight (g)

Actual Conc. (µg/mL)

Expanded Uncertainty +/- (µg/mL)

CAS#

OSHA PEL (TWA)

LD50

NIST SRM

SDS Information

(Solvent Safety Info. On Attached pg.)

1. Potassium nitrate (K)

IN034 KD022021A1

10000

99.999

0.10

37.6

53.1925

53.1934

10000.2

20.0

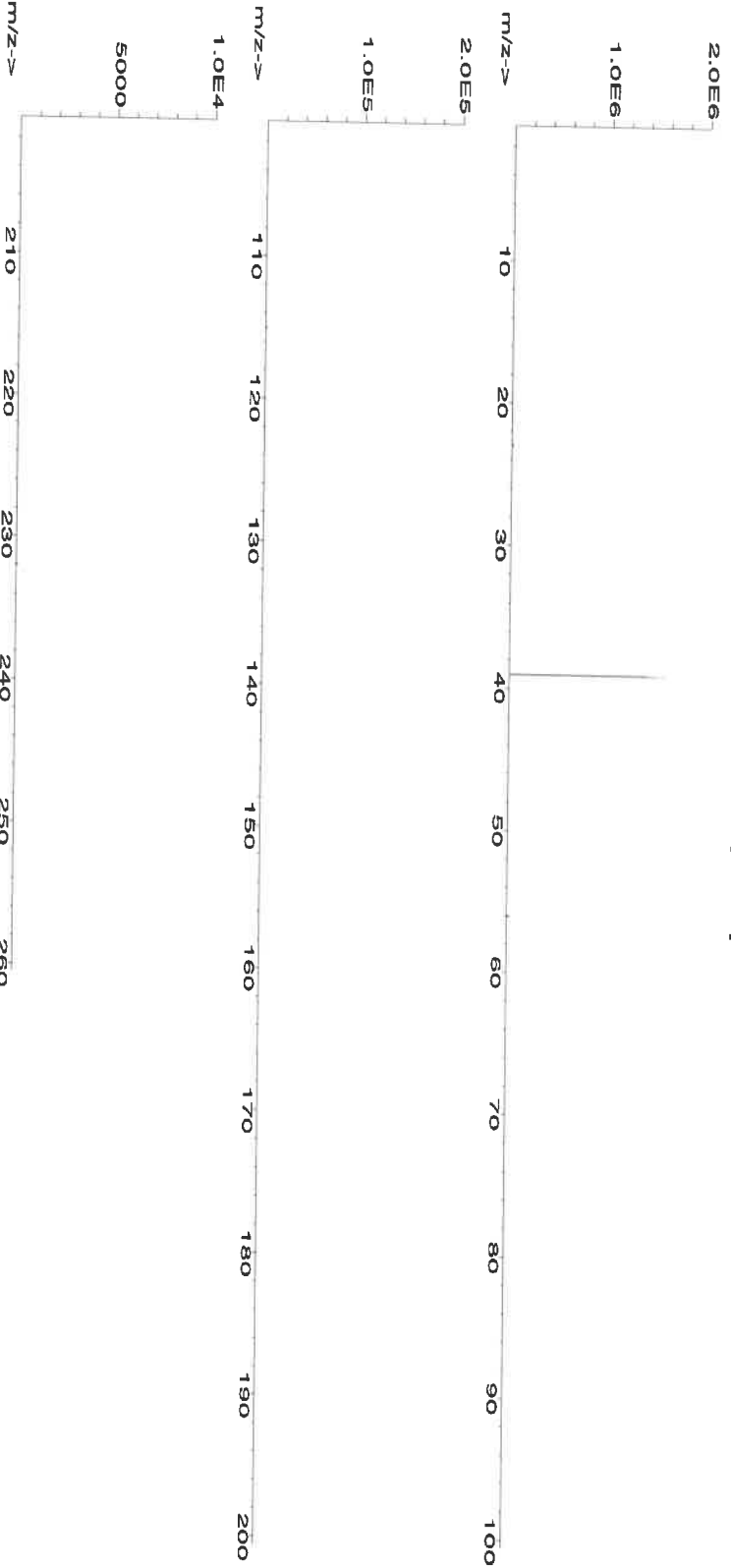
7757-79-1

5 mg/m3

oral rat 3015 mg/kg

3141a

[1] Spectrum No. 1 [35.763 sec]:58119.D# [Count] [Linear]





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

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

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

Physical Characterization:

(T) = Target analyte

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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- * 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).



M5289 R: 07/12/22
Certified Reference Material CRM

(34)



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

CERTIFIED WEIGHT REPORT:

Part Number: 58113
Lot Number: 070622
Description: Aluminum (Al)

Solvent: 20370011 Nitric Acid
Lot #

Expiration Date: 070625
Recommended Storage: Ambient (20 °C)
Nominal Concentration (µg/mL): 10000
NIST Test Number: 6UTB

2% 40.0 (mL) Nitric Acid

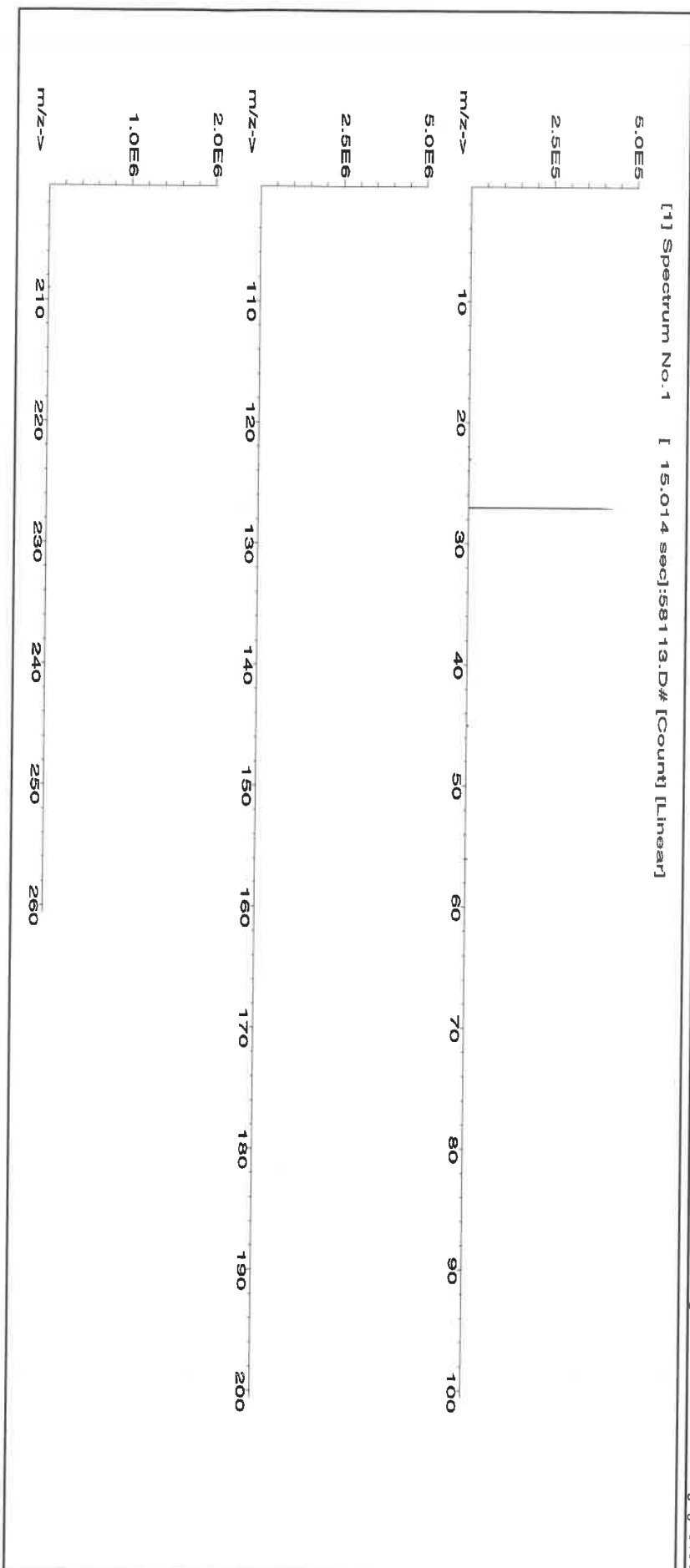
Weight shown below was diluted to (mL): 2000.02 0.058 Balance Uncertainty
5E-05 Flask Uncertainty

Formulated By:	Lawrence Barry
	070622
Reviewed By:	Pedro L. Renteria
	070622

Compound	Lot Number	Nominal Conc. (µg/mL)	Purity (%)	Uncertainty Purity (%)	Assay (%)	Target Weight (g)	Actual Weight (g)	Actual Conc. (µg/mL)	Expanded Uncertainty			CAS#	SDS Information	NIST SRM	
									+/- (µg/mL)						
													(Solvent Safety Info. On Attached pg.)		
													OSHA PEL (TWA)		
													ID50		

SDS Information

1. Aluminum nitrate nonahydrate (Al) IN022 ALD012021A1 10000 99.999 0.10 7.10 281.6956 281.6977 10000.1 20.0 7784-27-2 2 mg/m3 or-tal 3671 mg/kg 3101a





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

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

Al	T	Cd	<0.02	Dy	<0.02	Hf	<0.02	Li	<0.02	Ni	<0.02	Pt	<0.02	Se	<0.2	Tb	<0.02	W	<0.02
Sb	<0.02	Ca	<0.2	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	Ru	<0.02	Na	<0.2	Th	<0.02	Yb	<0.02
Be	<0.01	Cr	<0.02	Ga	<0.02	Fe	<0.2	Hg	<0.2	P	<0.02	Sr	<0.02	S	<0.02	Tm	<0.02	Y	<0.02
Bi	<0.02	Co	<0.02	Ge	<0.02	La	<0.02	Mo	<0.02	Pt	<0.02	Sm	<0.02	Ta	<0.02	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	Ti	<0.02	Ti	<0.02	Zr	<0.02

(T) = Target analyte

Physical Characterization:

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

Certified by:

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- * Purified acids, 18.2 megohm deionized water, calibrated Class A glassware and the highest purity raw materials are used in the preparation of all standards.
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- * Standards are prepared gravimetrically using balances that are calibrated with weights traceable to NIST (see above).
- * Standards are certified (+/-) 0.5% of the stated value, unless otherwise stated.
- * All Standards should be stored with caps tight and under appropriate laboratory conditions.
- * Uncertainty Reference: Taylor, B.N. and Kuyat, C.E., "Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Result," NIST Technical Note 1297, U.S. Government Printing Office, Washington, D.C. (1994).



R: 4/20/21

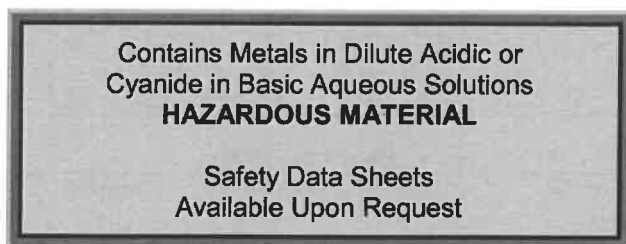
Instructions for QATS Reference Material: *Inorganic ICV Solutions*

QATS LABORATORY INORGANIC REFERENCE MATERIAL
INITIAL CALIBRATION VERIFICATION SOLUTIONS
(ICV1, ICV5, AND ICV6)

NOTE: These instructions are for advisory purposes only. If any apparent conflict exists between these instructions and the analytical protocol or your contract, disregard these instructions.

APPLICATION: For use with the CLP SFAM01.0 SOW and revisions.

CAUTION: Read instructions carefully before opening bottle(s) and proceeding with the analyses.



M5291
M5292
M5293
M5294
M5295

(A) SAMPLE DESCRIPTION

Enclosed is a set of one (1) or more Aqueous Inorganic Reference Materials containing various analyte concentrations. ICV1 and ICV5 are in a matrix of dilute nitric acid. ICV6 is in a matrix of dilute basic solution. **For the reference material source in reporting ICVs use "USEPA". For the reference material lot number for the ICV1, ICV5, and ICV6 solutions use "ICV1-1014", "ICV5-0415", and "ICV6-0400", respectively.**

(B) BREAKAGE OR MISSING ITEMS

Check the contents of the shipment carefully for any broken, leaking, or missing items. Check that the seal is intact on each bottle. Refer to the enclosed chain of custody record. Report any problems to Mr. Keith Strout, APTIM Federal Services, LLC, at (702) 895-8722. If requested, return the chain-of-custody record with appropriate annotations and signatures to the address provided below.

QUALITY ASSURANCE TECHNICAL SUPPORT LABORATORY
APTIM Federal Services, LLC
2700 Chandler Avenue - Building C
Las Vegas, NV 89120

(C) ANALYSIS OF SAMPLES

The Initial Calibration Verification Solutions (ICVs) are to be used to evaluate the accuracy of the initial calibrations of ICP, AA, and Cyanide colorimetric instruments, and are to be used with the CLP SOWs and revisions. The values for each element in the ICVs are listed below in µg/L (ppb) for the resulting solution(s) after the dilution of the concentrate(s) according to the following instructions. Use Class 'A' glassware to prepare the solution(s).

ICV1-1014 For ICP-AES analysis, use a 10-fold dilution by pipetting 10 mL of the ICV1 concentrate into a 100 mL volumetric flask and dilute to volume with 2% (v/v) nitric acid.





Instructions for QATS Reference Material: *Inorganic ICV Solutions*

- ICV1-1014** For ICP-MS analysis, use a 50-fold dilution by pipetting 2 mL of the ICV1 concentrate into a 100 mL volumetric flask and dilute to volume with 1% (v/v) nitric acid.
- ICV5-0415** For the cold vapor analysis of mercury by AA, use a 100-fold dilution by pipetting 1 mL of the ICV5 concentrate into a 100 mL volumetric flask and dilute to volume with 2% (v/v) nitric acid. The ICV5 concentrate is prepared in 0.05% (w/v) $K_2Cr_2O_7$ and 5% (v/v) nitric acid.
- ICV6-0400** For the analysis of cyanide, use a 100-fold dilution by pipetting 1 mL of the ICV6 concentrate into a 100 mL volumetric flask and dilute to volume with Type II water. Distill this solution along with the samples before analysis. The cyanide concentrate is prepared from $K_3Fe(CN)_6$, Type II water, and 0.1 % sodium hydroxide, and will decompose rapidly if exposed to light.

NOTE: USE TYPE II WATER AND HIGH-PURITY ACIDS FOR ALL DILUTIONS.

(D) CERTIFIED CONCENTRATIONS OF QATS ICV1, ICV5, AND ICV6 SOLUTIONS

ICV1-1014		
Element	Concentration (µg/L) (after 10-fold dilution)	Concentration (µg/L) (after 50-fold dilution)
Al	2500	500
Sb	1000	200
As	1000	200
Ba	520	100
Be	510	100
Cd	510	100
Ca	10000	2000
Cr	520	100
Co	520	100
Cu	510	100
Fe	10000	2000
Pb	1000	200
Mg	6000	1200
Mn	520	100
Ni	530	110
K	9900	2000
Se	1000	200
Ag	250	50
Na	10000	2000
Tl	1000	210
V	500	100
Zn	1000	200

ICV5-0415		ICV6-0400	
Element	Concentration (µg/L) (after 100-fold dilution)	Analyte	Concentration (µg/L) (after 100-fold dilution)
Hg	4.0	CN ⁻	99



Refine your results. Redefine your industry.

Certificate of Analysis

300 Technology Drive
Christiansburg, VA 24073 USA
inorganicventures.com

P: 800-669-6799/540-585-3030
F: 540-585-3012
info@inorganicventures.com

1.0 ACCREDITATION / REGISTRATION

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



2.0 PRODUCT DESCRIPTION

Product Code: Multi Analyte Custom Grade Solution
Catalog Number: 6020CAL-1
Lot Number: S2-MEB711244
Matrix: 5% (v/v) HNO₃
tr. HF
Value / Analyte(s): 20 µg/mL ea:
Silver, Aluminum,
Arsenic, Barium,
Beryllium, Calcium,
Cadmium, Cobalt,
Chromium, Copper,
Iron, Potassium,
Magnesium, Manganese,
Sodium, Nickel,
Lead, Antimony,
Selenium, Thallium,
Vanadium, Zinc

3.0 CERTIFIED VALUES AND UNCERTAINTIES

ANALYTE	CERTIFIED VALUE	ANALYTE	CERTIFIED VALUE
Aluminum, Al	20.01 ± 0.08 µg/mL	Antimony, Sb	20.01 ± 0.12 µg/mL
Arsenic, As	20.01 ± 0.18 µg/mL	Barium, Ba	20.01 ± 0.11 µg/mL
Beryllium, Be	20.01 ± 0.14 µg/mL	Cadmium, Cd	20.01 ± 0.11 µg/mL
Calcium, Ca	20.01 ± 0.10 µg/mL	Chromium, Cr	20.01 ± 0.16 µg/mL
Cobalt, Co	20.01 ± 0.11 µg/mL	Copper, Cu	20.01 ± 0.10 µg/mL
Iron, Fe	20.01 ± 0.09 µg/mL	Lead, Pb	20.01 ± 0.11 µg/mL
Magnesium, Mg	19.99 ± 0.10 µg/mL	Manganese, Mn	20.01 ± 0.10 µg/mL
Nickel, Ni	20.01 ± 0.11 µg/mL	Potassium, K	20.01 ± 0.10 µg/mL
Selenium, Se	20.02 ± 0.14 µg/mL	Silver, Ag	20.02 ± 0.09 µg/mL
Sodium, Na	20.01 ± 0.10 µg/mL	Thallium, Tl	20.01 ± 0.13 µg/mL
Vanadium, V	20.01 ± 0.11 µg/mL	Zinc, Zn	20.01 ± 0.11 µg/mL

Density: 1.026 g/mL (measured at 20 ± 4 °C)

Assay Information:

ANALYTE	METHOD	NIST SRM#	SRM LOT#
Ag	ICP Assay	3151	160729
Ag	Volhard	999c	999c
Al	ICP Assay	3101a	140903
Al	EDTA	928	928
As	ICP Assay	3103a	100818
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
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
Fe	Calculated		See Sec. 4.2
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
Pb	ICP Assay	3128	101026
Pb	EDTA	928	928
Se	ICP Assay	3149	100901
Se	Calculated		See Sec. 4.2
Tl	ICP Assay	3158	151215
Tl	Calculated		See Sec. 4.2
V	ICP Assay	3165	160906
V	EDTA	928	928
Zn	ICP Assay	3168a	120629
Zn	EDTA	928	928

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of $k = 2$.

Characterization of CRM/RM by Two or More Methods

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

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

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

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

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

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

k = coverage factor = 2

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

u_{bb} = bottle to bottle homogeneity standard uncertainty

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

u_{ts} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

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

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

X_a = mean of Assay Method A with

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

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

k = coverage factor = 2

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

u_{bb} = bottle to bottle homogeneity standard uncertainty

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

u_{ts} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

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

4.1 Thermometer Calibration

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

4.2 Balance Calibration

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

4.3 Glassware Calibration

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

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

N/A

6.0 INTENDED USE

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

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

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

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

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

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

HF Note: This standard should not be prepared or stored in glass.

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

8.0 HAZARDOUS INFORMATION

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

9.0 HOMOGENEITY

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

10.0 QUALITY STANDARD DOCUMENTATION

10.1 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

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

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

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

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

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

11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

October 20, 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

- **October 20, 2026**

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

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

11.3 Period of Validity

- Sealed TCT Bag Open Date: _____

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

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Approved By:

Michael Booth
Director, Quality Control



Certifying Officer:

Paul Gaines
Chairman / Senior Technical Director





R-09/18/22 (RH)
Certified Reference Material CRM

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

CERTIFIED WEIGHT REPORT:

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

Solvent: **20510011 Nitric Acid**

Lot #

Expiration Date: **072125**
Recommended Storage: **Ambient (20 °C)**
Nominal Concentration (µg/mL): **1000**
NIST Test Number: **6UTB**
Weight shown below was diluted to (mL): **2000.02**
5E-05 Balance Uncertainty
0.058 Flask Uncertainty

2% **40.0** **Nitric Acid**
(mL)

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

SDS Information									
Compound	Lot Number	Nominal Conc. (µg/mL)	Purity (%)	Uncertainty (%)	Assay (%)	Target Weight (g)	Actual Weight (g)	Actual Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)
1. Barium nitrate (Ba)	IN023 BA022019A1	1000	99.999	0.10	52.3	3.82417	3.82426	1000.0	2.0
									10022-31-8
									0.5 mg/m3
									or -at 355 mg/kg
									31046

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





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

Trace Metals Verification by ICP-MS (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
Sb	<0.02	Ca	<0.2	Er	<0.02	Ho	<0.02	Lu	<0.02	Nb	<0.02	Re	<0.02	Si	<0.02	Te	<0.02
As	<0.2	Ce	<0.02	Eu	<0.02	In	<0.02	Mg	<0.02	Os	<0.01	Rh	<0.02	Ag	<0.02	Tl	<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
Be	<0.01	Cr	<0.02	Ga	<0.02	Fe	<0.02	Hg	<0.2	P	<0.02	Ru	<0.02	Sr	<0.02	Tm	<0.02
Bi	<0.02	Co	<0.02	Ge	<0.02	La	<0.02	Mo	<0.02	Pt	<0.02	Sm	<0.02	S	<0.02	Sn	<0.02
B	<0.02	Cu	<0.02	Au	<0.02	Pb	<0.02	Nd	<0.02	K	<0.2	Sc	<0.02	Ta	<0.02	Ti	<0.02
																W	<0.02
																U	<0.02
																V	<0.02
																Yb	<0.02
																Y	<0.02
																Zn	<0.02
																Zr	<0.02

(T)= Target analyte

Physical Characterization:

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

Certified by:

- * The certified value is the concentration calculated from gravimetric and volumetric measurements unless otherwise stated.
- * Purified acids, 18.2 megohm deionized water, calibrated Class A glassware and the highest purity raw materials are used in the preparation of all standards.
- * All standard containers are meticulously cleaned prior to use.
- * Standards are prepared gravimetrically using balances that are calibrated with weights traceable to NIST (see above).
- * Standards are certified (+/-) 0.5% of the stated value, unless otherwise stated.
- * All Standards should be stored with caps tight and under appropriate laboratory conditions.
- * Uncertainty Reference: Taylor, B.N. and Kuyat, C.E., "Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Result," NIST Technical Note 1297, U.S. Government Printing Office, Washington, D.C. (1994).



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

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

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

(T) = Target analyte

Physical Characterization:

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

Certified by:

- * The certified value is the concentration calculated from gravimetric and volumetric measurements unless otherwise stated.
- * Purified acids, 18.2 megohm deionized water, calibrated Class A glassware and the highest purity raw materials are used in the preparation of all standards.
- * All standard containers are meticulously cleaned prior to use.
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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).



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

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

Al	<0.02	Cd	<0.02	Dy	<0.02	Hf	<0.02	Li	<0.02	Ni	<0.02	Pr	<0.02	Se	<0.02	Tb	<0.02	W	<0.02
Sb	<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	<0.02	Hg	<0.2	P	<0.02	Ru	<0.02	Sr	<0.02	Tm	<0.02	Y	<0.02
Bi	<0.02	Co	<0.02	Ge	<0.02	La	<0.02	Mo	<0.02	Pr	<0.02	Sm	<0.02	S	<0.02	Sn	<0.02	Zn	<0.02
B	<0.02	Cu	<0.02	Au	<0.02	Pb	<0.02	Nd	<0.02	K	<0.2	Sc	<0.02	Ta	<0.02	Ti	<0.02	Zr	<0.02

(T)= Target analyte

Physical Characterization:

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

Certified by:

- * The certified value is the concentration calculated from gravimetric and volumetric measurements unless otherwise stated.
- * Purified acids, 18.2 megohm deionized water, calibrated Class A glassware and the highest purity raw materials are used in the preparation of all standards.
- * All standard containers are meticulously cleaned prior to use.
- * Standards are prepared gravimetrically using balances that are calibrated with weights traceable to NIST (see above).
- * Standards are certified (+/-) 0.5% of the stated value, unless otherwise stated.
- * All Standards should be stored with caps tight and under appropriate laboratory conditions.
- * Uncertainty Reference: Taylor, B.N. and Kuyat, C.E., "Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Result," NIST Technical Note 1297, U.S. Government Printing Office, Washington, D.C. (1994).

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CERTIFIED WEIGHT REPORT:

M5514, M5515
Lot #

R: 03/12/23

Part Number:
Lot Number:
Description:

58126
092122
Iron (Fe)

Solvent: 20510011 Nitric Acid

Expiration Date:

092125

7.0%

350.0 (mL) Nitric Acid

Recommended Storage:

Ambient (20 °C)

Nominal Concentration (µg/mL):

10000

NIST Test Number:

6UTB

5E-05 Balance Uncertainty

Weight shown below was diluted to (mL): 5000.1

0.12 Flask Uncertainty

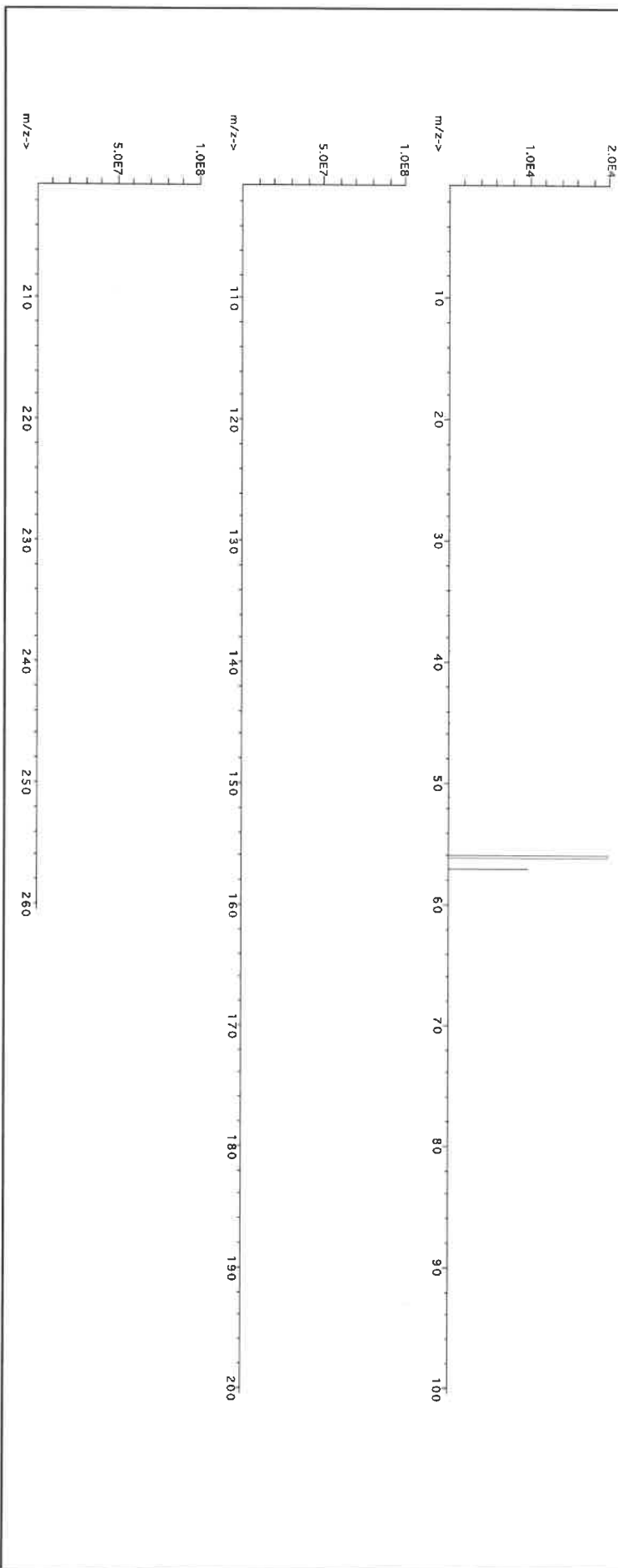
<i>Giovanni Caporaso</i>	
Formulated By:	Giovanni Esposito
	092122
<i>Pedro L. Rentas</i>	
Reviewed By:	Pedro L. Rentas
	092122

SDS Information

Compound	Lot Number	Nominal Conc. (µg/mL)	Purity (%)	Uncertainty (%)	Assay (%)	Target Weight (g)	Actual Weight (g)	Actual Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	CAS#	OSHA PEL (TWA)	LD50	NIST SRM
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1. Iron (Fe) IN346 2224912-500 10000 99.995 0.10 100.0 50.0034 50.0111 10001.5 20.0 7439-89-6 5 mg/m3 or-hal 7500mg/kg 3126a

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





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

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

Al	<0.02	Cd	<0.02	Dy	<0.02	Hf	<0.02	Li	<0.02	Ni	<0.10	Pr	<0.02	Se	<0.2	Tb	<0.02	W	<0.02
Sb	<0.02	Ca	<0.2	Er	<0.02	Ho	<0.02	La	<0.02	Nb	<0.02	Re	<0.02	Si	<0.02	Te	<0.02	U	<0.02
As	<0.2	Ce	<0.02	Eu	<0.02	In	<0.02	Mg	<0.02	Os	<0.02	Rh	<0.02	Ag	<0.02	Tl	<0.02	V	<0.02
Ba	<0.02	Cs	<0.02	Gd	<0.02	Ir	<0.02	Mn	<0.02	Pd	<0.02	Rb	<0.02	Na	<0.2	Th	<0.02	Yb	<0.02
Be	<0.01	Cr	<0.05	Ga	<0.02	Fe	<0.2	Hg	<0.2	P	<0.02	Ru	<0.02	Sr	<0.02	Tm	<0.02	Y	<0.02
Bi	<0.02	Co	<0.10	Ge	<0.10	La	<0.02	Mo	<0.02	Pt	<0.02	Sm	<0.02	S	<0.02	Sn	<0.02	Zn	<0.05
B	<0.02	Cu	<0.10	Au	<0.02	Pb	<0.02	Nd	<0.02	K	<0.2	Sc	<0.02	Ta	<0.02	Ti	<0.02	Zr	<0.02

(T)= Target analyte

Physical Characterization:

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

Certified by:

Bar P. Jha

- * The certified value is the concentration calculated from gravimetric and volumetric measurements unless otherwise stated.
- * Purified acids, 18.2 megohm deionized water, calibrated Class A glassware and the highest purity raw materials are used in the preparation of all standards.
- * All standard containers are meticulously cleaned prior to use.
- * Standards are prepared gravimetrically using balances that are calibrated with weights traceable to NIST (see above).
- * Standards are certified (+/-) 0.5% of the stated value, unless otherwise stated.
- * All Standards should be stored with caps tight and under appropriate laboratory conditions.
- * Uncertainty Reference: Taylor, B.N. and Kuyat, C.E., "Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Result," NIST Technical Note 1297, U.S. Government Printing Office, Washington, D.C. (1994).

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Certified Reference Material CRM

CERTIFIED WEIGHT REPORT:

Part Number: **58119**
Lot Number: **120822**
Description: **Potassium (K)**

Solvent: 20510011 Nitric Acid

Lot #

Giovanni Esposito

Formulated By: Giovanni Esposito 120822

Expiration Date: 120825
Recommended Storage: Ambient (20 °C)
Nominal Concentration (µg/mL): 10000
NIST Test Number: 6UTB

2% 60.0 (mL) Nitric Acid

Pedro L. Renteria

Reviewed By: Pedro L. Renteria 120822

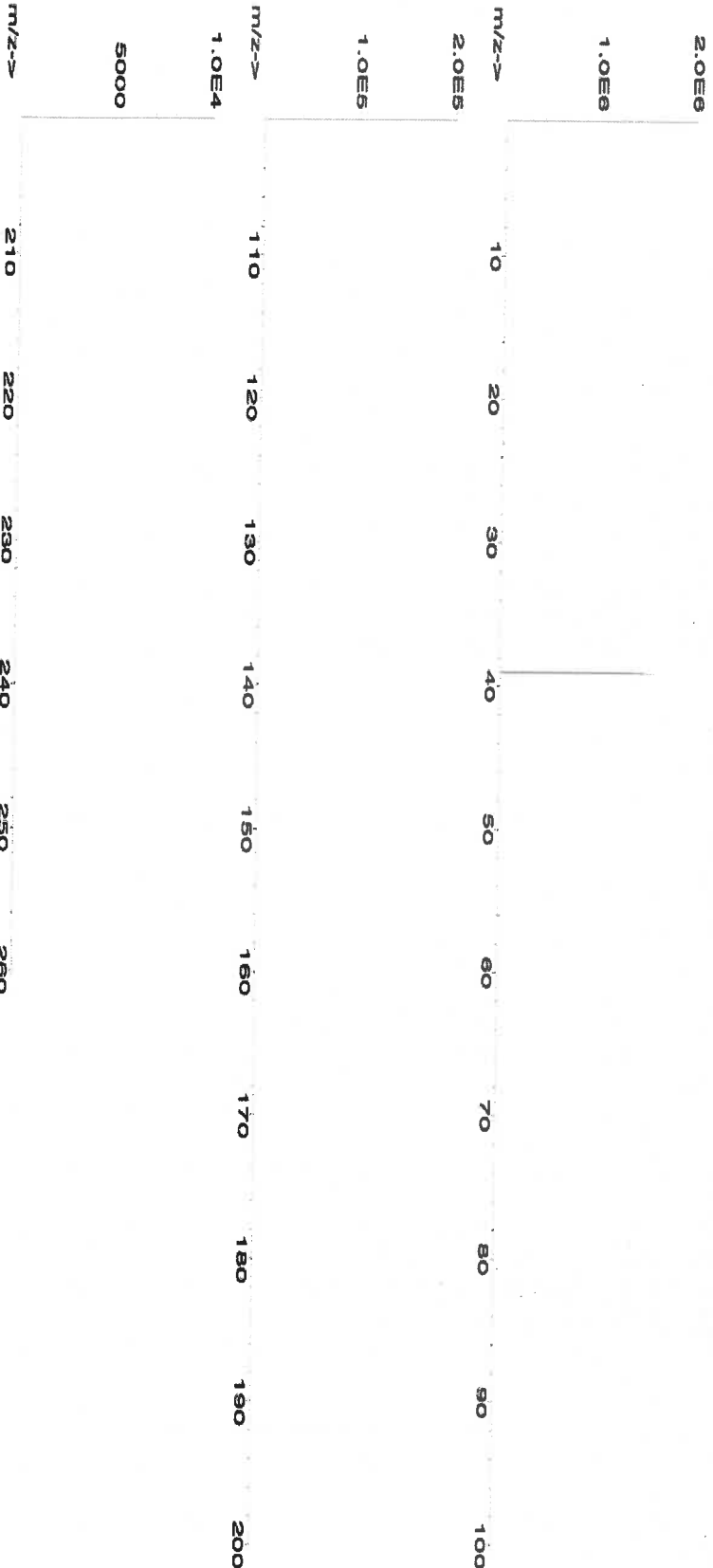
Weight shown below was diluted to (mL): 3000.4 0.06 Flask Uncertainty

Compound

Lot	Nominal	Purity	Uncertainty	Assay	Target	Actual	Actual	Expanded	SDS Information	NIST
RM#	Number	Conc. (µg/mL)	(%)	Purity (%)	Weight (g)	Weight (g)	Conc. (µg/mL)	+/- (µg/mL)	(Solvent Safety Info. On Attached pg.)	SRM

1. Potassium nitrate (K) IN034 KD022021A1 10000 99.989 0.10 37.6 79.7990 79.8075 10001.1 20.0 7757-79-1 5 mg/m3 or/air 3015 mg/kg 3141a

[1] Spectrum No.1 [35.763 sec]:58119.D# [Count] [Linear]





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

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

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

(T) = Target analyte

Physical Characterization:

Certified by:

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

- * The certified value is the concentration calculated from gravimetric and volumetric measurements unless otherwise stated.
- * Purified acids, 18.2 megohm deionized water, calibrated Class A glassware and the highest purity raw materials are used in the preparation of all standards.
- * All standard containers are meticulously cleaned prior to use.
- * Standards are prepared gravimetrically using balances that are calibrated with weights traceable to NIST (see above).
- * Standards are certified (+/-) 0.5% of the stated value, unless otherwise stated.
- * All standards should be stored with caps tight and under appropriate laboratory conditions.
- * Uncertainty Reference: Taylor, B.N. and Kuyat, C.E., "Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Result," NIST Technical Note 1297, U.S. Government Printing Office, Washington, D.C. (1994).



CERTIFIED WEIGHT REPORT:

Part Number: 58024
Lot Number: 060523
Description: Chromium (Cr)

Lot #
21110221
Solvent: Nitric Acid

Expiration Date: 060526
Recommended Storage: Ambient (20 °C)
Nominal Concentration (µg/mL): 1000
NIST Test Number: 6UTB
Volume shown below was diluted to (mL): 2000.02
5E-05 Balance Uncertainty
0.058 Flask Uncertainty

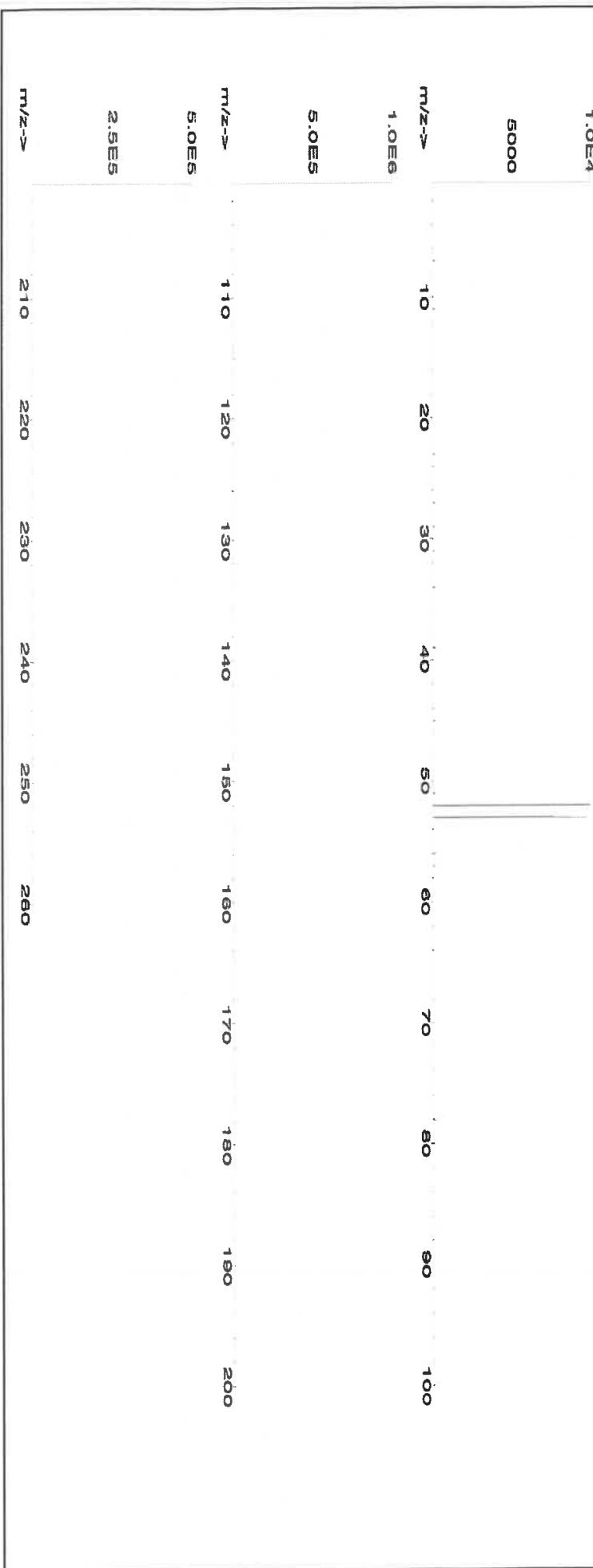
2.0%
40.0 (mL)
Nitric Acid

Formulated By:	Lawrence Barry	060523
Reviewed By:	Pedro L. Renteria	060523

Compound	Part Number	Lot Number	Dilution Factor	Initial Vol. (mL)	Uncertainty (mL)	Nominal Conc. (µg/mL)	Initial Conc. (µg/mL)	Final Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	CAS#	OSHA PEL (TWA)	LD50	NIST SRM
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1. Chromium(III) nitrate nonahydrate (Cr) 58124 071122 0.1000 200.0 0.084 1000 10000.1 1000.0 2.2 7789-02-8 0.5 mg(Cr)/m3 or rat 3250 mg/kg 3112a

[1] Spectrum No.1 [31.393 sec]:57024.D# [Count] [Linear]





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

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

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

(T) = Target analyte

Physical Characterization:

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

Certified by:

- * The certified value is the concentration calculated from gravimetric and volumetric measurements unless otherwise stated.
- * Purified acids, 18.2 megohm deionized water, calibrated Class A glassware and the highest purity raw materials are used in the preparation of all standards.
- * All standard containers are meticulously cleaned prior to use.
- * Standards are prepared gravimetrically using balances that are calibrated with weights traceable to NIST (see above).
- * Standards are certified (+/-) 0.5% of the stated value, unless otherwise stated.
- * All standards should be stored with caps tight and under appropriate laboratory conditions.
- * Uncertainty Reference: Taylor, B.N. and Kuyat, C.E., "Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Result," NIST Technical Note 1297, U.S. Government Printing Office, Washington, D.C. (1994).



CERTIFIED WEIGHT REPORT:

Part Number:
Lot Number:
Description:

58025
102623
Manganese (Mn)

Lot #
Solvent:

24002546
Nitric Acid

Expiration Date:

102626

Recommended Storage:

Ambient (20 °C)

Nominal Concentration (µg/mL):

1000

NIST Test Number:

6UTB

Volume shown below was diluted to (mL):

3000.41

SE-05
Balance Uncertainty

0.058
Flask Uncertainty

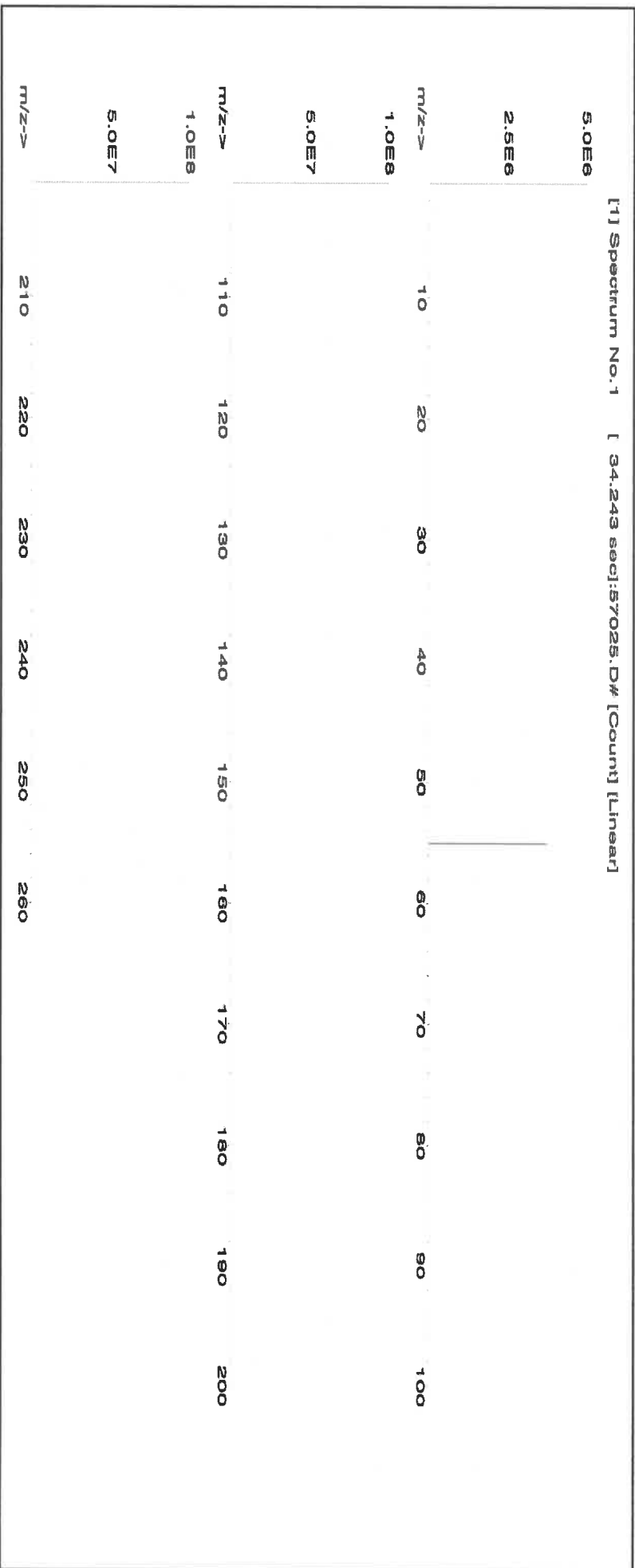
Formulated By:	Benson Chan	102623
Reviewed By:	Pedro L. Ruelas	102623

Compound

Part Number	Lot Number	Dilution Factor	Initial Vol. (mL)	Uncertainty Pipette (mL)	Nominal Conc. (µg/mL)	Initial Conc. (µg/mL)	Final Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	CAS#	OSHA PEL (TWA)	LD50	NIST SRM
-------------	------------	-----------------	-------------------	--------------------------	-----------------------	-----------------------	---------------------	----------------------------------	------	----------------	------	----------

1. Manganese(II) nitrate tetrahydrate (Mn) 58125 071123 0.1000 300.0 0.084 1000 10000.1 1000.0 2.1 20694-39-7 5 mg/m3 or-rel >300mg/kg 3132

[1] Spectrum No.1 [34.243 sec]:57025.D# [Count] [Linear]





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

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

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

(T) = Target analyte

Physical Characterization:

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

Certified by:

- * The certified value is the concentration calculated from gravimetric and volumetric measurements unless otherwise stated.
- * Purified acids, 18.2 megohm deionized water, calibrated Class A glassware and the highest purity raw materials are used in the balances that are calibrated with weights traceable to NIST (see above).
- * Standards are certified (+/-) 0.5% of the stated value, unless otherwise stated.
- * All standards should be stored with caps tight and under appropriate laboratory conditions.
- * Uncertainty Reference: Taylor, B.N. and Kuyat, C.E., "Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Result," NIST Technical Note 1297, U.S. Government Printing Office, Washington, D.C. (1994).



CERTIFIED WEIGHT REPORT:

Part Number: **58029**
Lot Number: **071723**
Description: **Copper (Cu)**

Lot #: **2110221**
Solvent: **Nitric Acid**

2.0%

40.0 (mL)
Nitric Acid

Formulated By:	Benson Chan	071723
Reviewed By:	Pedro L. Ruelas	071723

Expiration Date: **071726**
Recommended Storage: **Ambient (20 °C)**
Nominal Concentration (µg/mL): **1000**

NIST Test Number: **6L7B**

Volume shown below was diluted to (mL): **2000.02**
Balance Uncertainty: **5E-05**
Flask Uncertainty: **0.058**

SDS Information

Compound	Part Number	Lot Number	Dilution Factor	Initial Vol. (mL)	Uncertainty (mL)	Nominal Conc. (µg/mL)	Initial Conc. (µg/mL)	Final Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	CAS#	OSHA PEL (TWA)	LD50	NIST SRM
----------	-------------	------------	-----------------	-------------------	------------------	-----------------------	-----------------------	---------------------	----------------------------------	------	----------------	------	----------

1. Copper(II) nitrate trihydrate (Cu) 58129 022723 0.1000 200.0 0.084 1000 10000.5 1000.0 2.2 10031-43-3 1 mg/m3 or-rat 794 mg/kg 3114

[1] Spectrum No.1 [33.422 sec]:58029.D# [Count] [Linear]

1.0E6	m/z-->	10	20	30	40	50	60	70	80	90	100
5.0E5	m/z-->	110	120	130	140	150	160	170	180	190	200
2.5E7	m/z-->	210	220	230	240	250	260				



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

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

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

(T) = Target analyte

Physical Characterization:

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

Certified by:

- * The certified value is the concentration calculated from gravimetric and volumetric measurements unless otherwise stated.
- * Purified acids, 18.2 megohm deionized water, calibrated Class A glassware and the highest purity raw materials are used in the preparation of all standards.
- * All standard containers are meticulously cleaned prior to use.
- * Standards are prepared gravimetrically using balances that are calibrated with weights traceable to NIST (see above).
- * Standards are certified (+/-) 0.5% of the stated value, unless otherwise stated.
- * All Standards should be stored with caps tight and under appropriate laboratory conditions.
- * Uncertainty Reference: Taylor, B.N. and Kuyat, C.E., "Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Result," NIST Technical Note 1297, U.S. Government Printing Office, Washington, D.C. (1994).



M5768 M5769
Certified Reference Material CRM
R: 1/13/24



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

CERTIFIED WEIGHT REPORT:

Part Number:
Lot Number:
Description:

58112
091823
Magnesium (Mg)

Solvent: 24002546 Nitric Acid

Lot #

Expiration Date:

091826

2% 40.0 (mL) Nitric Acid

Recommended Storage:

Ambient (20 °C)

M5768 M5769

BP R: 1/13/24

NIST Test Number:

6UTB

5E-05 Balance Uncertainty

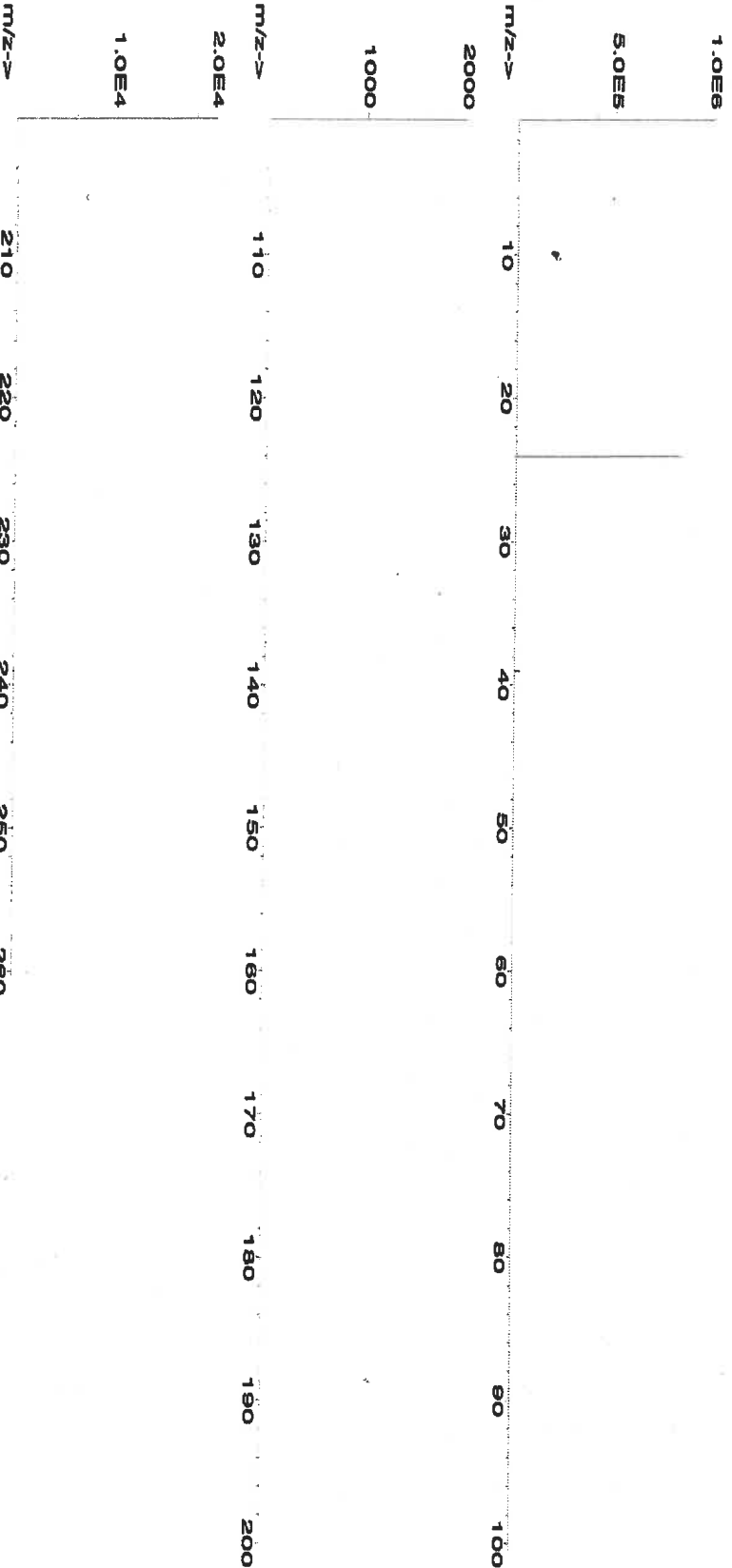
Weight shown below was diluted to (mL): 2000.02 0.058 Flask Uncertainty

Compound

Compound	Lot	Nominal	Purity	Uncertainty	Assay	Target	Actual	Actual	Expanded	SDS Information	NIST
RW#	Number	Conc. (µg/mL)	(%)	Purity (%)	(%)	Weight (g)	Weight (g)	Conc. (µg/mL)	+/- (µg/mL)	(Solvent Safety Info. On Attached pg.)	SRM

1. Magnesium nitrate hexahydrate (Mg) IN030 M500222A1 10000 99.999 0.10 8.51 234.9118 234.9126 10000.0 20.0 13446-18-9 NA or-lat 5440 mg/kg 3131a

[1] Spectrum No. 1 [19.923 sec]: 58112.D# [Count] [Linear]





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

314

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

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

(T) = Target analyte

Physical Characterization:

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

Certified by:

- * The certified value is the concentration calculated from gravimetric and volumetric measurements unless otherwise stated.
- * Purified acids, 18.2 megohm deionized water, calibrated Class A glassware and the highest purity raw materials are used in the preparation of all standards.
- * All standard containers are meticulously cleaned prior to use.
- * Standards are prepared gravimetrically using balances that are calibrated with weights traceable to NIST (see above).
- * Standards are certified (+/-) 0.5% of the stated value, unless otherwise stated.
- * All Standards should be stored with caps tight and under appropriate laboratory conditions.
- * Uncertainty Reference: Taylor, B.N. and Kuyat, C.E., "Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Result," NIST Technical Note 1297, U.S. Government Printing Office, Washington, D.C. (1994).



CERTIFIED WEIGHT REPORT:

Part Number: 57004
Lot Number: 102523
Description: Beryllium (Be)

Lot # 24002546
Solvent: Nitric Acid

Expiration Date:

102526

2.0%

40.0 (mL)

Nitric Acid

Recommended Storage:

Ambient (20 °C)

Nominal Concentration (µg/mL):

1000

NIST Test Number:

6UTB

Volume shown below was diluted to (mL): 2000.02

5E-05 Balance Uncertainty

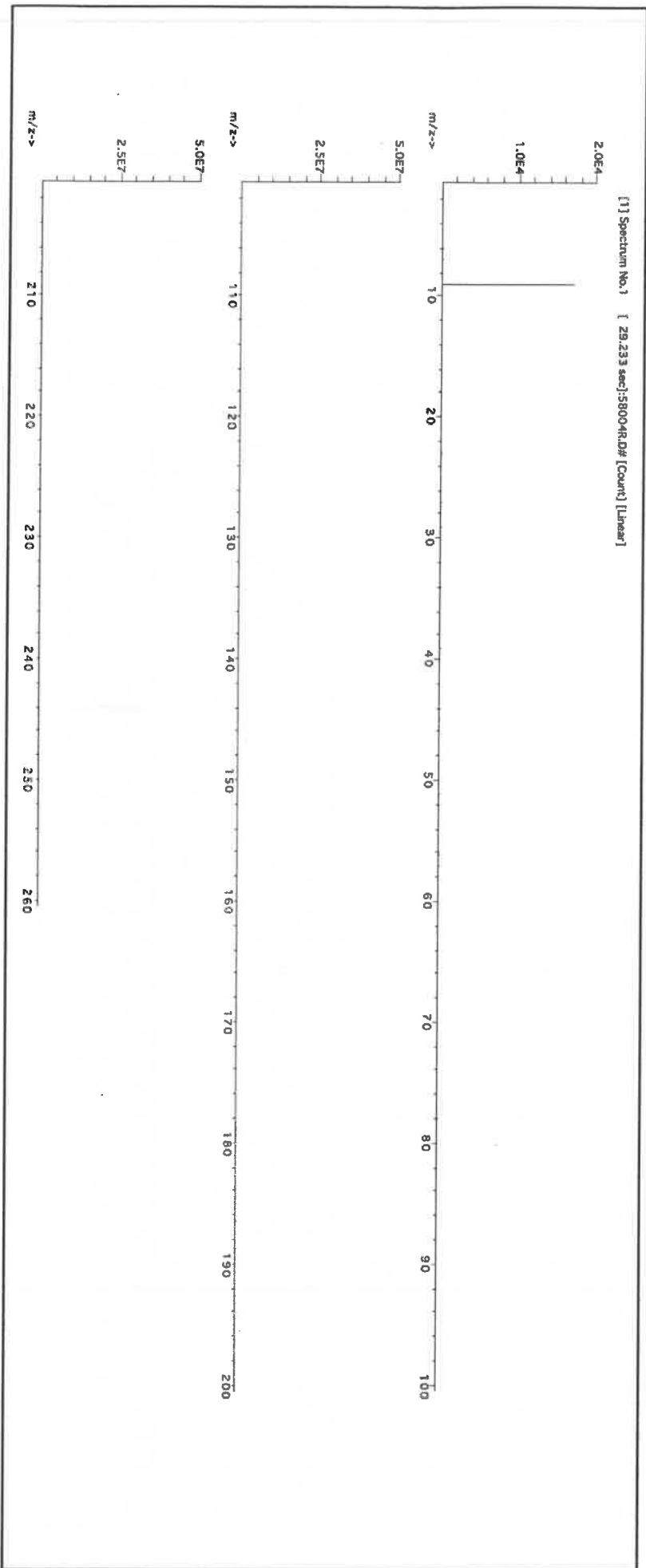
0.058 Flask Uncertainty

Formulated By:	Benson Chan
Reviewed By:	Pedro L. Rentas

SDS Information

Compound	Part Number	Lot	Dilution Factor	Initial Vol. (mL)	Uncertainty Pipette (mL)	Nominal Conc. (µg/mL)	Initial Conc. (µg/mL)	Final Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	CAS#	OSHA PEL (TWA)	LD50	NIST SRM
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1. Beryllium nitrate (Be)	58104	091423	0.1000	200.0	0.084	1000	10001.5	1000.0	2.2	13597-99-4	0.2µg/m3	intrins-rat 3.16mg/kg	NA
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Instrumental Analysis by Inductively Coupled Plasma Mass Spectrometry (ICP-MS):

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

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

(T) = Target analyte

Physical Characterization:

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

Certified by:

* The certified value is the concentration calculated from gravimetric and volumetric measurements unless otherwise stated.
 * Purified acids, 18.2 megohm deionized water, calibrated Class A glassware and the highest purity raw materials are used in the preparation of all standards.

* All standard containers are meticulously cleaned prior to use.

* Standards are prepared gravimetrically using balances that are calibrated with weights traceable to NIST (see above).

* Standards are certified (+/-) 0.5% of the stated value, unless otherwise stated.

* All Standards should be stored with caps tight and under appropriate laboratory conditions.

* Uncertainty Reference: Taylor, B.N. and Kuyat, C.E., "Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Result," NIST Technical Note 1297, U.S. Government Printing Office, Washington, D.C. (1994).

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Certified Reference Material CRM

CERTIFIED WEIGHT REPORT:

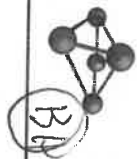
Part Number: **57050**
Lot Number: **071123**
Description: **Tin (Sn)**

Solvents: **21110221** Nitric Acid
22D0562008 Hydrochloric acid

Lot #

R. 02509124

M599



Expiration Date: **071126**
Recommended Storage: **Ambient (20 °C)**
Nominal Concentration (µg/mL): **1000**

2% **10.0** Nitric Acid
6% **30.0** Hydrochloric acid
(mL)

NIST Test Number: **6UTB**

Weight shown below was diluted to (mL):

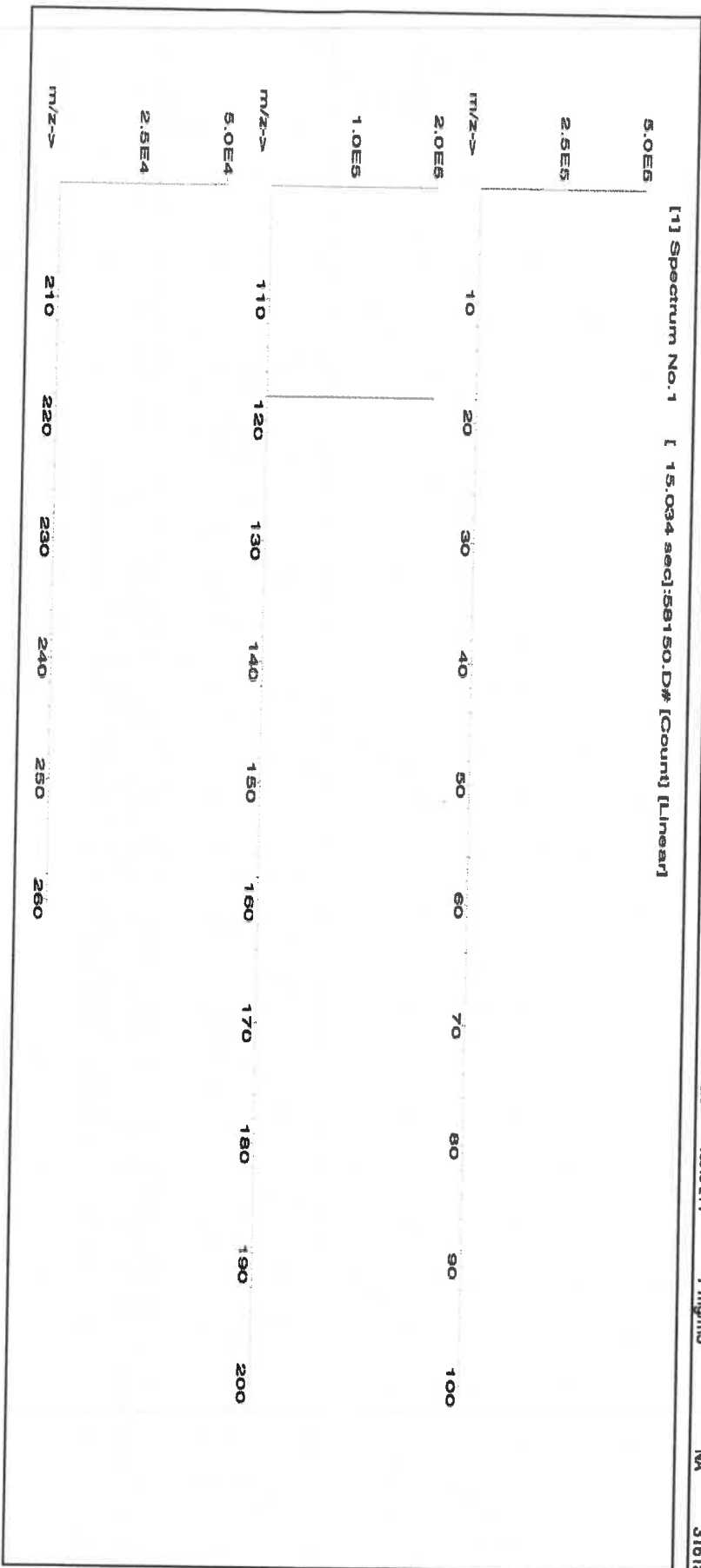
5E-05 Balance Uncertainty
0.058 Flask Uncertainty

<i>[Signature]</i>	
Formulated By:	Benson Chan
	071123
Reviewed By:	Pedro L. Rientas
	071123

Compound		Lot		Nominal	Purity	Uncertainty	Assay	Target	Actual	Actual	Expanded	SDS Information		
RM#	Number	Conc. (µg/mL)	(%)	Purity (%)	(%)	Weight (g)	Weight (g)	Conc. (µg/mL)	+/- (µg/mL)	CAS#	OSHA PEL (TWA)	LD50	SRM	NIST

1. Ammonium hexafluoroantimonate(V) (Sn) **IN010 SMD042023A1** **1000** **99.999** **0.10** **44.2** **1.13107** **1.13286** **1001.6** **2.0** **16919-24-7** **7 mg/m3** **NA** **3161a**

[1] Spectrum No. 1 [15.034 sec]:56150.D# [Count] [Linear]





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

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

Al	<0.02	Cd	<0.02	Dy	<0.02	Hf	<0.02	Li	<0.02	Ni	<0.02	Pr	<0.02	Se	<0.2	Tb	<0.02	W	<0.02
Sb	<0.02	Ca	<0.2	Er	<0.02	Ho	<0.02	Lu	<0.02	Nb	<0.02	Re	<0.02	Si	<0.02	Te	<0.02	U	<0.02
As	<0.2	Ce	<0.02	Eu	<0.02	In	<0.02	Mg	<0.01	Os	<0.02	Rh	<0.02	Ag	<0.02	Ti	<0.02	V	<0.02
Ba	<0.02	Cs	<0.02	Gd	<0.02	Ir	<0.02	Mn	<0.02	Pd	<0.02	Rb	<0.02	Na	<500	Th	<0.02	Yb	<0.02
Be	<0.01	Cr	<0.02	Ga	<0.02	Fe	<0.2	Hg	<0.2	P	<0.02	Ru	<0.02	Sr	<0.02	Tm	<0.02	Y	<0.02
Bi	<0.02	Co	<0.02	Ge	<0.02	La	<0.02	Mo	<0.02	Pt	<0.02	Sm	<0.02	S	<0.02	Sa	<0.02	Zn	<0.02
B	<0.02	Cu	<0.02	Au	<0.02	Pb	<0.02	Nd	<0.02	K	<0.2	Sc	<0.02	Ta	<0.02	Tl	<0.02	Zr	<0.02

(T) = Target analyte

Physical Characterization:

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

Certified by:

- * The certified value is the concentration calculated from gravimetric and volumetric measurements unless otherwise stated.
- * Purified acids, 18.2 megohm deionized water, calibrated Class A glassware and the highest purity raw materials are used in the preparation of all standards.
- * All standard containers are meticulously cleaned prior to use.
- * Standards are prepared gravimetrically using balances that are calibrated with weights traceable to NIST (see above).
- * Standards are certified (+/-) 0.5% of the stated value, unless otherwise stated.
- * All standards should be stored with caps tight and under appropriate laboratory conditions.
- * Uncertainty Reference: Taylor, B.N. and Kuyat, C.E., "Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Result," NIST Technical Note 1297, U.S. Government Printing Office, Washington, D.C. (1994).



R: 02/09/24 115800 (54)

CERTIFIED WEIGHT REPORT:

Part Number: 57027
Lot Number: 091923
Description: Cobalt (Co)

Expiration Date: 091926
Recommended Storage: Ambient (20 °C)
Nominal Concentration (µg/mL): 1000
NIST Test Number: 6UTB

Volume shown below was diluted to (mL): 2000.02

5E-05 Balance Uncertainty
0.058 Flask Uncertainty

Lot # 24002546
Solvent: Nitric Acid

2.0% Nitric Acid
40.0 (mL)

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

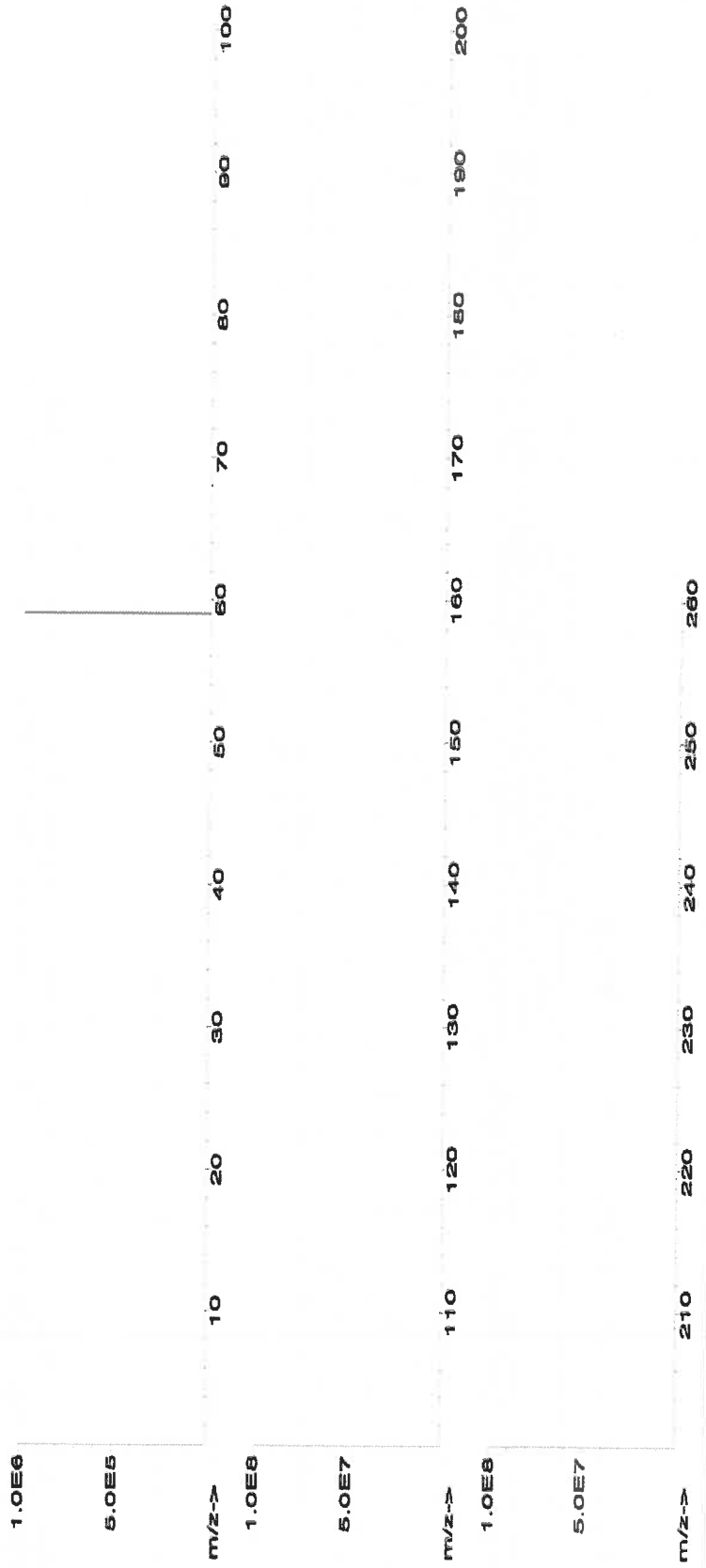
SDS Information

Expanded Uncertainty +/- (µg/mL)
Final Conc. (µg/mL)
Initial Conc. (µg/mL)
Nominal Conc. (µg/mL)
Pipette (mL)
Dilution Factor

(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

[1] Spectrum No.1 [34.243 sec]:58027.D# [Count] [Linear]





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

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

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

(T)= Target analyte

Physical Characterization:

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

Certified by:

- * The certified value is the concentration calculated from gravimetric and volumetric measurements unless otherwise stated.
- * Purified acids, 18.2 megohm deionized water, calibrated Class A glassware and the highest purity raw materials are used in the preparation of all standards.
- * All standard containers are meticulously cleaned prior to use.
- * Standards are prepared gravimetrically using balances that are calibrated with weights traceable to NIST (see above).
- * Standards are certified (+/-) 0.5% of the stated value, unless otherwise stated.
- * All standards should be stored with caps tight and under appropriate laboratory conditions.
- * Uncertainty Reference: Taylor, B.N. and Kuyat, C.E., "Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Result," NIST Technical Note 1297, U.S. Government Printing Office, Washington, D.C. (1994).



AR: 02/09/24

M5801

BA



CERTIFIED WEIGHT REPORT:

Part Number: 57033
Lot Number: 111323
Description: Arsenic (As)

Lot # 24002546
Solvent: Nitric Acid

Expiration Date: 111326

Recommended Storage: Ambient (20 °C)

Nominal Concentration (µg/mL): 1000

NIST Test Number: 6LUTB

Volume shown below was diluted to (mL): 4000.0

5E-05 Balance Uncertainty
0.06 Flask Uncertainty

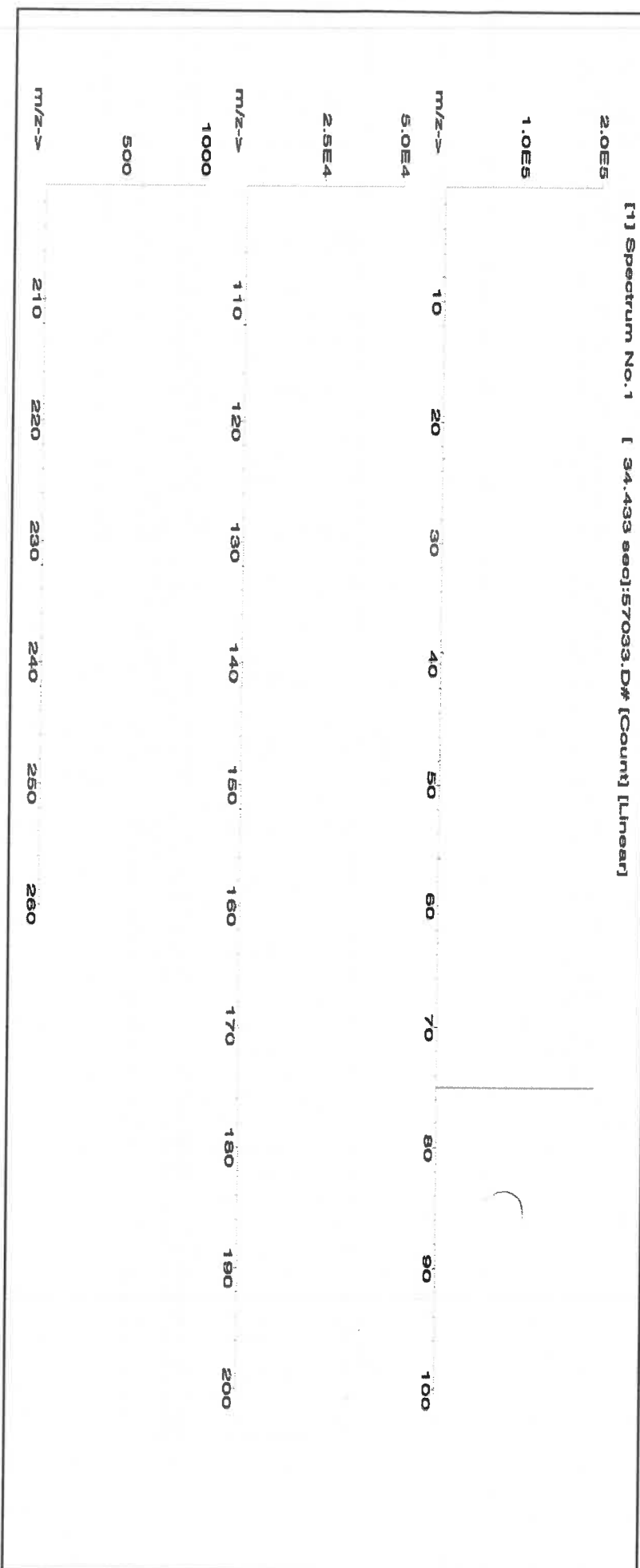
Formulated By:	Lawrence Barry	111323
Reviewed By:	Pedro L. Rendas	111323

Compound	Part Number	Lot Number	Dilution Factor	Initial Vol. (mL)	Uncertainty Pipette (mL)	Nominal Conc. (µg/mL)	Initial Conc. (µg/mL)	Final Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	CAS#	OSHA PEL (TWA)	LD50	NIST SRM

SDS Information

1. Arsenic (As) 58133 020522 0.1000 400.0 0.084 1000 10001.0 1000.0 2.0 7440-38-2 0.5 mg/m3 or-lat 500 mg/kg 3103a

[1] Spectrum No.1 [34.433 sec]:57033.D# [Count] [Linear]



321



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

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

Al	<0.02	Cd	<0.02	Dy	<0.02	Hf	<0.02	Li	<0.02	Ni	<0.02	Pr	<0.02	Se	<0.2	Tb	<0.02	W	<0.02
Sb	<0.02	Ca	<0.2	Er	<0.02	Ho	<0.02	Lu	<0.02	Nb	<0.02	Re	<0.02	Si	<0.02	Te	<0.02	U	<0.02
As	T	Ce	<0.02	Eu	<0.02	In	<0.02	Mg	<0.01	Os	<0.02	Rh	<0.02	Ag	<0.02	Tl	<0.02	V	<0.02
Ba	<0.02	Cs	<0.02	Gd	<0.02	Ir	<0.02	Mn	<0.02	Pd	<0.02	Rb	<0.02	Na	<0.2	Tl ₂	<0.02	Yb	<0.02
Bc	<0.01	Cr	<0.02	Ga	<0.02	Fe	<0.2	Hg	<0.2	P	<0.02	Ru	<0.02	Sr	<0.02	Tm	<0.02	Y	<0.02
Bi	<0.02	Co	<0.02	Ge ⁺	<0.02	La	<0.02	Mo	<0.02	Pt	<0.02	Sm	<0.02	S	<0.02	Sa	<0.02	Zn	<0.02
B	<0.02	Cu	<0.02	Au	<0.02	Pb	<0.02	Nd	<0.02	K	<0.2	Sc	<0.02	Ta	<0.02	Ti	<0.02	Zr	<0.02

(T) = Target analyte

Physical Characterization:

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

Certified by:

- * The certified value is the concentration calculated from gravimetric and volumetric measurements unless otherwise stated.
- * Purified acids, 18.2 megohm deionized water, calibrated Class A glassware and the highest purity raw materials are used in the preparation of all standards.
- * All standard containers are meticulously cleaned prior to use.
- * Standards are prepared gravimetrically using balances that are calibrated with weights traceable to NIST (see above).
- * Standards are certified (+/-) 0.5% of the stated value, unless otherwise stated.
- * All standards should be stored with caps tight and under appropriate laboratory conditions.
- * Uncertainty Reference: Taylor, B.N. and Kuyat, C.E., "Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Result," NIST Technical Note 1297, U.S. Government Printing Office, Washington, D.C. (1994).



CERTIFIED WEIGHT REPORT:

Part Number: 57115
Lot Number: 041723
Description: Phosphorous (P)

Solvent: 21110221 Nitric Acid

Lot #

323

Expiration Date: 041726
Recommended Storage: Ambient (20 °C)
Nominal Concentration (µg/mL): 10000
NIST Test Number: 6UTB

2% 40.0 (mL) Nitric Acid

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

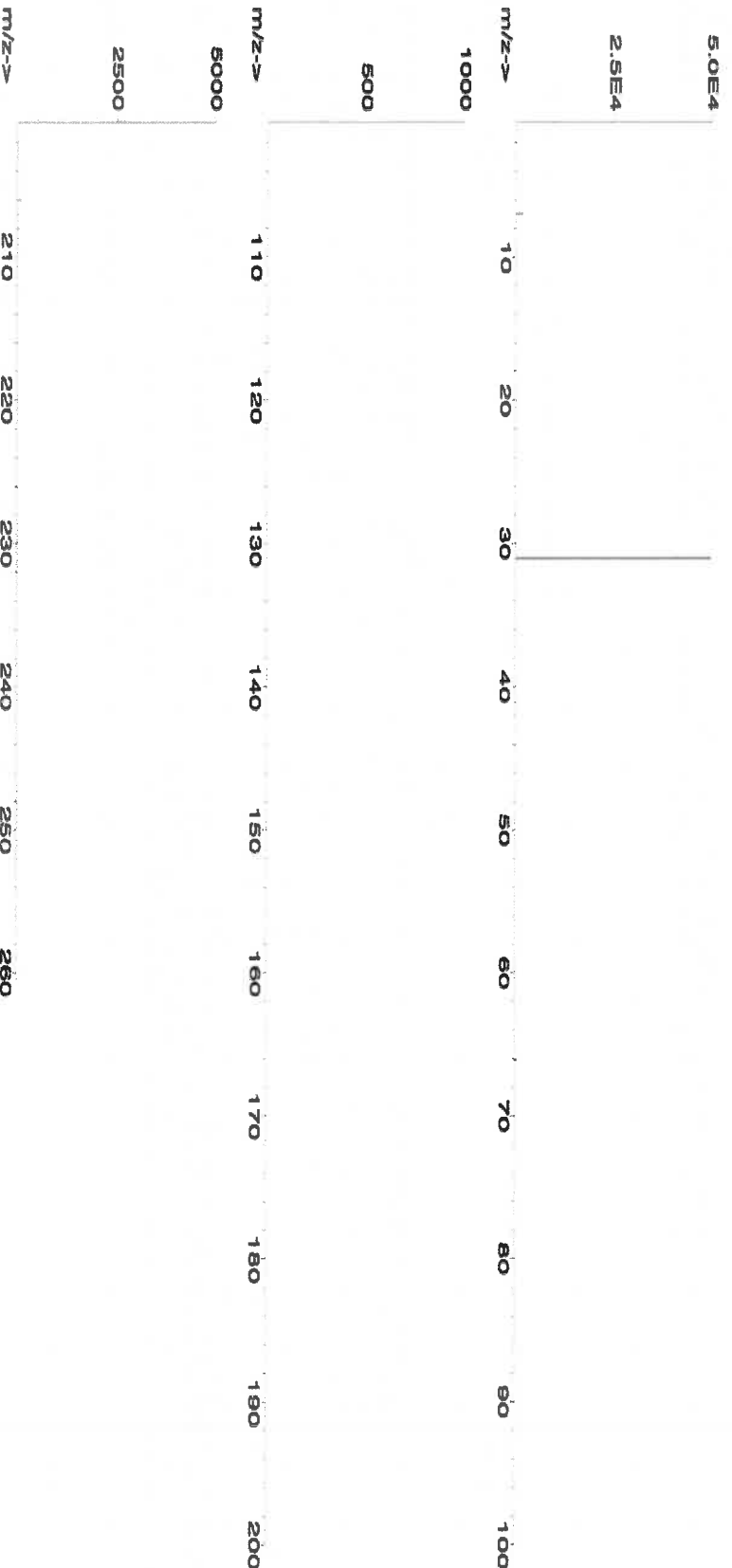
Formulated By: Lawrence Barry	041723
Reviewed By: Pedro L. Rentas	041723

SDS Information

Compound	Lot Number	Nominal Conc. (µg/mL)	Purity (%)	Uncertainty (%)	Assay (%)	Target Weight (g)	Actual Weight (g)	Actual Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	CAS#	OSHA PEL (TWA)	LD50	NIST SRM
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1. Ammonium dihydrogen phosphate (P) IN008 PVR2019A1 10000 99.999 0.10 27.5 72.7287 72.7289 10000.0 20.0 7722-76-1 5 mg/m3 or-hal >2000mg/kg 3186

[1] Spectrum No.1 [12.074 sec]:58115.D# [Count] [Linear]





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

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

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

(T) = Target analyte

Physical Characterization:

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

Certified by:

- * The certified value is the concentration calculated from gravimetric and volumetric measurements unless otherwise stated.
- * Purified acids, 18.2 megohm deionized water, calibrated Class A glassware and the highest purity raw materials are used in the preparation of all standards.
- * All standard containers are meticulously cleaned prior to use.
- * Standards are prepared gravimetrically using balances that are calibrated with weights traceable to NIST (see above).
- * Standards are certified (+/-) 0.5% of the stated value, unless otherwise stated.
- * All Standards should be stored with caps tight and under appropriate laboratory conditions.
- * Uncertainty Reference: Taylor, B.N. and Kuyat, C.E., "Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Result," NIST Technical Note 1297, U.S. Government Printing Office, Washington, D.C. (1994).



CERTIFIED WEIGHT REPORT:

Part Number:
Lot Number:
Description:

57016
122923
Sulfur (S)

Lot #

ASTM Type 1 Water

Formulated By: Benson Chan
Reviewed By: Pedro L. Rentas

122923

325

Expiration Date: 122926
Recommended Storage: Ambient (20 °C)
Nominal Concentration (µg/mL): 1000
NIST Test Number: 6L7B

Weight shown below was diluted to (mL):

SE-05 Balance Uncertainty
0.06 Flask Uncertainty

Compound

RM#	Lot Number	Nominal Conc. (µg/mL)	Purity (%)	Uncertainty (%)	Assay (%)	Target Weight (g)	Actual Weight (g)	Actual Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	CAS#	OSHA PEL (TWA)	LD50	NIST SRM
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1. Ammonium sulfate (S) IN117 SLBR725V 1000 99.9 0.10 24.3 16.4979 16.4980 1000.0 2.0 7783-20-2 NA 0.01-0.1 4250mg/kg 3181

[1] Spectrum No. 1 [33.603 sec]:57016.D# [Count] [Linear]





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

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

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

(T) = Target analyte

Physical Characterization:

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

Certified by:

- * The certified value is the concentration calculated from gravimetric and volumetric measurements unless otherwise stated.
- * Purified acids, 18.2 megohm deionized water, calibrated Class A glassware and the highest purity raw materials are used in the preparation of all standards.
- * All standard containers are meticulously cleaned prior to use.
- * Standards are prepared gravimetrically using balances that are calibrated with weights traceable to NIST (see above).
- * Standards are certified (+/-) 0.5% of the stated value, unless otherwise stated.
- * All standards should be stored with caps tight and under appropriate laboratory conditions.
- * Uncertainty Reference: Taylor, B.N. and Kuyat, C.E., "Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Result," NIST Technical Note 1297, U.S. Government Printing Office, Washington, D.C. (1994).



CERTIFIED WEIGHT REPORT:

Part Number: **57116**
Lot Number: **071123**
Description: **Sulfur (S)**

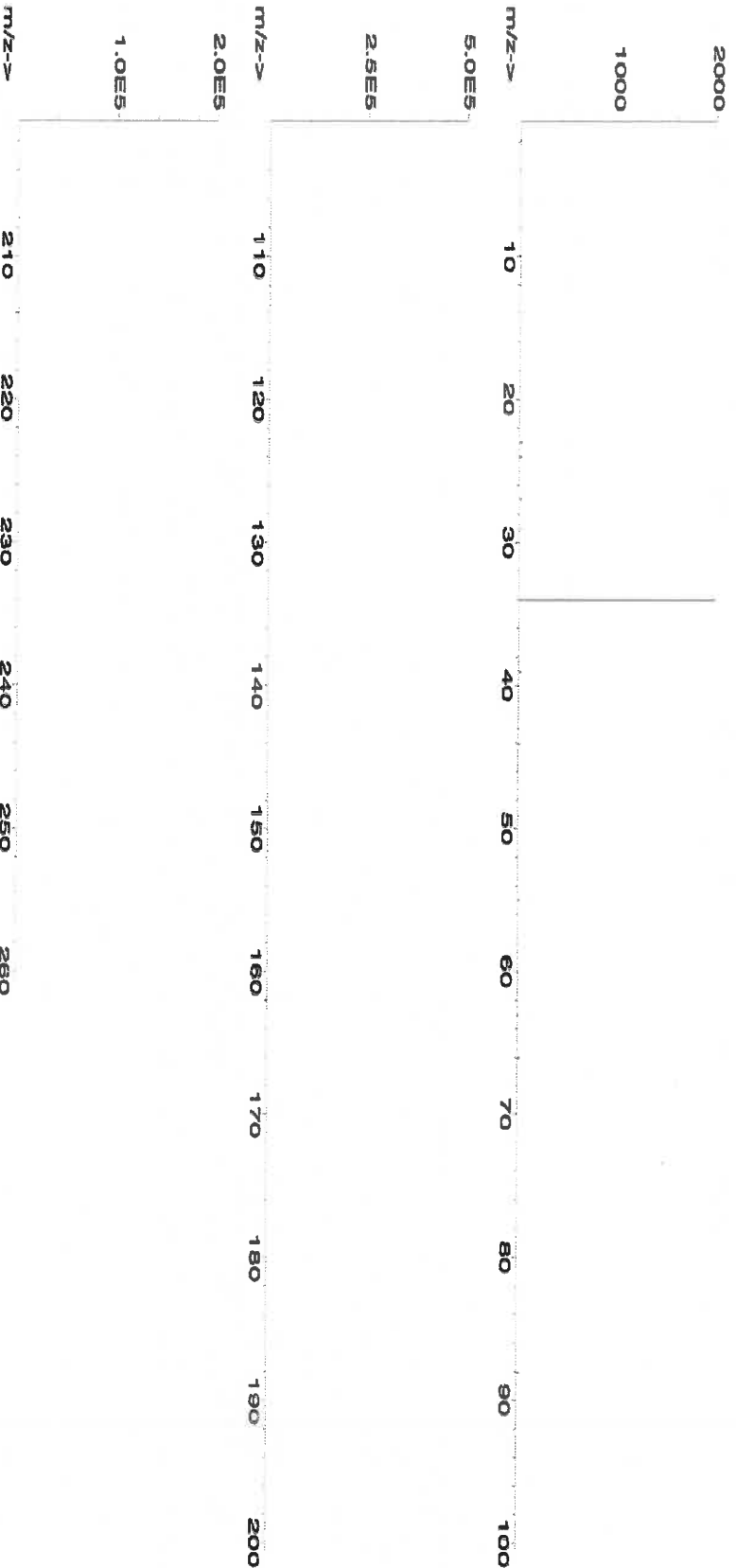
Lot #
Solvent: **071123** ASTM Type 1 Water

Formulated By:	Lawrence Barry
Reviewed By:	Pedro L. Rentas
071123	

Expiration Date: **071126**
Recommended Storage: **Ambient (20 °C)**
Nominal Concentration (µg/mL): **10000**
NIST Test Number: **6UTB**
Weight shown below was diluted to (mL): **1999.48** **5E-05** Balance Uncertainty
0.058 Flask Uncertainty

SDS Information									
Compound	Lot Number	Nominal Conc. (µg/mL)	Purity (%)	Uncertainty Purity (%)	Assay (%)	Target Weight (g)	Actual Weight (g)	Actual Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)
Ammonium sulfate (S)	IN117 SLBR7225V	10000	99.9	0.10	24.3	82.4675	82.4692	10000.1	20.0
						7763-20-2	NA		oral 4250mg/kg
									3181

[1] Spectrum No. 1 [24.004 sec]:58116.D# [Count] [Linear]





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

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

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

Physical Characterization:

(T)= Target analyte

Certified by:

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

- * The certified value is the concentration calculated from gravimetric and volumetric measurements unless otherwise stated.
- * Purified acids, 18.2 megohm deionized water, calibrated Class A glassware and the highest purity raw materials are used in the preparation of all standards.
- * All standard containers are meticulously cleaned prior to use.
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- * Standards are certified (+/-) 0.5% of the stated value, unless otherwise stated.
- * All standards should be stored with caps tight and under appropriate laboratory conditions.
- * Uncertainty Reference: Taylor, B.N. and Kuyat, C.E., "Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Result," NIST Technical Note 1297, U.S. Government Printing Office, Washington, D.C. (1994).



CERTIFIED WEIGHT REPORT:

Part Number: **57014**
Lot Number: **122023**
Description: **Silicon (Si)**

Solvent: **24002546 Nitric Acid**

Lot #

Formulated By: *Aleah O Brady*
Reviewed By: *Pedro L. Rentas*

122023

329

Expiration Date: **122026**

2% 40.0 (mL)

Nitric Acid

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**

Expanded

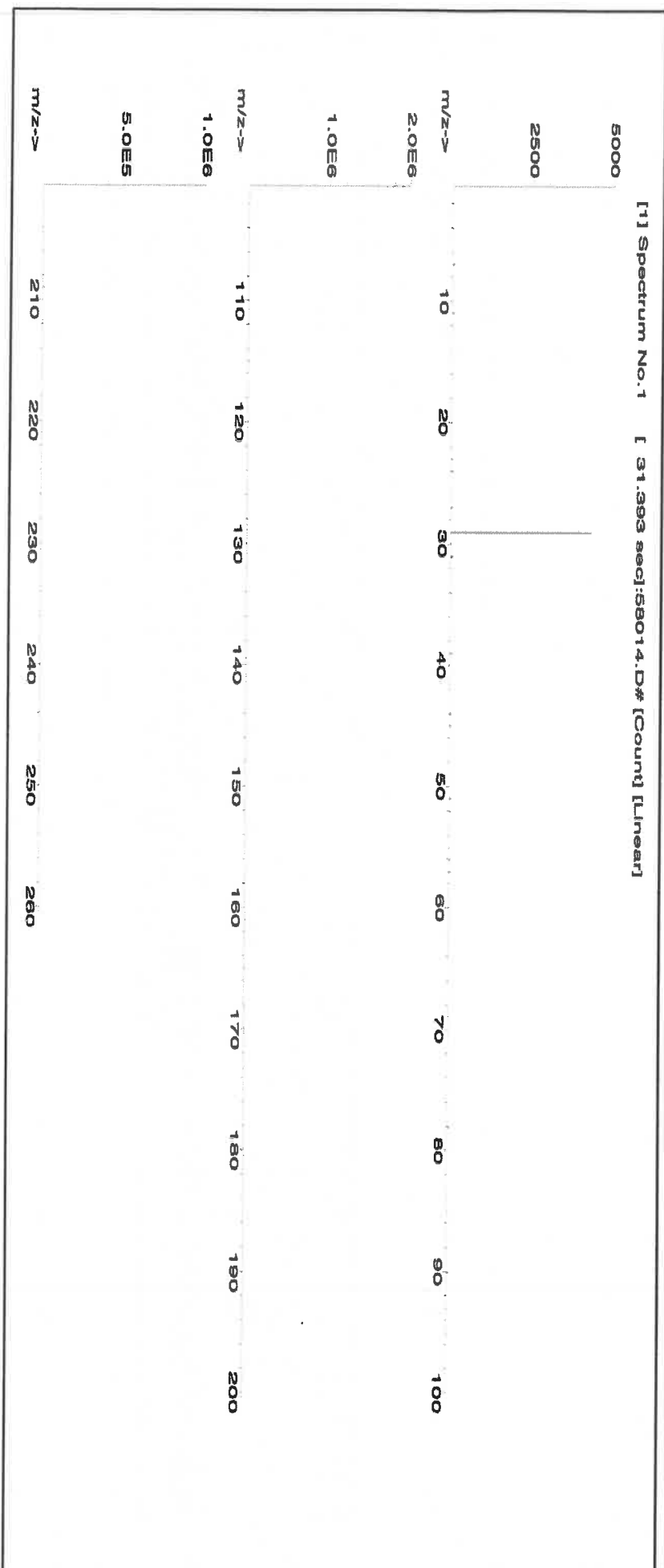
SDS Information

Compound

RM#	Lot Number	Nominal Conc. (µg/mL)	Purity (%)	Uncertainty Purity (%)	Assay (%)	Target Weight (g)	Actual Weight (g)	Actual Conc. (µg/mL)	Uncertainty +/- (µg/mL)	CAS#	OSHA PEL (TWA)	LD50	NIST SRM
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1. Ammonium hexafluorosilicate (Si) IN009 S1D08022A1 1000 99.999 0.10 14.4 13.8854 13.8855 1000.0 2.0 18919-19-0 2.5 mg/m3 off-mus 70 mg/kg NA

[1] Spectrum No. 1 [31.393 sec; 158014.D# [Count] [Linear]





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

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

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

(T) = Target analyte

Physical Characterization:

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

Certified by:

- * The certified value is the concentration calculated from gravimetric and volumetric measurements unless otherwise stated.
- * Purified acids, 18.2 megohm deionized water, calibrated Class A glassware and the highest purity raw materials are used in the preparation of all standards.
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- * Standards are prepared gravimetrically using balances that are calibrated with weights traceable to NIST (see above).
- * Standards are certified (+/-) 0.5% of the stated value, unless otherwise stated.
- * All Standards should be stored with caps tight and under appropriate laboratory conditions.
- * Uncertainty Reference: Taylor, B.N. and Kuyat, C.E., "Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Result," NIST Technical Note 1297, U.S. Government Printing Office, Washington, D.C. (1994).



CERTIFIED WEIGHT REPORT:

Part Number: 58030
Lot Number: 111623
Description: Zinc (Zn)

Solvent: 24002546 Nitric Acid

Lot # R: 02109124 MS819

2% 60.0 (mL) Nitric Acid

Expiration Date: 111626

Recommended Storage: Ambient (20 °C)

Nominal Concentration (µg/mL): 1000

NIST Test Number: 6UTB

Weight shown below was diluted to (mL): 3000.4

5E-05 Balance Uncertainty

0.06 Flask Uncertainty

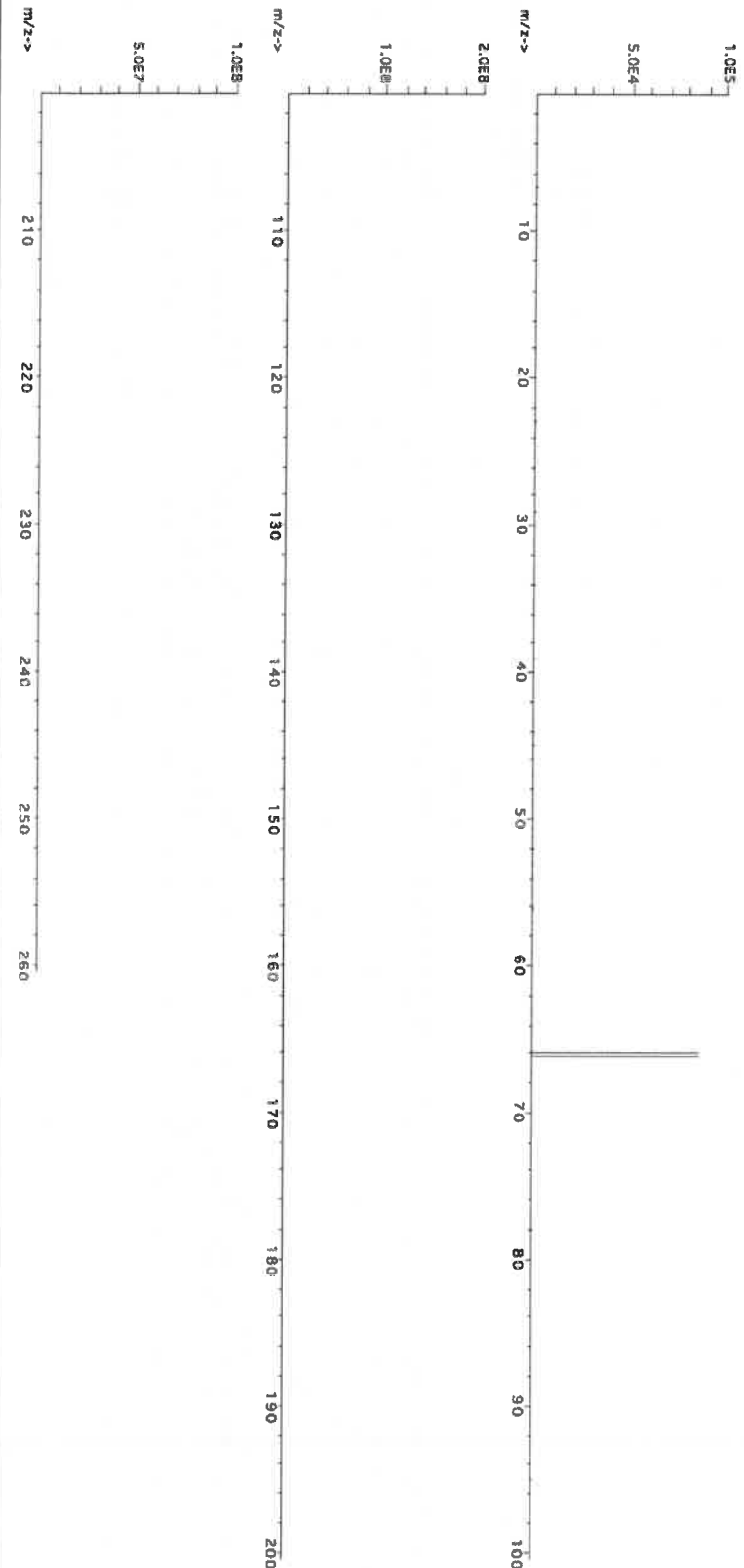
Formulated By:	Benson Chan
Reviewed By:	Pedro L. Rientas
111623	

Compound

Lot	Nominal	Purity	Uncertainty	Assay	Target	Actual	Actual	Expanded	SDS Information	NIST
Number	Conc. (µg/mL)	(%)	Purity (%)	(%)	Weight (g)	Weight (g)	Conc. (µg/mL)	± (µg/mL)	(Solvent Safety Info. On Attached pg.)	SRM
									OSHA PEL (TWA)	
									LDSO	

1. Zinc nitrate hexahydrate (Zn) IN016 ZNE03021A1 1000 99.999 0.10 24.3 12.3475 12.3502 1000.2 2.0 10196-16-6 1 mg/mL 3168 on-rat 1190mg/kg

[1] Spectrum No.1 [31.103 sec]58130.D# [Count] [Linear]





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

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

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

(T) = Target analyte

Physical Characterization:

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

Certified by:

- * The certified value is the concentration calculated from gravimetric and volumetric measurements unless otherwise stated.
- * Purified acids, 18.2 megohm deionized water, calibrated Class A glassware and the highest purity raw materials are used in the preparation of all standards.
- * All standard containers are meticulously cleaned prior to use.
- * Standards are prepared gravimetrically using balances that are calibrated with weights traceable to NIST (see above).
- * Standards are certified (+/-) 0.5% of the stated value, unless otherwise stated.
- * All standards should be stored with caps tight and under appropriate laboratory conditions.
- * Uncertainty Reference: Taylor, B.N. and Kuyat, C.E., "Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Result," NIST Technical Note 1297, U.S. Government Printing Office, Washington, D.C. (1994).



CERTIFIED WEIGHT REPORT:

Part Number: 57015
Lot Number: 091123
Description: Phosphorous (P)

Solvent: 24002546 Nitric Acid

Lot #

R: 02109124 M5820

333

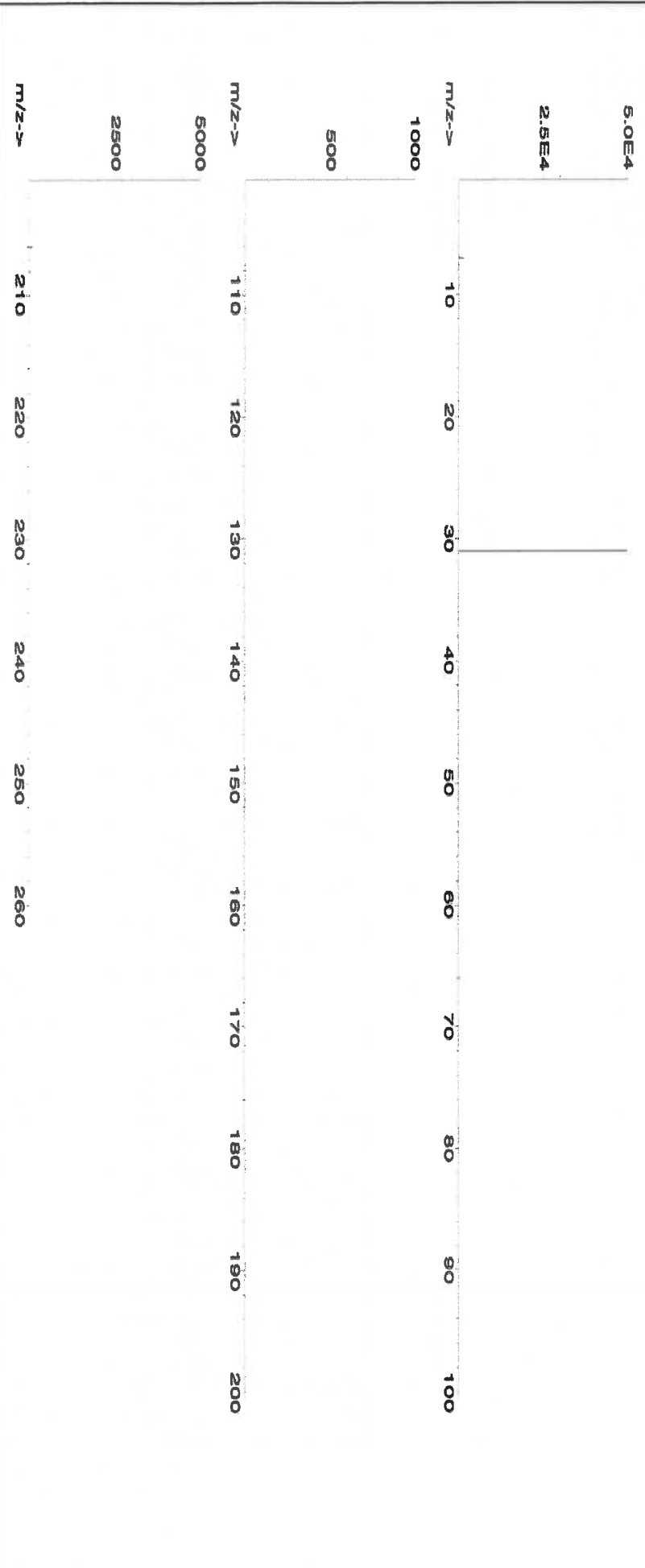
Formulated By:	Lawrence Barry
	091123
Reviewed By:	Pedro L. Rentas
	091123

Expiration Date: 091126
Recommended Storage: Ambient (20 °C)
Nominal Concentration (µg/mL): 1000
NIST Test Number: 6LJB
Weight shown below was diluted to (mL): 2000.02
5E-05 Balance Uncertainty
0.058 Flask Uncertainty

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

1. Ammonium dihydrogen phosphate (P) IN008 PVO62019A1 1000 99.999 0.10 27.5 7.2729 7.2730 1000.0 2.0 7722-76-1 5 mg/m3 xH-rat >2000mg/kg 3186

[1] Spectrum No.1 [12.074 sec]:58115.D# [Count] [Linear]





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

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

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

(T) = Target analyte

Physical Characterization:

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

Certified by:

- * The certified value is the concentration calculated from gravimetric and volumetric measurements unless otherwise stated.
- * Purified acids, 18.2 megohm deionized water, calibrated Class A glassware and the highest purity raw materials are used in the preparation of all standards.
- * All standard containers are meticulously cleaned prior to use.
- * Standards are prepared gravimetrically using balances that are calibrated with weights traceable to NIST (see above).
- * Standards are certified (+/-) 0.5% of the stated value, unless otherwise stated.
- * All Standards should be stored with caps tight and under appropriate laboratory conditions.
- * Uncertainty Reference: Taylor, B.N. and Kuyat, C.E., "Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Result," NIST Technical Note 1297, U.S. Government Printing Office, Washington, D.C. (1994).



Certified Reference Material CRM
MS961 R-611/24



CERTIFIED WEIGHT REPORT:

Part Number:

57028

Solvent: 24002546 Nitric Acid

Lot #

Lot Number:

041124

Description:

Nickel (NI)

Expiration Date:

041127

Recommended Storage:

Ambient (20 °C)

Nominal Concentration (µg/mL):

1000

NIST Test Number:

6UTB

Weight shown below was diluted to (mL):

249.85

5E-05 Balance Uncertainty
0.002 Flask Uncertainty

2% 5.0 (mL) Nitric Acid

Formulated By:	Brian Geddes	041124
Reviewed By:	Pedro L. Rentas	041124

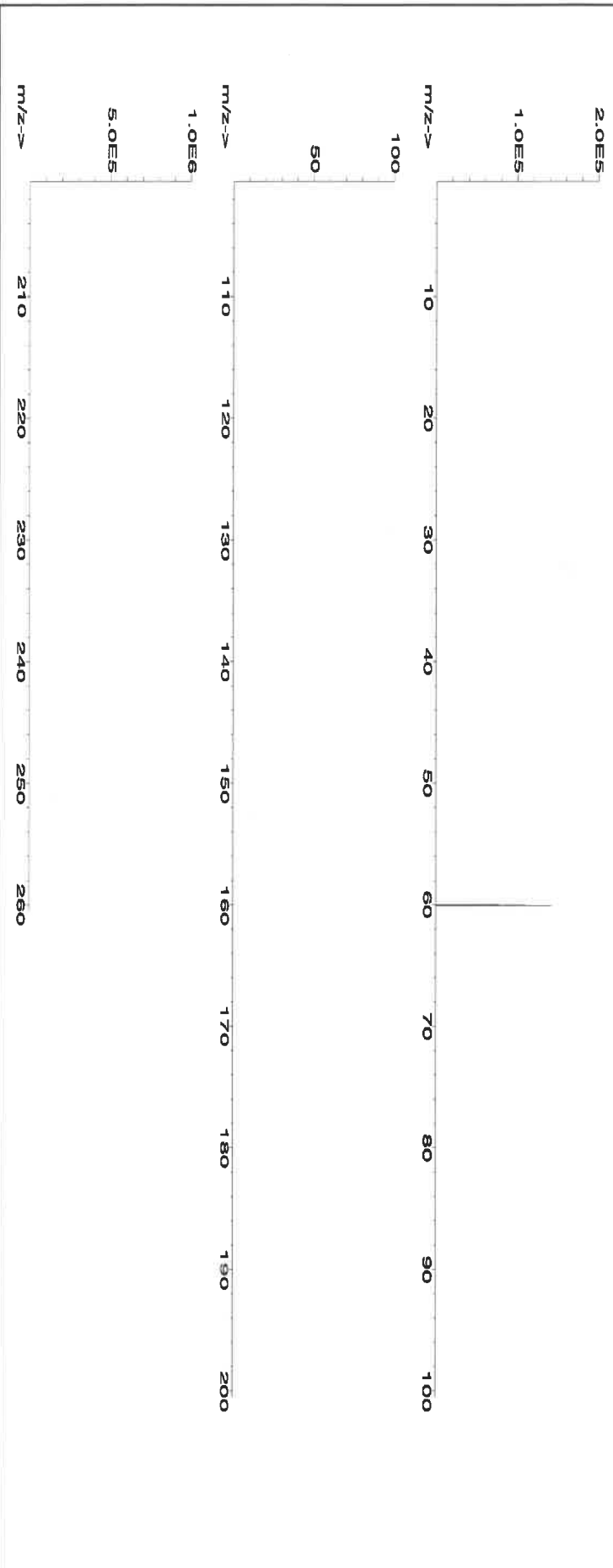
SDS Information

Compound

Compound	Lot	Nominal Conc. (µg/mL)	Purity (%)	Uncertainty (%)	Assay (%)	Target Weight (g)	Actual Weight (g)	Actual Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	CAS#	OSHA PEL (TWA)	LD50	SRM
----------	-----	-----------------------	------------	-----------------	-----------	-------------------	-------------------	----------------------	----------------------------------	------	----------------	------	-----

1. Nickel(II) nitrate hexahydrate (NI) IN033 NIM052023A1 1000 99.999 0.10 20.2 1.2369 1.2369 1000.0 2.0 13478-00-7 1 mg/m3 or-rat 1620 mg/kg 3136

[1] Spectrum No.1 [12.374 sec]:58128.D# [Count] [Linear]





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

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

Al	<0.02	Cd	<0.02	Dy	<0.02	Hf	<0.02	Li	<0.02	Ni	<0.02	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	Re	<0.02	Si	<0.02	Te	<0.02	U	<0.02
As	<0.2	Ce	<0.02	Ba	<0.02	In	<0.02	Mg	<0.01	Os	<0.02	Rh	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	Rb	<0.02	Na	<0.2	Th	<0.02	Yb	<0.02
Bc	<0.01	Cr	<0.02	Ga	<0.02	Fe	<0.2	Hg	<0.2	P	<0.02	Ru	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	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	Sc	<0.02	Ta	<0.02	Ti	<0.02	Zr	<0.02

(T) = Target analyte

Physical Characterization:

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

Certified by:

- * The certified value is the concentration calculated from gravimetric and volumetric measurements unless otherwise stated.
- * Purified acids, 18.2 megohm deionized water, calibrated Class A glassware and the highest purity raw materials are used in the preparation of all standards.
- * All standard containers are meticulously cleaned prior to use.
- * Standards are prepared gravimetrically using balances that are calibrated with weights traceable to NIST (see above).
- * Standards are certified (+/-) 0.5% of the stated value, unless otherwise stated.
- * All standards should be stored with caps tight and under appropriate laboratory conditions.
- * Uncertainty Reference: Taylor, B.N. and Kuyat, C.E., "Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Result," NIST Technical Note 1297, U.S. Government Printing Office, Washington, D.C. (1994).



Certified Reference Material CRM
M5962 **R10614124**



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

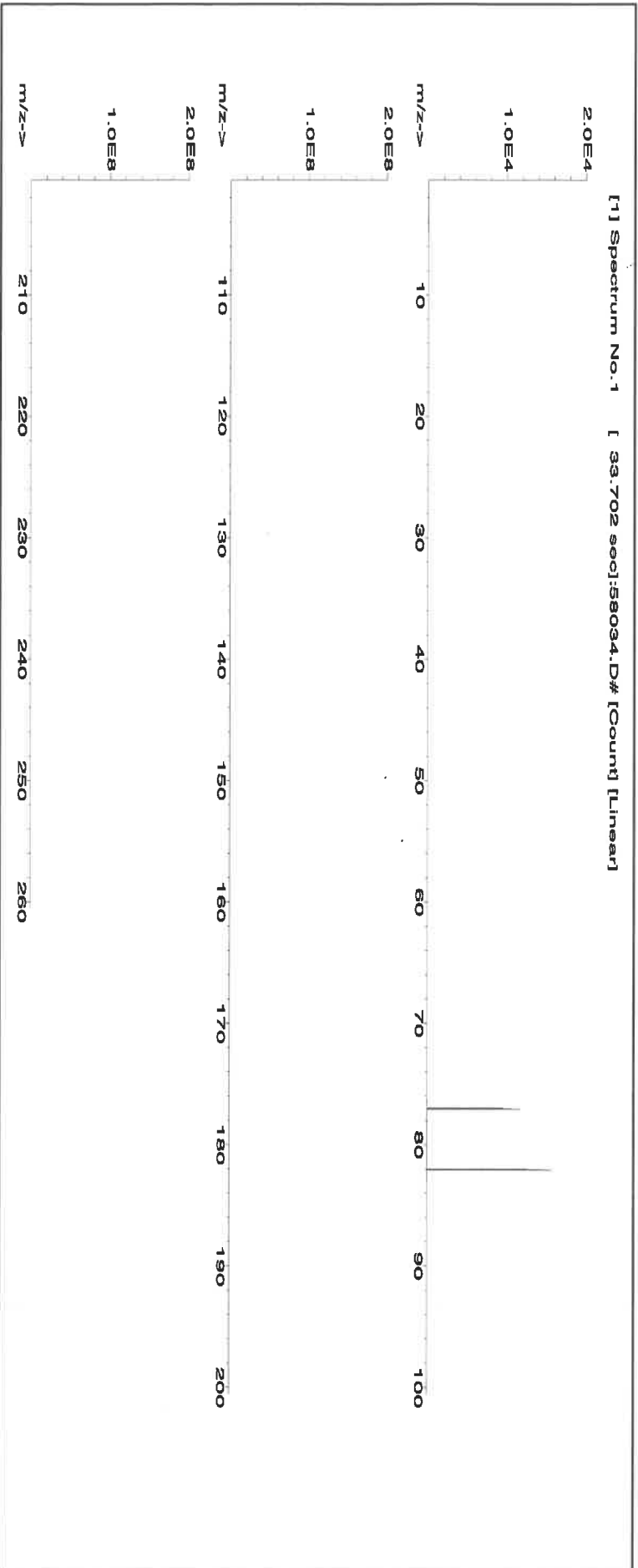
CERTIFIED WEIGHT REPORT:

Part Number: 57034
Lot Number: 060624
Description: Selenium (Se)
Expiration Date: 060627
Recommended Storage: Ambient (20 °C)
Nominal Concentration (µg/mL): 1000
NIST Test Number: 6LUTB
Volume shown below was diluted to (mL): 2000.07

Lot # 24002546
Solvent: Nitric Acid
2.0%
40.0 (mL)
Nitric Acid

Formulated By:	Benson Chan	060624
Reviewed By:	Pedro L. Rantas	060624

SDS Information									
Compound	Part Number	Lot Number	Dilution Factor	Initial Vol. (mL)	Pipette (mL)	Nominal Conc. (µg/mL)	Initial Conc. (µg/mL)	Final Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)
1. Selenium (Se)	58134	071223	0.1000	200.0	0.084	1000	10002.5	1000.0	2.2
						7782-49-2	0.2 mg/m3	or-tral 6700 mg/kg	31.49





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

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

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

(T) = Target analyte

Physical Characterization:

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

Certified by:

- * The certified value is the concentration calculated from gravimetric and volumetric measurements unless otherwise stated.
- * Purified acids, 18.2 megohm deionized water, calibrated Class A glassware and the highest purity raw materials are used in the preparation of all standards.
- * All standard containers are meticulously cleaned prior to use.
- * Standards are prepared gravimetrically using balances that are calibrated with weights traceable to NIST (see above).
- * Standards are certified (+/-) 0.5% of the stated value, unless otherwise stated.
- * All standards should be stored with caps tight and under appropriate laboratory conditions.
- * Uncertainty Reference: Taylor, B.N. and Kuyat, C.E., "Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Result," NIST Technical Note 1297, U.S. Government Printing Office, Washington, D.C. (1994).

M5976, M5977

R: 02/22/24

1.0 ACCREDITATION / REGISTRATION

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



2.0 PRODUCT DESCRIPTION

Product Code: Single Analyte Custom Grade Solution
Catalog Number: CGMO1
Lot Number: T2-MO720876
Matrix: H2O
tr. NH4OH
Value / Analyte(s): 1 000 µg/mL ea:
Molybdenum
Starting Material: Ammonium Molybdate
Starting Material Lot#: 2361
Starting Material Purity: 99.9893%

3.0 CERTIFIED VALUES AND UNCERTAINTIES

Certified Value: 998 ± 7 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 3134 Lot Number: 130418

- The Calculated Value is a value calculated from the weight of a starting material that has been certified directly vs. a National Institute of Standards and Technology (NIST) SRM/RM. See Sec 4.2 for balance traceability.

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of $k = 2$.

Characterization of CRM/RM by Two or More Methods

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

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

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

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

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

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

k = coverage factor = 2

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

u_{bb} = bottle to bottle homogeneity standard uncertainty

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

u_{ts} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

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

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

X_a = mean of Assay Method A with

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

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

k = coverage factor = 2

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

u_{bb} = bottle to bottle homogeneity standard uncertainty

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

u_{ts} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

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

4.1 Thermometer Calibration

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

4.2 Balance Calibration

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

4.3 Glassware Calibration

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

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

CRM/RMs are tested for trace metallic impurities by Axial ICP-OES and ICP-MS. The result from the most sensitive method for each element, is reported below. Solutions tested by ICP-MS were analyzed in an ULPA-Filtered Clean Room. An ULPA-Filter is 99.9985% efficient for the removal of particles down to 0.3 µm.

M	Ag	<	0.000590	M	Eu	<	0.000300	M	Na		0.000879	M	Se	<	0.008000	M	Zn		0.000598
M	Al		0.000563	M	Fe	<	0.006500	M	Nb	<	0.029000	i	Si	<		M	Zr	<	0.001800
M	As	<	0.002100	M	Ga	<	0.000300	i	Nd	<		M	Sm	<	0.000300				
M	Au	<	0.000300	M	Gd	<	0.000300	M	Ni	<	0.008000	M	Sn	<	0.008900				
M	B	<	0.003300	M	Ge	<	0.000300	M	Os	<	0.000590	M	Sr		0.000175				
M	Ba		0.001689	M	Hf	<	0.001800	i	P	<		M	Ta	<	0.004200				
M	Be	<	0.000890	M	Hg	<	0.003300	M	Pb	<	0.000300	M	Tb	<	0.000300				
M	Bi	<	0.000890	M	Ho	<	0.000300	M	Pd	<	0.001800	M	Te	<	0.021000				
O	Ca		0.006334	M	In	<	0.032000	M	Pr	<	0.013000	M	Th	<	0.000300				
O	Cd	<	0.026000	M	Ir	<	0.000300	M	Pt	<	0.000300	O	Tl	<	0.032000				
M	Ce	<	0.008300	M	K		0.130213	M	Rb		0.004575	M	Tl		0.001266				
M	Co		0.000598	M	La	<	0.000300	M	Re	<	0.000300	M	Tm	<	0.000300				
M	Cr		0.000527	O	Li		0.000059	M	Rh	<	0.000300	M	U	<	0.005300				
M	Cs		0.000527	M	Lu	<	0.000300	M	Ru	<	0.079000	M	V	<	0.000890				
M	Cu		0.002252	M	Mg		0.000563	i	S	<		M	W		0.087982				
M	Dy	<	0.000300	M	Mn	<	0.005900	M	Sb		0.001513	M	Y	<	0.000300				
M	Er	<	0.000300	s	Mo	<		M	Sc	<	0.001200	M	Yb	<	0.000300				

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 - 95.94 +6 6,7,8,9

[MoO4]-2(chemical form as received)

Chemical Compatibility -Mo is received in a NH4OH matrix giving the operator the option of using HCl or HF to stabilize acidic solutions. The [MoO4]-2 is soluble in concentrated HCl [MoOCl5]-2, dilute HF / HNO3 [MoOF5]-2 and basic media [MoO4]-2. Stable at ppm levels with some metals provided it is fluorinated. Do not mix with Alkaline or Rare Earths when HF is present. Stable with most inorganic anions provided it is in the [MoO4]-2 chemical form.

Stability - 2-100 ppb levels stable (alone or mixed with all other metals that are at comparable levels) as the [MoOF5]-2 for months in 1% HNO3 / LDPE container. 1-10,000 ppm single element solutions as the [MoO4]-2 chemically stable for years in 1% NH4OH in a LDPE container.

Mo Containing Samples (Preparation and Solution) -Metal (Soluble in HF / HNO3 or hot dilute HCl); Oxide (soluble in HF or NH4OH) ; Organic Matrices (Dry ash at 450EC in Pt0 and dissolve oxide with HF or 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 95 amu	3 ppt	n/a	40Ar39K16O,79Br16O,190Os2+,190Pt2+
ICP-OES 202.030 nm	0.008 / 0.0002 µg/mL	1	Os, Hf
ICP-OES 203.844 nm	0.012 / 0.002 µg/mL	1	
ICP-OES 204.598 nm	0.012 / 0.001 µg/mL	1	Ir, Ta

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: 800.569.6799; 540.585.3030, Fax: 540.585.3012; info@inorganicventures.com

11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

July 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

- July 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 Prepared By:

Uyen Truong
Supervisor, Product Documentation



Certificate Approved By:

Michael Booth
Director, Technical



Certifying Officer:

Paul Gaines
Chairman / Senior Technical Director



Certificate of Analysis



Refine your results. Redefine your industry.

300 Technology Drive
Christiansburg, VA 24073 USA
inorganicventures.com

R: 2/22/24

P: 800-669-6799/540-585-3030
F: 540-585-3012
info@inorganicventures.com



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

1.0 ACCREDITATION / REGISTRATION

2.0 PRODUCT DESCRIPTION

Product Code: Single Analyte Custom Grade Solution

Catalog Number: CGT1

Lot Number: T2-T1719972

Matrix: 2% (v/v) HNO₃

Value / Analyte(s): tr. HF

Starting Material: 1 000 µg/mL ea.

Starting Material: Titanium

Starting Material: Ti Metal

Starting Material Lot#: 2094

Starting Material Purity: 99.9975%

3.0 CERTIFIED VALUES AND UNCERTAINTIES

Certified Value: 1002 ± 5 µg/mL

Density: 1.012 g/mL (measured at 20 ± 4 °C)

Assay Method #1

1002 ± 4 µg/mL

ICP Assay NIST SRM 3162a Lot Number: 130925

- The Calculated Value is a value calculated from the weight of a starting material that has been certified directly vs. a National Institute of Standards and Technology (NIST) SRM/RM. See Sec 4.2 for balance traceability.

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

Characterization of CRM/RM by Two or More Methods
Certified Value, $X_{CRM/RM}$, where two or more methods of characterization are used is the weighted mean of the results:

$$X_{CRM/RM} = 2(w_1)(x_1)$$

w_1 = the weighting factors for each method calculated using the inverse square of the variance

$$w_1 = (1/u_{CRM}^2) / \sum (1/u_{CRM}^2)$$

$$u_{CRM} = \sqrt{u_{CRM}^2} = \sqrt{(u_{CRM}^2) + (u_{CRM}^2) + (u_{CRM}^2) + (u_{CRM}^2) + (u_{CRM}^2)}$$

k = coverage factor = 2

$$u_{CRM} = (2/(n-1)) \sqrt{(u_{CRM}^2) + (u_{CRM}^2) + (u_{CRM}^2) + (u_{CRM}^2) + (u_{CRM}^2)}$$

u_{CRM} = bottle to bottle homogeneity standard uncertainty

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

u_{CRM} = transport stability standard uncertainty

CRM/RM Expanded Uncertainty (2) = $U_{CRM} = k(u_{CRM}^2 + u_{CRM}^2 + u_{CRM}^2 + u_{CRM}^2 + u_{CRM}^2)^{1/2}$
 k = coverage factor = 2
 u_{CRM} = bottle to bottle homogeneity standard uncertainty
 u_{CRM} = long term stability standard uncertainty (storage)
 u_{CRM} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

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

4.1 Thermometer Calibration

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

4.2 Balance Calibration

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

4.3 Glassware Calibration

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

5.0

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

CRM/RMs are tested for trace metallic impurities by Axial ICP-OES and ICP-MS. The result from the most sensitive method for each element, is reported below. Solutions tested by ICP-MS were analyzed in an UHPA-filtered Clean Room. An UHPA-filter is 99.9985% efficient for the removal of particles down to 0.3 µm.

M Ag	<	0.000536	M Eu	<	0.000268	O Na	<	0.032670	M Se	<	0.001204	O Zn	<	0.003267
M Al	<	0.000872	O Fe	<	0.003225	O Nb	<	0.043560	O Si	<	0.004735	O Zr	<	0.043560
M As	<	0.008586	M Ga	<	0.000268	M Nd	<	0.000268	M Sm	<	0.000268			
M Au	<	0.004577	M Gd	<	0.000268	O Ni	<	0.010890	M Sn	<	0.00096			
O B	<	0.008929	M Ge	<	0.002146	M Os	<	0.000269	O Sr	<	0.00096			
M Ba	<	0.002683	M Hf	<	0.002161	O P	<	0.054450	M Ta	<	0.010560			
M Be	<	0.005366	M Hg	<	0.003231	M Pb	<	0.001073	M Tb	<	0.000268			
M Bi	<	0.001609	M Ho	<	0.000268	M Pd	<	0.000268	M Th	<	0.001341			
O Ca	<	0.000676	M In	<	0.002683	M Pr	<	0.000268	M Tl	<	0.053663			
M Cd	<	0.000268	M Ir	<	0.000269	M Pt	<	0.000536	S Ti	<				
M Co	<	0.000268	M K	<	0.001172	M Rb	<	0.000268	M Tl	<	0.000268			
M Cr	<	0.000752	O Li	<	0.000268	M Re	<	0.000268	M Tm	<	0.000268			
M Cs	<	0.000268	M Lu	<	0.000268	M Rh	<	0.000268	M U	<	0.000268			
O Cu	<	0.010890	O Mg	<	0.005445	I S	<	0.006976	M Y	<	0.002146			
M Dy	<	0.000268	O Mn	<	0.003267	M Sb	<	0.004900	M Yb	<	0.000536			
M Er	<	0.000268	M Mo	<	0.000774	O Sc	<							

6.0 INTENDED USE

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

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

- Store between approximately 4° - 30° C while in sealed TCT bag.
- While stored in the sealed TCT bag, transpiration of this CRM/RM is negligible. After opening the sealed TCT bag transpiration of the CRM/RM will occur, resulting in a gradual increase in the analyte concentration(s). It is the responsibility of the user to account for this effect. When the bottle is weighed both before and after being placed in storage, the mass difference observed will be a measure of transpiration mass loss.
- After opening the sealed TCT bag, keep cap tightly sealed when not in use and store between 4° - 24° C to minimize the effects of transpiration. Use at 20° ± 4° C to minimize volumetric dilution error when using the reported density. Do not pipette from the container. Do not return removed aliquots to container.

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

Atomic Weight; Valence: 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); K₂SiO₃ - no KF if silica not present); Organic Matrices (Dry ash at 450°C in P10 and dissolve by heating with 1:1:1 H₂O / HF / H₂SO₄ or fuse ash with pyrosulfate if oxide is as plastic pigment and likely in brookite crystaline form).

Atomic Spectroscopic Information (ICP-OES D.L.s are given as radial/axial view):

Technique/Line	Estimated D.L.	14 ppt	N/A	Order	Interferences (underlined indicates severe)
ICP-MS 48 amu					
ICP-OES 323.452 nm	0.0054 / 0.00092 µg/mL				14N16O18O, 14N17N2, 36Ar12C, 48Ca, [96X=2 (where X = Zr, Mo, Ru)]
ICP-OES 334.941 nm	0.0038 / 0.00028 µg/mL				Ce, Ar, Ni
ICP-OES 336.121 nm	0.0053 / 0.00034 µg/mL				Nb, Ta, Cr, U
HF Note: This standard should not be prepared or stored in glass.					W, Mo, Co

8.0

HAZARDOUS INFORMATION

HOMOGENEITY

9.0

10.0 QUALITY STANDARD DOCUMENTATION

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

10.1 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

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

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

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

11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY
Inorganic Ventures, 300 Technology Drive, Chesapeake, VA 24073, USA. Telephone: 800.868.6786; 540.565.3030; Fax: 540.565.3030; Email: info@inorganicventures.com

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

11.1 Certification Issue Date

June 17, 2022

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

11.2 Lot Expiration Date

- June 17, 2027

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

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

11.3 Period of Validity

- Sealed TCT Bag Open Date:

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

12.0

NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Approved By:

Thomas Kozlikowski
Manager, Quality Control

Certifying Officer:

Paul Gaines
Chairman / Senior Technical Director

Paul Gaines

80978



MS981

R:6/11/24



CERTIFIED WEIGHT REPORT:

Part Number:
Lot Number:
Description:

57092
060724
Uranium (U)

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

060727
Ambient (20 °C)
1000
6UTB

Volume shown below was diluted to (mL): 2000.07

5E-05 Balance Uncertainty
0.100 Flask Uncertainty

Lot # Solvent:
24002546 Nitric Acid

2.0% Nitric Acid
40.0 (mL)

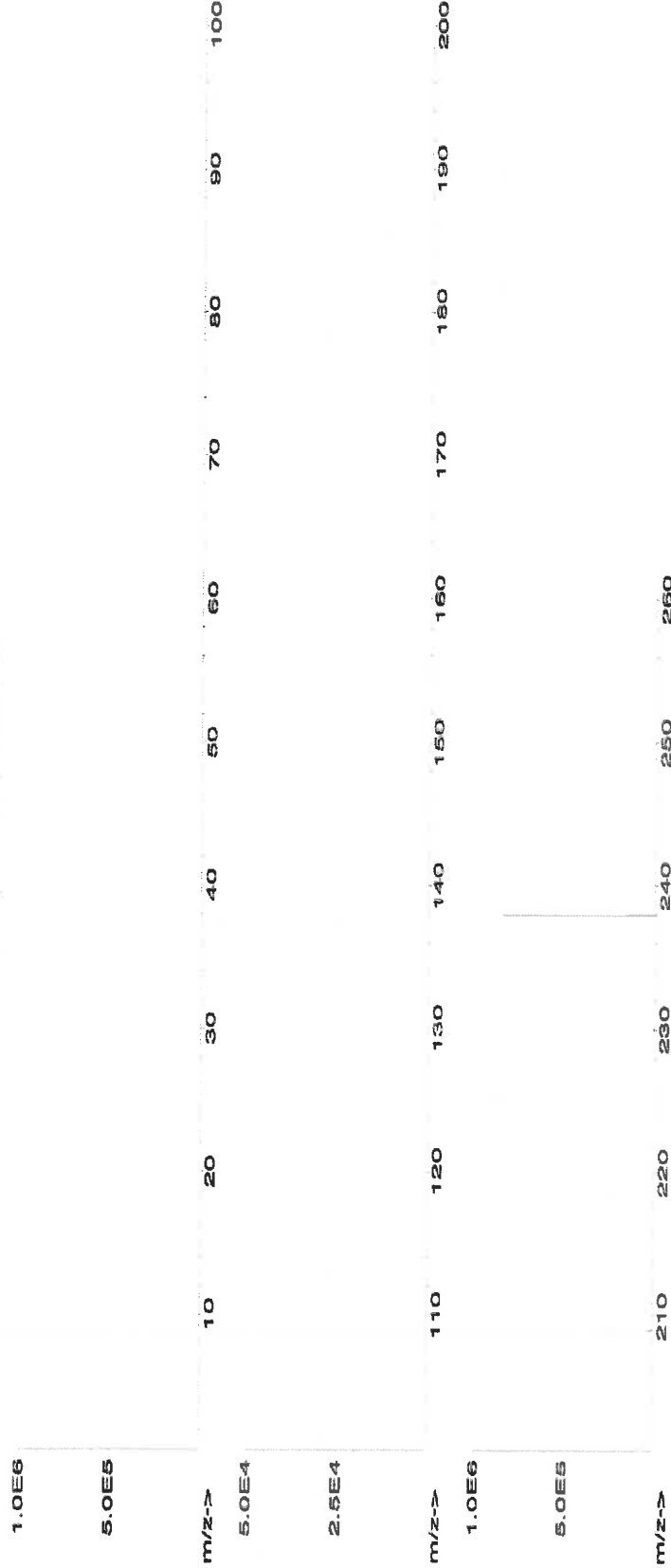
<i>Giovanni Esposito</i>	
Formulated By:	Giovanni Esposito
<i>Pedro L. Rentas</i>	
Reviewed By:	Pedro L. Rentas

SDS Information

Compound	Part Number	Lot Number	Dilution Factor	Initial Vol. (mL)	Uncertainty Pipette (mL)	Nominal Conc. (µg/mL)	Initial Conc. (µg/mL)	Final Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	(Solvent Safety Info. On Attached pg.)	CAS#	OSHA PEL (TWA)	LD50	NIST SRM
----------	-------------	------------	-----------------	-------------------	--------------------------	-----------------------	-----------------------	---------------------	----------------------------------	--	------	----------------	------	----------

1. Uranyl nitrate hexahydrate (U) 58192 041524 0.1000 200.0 0.084 1000 10001.5 1000.0 2.2 13620-83-7 0.05 mg/m3 orl-rat 1040 mg/kg 3164

[1] Spectrum No.1 [23.264 sec]:57092.D# [Count] [Linear]



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

Trace Metals Verification by ICP-MS ($\mu\text{g/mL}$)																			
Al	<0.02	Cd	<0.02	Dy	<0.02	Hf	<0.02	Li	<0.02	Ni	<0.02	Pt	<0.02	Se	<0.2	Tb	<0.02	W	<0.02
Sb	<0.02	Ca	<0.2	Er	<0.02	Ho	<0.02	Lu	<0.02	Nb	<0.02	Re	<0.02	Si	<0.02	Te	<0.02	U	<0.02
As	<0.2	Ce	<0.02	Eu	<0.02	In	<0.02	Mg	<0.02	Os	<0.01	Rh	<0.02	Ag	<0.02	Tl	<0.02	V	<0.02
Ba	<0.02	Cs	<0.02	Gd	<0.02	Ir	<0.02	Mn	<0.02	Pd	<0.02	Rb	<0.02	Na	<0.2	Th	<0.02	Yb	<0.02
Be	<0.01	Cr	<0.02	Ga	<0.2	Fe	<0.02	Hg	<0.2	P	<0.2	Ru	<0.02	Sr	<0.02	Tm	<0.02	Y	<0.02
Bi	<0.02	Co	<0.02	Ge	<0.02	La	<0.02	Mo	<0.02	Pt	<0.02	Sm	<0.02	S	<0.02	Sn	<0.02	Zn	<0.02
B	<0.02	Cu	<0.02	Au	<0.02	Pb	<0.02	Nd	<0.02	K	<0.02	Sc	<0.2	Ta	<0.02	Ti	<0.02	Zr	<0.02

(T) = Target analyte

Physical Characterization:

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

Certified by:

- * The certified value is the concentration calculated from gravimetric and volumetric measurements unless otherwise stated.
- * Purified acids, 18.2 megohm deionized water, calibrated Class A glassware and the highest purity raw materials are used in the preparation of all standards.
- * All standard containers are meticulously cleaned prior to use.
- * Standards are prepared gravimetrically using balances that are calibrated with weights traceable to NIST (see above).
- * Standards are certified (+/-) 0.5% of the stated value, unless otherwise stated.
- * All standards should be stored with caps tight and under appropriate laboratory conditions.
- * Uncertainty Reference: Taylor, B.N. and Kuyat, C.E., "Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Result," NIST Technical Note 1297, U.S. Government Printing Office, Washington, D.C. (1994).

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Certified Reference Material CRM



45982 R: 6/11/24

CERTIFIED WEIGHT REPORT:

Part Number:
Lot Number:
Description:

57038
031524
Strontium (Sr)

Solvent: 24002546 Nitric Acid

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

031527
Ambient (20 °C)
1000
6UTB
5E-05 Balance Uncertainty
0.100 Flask Uncertainty

Weight shown below was diluted to (mL): 2000.07

Lot #

2% 40.0 Nitric Acid
(mL)

Formulated By:	Benson Chan	031524
Reviewed By:	Pedro L. Rentas	031524

SDS Information

Expanded

Uncertainty

(Solvent Safety Info. On Attached pg.)

+/- (µg/mL)

LD50

CAS#

OSHA PEL (TWA)

Actual

Conc. (µg/mL)

Actual

Weight (g)

Target

Weight (g)

Assay

Purity (%)

Purity (%)

Nominal

Conc. (µg/mL)

Lot

Number

RM#

IN017

SR202018A1

1000

89.997

0.10

41.2

4.85470

4.85502

1000.1

2.0

10042-76-9

NA

orl-rat >2000mg/kg

3153a

1. Strontium nitrate (Sr)

[1] Spectrum No.1 [14.495 sec]:58136.D# [Count] [Linear]

5.0E6

2.5E6

m/z-->

1.0E6

5.0E5

m/z-->

5.0E6

2.5E6

m/z-->

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

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

(T) = Target analyte

Physical Characterization:

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

Certified by:

- * The certified value is the concentration calculated from gravimetric and volumetric measurements unless otherwise stated.
- * Purified acids, 18.2 megohm deionized water, calibrated Class A glassware and the highest purity raw materials are used in the preparation of all standards.
- * All standard containers are meticulously cleaned prior to use.
- * Standards are prepared gravimetrically using balances that are calibrated with weights traceable to NIST (see above).
- * Standards are certified (+/-) 0.5% of the stated value, unless otherwise stated.
- * All Standards should be stored with caps tight and under appropriate laboratory conditions.
- * Uncertainty Reference: Taylor, B.N. and Kuyat, C.E., "Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Result," NIST Technical Note 1297, U.S. Government Printing Office, Washington, D.C. (1994).

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2024 JUN 7 10:01 AM



MS983

R: 6/11/24



CERTIFIED WEIGHT REPORT:

Part Number:
Lot Number:
Description:

57040
071423
Zirconium (Zr)

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

071426
Ambient (20 °C)
1000
6UTB

Volume shown below was diluted to (mL): 2000.02

5E-05 Balance Uncertainty
0.058 Flask Uncertainty

Lot # Solvent:
21110221 Nitric Acid

2.0% Nitric Acid
40.0 (mL)

Formulated By:	Benson Chan
Reviewed By:	Pedro L. Rentas

Expanded
Uncertainty
+/- (µg/mL)

SDS Information
(Solvent Safety Info. On Attached pg.)
CAS# OSHA PEL (TWA) LD50

Compound	Part Number	Lot Number	Dilution Factor	Initial Vol. (mL)	Uncertainty Pipette (mL)	Nominal Conc. (µg/mL)	Initial Conc. (µg/mL)	Final Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	CAS#	OSHA PEL (TWA)	LD50	NIST SRM
1. Zirconyl chloride octahydrate (Zr)	58140	070621	0.1000	200.0	0.084	1000	10000.3	1000.0	2.2	13520-92-8	NA	NA	NA

[1] Spectrum No.1 [41.153 sec]:57040.D# [Count] [Linear]

1.OE6

5.OE5

m/z-->

1.OE8

5.OE7

m/z-->

1.OE8

5.OE7

m/z-->

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

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

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

(T) = Target analyte

Physical Characterization:

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

Certified by:

[Signature]

- * The certified value is the concentration calculated from gravimetric and volumetric measurements unless otherwise stated.
- * Purified acids, 18.2 megohm deionized water, calibrated Class A glassware and the highest purity raw materials are used in the preparation of all standards.
- * All standard containers are meticulously cleaned prior to use.
- * Standards are prepared gravimetrically using balances that are calibrated with weights traceable to NIST (see above).
- * Standards are certified (+/-) 0.5% of the stated value, unless otherwise stated.
- * All standards should be stored with caps tight and under appropriate laboratory conditions.
- * Uncertainty Reference: Taylor, B.N. and Kuyat, C.E., "Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Result," NIST Technical Note 1297, U.S. Government Printing Office, Washington, D.C. (1994).

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Certificate of Analysis

300 Technology Drive
Christiansburg, VA 24073 USA
inorganicventures.com

R: 2/22/2024
M5999

P: 800-669-6799/540-585-3030
F: 540-585-3012
info@inorganicventures.com

1.0 ACCREDITATION / REGISTRATION

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



2.0 PRODUCT DESCRIPTION

Product Code: Multi Analyte Custom Grade Solution
Catalog Number: CLPP-SPK-1
Lot Number: T2-MEB721963
Matrix: 7% (v/v) HNO₃
Value / Analyte(s):
2 000 µg/mL ea: Aluminum, Barium,
1 000 µg/mL ea: Iron,
500 µg/mL ea: Manganese, Nickel,
Vanadium, Zinc,
Cobalt,
250 µg/mL ea: Copper,
200 µg/mL ea: Chromium,
50 µg/mL ea: Beryllium, Silver

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	Chromium, Cr	200.0 ± 1.1 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	Manganese, Mn	500.0 ± 2.0 µg/mL
Nickel, Ni	500.0 ± 2.2 µg/mL	Silver, Ag	50.00 ± 0.22 µg/mL
Vanadium, V	500.0 ± 2.2 µg/mL	Zinc, Zn	500.0 ± 2.2 µg/mL

Density: 1.070 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
Ba	ICP Assay	3104a	140909
Ba	Gravimetric		See Sec. 4.2
Be	ICP Assay	3105a	090514
Be	Calculated		See Sec. 4.2
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
Mn	ICP Assay	3132	050429
Mn	EDTA	928	928
Ni	ICP Assay	3136	120619
Ni	EDTA	928	928
V	IC Assay	3165	160906
V	EDTA	928	928
Zn	ICP Assay	3168a	120629
Zn	EDTA	928	928

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of $k = 2$.

Characterization of CRM/RM by Two or More Methods

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

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

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

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

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

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

k = coverage factor = 2

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

u_{bb} = bottle to bottle homogeneity standard uncertainty

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

u_{ts} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

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

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

X_a = mean of Assay Method A with

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

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

k = coverage factor = 2

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

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{tts} = 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

July 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

- July 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





Certified Reference Material CRM
R: 01/03/24 M6033



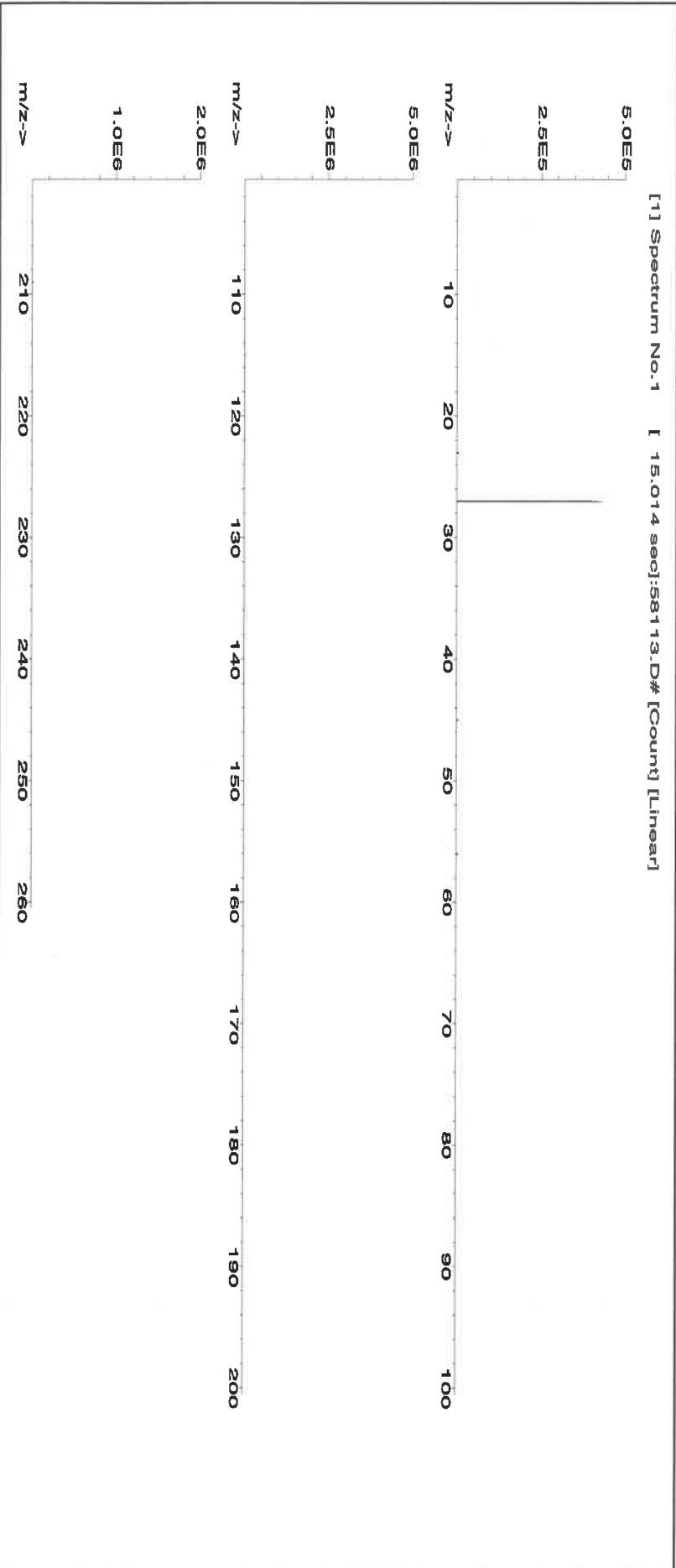
CERTIFIED WEIGHT REPORT:

Part Number: 58113
Lot Number: 011623
Description: Aluminum (Al)
Expiration Date: 011626
Recommended Storage: Ambient (20 °C)
Nominal Concentration (µg/mL): 10000
NIST Test Number: 6LUTB
Weight shown below was diluted to (mL): 2000.02
Solvent: 20510011 Nitric Acid
Lot #
2% 40.0 (mL) Nitric Acid
5E-05 Balance Uncertainty
0.058 Flask Uncertainty

<i>Giovanni Esposito</i>	
Formulated By:	Giovanni Esposito
Reviewed By:	<i>Pedro L. Rentas</i>
	Pedro L. Rentas
	011623

Compound	RM#	Lot Number	Nominal Conc. (µg/mL)	Purity (%)	Uncertainty Purity (%)	Assay (%)	Target Weight (g)	Actual Weight (g)	Actual Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	CAS#	OSHA PEL (TWA)	LD50	NIST SRM
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1. Aluminum nitrate nonahydrate (Al) IN022 ALUM12021A1 10000 99.999 0.10 7.30 273.9779 274.0078 10001.1 20.0 7784-27-2 2 mg/m³ or rat 3671 mg/kg 3101a



Hydrochloric Acid, 36.5–38.0%
BAKER INSTRA-ANALYZED® Reagent
For Trace Metal Analysis

 **avantor™**



Material No.: 9530-33
Batch No.: 24D1562005
Manufactured Date: 2024-03-18
Retest Date: 2029-03-17
Revision No.: 0

Received! — 08/01/2024
pater
m6039
m6040

Certificate of Analysis

Test	Specification	Result
ACS – Assay (as HCl) (by acid–base titrn)	36.5 – 38.0 %	37.6 %
ACS – Color (APHA)	≤ 10	5
ACS – Residue after Ignition	≤ 3 ppm	< 1 ppm
ACS – Specific Gravity at 60°/60°F	1.185 – 1.192	1.192
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	< 5.0 ppb
Arsenic and Antimony (as As)	≤ 5.0 ppb	< 3.0 ppb
Trace Impurities – Barium (Ba)	≤ 1.0 ppb	< 1.0 ppb
Trace Impurities – Beryllium (Be)	≤ 1.0 ppb	< 1.0 ppb
Trace Impurities – Bismuth (Bi)	≤ 10.0 ppb	< 10.0 ppb
Trace Impurities – Boron (B)	≤ 20.0 ppb	2.2 ppb
Trace Impurities – Cadmium (Cd)	≤ 1.0 ppb	< 1.0 ppb
Trace Impurities – Calcium (Ca)	≤ 50.0 ppb	31.0 ppb
Trace Impurities – Chromium (Cr)	≤ 1.0 ppb	0.5 ppb
Trace Impurities – Cobalt (Co)	≤ 1.0 ppb	0.2 ppb
Trace Impurities – Copper (Cu)	≤ 1.0 ppb	< 0.1 ppb
Trace Impurities – Gallium (Ga)	≤ 1.0 ppb	< 0.2 ppb
Trace Impurities – Germanium (Ge)	≤ 3.0 ppb	< 2.0 ppb
Trace Impurities – Gold (Au)	≤ 4.0 ppb	< 0.2 ppb
Heavy Metals (as Pb)	≤ 100 ppb	< 50 ppb
Trace Impurities – Iron (Fe)	≤ 15 ppb	3 ppb

>>> Continued on page 2 >>>

Hydrochloric Acid, 36.5–38.0%
BAKER INSTRA-ANALYZED® Reagent
For Trace Metal Analysis

 **avantorsm**



Material No.: 9530-33
Batch No.: 24D1562005

Test	Specification	Result
Trace Impurities – Lead (Pb)	≤ 1.0 ppb	< 0.2 ppb
Trace Impurities – Lithium (Li)	≤ 1.0 ppb	< 0.1 ppb
Trace Impurities – Magnesium (Mg)	≤ 10.0 ppb	2.2 ppb
Trace Impurities – Manganese (Mn)	≤ 1.0 ppb	< 0.2 ppb
Trace Impurities – Mercury (Hg)	≤ 0.5 ppb	< 0.1 ppb
Trace Impurities – Molybdenum (Mo)	≤ 10.0 ppb	< 5.0 ppb
Trace Impurities – Nickel (Ni)	≤ 4.0 ppb	0.2 ppb
Trace Impurities – Niobium (Nb)	≤ 1.0 ppb	< 0.2 ppb
Trace Impurities – Potassium (K)	≤ 9.0 ppb	< 1.0 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	< 0.3 ppb
Trace Impurities – Sodium (Na)	≤ 100.0 ppb	2.0 ppb
Trace Impurities – Strontium (Sr)	≤ 1.0 ppb	< 0.2 ppb
Trace Impurities – Tantalum (Ta)	≤ 1.0 ppb	< 0.9 ppb
Trace Impurities – Thallium (Tl)	≤ 5.0 ppb	< 2.0 ppb
Trace Impurities – Tin (Sn)	≤ 5.0 ppb	< 0.4 ppb
Trace Impurities – Titanium (Ti)	≤ 1.0 ppb	0.2 ppb
Trace Impurities – Vanadium (V)	≤ 1.0 ppb	< 0.2 ppb
Trace Impurities – Zinc (Zn)	≤ 5.0 ppb	< 0.2 ppb
Trace Impurities – Zirconium (Zr)	≤ 1.0 ppb	< 0.1 ppb

>>> Continued on page 3 >>>

Hydrochloric Acid, 36.5–38.0%
BAKER INSTRA-ANALYZED® Reagent
For Trace Metal Analysis

 **avantor™**



Material No.: 9530-33
Batch No.: 24D1562005

Test	Specification	Result
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For Laboratory, Research, or Manufacturing Use
Product Information (not specifications):
Appearance (clear, fuming liquid)
Meets ACS Specifications
Storage Condition: Store below 25 °C.

Country of Origin: USA
Packaging Site: Phillipsburg Mfg Ctr & DC



Jamie Croak
Director Quality Operations, Bioscience Production

360

18/19/24, M6055

300 Technology Drive
Christiansburg, VA 24073 USA
inorganicventures.com

P: 800-669-6799/540-585-3030

F: 540-585-3012

info@inorganicventures.com

1.0 ACCREDITATION / REGISTRATION

INORGANIC VENTURES is accredited to ISO 17034, "General Requirements for the Competence of Reference Material Producers" and ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories".

Inorganic Ventures is also an ISO 9001 registered manufacturer (QSR Certificate Number QSR-1034).



2.0 PRODUCT DESCRIPTION

Product Code: Multi Analyte Custom Grade Solution
Catalog Number: IV-STOCK-12
Lot Number: U2-MEB734294
Matrix: 5% (v/v) HNO₃
Value / Analyte(s): 10 µg/mL ea:
Barium, Beryllium,
Bismuth, Cerium,
Cobalt, Indium,
Lithium, Nickel,
Lead, Uranium

3.0 CERTIFIED VALUES AND UNCERTAINTIES

ANALYTE	CERTIFIED VALUE	ANALYTE	CERTIFIED VALUE
Barium, Ba	10.01 ± 0.04 µg/mL	Beryllium, Be	10.01 ± 0.05 µg/mL
Bismuth, Bi	10.01 ± 0.06 µg/mL	Cerium, Ce	10.01 ± 0.04 µg/mL
Cobalt, Co	10.01 ± 0.05 µg/mL	Indium, In	10.01 ± 0.04 µg/mL
Lead, Pb	10.00 ± 0.04 µg/mL	Lithium, Li	10.01 ± 0.04 µg/mL
Nickel, Ni	10.01 ± 0.04 µg/mL	Uranium, U	10.01 ± 0.05 µg/mL

Density: 1.025 g/mL (measured at 20 ± 4 °C)

Assay Information:

ANALYTE	METHOD	NIST SRM#	SRM LOT#
Ba	ICP Assay	3104a	140909
Ba	Calculated		See Sec. 4.2
Ba	Gravimetric		See Sec. 4.2
Be	ICP Assay	3105a	090514
Be	Calculated		See Sec. 4.2
Bi	ICP Assay	3106	180815
Ce	ICP Assay	3110	160830
Ce	EDTA	928	928
Ce	Calculated		See Sec. 4.2
Co	ICP Assay	3113	190630
Co	EDTA	928	928
Co	Calculated		See Sec. 4.2
In	ICP Assay	3124a	110516
In	EDTA	928	928
In	Calculated		See Sec. 4.2
Li	ICP Assay	3129a	100714
Li	Calculated		See Sec. 4.2
Li	Gravimetric		See Sec. 4.2
Ni	ICP Assay	3136	120619
Ni	EDTA	928	928
Ni	Calculated		See Sec. 4.2
Pb	ICP Assay	3128	101026
Pb	EDTA	928	928
Pb	Calculated		See Sec. 4.2
U	ICP Assay	traceable to 3164	R2-U689597
U	Calculated		See Sec. 4.2

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of $k = 2$.

Characterization of CRM/RM by Two or More Methods

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

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

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

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

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

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

k = coverage factor = 2

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

u_{bb} = bottle to bottle homogeneity standard uncertainty

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

u_{ts} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

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

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

X_a = mean of Assay Method A with

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

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

k = coverage factor = 2

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

u_{bb} = bottle to bottle homogeneity standard uncertainty

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

u_{ts} = transport stability standard uncertainty

Certified Abundance:

IV's Certified Abundance

Isotope	Atom %
Uranium 238U	99.8 ± 0.1
Uranium 235U	0.19 ± 0.05

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

8.0 HAZARDOUS INFORMATION

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

9.0 HOMOGENEITY

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

10.0 QUALITY STANDARD DOCUMENTATION

10.1 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

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

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

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

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

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

11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

June 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

- June 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



Hydrochloric Acid, 36.5–38.0%

BAKER INSTRA-ANALYZED® Reagent

For Trace Metal Analysis

 **avantor™**



M6094
M6095

metdig
10/21/24

Material No.: 9530-33
Batch No.: 24D1562005
Manufactured Date: 2024-03-18
Retest Date: 2029-03-17
Revision No.: 0

Certificate of Analysis

Test	Specification	Result
ACS – Assay (as HCl) (by acid–base titrn)	36.5 – 38.0 %	37.6 %
ACS – Color (APHA)	≤ 10	5
ACS – Residue after Ignition	≤ 3 ppm	< 1 ppm
ACS – Specific Gravity at 60°/60°F	1.185 – 1.192	1.192
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	< 5.0 ppb
Arsenic and Antimony (as As)	≤ 5.0 ppb	< 3.0 ppb
Trace Impurities – Barium (Ba)	≤ 1.0 ppb	< 1.0 ppb
Trace Impurities – Beryllium (Be)	≤ 1.0 ppb	< 1.0 ppb
Trace Impurities – Bismuth (Bi)	≤ 10.0 ppb	< 10.0 ppb
Trace Impurities – Boron (B)	≤ 20.0 ppb	2.2 ppb
Trace Impurities – Cadmium (Cd)	≤ 1.0 ppb	< 1.0 ppb
Trace Impurities – Calcium (Ca)	≤ 50.0 ppb	31.0 ppb
Trace Impurities – Chromium (Cr)	≤ 1.0 ppb	0.5 ppb
Trace Impurities – Cobalt (Co)	≤ 1.0 ppb	0.2 ppb
Trace Impurities – Copper (Cu)	≤ 1.0 ppb	< 0.1 ppb
Trace Impurities – Gallium (Ga)	≤ 1.0 ppb	< 0.2 ppb
Trace Impurities – Germanium (Ge)	≤ 3.0 ppb	< 2.0 ppb
Trace Impurities – Gold (Au)	≤ 4.0 ppb	< 0.2 ppb
Heavy Metals (as Pb)	≤ 100 ppb	< 50 ppb
Trace Impurities – Iron (Fe)	≤ 15 ppb	3 ppb

>>> Continued on page 2 >>>

Hydrochloric Acid, 36.5–38.0%
BAKER INSTRA-ANALYZED® Reagent
For Trace Metal Analysis



Material No.: 9530-33
Batch No.: 24D1562005

Test	Specification	Result
Trace Impurities – Lead (Pb)	≤ 1.0 ppb	< 0.2 ppb
Trace Impurities – Lithium (Li)	≤ 1.0 ppb	< 0.1 ppb
Trace Impurities – Magnesium (Mg)	≤ 10.0 ppb	2.2 ppb
Trace Impurities – Manganese (Mn)	≤ 1.0 ppb	< 0.2 ppb
Trace Impurities – Mercury (Hg)	≤ 0.5 ppb	< 0.1 ppb
Trace Impurities – Molybdenum (Mo)	≤ 10.0 ppb	< 5.0 ppb
Trace Impurities – Nickel (Ni)	≤ 4.0 ppb	0.2 ppb
Trace Impurities – Niobium (Nb)	≤ 1.0 ppb	< 0.2 ppb
Trace Impurities – Potassium (K)	≤ 9.0 ppb	< 1.0 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	< 0.3 ppb
Trace Impurities – Sodium (Na)	≤ 100.0 ppb	2.0 ppb
Trace Impurities – Strontium (Sr)	≤ 1.0 ppb	< 0.2 ppb
Trace Impurities – Tantalum (Ta)	≤ 1.0 ppb	< 0.9 ppb
Trace Impurities – Thallium (Tl)	≤ 5.0 ppb	< 2.0 ppb
Trace Impurities – Tin (Sn)	≤ 5.0 ppb	< 0.4 ppb
Trace Impurities – Titanium (Ti)	≤ 1.0 ppb	0.2 ppb
Trace Impurities – Vanadium (V)	≤ 1.0 ppb	< 0.2 ppb
Trace Impurities – Zinc (Zn)	≤ 5.0 ppb	< 0.2 ppb
Trace Impurities – Zirconium (Zr)	≤ 1.0 ppb	< 0.1 ppb

>>> Continued on page 3 >>>

Hydrochloric Acid, 36.5–38.0%
BAKER INSTRA-ANALYZED® Reagent
For Trace Metal Analysis

 **avantorsm**



Material No.: 9530-33
Batch No.: 24D1562005

Test	Specification	Result
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For Laboratory, Research, or Manufacturing Use
Product Information (not specifications):
Appearance (clear, fuming liquid)
Meets ACS Specifications
Storage Condition: Store below 25 °C.

Country of Origin: USA
Packaging Site: Phillipsburg Mfg Ctr & DC



Jamie Croak
Director Quality Operations, Bioscience Production

367

Nitric Acid 69%
CMOS

avantor™



Receive:
9/29/24
met dig

Material No.: 9606-03
Batch No.: 24B1362001
Manufactured Date: 2024-01-25
Retest Date: 2029-01-23
Revision No.: 0

Certificate of Analysis

Test	Specification	Result
Assay (HNO ₃)	69.0 – 70.0 %	69.6 %
Appearance	Passes Test	Passes Test
Color (APHA)	≤ 10	5
Residue after Ignition	≤ 2 ppm	< 1 ppm
Chloride (Cl)	≤ 0.08 ppm	< 0.03 ppm
Phosphate (PO ₄)	≤ 0.10 ppm	< 0.03 ppm
Sulfate (SO ₄)	≤ 0.2 ppm	< 0.2 ppm
Trace Impurities – Aluminum (Al)	≤ 40.0 ppb	< 1.0 ppb
Arsenic and Antimony (as As)	≤ 5.0 ppb	< 2.0 ppb
Trace Impurities – Barium (Ba)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities – Beryllium (Be)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities – Bismuth (Bi)	≤ 20.0 ppb	< 10.0 ppb
Trace Impurities – Boron (B)	≤ 10.0 ppb	< 5.0 ppb
Trace Impurities – Cadmium (Cd)	≤ 50 ppb	< 1 ppb
Trace Impurities – Calcium (Ca)	≤ 50.0 ppb	< 0.2 ppb
Trace Impurities – Chromium (Cr)	≤ 30.0 ppb	< 1.0 ppb
Trace Impurities – Cobalt (Co)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities – Copper (Cu)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities – Gallium (Ga)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities – Germanium (Ge)	≤ 20 ppb	< 10 ppb
Trace Impurities – Gold (Au)	≤ 20 ppb	< 5 ppb
Heavy Metals (as Pb)	≤ 100 ppb	< 50 ppb
Trace Impurities – Iron (Fe)	≤ 40.0 ppb	< 1.0 ppb
Trace Impurities – Lead (Pb)	≤ 20.0 ppb	< 10.0 ppb
Trace Impurities – Lithium (Li)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities – Magnesium (Mg)	≤ 20 ppb	< 1 ppb
Trace Impurities – Manganese (Mn)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities – Nickel (Ni)	≤ 20.0 ppb	< 5.0 ppb

>>> Continued on page 2 >>>

Test	Specification	Result
Trace Impurities – Niobium (Nb)	≤ 50.0 ppb	< 1.0 ppb
Trace Impurities – Potassium (K)	≤ 50 ppb	< 10 ppb
Trace Impurities – Silicon (Si)	≤ 50 ppb	< 10 ppb
Trace Impurities – Silver (Ag)	≤ 20.0 ppb	< 1.0 ppb
Trace Impurities – Sodium (Na)	≤ 150.0 ppb	< 5.0 ppb
Trace Impurities – Strontium (Sr)	≤ 30.0 ppb	< 1.0 ppb
Trace Impurities – Tantalum (Ta)	≤ 10.0 ppb	< 5.0 ppb
Trace Impurities – Thallium (Tl)	≤ 10.0 ppb	< 5.0 ppb
Trace Impurities – Tin (Sn)	≤ 20.0 ppb	< 10.0 ppb
Trace Impurities – Titanium (Ti)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities – Vanadium (V)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities – Zinc (Zn)	≤ 20.0 ppb	< 1.0 ppb
Trace Impurities – Zirconium (Zr)	≤ 10.0 ppb	< 1.0 ppb
Particle Count – 0.5 µm and greater	≤ 60 par/ml	3 par/ml
Particle Count – 1.0 µm and greater	≤ 10 par/ml	1 par/ml

>>> Continued on page 3 >>>

Nitric Acid 69%
CMOS

avantor™



Material No.: 9606-03
Batch No.: 24B1362001

Test	Specification	Result
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For Microelectronic Use

Country of Origin: USA
Packaging Site: Phillipsburg Mfg Ctr & DC

A handwritten signature in black ink, appearing to read "Ken Koehnlein".

Ken Koehnlein
Sr. Manager, Quality Assurance

370

Nitric Acid 69%
CMOS



R → 11/12/24

M6126

Material No.: 9606-03
Batch No.: 24D1062002
Manufactured Date: 2024-03-26
Retest Date: 2029-03-25
Revision No.: 0

Certificate of Analysis

Test	Specification	Result
Assay (HNO ₃)	69.0 – 70.0 %	69.7 %
Appearance	Passes Test	Passes Test
Color (APHA)	≤ 10	5
Residue after Ignition	≤ 2 ppm	1 ppm
Chloride (Cl)	≤ 0.08 ppm	< 0.03 ppm
Phosphate (PO ₄)	≤ 0.10 ppm	< 0.03 ppm
Sulfate (SO ₄)	≤ 0.2 ppm	< 0.2 ppm
Trace Impurities – Aluminum (Al)	≤ 40.0 ppb	< 1.0 ppb
Arsenic and Antimony (as As)	≤ 5.0 ppb	< 2.0 ppb
Trace Impurities – Barium (Ba)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities – Beryllium (Be)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities – Bismuth (Bi)	≤ 20.0 ppb	< 10.0 ppb
Trace Impurities – Boron (B)	≤ 10.0 ppb	< 5.0 ppb
Trace Impurities – Cadmium (Cd)	≤ 50 ppb	< 1 ppb
Trace Impurities – Calcium (Ca)	≤ 50.0 ppb	2.3 ppb
Trace Impurities – Chromium (Cr)	≤ 30.0 ppb	< 1.0 ppb
Trace Impurities – Cobalt (Co)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities – Copper (Cu)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities – Gallium (Ga)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities – Germanium (Ge)	≤ 20 ppb	< 10 ppb
Trace Impurities – Gold (Au)	≤ 20 ppb	< 5 ppb
Heavy Metals (as Pb)	≤ 100 ppb	100 ppb
Trace Impurities – Iron (Fe)	≤ 40.0 ppb	< 1.0 ppb
Trace Impurities – Lead (Pb)	≤ 20.0 ppb	< 10.0 ppb
Trace Impurities – Lithium (Li)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities – Magnesium (Mg)	≤ 20 ppb	< 1 ppb
Trace Impurities – Manganese (Mn)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities – Nickel (Ni)	≤ 20.0 ppb	< 5.0 ppb

>>> Continued on page 2 >>>

Nitric Acid 69%
CMOS

 **avantor**TM



Material No.: 9606-03
Batch No.: 24D1062002

Test	Specification	Result
------	---------------	--------

For Microelectronic Use

Country of Origin: USA
Packaging Site: Phillipsburg Mfg Ctr & DC



Jamie Croak
Director Quality Operations, Bioscience Production

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CERTIFIED WEIGHT REPORT:

Part Number: 58111
Lot Number: 122223
Description: Sodium (Na)

Solvent: 24002546 Nitric Acid

Lot #

Expiration Date: 122226

Recommended Storage: Ambient (20 °C)

Nominal Concentration (µg/mL): 10000

NIST Test Number: 6UTB

Weight shown below was diluted to (mL): 3000.4 0.06 Flask Uncertainty

2% 60.0 (mL) Nitric Acid

<i>Aleah O Brady</i>	
Formulated By:	Aleah O Brady
Reviewed By:	Pedro L. Rentas
	122223

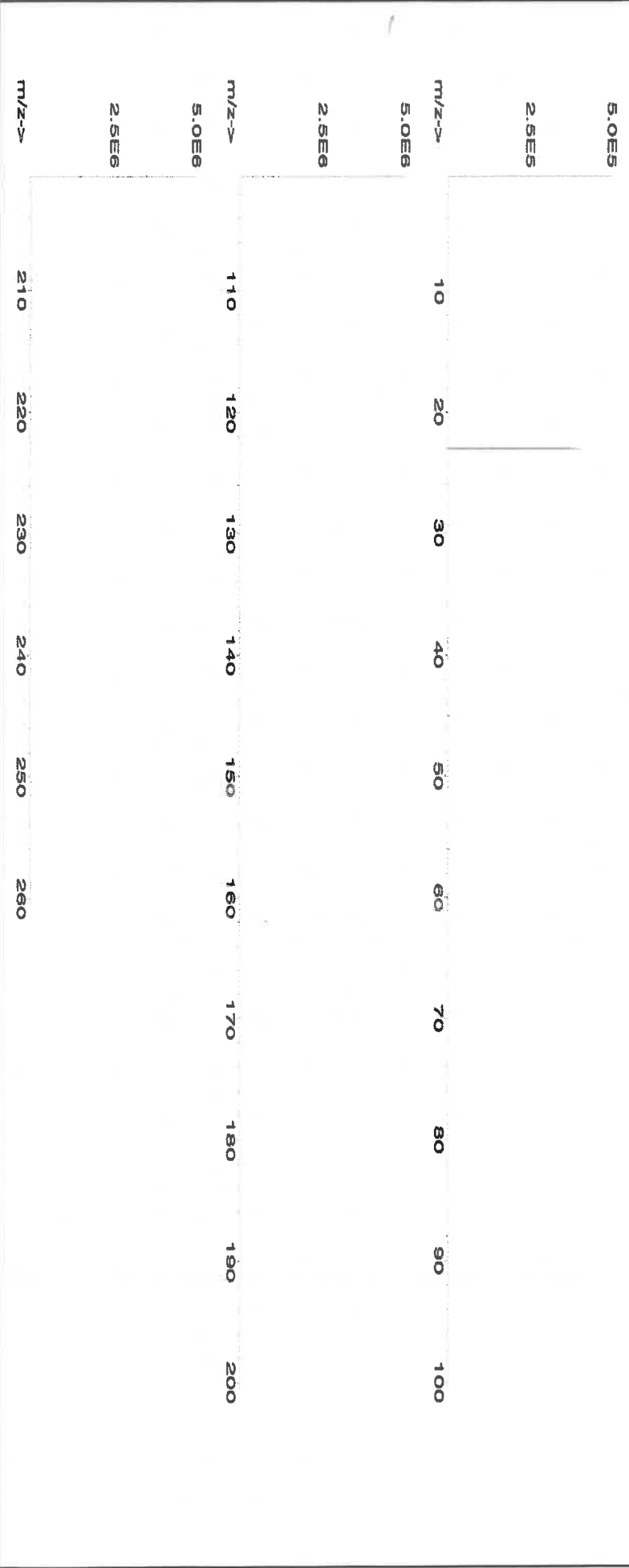
Expanded

SDS Information

Compound	Lot	Nominal Conc. (µg/mL)	Purity (%)	Uncertainty Purity (%)	Assay (%)	Target Weight (g)	Actual Weight (g)	Actual Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	CAS#	OSHA PEL (TWA)	LD50	NIST SRM
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1. Sodium nitrate (Na) IN036 NAV01201511 10000 99.999 0.10 26.9 111.5406 111.5479 10000.7 20.0 7631-99-4 5 mg/m3 or-trat 3430 mg/kg 3152a

[1] Spectrum No.1 [8.935 sec]:58111.D# [Count] [Linear]





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

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

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

(T) = Target analyte

Physical Characterization:

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

Certified by:

- * The certified value is the concentration calculated from gravimetric and volumetric measurements unless otherwise stated.
- * Purified acids, 18.2 megohm deionized water, calibrated Class A glassware and the highest purity raw materials are used in the preparation of all standards.
- * All standard containers are meticulously cleaned prior to use.
- * Standards are prepared gravimetrically using balances that are calibrated with weights traceable to NIST (see above).
- * Standards are certified (+/-) 0.5% of the stated value, unless otherwise stated.
- * All Standards should be stored with caps tight and under appropriate laboratory conditions.
- * Uncertainty Reference: Taylor, B.N. and Kuyat, C.E., "Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Result," NIST Technical Note 1297, U.S. Government Printing Office, Washington, D.C. (1994).

1.0 ACCREDITATION / REGISTRATION

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



2.0 PRODUCT DESCRIPTION

Product Code: Multi Analyte Custom Grade Solution
Catalog Number: 6020ISS
Lot Number: S2-MEB709511
Matrix: 7% (v/v) HNO₃
Value / Analyte(s): 10 µg/mL ea:
Bismuth, Holmium,
Indium, 6-Lithium,
Rhodium, Scandium,
Terbium, Yttrium

3.0 CERTIFIED VALUES AND UNCERTAINTIES

ANALYTE	CERTIFIED VALUE	ANALYTE	CERTIFIED VALUE
6-Lithium, Li6	10.00 ± 0.03 µg/mL	Bismuth, Bi	10.00 ± 0.05 µg/mL
Holmium, Ho	10.00 ± 0.05 µg/mL	Indium, In	10.00 ± 0.04 µg/mL
Rhodium, Rh	10.00 ± 0.07 µg/mL	Scandium, Sc	10.00 ± 0.04 µg/mL
Terbium, Tb	10.00 ± 0.04 µg/mL	Yttrium, Y	10.00 ± 0.04 µg/mL

Density: 1.035 g/mL (measured at 20 ± 4 °C)

Assay Information:

ANALYTE	METHOD	NIST SRM#	SRM LOT#
Bi	ICP Assay	3106	180815
Bi	Calculated		See Sec. 4.2
Ho	ICP Assay	3123a	090408
Ho	EDTA	928	928
In	ICP Assay	3124a	110516
In	EDTA	928	928
In	Calculated		See Sec. 4.2
Li6	Gravimetric		See Sec. 4.2
Rh	ICP Assay	3144	070619
Sc	ICP Assay	3148a	100701
Sc	EDTA	928	928
Tb	ICP Assay	3157a	100518
Tb	EDTA	928	928
Tb	Calculated		See Sec. 4.2
Y	ICP Assay	3167a	120314
Y	EDTA	928	928
Y	Calculated		See Sec. 4.2

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of $k = 2$.

Characterization of CRM/RM by Two or More Methods

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

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

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

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

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

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

k = coverage factor = 2

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

u_{bb} = bottle to bottle homogeneity standard uncertainty

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

u_{ts} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

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

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

X_a = mean of Assay Method A with

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

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

k = coverage factor = 2

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

u_{bb} = bottle to bottle homogeneity standard uncertainty

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

u_{ts} = transport stability standard uncertainty

Certified Abundance:

IV's Certified Abundance

Isotope	Atom %
Lithium Li6	95.6 ± 0.3
Lithium Li7	4.4 ± 0.1

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

September 03, 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 03, 2026**

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

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

11.3 Period of Validity

- Sealed TCT Bag Open Date: _____

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

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Approved By:

Michael Booth
Director, Quality Control



Certifying Officer:

Paul Gaines
Chairman / Senior Technical Director





**QATS LABORATORY INORGANIC REFERENCE MATERIAL
 INTERFERENCE CHECK SAMPLE SET FOR ICP-MS (ICSA WITH ICSB)**

NOTE: These instructions are for advisory purposes only. If any apparent conflict exists between these instructions and the analytical protocol or your contract, disregard these instructions.

APPLICATION: For use with the CLP SFAM01.0 SOW and revisions.

CAUTION: Read instructions carefully before opening bottle(s) and proceeding with the analyses.

Contains Heavy Metals
HAZARDOUS MATERIAL

Safety Data Sheets
 Available Upon Request

(A) SAMPLE DESCRIPTION

Enclosed is a set of one (1) or more bottles of an 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-0803" and for the ICSAB mixture use "ICSA-0803+ICSB-0803".**

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 the Contracting Officer, Ross Miller at miller.ross@epa.gov. If directed by Ross Miller, 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

This interference check sample set is to be used to verify elemental isobaric correction factors of inductively coupled plasma-mass spectrometers (ICP-MS). This reference material set consists of two (2) concentrated solutions. The ICSA solution contains several interferent elements and species; for a complete listing refer to the CLP SOW. The ICSB solution contains the analytes: Ag, As, Sb, Ba, Be, Cd, Co, Cr, Cu, Mn, Ni, Pb, Tl, Se, V, and Zn. This instruction sheet provides the nominal values for the ICP-MS ICS 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-0803, Interferents: Pipet 10 mL of the ICSA solution into a 100 mL volumetric flask and dilute to volume with 1% v/v HNO₃. Analyze this solution by ICP-MS.

ICSB-0803, Analytes, mixed with ICSA-0803, 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 1% v/v HNO₃. Analyze this ICSAB solution by ICP-MS.

(D) "CERTIFIED VALUE" CONCENTRATIONS OF QATS ICP-MS 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-MS ICSA-0803, AND ICSA-0803 MIXED WITH ICSB-0803							
Element	CRQL	Part A (µg/L)	Lower Limit (µg/L)	Upper Limit (µg/L)	Part A +Part B (µg/L)	Lower Limit (µg/L)	Upper Limit (µg/L)
Al	20.0	[100000]			[100000]		
Sb	2.0	(1.5)	-2.5	5.5	(22.0)	18.0	26.0
As	1.0	(0.1)	-1.9	2.1	19.0	16.2	21.9
Ba	10.0	(1.2)	-18.8	21.2	(22.0)	2.0	42.0
Be	1.0	(0)	-2.0	2.0	19.0	16.2	21.9
Cd	1.0	(0.7)	-1.3	2.7	20.0	17.0	23.0
Ca	500	[100000]			[100000]		
C		[200000]			[200000]		
Cl		[1000000]			[1000000]		
Cr	2.0	(21.0)	17.0	25.0	40.0	34.0	46.0
Co	1.0	(1.0)	-1.0	3.0	20.0	17.0	23.0
Cu	2.0	(8.0)	4.0	12.0	(25.0)	21.0	29.0
Fe	200	[100000]			[100000]		
Pb	1.0	(4.0)	2.0	6.0	25.0	21.3	28.8
Mg	500	[100000]			[100000]		
Mn	1.0	(7.0)	5.0	9.0	27.0	23.0	31.1
Mo		[2000]			[2000]		
Ni	1.0	(6.0)	4.0	8.0	24.0	20.4	27.6
P		[100000]			[100000]		
K	500	[100000]			[100000]		
Se	5.0	(0.3)	-9.7	10.3	(19.0)	9.0	29.0
Ag	1.0	(0)	-2.0	2.0	18.0	15.3	20.7
Na	500	[100000]			[100000]		
S		[100000]			[100000]		
Tl	1.0	(0)	-2.0	2.0	21.0	17.9	24.2
Ti		[2000]			[2000]		
V	5.0	(0.5)	-9.5	10.5	(19.0)	9.0	29.0
Zn	5.0	(11.0)	1.0	21.0	(29.0)	19.0	39.0

[] Indicates analytes that do not require ICP-MS determination in the ICS.

The acceptance ranges for all analytes in parentheses in the above table were determined using the listed certified value $\pm$ 2 times the associated CLP SOW CRQL. The acceptance ranges for all other analytes were determined using the certified value $\pm$ 15 percent of the listed certified value.



**QATS LABORATORY INORGANIC REFERENCE MATERIAL
 INTERFERENCE CHECK SAMPLE SET FOR ICP-MS (ICSA WITH ICSB)**

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APPLICATION: For use with the CLP SFAM01.0 SOW and revisions.

CAUTION: Read instructions carefully before opening bottle(s) and proceeding with the analyses.

Contains Heavy Metals
HAZARDOUS MATERIAL

Safety Data Sheets
 Available Upon Request

(A) SAMPLE DESCRIPTION

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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

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(C) ANALYSIS OF SAMPLES

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ICSA-0803, Interferents: Pipet 10 mL of the ICSA solution into a 100 mL volumetric flask and dilute to volume with 1% v/v HNO₃. Analyze this solution by ICP-MS.

ICSB-0803, Analytes, mixed with ICSA-0803, 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 1% v/v HNO₃. Analyze this ICSAB solution by ICP-MS.

(D) "CERTIFIED VALUE" CONCENTRATIONS OF QATS ICP-MS 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-MS ICSA-0803, AND ICSA-0803 MIXED WITH ICSB-0803							
Element	CRQL	Part A (µg/L)	Lower Limit (µg/L)	Upper Limit (µg/L)	Part A +Part B (µg/L)	Lower Limit (µg/L)	Upper Limit (µg/L)
Al	20.0	[100000]			[100000]		
Sb	2.0	(1.5)	-2.5	5.5	(22.0)	18.0	26.0
As	1.0	(0.1)	-1.9	2.1	19.0	16.2	21.9
Ba	10.0	(1.2)	-18.8	21.2	(22.0)	2.0	42.0
Be	1.0	(0)	-2.0	2.0	19.0	16.2	21.9
Cd	1.0	(0.7)	-1.3	2.7	20.0	17.0	23.0
Ca	500	[100000]			[100000]		
C		[200000]			[200000]		
Cl		[1000000]			[1000000]		
Cr	2.0	(21.0)	17.0	25.0	40.0	34.0	46.0
Co	1.0	(1.0)	-1.0	3.0	20.0	17.0	23.0
Cu	2.0	(8.0)	4.0	12.0	(25.0)	21.0	29.0
Fe	200	[100000]			[100000]		
Pb	1.0	(4.0)	2.0	6.0	25.0	21.3	28.8
Mg	500	[100000]			[100000]		
Mn	1.0	(7.0)	5.0	9.0	27.0	23.0	31.1
Mo		[2000]			[2000]		
Ni	1.0	(6.0)	4.0	8.0	24.0	20.4	27.6
P		[100000]			[100000]		
K	500	[100000]			[100000]		
Se	5.0	(0.3)	-9.7	10.3	(19.0)	9.0	29.0
Ag	1.0	(0)	-2.0	2.0	18.0	15.3	20.7
Na	500	[100000]			[100000]		
S		[100000]			[100000]		
Tl	1.0	(0)	-2.0	2.0	21.0	17.9	24.2
Ti		[2000]			[2000]		
V	5.0	(0.5)	-9.5	10.5	(19.0)	9.0	29.0
Zn	5.0	(11.0)	1.0	21.0	(29.0)	19.0	39.0

[] Indicates analytes that do not require ICP-MS determination in the ICS.

The acceptance ranges for all analytes in parentheses in the above table were determined using the listed certified value ± 2 times the associated CLP SOW CRQL. The acceptance ranges for all other analytes were determined using the certified value ± 15 percent of the listed certified value.



CERTIFIED WEIGHT REPORT:

Part Number:
Lot Number:
Description:

57051
120523
Antimony (Sb)

Lot #
Solvent:

24002546
Nitric Acid

2.0%
60.0
Nitric Acid

(mL)

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

120526
Ambient (20 °C)
1000

NIST Test Number:

6U7B

Volume shown below was diluted to (mL):

3000.41
5E-05
Balance Uncertainty
0.058
Flask Uncertainty

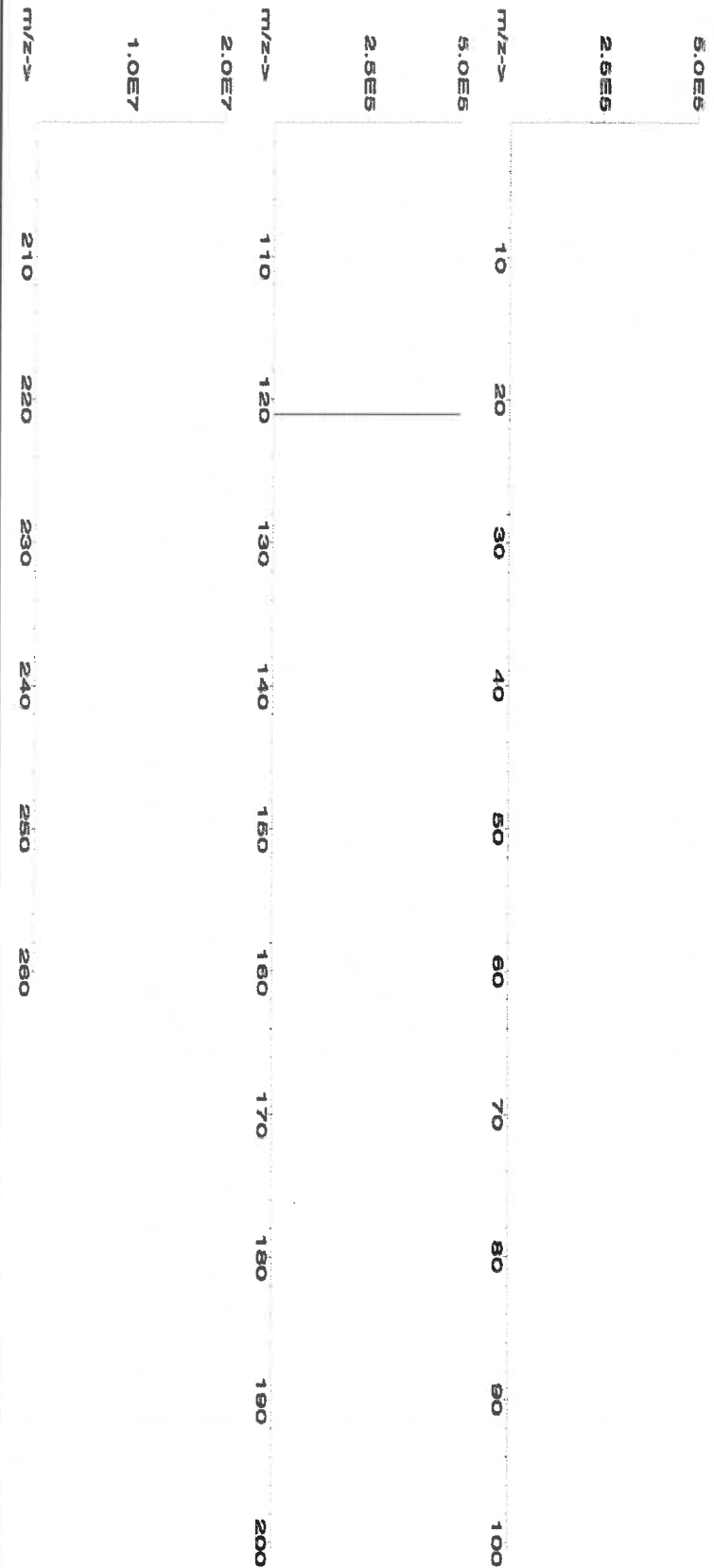
Formulated By:	Lawrence Barry	120523
Reviewed By:	Pedro L. Rientas	120523

Compound

Part Number	Lot Number	Dilution Factor	Initial Vol. (mL)	Uncertainty Pipette (mL)	Nominal Conc. (µg/mL)	Initial Conc. (µg/mL)	Final Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	CAS#	OSHA PEL (TWA)	LD50	NIST SRM
-------------	------------	-----------------	-------------------	--------------------------	-----------------------	-----------------------	---------------------	----------------------------------	------	----------------	------	----------

1. Antimony (Sb) 58151 100923 0.1000 300.0 0.084 1000 10001.4 1000.0 2.1 7440-36-0 0.5 mg/m3 or-rel 7000 mg/kg 3102a

[1] Spectrum No.1 [17.964 sec]:58051.D# [Count] [Linear]





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

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

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

(T) = Target analyte

Physical Characterization:

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

Certified by:

- * The certified value is the concentration calculated from gravimetric and volumetric measurements unless otherwise stated.
- * Purified acids, 18.2 megohm deionized water, calibrated Class A glassware and the highest purity raw materials are used in the preparation of all standards.
- * All standard containers are meticulously cleaned prior to use.
- * Standards are prepared gravimetrically using balances that are calibrated with weights traceable to NIST (see above).
- * Standards are certified (+/-) 0.5% of the stated value, unless otherwise stated.
- * All Standards should be stored with caps tight and under appropriate laboratory conditions.
- * Uncertainty Reference: Taylor, B.N. and Kuyat, C.E., "Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Result," NIST Technical Note 1297, U.S. Government Printing Office, Washington, D.C. (1994).



M6030



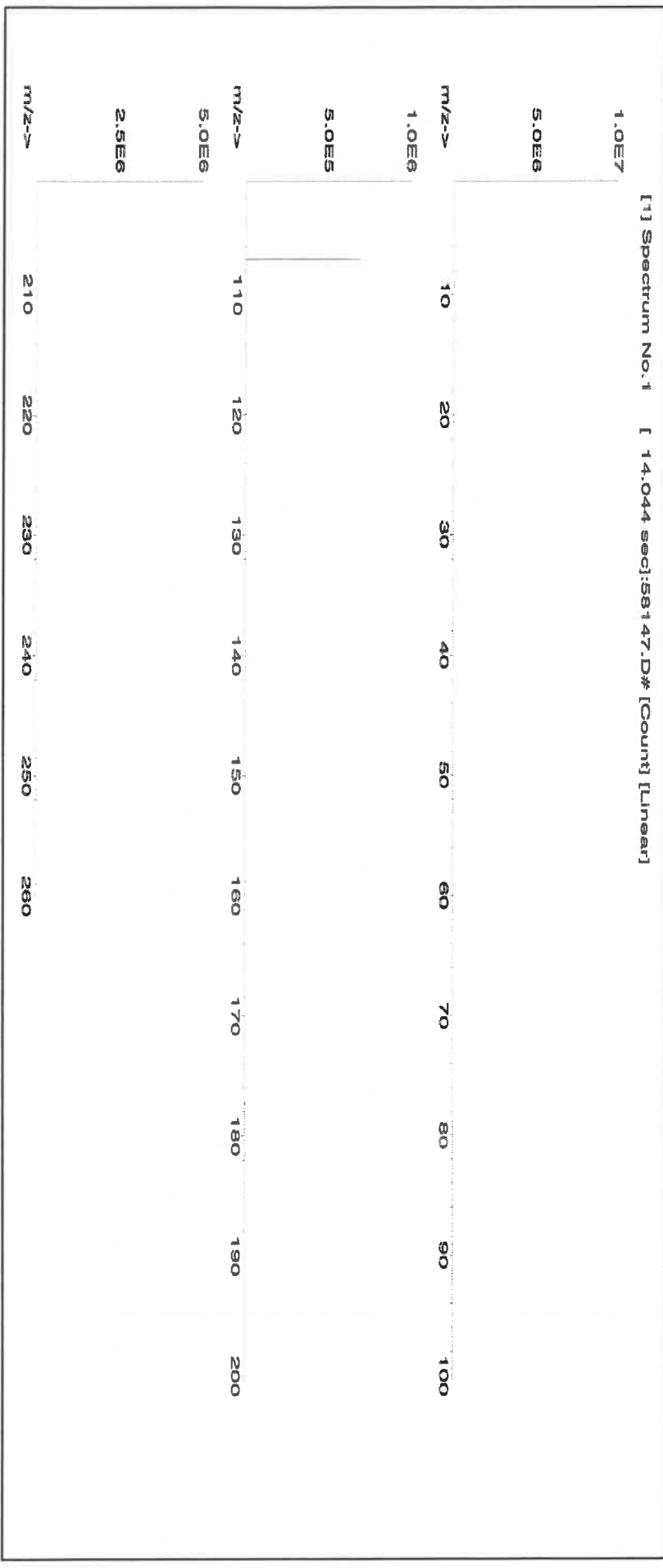
CERTIFIED WEIGHT REPORT:

Part Number: **57047**
Lot Number: **122823**
Description: **Silver (Ag)**
Solvent: **24002546 Nitric Acid**
Lot #: **828/5/24**

Expiration Date: **122826**
Recommended Storage: **Ambient (20 °C)**
Nominal Concentration (µg/mL): **1000**
NIST Test Number: **6UTB**
Weight shown below was diluted to (mL): **4000.30**
5E-05 Balance Uncertainty
0.058 Flask Uncertainty

Formulated By:	Benson Chan
Reviewed By:	Pedro L. Rentas
	122823

SDS Information									
Compound	RM#	Lot Number	Nominal Conc. (µg/mL)	Purity (%)	Uncertainty Purity (%)	Assay (%)	Target Weight (g)	Actual Weight (g)	Actual Conc. (µg/mL)
1. Silver nitrate (Ag)	IN035	J0612AGA1	1000.0	99.999	0.10	63.7	6.27992	6.27998	1000.0
							2.0	7761-88-8	10 µg/mL
									NA
									3151





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

386

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

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

(T)= Target analyte

Physical Characterization:

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



Certified Reference Material CRM

CERTIFIED WEIGHT REPORT:

R: 03/16/23 MS473 MS474 MS475 MS476

Lot #

Part Number:

Solvent: 20510011 Nitric Acid

Lot Number:

2% 20.0 Nitric Acid

Description:

2% 20.0 Nitric Acid

Expiration Date:

2% 20.0 Nitric Acid

Recommended Storage:

2% 20.0 Nitric Acid

Nominal Concentration (µg/mL):

2% 20.0 Nitric Acid

NIST Test Number:

2% 20.0 Nitric Acid

Weight shown below was diluted to (mL):

1000.12 0.058 Balance Uncertainty

Formulated By:	Lawrence Barry	082922
Reviewed By:	Pedro L. Renteria	082922

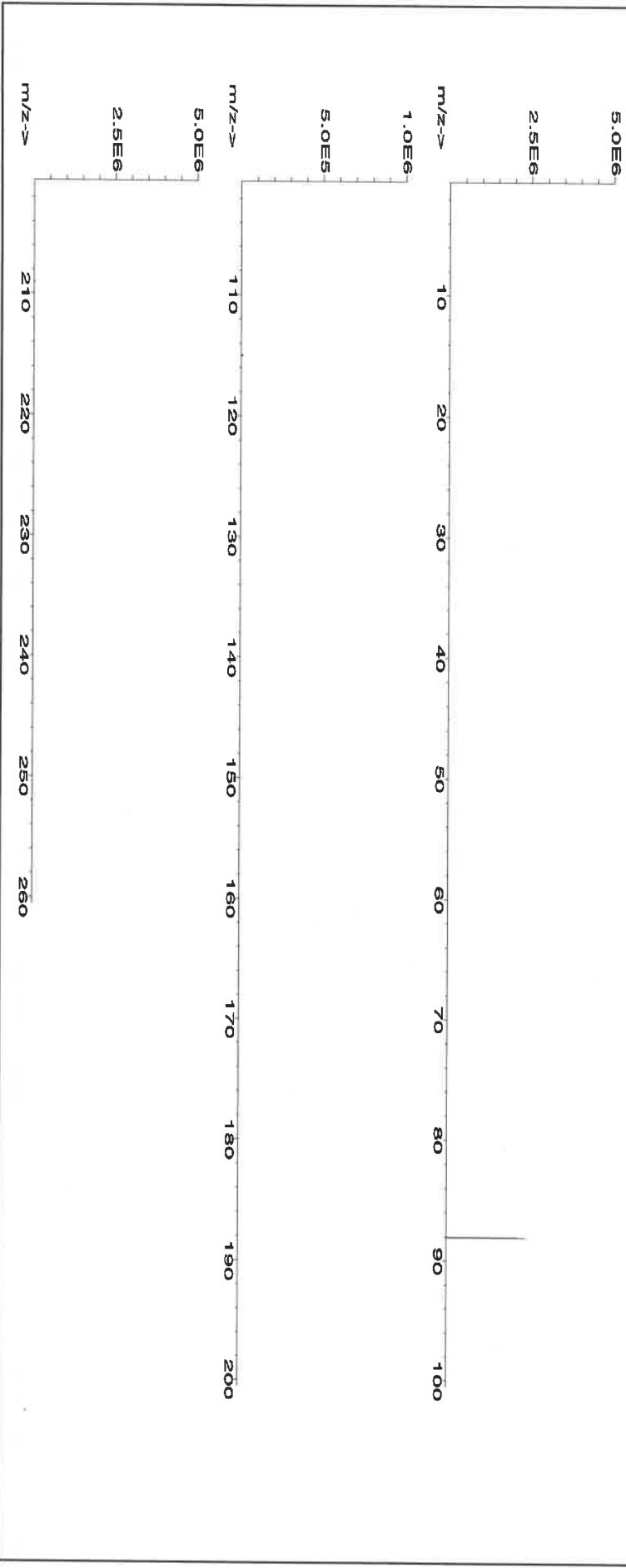
SDS Information

Compound

RM#	Lot Number	Nominal Conc. (µg/mL)	Purity (%)	Uncertainty (%)	Assay (%)	Target Weight (g)	Actual Weight (g)	Actual Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	CAS#	OSHA PEL (TWA)	LD50	NIST SRM
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1.	Strontium nitrate (Sr)	IN017	SR2022018A1	10000	99.997	0.10	41.2	24.2756	24.2758	10000.1	20.0	10042-76-9	NA	or-rat >2000mg/kg 3153a
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[1] Spectrum No. 1 [14.495 sec]: 58138.D# [Count] [Linear]





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

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

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

(T) = Target analyte

Physical Characterization:

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

Certified by:

- * The certified value is the concentration calculated from gravimetric and volumetric measurements unless otherwise stated.
- * Purified acids, 18.2 megohm deionized water, calibrated Class A glassware and the highest purity raw materials are used in the preparation of all standards.
- * All standard containers are meticulously cleaned prior to use.
- * Standards are prepared gravimetrically using balances that are calibrated with weights traceable to NIST (see above).
- * Standards are certified (+/-) 0.5% of the stated value, unless otherwise stated.
- * All Standards should be stored with caps tight and under appropriate laboratory conditions.
- * Uncertainty Reference: Taylor, B.N. and Kuyat, C.E., "Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Result," NIST Technical Note 1297, U.S. Government Printing Office, Washington, D.C. (1994).



CERTIFIED WEIGHT REPORT:

Part Number: 57081
Lot Number: 062724
Description: Thallium (TI)

Solvent: 24002546 Nitric Acid
Lot #

Expiration Date:

062727

2% 40.0 Nitric Acid (mL)

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

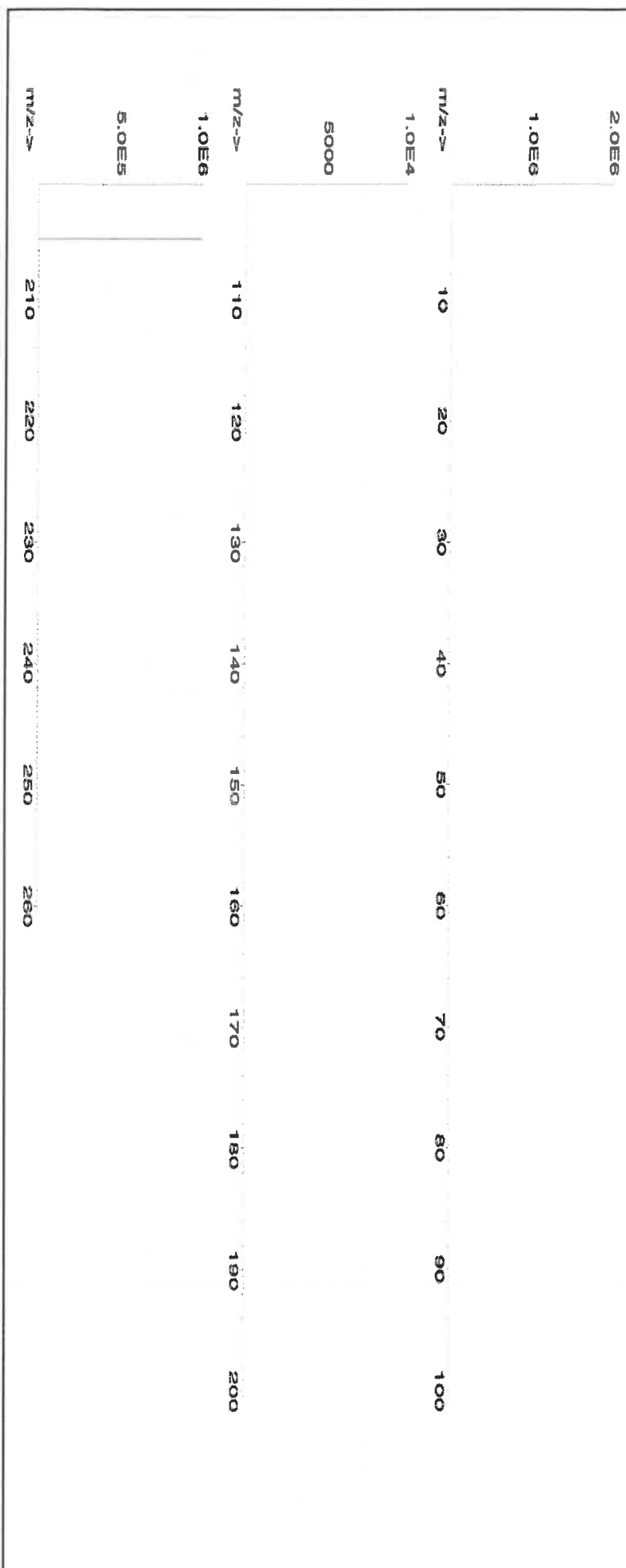
<i>Aleah O'Brady</i>	
Formulated By:	Aleah O'Brady
	062724
Reviewed By:	<i>Pedro L. Rendas</i>
	Pedro L. Rendas
	062724

SDS Information

Compound	Lot Number	Nominal Conc. (µg/mL)	Purity (%)	Uncertainty (%)	Assay (%)	Target Weight (g)	Actual Weight (g)	Actual Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	CAS#	OSHA PEL (TWA)	LD50	NIST SRM
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1. Thallium nitrate (TI) IN037 BCCF4399 1000 99.999 0.10 77.0 2.5975 2.5977 1000.1 2.0 10102-45-1 0.1 mg/m3 orl-mus 15mg/kg 3158

[1] Spectrum No.1 [14.044 sec]:57081.D# [Count] [Linear]





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

390

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

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

(T) = Target analyte

Physical Characterization:

Certified by:

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

- * The certified value is the concentration calculated from gravimetric and volumetric measurements unless otherwise stated.
- * Purified acids, 18.2 megohm deionized water, calibrated Class A glassware and the highest purity raw materials are used in the preparation of all standards.
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- * Uncertainty Reference: Taylor, B.N. and Kuyat, C.E., "Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Result," NIST Technical Note 1297, U.S. Government Printing Office, Washington, D.C. (1994).



Certified Reference Material CRM

M6021



CERTIFIED WEIGHT REPORT:

Part Number: **57023**
Lot Number: **062424**
Description: **Vanadium (V)**

Lot # **24002546**
Solvent: **Nitric Acid**

2.0%

40.0 (mL)

Nitric Acid

Aleah O'Brady

062424

391

Expiration Date: **062427**
Recommended Storage: **Ambient (20 °C)**

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

NIST Test Number: **6UTB**

Volume shown below was diluted to (mL): **2000.3**

5E-05 Balance Uncertainty
0.06 Flask Uncertainty

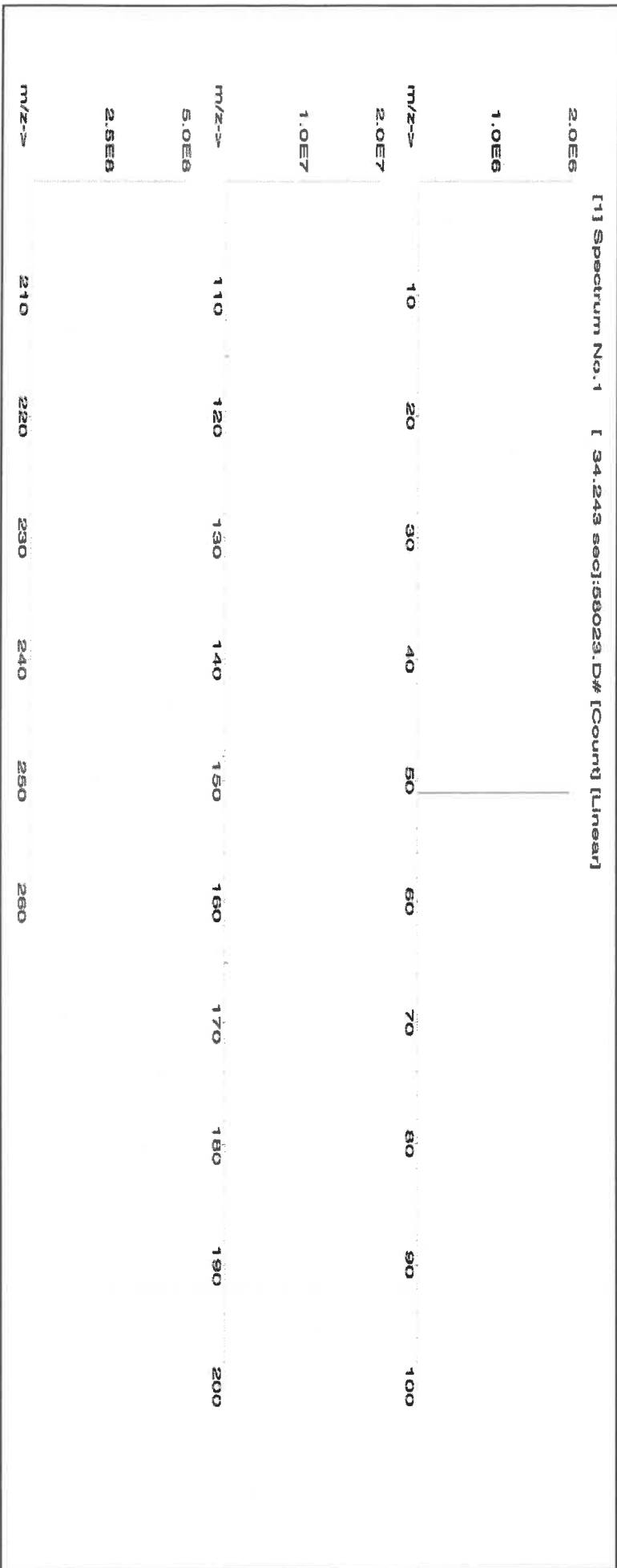
Formulated By: <i>Aleah O'Brady</i>	
Reviewed By: <i>Pedro L. Rantas</i>	

SDS Information

Compound	Part Number	Lot Number	Dilution Factor	Initial Vol. (mL)	Uncertainty (mL)	Nominal Conc. (µg/mL)	Initial Conc. (µg/mL)	Final Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	(Solvent Safety Info. On Attached pg.)	CAS#	OSHA PEL (TWA)	LD50	NIST SRM
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1. Ammonium metavanadate (V) 58123 021224 0.1000 200.0 0.084 1000 10000.3 10000.0 2.2 7803-55-6 0.05 mg/m3 or-at 58.1mg/kg 3165

[1] Spectrum No.1 [34.243 sec]:58023.D# [Count] [Linear]





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

392

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

Al	<0.02	Cd	<0.02	Dy	<0.02	Hf	<0.02	Li	<0.02	Ni	<0.02	Pt	<0.02	Se	<0.2	Tb	<0.02	W	<0.02
Sb	<0.02	Ca	<0.2	Er	<0.02	Ho	<0.02	Lu	<0.02	Nb	<0.02	Re	<0.02	Si	<0.02	Te	<0.02	U	<0.02
As	<0.2	Ce	<0.02	Eu	<0.02	In	<0.02	Mg	<0.01	Os	<0.02	Rh	<0.02	Ag	<0.02	Tl	<0.02	V	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	Pr	<0.02	Sm	<0.02	S	<0.02	Sn	<0.02	Zn	<0.02
B	<0.02	Cu	<0.02	Au	<0.02	Pb	<0.02	Nd	<0.02	K	<0.2	Sc	<0.02	Ta	<0.02	Ti	<0.02	Zr	<0.02

(T) = Target analyte

Physical Characterization:

Certified by:

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

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SOP ID : M200.8-Trace Elements-22, MSFAM01.1-Metals ICPMS-2

SDG No : MJNKP7,MJNKR9,MJNL16,MJNL60

Matrix : SOIL

Pipette ID: ICP A

Balance ID : M SC-2

Filter paper ID : N/A

pH Strip ID : M6069

Hood ID : #3

Block ID: 1. HOT BLOCK #1 2. N/A

Start Digest Date: 12/12/2024 **Time :** 09:10 **Temp :** 96 °C

End Digest Date: 12/12/2024 **Time :** 09:45 **Temp :** 96 °C

Digestion tube ID: M5595

Block thermometer ID: MET-DIG. #1

Dig Technician Signature: S/R

Supervisor Signature: [Signature]

Temp : 1. 96°C 2. N/A

Standard Name	MLS USED	STD REF. # FROM LOG
LCSS	1.00	MP83046
Spike Sol. B	1.00	MP83047
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A

Chemical Used	ML/SAMPLE USED	Lot Number
1:1 HNO3	4.00	MP83498
1.4 HCL SOLN	10.00	MP82128
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A

Extraction Conformance/Non-Conformance Comments:

HOT BLOCK #1 CELL #55 : 96

Date / Time	Prepped Sample Relinquished By/Location	Received By/Location
12/12/24 10:35	S/R met digestion.	[Signature]
	Preparation Group	Analysis Group

Lab Sample ID	Client Sample ID	pH	Initial Weight (g)	Final Vol (ml)	Color Before	Color After	Texture	Artifact	Comment	Prep Pos
P5163-01	MJNKP7	N/A	1.36	500	Black	Yellow	Medium	N/A	N/A	1
P5163-02	MJNKP7D	N/A	1.33	500	Black	Yellow	Medium	N/A	N/A	2
P5163-03	MJNKP7S	N/A	1.23	500	Black	Yellow	Medium	N/A	MP83047	3
P5165-01	MJNKR9	N/A	1.32	500	Black	Yellow	Medium	N/A	N/A	4
P5165-02	MJNKR9D	N/A	1.14	500	Black	Yellow	Medium	N/A	N/A	5
P5165-03	MJNKR9S	N/A	1.45	500	Black	Yellow	Medium	N/A	MP83047	6
P5167-01	MJNL16	N/A	1.24	500	Black	Yellow	Medium	N/A	N/A	7
P5167-02	MJNL16D	N/A	1.49	500	Black	Yellow	Medium	N/A	N/A	8
P5167-03	MJNL16S	N/A	1.29	500	Black	Yellow	Medium	N/A	MP83047	9
P5168-01	MJNL60	N/A	1.38	500	Black	Yellow	Medium	N/A	N/A	10
P5168-02	MJNL60D	N/A	1.34	500	Black	Yellow	Medium	N/A	N/A	11
P5168-03	MJNL60S	N/A	1.26	500	Black	Yellow	Medium	N/A	MP83047	12
PB165564BL	PBS564	N/A	1.00	500	Colorless	Colorless	Fine	N/A	N/A	13
PB165564BS	LCS564	N/A	1.00	500	Colorless	Colorless	Fine	N/A	Mp83046	14

Instrument ID: P8

Daily Analysis Runlog For Sequence/QC Batch ID # LB133950

Review By	Sarabjit Jaswal	Review On	12/16/2024 6:53:37 AM
Supervise By	Mohan Bera	Supervise On	12/16/2024 6:59:38 AM
STD. NAME	STD REF.#		
ICAL Standard	MP83014,MP83039,MP83038,MP83036,MP83034,MP83035,MP83033,MP83032,MP83016		
ICV Standard	MP83041		
CCV Standard	MP83042		
ICSA Standard	MP83043,MP83044		
CRI Standard			
LCS Standard	MP83046		
Chk Standard	MP83050,MP83049		

Sr#	SampleID	ClientID	QcType	Date	Comment	Operator	Status
1	TUNE	TUNE001	TUNE	12/13/24 11:23		Jaswal	OK
2	S00	S0	CAL1	12/13/24 12:46		Jaswal	OK
3	S02	S02	CAL3	12/13/24 12:52		Jaswal	OK
4	S03	S03	CAL4	12/13/24 12:56		Jaswal	OK
5	S04	S04	CAL5	12/13/24 12:59		Jaswal	OK
6	S05	S05	CAL6	12/13/24 13:01		Jaswal	OK
7	S06	S06	CAL7	12/13/24 13:04		Jaswal	OK
8	S07	S07	CAL8	12/13/24 13:07		Jaswal	OK
9	S08	S08	CAL9	12/13/24 13:10		Jaswal	OK
10	ICV001	ICV001	ICV	12/13/24 13:58	Inst. paused for calibration review	Jaswal	OK
11	ICB001	ICB001	ICB	12/13/24 14:14	Inst. paused for review	Jaswal	OK
12	ICSA001	ICSA001	ICSA	12/13/24 14:30	Inst. paused for review	Jaswal	OK
13	ICSAB001	ICSAB001	ICSAB	12/13/24 14:38	Inst. paused for review	Jaswal	OK
14	CCV001	CCV001	CCV	12/13/24 14:41		Jaswal	OK
15	CCB001	CCB001	CCB	12/13/24 14:55	Inst. paused for review	Jaswal	OK
16	PB165564BL	PBS564	MB	12/13/24 14:58		Jaswal	OK
17	PB165564BS	LCS564	LCS	12/13/24 15:01		Jaswal	OK
18	PB165532BL	PBS532	MB	12/13/24 15:15		Jaswal	OK

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STD. NAME	STD REF.#
ICAL Standard	MP83014,MP83039,MP83038,MP83036,MP83034,MP83035,MP83033,MP83032,MP83016
ICV Standard	MP83041
CCV Standard	MP83042
ICSA Standard	MP83043,MP83044
CRI Standard	
LCS Standard	MP83046
Chk Standard	MP83050,MP83049

19	PB165532BS	LCS532	LCS	12/13/24 15:18		Jaswal	OK
20	PB165606BL	PBS606	MB	12/13/24 15:22		Jaswal	OK
21	PB165606BS	LCS606	LCS	12/13/24 15:25		Jaswal	OK
22	PB165563BL	PBS563	MB	12/13/24 15:28		Jaswal	OK
23	PB165563BS	LCS563	LCS	12/13/24 15:32		Jaswal	OK
24	P5163-01	MJNKP7	SAM	12/13/24 15:35		Jaswal	OK
25	P5163-02	MJNKP7D	DUP	12/13/24 15:38		Jaswal	OK
26	P5163-01L	MJNKP7L	SD	12/13/24 15:41		Jaswal	OK
27	P5163-03	MJNKP7S	MS	12/13/24 15:44		Jaswal	OK
28	P5165-01	MJNKR9	SAM	12/13/24 15:47		Jaswal	OK
29	P5165-02	MJNKR9D	DUP	12/13/24 15:51		Jaswal	OK
30	P5165-01L	MJNKR9L	SD	12/13/24 15:54		Jaswal	OK
31	P5165-03	MJNKR9S	MS	12/13/24 15:57		Jaswal	OK
32	CCV002	CCV002	CCV	12/13/24 16:00		Jaswal	OK
33	CCB002	CCB002	CCB	12/13/24 16:03		Jaswal	OK
34	P5167-01	MJNL16	SAM	12/13/24 16:06		Jaswal	OK
35	P5167-02	MJNL16D	DUP	12/13/24 16:09		Jaswal	OK
36	P5167-01L	MJNL16L	SD	12/13/24 16:12		Jaswal	OK
37	P5167-03	MJNL16S	MS	12/13/24 16:16		Jaswal	OK
38	P5168-01	MJNL60	SAM	12/13/24 16:19		Jaswal	OK

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ICV Standard	MP83041
CCV Standard	MP83042
ICSA Standard	MP83043,MP83044
CRI Standard	
LCS Standard	MP83046
Chk Standard	MP83050,MP83049

39	P5168-02	MJNL60D	DUP	12/13/24 16:22		Jaswal	OK
40	P5168-01L	MJNL60L	SD	12/13/24 16:25		Jaswal	OK
41	P5168-03	MJNL60S	MS	12/13/24 16:28		Jaswal	OK
42	P5154-01	ME28N9	SAM	12/13/24 16:31		Jaswal	OK
43	P5154-02	ME28P0	SAM	12/13/24 16:35		Jaswal	OK
44	P5154-03	ME28P1	SAM	12/13/24 16:38		Jaswal	OK
45	P5154-04	ME28P2	SAM	12/13/24 16:41		Jaswal	OK
46	P5154-05	ME28P3	SAM	12/13/24 16:44		Jaswal	OK
47	P5154-06	ME28P4	SAM	12/13/24 16:47		Jaswal	OK
48	P5154-07	ME28P5	SAM	12/13/24 16:51		Jaswal	OK
49	P5154-08	ME28P6	SAM	12/13/24 16:54		Jaswal	OK
50	P5154-09	ME28P7	SAM	12/13/24 16:57		Jaswal	OK
51	P5154-10	ME28P8	SAM	12/13/24 17:00		Jaswal	OK
52	P5154-11	ME28P9	SAM	12/13/24 17:03		Jaswal	OK
53	P5154-12	ME28Q0	SAM	12/13/24 17:06		Jaswal	OK
54	P5154-13	ME28Q1	SAM	12/13/24 17:10		Jaswal	OK
55	P5154-14	ME28Q2	SAM	12/13/24 17:13		Jaswal	OK
56	P5154-15	ME28Q3	SAM	12/13/24 17:16	Mn High	Jaswal	Dilution
57	P5154-16	ME28Q4	SAM	12/13/24 17:19	Cr,Mn High	Jaswal	Dilution
58	P5154-17	ME28Q4D	DUP	12/13/24 17:22	Cr,Mn High	Jaswal	Dilution

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ICV Standard	MP83041
CCV Standard	MP83042
ICSA Standard	MP83043,MP83044
CRI Standard	
LCS Standard	MP83046
Chk Standard	MP83050,MP83049

59	P5154-16L	ME28Q4L	SD	12/13/24 17:25	Cr,Mn High	Jaswal	OK
60	CCV003	CCV003	CCV	12/13/24 17:28		Jaswal	OK
61	CCB003	CCB003	CCB	12/13/24 17:31		Jaswal	OK
62	P5154-18	ME28Q4S	MS	12/13/24 17:34	Cr,Mn High	Jaswal	Dilution
63	P5154-19	ME28Q5	SAM	12/13/24 17:37		Jaswal	OK
64	P5154-20	ME28R3	SAM	12/13/24 17:41		Jaswal	OK
65	P5154-21	ME28R4	SAM	12/13/24 17:44		Jaswal	OK
66	P5158-01RE	MJNKL4	SAM	12/13/24 17:47	Not Use	Jaswal	Not Ok
67	P5158-02RE	MJNKL4D	DUP	12/13/24 17:50	Not Use	Jaswal	Not Ok
68	P5158-01LRE	MJNKL4L	SD	12/13/24 17:53	Not Use	Jaswal	Not Ok
69	P5158-03RE	MJNKL4S	MS	12/13/24 17:57	Not Use	Jaswal	Not Ok
70	P5158-04RE	MJNKL5	SAM	12/13/24 18:00	Not Use	Jaswal	Not Ok
71	P5158-05RE	MJNKM5	SAM	12/13/24 18:03	Not Use	Jaswal	Not Ok
72	P5158-06RE	MJNKM6	SAM	12/13/24 18:07	Not Use	Jaswal	Not Ok
73	P5158-07RE	MJNKP8	SAM	12/13/24 18:10	Not Use	Jaswal	Not Ok
74	P5158-08RE	MJNKP9	SAM	12/13/24 18:13	Not Use	Jaswal	Not Ok
75	P5158-09RE	MJNKQ0	SAM	12/13/24 18:17	Not Use	Jaswal	Not Ok
76	P5158-10RE	MJNKQ1	SAM	12/13/24 18:20	Not Use	Jaswal	Not Ok
77	P5158-11RE	MJNKQ2	SAM	12/13/24 18:23	Not Use	Jaswal	Not Ok
78	P5158-12RE	MJNKQ8	SAM	12/13/24 18:26	Not Use	Jaswal	Not Ok

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ICV Standard	MP83041
CCV Standard	MP83042
ICSA Standard	MP83043,MP83044
CRI Standard	
LCS Standard	MP83046
Chk Standard	MP83050,MP83049

79	P5158-13RE	MJNL17	SAM	12/13/24 18:30	Not Use	Jaswal	Not Ok
80	P5158-14RE	MJNL18	SAM	12/13/24 18:33	Not Use	Jaswal	Not Ok
81	CCV004	CCV004	CCV	12/13/24 18:36		Jaswal	OK
82	CCB004	CCB004	CCB	12/13/24 18:39		Jaswal	OK
83	P5158-01	MJNKL4	SAM	12/13/24 18:42		Jaswal	OK
84	P5158-02	MJNKL4D	DUP	12/13/24 18:46		Jaswal	OK
85	P5158-01L	MJNKL4L	SD	12/13/24 18:49		Jaswal	OK
86	P5158-03	MJNKL4S	MS	12/13/24 18:52		Jaswal	OK
87	P5158-04	MJNKL5	SAM	12/13/24 18:55		Jaswal	OK
88	P5158-05	MJNKM5	SAM	12/13/24 18:58		Jaswal	OK
89	P5158-06	MJNKM6	SAM	12/13/24 19:01		Jaswal	OK
90	P5158-07	MJNKP8	SAM	12/13/24 19:04		Jaswal	OK
91	P5158-08	MJNKP9	SAM	12/13/24 19:08		Jaswal	OK
92	P5158-09	MJNKQ0	SAM	12/13/24 19:11		Jaswal	OK
93	P5158-10	MJNKQ1	SAM	12/13/24 19:14		Jaswal	OK
94	P5158-11	MJNKQ2	SAM	12/13/24 19:17		Jaswal	OK
95	P5158-12	MJNKQ8	SAM	12/13/24 19:20		Jaswal	OK
96	P5158-13	MJNL17	SAM	12/13/24 19:23		Jaswal	OK
97	P5158-14	MJNL18	SAM	12/13/24 19:26		Jaswal	OK
98	P5158-15	MJNL19	SAM	12/13/24 19:30		Jaswal	OK

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ICAL Standard	MP83014,MP83039,MP83038,MP83036,MP83034,MP83035,MP83033,MP83032,MP83016		
ICV Standard	MP83041		
CCV Standard	MP83042		
ICSA Standard	MP83043,MP83044		
CRI Standard			
LCS Standard	MP83046		
Chk Standard	MP83050,MP83049		

99	P5158-16	MJNL49	SAM	12/13/24 19:33		Jaswal	OK
100	P5158-17	MJNL62	SAM	12/13/24 19:36		Jaswal	OK
101	P5158-18	MJNL63	SAM	12/13/24 19:39		Jaswal	OK
102	P5158-19	MJNL71	SAM	12/13/24 19:42		Jaswal	OK
103	P5233-01	ME28R5	SAM	12/13/24 19:52		Jaswal	OK
104	P5233-02	ME28R6	SAM	12/13/24 19:55		Jaswal	OK
105	P5233-03	ME28R7	SAM	12/13/24 19:58		Jaswal	OK
106	P5233-04	ME28R8	SAM	12/13/24 20:02		Jaswal	OK
107	P5233-05	ME28R9	SAM	12/13/24 20:05		Jaswal	OK
108	P5233-06	ME28S0	SAM	12/13/24 20:08		Jaswal	OK
109	CCV005	CCV005	CCV	12/13/24 20:11		Jaswal	OK
110	CCB005	CCB005	CCB	12/13/24 20:14		Jaswal	OK
111	P5233-07	ME28S1	SAM	12/13/24 20:17		Jaswal	OK
112	P5233-08	ME28S2	SAM	12/13/24 20:20		Jaswal	OK
113	P5233-09	ME28S3	SAM	12/13/24 20:23		Jaswal	OK
114	P5233-10	ME28S4	SAM	12/13/24 20:27		Jaswal	OK
115	P5233-11	ME28S5	SAM	12/13/24 20:30		Jaswal	OK
116	P5233-12	ME28S6	SAM	12/13/24 20:33		Jaswal	OK
117	P5233-13	ME28S7	SAM	12/13/24 20:36		Jaswal	OK
118	P5233-20	ME28S7D	DUP	12/13/24 20:39		Jaswal	OK

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ICV Standard	MP83041
CCV Standard	MP83042
ICSA Standard	MP83043,MP83044
CRI Standard	
LCS Standard	MP83046
Chk Standard	MP83050,MP83049

119	P5233-13L	ME28S7L	SD	12/13/24 20:43		Jaswal	OK
120	P5233-21	ME28S7S	MS	12/13/24 20:46		Jaswal	OK
121	P5233-14	ME28S8	SAM	12/13/24 20:49		Jaswal	OK
122	P5233-15	ME28S9	SAM	12/13/24 20:52		Jaswal	OK
123	P5233-16	ME28T0	SAM	12/13/24 20:55		Jaswal	OK
124	P5233-17	ME28T1	SAM	12/13/24 20:59	Cr,Mn High	Jaswal	Dilution
125	P5233-18	ME28T2	SAM	12/13/24 21:02		Jaswal	OK
126	P5233-19	ME28T3	SAM	12/13/24 21:05		Jaswal	OK
127	P5233-17DL	ME28T1	SAM	12/13/24 21:08	2X For Cr,Mn	Jaswal	Confirms
128	P5154-15DL	ME28Q3	SAM	12/13/24 21:11	2X For Cr,Mn	Jaswal	Confirms
129	P5154-16DL	ME28Q4	SAM	12/13/24 21:14	2X For Cr,Mn	Jaswal	Confirms
130	P5154-17DL	ME28Q4D	DUP	12/13/24 21:17	2X For Cr,Mn	Jaswal	Confirms
131	P5154-16LDL	ME28Q4L	SD	12/13/24 21:21	10X For Cr,Mn	Jaswal	Confirms
132	P5154-18DL	ME28Q4S	MS	12/13/24 21:24	2X For Cr,Mn	Jaswal	Confirms
133	CCV006	CCV006	CCV	12/13/24 21:30		Jaswal	OK
134	CCB006	CCB006	CCB	12/13/24 21:33		Jaswal	OK
135	PB165603BL	PBS603	MB	12/13/24 22:18		Jaswal	OK
136	PB165603BS	LCS603	LCS	12/13/24 22:22		Jaswal	OK
137	PB165603BSD	LCSD603	LCSD	12/13/24 22:25		Jaswal	OK
138	P5181-01	MYCYX9	SAM	12/13/24 22:28		Jaswal	OK

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ICV Standard	MP83041		
CCV Standard	MP83042		
ICSA Standard	MP83043,MP83044		
CRI Standard			
LCS Standard	MP83046		
Chk Standard	MP83050,MP83049		

139	P5181-02	MYCYY0	SAM	12/13/24 22:31		Jaswal	OK
140	P5181-03	MYCYY1	SAM	12/13/24 22:34		Jaswal	OK
141	P5181-04	MYCYY2	SAM	12/13/24 22:38		Jaswal	OK
142	P5181-05	MYCYY3	SAM	12/13/24 22:41		Jaswal	OK
143	P5181-06	MYCYY4	SAM	12/13/24 22:44		Jaswal	OK
144	P5181-07	MYCYY5	SAM	12/13/24 22:47		Jaswal	OK
145	P5181-08	MYCYY6	SAM	12/13/24 22:50		Jaswal	OK
146	P5181-09	MYCYY7	SAM	12/13/24 22:53		Jaswal	OK
147	P5181-10	MYCYY8	SAM	12/13/24 22:56		Jaswal	OK
148	P5181-11	MYCYY9	SAM	12/13/24 23:00		Jaswal	OK
149	CCV007	CCV007	CCV	12/13/24 23:03		Jaswal	OK
150	CCB007	CCB007	CCB	12/13/24 23:05		Jaswal	OK
151	P5181-12	MYCZ0	SAM	12/13/24 23:09		Jaswal	OK
152	P5181-13	MYCZ1	SAM	12/13/24 23:12		Jaswal	OK
153	P5181-14	MYCZ2	SAM	12/13/24 23:15		Jaswal	OK
154	P5181-15	MYCZ3	SAM	12/13/24 23:18		Jaswal	OK
155	P5181-16	MYCZ4	SAM	12/13/24 23:21		Jaswal	OK
156	P5181-17	MYCZ5	SAM	12/13/24 23:24		Jaswal	OK
157	P5181-18	MYCZ6	SAM	12/13/24 23:28		Jaswal	OK
158	P5181-19	MYCZ7	SAM	12/13/24 23:31		Jaswal	OK

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CCV Standard	MP83042		
ICSA Standard	MP83043,MP83044		
CRI Standard			
LCS Standard	MP83046		
Chk Standard	MP83050,MP83049		

159	P5181-20	MYCYZ8	SAM	12/13/24 23:34	Ba,Co,Ni,V High in MSRE	Jaswal	Dilution
160	P5181-21	MYCYZ8D	DUP	12/13/24 23:37	Ba,Co,Ni,V High in MSRE	Jaswal	Dilution
161	P5181-20L	MYCYZ8L	SD	12/13/24 23:40	Ba,Co,Ni,V High in MSRE	Jaswal	Dilution
162	P5181-22	MYCYZ8S	MS	12/13/24 23:44	Ba,Co,Ni,V High in MSRE	Jaswal	Dilution
163	P5181-20MS	MYCYZ8SRE	MS	12/13/24 23:47	Ba,Co,Ni,V High	Jaswal	Dilution
164	P5181-20DL	MYCYZ8	SAM	12/13/24 23:50	4X For Ba,Co,Ni,V	Jaswal	Confirms
165	P5181-21DL	MYCYZ8D	DUP	12/13/24 23:53	4X For Ba,Co,Ni,V	Jaswal	Confirms
166	P5181-20LDL	MYCYZ8L	SD	12/13/24 23:56	20X For Ba,Co,Ni,V	Jaswal	Confirms
167	P5181-22DL	MYCYZ8S	MS	12/14/24	4X For Ba,Co,Ni,V	Jaswal	Confirms
168	P5181-20MSDL	MYCYZ8SRE	MS	12/14/24 00:03	4X For Ba,Co,Ni,V	Jaswal	Confirms
169	P5181-01DL	MYCYX9	SAM	12/14/24 00:06	Not Required	Jaswal	Not Ok
170	CCV008	CCV008	CCV	12/14/24 00:09		Jaswal	OK
171	CCB008	CCB008	CCB	12/14/24 00:12		Jaswal	OK
172	P5181-03DL	MYCYY1	SAM	12/14/24 00:15	Not Required	Jaswal	Not Ok
173	P5181-04DL	MYCYY2	SAM	12/14/24 00:19	Not Required	Jaswal	Not Ok
174	P5181-05DL	MYCYY3	SAM	12/14/24 00:22	Not Required	Jaswal	Not Ok
175	P5181-06DL	MYCYY4	SAM	12/14/24 00:25	Not Required	Jaswal	Not Ok
176	P5181-07DL	MYCYY5	SAM	12/14/24 00:28	Not Required	Jaswal	Not Ok
177	P5181-08DL	MYCYY6	SAM	12/14/24 00:31	Not Required	Jaswal	Not Ok
178	P5181-09DL	MYCYY7	SAM	12/14/24 00:35	Not Required	Jaswal	Not Ok

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CCV Standard	MP83042
ICSA Standard	MP83043,MP83044
CRI Standard	
LCS Standard	MP83046
Chk Standard	MP83050,MP83049

179	P5181-10DL	MYCYY8	SAM	12/14/24 00:38	Not Required	Jaswal	Not Ok
180	P5181-11DL	MYCYY9	SAM	12/14/24 00:41	Not Required	Jaswal	Not Ok
181	P5181-12DL	MYCZ0	SAM	12/14/24 00:44	Not Required	Jaswal	Not Ok
182	P5181-13DL	MYCZ1	SAM	12/14/24 00:48	Not Required	Jaswal	Not Ok
183	P5181-14DL	MYCZ2	SAM	12/14/24 00:51	Not Required	Jaswal	Not Ok
184	CCV009	CCV009	CCV	12/14/24 00:57		Jaswal	OK
185	CCB009	CCB009	CCB	12/14/24 01:00		Jaswal	OK
186	P5181-02DL	MYCYY0	SAM	12/14/24 01:06	Not Required	Jaswal	Not Ok
187	CCV010	CCV010	CCV	12/14/24 01:09		Jaswal	OK
188	CCB010	CCB010	CCB	12/14/24 01:12		Jaswal	OK

ORIGIN ID: BUA (425) 941-1406
ATTN: CANDICE SCHWARTZ
CH2M HILL
1100 112TH AVE NE
SUITE 500
BELLEVUE, WA 98004
UNITED STATES US

SHIP DATE: 06DEC24
ACTWG: 41.00 LB
CAD: 105505917/INET/4535
DIMS: 24x13x14 IN
BILL SENDER

TO MOHAMMAD AHMED

ALLIANCE TECHNICAL (CLP LAB)

284 SHEFFIELD STREET MOUNTAINSIDE

12-6-24

MOUNTAINSIDE NJ 07092

(908) 728-3151

REF: D3656100.B.PN.ODC.01-6-2

PO: ASARCO COOLER #4

DEPT:



J2440240910111111

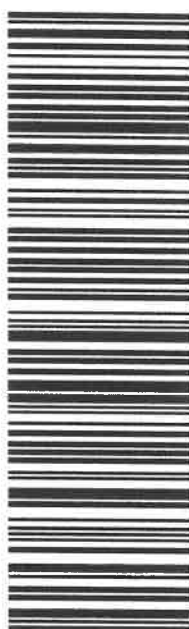
TRK# 7705 3093 7563

FRI - 06 DEC 12:00P
PRIORITY OVERNIGHT

XE KBCA

NJ-US

07092
EWR



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Login Summary Report

Order ID :	P5165	Order Date :	12/6/2024 10:10:00 AM	Project Mgr :	Deepak
Client :	USEPA CLP SMO	Project :	51821	Report Type :	USEPA CLP
Contact :	Anita Kapadia	Receive Date :	12/6/2024 10:10:00 AM	EDD Type :	EPA CLP
Date Sign Off :	12/11/2024 10:30:18 AM				

Sample ID	Client ID	Matrix	Sampling Date	Test	Test Group	Method	TAT Days	Fax Due Date	HC Due Date
P5165-01	MJNKR9	Solid	12/04/2024						
				Metals CLP4 MS		SFAM_MS	15	12/27/2024	12/27/2024
				Percent Solids		Chemtech -SOP	15	12/27/2024	12/27/2024
P5165-02	MJNKR9D	Solid	12/04/2024						
				Metals CLP4 MS		SFAM_MS	15	12/27/2024	12/27/2024
				Percent Solids		Chemtech -SOP	15	12/27/2024	12/27/2024
P5165-03	MJNKR9S	Solid	12/04/2024						
				Metals CLP4 MS		SFAM_MS	15	12/27/2024	12/27/2024
				Percent Solids		Chemtech -SOP	15	12/27/2024	12/27/2024

WORKLIST(Hardcopy Internal Chain)

Worklist Name : PB165564

Worklist ID : 186236

Department : Digestion

Date : 12-11-2024 13:59:29

Sample	Customer Sample	Matrix	Test	Preservative	Customer	Raw Sample Storage Location	Collect Date	Method
P5163-01	MJNKP7	Solid	Metals CLP4 MS	Cool 4 deg C	USEP01	Q32	12/04/2024	SFAM_MS
P5163-02	MJNKP7D	Solid	Metals CLP4 MS	Cool 4 deg C	USEP01	Q32	12/04/2024	SFAM_MS
P5163-03	MJNKP7S	Solid	Metals CLP4 MS	Cool 4 deg C	USEP01	Q32	12/04/2024	SFAM_MS
P5165-01	MJNKR9	Solid	Metals CLP4 MS	Cool 4 deg C	USEP01	Q32	12/04/2024	SFAM_MS
P5165-02	MJNKR9D	Solid	Metals CLP4 MS	Cool 4 deg C	USEP01	Q32	12/04/2024	SFAM_MS
P5165-03	MJNKR9S	Solid	Metals CLP4 MS	Cool 4 deg C	USEP01	Q32	12/04/2024	SFAM_MS
P5167-01	MJNL16	Solid	Metals CLP4 MS	Cool 4 deg C	USEP01	Q32	12/04/2024	SFAM_MS
P5167-02	MJNL16D	Solid	Metals CLP4 MS	Cool 4 deg C	USEP01	Q32	12/04/2024	SFAM_MS
P5167-03	MJNL16S	Solid	Metals CLP4 MS	Cool 4 deg C	USEP01	Q32	12/04/2024	SFAM_MS
P5168-01	MJNL60	Solid	Metals CLP4 MS	Cool 4 deg C	USEP01	Q32	12/02/2024	SFAM_MS
P5168-02	MJNL60D	Solid	Metals CLP4 MS	Cool 4 deg C	USEP01	Q32	12/02/2024	SFAM_MS
P5168-03	MJNL60S	Solid	Metals CLP4 MS	Cool 4 deg C	USEP01	Q32	12/02/2024	SFAM_MS

407

Date/Time

12/12/24

8:40

Raw Sample Received by:

SKS methadon

Raw Sample Relinquished by:

SKS

Date/Time

12/12/24

9:40

Raw Sample Received by:

SKS methadon

Raw Sample Relinquished by:

SKS methadon