

SDG COVER PAGE

Lab Name: Alliance Technical Group, LLC Contract: 68HERH20D0011
Lab Code: ACE Case No.: 51772 MA No.: _____ SDG No.: MYD0L6
SOW No. : SFAM01.1

EPA Sample No.	Lab Sample Id	ICP-AES	Analysis Method		
			ICP-MS	Mercury	Cyanide
<u>MYD0L6</u>	<u>P4322-01</u>	<u> </u>	<u>X</u>	<u> </u>	<u> </u>
<u>MYD0Y6</u>	<u>P4322-02</u>	<u> </u>	<u>X</u>	<u> </u>	<u> </u>
<u>MYD0Y8</u>	<u>P4322-03</u>	<u> </u>	<u>X</u>	<u> </u>	<u> </u>
<u>MYD035</u>	<u>P4322-04</u>	<u> </u>	<u>X</u>	<u> </u>	<u> </u>
<u>MYD036</u>	<u>P4322-05</u>	<u> </u>	<u>X</u>	<u> </u>	<u> </u>
<u>MYD038</u>	<u>P4322-06</u>	<u> </u>	<u>X</u>	<u> </u>	<u> </u>
<u>MYDD00</u>	<u>P4322-07</u>	<u> </u>	<u>X</u>	<u> </u>	<u> </u>
<u>MYDD01</u>	<u>P4322-08</u>	<u> </u>	<u>X</u>	<u> </u>	<u> </u>
<u>MYDD02</u>	<u>P4322-09</u>	<u> </u>	<u>X</u>	<u> </u>	<u> </u>
<u>MYDD03</u>	<u>P4322-10</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: N. N. Pandya Name: _____
Date: 10/29/2024 Title: _____

APPROVED

Nimisha Pandya, QA/QC Supervisor , 10/29/2024, 4:23:51 PM

68HERH20D0011

CHAIN OF CUSTODY RECORD 68

USEPA CLP COC (LAB COPY)

DateShipped: 10/3/2024

CarrierName: FedEx

AirbillNo: 7790 0135.2678

Case #: 51772

Cooler #: 51772-130

No: 9-100224-173216-0130

Lab: Alliance Technical Group LLC

Lab Contact: Mohammad Ahmed

Lab Phone: 908-728-3151

[illegible]

Shipment for Case Complete? N

Special Instructions: ICP-AES 11+ Metals: Ag, As, Ba, Be, Cd, Co, Cr, Cu, Mn, Mo, Ni, Pb, Sb, Se, Ti, V, Zn

Samples Transferred From Chain of Custody

Analysis Key: CLP ICP-MS-11+=CLP ICP-MS 11 and additional metals

Items/Reason	Relinquished by (Signature and Organization)	Date/Time	Received by (Signature and Organization)	Date/Time	Sample Condition Upon Receipt
Shipte Lab	Carrolme Wegman Weston	10/03/2024 13:00	cf	935 10-4-24	FFC-1 2.4-
					Custody Seal Intact
					Top Blk print

USEPA CLP COC (LAB COPY)

Date Shipped: 10/4/2024

Carrier Name: FedEx

Airbill No: 7790 1775 0469

68HERH20D0011

CHAIN OF CUSTODY RECORD

Case #: 51772

Cooler #: 51772-132

SDG # MYD0L6

No: 9-100424-105440-0132

Lab: Alliance Technical Group LLC

Lab Contact: Mohammad Ahmed

Lab Phone: 908-728-3151

Sample Identifier	CLP Sample No.	Matrix/Sampler	Coll. Method	Analysis/Turnaround (Days)	Tag/Preservative/Bottles	Location	Collection Date/Time	For Lab Use Only
RB-20240917	MYD035	Water (Blanks Only)/ REAC	Grab	ICP-AES 11 ICP-MS 11(21)	9-7479 (H2SO4 pH<2) (1)	IKM Staging Area	09/17/2024 16:15	PH 1.9
RB-20240918	MYD036	Water (Blanks Only)/ REAC	Grab	ICP-AES 11 ICP-MS 11(21)	9-7480 (H2SO4 pH<2) (1)	IKM Staging Area	09/18/2024 16:30	
RB-20240920	MYD038	Water (Blanks Only)/ REAC	Grab	ICP-AES 11 ICP-MS 11(21)	9-7482 (H2SO4 pH<2) (1)	IKM Staging Area	09/20/2024 13:29	
RB-20240621	MYDD00	Water (Blanks Only)/ REAC	Grab	ICP-AES 11 ICP-MS 11(21)	9-5918 (H2SO4 pH<2) (1)	IKM Staging Area	06/21/2024 15:30	
RB-20240620	MYDD01	Water (Blanks Only)/ REAC	Grab	ICP-AES 11 ICP-MS 11(21)	9-5919 (H2SO4 pH<2) (1)	IKM Staging Area	06/20/2024 16:45	
RB-20240619	MYDD02	Water (Blanks Only)/ REAC	Grab	ICP-AES 11 ICP-MS 11(21)	9-5920 (H2SO4 pH<2) (1)	IKM Staging Area	06/19/2024 17:00	
RB-20240618	MYDD03	Water (Blanks Only)/ REAC	Grab	ICP-AES 11 ICP-MS 11(21)	9-5921 (H2SO4 pH<2) (1)	IKM Staging Area	06/18/2024 17:57	

Special Instructions: ICP-AES 11+Metals: Ag, Al, As, Ba, Be, Ca, Cd, Co, Cr, Cu, Fe, K, Mg, Mn, Na, Ni, Pb, Sb, Se, Ti, V, Zn ICP-MS 11+ Metals: Ag, As, Ba, Be, Cd, Co, Cr, Cu, Ni, Pb, Sb, Se, Ti, V, Zn

Shipment for Case Complete? N

Samples Transferred From Chain of Custody #
9-062724-081238-0091 and
9-092024-134642-0123

Analysis Key: ICP-AES 11 ICP-MS 11=CLP ICP-AES 11 Metals and ICP-MS 11 Metals

Items/Reason	Relinquished by (Signature and Organization)	Date/Time	Received by (Signature and Organization)	Date/Time	Sample Condition Upon Receipt
7/Analyses	 J. M. REAC	10/7/24; 12:30		9/5 10-8-24	2.6.1
					Custody Seal Intact
					up Blk pmt

68HERH20D0011

SDG # MYD0L6

USEPA CLP COC (LAB COPY)

Date Shipped: 10/4/2024

Carrier Name: FedEx

Airbill No: 7790 1775 0469

CHAIN OF CUSTODY RECORD

Case #: 51772

Cooler #: 51772-132

No: 9-100424-105440-0132

Lab: Alliance Technical Group LLC

Lab Contact: Mohammad Ahmed

Lab Phone: 908-728-3151

Sample Identifier	CLP Sample No.	Matrix/Sampler	Coll. Method	Analysis/Turnaround (Days)	Tag/Preservative/Bottles	Location	Collection Date/Time	For Lab Use Only
RB-20240917	MYD035	Water (Blanks Only)/ REAC	Grab	CLP ICP-MS-11+(21)	9-7479 (HNO3 pH<2) (1)	IKM Staging Area	09/17/2024 16:15	
RB-20240918	MYD036	Water (Blanks Only)/ REAC	Grab	CLP ICP-MS-11+(21)	9-7480 (HNO3 pH<2) (1)	IKM Staging Area	09/18/2024 16:30	
RB-20240920	MYD038	Water (Blanks Only)/ REAC	Grab	CLP ICP-MS-11+(21)	9-7482 (HNO3 pH<2) (1)	IKM Staging Area	09/20/2024 13:29	
RB-20240621	MYDD00	Water (Blanks Only)/ REAC	Grab	CLP ICP-MS-11+(21)	9-5918 (HNO3 pH<2) (1)	IKM Staging Area	06/21/2024 15:30	
RB-20240620	MYDD01	Water (Blanks Only)/ REAC	Grab	CLP ICP-MS-11+(21)	9-5919 (HNO3 pH<2) (1)	IKM Staging Area	06/20/2024 16:45	
RB-20240619	MYDD02	Water (Blanks Only)/ REAC	Grab	CLP ICP-MS-11+(21)	9-5920 (HNO3 pH<2) (1)	IKM Staging Area	06/19/2024 17:00	
RB-20240618	MYDD03	Water (Blanks Only)/ REAC	Grab	CLP ICP-MS-11+(21)	9-5921 (HNO3 pH<2) (1)	IKM Staging Area	06/18/2024 17:57	

Shipment for Case Complete? N

Samples Transferred From Chain of Custody #

Special Instructions: ICP-MS 11+ Metals: Ag, As, Ba, Be, Cd, Co, Cr, Cu, Ni, Pb, Sb, Se, Ti, V, Zn

Analysis Key: CLP ICP-MS-11+-CLP ICP-MS 11 and additional metals

Items/Reason	Relinquished by (Signature and Organization)	Date/Time	Received by (Signature and Organization)	Date/Time	Sample Condition Upon Receipt
Analysis	TA. Walker corrected COC	10/11/2024 0930	Deane	10/8/24 9:45	2-6

FORM DC-1
SAMPLE LOG-IN SHEET

Lab Name : Alliance Technical Group, LLC	Page <u>1</u> of <u>2</u>
Received By (Print Name) <u>Assane line</u>	Log-in Date 10/4/2024
Received By (Signature) <u>[Signature]</u>	
Case Number 51772	SDG No. MYD0L6 MA No. N/A

Remarks:	
1. Custody Seal (s)	Present, Intact
2. Custody Seal Nos.	<u>n/a</u>
3. Traffic Reports/Chain Of Custody Records	Present
4. Airbill	Present
5. Airbill No. and Shipping Container ID No.	<u>779001352678</u> <u>1</u>
6. Shipping Container Temperature Indicator Bottle	Present
7. Shipping Container Temperature	<u>2.4</u> Degree C
8. Sample Condition	Intact
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>10/04/2024</u>
12. Time Received	<u>09:39</u>

	EPA Sample #	Aqueous/ Water Sample pH	Corresponding		Remarks: Condition of Sample Shipment, etc.
			Sample Tag #	Assigned Lab #	
1	MYD0L6	1.6	9-7663	P4322-01	Intact
2	MYD0Y6	1.6	9-7768	P4322-02	Intact
3	MYD0Y8	1.6	9-7770	P4322-03	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>10/4/24</u>	Logbook Page No. N/A

FORM DC-1
SAMPLE LOG-IN SHEET

Lab Name : Alliance Technical Group, LLC	Page <u>2</u> of <u>2</u>
Received By (Print Name) <u>Cassanova Lisa</u>	Log-in Date 10/8/2024
Received By (Signature) <u>[Signature]</u>	
Case Number 51772	SDG No. MYD0L6 MA No. N/A

Remarks:	
1. Custody Seal (s)	Present, Intact
2. Custody Seal Nos.	<u>n/a</u>
3. Traffic Reports/Chain Of Custody Records	Present
4. Airbill	Present
5. Airbill No. and Shipping Container ID No.	<u>779017750469</u> <u>2</u>
6. Shipping Container Temperature Indicator Bottle	Present
7. Shipping Container Temperature	<u>2.6</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>10/08/2024</u>
12. Time Received	<u>09:45</u>

	EPA Sample #	Aqueous/ Water Sample pH	Corresponding		Remarks: Condition of Sample Shipment, etc.
			Sample Tag #	Assigned Lab #	
1	MYD035	1.9	9-7479	P4322-04	Intact
2	MYD036	1.9	9-7480	P4322-05	Intact
3	MYD038	1.9	9-7482	P4322-06	Intact
4	MYDD00	1.9	9-5918	P4322-07	Intact
5	MYDD01	1.9	9-5919	P4322-08	Intact
6	MYDD02	1.9	9-5920	P4322-09	Intact
7	MYDD03	1.9	9-5921	P4322-10	Intact
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>10/9/24</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.	51772	SDG NO.	MYD0L6
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	4	✓	
3. Sample Log-In Sheet (DC-1)	5	6	✓	
4. CSF Inventory Sheet (DC-2)	7	9	✓	
5. SDG Narrative	10	13	✓	
6. Communication Logs	14	21	✓	
7. Percent Solids Log	NA	NA	✓	

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	22	31	✓	
18. Instrument raw data by instrument in analysis order	32	244	✓	

Other Data

19. Standard and Reagent Preparation Logs	245	371	✓	
20. Original Preparation and Cleanup forms or copies of Preparation and Cleanup Logbooks	372	373	✓	
21. Original Analysis or Instrument Run forms or copies of Analysis or Instrument Logbooks	374	375	✓	
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 2)

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)

(Signature)

Nimisha Pandya, Document Control Officer

(Print Name & Title)

(Date)

Audited by:
(EPA)

(Signature)

(Print Name & Title)

(Date)

PAGE NOs:		CHECK	
FROM	TO	LAB	REGION
376	377	✓	
NA	NA	✓	
378	378	✓	
NA	NA	✓	
379	379	✓	
NA	NA	✓	



**284 Sheffield Street
Mountainside, NJ 07092**

SDG NARRATIVE

USEPA

SDG # MYD0L6

CASE # 51772

CONTRACT # 68HERH20D0011

SOW# SFAM01.1

LAB NAME: Alliance Technical Group, LLC

LAB CODE: ACE

LAB ORDER ID #P4322

A. Number of Samples and Date of Receipt

10 Water samples were delivered to the laboratory intact on 10/04/2024 & 10/08/2024.

B. Parameters

Test requested for Metals CLP MS = Aluminum, Antimony, Arsenic, Barium, Beryllium, Cadmium, Calcium, Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Nickel, Potassium, Selenium, Silver, Sodium, Thallium, Vanadium, Zinc.

C. Cooler Temp

Indicator Bottle: Presence/Absence

Cooler: 2.4°C, 2.6°C

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

Issue 1: The laboratory received water samples preserved with H₂SO₄ instead of HNO₃. The laboratory would like to know how to proceed.

Issue 2: A "P" or "M" prefix was listed at the beginning of a CLP sample ID.

E. Corrective Action taken for above:

Resolution 1: Per Region 9, an updated COC with the correct preservative HNO₃ has been attached. The laboratory should note the issue in the SDG narrative and proceed with the analysis of the samples.

Resolution 2: 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.



**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 Water Sample:

$$\text{Concentration or Result } (\mu\text{g/L}) = C \times \frac{V_f}{V_i} \times \text{DF}$$

Where,

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

V_f = Final digestion volume (mL)

V_i = Initial aliquot amount (mL) (Sample amount taken in prep)

DF = Dilution Factor

Example Calculation For Sample MYD0L6 For Zinc:

If C = 14.64 ppb

V_f = 50 ml

V_i = 50 ml

DF = 1

$$\text{Concentration or Result } (\mu\text{g/L}) = 14.64 \times \frac{50}{50} \times 1$$

$$= 14.64 \mu\text{g/L}$$

$$= 15 \mu\text{g/L (Reported Result with Signification)}$$

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.

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.

Internal Standard Association for ICP-MS analysis.

Target Analyte	Associated



**284 Sheffield Street
Mountainside, NJ 07092**

	Internal Standard
Aluminum	45Sc
Antimony	159Tb
Arsenic	89Y
Barium	159Tb
Beryllium	6Li
Cadmium	159Tb
Calcium	45Sc
Chromium	45Sc
Cobalt	45Sc
Copper	45Sc
Iron	45Sc
Lead	209Bi
Magnesium	45Sc
Manganese	45Sc
Nickel	45Sc
Potassium	45Sc
Selenium	89Y
Silver	159Tb
Sodium	45Sc
Thallium	209Bi
Vanadium	45Sc
Zinc	45Sc



**284 Sheffield Street
Mountainside, NJ 07092**

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: Hairston, Miles (NE) <Miles.Hairston@gdit.com>
Sent: Friday, October 11, 2024 16:35
To: Sohil Jodhani; Mohammad Ahmed; Deepak Parmar
Cc: R9RSCC (R9RSCC@epa.gov); carmon.jamie@epa.gov; Spiegel, Michael (he/him/his); Britz, Helen; Moody, Brett; Myer, Shari; Bauer, Heather E; Johnson, Matthew; Ackerman, Eric
Subject: Region 09 | Case 51772 | Lab ACE | Issue Discrepancies with tags, jars, and/or COC | FINAL
Attachments: SKM_95824100810170-Revised_0132.pdf

EXTERNAL EMAIL - This email was sent by a person from outside your organization. Exercise caution when clicking links, opening attachments or taking further action, before validating its authenticity.

Secured by Check Point

Good afternoon,

Please see the resolution below.

Issue: The laboratory received water samples preserved with H2SO4 instead of HNO3. The laboratory would like to know how to proceed.

Resolution: Per Region 9, an updated COC with the correct preservative HNO3 has been attached. The laboratory should note the issue in the SDG narrative and proceed with the analysis of the samples.

Please note that the laboratory will have to contact the appropriate CLP COR should any defects need to be waived for this issue.

Thanks,
Miles Hairston
Associate Environmental Analyst
Under contract to EPA
QSS Coordinator – EPA Regions 1, 8, 7, and 9

Work Phone: +1 571-454-0346
Miles.Hairston@gdit.com
15036 Conference Center Drive
Chantilly, VA 20151
www.gdit.com

Leave alert: October 14 and October 21 - 22

GENERAL DYNAMICS
Information Technology

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email shall not operate to bind GDIT to any order or other contract unless pursuant to explicit written agreement or government initiative expressly permitting the use of email for such purpose.

From: R9RSCC <R9RSCC@epa.gov>
Sent: Friday, October 11, 2024 3:14 PM
To: Hairston, Miles (NE) <Miles.Hairston@gdit.com>
Cc: R9RSCC <R9RSCC@epa.gov>
Subject: FW: [EXT]:FW: Region 09 | Case 51772 | Lab ACE | Issue Discrepancies with tags, jars, and/or COC

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

Hi Miles,

Revised COC correcting for the preservative.

Thanks!

-Jamie

Jamie Carmon (she/her)

Region 9

RSCC (Regional Sample Control Coordinator)

Email: R9RSCC@epa.gov

The R9 lab will be closed Monday, October 14th in observance of the Federal holiday.

- The lab will resume normal hours October 15th.

From: Hairston, Miles (NE)

Sent: Friday, October 11, 2024 2:57 PM

To: R9RSCC (R9RSCC@epa.gov) R9RSCC@epa.gov; carmon.jamie@epa.gov; Spiegel, Michael (he/him/his) Spiegel.Michael@epa.gov

Cc: Britz, Helen Britz.Helen@epa.gov; Moody, Brett Moody.Brett@epa.gov; Myer, Shari Myer.Shari@epa.gov; Bauer, Heather E Heather.Bauer@gdit.com; Johnson, Matthew Matthew.Johnson32@gdit.com; Ackerman, Eric Eric.Ackerman@WestonSolutions.com

Subject: Region 09 | Case 51772 | Lab ACE | Issue Discrepancies with tags, jars, and/or COC

Good afternoon,

I would like to follow up on the email below. Please advise on the issue below.

Issue: The laboratory received water samples preserved with H2SO4 instead of HNO3. The laboratory would like to know how to proceed.

Thanks,

Miles Hairston

Associate Environmental Analyst

Under contract to EPA

QSS Coordinator – EPA Regions 1, 8, 7, and 9

Work Phone: +1 571-454-0346
Miles.Hairston@gdit.com
15036 Conference Center Drive
Chantilly, VA 20151
www.gdit.com

Leave alert: October 14 and October 21 - 22

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From: Walzer, Thomas <T.A.Walzer@WestonSolutions.com>

Sent: Friday, October 11, 2024 7:41 AM

To: R9RSCC <R9RSCC@epa.gov>; Guijarro, Carolina <carolina.guijarro@WestonSolutions.com>; Leatherbury, Ryan <Ryan.Leachbury@westonsolutions.com>; Rodriguez, Anthony <anthony.rodriguez@westonsolutions.com>; Grossman, Scott <grossman.scott@epa.gov>

Subject: RE: [EXT]:FW: Region 09 | Case 51772 | Lab ACE | Issue Discrepancies with tags, jars, and/or COC

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Corrected analysis and preservative. PDF includes original COC 0132. Submitting revised XML.



Thomas Walzer
Principal Analyst  

 (713) 705-1467  T.A.Walzer@WestonSolutions.com

 Environmental and Infrastructure Solutions

From: R9RSCC <R9RSCC@epa.gov>

Sent: Thursday, October 10, 2024 3:04 PM

To: Guijarro, Carolina <Carolina.Guijarro@WestonSolutions.com>; Walzer, Thomas <T.A.Walzer@WestonSolutions.com>; Leatherbury, Ryan <Ryan.Leachbury@WestonSolutions.com>; Rodriguez, Anthony <Anthony.Rodriguez@WestonSolutions.com>; Grossman, Scott <grossman.scott@epa.gov>

Cc: R9RSCC <R9RSCC@epa.gov>

Subject: [EXT]:FW: Region 09 | Case 51772 | Lab ACE | Issue Discrepancies with tags, jars, and/or COC

***** External Message *** -- PROBE message before clicking links or opening attachments.**

Hi Thomas,

CLP would like to follow up on the email below.
Carolina mentioned in the attached outlook item that she would resend the COC.
However, I think she have forgotten as CLP has said they are still waiting for the revised COC.

Thanks!
-Jamie

Jamie Carmon (she/her)

Region 9

RSCC (Regional Sample Control Coordinator)

Email: R9RSCC@epa.gov

The R9 lab will be closed Monday, October 14th in observance of the Federal holiday.

- The lab will resume normal hours October 15th.

From: Hairston, Miles (NE) <Miles.Hairston@gdit.com>

Sent: Thursday, October 10, 2024 11:09 AM

To: R9RSCC <R9RSCC@epa.gov>; Carmon, Jamie (she/her/hers) <Carmon.Jamie@epa.gov>; Spiegel, Michael (he/him/his) <Spiegel.Michael@epa.gov>

Cc: Britz, Helen <Britz.Helen@epa.gov>; Moody, Brett <Moody.Brett@epa.gov>; Myer, Shari <Myer.Shari@epa.gov>; Bauer, Heather E <Heather.Bauer@gdit.com>; Johnson, Matthew <Matthew.Johnson32@gdit.com>; Eric.Ackerman@WestonSolutions.com

Subject: Region 09 | Case 51772 | Lab ACE | Issue Discrepancies with tags, jars, and/or COC

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Good afternoon,

I would like to follow up on the email below. Please advise on the issue below.

Issue: The laboratory received water samples preserved with H2SO4 instead of HNO3. The laboratory would like to know how to proceed.

Thanks,
Miles Hairston
Associate Environmental Analyst
Under contract to EPA
QSS Coordinator – EPA Regions 1, 8, 7, and 9

Work Phone: +1 571-454-0346

Miles.Hairston@gdit.com

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Chantilly, VA 20151

www.gdit.com

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From: Hairston, Miles (NE)
Sent: Tuesday, October 8, 2024 2:32 PM
To: R9RSCC (R9RSCC@epa.gov) <R9RSCC@epa.gov>; carmon.jamie@epa.gov; Spiegel, Michael (he/him/his) <Spiegel.Michael@epa.gov>
Cc: Britz, Helen <Britz.Helen@epa.gov>; Moody, Brett <Moody.Brett@epa.gov>; Myer, Shari <Myer.Shari@epa.gov>; Bauer, Heather E <Heather.Bauer@gdit.com>; Johnson, Matthew <Matthew.Johnson32@gdit.com>; Ackerman, Eric <Eric.Ackerman@WestonSolutions.com>
Subject: Region 09 | Case 51772 | Lab ACE | Issue Discrepancies with tags, jars, and/or COC

Good afternoon,

Please advise on the issue below.

Issue: The laboratory received water samples preserved with H2SO4 instead of HNO3. The laboratory would like to know how to proceed.

Thanks,
Miles Hairston
Associate Environmental Analyst
Under contract to EPA
QSS Coordinator – EPA Regions 1, 8, 7, and 9

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From: Sohil Jodhani <Sohil.Jodhani@alliancetg.com>
Sent: Tuesday, October 8, 2024 11:44 AM
To: Hairston, Miles (NE) <Miles.Hairston@gdit.com>
Cc: Deepak Parmar <Deepak.Parmar@AllianceTG.com>
Subject: RE: Region 09 | Case 51772 | Lab ACE | Issue Discrepancies with tags, jars, and/or COC

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Hi Miles,

Metals samples we receive are always preserved with HNO₃. For this shipment, samples are preserved with H₂SO₄ which is incorrect preservative.

Thanks & Regards,



Sohil Jodhani

QA/QC Director

An Alliance Technical Group Company

Main: 908-789-8900

Direct: 908-728-3152

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

www.alliancetg.com



From: Hairston, Miles (NE) <Miles.Hairston@gdit.com>

Sent: Tuesday, October 8, 2024 11:24 AM

To: Deepak Parmar <Deepak.Parmar@alliancetg.com>

Cc: Sohil Jodhani <Sohil.Jodhani@AllianceTG.com>

Subject: Region 09 | Case 51772 | Lab ACE | Issue Discrepancies with tags, jars, and/or COC

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Secured by Check Point

Good morning,

Can the laboratory confirm if the preservative listed on the COC is correct.

Thanks,

Miles Hairston

Associate Environmental Analyst

Under contract to EPA

QSS Coordinator – EPA Regions 1, 8, 7, and 9

Work Phone: +1 571-454-0346

Miles.Hairston@gdit.com

15036 Conference Center Drive

Chantilly, VA 20151

www.gdit.com

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From: Deepak Parmar <Deepak.Parmar@alliancetg.com>
Sent: Tuesday, October 8, 2024 10:36 AM
To: Hairston, Miles (NE) <Miles.Hairston@gdit.com>
Cc: Sohil Jodhani <Sohil.Jodhani@AllianceTG.com>
Subject: Region 09 | Case 51772 | Lab ACE | Issue Discrepancies with tags, jars, and/or COC

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

Hello Miles,

Samples received under this case has below discrepancies,

Issue1: Lab has received water samples with preservative mentioned on COC and bottles H2SO4 .please let us 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
Address: 284 Sheffield St, Ste 1, Mountainside, NJ 07092
www.alliancetg.com      

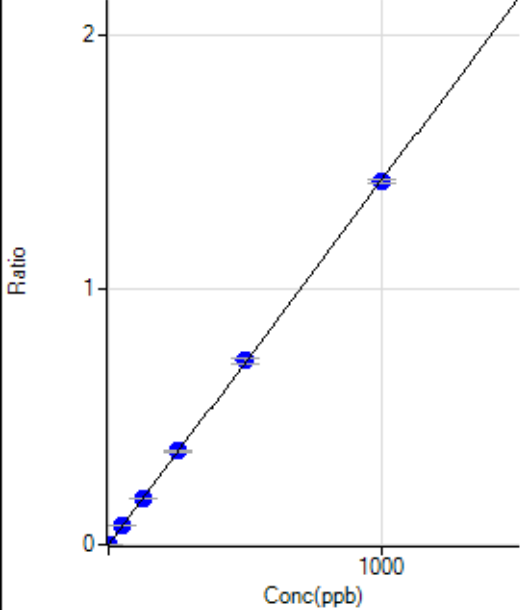
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Batch Folder: D:\Agilent\ICPMH\1\DATA\P7102924 MS.b\
Analysis File: P7102924 MS.batch.bin
DA Date-Time: 2024-10-29 19:23:15
Calibration Title:
Calibration Method: External Calibration
VIS Interpolation Fit:

Level	Standard Data File	Sample Name	Acq. Date-Time
1	004CALB.d	S00	2024-10-29 18:13:02
2	006CALS.d	S02	2024-10-29 18:19:37
3	007CALS.d	S03	2024-10-29 18:22:54
4	008CALS.d	S04	2024-10-29 18:26:02
5	009CALS.d	S05	2024-10-29 18:29:01
6	010CALS.d	S06	2024-10-29 18:31:54
7	011CALS.d	S07	2024-10-29 18:34:39
8	012CALS.d	S08	2024-10-29 18:37:25

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



	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det	RSD
1	☐	0.000	0.000	25.56	0.0001	P	31.0
2	☐	1.000	0.987	650.02	0.0015	P	6.1
3	☐	50.000	52.334	33089.66	0.0748	P	0.2
4	☐	125.000	127.616	81716.00	0.1822	P	1.7
5	☐	250.000	255.988	165534.70	0.3655	P	1.5
6	☐	500.000	504.297	336224.33	0.7199	P	3.2
7	☐	1000.000	995.910	715232.72	1.4217	P	1.0
8	☐			141.11	0.0003	P	11.1

$y = 0.0014 * x + 5.8117E-005$

$R = 1.0000$

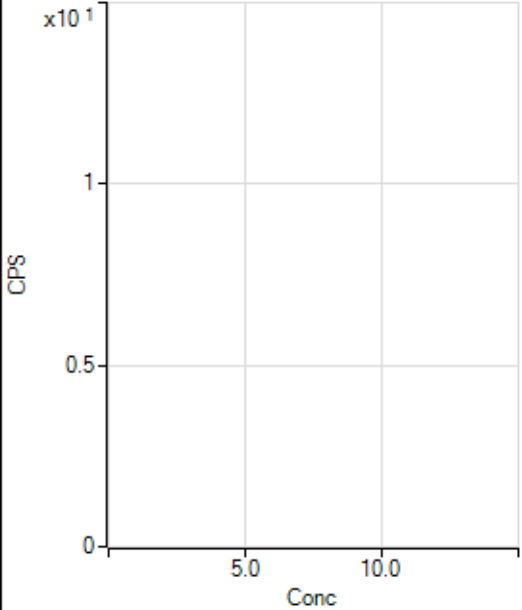
$DL = 0.03792$

$BEC = 0.04071$

Weight: <None>

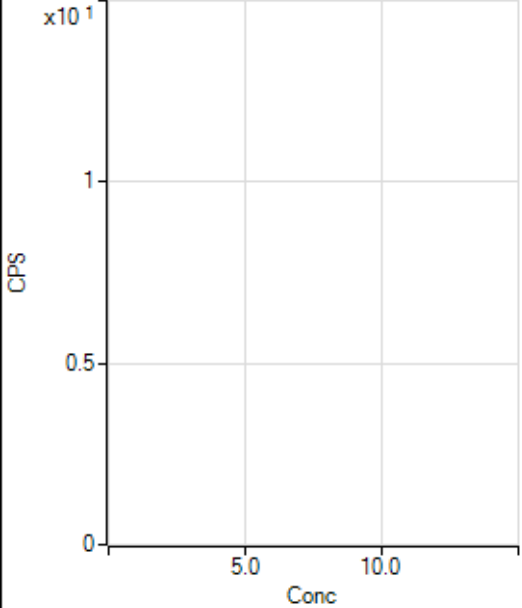
Min Conc: 0

12 C [No Gas] No available calibration points



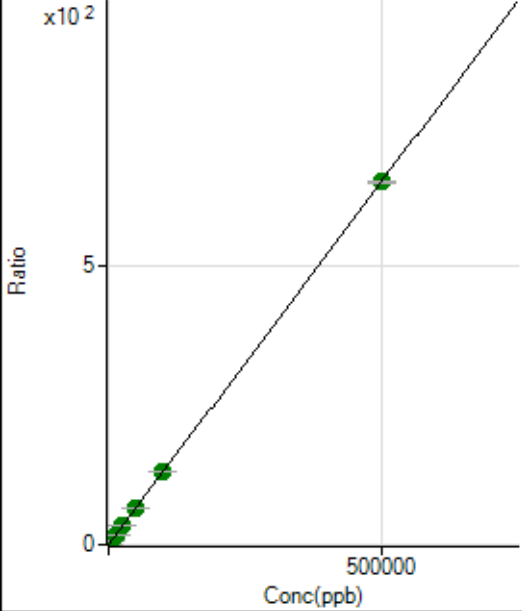
	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det	RSD
1	☐						
2	☐						
3	☐						
4	☐						
5	☐						
6	☐						
7	☐						
8	☐						

12 C [He] No available calibration points



	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐						
2	☐						
3	☐						
4	☐						
5	☐						
6	☐						
7	☐						
8	☐						

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



	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐	0.000	0.000	34491.98	0.1153	P	0.9
2	☐	500.000	503.526	227210.92	0.7697	P	0.5
3	☐	5000.000	5103.943	2031019.52	6.7484	A	0.3
4	☐	12500.000	12601.614	4951513.05	16.4923	A	0.3
5	☐	25000.000	25429.145	10026143.67	33.1628	A	1.2
6	☐	50000.000	50378.388	20091872.62	65.5866	A	0.6
7	☐	100000.00	100451.77	40563303.84	130.6616	A	0.6
8	☐	500000.00	499846.76	207616468.0	649.7119	A	0.3

$y = 0.0013 * x + 0.1153$

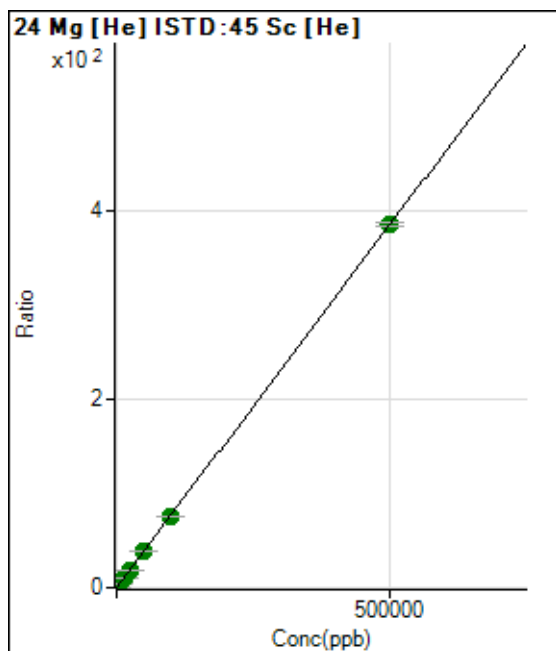
$R = 1.0000$

$DL = 2.322$

$BEC = 88.74$

Weight: <None>

Min Conc: 0



	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	454.45	0.0015	P	6.5
2	☐	500.000	524.437	119416.87	0.4045	P	0.5
3	☐	5000.000	5025.727	1162785.68	3.8637	A	1.9
4	☐	12500.000	12465.396	2876536.62	9.5810	A	0.6
5	☐	25000.000	24862.137	5776930.40	19.1077	A	1.4
6	☐	50000.000	49524.281	11659452.75	38.0601	A	0.1
7	☐	100000.00	98606.746	23525382.15	75.7792	A	1.1
8	☐	500000.00	500333.69	122862345.9	384.4998	A	0.9

$$y = 7.6848\text{E-}004 * x + 0.0015$$

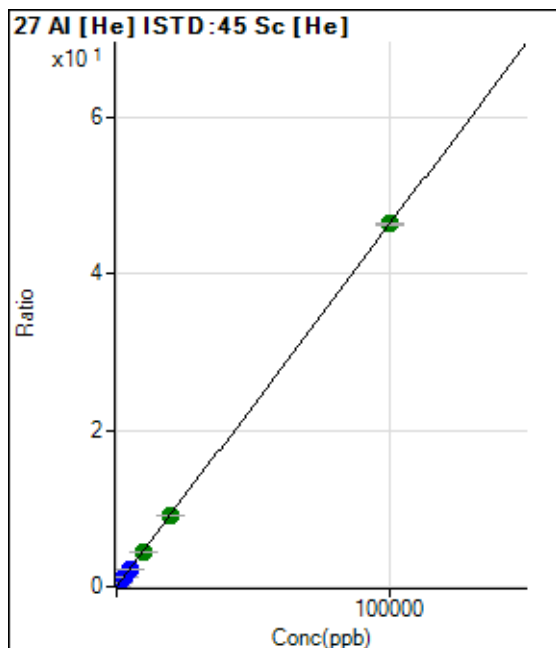
R = 1.0000

DL = 0.3874

BEC = 1.977

Weight: <None>

Min Conc: 0



	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	277.78	0.0009	P	6.7
2	☐	20.000	18.415	2794.73	0.0095	P	5.3
3	☐	1000.000	1005.733	140614.37	0.4672	P	0.1
4	☐	2500.000	2485.484	346240.68	1.1533	P	1.1
5	☐	5000.000	4959.141	695392.38	2.3001	P	0.9
6	☐	10000.000	9727.514	1381882.56	4.5109	A	0.5
7	☐	20000.000	19502.918	2807300.75	9.0430	A	0.9
8	☐	100000.00	100129.01	14834418.53	46.4235	A	0.3

$$y = 4.6363\text{E-}004 * x + 9.2862\text{E-}004$$

R = 1.0000

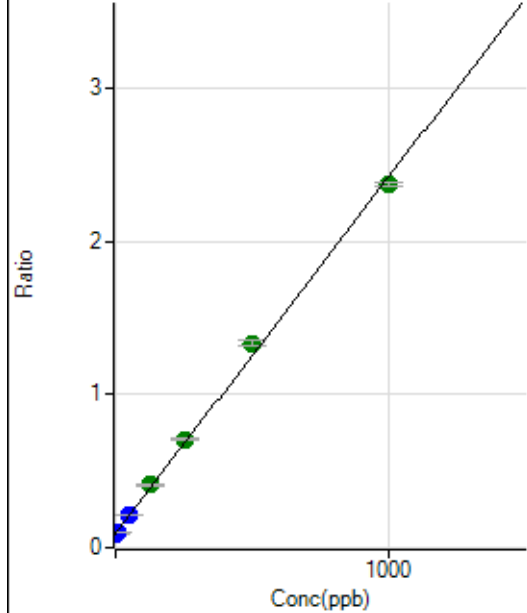
DL = 0.4046

BEC = 2.003

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	286763.61	0.0920	P	2.7
2	☐	10.000	1.823	298799.01	0.0963	P	1.2
3	☐	50.000	53.747	678583.93	0.2170	P	1.2
4	☐	125.000	138.404	1306213.58	0.4139	A	3.1
5	☐	250.000	262.992	2244988.77	0.7037	A	2.0
6	☐	500.000	533.583	4116561.54	1.3331	A	2.7
7	☐	1000.000	978.179	7743438.78	2.3672	A	1.1
8	☐			332612.09	0.1000	P	1.8

$$y = 0.0023 * x + 0.0920$$

$$R = 0.9989$$

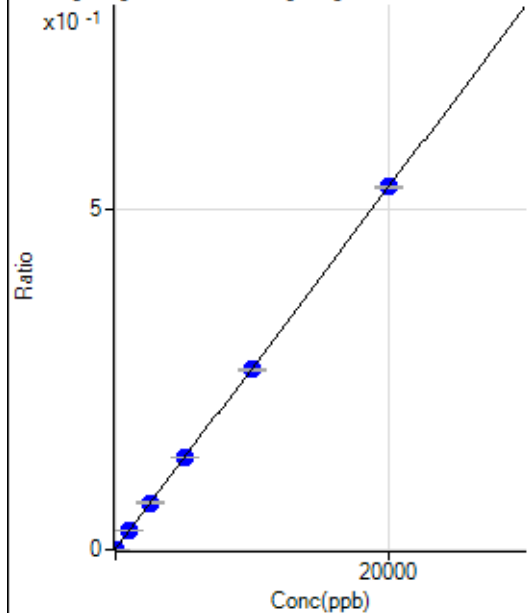
$$DL = 3.168$$

$$BEC = 39.57$$

Weight: <None>

Min Conc: 0

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



	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	-12.147	164.45	0.0005	P	6.3
2	☐	0.000	12.147	353.34	0.0012	P	17.7
3	☐	1000.000	991.848	8211.17	0.0273	P	1.2
4	☐	2500.000	2566.457	20778.66	0.0692	P	1.3
5	☐	5000.000	5072.934	41100.62	0.1359	P	0.6
6	☐	10000.000	9912.151	81121.27	0.2648	P	1.3
7	☐	20000.000	20017.791	165735.56	0.5339	P	0.9
8	☐			234.45	0.0007	P	11.5

$$y = 2.6626E-005 * x + 8.7318E-004$$

$$R = 1.0000$$

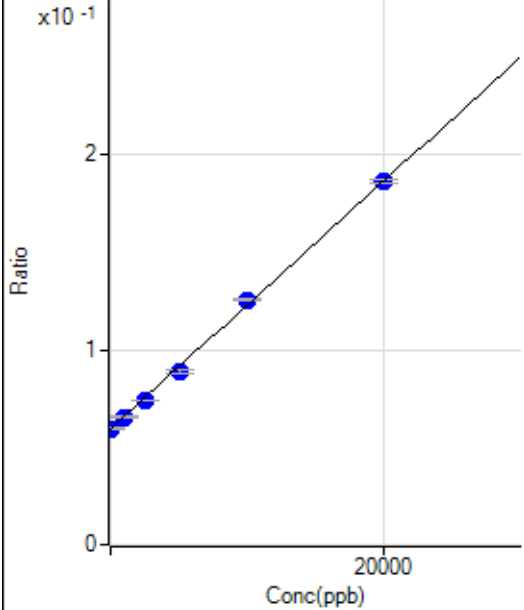
$$DL = 13.86$$

$$BEC = 32.79$$

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	12.578	185959.56	0.0597	P	2.7
2	☐	0.000	-12.578	184736.32	0.0595	P	1.2
3	☐	1000.000	945.092	205111.47	0.0656	P	0.8
4	☐	2500.000	2256.234	233321.42	0.0739	P	0.7
5	☐	5000.000	4599.120	283396.40	0.0888	P	1.6
6	☐	10000.000	10410.001	388415.37	0.1258	P	1.3
7	☐	20000.000	19928.436	609396.78	0.1863	P	1.2
8	☐			192249.53	0.0578	P	1.9

$y = 6.3576E-006 * x + 0.0596$

R = 0.9994

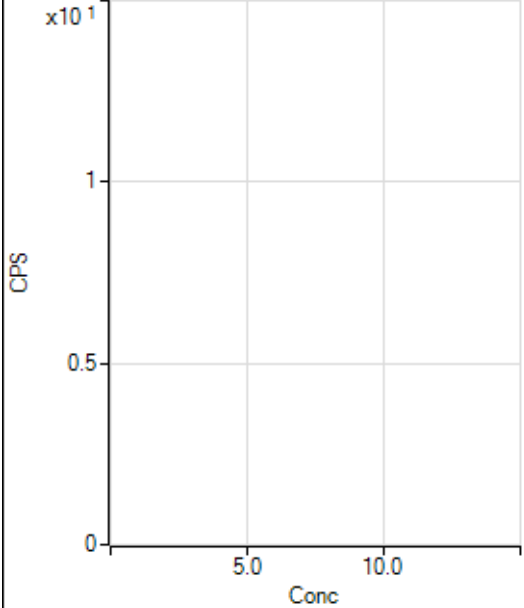
DL = 553.2

BEC = 9374

Weight: <None>

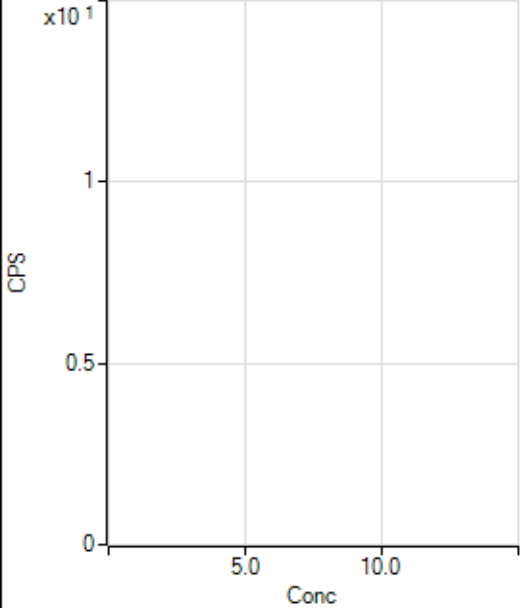
Min Conc: 0

35 Cl [No Gas] No available calibration points



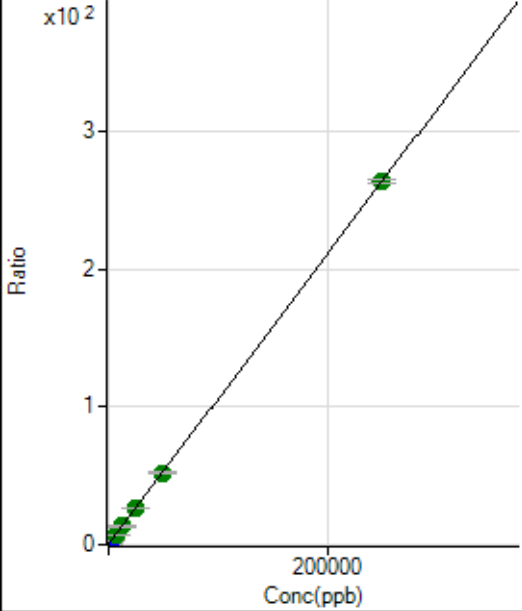
	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det	RSD
1	☐						
2	☐						
3	☐						
4	☐						
5	☐						
6	☐						
7	☐						
8	☐						

35 Cl [He] No available calibration points



	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det	RSD
1	☐						
2	☐						
3	☐						
4	☐						
5	☐						
6	☐						
7	☐						
8	☐						

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



	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det	RSD
1	☐	0.000	0.000	86003.34	0.2875	P	0.5
2	☐	500.000	499.635	239840.43	0.8125	P	0.4
3	☐	2500.000	2645.887	923193.41	3.0675	P	0.5
4	☐	6250.000	6235.493	2053276.10	6.8389	A	0.9
5	☐	12500.000	12376.142	4018268.31	13.2907	A	1.5
6	☐	25000.000	24613.464	8010338.91	26.1480	A	0.6
7	☐	50000.000	49342.265	16182884.76	52.1296	A	1.0
8	☐	250000.00	250175.29	84082412.64	263.1372	A	0.9

$y = 0.0011 * x + 0.2875$

$R = 1.0000$

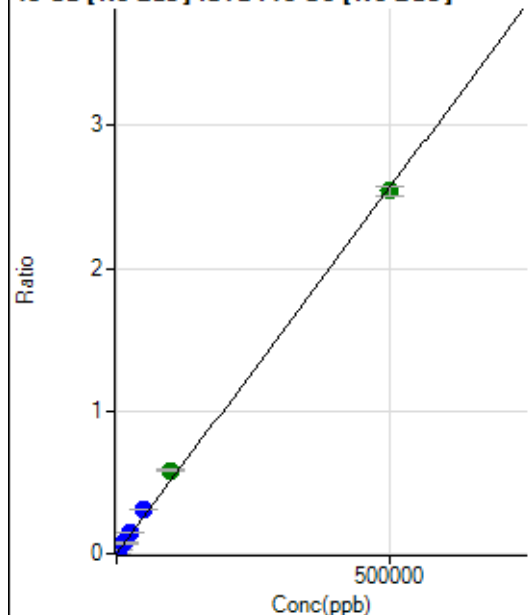
$DL = 3.852$

$BEC = 273.7$

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	280.01	0.0001	P	16.3
2	☐	500.000	499.599	8224.53	0.0026	P	1.6
3	☐	5000.000	5862.937	94209.48	0.0301	P	1.4
4	☐	12500.000	14520.165	235063.32	0.0745	P	1.9
5	☐	25000.000	28911.659	472922.17	0.1482	P	1.0
6	☐	50000.000	60000.302	949634.85	0.3075	P	2.2
7	☐	100000.00	114230.24	1914957.07	0.5854	A	0.9
8	☐	500000.00	495899.20	8454427.44	2.5411	A	2.6

$$y = 5.1240E-006 * x + 8.9803E-005$$

R = 0.9994

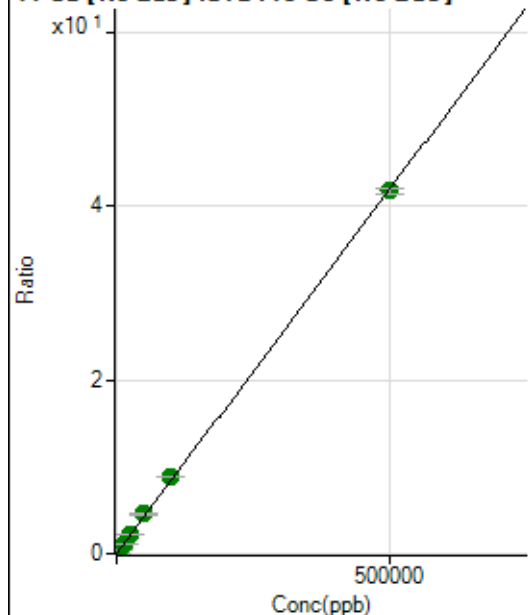
DL = 8.584

BEC = 17.53

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	15435.94	0.0050	P	4.7
2	☐	500.000	499.045	145019.08	0.0467	P	1.2
3	☐	5000.000	5394.517	1426983.99	0.4564	A	1.0
4	☐	12500.000	13293.194	3526254.32	1.1174	A	1.6
5	☐	25000.000	26458.150	7081199.69	2.2192	A	1.6
6	☐	50000.000	54679.876	14145563.95	4.5811	A	2.9
7	☐	100000.00	106268.72	29108952.06	8.8985	A	0.7
8	☐	500000.00	498181.58	138735350.1	41.6972	A	1.3

$$y = 8.3689E-005 * x + 0.0050$$

R = 0.9999

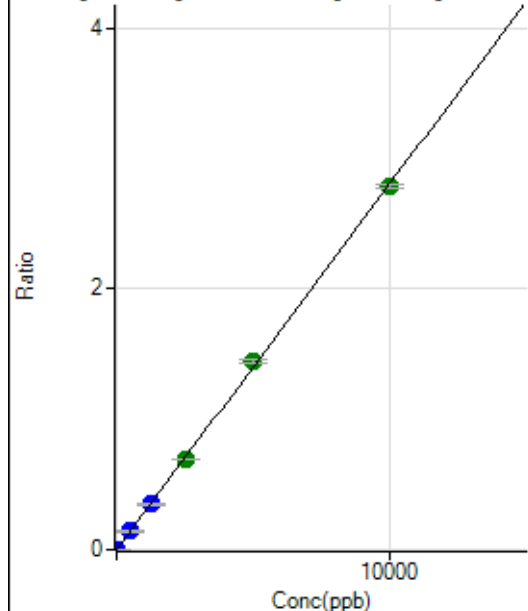
DL = 8.364

BEC = 59.21

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	140.00	0.0000	P	9.2
2	☐	5.000	4.284	3863.86	0.0012	P	1.8
3	☐	500.000	501.824	439603.25	0.1406	P	1.0
4	☐	1250.000	1236.391	1092963.46	0.3464	P	1.2
5	☐	2500.000	2473.513	2210642.47	0.6929	A	1.0
6	☐	5000.000	5163.654	4466244.69	1.4464	A	2.5
7	☐	10000.000	9926.405	9095241.81	2.7804	A	1.0
8	☐			1398.97	0.0004	P	5.3

$$y = 2.8010E-004 * x + 4.4867E-005$$

R = 0.9998

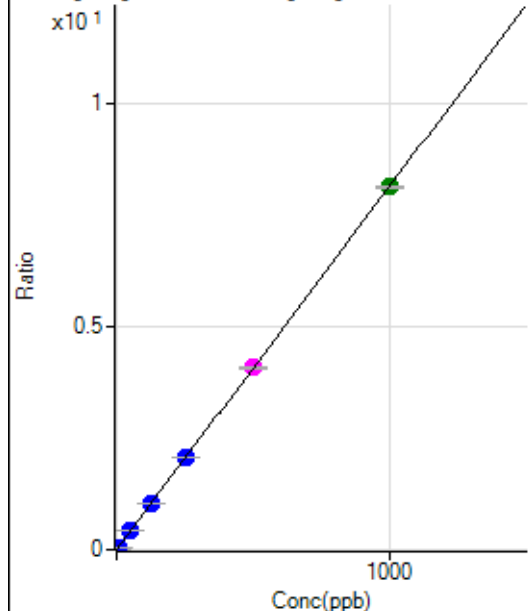
DL = 0.04433

BEC = 0.1602

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	21.11	0.0001	P	9.5
2	☐	5.000	4.940	11881.44	0.0403	P	0.8
3	☐	50.000	50.644	123993.64	0.4120	P	0.8
4	☐	125.000	127.715	311891.15	1.0388	P	0.7
5	☐	250.000	253.314	622927.74	2.0604	P	0.3
6	☐	500.000	500.451	1246972.03	4.0705	M	1.1
7	☐	1000.000	998.575	2521404.01	8.1220	A	0.8
8	☐			601.13	0.0019	P	11.2

$$y = 0.0081 * x + 7.0596E-005$$

R = 1.0000

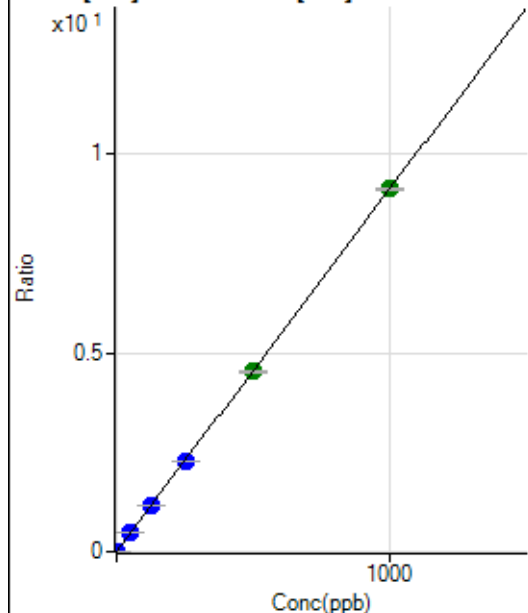
DL = 0.002475

BEC = 0.00868

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	750.03	0.0025	P	6.3
2	☐	2.000	1.985	6073.49	0.0206	P	2.6
3	☐	50.000	50.995	140451.60	0.4667	P	1.2
4	☐	125.000	127.339	348750.74	1.1616	P	1.0
5	☐	250.000	251.356	692479.26	2.2905	P	0.2
6	☐	500.000	496.309	1384701.96	4.5201	A	0.6
7	☐	1000.000	1001.165	2829917.32	9.1156	A	0.2
8	☐			9703.20	0.0304	P	1.2

$$y = 0.0091 * x + 0.0025$$

$$R = 1.0000$$

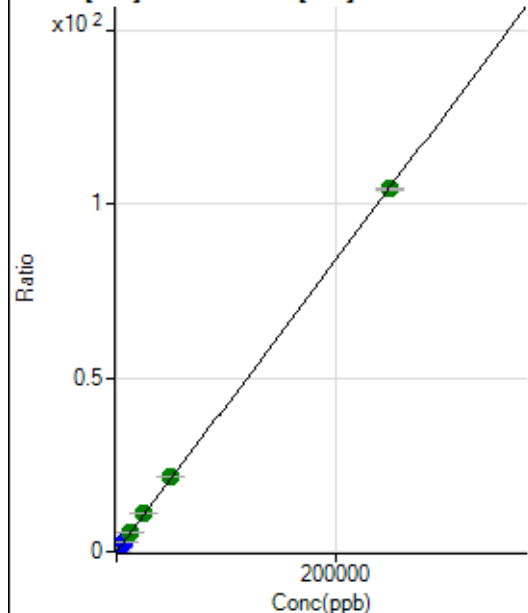
$$DL = 0.05169$$

$$BEC = 0.2755$$

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	1614.55	0.0054	P	3.3
2	☐	50.000	52.755	8117.81	0.0275	P	1.4
3	☐	2500.000	2747.824	348097.99	1.1566	P	0.6
4	☐	6250.000	6778.153	854199.07	2.8451	P	0.3
5	☐	12500.000	13284.910	1684294.68	5.5712	A	1.2
6	☐	25000.000	26315.299	3379075.99	11.0303	A	0.1
7	☐	50000.000	51810.740	6740317.33	21.7118	A	0.5
8	☐	250000.00	249451.39	33396759.50	104.5145	A	0.8

$$y = 4.1896E-004 * x + 0.0054$$

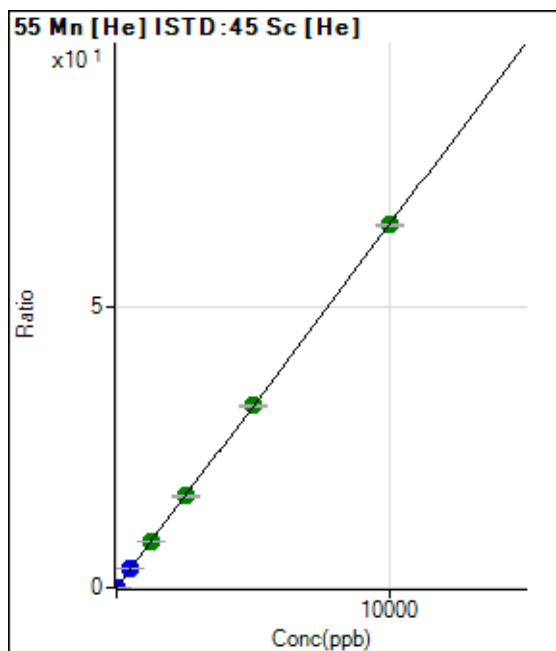
$$R = 1.0000$$

$$DL = 1.258$$

$$BEC = 12.89$$

Weight: <None>

Min Conc: 0



	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	492.23	0.0016	P	8.8
2	☐	1.000	0.967	2337.98	0.0079	P	1.4
3	☐	500.000	506.115	988930.84	3.2859	P	0.1
4	☐	1250.000	1283.363	2500732.38	8.3295	A	1.7
5	☐	2500.000	2520.249	4944803.36	16.3558	A	0.6
6	☐	5000.000	5007.178	9954114.92	32.4937	A	0.9
7	☐	10000.000	9986.873	20118995.53	64.8074	A	0.6
8	☐			11090.89	0.0347	P	1.7

$$y = 0.0065 * x + 0.0016$$

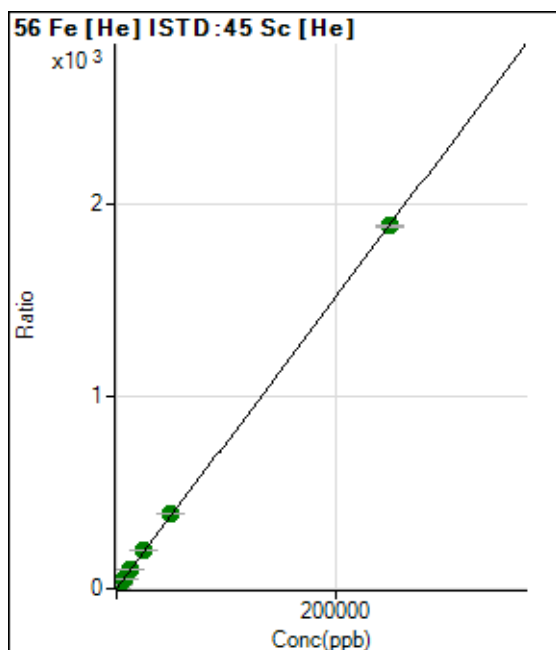
$$R = 1.0000$$

$$DL = 0.06733$$

$$BEC = 0.2537$$

Weight: <None>

Min Conc: 0



	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	12038.24	0.0402	P	1.1
2	☐	50.000	51.804	127463.73	0.4318	P	0.6
3	☐	2500.000	2627.944	5990032.83	19.9030	A	0.7
4	☐	6250.000	6574.925	14931834.92	49.7355	A	1.3
5	☐	12500.000	13036.167	29801055.67	98.5716	A	0.3
6	☐	25000.000	25864.325	59899950.22	195.5307	A	0.4
7	☐	50000.000	51614.944	121119899.3	390.1616	A	1.0
8	☐	250000.00	249554.36	602742484.3	1.886247	A	0.3

$$y = 0.0076 * x + 0.0402$$

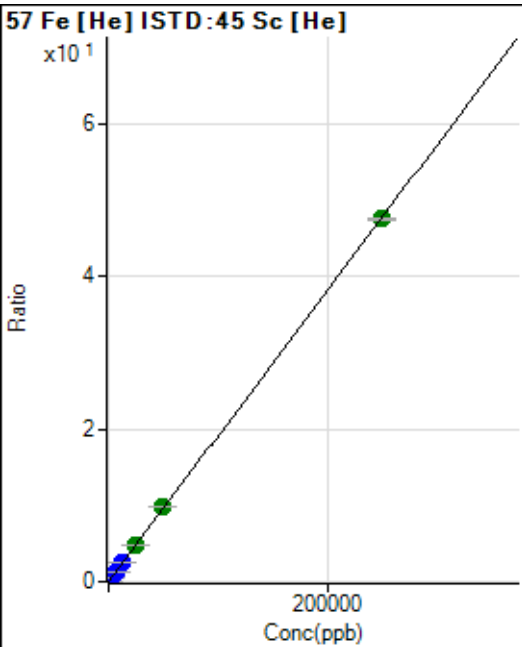
$$R = 1.0000$$

$$DL = 0.1813$$

$$BEC = 5.325$$

Weight: <None>

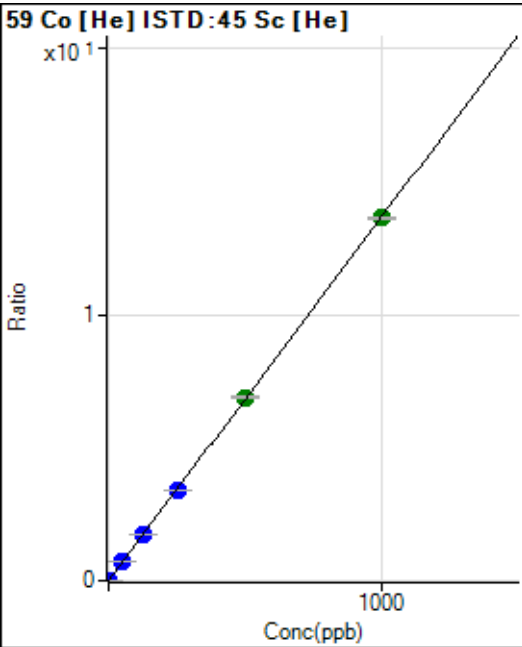
Min Conc: 0



	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	2859.19	0.0096	P	3.6
2	☐	50.000	55.762	5955.68	0.0202	P	4.3
3	☐	2500.000	2668.412	155788.94	0.5176	P	0.7
4	☐	6250.000	6750.172	388741.17	1.2948	P	0.5
5	☐	12500.000	13216.222	763674.66	2.5260	P	0.5
6	☐	25000.000	25560.070	1493784.98	4.8763	A	1.2
7	☐	50000.000	51493.203	3046661.34	9.8140	A	0.9
8	☐	250000.00	249595.35	15189073.11	47.5333	A	0.4

$y = 1.9040E-004 * x + 0.0096$
R = 1.0000
DL = 5.348
BEC = 50.21

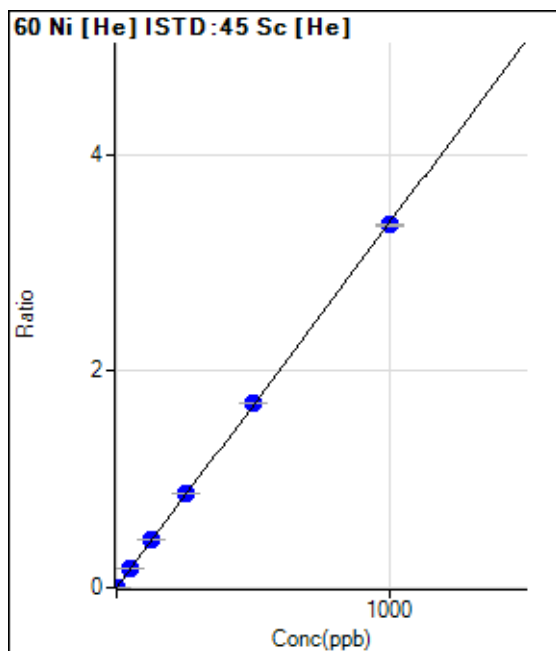
Weight: <None>
Min Conc: 0



	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	143.34	0.0005	P	17.1
2	☐	1.000	1.003	4183.96	0.0142	P	2.7
3	☐	50.000	50.593	208106.81	0.6915	P	0.3
4	☐	125.000	125.012	512760.79	1.7079	P	0.4
5	☐	250.000	249.803	1031622.63	3.4122	P	0.4
6	☐	500.000	504.196	2109727.66	6.8867	A	0.5
7	☐	1000.000	997.920	4231314.73	13.6299	A	0.7
8	☐			11490.04	0.0360	P	1.1

$y = 0.0137 * x + 4.7942E-004$
R = 1.0000
DL = 0.01805
BEC = 0.0351

Weight: <None>
Min Conc: 0



	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐	0.000	0.000	148.89	0.0005	P	8.4
2	☐	1.000	1.121	1262.29	0.0043	P	5.9
3	☐	50.000	52.013	52913.06	0.1758	P	1.0
4	☐	125.000	130.830	132538.03	0.4415	P	1.3
5	☐	250.000	257.963	263011.46	0.8700	P	1.2
6	☐	500.000	505.552	522146.33	1.7045	P	0.4
7	☐	1000.000	994.404	1040649.55	3.3522	P	0.8
8	☐			5233.19	0.0164	P	2.5

$$y = 0.0034 * x + 4.9779E-004$$

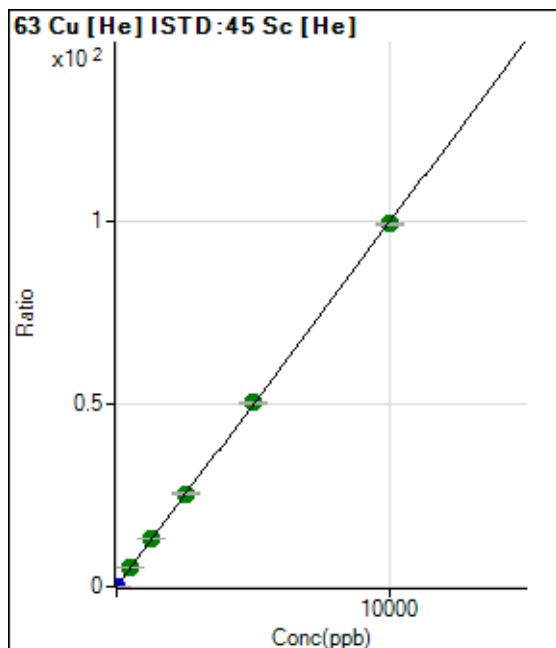
$$R = 0.9999$$

$$DL = 0.0372$$

$$BEC = 0.1477$$

Weight: <None>

Min Conc: 0



	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐	0.000	0.000	1424.53	0.0048	P	2.8
2	☐	2.000	1.856	6861.64	0.0232	P	3.8
3	☐	500.000	515.795	1547223.54	5.1410	A	1.1
4	☐	1250.000	1314.812	3932300.56	13.0977	A	0.4
5	☐	2500.000	2546.942	7669115.44	25.3672	A	1.3
6	☐	5000.000	5049.993	15406457.41	50.2926	A	0.7
7	☐	10000.000	9954.377	30774286.21	99.1304	A	0.6
8	☐			8402.43	0.0263	P	1.8

$$y = 0.0100 * x + 0.0048$$

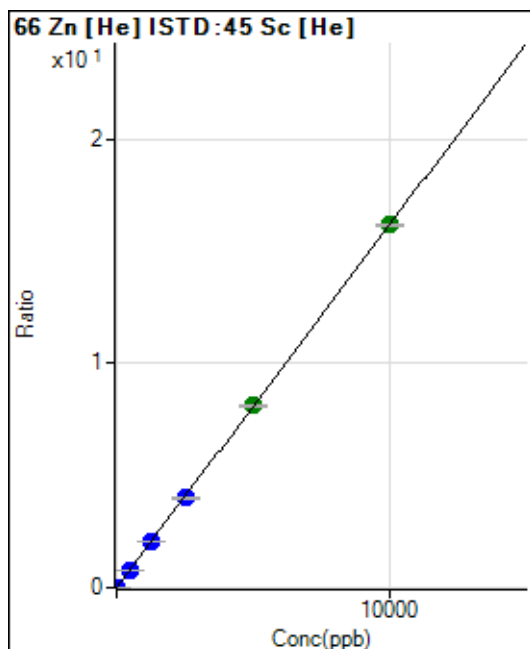
$$R = 1.0000$$

$$DL = 0.04087$$

$$BEC = 0.4783$$

Weight: <None>

Min Conc: 0



	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐	0.000	0.000	507.79	0.0017	P	2.2
2	☐	2.000	4.491	2644.71	0.0090	P	5.1
3	☐	500.000	499.819	243702.87	0.8097	P	0.2
4	☐	1250.000	1250.408	607431.66	2.0232	P	0.8
5	☐	2500.000	2465.631	1205636.14	3.9878	P	0.5
6	☐	5000.000	5015.903	2484630.33	8.1108	A	0.8
7	☐	10000.000	10000.598	5019794.54	16.1695	A	0.3
8	☐			5176.50	0.0162	P	4.8

$$y = 0.0016 * x + 0.0017$$

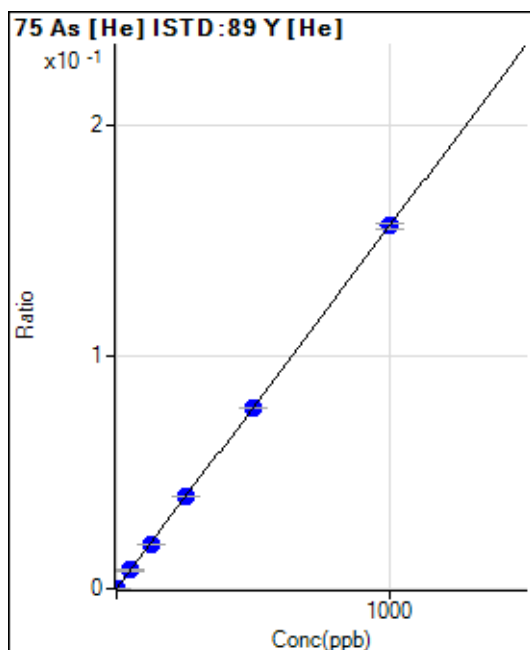
$$R = 1.0000$$

$$DL = 0.06822$$

$$BEC = 1.05$$

Weight: <None>

Min Conc: 0



	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐	0.000	0.000	1.11	0.0000	P	173.
2	☐	1.000	0.966	352.23	0.0002	P	17.2
3	☐	50.000	50.607	18638.45	0.0079	P	2.0
4	☐	125.000	123.209	46061.20	0.0192	P	0.5
5	☐	250.000	253.312	93042.46	0.0396	P	0.8
6	☐	500.000	497.812	188212.95	0.0778	P	0.5
7	☐	1000.000	1000.459	381206.05	0.1563	P	1.6
8	☐			256.67	0.0001	P	11.4

$$y = 1.5622E-004 * x + 4.6543E-007$$

$$R = 1.0000$$

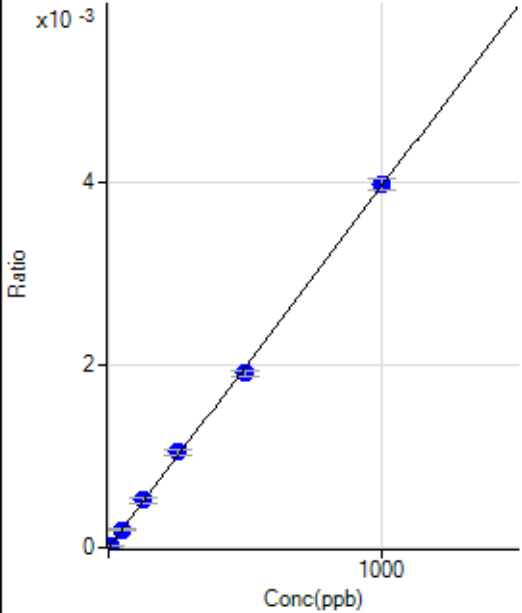
$$DL = 0.01548$$

$$BEC = 0.002979$$

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	2.22	0.0000	P	86.6
2	☐	5.000	4.003	38.89	0.0000	P	16.9
3	☐	50.000	50.175	468.90	0.0002	P	6.8
4	☐	125.000	130.950	1237.84	0.0005	P	12.2
5	☐	250.000	264.822	2459.12	0.0010	P	6.2
6	☐	500.000	482.960	4614.09	0.0019	P	3.8
7	☐	1000.000	1004.067	9665.46	0.0040	P	3.1
8	☐			3.33	0.0000	P	100.

$y = 3.9461E-006 * x + 9.3420E-007$

$R = 0.9997$

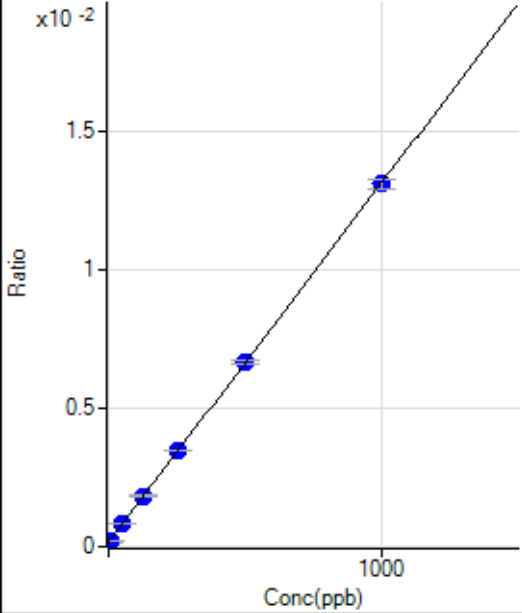
$DL = 0.6151$

$BEC = 0.2367$

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	376.68	0.0002	P	5.9
2	☐	5.000	5.652	538.90	0.0002	P	5.6
3	☐	50.000	52.252	1971.26	0.0008	P	1.2
4	☐	125.000	128.067	4352.90	0.0018	P	3.3
5	☐	250.000	254.587	8132.30	0.0035	P	0.5
6	☐	500.000	501.214	16108.86	0.0067	P	1.7
7	☐	1000.000	997.747	31930.01	0.0131	P	2.3
8	☐			347.79	0.0001	P	13.3

$y = 1.2962E-005 * x + 1.5883E-004$

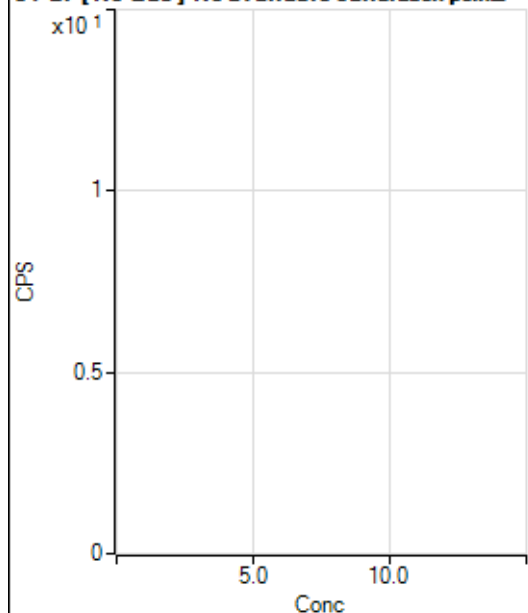
$R = 1.0000$

$DL = 2.182$

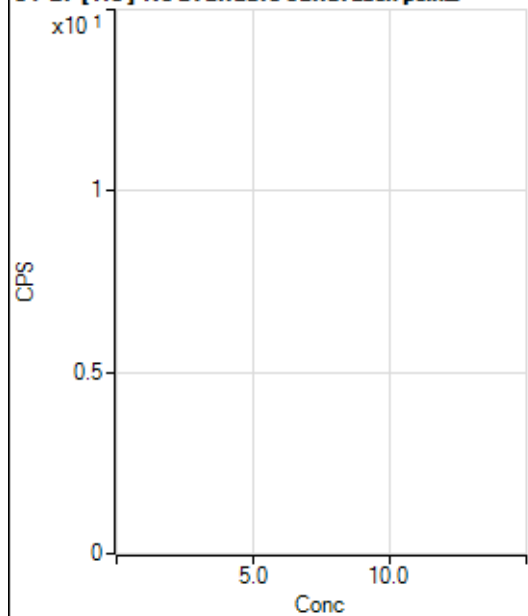
$BEC = 12.25$

Weight: <None>

Min Conc: 0

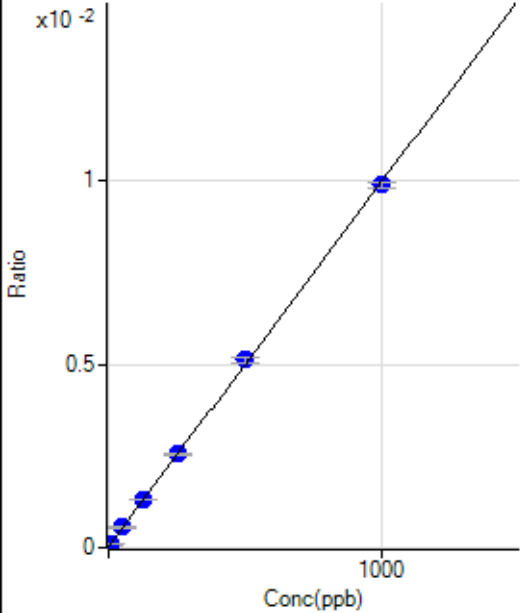
81 Br [No Gas] No available calibration points

	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐			6332.53		P	0.9
2	☐			6394.77		P	1.9
3	☐			6266.94		P	2.7
4	☐			6323.64		P	1.8
5	☐			6233.60		P	1.4
6	☐			6394.79		P	3.1
7	☐			6538.18		P	1.5
8	☐			7167.36		P	3.3

81 Br [He] No available calibration points

	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐			72.22		P	32.7
2	☐			83.33		P	10.6
3	☐			71.11		P	35.5
4	☐			64.45		P	6.0
5	☐			64.44		P	29.9
6	☐			80.00		P	16.7
7	☐			63.33		P	19.0
8	☐			78.89		P	20.8

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



	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	305.65	0.0000	P	12.3
2	☐	5.000	5.135	754.48	0.0001	P	4.0
3	☐	50.000	52.189	4883.86	0.0006	P	2.3
4	☐	125.000	128.151	11726.38	0.0013	P	0.8
5	☐	250.000	254.067	23106.09	0.0026	P	2.0
6	☐	500.000	512.502	45863.49	0.0051	P	3.1
7	☐	1000.000	992.228	93644.50	0.0099	P	1.9
8	☐			448.58	0.0000	P	15.4

$y = 9.9436E-006 * x + 3.4445E-005$

R = 0.9999

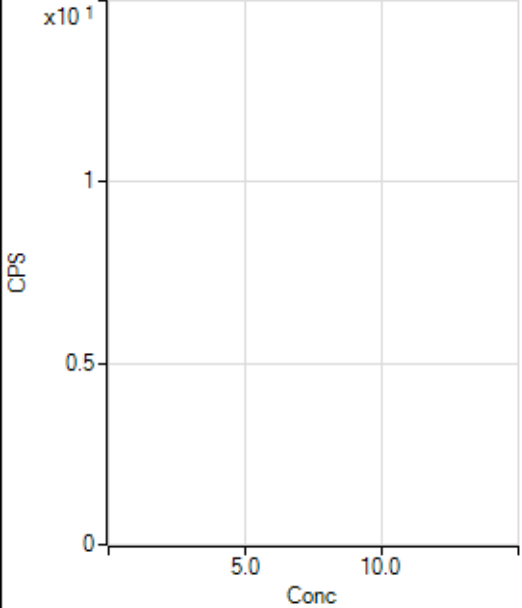
DL = 1.275

BEC = 3.464

Weight: <None>

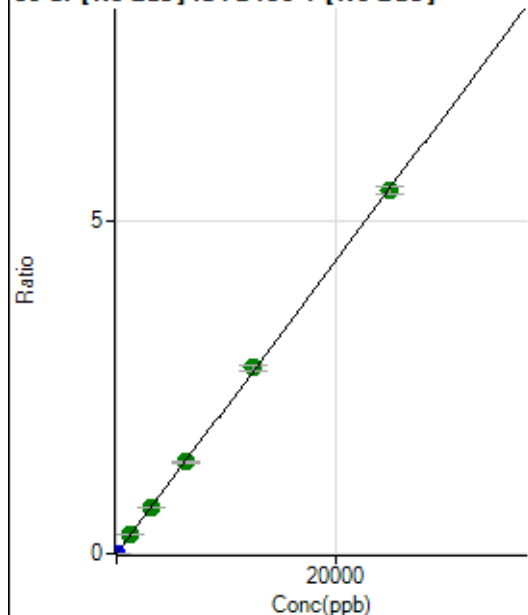
Min Conc: 0

83 Kr [No Gas] No available calibration points



	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐			210.00		P	13.0
2	☐			223.33		P	9.3
3	☐			235.56		P	13.2
4	☐			256.67		P	4.7
5	☐			226.67		P	2.9
6	☐			246.67		P	11.8
7	☐			255.56		P	5.3
8	☐			266.67		P	13.9

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



	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐	0.000	0.000	516.68	0.0001	P	13.5
2	☐	1.000	0.921	2293.54	0.0003	P	2.3
3	☐	1250.000	1270.174	2453802.24	0.2780	A	0.6
4	☐	3125.000	3130.427	6138950.95	0.6852	A	0.2
5	☐	6250.000	6292.449	12426718.56	1.3772	A	1.3
6	☐	12500.000	12756.127	24958817.40	2.7918	A	2.8
7	☐	25000.000	24859.637	51460270.90	5.4408	A	2.0
8	☐			8724.88	0.0009	P	3.3

$y = 2.1886E-004 * x + 5.8266E-005$

R = 0.9999

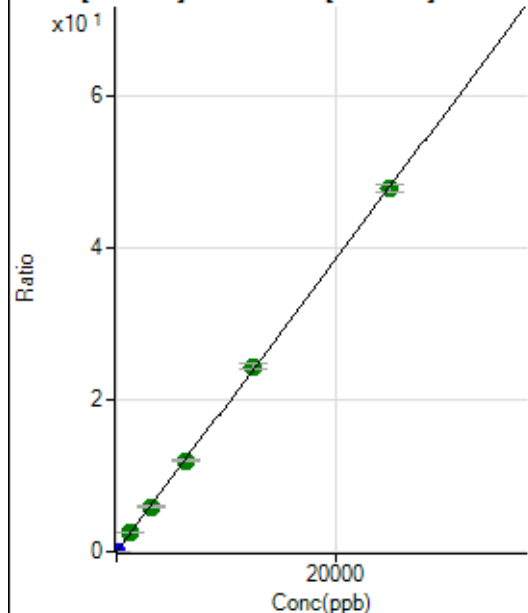
DL = 0.1076

BEC = 0.2662

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	1405.64	0.0002	P	4.8
2	☐	1.000	0.935	17253.54	0.0020	P	3.0
3	☐	1250.000	1264.899	21450332.04	2.4305	A	0.8
4	☐	3125.000	3099.844	53367499.20	5.9562	A	0.5
5	☐	6250.000	6242.156	108225237.2	11.9938	A	1.7
6	☐	12500.000	12729.349	218646752.3	24.4583	A	3.5
7	☐	25000.000	24889.686	452330668.8	47.8231	A	2.1
8	☐			73686.83	0.0079	P	2.2

$y = 0.0019 * x + 1.5831E-004$

R = 0.9999

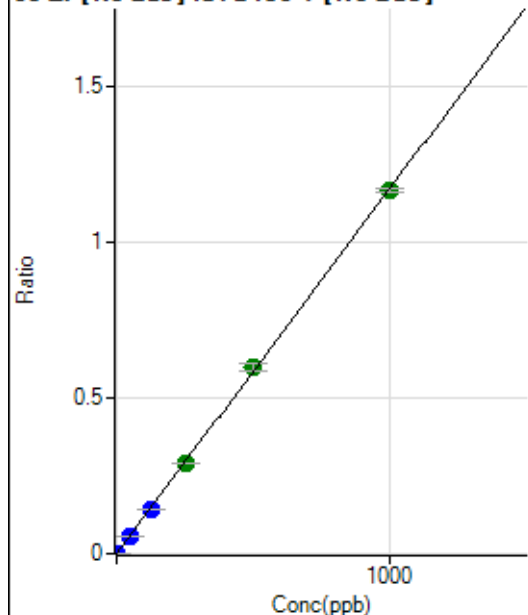
DL = 0.0118

BEC = 0.0824

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	445.56	0.0001	P	2.1
2	☐	1.000	0.926	9995.70	0.0011	P	1.8
3	☐	50.000	49.615	512221.53	0.0580	P	1.5
4	☐	125.000	122.112	1279390.73	0.1428	P	0.7
5	☐	250.000	247.943	2615544.49	0.2899	A	1.3
6	☐	500.000	511.992	5350351.90	0.5985	A	3.3
7	☐	1000.000	994.899	11001365.25	1.1630	A	1.1
8	☐			6255.84	0.0007	P	1.7

$$y = 0.0012 * x + 5.0204E-005$$

$$R = 0.9999$$

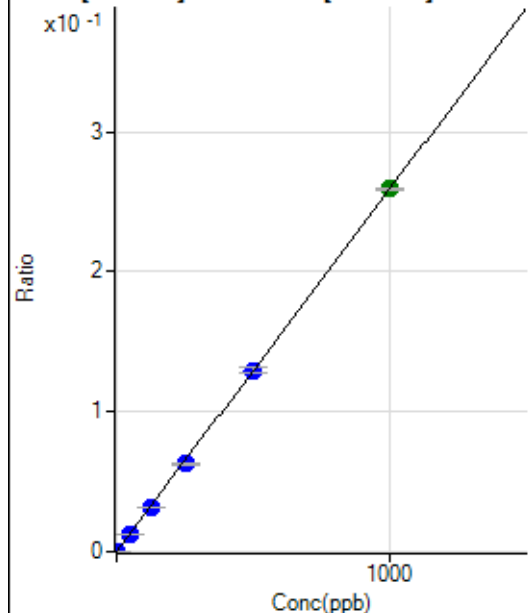
$$DL = 0.002666$$

$$BEC = 0.04295$$

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	72.22	0.0000	P	4.8
2	☐	1.000	0.922	2177.96	0.0002	P	2.1
3	☐	50.000	49.234	112558.31	0.0128	P	1.2
4	☐	125.000	121.965	283000.71	0.0316	P	0.6
5	☐	250.000	243.186	568175.33	0.0630	P	1.9
6	☐	500.000	501.512	1160798.51	0.1298	P	2.9
7	☐	1000.000	1001.365	2452750.64	0.2593	A	0.4
8	☐			1411.20	0.0002	P	4.1

$$y = 2.5890E-004 * x + 8.1354E-006$$

$$R = 1.0000$$

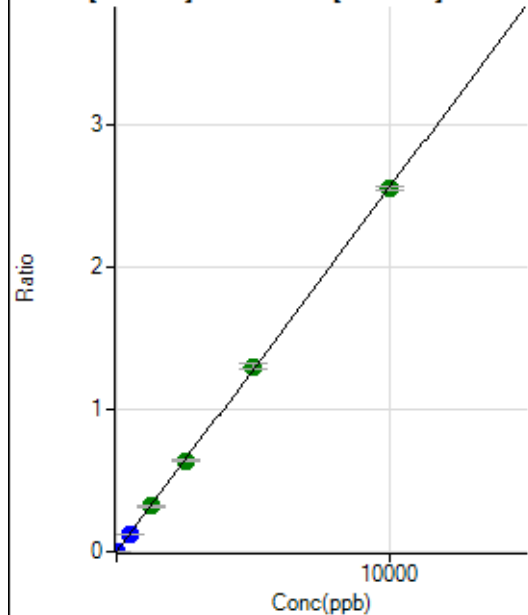
$$DL = 0.004502$$

$$BEC = 0.03142$$

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	250.00	0.0000	P	5.1
2	☐	5.000	5.032	11613.59	0.0013	P	2.9
3	☐	500.000	493.050	1113754.18	0.1262	P	0.9
4	☐	1250.000	1242.514	2849218.12	0.3180	A	0.7
5	☐	2500.000	2487.498	5743762.62	0.6366	A	2.4
6	☐	5000.000	5088.515	11640763.99	1.3022	A	3.1
7	☐	10000.000	9960.151	24111178.53	2.5488	A	1.0
8	☐			5810.10	0.0006	P	5.2

$$y = 2.5590E-004 * x + 2.8174E-005$$

R = 0.9999

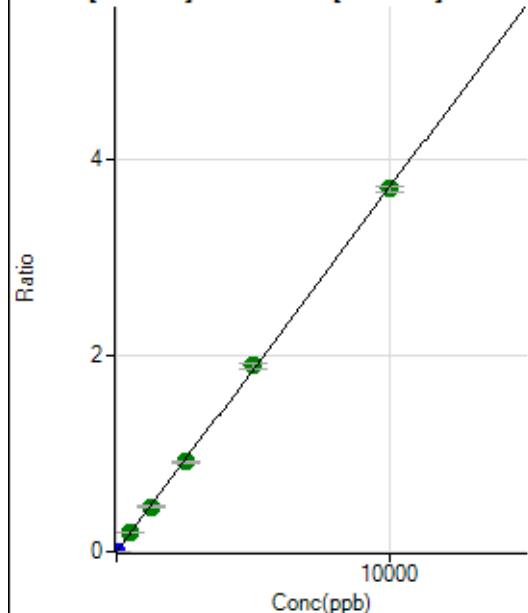
DL = 0.01675

BEC = 0.1101

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	168.89	0.0000	P	19.0
2	☐	5.000	4.176	13854.45	0.0016	P	4.6
3	☐	500.000	505.048	1655775.86	0.1876	A	0.6
4	☐	1250.000	1239.882	4126985.56	0.4606	A	0.9
5	☐	2500.000	2470.721	8281823.07	0.9178	A	1.8
6	☐	5000.000	5098.559	16930459.89	1.8939	A	3.2
7	☐	10000.000	9959.053	34992744.48	3.6994	A	1.5
8	☐			5217.64	0.0006	P	3.9

$$y = 3.7146E-004 * x + 1.9018E-005$$

R = 0.9999

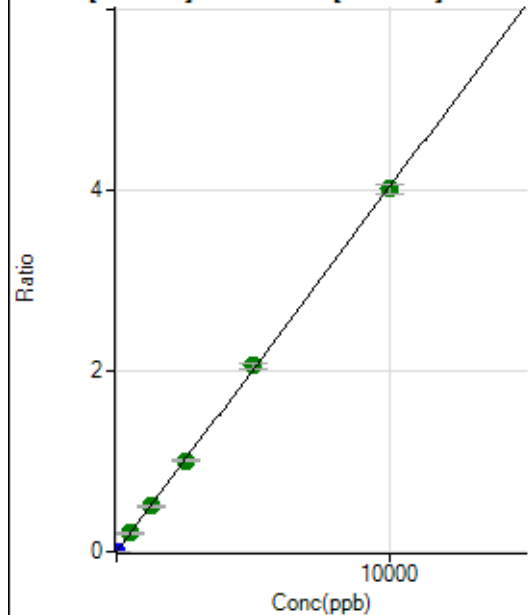
DL = 0.02914

BEC = 0.0512

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	193.34	0.0000	P	10.3
2	☐	5.000	4.292	15486.09	0.0018	P	2.1
3	☐	500.000	503.321	1793702.25	0.2033	A	1.1
4	☐	1250.000	1242.669	4496089.20	0.5018	A	0.8
5	☐	2500.000	2486.252	9058417.23	1.0039	A	2.4
6	☐	5000.000	5111.444	18450211.39	2.0639	A	3.2
7	☐	10000.000	9948.466	37992858.60	4.0170	A	2.4
8	☐			11125.45	0.0012	P	2.7

$$y = 4.0378\text{E-}004 * x + 2.1782\text{E-}005$$

$$R = 0.9999$$

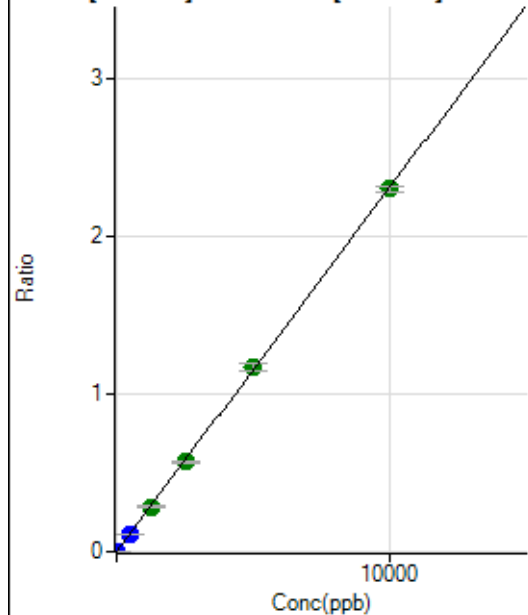
$$DL = 0.01666$$

$$BEC = 0.05395$$

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	116.67	0.0000	P	17.1
2	☐	5.000	4.242	8740.47	0.0010	P	2.6
3	☐	500.000	489.522	995297.45	0.1128	P	2.3
4	☐	1250.000	1238.459	2556519.11	0.2853	A	1.0
5	☐	2500.000	2463.995	5121917.08	0.5677	A	2.2
6	☐	5000.000	5086.819	10475850.68	1.1719	A	3.8
7	☐	10000.000	9967.559	21720252.87	2.2963	A	1.9
8	☐			3234.84	0.0003	P	0.9

$$y = 2.3038\text{E-}004 * x + 1.3146\text{E-}005$$

$$R = 0.9999$$

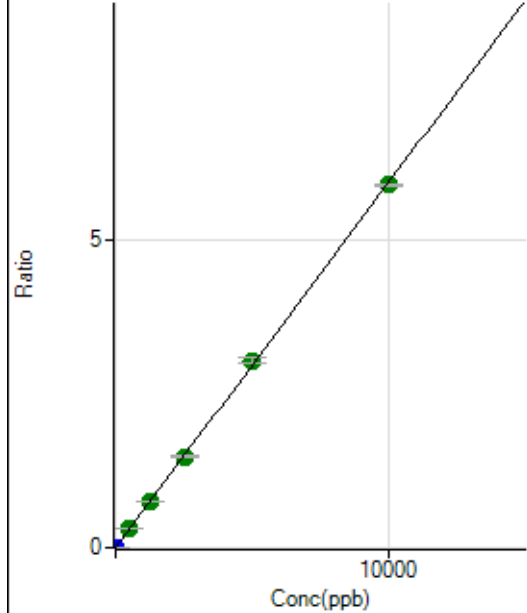
$$DL = 0.02929$$

$$BEC = 0.05706$$

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	233.34	0.0000	P	3.8
2	☐	5.000	4.216	22279.30	0.0025	P	2.7
3	☐	500.000	505.241	2642033.87	0.2994	A	1.4
4	☐	1250.000	1240.850	6587891.99	0.7353	A	0.4
5	☐	2500.000	2489.101	13308411.88	1.4749	A	1.3
6	☐	5000.000	5130.216	27174259.59	3.0398	A	3.6
7	☐	10000.000	9938.499	55708803.06	5.8889	A	0.8
8	☐			7907.75	0.0008	P	2.0

$$y = 5.9253\text{E-}004 * x + 2.6279\text{E-}005$$

$$R = 0.9999$$

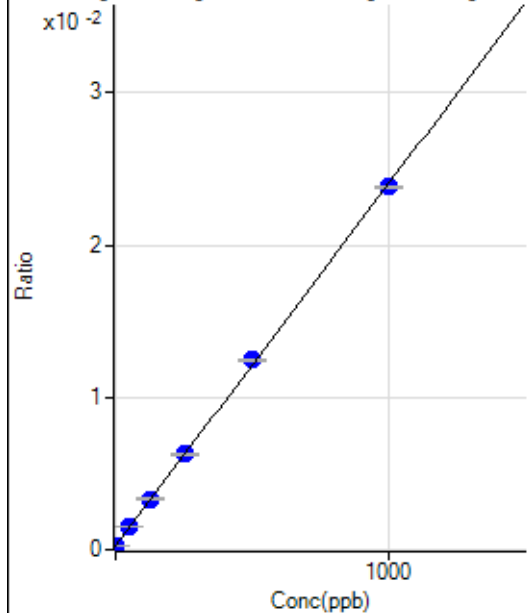
$$DL = 0.005039$$

$$BEC = 0.04435$$

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	1345.63	0.0002	P	6.0
2	☐	1.000	0.814	1456.76	0.0003	P	4.8
3	☐	50.000	52.614	8491.44	0.0015	P	2.0
4	☐	125.000	130.657	19213.94	0.0033	P	0.5
5	☐	250.000	252.946	36737.63	0.0063	P	1.4
6	☐	500.000	513.252	73214.60	0.0124	P	1.9
7	☐	1000.000	991.800	148258.99	0.0238	P	0.8
8	☐			1563.43	0.0003	P	5.3

$$y = 2.3788\text{E-}005 * x + 2.3715\text{E-}004$$

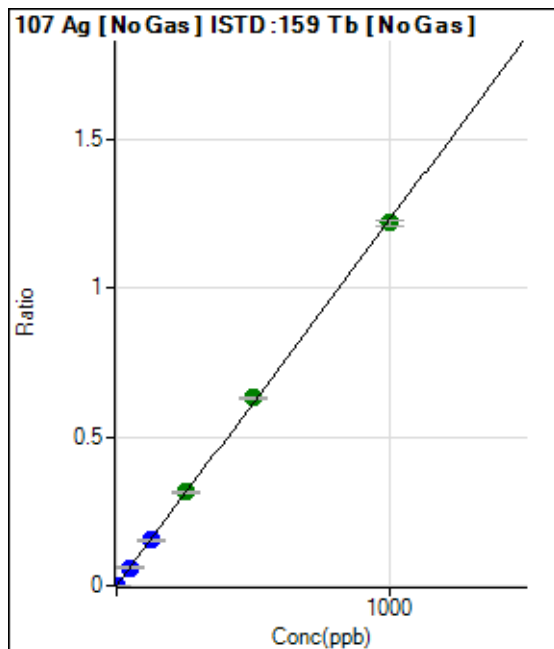
$$R = 0.9999$$

$$DL = 1.788$$

$$BEC = 9.97$$

Weight: <None>

Min Conc: 0



	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐	0.000	0.000	70.00	0.0000	P	4.8
2	☐	1.000	0.871	6156.92	0.0011	P	0.7
3	☐	50.000	49.936	350398.34	0.0614	P	2.0
4	☐	125.000	123.800	874799.30	0.1523	P	0.4
5	☐	250.000	255.588	1846962.18	0.3144	A	2.3
6	☐	500.000	512.980	3712189.11	0.6311	A	1.7
7	☐	1000.000	992.267	7594096.97	1.2207	A	1.5
8	☐			962.26	0.0002	P	9.8

$$y = 0.0012 * x + 1.2335E-005$$

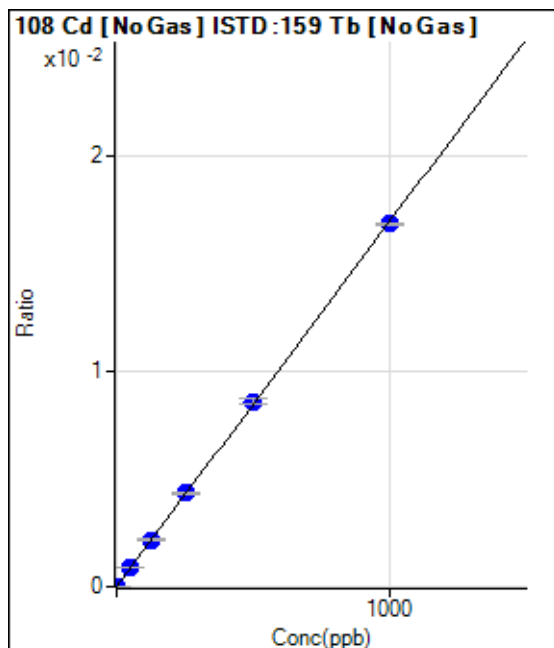
$$R = 0.9998$$

$$DL = 0.001431$$

$$BEC = 0.01003$$

Weight: <None>

Min Conc: 0



	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐	0.000	0.000	6.67	0.0000	P	132.
2	☐	1.000	0.920	95.56	0.0000	P	16.3
3	☐	50.000	51.721	5010.92	0.0009	P	3.1
4	☐	125.000	128.892	12565.53	0.0022	P	2.0
5	☐	250.000	255.535	25467.95	0.0043	P	1.4
6	☐	500.000	508.123	50702.72	0.0086	P	2.3
7	☐	1000.000	993.982	104910.63	0.0169	P	0.6
8	☐			62.22	0.0000	P	30.5

$$y = 1.6962E-005 * x + 1.1801E-006$$

$$R = 0.9999$$

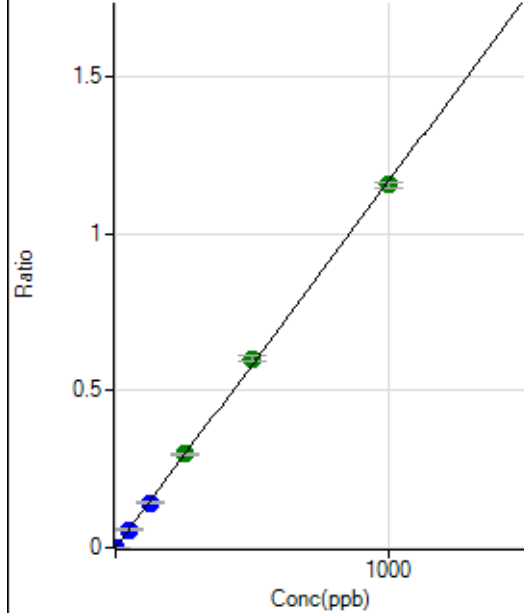
$$DL = 0.2768$$

$$BEC = 0.06957$$

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	40.00	0.0000	P	55.0
2	☐	1.000	0.899	5993.51	0.0011	P	1.7
3	☐	50.000	49.778	330754.15	0.0580	P	2.4
4	☐	125.000	123.033	823320.53	0.1433	P	0.6
5	☐	250.000	257.020	1759018.97	0.2994	A	2.0
6	☐	500.000	516.031	3536191.06	0.6012	A	2.6
7	☐	1000.000	990.487	7180724.20	1.1540	A	1.6
8	☐			808.92	0.0001	P	14.0

$$y = 0.0012 * x + 7.0594E-006$$

$$R = 0.9998$$

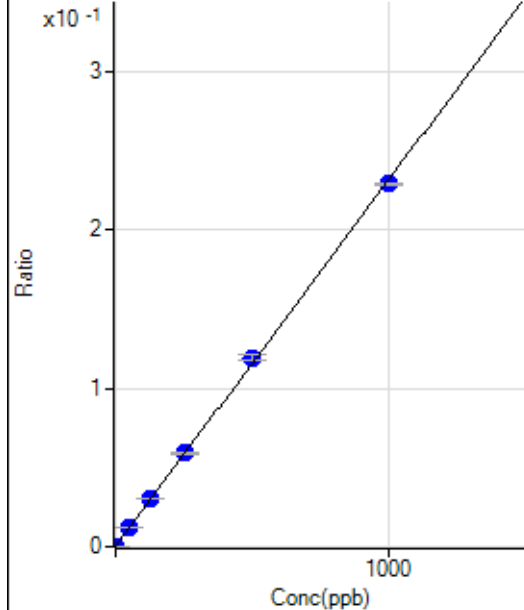
$$DL = 0.01$$

$$BEC = 0.006059$$

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	941.72	0.0002	P	5.3
2	☐	1.000	1.029	2294.03	0.0004	P	2.9
3	☐	50.000	52.712	70383.88	0.0123	P	1.6
4	☐	125.000	129.918	173328.89	0.0302	P	0.8
5	☐	250.000	255.545	347723.48	0.0592	P	2.0
6	☐	500.000	516.058	702129.34	0.1194	P	2.9
7	☐	1000.000	989.834	1423581.78	0.2288	P	0.4
8	☐			1287.52	0.0002	P	3.1

$$y = 2.3099E-004 * x + 1.6596E-004$$

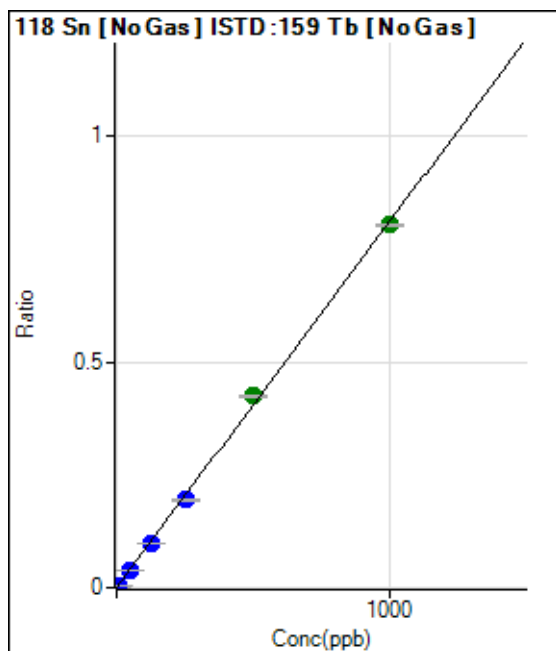
$$R = 0.9998$$

$$DL = 0.1145$$

$$BEC = 0.7185$$

Weight: <None>

Min Conc: 0



	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐	0.000	0.000	1097.83	0.0002	P	7.5
2	☐	5.000	4.388	21304.75	0.0037	P	1.2
3	☐	50.000	48.856	226892.78	0.0398	P	2.2
4	☐	125.000	120.390	561498.02	0.0978	P	0.7
5	☐	250.000	238.968	1138734.41	0.1939	P	2.1
6	☐	500.000	523.543	2497140.17	0.4245	A	1.2
7	☐	1000.000	991.623	5001237.43	0.8038	A	0.3
8	☐			3537.16	0.0006	P	1.7

$$y = 8.1041\text{E-}004 * x + 1.9346\text{E-}004$$

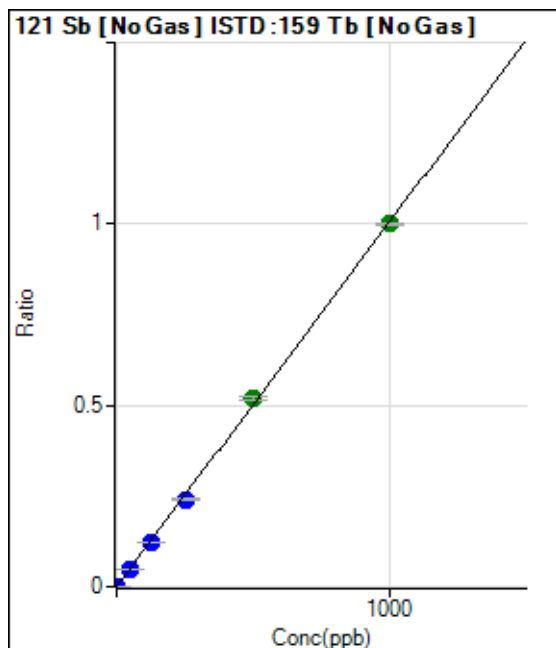
$$R = 0.9995$$

$$DL = 0.0537$$

$$BEC = 0.2387$$

Weight: <None>

Min Conc: 0



	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐	0.000	0.000	56.67	0.0000	P	11.3
2	☐	2.000	1.893	10870.85	0.0019	P	2.5
3	☐	50.000	48.452	277898.84	0.0487	P	2.4
4	☐	125.000	121.161	699854.63	0.1218	P	0.7
5	☐	250.000	238.630	1409590.02	0.2400	P	2.3
6	☐	500.000	517.069	3058612.11	0.5199	A	2.4
7	☐	1000.000	994.865	6223927.48	1.0004	A	0.7
8	☐			4873.10	0.0008	P	4.8

$$y = 0.0010 * x + 9.9816\text{E-}006$$

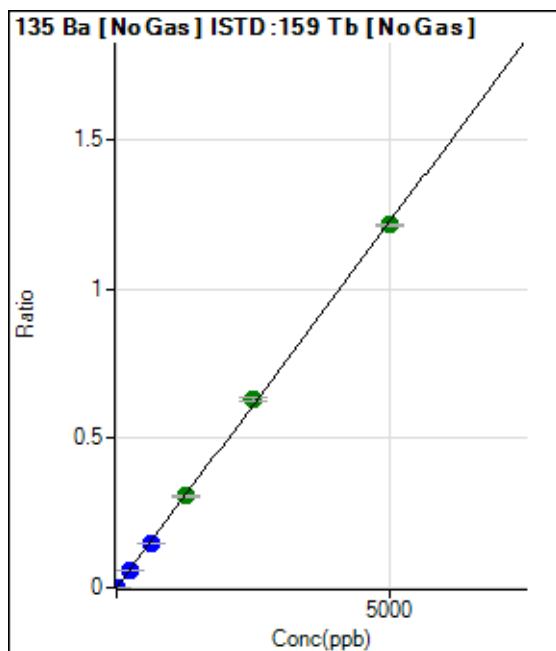
$$R = 0.9997$$

$$DL = 0.003375$$

$$BEC = 0.009927$$

Weight: <None>

Min Conc: 0



	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	72.22	0.0000	P	7.5
2	☐	10.000	8.912	12480.00	0.0022	P	2.2
3	☐	250.000	237.915	332611.28	0.0583	P	2.0
4	☐	625.000	593.027	834870.94	0.1454	P	0.2
5	☐	1250.000	1258.272	1811575.73	0.3084	A	1.8
6	☐	2500.000	2581.318	3721542.86	0.6327	A	2.4
7	☐	5000.000	4961.876	7566735.79	1.2161	A	0.4
8	☐			3062.58	0.0005	P	0.2

$$y = 2.4509\text{E-}004 * x + 1.2729\text{E-}005$$

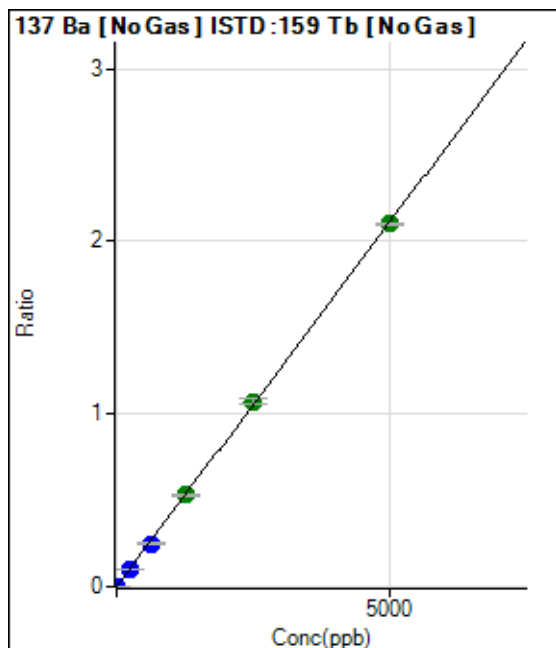
$$R = 0.9998$$

$$DL = 0.01162$$

$$BEC = 0.05194$$

Weight: <None>

Min Conc: 0



	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	116.67	0.0000	P	24.5
2	☐	10.000	8.818	21249.28	0.0037	P	1.7
3	☐	250.000	238.765	574542.57	0.1007	P	1.7
4	☐	625.000	591.805	1434140.55	0.2497	P	1.0
5	☐	1250.000	1262.631	3128970.34	0.5327	A	2.0
6	☐	2500.000	2542.951	6309635.04	1.0728	A	3.2
7	☐	5000.000	4980.080	13072058.14	2.1009	A	0.7
8	☐			5466.66	0.0009	P	3.4

$$y = 4.2186\text{E-}004 * x + 2.0539\text{E-}005$$

$$R = 0.9999$$

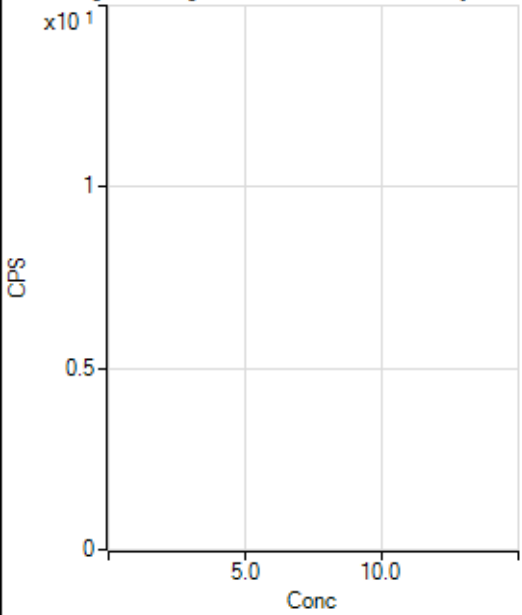
$$DL = 0.03575$$

$$BEC = 0.04869$$

Weight: <None>

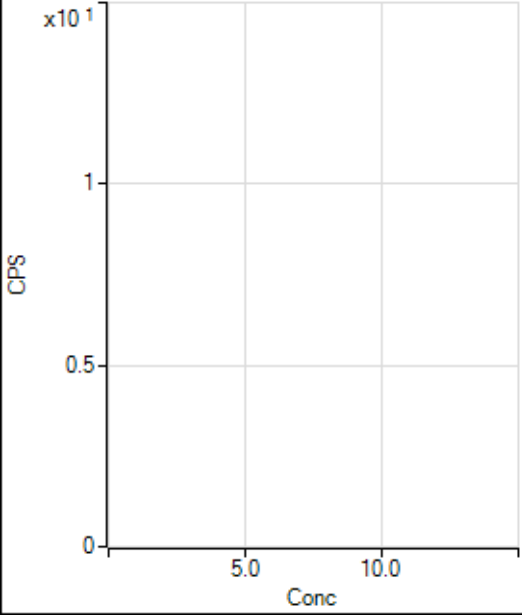
Min Conc: 0

150 Nd [No Gas] No available calibration points

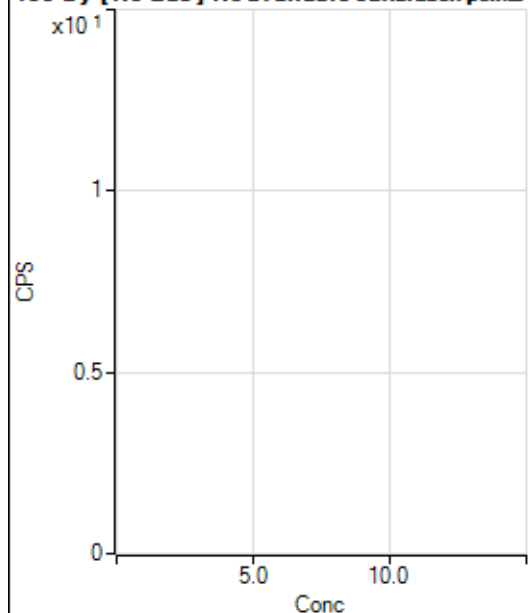


	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐			4.44		P	43.4
2	☐			8.89		P	57.3
3	☐			21.11		P	50.8
4	☐			42.22		P	32.9
5	☐			42.22		P	31.9
6	☐			93.33		P	15.6
7	☐			257.78		P	6.4
8	☐			112.22		P	26.6

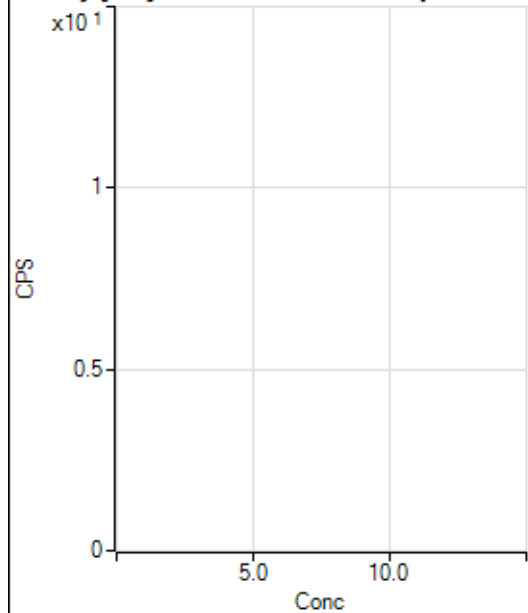
150 Nd [He] No available calibration points



	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐			2.22		P	86.6
2	☐			2.22		P	173.
3	☐			5.56		P	91.6
4	☐			11.11		P	34.6
5	☐			15.56		P	32.7
6	☐			33.33		P	55.7
7	☐			42.22		P	25.4
8	☐			70.00		P	33.3

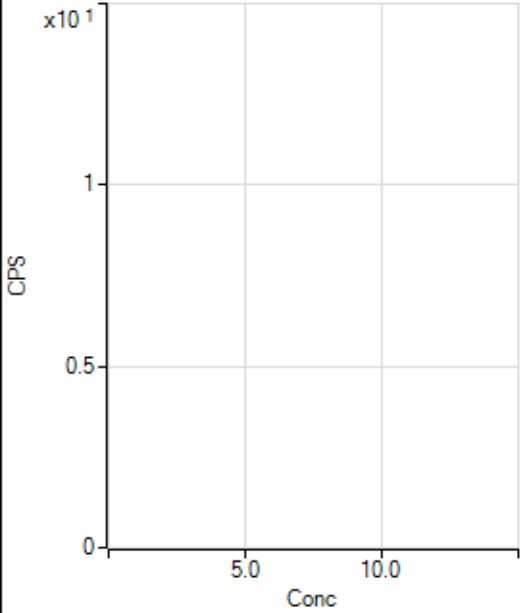
156 Dy [No Gas] No available calibration points

	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐			360.01		P	10.5
2	☐			347.79		P	15.2
3	☐			368.90		P	8.4
4	☐			317.78		P	10.0
5	☐			386.68		P	9.7
6	☐			363.34		P	12.9
7	☐			481.12		P	6.2
8	☐			544.46		P	7.1

156 Dy [He] No available calibration points

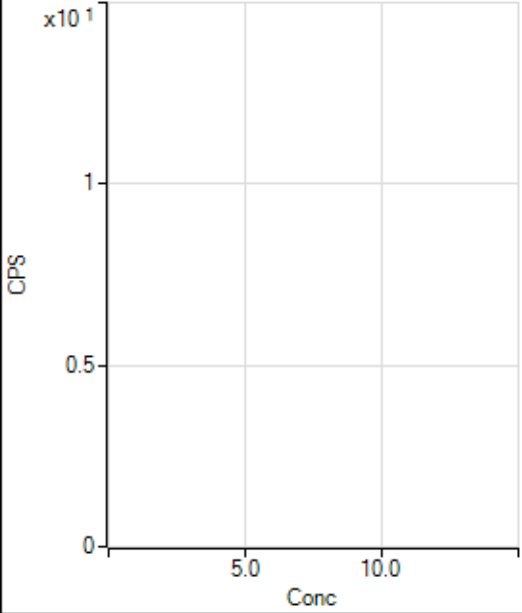
	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐			124.45		P	19.7
2	☐			86.67		P	32.9
3	☐			106.67		P	3.1
4	☐			108.89		P	15.1
5	☐			163.34		P	7.4
6	☐			252.23		P	12.2
7	☐			435.57		P	8.8
8	☐			247.78		P	8.2

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



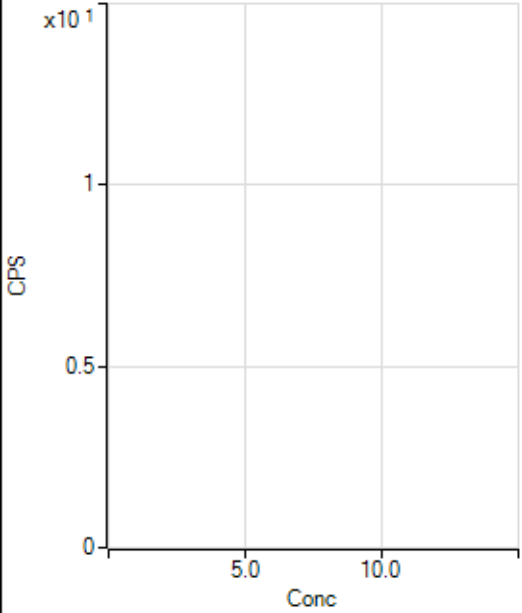
	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐			24.44		P	34.3
2	☐			16.67		P	52.9
3	☐			26.67		P	21.7
4	☐			32.22		P	31.6
5	☐			37.78		P	44.4
6	☐			68.89		P	43.4
7	☐			83.33		P	26.2
8	☐			200.00		P	8.8

160 Gd [He] No available calibration points



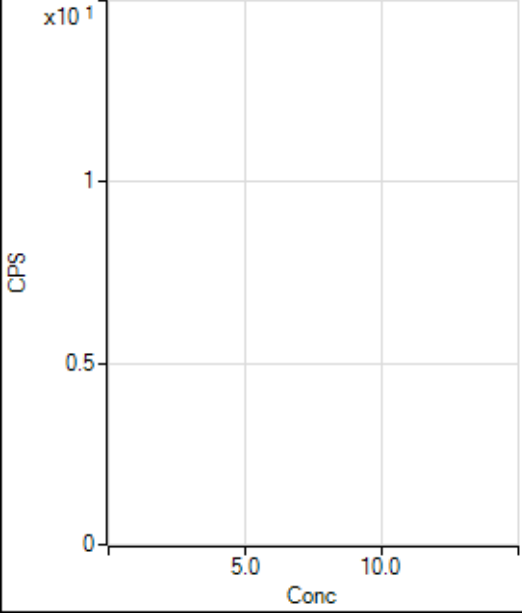
	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐			151.11		P	5.5
2	☐			116.67		P	7.6
3	☐			143.34		P	17.6
4	☐			120.00		P	20.0
5	☐			168.89		P	16.0
6	☐			158.89		P	10.3
7	☐			217.78		P	21.1
8	☐			240.01		P	9.1

164 Er [No Gas] No available calibration points



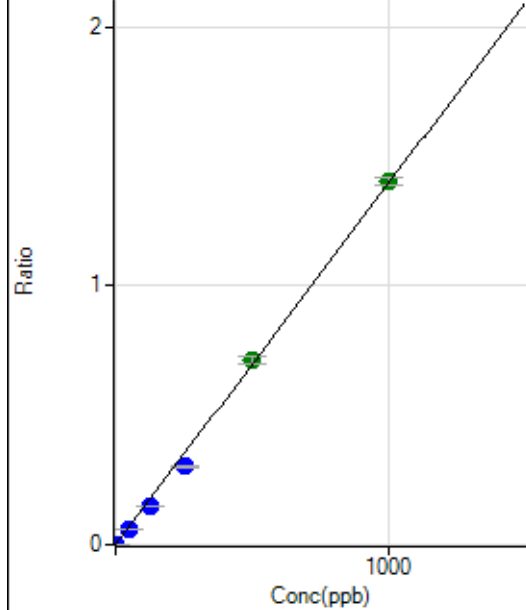
	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐			40.00		P	14.4
2	☐			43.33		P	23.1
3	☐			52.22		P	19.5
4	☐			46.67		P	32.7
5	☐			52.22		P	24.2
6	☐			73.33		P	22.7
7	☐			95.56		P	5.3
8	☐			230.00		P	5.0

164 Er [He] No available calibration points



	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐			24.45		P	15.8
2	☐			22.22		P	8.7
3	☐			18.89		P	10.2
4	☐			25.55		P	15.1
5	☐			36.67		P	27.3
6	☐			53.33		P	16.5
7	☐			68.89		P	34.0
8	☐			165.56		P	22.9

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



	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	114.45	0.0000	P	3.0
2	☐	1.000	0.854	3979.51	0.0012	P	1.9
3	☐	50.000	43.542	200078.37	0.0607	P	1.3
4	☐	125.000	107.018	503388.14	0.1492	P	0.4
5	☐	250.000	215.657	1016023.89	0.3007	P	2.1
6	☐	500.000	513.558	2415231.54	0.7160	A	4.1
7	☐	1000.000	1004.378	4964210.10	1.4002	A	2.0
8	☐			728.92	0.0002	P	14.2

$$y = 0.0014 * x + 3.5098E-005$$

$$R = 0.9992$$

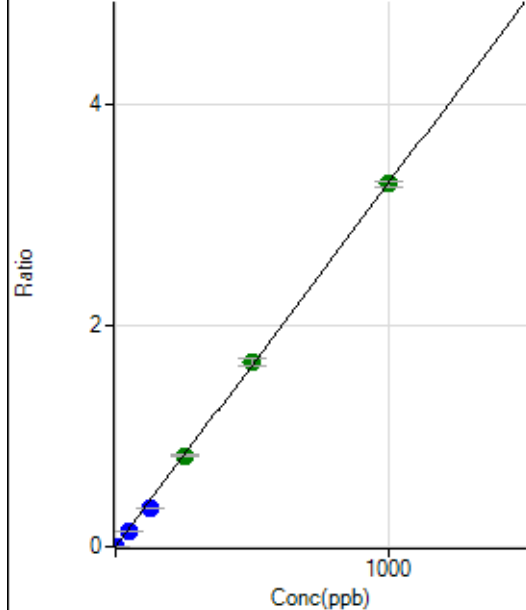
$$DL = 0.002287$$

$$BEC = 0.02518$$

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	198.89	0.0001	P	1.0
2	☐	1.000	0.830	9058.65	0.0028	P	4.1
3	☐	50.000	43.579	472229.23	0.1434	P	1.2
4	☐	125.000	106.937	1186314.77	0.3517	P	0.4
5	☐	250.000	250.325	2781747.42	0.8232	A	0.8
6	☐	500.000	508.915	5644829.91	1.6734	A	4.3
7	☐	1000.000	998.040	11635438.16	3.2817	A	1.8
8	☐			1572.33	0.0005	P	9.1

$$y = 0.0033 * x + 6.1000E-005$$

$$R = 0.9998$$

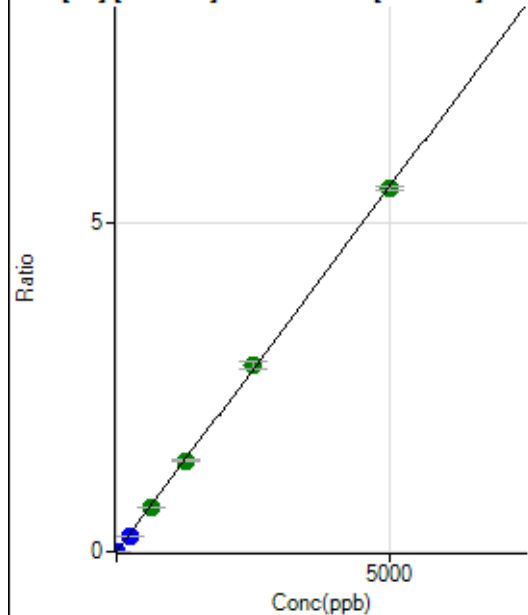
$$DL = 0.0005485$$

$$BEC = 0.01855$$

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	286.67	0.0001	P	10.2
2	☐	1.000	0.808	3199.30	0.0010	P	1.5
3	☐	250.000	219.500	803690.26	0.2440	P	1.5
4	☐	625.000	616.453	2310742.81	0.6850	A	0.8
5	☐	1250.000	1248.333	4687129.44	1.3871	A	1.0
6	☐	2500.000	2561.797	9601259.65	2.8465	A	4.6
7	☐	5000.000	4972.112	19589362.77	5.5245	A	1.0
8	☐			4208.48	0.0013	P	4.4

$$y = 0.0011 * x + 8.7862E-005$$

$$R = 0.9999$$

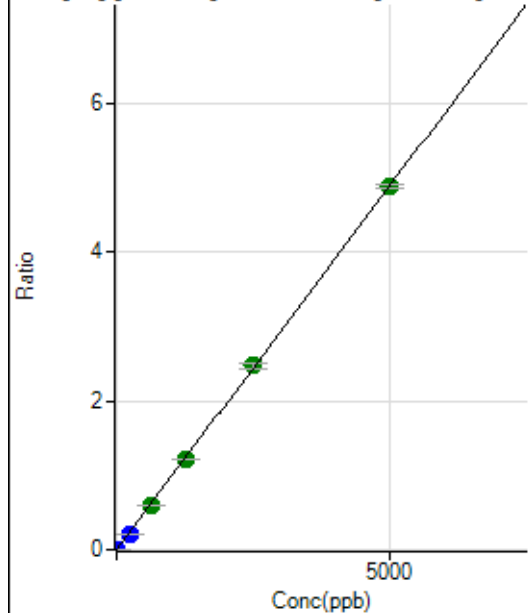
$$DL = 0.02421$$

$$BEC = 0.07908$$

Weight: <None>

Min Conc: 0

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



	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	252.23	0.0001	P	13.0
2	☐	1.000	0.794	2771.42	0.0009	P	4.4
3	☐	250.000	216.315	696639.68	0.2115	P	1.5
4	☐	625.000	614.516	2025990.70	0.6006	A	0.5
5	☐	1250.000	1245.035	4111437.23	1.2168	A	1.5
6	☐	2500.000	2527.831	8334502.65	2.4703	A	3.4
7	☐	5000.000	4990.321	17292062.10	4.8767	A	1.2
8	☐			3592.73	0.0011	P	2.4

$$y = 9.7722E-004 * x + 7.7405E-005$$

$$R = 1.0000$$

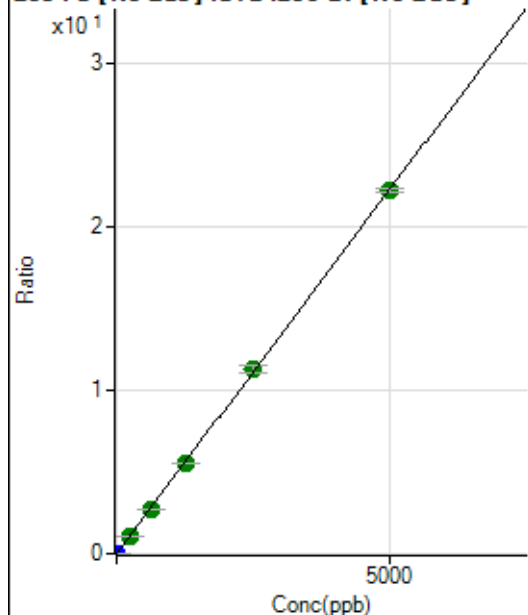
$$DL = 0.03086$$

$$BEC = 0.07921$$

Weight: <None>

Min Conc: 0

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



	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1126.70	0.0003	P	2.3
2	☐	1.000	0.805	12746.92	0.0039	P	3.4
3	☐	250.000	234.754	3438946.66	1.0438	A	0.8
4	☐	625.000	616.988	9251956.95	2.7429	A	1.1
5	☐	1250.000	1243.047	18671842.92	5.5257	A	1.5
6	☐	2500.000	2535.831	38027087.42	11.2721	A	3.9
7	☐	5000.000	4985.587	78579922.30	22.1612	A	1.1
8	☐			16728.66	0.0050	P	2.3

$y = 0.0044 * x + 3.4552E-004$

$R = 1.0000$

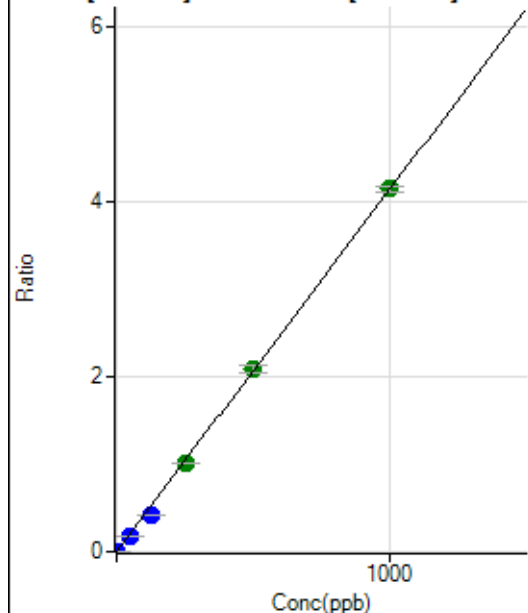
$DL = 0.00544$

$BEC = 0.07773$

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	116.67	0.0000	P	4.9
2	☐	1.000	0.785	10662.16	0.0033	P	3.3
3	☐	50.000	42.023	572874.82	0.1739	P	1.5
4	☐	125.000	103.057	1438514.94	0.4264	P	0.5
5	☐	250.000	244.130	3413259.95	1.0101	A	1.5
6	☐	500.000	504.173	7037455.17	2.0859	A	3.4
7	☐	1000.000	1002.523	14706818.95	4.1478	A	1.4
8	☐			838.92	0.0003	P	8.3

$y = 0.0041 * x + 3.5772E-005$

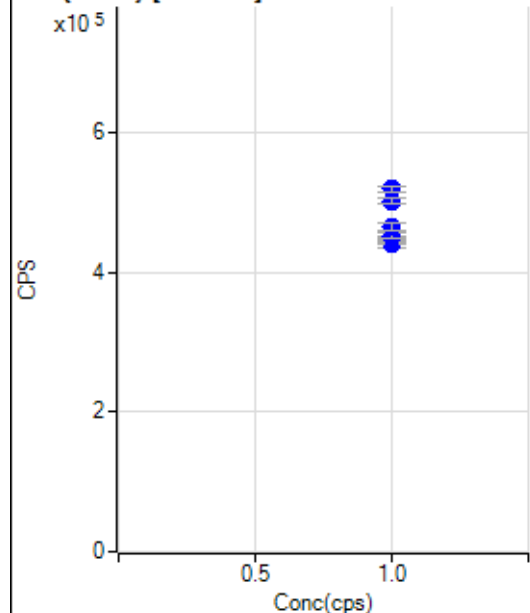
$R = 0.9998$

$DL = 0.001266$

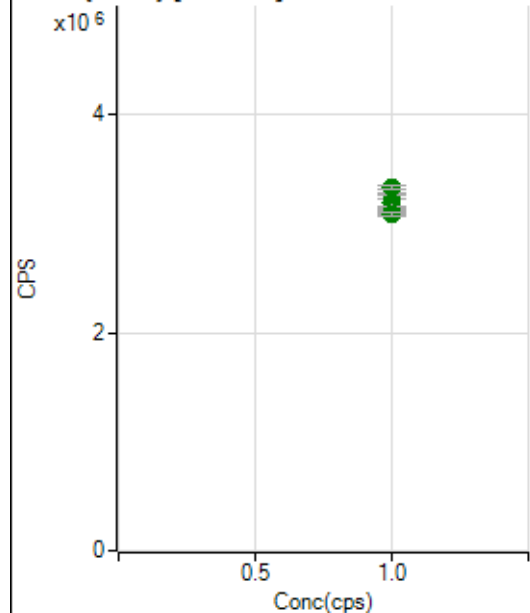
$BEC = 0.008646$

Weight: <None>

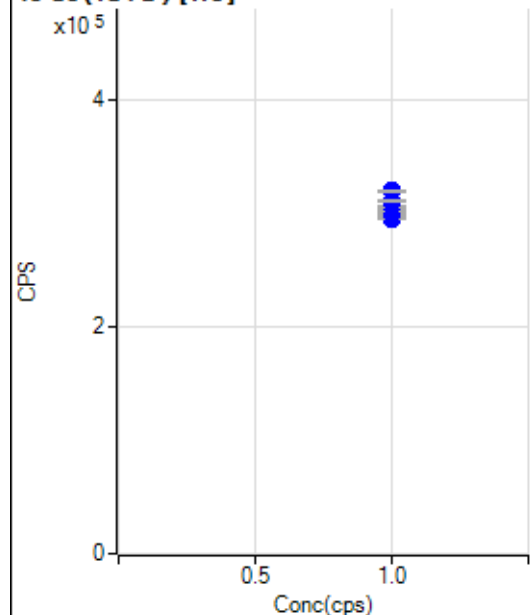
Min Conc: 0

6 Li (ISTD) [No Gas]

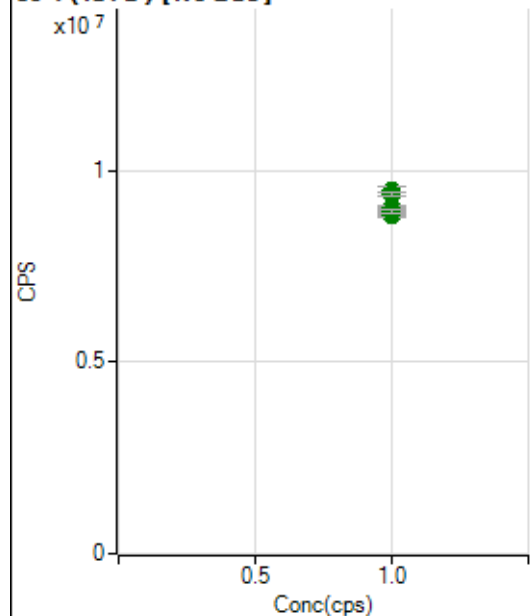
	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐	1.000		440872.75		P	1.9
2	☐	1.000		443208.35		P	1.0
3	☐	1.000		442587.81		P	0.5
4	☐	1.000		448487.68		P	1.7
5	☐	1.000		452975.84		P	1.8
6	☐	1.000		467226.34		P	2.3
7	☐	1.000		503148.23		P	2.0
8	☐	1.000		520261.91		P	1.6

45 Sc (ISTD) [No Gas]

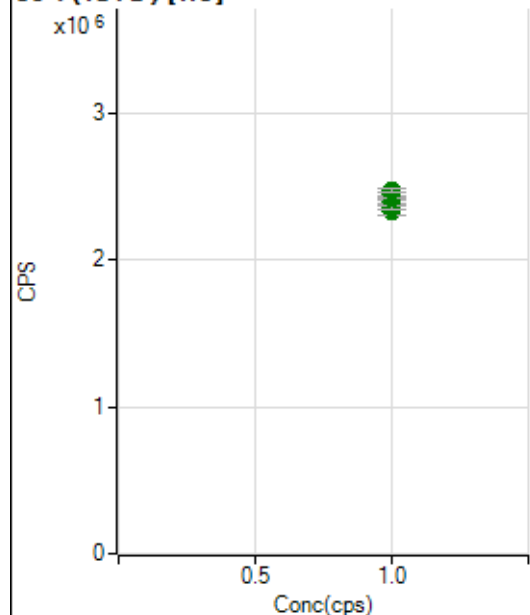
	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐	1.000		3117703.88		A	2.8
2	☐	1.000		3104114.95		A	0.9
3	☐	1.000		3126523.36		A	0.5
4	☐	1.000		3155560.33		A	0.5
5	☐	1.000		3190656.06		A	1.8
6	☐	1.000		3088297.84		A	0.8
7	☐	1.000		3271236.58		A	0.3
8	☐	1.000		3327124.47		A	1.0

45 Sc (ISTD) [He]

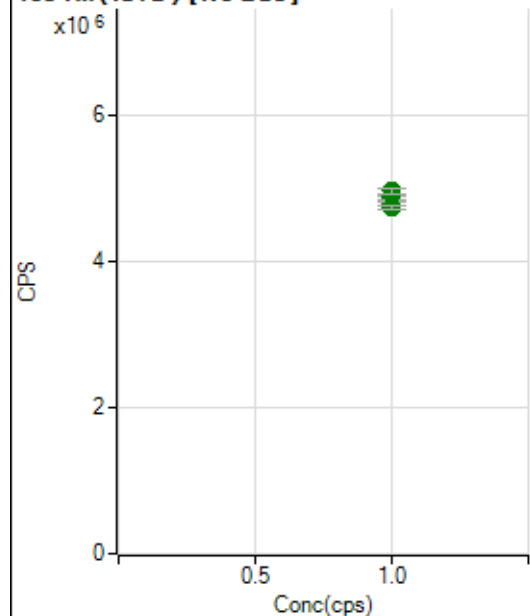
	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐	1.000		299097.54		P	0.4
2	☐	1.000		295194.43		P	0.4
3	☐	1.000		300963.69		P	0.4
4	☐	1.000		300231.54		P	0.3
5	☐	1.000		302329.59		P	0.3
6	☐	1.000		306343.66		P	0.5
7	☐	1.000		310451.31		P	0.8
8	☐	1.000		319548.87		P	0.6

89 Y (ISTD) [No Gas]

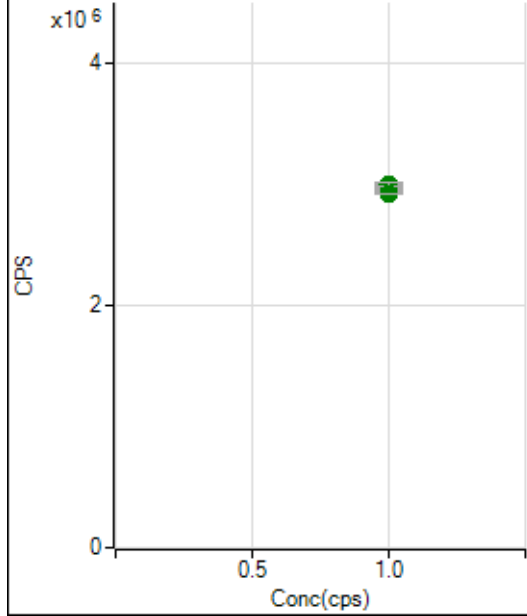
	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐	1.000		8876542.16		A	1.2
2	☐	1.000		8825402.79		A	0.8
3	☐	1.000		8825272.37		A	1.0
4	☐	1.000		8959660.63		A	1.1
5	☐	1.000		9023439.31		A	0.8
6	☐	1.000		8941701.19		A	1.3
7	☐	1.000		9461120.90		A	2.3
8	☐	1.000		9376149.44		A	0.6

89 Y (ISTD) [He]

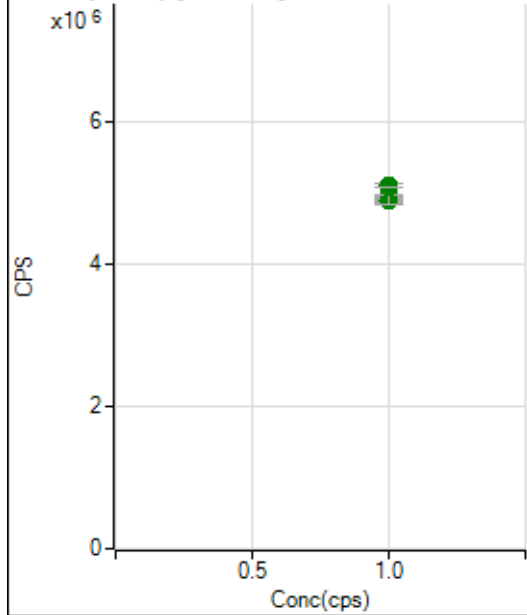
	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐	1.000		2371930.09		A	0.5
2	☐	1.000		2322094.88		A	1.6
3	☐	1.000		2357720.17		A	1.0
4	☐	1.000		2393035.77		A	1.0
5	☐	1.000		2351221.13		A	1.2
6	☐	1.000		2420200.31		A	0.5
7	☐	1.000		2439545.38		A	1.8
8	☐	1.000		2466574.08		A	1.1

103 Rh (ISTD) [No Gas]

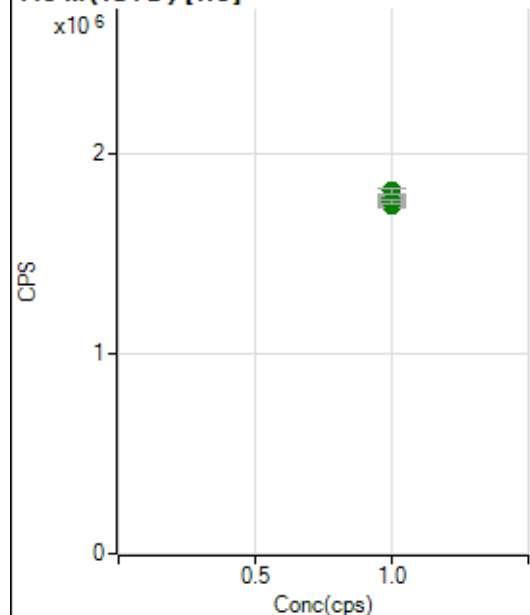
	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐	1.000		4880574.48		A	0.9
2	☐	1.000		4794633.16		A	1.1
3	☐	1.000		4799013.58		A	1.2
4	☐	1.000		4821430.28		A	0.4
5	☐	1.000		4893259.48		A	1.2
6	☐	1.000		4769286.53		A	1.8
7	☐	1.000		4973106.77		A	1.7
8	☐	1.000		4743273.16		A	0.7

103 Rh (ISTD) [He]

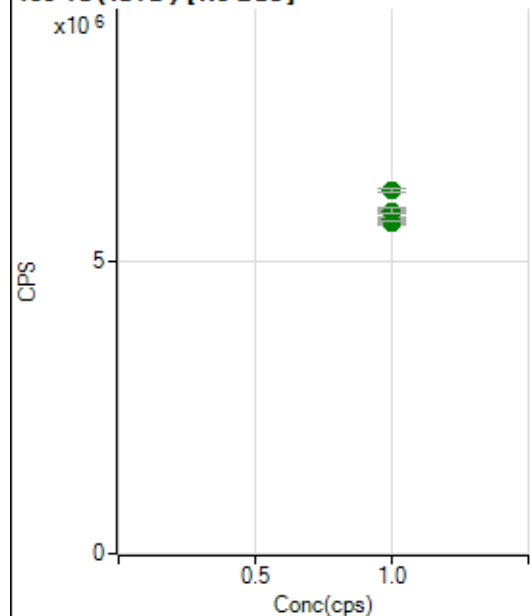
	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐	1.000		2963151.59		A	1.3
2	☐	1.000		2946214.82		A	0.3
3	☐	1.000		2962046.24		A	0.3
4	☐	1.000		2972158.01		A	1.8
5	☐	1.000		2969046.76		A	1.8
6	☐	1.000		2998183.15		A	1.7
7	☐	1.000		2997376.03		A	1.2
8	☐	1.000		2922798.15		A	0.4

115 In (ISTD) [No Gas]

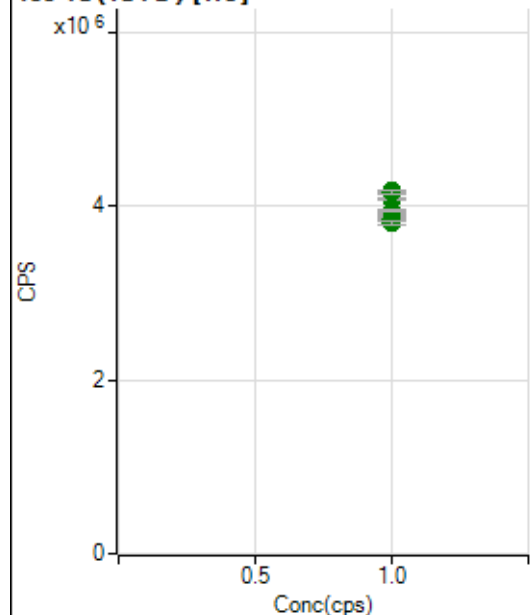
	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐	1.000		4905505.72		A	0.8
2	☐	1.000		4960346.92		A	0.9
3	☐	1.000		4907435.04		A	0.3
4	☐	1.000		4971073.04		A	0.5
5	☐	1.000		4955137.51		A	0.4
6	☐	1.000		4913390.06		A	2.9
7	☐	1.000		5109722.54		A	1.0
8	☐	1.000		5084556.62		A	0.2

115 In (ISTD) [He]

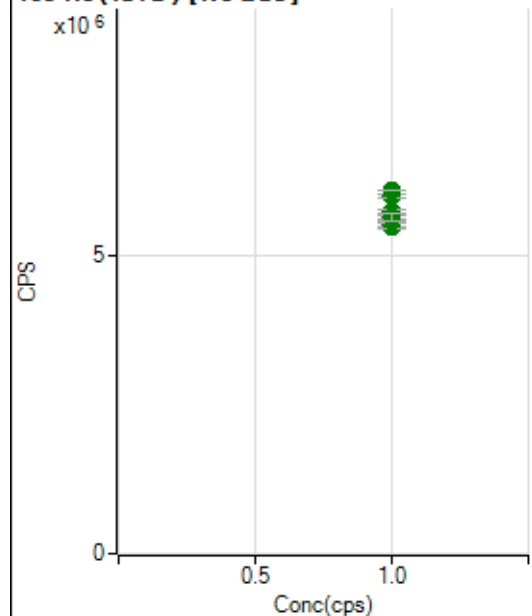
	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐	1.000		1779460.61		A	0.6
2	☐	1.000		1748687.00		A	1.9
3	☐	1.000		1739683.46		A	0.5
4	☐	1.000		1769849.15		A	2.7
5	☐	1.000		1779772.34		A	1.0
6	☐	1.000		1794787.44		A	0.5
7	☐	1.000		1761406.39		A	1.3
8	☐	1.000		1817388.52		A	1.5

159 Tb (ISTD) [No Gas]

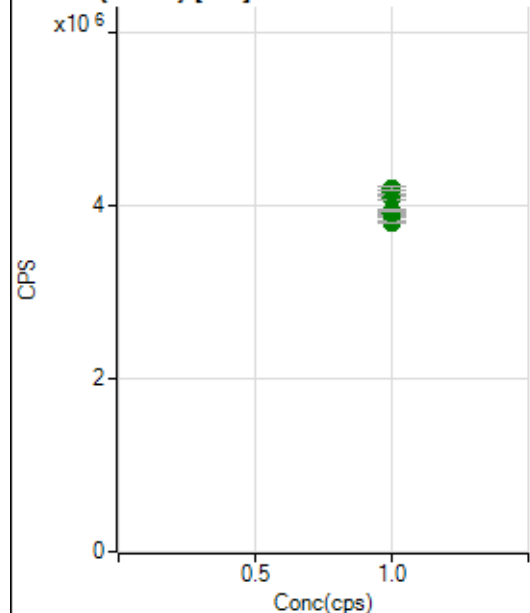
	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐	1.000		5675197.90		A	0.5
2	☐	1.000		5682345.68		A	2.0
3	☐	1.000		5703369.78		A	1.0
4	☐	1.000		5743633.87		A	1.1
5	☐	1.000		5874340.61		A	0.5
6	☐	1.000		5882846.51		A	1.4
7	☐	1.000		6221865.33		A	1.2
8	☐	1.000		6223398.86		A	1.2

159 Tb (ISTD) [He]

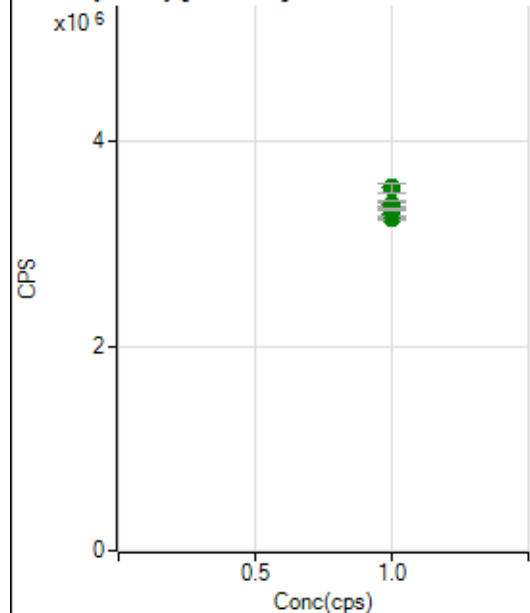
	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐	1.000		3836604.21		A	0.2
2	☐	1.000		3847976.85		A	1.5
3	☐	1.000		3903782.06		A	0.3
4	☐	1.000		3800464.77		A	0.9
5	☐	1.000		3944935.01		A	0.7
6	☐	1.000		4073826.54		A	0.8
7	☐	1.000		4171923.89		A	0.7
8	☐	1.000		4164337.99		A	0.9

165 Ho (ISTD) [No Gas]

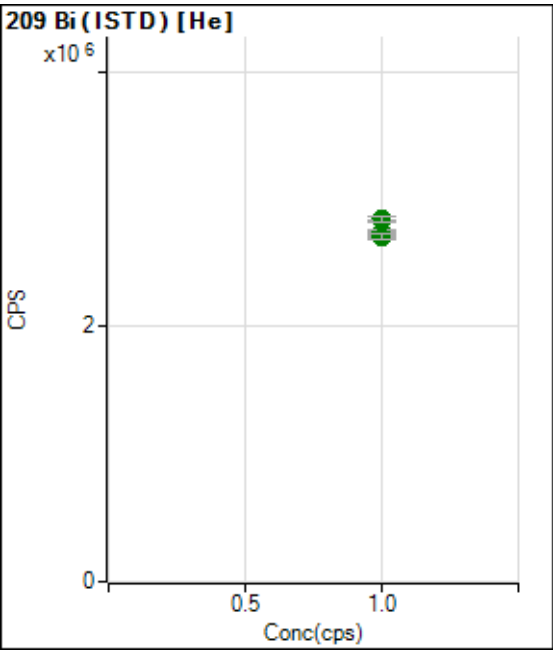
	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐	1.000		5492844.50		A	1.4
2	☐	1.000		5460869.43		A	0.7
3	☐	1.000		5493219.43		A	1.3
4	☐	1.000		5581538.18		A	1.0
5	☐	1.000		5721575.13		A	1.8
6	☐	1.000		5631705.75		A	2.4
7	☐	1.000		5988825.54		A	1.3
8	☐	1.000		6075632.13		A	0.1

165 Ho (ISTD) [He]

	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐	1.000		3870271.89		A	0.4
2	☐	1.000		3807065.40		A	0.6
3	☐	1.000		3927263.90		A	0.9
4	☐	1.000		3912909.42		A	1.3
5	☐	1.000		3943696.23		A	0.6
6	☐	1.000		4086223.86		A	0.9
7	☐	1.000		4164712.61		A	1.3
8	☐	1.000		4197202.33		A	1.1

209 Bi (ISTD) [No Gas]

	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐	1.000		3260622.90		A	1.0
2	☐	1.000		3247643.18		A	0.6
3	☐	1.000		3294525.64		A	1.5
4	☐	1.000		3373444.81		A	1.6
5	☐	1.000		3379285.99		A	1.1
6	☐	1.000		3375817.38		A	2.7
7	☐	1.000		3546468.80		A	2.5
8	☐	1.000		3333180.47		A	0.6



	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐	1.000		2729903.07		A	0.9
2	☐	1.000		2702900.01		A	0.3
3	☐	1.000		2711632.20		A	2.1
4	☐	1.000		2747149.30		A	1.5
5	☐	1.000		2751749.33		A	1.0
6	☐	1.000		2834230.09		A	0.2
7	☐	1.000		2847356.97		A	1.5
8	☐	1.000		2704741.97		A	1.4

US EPA Tune Check Report

Operator Name Jaswal

Acq/Data Batch D:\Agilent\ICPMH\1\DATA\IP7102924 MS.b

Acq. Date-Time 2024-10-29 17:38:47

Report Comment ---

Instrument Name G8403A JP14410463

[No Gas]

Sensitivity

Mass	Conc. [ug/l]	Count	CPS	Resp (Required) [cps/ug/l]	Resp (Flag)	RSD%	RSD% (Required)
9		4673	46728.70			1.438	5.000
24		161031	1610314.63			1.647	5.000
25		21990	219896.45			1.539	5.000
26		26247	262467.98			2.090	5.000
59		44586	445858.69			2.008	5.000
113		3138	31378.06			2.085	5.000
115		70726	707263.05			2.096	5.000
206		11791	117905.32			2.122	5.000
207		9809	98085.49			1.792	5.000
208		23901	239011.79			1.937	5.000
220		1	11.50			13.401	

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

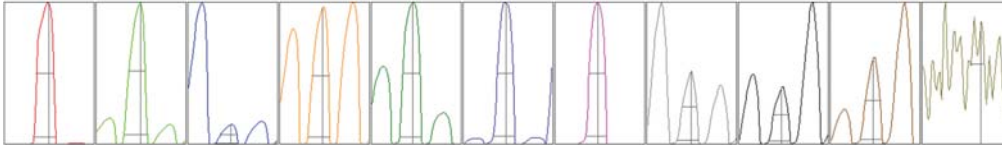
Mass	Rep#1 Count	Rep#2 Count	Rep#3 Count	Rep#4 Count	Rep#5 Count
9	4696	4708	4564	4738	4659
24	161088	160172	157059	163740	163099
25	21953	22017	21442	22297	22239
26	26271	26291	25362	26862	26448
59	44888	44606	43085	45466	44884
113	3207	3150	3034	3173	3124
115	72134	71312	68520	71721	69945
206	12049	11875	11404	11926	11699
207	9953	9879	9539	9945	9727
208	24290	24204	23152	24090	23769

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	8526.44	9.00	8.90 - 9.10	
24	308368.66	24.00	23.90 - 24.10	
25	41347.02	24.95	24.90 - 25.10	
26	49250.83	25.95	25.90 - 26.10	
59	79733.18	58.90	58.90 - 59.10	
113	6055.18	112.95	112.90 - 113.10	
115	135710.38	114.95	114.90 - 115.10	
206	25103.14	206.00	205.90 - 206.10	
207	20150.00	206.95	206.90 - 207.10	
208	49877.89	207.95	207.90 - 208.10	
220	1.45	220.50	-	

Mass	W-50%	W-5%	W-5% (Required)	W-5% (Flag)
9	0.58	0.733	0.900	
24	0.56	0.786	0.900	
25	0.55	0.737	0.900	
26	0.55	0.739	0.900	
59	0.60	0.738	0.900	
113	0.53	0.735	0.900	
115	0.54	0.719	0.900	
206	0.49	0.724	0.900	
207	0.50	0.730	0.900	
208	0.49	0.736	0.900	
220	0.44			

Integration Time [sec] 0.1

Acquisition Time [sec] 256.770000000002

Y Axis Linear

Tune Parameters

Plasma Parameters

Plasma Mode --- Nebulizer Gas 0.75 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	0.0 V	Omega Lens	10.3 V	Deflect	15.2 V
Extract 2	-250.0 V	Cell Entrance	-30 V	Plate Bias	-35 V
Omega Bias	-110 V	Cell Exit	-50 V		

Cell Parameters

Use Gas	No	3rd Gas Flow	---	Energy Discrimination	5.0 V
He Flow	0.0 mL/min	OctP Bias	-8.0 V		
H2 Flow	---	OctP RF	200 V		

QP Parameters

Mass Gain	136	Axis Gain	0.9979	QP Bias	-3.0 V
Mass Offset	130	Axis Offset	0.06		

Hardware Settings

Torch

Torch H	-0.6 mm	Torch V	0.6 mm

EM

Discriminator	4.9 mV	Analog HV	2429 V	Pulse HV	2000 V

[He]

Sensitivity

Mass	Conc. [ug/l]	Count	CPS	Resp (Required) [cps/ug/l]	Resp (Flag)	RSD%	RSD% (Required)
59		17017	170165.36			0.582	
89		84104	841038.59			0.617	
205		17107	171074.94			0.627	

Mass	RSD% (Flag)
59	
89	
205	

Mass	Rep#1 Count	Rep#2 Count	Rep#3 Count	Rep#4 Count	Rep#5 Count
59	17123	17020	16970	17093	16876
89	84067	84319	83838	83457	84838
205	17084	17245	16960	17170	17079

Integration Time [sec] 0.1

Tune Parameters

Plasma Parameters

Plasma Mode	---	Nebulizer Gas	0.75 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	0.0 V	Omega Lens	10.1 V	Deflect	4.0 V

US EPA Tune Check Report

Extract 2	-245.0 V	Cell Entrance	-40 V	Plate Bias	-60 V
Omega Bias	-105 V	Cell Exit	-60 V		
Cell Parameters					
Use Gas	Yes	3rd Gas Flow	---	Energy Discrimination	5.0 V
He Flow	3.9 mL/min	OctP Bias	-18.0 V		
H2 Flow	---	OctP RF	200 V		
QP Parameters					
Mass Gain	136	Axis Gain	0.9979	QP Bias	-13.0 V
Mass Offset	130	Axis Offset	0.06		
Hardware Settings					
Torch					
Torch H	-0.6 mm	Torch V	0.6 mm		
EM					
Discriminator	4.9 mV	Analog HV	2429 V	Pulse HV	2000 V

LB Number :

LB133196

Operator :

Jaswal

Lab Sample ID :

S00

Instrumnet Name :

P7

Client Sample ID :

S0

Dilution Factor :

1

Date & Time Acquired :

2024-10-29 18:13:02

DataFile Name :

004CALB.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Aluminium	27-2	0.15	-0.10	-0.06	0.00	N/A	ppb
Antimony	121-1	0.00	0.00	0.00	0.00	N/A	ppb
Arsenic	75-2	0.01	0.00	0.00	0.00	N/A	ppb
Barium	135-1	0.00	0.00	0.00	0.00	N/A	ppb
Barium	137-1	0.01	-0.01	0.01	0.00	N/A	ppb
Beryllium	9-1	0.01	-0.01	0.01	0.00	N/A	ppb
Bismuth	209-1				100		%
Bismuth	209-2				100		%
Bromine	81-1						cps
Bromine	81-2						cps
Cadmium	108-1	-0.07	0.10	-0.04	0.00	N/A	ppb
Cadmium	106-1	-0.54	0.64	-0.10	0.00	N/A	ppb
Cadmium	111-1	-0.04	0.04	0.00	0.00	N/A	ppb
Calcium	43-1	-0.49	3.07	-2.59	0.00	N/A	ppb
Calcium	44-1	3.12	-2.23	-0.89	0.00	N/A	ppb
Carbon	12-1						cps
Carbon	12-2						cps
Chlorine	35-1						cps
Chlorine	35-2						cps
Chromium	52-2	-0.01	0.02	-0.01	0.00	N/A	ppb
Cobalt	59-2	0.00	0.01	0.00	0.00	N/A	ppb
Copper	63-2	0.01	0.00	-0.01	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	56-2	0.05	-0.07	0.02	0.00	N/A	ppb
Iron	57-2	-2.06	1.12	0.94	0.00	N/A	ppb
Iron	54-2	-0.15	0.47	-0.32	0.00	N/A	ppb
Krypton	83-1						cps

LB Number : LB133196 Operator : Jaswal
Lab Sample ID : S0 Instrumnet Name : P7
Client Sample ID : S0 Dilution Factor : 1
Date & Time Acquired : 2024-10-29 18:13:02 DataFile Name : 004CALB.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Lead	206-1	0.00	0.01	-0.01	0.00	N/A	ppb
Lead	207-1	0.00	-0.01	0.01	0.00	N/A	ppb
Lead	208-1	0.00	0.00	0.00	0.00	N/A	ppb
Lithium	6-1				100		%
Magnesium	24-2	0.15	-0.08	-0.07	0.00	N/A	ppb
Manganese	55-2	-0.03	0.01	0.01	0.00	N/A	ppb
Molybdenum	94-1	0.01	0.00	-0.01	0.00	N/A	ppb
Molybdenum	95-1	0.00	-0.01	0.01	0.00	N/A	ppb
Molybdenum	96-1	0.00	0.01	-0.01	0.00	N/A	ppb
Molybdenum	97-1	0.00	-0.01	0.01	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	-0.01	0.00	0.01	0.00	N/A	ppb
Phosphorus	31-2	-10.67	-12.61	-13.15	-12.15		ppb
Potassium	39-2	1.14	0.24	-1.39	0.00	N/A	ppb
Rhodium	103-1				100		%
Rhodium	103-2				100		%
Scandium	45-1				100		%
Scandium	45-2				100		%
Selenium	82-1	0.15	-0.48	0.33	0.00	N/A	ppb
Selenium	77-2	0.12	-0.24	0.12	0.00	N/A	ppb
Selenium	78-2	-0.61	0.81	-0.20	0.00	N/A	ppb
Silicon	28-1	1.22	-0.60	-0.62	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	0.34	0.54	-0.89	0.00	N/A	ppb
Strontium	86-1	0.04	-0.03	-0.01	0.00	N/A	ppb
Strontium	88-1	0.00	0.00	0.00	0.00	N/A	ppb
Sulfur	34-1	302.87	-85.40	-179.74	12.58	2033.66	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	-0.02	0.01	0.01	0.00	N/A	ppb
Titanium	47-1	-0.01	0.02	-0.01	0.00	N/A	ppb

LB Number :

LB133196

Operator :

Jaswal

Lab Sample ID :

S00

Instrumnet Name :

P7

Client Sample ID :

S0

Dilution Factor :

1

Date & Time Acquired :

2024-10-29 18:13:02

DataFile Name :

004CALB.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Uranium	238-1	0.00	0.00	0.00	0.00	N/A	ppb
Vanadium	51-2	0.00	0.00	0.00	0.00	N/A	ppb
Yttrium	89-1				100		%
Yttrium	89-2				100		%
Zinc	66-2	-0.03	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 :

LB133196

Operator :

Jaswal

Lab Sample ID :

S02

Instrumnet Name :

P7

Client Sample ID :

S02

Dilution Factor :

1

Date & Time Acquired :

2024-10-29 18:19:37

DataFile Name :

006CAL.S.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Aluminium	27-2	19.17	17.17	18.90	18.41	5.90	ppb
Antimony	121-1	1.90	1.93	1.84	1.89	2.47	ppb
Arsenic	75-2	0.77	1.06	1.06	0.97	17.24	ppb
Barium	135-1	9.07	8.97	8.69	8.91	2.19	ppb
Barium	137-1	8.95	8.84	8.66	8.82	1.66	ppb
Beryllium	9-1	0.92	1.04	1.00	0.99	6.31	ppb
Bismuth	209-1				100		%
Bismuth	209-2				99		%
Bromine	81-1						cps
Bromine	81-2						cps
Cadmium	108-1	0.74	0.98	1.05	0.92	17.52	ppb
Cadmium	106-1	1.38	0.72	0.35	0.81	64.12	ppb
Cadmium	111-1	0.97	1.06	1.06	1.03	4.87	ppb
Calcium	43-1	494.11	508.84	495.85	499.60	1.61	ppb
Calcium	44-1	492.02	505.97	499.14	499.04	1.40	ppb
Carbon	12-1						cps
Carbon	12-2						cps
Chlorine	35-1						cps
Chlorine	35-2						cps
Chromium	52-2	2.05	1.98	1.93	1.98	2.94	ppb
Cobalt	59-2	1.03	0.98	0.99	1.00	2.83	ppb
Copper	63-2	1.77	1.94	1.86	1.86	4.72	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				98		%
Indium	115-1				101		%
Indium	115-2				98		%
Iron	56-2	51.43	51.88	52.10	51.80	0.66	ppb
Iron	57-2	51.69	60.69	54.91	55.76	8.18	ppb
Iron	54-2	51.70	53.35	53.21	52.75	1.74	ppb
Krypton	83-1						cps

LB Number : LB133196

Operator : Jaswal

Lab Sample ID : S02

Instrumnet Name : P7

Client Sample ID : S02

Dilution Factor : 1

Date & Time Acquired : 2024-10-29 18:19:37

DataFile Name : 006CAL.S.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Lead	206-1	0.81	0.79	0.82	0.81	1.70	ppb
Lead	207-1	0.75	0.80	0.83	0.79	4.85	ppb
Lead	208-1	0.77	0.81	0.83	0.81	3.73	ppb
Lithium	6-1				101		%
Magnesium	24-2	524.02	527.01	522.27	524.44	0.46	ppb
Manganese	55-2	0.96	0.99	0.96	0.97	1.80	ppb
Molybdenum	94-1	4.90	5.19	5.01	5.03	2.94	ppb
Molybdenum	95-1	3.98	4.18	4.37	4.18	4.61	ppb
Molybdenum	96-1	4.20	4.30	4.38	4.29	2.09	ppb
Molybdenum	97-1	4.35	4.12	4.26	4.24	2.63	ppb
Molybdenum	98-1	4.09	4.31	4.25	4.22	2.69	ppb
Neodymium	150-1						cps
Neodymium	150-2						cps
Nickel	60-2	1.18	1.04	1.15	1.12	6.69	ppb
Phosphorus	31-2	9.96	5.53	20.95	12.15	65.35	ppb
Potassium	39-2	499.89	502.69	496.33	499.63	0.64	ppb
Rhodium	103-1				98		%
Rhodium	103-2				99		%
Scandium	45-1				100		%
Scandium	45-2				99		%
Selenium	82-1	5.03	4.85	5.52	5.14	6.77	ppb
Selenium	77-2	3.47	3.73	4.82	4.00	17.86	ppb
Selenium	78-2	5.91	6.50	4.55	5.65	17.62	ppb
Silicon	28-1	2.11	2.13	1.23	1.82	28.25	ppb
Silver	107-1	0.87	0.88	0.86	0.87	0.73	ppb
Silver	109-1	0.88	0.92	0.90	0.90	1.74	ppb
Sodium	23-2	506.36	503.40	500.81	503.53	0.55	ppb
Strontium	86-1	0.91	0.90	0.95	0.92	2.93	ppb
Strontium	88-1	0.91	0.93	0.97	0.94	3.21	ppb
Sulfur	34-1	63.85	40.84	-142.43	-12.58		ppb
Terbium	159-1				100		%
Terbium	159-2				100		%
Thallium	203-1	0.84	0.87	0.86	0.85	1.91	ppb
Thallium	205-1	0.79	0.83	0.86	0.83	4.24	ppb
Tin	118-1	4.43	4.41	4.32	4.39	1.29	ppb
Titanium	47-1	4.23	4.38	4.25	4.28	1.85	ppb

LB Number :LB133196

Operator :Jaswal

Lab Sample ID :S02

Instrumnet Name :P7

Client Sample ID :S02

Dilution Factor :1

Date & Time Acquired :2024-10-29 18:19:37

DataFile Name :006CALS.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Uranium	238-1	0.80	0.75	0.80	0.78	3.36	ppb
Vanadium	51-2	4.94	4.98	4.90	4.94	0.85	ppb
Yttrium	89-1				99		%
Yttrium	89-2				98		%
Zinc	66-2	4.24	4.44	4.80	4.49	6.34	ppb
Zirconium	90-1	0.91	0.92	0.95	0.93	1.90	ppb
Zirconium	91-1	0.92	0.90	0.94	0.92	2.22	ppb

LB Number :LB133196Operator :Jaswal

Lab Sample ID :S03Instrumnet Name :P7

Client Sample ID :S03Dilution Factor :1

Date & Time Acquired :2024-10-29 18:22:54DataFile Name :007CALS.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Aluminium	27-2	1004.54	1006.70	1005.96	1005.73	0.11	ppb
Antimony	121-1	47.10	49.15	49.10	48.45	2.41	ppb
Arsenic	75-2	51.38	50.99	49.45	50.61	2.02	ppb
Barium	135-1	232.51	240.63	240.60	237.91	1.97	ppb
Barium	137-1	234.27	241.69	240.33	238.76	1.66	ppb
Beryllium	9-1	52.27	52.43	52.31	52.33	0.16	ppb
Bismuth	209-1				101		%
Bismuth	209-2				99		%
Bromine	81-1						cps
Bromine	81-2						cps
Cadmium	108-1	51.13	50.50	53.53	51.72	3.09	ppb
Cadmium	106-1	52.27	51.60	53.97	52.61	2.33	ppb
Cadmium	111-1	51.83	53.54	52.77	52.71	1.63	ppb
Calcium	43-1	5782.89	5858.27	5947.64	5862.94	1.41	ppb
Calcium	44-1	5335.07	5447.86	5400.63	5394.52	1.05	ppb
Carbon	12-1						cps
Carbon	12-2						cps
Chlorine	35-1						cps
Chlorine	35-2						cps
Chromium	52-2	51.37	51.35	50.27	50.99	1.24	ppb
Cobalt	59-2	50.78	50.49	50.51	50.59	0.31	ppb
Copper	63-2	518.25	519.97	509.17	515.80	1.13	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				100		%
Indium	115-2				98		%
Iron	56-2	2645.55	2629.39	2608.89	2627.94	0.70	ppb
Iron	57-2	2690.12	2659.95	2655.17	2668.41	0.71	ppb
Iron	54-2	2767.80	2741.86	2733.81	2747.82	0.65	ppb
Krypton	83-1						cps

LB Number : LB133196 Operator : Jaswal
Lab Sample ID : S03 Instrumnet Name : P7
Client Sample ID : S03 Dilution Factor : 1
Date & Time Acquired : 2024-10-29 18:22:54 DataFile Name : 007CAL.S.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Lead	206-1	220.78	215.80	221.93	219.50	1.48	ppb
Lead	207-1	216.24	213.03	219.68	216.32	1.54	ppb
Lead	208-1	233.63	233.77	236.87	234.75	0.78	ppb
Lithium	6-1				100		%
Magnesium	24-2	5089.22	5072.09	4915.87	5025.73	1.90	ppb
Manganese	55-2	506.84	505.36	506.14	506.11	0.15	ppb
Molybdenum	94-1	489.23	491.89	498.03	493.05	0.92	ppb
Molybdenum	95-1	507.80	502.12	505.22	505.05	0.56	ppb
Molybdenum	96-1	501.49	499.16	509.31	503.32	1.06	ppb
Molybdenum	97-1	487.25	479.74	501.58	489.52	2.27	ppb
Molybdenum	98-1	509.03	497.02	509.68	505.24	1.41	ppb
Neodymium	150-1						cps
Neodymium	150-2						cps
Nickel	60-2	52.55	51.48	52.01	52.01	1.02	ppb
Phosphorus	31-2	980.47	989.94	1005.13	991.85	1.25	ppb
Potassium	39-2	2660.63	2644.89	2632.14	2645.89	0.54	ppb
Rhodium	103-1				98		%
Rhodium	103-2				100		%
Scandium	45-1				100		%
Scandium	45-2				101		%
Selenium	82-1	51.21	51.74	53.62	52.19	2.42	ppb
Selenium	77-2	50.45	53.48	46.59	50.17	6.88	ppb
Selenium	78-2	52.55	52.84	51.36	52.25	1.50	ppb
Silicon	28-1	52.47	54.10	54.67	53.75	2.13	ppb
Silver	107-1	48.80	50.31	50.69	49.94	2.00	ppb
Silver	109-1	48.52	50.90	49.91	49.78	2.40	ppb
Sodium	23-2	5121.30	5089.46	5101.07	5103.94	0.32	ppb
Strontium	86-1	1266.73	1265.37	1278.43	1270.17	0.57	ppb
Strontium	88-1	1256.03	1263.73	1274.94	1264.90	0.75	ppb
Sulfur	34-1	934.41	1036.92	863.94	945.09	9.20	ppb
Terbium	159-1				100		%
Terbium	159-2				102		%
Thallium	203-1	43.55	42.97	44.11	43.54	1.31	ppb
Thallium	205-1	43.86	42.98	43.89	43.58	1.19	ppb
Tin	118-1	47.64	49.73	49.20	48.86	2.23	ppb
Titanium	47-1	495.96	505.73	503.79	501.82	1.03	ppb

LB Number :

LB133196

Operator :

Jaswal

Lab Sample ID :

S03

Instrumnet Name :

P7

Client Sample ID :

S03

Dilution Factor :

1

Date & Time Acquired :

2024-10-29 18:22:54

DataFile Name :

007CALS.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Uranium	238-1	42.06	41.36	42.64	42.02	1.52	ppb
Vanadium	51-2	51.05	50.27	50.61	50.64	0.77	ppb
Yttrium	89-1				99		%
Yttrium	89-2				99		%
Zinc	66-2	499.12	500.93	499.41	499.82	0.19	ppb
Zirconium	90-1	49.76	48.81	50.28	49.61	1.50	ppb
Zirconium	91-1	49.29	48.60	49.81	49.23	1.23	ppb

LB Number :LB133196Operator :Jaswal

Lab Sample ID :S04Instrumnet Name :P7

Client Sample ID :S04Dilution Factor :1

Date & Time Acquired :2024-10-29 18:26:02DataFile Name :008CAL.S.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Aluminium	27-2	2508.01	2453.36	2495.09	2485.48	1.15	ppb
Antimony	121-1	120.19	121.33	121.96	121.16	0.74	ppb
Arsenic	75-2	122.71	123.83	123.09	123.21	0.46	ppb
Barium	135-1	594.05	592.29	592.74	593.03	0.15	ppb
Barium	137-1	585.52	596.45	593.44	591.81	0.95	ppb
Beryllium	9-1	128.03	125.33	129.49	127.62	1.66	ppb
Bismuth	209-1				103		%
Bismuth	209-2				101		%
Bromine	81-1						cps
Bromine	81-2						cps
Cadmium	108-1	127.30	127.50	131.88	128.89	2.01	ppb
Cadmium	106-1	130.39	130.07	131.52	130.66	0.58	ppb
Cadmium	111-1	128.94	129.91	130.90	129.92	0.75	ppb
Calcium	43-1	14247.30	14523.66	14789.53	14520.16	1.87	ppb
Calcium	44-1	13060.84	13354.97	13463.78	13293.19	1.57	ppb
Carbon	12-1						cps
Carbon	12-2						cps
Chlorine	35-1						cps
Chlorine	35-2						cps
Chromium	52-2	128.51	127.47	126.04	127.34	0.97	ppb
Cobalt	59-2	124.71	125.62	124.71	125.01	0.42	ppb
Copper	63-2	1319.40	1308.67	1316.37	1314.81	0.42	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				101		%
Indium	115-1				101		%
Indium	115-2				99		%
Iron	56-2	6653.76	6482.17	6588.84	6574.93	1.32	ppb
Iron	57-2	6778.70	6717.14	6754.67	6750.17	0.46	ppb
Iron	54-2	6776.32	6759.30	6798.84	6778.15	0.29	ppb
Krypton	83-1						cps

LB Number : LB133196 Operator : Jaswal
Lab Sample ID : S04 Instrumnet Name : P7
Client Sample ID : S04 Dilution Factor : 1
Date & Time Acquired : 2024-10-29 18:26:02 DataFile Name : 008CAL.S.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Lead	206-1	620.18	610.87	618.31	616.45	0.80	ppb
Lead	207-1	617.42	611.47	614.66	614.52	0.48	ppb
Lead	208-1	623.18	610.21	617.58	616.99	1.05	ppb
Lithium	6-1				102		%
Magnesium	24-2	12425.89	12544.66	12425.64	12465.40	0.55	ppb
Manganese	55-2	1282.53	1262.34	1305.21	1283.36	1.67	ppb
Molybdenum	94-1	1232.28	1249.01	1246.25	1242.51	0.72	ppb
Molybdenum	95-1	1226.90	1247.11	1245.63	1239.88	0.91	ppb
Molybdenum	96-1	1231.55	1250.17	1246.28	1242.67	0.79	ppb
Molybdenum	97-1	1230.30	1252.51	1232.56	1238.46	0.99	ppb
Molybdenum	98-1	1237.63	1238.00	1246.92	1240.85	0.42	ppb
Neodymium	150-1						cps
Neodymium	150-2						cps
Nickel	60-2	132.18	128.96	131.35	130.83	1.28	ppb
Phosphorus	31-2	2531.62	2569.18	2598.57	2566.46	1.31	ppb
Potassium	39-2	6265.99	6275.42	6165.07	6235.49	0.98	ppb
Rhodium	103-1				99		%
Rhodium	103-2				100		%
Scandium	45-1				101		%
Scandium	45-2				100		%
Selenium	82-1	127.10	128.30	129.06	128.15	0.77	ppb
Selenium	77-2	115.64	129.73	147.48	130.95	12.18	ppb
Selenium	78-2	125.67	133.37	125.17	128.07	3.59	ppb
Silicon	28-1	133.95	136.80	144.47	138.40	3.93	ppb
Silver	107-1	123.33	124.21	123.86	123.80	0.36	ppb
Silver	109-1	122.98	123.81	122.30	123.03	0.62	ppb
Sodium	23-2	12612.91	12632.38	12559.55	12601.61	0.30	ppb
Strontium	86-1	3130.67	3124.47	3136.14	3130.43	0.19	ppb
Strontium	88-1	3081.90	3106.41	3111.22	3099.84	0.51	ppb
Sulfur	34-1	2289.33	2169.39	2309.99	2256.23	3.36	ppb
Terbium	159-1				101		%
Terbium	159-2				99		%
Thallium	203-1	107.12	106.59	107.34	107.02	0.36	ppb
Thallium	205-1	107.43	106.86	106.53	106.94	0.43	ppb
Tin	118-1	119.80	121.40	119.97	120.39	0.73	ppb
Titanium	47-1	1219.09	1241.52	1248.56	1236.39	1.24	ppb

LB Number :LB133196

Operator :Jaswal

Lab Sample ID :S04

Instrumnet Name :P7

Client Sample ID :S04

Dilution Factor :1

Date & Time Acquired :2024-10-29 18:26:02

DataFile Name :008CALS.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Uranium	238-1	102.80	102.70	103.67	103.06	0.52	ppb
Vanadium	51-2	128.24	126.72	128.18	127.71	0.67	ppb
Yttrium	89-1				101		%
Yttrium	89-2				101		%
Zinc	66-2	1258.42	1254.07	1238.73	1250.41	0.83	ppb
Zirconium	90-1	121.15	122.43	122.76	122.11	0.70	ppb
Zirconium	91-1	121.13	122.28	122.48	121.96	0.60	ppb

LB Number :LB133196Operator :Jaswal

Lab Sample ID :S05Instrumnet Name :P7

Client Sample ID :S05Dilution Factor :1

Date & Time Acquired :2024-10-29 18:29:01DataFile Name :009CALS.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Aluminium	27-2	4986.78	4981.69	4908.94	4959.14	0.88	ppb
Antimony	121-1	232.77	239.64	243.48	238.63	2.27	ppb
Arsenic	75-2	254.88	251.01	254.04	253.31	0.80	ppb
Barium	135-1	1244.12	1246.83	1283.87	1258.27	1.77	ppb
Barium	137-1	1242.45	1254.52	1290.92	1262.63	2.00	ppb
Beryllium	9-1	255.68	252.34	259.94	255.99	1.49	ppb
Bismuth	209-1				104		%
Bismuth	209-2				101		%
Bromine	81-1						cps
Bromine	81-2						cps
Cadmium	108-1	254.28	252.75	259.57	255.53	1.40	ppb
Cadmium	106-1	251.18	250.38	257.27	252.95	1.49	ppb
Cadmium	111-1	250.12	256.13	260.38	255.55	2.02	ppb
Calcium	43-1	28891.39	28620.84	29222.75	28911.66	1.04	ppb
Calcium	44-1	26036.12	26476.15	26862.19	26458.15	1.56	ppb
Carbon	12-1						cps
Carbon	12-2						cps
Chlorine	35-1						cps
Chlorine	35-2						cps
Chromium	52-2	251.79	250.97	251.31	251.36	0.16	ppb
Cobalt	59-2	250.64	250.22	248.54	249.80	0.45	ppb
Copper	63-2	2549.95	2578.93	2511.95	2546.94	1.32	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				102		%
Indium	115-1				101		%
Indium	115-2				100		%
Iron	56-2	13064.34	13054.39	12989.77	13036.17	0.31	ppb
Iron	57-2	13268.31	13243.33	13137.02	13216.22	0.53	ppb
Iron	54-2	13184.37	13475.47	13194.89	13284.91	1.24	ppb
Krypton	83-1						cps

LB Number : LB133196 Operator : Jaswal
Lab Sample ID : S05 Instrumnet Name : P7
Client Sample ID : S05 Dilution Factor : 1
Date & Time Acquired : 2024-10-29 18:29:01 DataFile Name : 009CAL.S.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Lead	206-1	1243.54	1238.30	1263.15	1248.33	1.05	ppb
Lead	207-1	1237.22	1230.93	1266.95	1245.03	1.54	ppb
Lead	208-1	1230.32	1234.51	1264.32	1243.05	1.49	ppb
Lithium	6-1				103		%
Magnesium	24-2	25249.55	24601.76	24735.09	24862.14	1.38	ppb
Manganese	55-2	2524.29	2533.70	2502.76	2520.25	0.63	ppb
Molybdenum	94-1	2430.44	2547.50	2484.55	2487.50	2.36	ppb
Molybdenum	95-1	2419.88	2489.71	2502.57	2470.72	1.80	ppb
Molybdenum	96-1	2421.70	2539.14	2497.92	2486.25	2.40	ppb
Molybdenum	97-1	2412.02	2519.42	2460.54	2463.99	2.18	ppb
Molybdenum	98-1	2454.43	2516.42	2496.45	2489.10	1.27	ppb
Neodymium	150-1						cps
Neodymium	150-2						cps
Nickel	60-2	257.39	261.40	255.11	257.96	1.23	ppb
Phosphorus	31-2	5098.73	5077.78	5042.30	5072.93	0.56	ppb
Potassium	39-2	12570.88	12201.43	12356.11	12376.14	1.50	ppb
Rhodium	103-1				100		%
Rhodium	103-2				100		%
Scandium	45-1				102		%
Scandium	45-2				101		%
Selenium	82-1	248.61	258.80	254.79	254.07	2.02	ppb
Selenium	77-2	247.70	280.72	266.05	264.82	6.25	ppb
Selenium	78-2	254.31	253.40	256.05	254.59	0.53	ppb
Silicon	28-1	262.67	257.04	269.26	262.99	2.32	ppb
Silver	107-1	250.22	254.74	261.81	255.59	2.28	ppb
Silver	109-1	251.75	257.15	262.16	257.02	2.02	ppb
Sodium	23-2	25729.75	25422.61	25135.07	25429.14	1.17	ppb
Strontium	86-1	6212.26	6376.96	6288.13	6292.45	1.31	ppb
Strontium	88-1	6121.34	6309.63	6295.50	6242.16	1.68	ppb
Sulfur	34-1	4695.83	4339.44	4762.09	4599.12	4.94	ppb
Terbium	159-1				104		%
Terbium	159-2				103		%
Thallium	203-1	211.42	215.29	220.27	215.66	2.06	ppb
Thallium	205-1	248.02	251.71	251.24	250.33	0.80	ppb
Tin	118-1	234.11	238.51	244.28	238.97	2.13	ppb
Titanium	47-1	2460.67	2458.36	2501.51	2473.51	0.98	ppb

LB Number :

LB133196

Operator :

Jaswal

Lab Sample ID :

S05

Instrumnet Name :

P7

Client Sample ID :

S05

Dilution Factor :

1

Date & Time Acquired :

2024-10-29 18:29:01

DataFile Name :

009CALS.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Uranium	238-1	240.62	243.79	247.98	244.13	1.51	ppb
Vanadium	51-2	254.06	252.92	252.97	253.31	0.26	ppb
Yttrium	89-1				102		%
Yttrium	89-2				99		%
Zinc	66-2	2471.00	2473.83	2452.06	2465.63	0.48	ppb
Zirconium	90-1	244.69	251.30	247.84	247.94	1.33	ppb
Zirconium	91-1	238.17	247.34	244.04	243.19	1.91	ppb

LB Number :

LB133196

Operator :

Jaswal

Lab Sample ID :

S06

Instrumnet Name :

P7

Client Sample ID :

S06

Dilution Factor :

1

Date & Time Acquired :

2024-10-29 18:31:54

DataFile Name :

010CAL.S.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Aluminium	27-2	9769.74	9735.42	9677.38	9727.51	0.48	ppb
Antimony	121-1	503.12	527.56	520.53	517.07	2.43	ppb
Arsenic	75-2	496.69	500.87	495.88	497.81	0.54	ppb
Barium	135-1	2518.75	2642.34	2582.86	2581.32	2.39	ppb
Barium	137-1	2487.65	2635.49	2505.71	2542.95	3.17	ppb
Beryllium	9-1	489.26	521.71	501.92	504.30	3.24	ppb
Bismuth	209-1				104		%
Bismuth	209-2				104		%
Bromine	81-1						cps
Bromine	81-2						cps
Cadmium	108-1	499.80	521.52	503.05	508.12	2.31	ppb
Cadmium	106-1	502.94	522.95	513.87	513.25	1.95	ppb
Cadmium	111-1	503.41	532.37	512.40	516.06	2.87	ppb
Calcium	43-1	58534.12	60982.46	60484.33	60000.30	2.16	ppb
Calcium	44-1	52872.03	55720.60	55447.00	54679.88	2.87	ppb
Carbon	12-1						cps
Carbon	12-2						cps
Chlorine	35-1						cps
Chlorine	35-2						cps
Chromium	52-2	493.14	497.32	498.47	496.31	0.56	ppb
Cobalt	59-2	506.92	502.93	502.74	504.20	0.47	ppb
Copper	63-2	5024.46	5090.88	5034.63	5049.99	0.71	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				106		%
Indium	115-1				100		%
Indium	115-2				101		%
Iron	56-2	25976.48	25848.10	25768.39	25864.32	0.41	ppb
Iron	57-2	25595.81	25843.36	25241.04	25560.07	1.18	ppb
Iron	54-2	26332.82	26320.78	26292.30	26315.30	0.08	ppb
Krypton	83-1						cps

LB Number : LB133196 Operator : Jaswal
Lab Sample ID : S06 Instrumnet Name : P7
Client Sample ID : S06 Dilution Factor : 1
Date & Time Acquired : 2024-10-29 18:31:54 DataFile Name : 010CAL.S.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Lead	206-1	2445.40	2680.13	2559.87	2561.80	4.58	ppb
Lead	207-1	2433.49	2603.65	2546.36	2527.83	3.43	ppb
Lead	208-1	2429.20	2622.84	2555.45	2535.83	3.88	ppb
Lithium	6-1				106		%
Magnesium	24-2	49474.94	49543.24	49554.66	49524.28	0.09	ppb
Manganese	55-2	4959.01	5011.68	5050.85	5007.18	0.92	ppb
Molybdenum	94-1	4913.13	5226.17	5126.25	5088.52	3.14	ppb
Molybdenum	95-1	4926.27	5250.77	5118.64	5098.56	3.20	ppb
Molybdenum	96-1	4934.03	5249.72	5150.58	5111.44	3.16	ppb
Molybdenum	97-1	4866.47	5222.56	5171.43	5086.82	3.78	ppb
Molybdenum	98-1	4917.05	5260.54	5213.06	5130.22	3.63	ppb
Neodymium	150-1						cps
Neodymium	150-2						cps
Nickel	60-2	503.06	507.22	506.38	505.55	0.44	ppb
Phosphorus	31-2	9923.53	9772.88	10040.05	9912.15	1.35	ppb
Potassium	39-2	24576.15	24484.59	24779.65	24613.46	0.61	ppb
Rhodium	103-1				98		%
Rhodium	103-2				101		%
Scandium	45-1				99		%
Scandium	45-2				102		%
Selenium	82-1	495.96	528.31	513.23	512.50	3.16	ppb
Selenium	77-2	464.43	501.17	483.28	482.96	3.80	ppb
Selenium	78-2	504.40	491.43	507.81	501.21	1.72	ppb
Silicon	28-1	516.94	536.94	546.87	533.58	2.86	ppb
Silver	107-1	504.26	521.19	513.49	512.98	1.65	ppb
Silver	109-1	506.42	531.56	510.11	516.03	2.63	ppb
Sodium	23-2	50037.06	50407.71	50690.40	50378.39	0.65	ppb
Strontium	86-1	12339.15	12992.97	12936.26	12756.13	2.84	ppb
Strontium	88-1	12210.91	13003.76	12973.38	12729.35	3.53	ppb
Sulfur	34-1	10124.29	10647.79	10457.93	10410.00	2.55	ppb
Terbium	159-1				104		%
Terbium	159-2				106		%
Thallium	203-1	490.07	531.64	518.97	513.56	4.15	ppb
Thallium	205-1	486.98	530.37	509.40	508.91	4.26	ppb
Tin	118-1	516.07	527.83	526.74	523.54	1.24	ppb
Titanium	47-1	5015.31	5249.96	5225.69	5163.65	2.50	ppb

LB Number :

LB133196

Operator :

Jaswal

Lab Sample ID :

S06

Instrumnet Name :

P7

Client Sample ID :

S06

Dilution Factor :

1

Date & Time Acquired :

2024-10-29 18:31:54

DataFile Name :

010CALS.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Uranium	238-1	486.43	521.11	504.97	504.17	3.44	ppb
Vanadium	51-2	503.96	503.39	494.00	500.45	1.12	ppb
Yttrium	89-1				101		%
Yttrium	89-2				102		%
Zinc	66-2	4982.62	5060.70	5004.39	5015.90	0.80	ppb
Zirconium	90-1	492.96	526.23	516.78	511.99	3.35	ppb
Zirconium	91-1	485.17	513.90	505.47	501.51	2.94	ppb

LB Number :LB133196Operator :Jaswal

Lab Sample ID :S07Instrumnet Name :P7

Client Sample ID :S07Dilution Factor :1

Date & Time Acquired :2024-10-29 18:34:39DataFile Name :011CALS.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Aluminium	27-2	19402.58	19395.35	19710.83	19502.92	0.92	ppb
Antimony	121-1	1002.61	993.16	988.83	994.87	0.71	ppb
Arsenic	75-2	987.26	995.53	1018.58	1000.46	1.62	ppb
Barium	135-1	4939.72	4961.66	4984.25	4961.88	0.45	ppb
Barium	137-1	4950.93	5015.12	4974.19	4980.08	0.65	ppb
Beryllium	9-1	1006.97	989.20	991.56	995.91	0.97	ppb
Bismuth	209-1				109		%
Bismuth	209-2				104		%
Bromine	81-1						cps
Bromine	81-2						cps
Cadmium	108-1	992.57	988.49	1000.89	993.98	0.64	ppb
Cadmium	106-1	998.16	995.03	982.21	991.80	0.85	ppb
Cadmium	111-1	994.44	986.48	988.59	989.83	0.42	ppb
Calcium	43-1	113432.38	115335.02	113923.33	114230.24	0.86	ppb
Calcium	44-1	105460.06	106478.08	106868.04	106268.73	0.68	ppb
Carbon	12-1						cps
Carbon	12-2						cps
Chlorine	35-1						cps
Chlorine	35-2						cps
Chromium	52-2	1000.07	999.73	1003.70	1001.16	0.22	ppb
Cobalt	59-2	996.12	991.61	1006.03	997.92	0.74	ppb
Copper	63-2	9918.60	9919.17	10025.36	9954.38	0.62	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				109		%
Holmium	165-2				108		%
Indium	115-1				104		%
Indium	115-2				99		%
Iron	56-2	51142.74	51505.69	52196.40	51614.94	1.04	ppb
Iron	57-2	51251.72	51227.11	52000.78	51493.20	0.85	ppb
Iron	54-2	51721.99	51602.43	52107.80	51810.74	0.51	ppb
Krypton	83-1						cps

2

LB Number :

LB133196

Operator :

Jaswal

Lab Sample ID :

S07

Instrumnet Name :

P7

Client Sample ID :

S07

Dilution Factor :

1

Date & Time Acquired :

2024-10-29 18:34:39

DataFile Name :

011CALS.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Uranium	238-1	1015.90	987.49	1004.18	1002.52	1.42	ppb
Vanadium	51-2	989.06	1001.82	1004.84	998.57	0.84	ppb
Yttrium	89-1				107		%
Yttrium	89-2				103		%
Zinc	66-2	10006.08	9965.06	10030.65	10000.60	0.33	ppb
Zirconium	90-1	1004.99	983.15	996.56	994.90	1.11	ppb
Zirconium	91-1	1006.43	999.58	998.09	1001.37	0.44	ppb

LB Number :LB133196Operator :Jaswal

Lab Sample ID :S08Instrumnet Name :P7

Client Sample ID :S08Dilution Factor :1

Date & Time Acquired :2024-10-29 18:37:25DataFile Name :012CALS.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Aluminium	27-2	99796.21	100223.73	100367.10	100129.01	0.30	ppb
Antimony	121-1	0.79	0.79	0.73	0.77	4.90	ppb
Arsenic	75-2	0.75	0.64	0.60	0.66	11.44	ppb
Barium	135-1	1.96	1.95	1.95	1.96	0.23	ppb
Barium	137-1	2.10	2.04	1.96	2.03	3.50	ppb
Beryllium	9-1	0.13	0.17	0.14	0.15	14.11	ppb
Bismuth	209-1				102		%
Bismuth	209-2				99		%
Bromine	81-1						cps
Bromine	81-2						cps
Cadmium	108-1	0.72	0.47	0.37	0.52	34.54	ppb
Cadmium	106-1	0.32	1.24	0.23	0.60	93.27	ppb
Cadmium	111-1	0.16	0.21	0.16	0.18	15.63	ppb
Calcium	43-1	481450.01	500826.04	505421.57	495899.20	2.57	ppb
Calcium	44-1	491747.93	498314.58	504482.24	498181.58	1.28	ppb
Carbon	12-1						cps
Carbon	12-2						cps
Chlorine	35-1						cps
Chlorine	35-2						cps
Chromium	52-2	3.01	3.09	3.08	3.06	1.32	ppb
Cobalt	59-2	2.62	2.57	2.61	2.60	1.12	ppb
Copper	63-2	2.11	2.20	2.18	2.16	2.25	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				111		%
Holmium	165-2				108		%
Indium	115-1				104		%
Indium	115-2				102		%
Iron	56-2	248759.65	250451.25	249452.20	249554.37	0.34	ppb
Iron	57-2	248780.88	250605.62	249399.55	249595.35	0.37	ppb
Iron	54-2	247692.82	251453.31	249208.05	249451.39	0.76	ppb
Krypton	83-1						cps

LB Number : LB133196 Operator : Jaswal
Lab Sample ID : S08 Instrumnet Name : P7
Client Sample ID : S08 Dilution Factor : 1
Date & Time Acquired : 2024-10-29 18:37:25 DataFile Name : 012CAL.S.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Lead	206-1	1.08	1.00	1.09	1.06	4.70	ppb
Lead	207-1	1.05	1.01	1.01	1.02	2.58	ppb
Lead	208-1	1.08	1.03	1.04	1.05	2.46	ppb
Lithium	6-1				118		%
Magnesium	24-2	495250.08	503275.48	502475.53	500333.70	0.88	ppb
Manganese	55-2	5.20	5.04	5.04	5.09	1.79	ppb
Molybdenum	94-1	2.45	2.27	2.21	2.31	5.47	ppb
Molybdenum	95-1	1.51	1.45	1.39	1.45	4.08	ppb
Molybdenum	96-1	2.95	2.80	2.91	2.89	2.76	ppb
Molybdenum	97-1	1.45	1.43	1.44	1.44	0.97	ppb
Molybdenum	98-1	1.40	1.39	1.35	1.38	2.07	ppb
Neodymium	150-1						cps
Neodymium	150-2						cps
Nickel	60-2	4.62	4.85	4.67	4.71	2.60	ppb
Phosphorus	31-2	-7.89	-6.08	-1.72	-5.23		ppb
Potassium	39-2	247862.91	250115.25	252547.73	250175.30	0.94	ppb
Rhodium	103-1				97		%
Rhodium	103-2				99		%
Scandium	45-1				107		%
Scandium	45-2				107		%
Selenium	82-1	1.81	1.74	0.49	1.35	55.03	ppb
Selenium	77-2	0.10	-0.24	0.46	0.11	320.75	ppb
Selenium	78-2	-2.27	-2.12	0.30	-1.37		ppb
Silicon	28-1	3.94	3.78	2.53	3.42	22.62	ppb
Silver	107-1	0.13	0.12	0.10	0.12	10.62	ppb
Silver	109-1	0.11	0.12	0.09	0.11	14.79	ppb
Sodium	23-2	500926.73	500721.71	497891.86	499846.77	0.34	ppb
Strontium	86-1	4.15	3.89	3.92	3.99	3.50	ppb
Strontium	88-1	4.11	3.98	3.94	4.01	2.27	ppb
Sulfur	34-1	-476.31	-129.11	-249.09	-284.84		ppb
Terbium	159-1				110		%
Terbium	159-2				109		%
Thallium	203-1	0.15	0.13	0.11	0.13	16.87	ppb
Thallium	205-1	0.14	0.12	0.11	0.12	10.49	ppb
Tin	118-1	0.47	0.45	0.47	0.46	2.55	ppb
Titanium	47-1	1.28	1.43	1.32	1.34	5.90	ppb

LB Number :

LB133196

Operator :

Jaswal

Lab Sample ID :

S08

Instrumnet Name :

P7

Client Sample ID :

S08

Dilution Factor :

1

Date & Time Acquired :

2024-10-29 18:37:25

DataFile Name :

012CALS.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Uranium	238-1	0.06	0.05	0.05	0.05	9.68	ppb
Vanadium	51-2	0.22	0.20	0.25	0.22	11.67	ppb
Yttrium	89-1				106		%
Yttrium	89-2				104		%
Zinc	66-2	8.83	8.58	9.50	8.97	5.34	ppb
Zirconium	90-1	0.54	0.52	0.53	0.53	1.80	ppb
Zirconium	91-1	0.56	0.57	0.52	0.55	4.30	ppb

LB Number :

LB133196

Operator :

Jaswal

Lab Sample ID :

ICV006

Instrumnet Name :

P7

Client Sample ID :

ICV006

Dilution Factor :

1

Date & Time Acquired :

2024-10-29 18:42:33

DataFile Name :

013ICV.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Aluminium	27-2	499.49	459.27	485.42	481.39	4.24	ppb
Antimony	121-1	187.76	188.51	190.75	189.01	0.82	ppb
Arsenic	75-2	213.77	194.54	205.78	204.69	4.72	ppb
Barium	135-1	91.14	91.36	92.60	91.70	0.85	ppb
Barium	137-1	90.47	91.61	91.38	91.15	0.66	ppb
Beryllium	9-1	100.80	102.86	102.91	102.19	1.18	ppb
Bismuth	209-1				102		%
Bismuth	209-2				101		%
Bromine	81-1						cps
Bromine	81-2						cps
Cadmium	108-1	91.71	94.29	93.92	93.31	1.49	ppb
Cadmium	106-1	93.24	90.00	92.68	91.97	1.88	ppb
Cadmium	111-1	101.71	103.13	103.42	102.75	0.89	ppb
Calcium	43-1	1971.38	1991.10	2033.74	1998.74	1.59	ppb
Calcium	44-1	1981.20	2027.92	2042.41	2017.18	1.59	ppb
Carbon	12-1						cps
Carbon	12-2						cps
Chlorine	35-1						cps
Chlorine	35-2						cps
Chromium	52-2	107.59	96.75	103.86	102.73	5.36	ppb
Cobalt	59-2	106.48	95.74	103.85	102.02	5.49	ppb
Copper	63-2	98.85	90.29	95.44	94.86	4.54	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				104		%
Indium	115-2				100		%
Iron	56-2	2174.68	1951.78	2081.94	2069.47	5.41	ppb
Iron	57-2	2162.61	1949.66	2130.36	2080.88	5.52	ppb
Iron	54-2	2298.74	2041.39	2232.23	2190.79	6.10	ppb
Krypton	83-1						cps

LB Number : LB133196 Operator : Jaswal
Lab Sample ID : ICV006 Instrumnet Name : P7
Client Sample ID : ICV006 Dilution Factor : 1
Date & Time Acquired : 2024-10-29 18:42:33 DataFile Name : 013ICV.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Lead	206-1	192.47	192.10	195.55	193.37	0.98	ppb
Lead	207-1	182.14	182.85	185.91	183.63	1.09	ppb
Lead	208-1	186.29	186.50	189.74	187.51	1.03	ppb
Lithium	6-1				105		%
Magnesium	24-2	1292.87	1160.34	1251.15	1234.79	5.49	ppb
Manganese	55-2	106.59	93.91	101.15	100.55	6.33	ppb
Molybdenum	94-1	0.31	0.30	0.28	0.30	4.95	ppb
Molybdenum	95-1	0.10	0.09	0.07	0.09	17.58	ppb
Molybdenum	96-1	0.11	0.12	0.14	0.12	9.33	ppb
Molybdenum	97-1	0.09	0.05	0.05	0.06	35.10	ppb
Molybdenum	98-1	0.07	0.08	0.07	0.07	4.31	ppb
Neodymium	150-1						cps
Neodymium	150-2						cps
Nickel	60-2	111.74	99.14	107.03	105.97	6.01	ppb
Phosphorus	31-2	-8.13	-17.62	-11.16	-12.30		ppb
Potassium	39-2	2145.42	1935.05	2091.07	2057.18	5.31	ppb
Rhodium	103-1				101		%
Rhodium	103-2				102		%
Scandium	45-1				104		%
Scandium	45-2				102		%
Selenium	82-1	209.09	209.32	210.53	209.65	0.37	ppb
Selenium	77-2	213.66	193.04	225.50	210.73	7.79	ppb
Selenium	78-2	226.43	201.65	221.93	216.67	6.09	ppb
Silicon	28-1	-0.62	-0.35	-0.24	-0.40		ppb
Silver	107-1	46.91	47.43	46.87	47.07	0.66	ppb
Silver	109-1	46.69	47.33	46.94	46.99	0.68	ppb
Sodium	23-2	2219.51	1979.92	2147.47	2115.63	5.81	ppb
Strontium	86-1	0.29	0.26	0.32	0.29	11.36	ppb
Strontium	88-1	0.33	0.31	0.32	0.32	2.58	ppb
Sulfur	34-1	-347.65	-244.63	-383.83	-325.37		ppb
Terbium	159-1				104		%
Terbium	159-2				102		%
Thallium	203-1	189.56	190.70	193.09	191.12	0.94	ppb
Thallium	205-1	218.41	218.14	221.42	219.32	0.83	ppb
Tin	118-1	0.11	0.13	0.15	0.13	14.20	ppb
Titanium	47-1	0.04	0.02	0.09	0.05	76.29	ppb

LB Number : LB133196 Operator : Jaswal
Lab Sample ID : ICV006 Instrumnet Name : P7
Client Sample ID : ICV006 Dilution Factor : 1
Date & Time Acquired : 2024-10-29 18:42:33 DataFile Name : 013ICV.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Uranium	238-1	0.00	0.00	0.00	0.00		ppb
Vanadium	51-2	104.32	93.69	101.46	99.83	5.51	ppb
Yttrium	89-1				102		%
Yttrium	89-2				101		%
Zinc	66-2	203.92	184.88	198.51	195.77	5.01	ppb
Zirconium	90-1	0.13	0.11	0.08	0.10	23.21	ppb
Zirconium	91-1	0.15	0.17	0.15	0.16	6.42	ppb

LB Number : LB133196 Operator : Jaswal
Lab Sample ID : ICB006 Instrumnet Name : P7
Client Sample ID : ICB006 Dilution Factor : 1
Date & Time Acquired : 2024-10-29 18:45:49 DataFile Name : 014CCBE.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Aluminium	27-2	0.14	0.02	-0.13	0.01	1235.96	ppb
Antimony	121-1	0.14	0.12	0.14	0.13	5.81	ppb
Arsenic	75-2	0.04	0.04	0.05	0.04	11.27	ppb
Barium	135-1	0.04	0.00	0.00	0.01	187.96	ppb
Barium	137-1	0.01	0.01	0.01	0.01	52.10	ppb
Beryllium	9-1	-0.01	0.01	0.05	0.02	194.87	ppb
Bismuth	209-1				102		%
Bismuth	209-2				101		%
Bromine	81-1						cps
Bromine	81-2						cps
Cadmium	108-1	0.07	0.07	0.07	0.07	1.71	ppb
Cadmium	106-1	0.90	0.91	1.00	0.94	6.16	ppb
Cadmium	111-1	0.08	0.08	0.08	0.08	5.30	ppb
Calcium	43-1	3.35	-1.23	0.66	0.93	247.70	ppb
Calcium	44-1	3.81	0.88	3.07	2.58	58.88	ppb
Carbon	12-1						cps
Carbon	12-2						cps
Chlorine	35-1						cps
Chlorine	35-2						cps
Chromium	52-2	-0.01	0.01	0.00	0.00		ppb
Cobalt	59-2	0.00	0.01	0.00	0.00	227.95	ppb
Copper	63-2	-0.07	-0.09	-0.07	-0.08		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				101		%
Indium	115-1				101		%
Indium	115-2				101		%
Iron	56-2	1.02	1.30	1.08	1.13	12.92	ppb
Iron	57-2	0.20	5.39	1.35	2.31	117.94	ppb
Iron	54-2	0.66	1.11	0.75	0.84	28.19	ppb
Krypton	83-1						cps

LB Number : LB133196

Operator : Jaswal

Lab Sample ID : ICB006

Instrumnet Name : P7

Client Sample ID : ICB006

Dilution Factor : 1

Date & Time Acquired : 2024-10-29 18:45:49

DataFile Name : 014CCBE.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Lead	206-1	0.07	0.06	0.04	0.05	25.75	ppb
Lead	207-1	0.07	0.05	0.04	0.06	24.73	ppb
Lead	208-1	0.07	0.06	0.05	0.06	21.23	ppb
Lithium	6-1				103		%
Magnesium	24-2	2.15	2.05	2.19	2.13	3.30	ppb
Manganese	55-2	0.03	0.02	0.01	0.02	54.97	ppb
Molybdenum	94-1	0.08	0.10	0.11	0.09	17.22	ppb
Molybdenum	95-1	0.02	0.02	0.02	0.02	15.48	ppb
Molybdenum	96-1	0.04	0.03	0.04	0.04	16.80	ppb
Molybdenum	97-1	0.03	0.01	0.03	0.02	46.20	ppb
Molybdenum	98-1	0.02	0.01	0.01	0.01	26.40	ppb
Neodymium	150-1						cps
Neodymium	150-2						cps
Nickel	60-2	-0.05	-0.04	-0.05	-0.05		ppb
Phosphorus	31-2	-16.02	-18.26	-10.48	-14.92		ppb
Potassium	39-2	3.00	3.27	5.97	4.08	40.29	ppb
Rhodium	103-1				100		%
Rhodium	103-2				102		%
Scandium	45-1				101		%
Scandium	45-2				101		%
Selenium	82-1	0.25	-0.77	0.55	0.01	10617.04	ppb
Selenium	77-2	0.11	0.11	0.11	0.11	0.82	ppb
Selenium	78-2	-0.04	0.83	-0.50	0.10	694.55	ppb
Silicon	28-1	-0.66	-0.22	0.41	-0.15		ppb
Silver	107-1	0.04	0.03	0.02	0.03	29.15	ppb
Silver	109-1	0.03	0.03	0.02	0.03	21.70	ppb
Sodium	23-2	35.61	36.94	34.41	35.65	3.54	ppb
Strontium	86-1	-0.03	0.01	-0.03	-0.02		ppb
Strontium	88-1	0.00	-0.01	-0.01	-0.01		ppb
Sulfur	34-1	-297.75	-262.20	-99.24	-219.73		ppb
Terbium	159-1				101		%
Terbium	159-2				103		%
Thallium	203-1	0.03	0.03	0.02	0.03	11.59	ppb
Thallium	205-1	0.04	0.03	0.03	0.03	15.32	ppb
Tin	118-1	0.03	0.08	0.11	0.07	54.98	ppb
Titanium	47-1	0.00	0.02	0.03	0.01	111.02	ppb

LB Number :

LB133196

Operator :

Jaswal

Lab Sample ID :

ICB006

Instrumnet Name :

P7

Client Sample ID :

ICB006

Dilution Factor :

1

Date & Time Acquired :

2024-10-29 18:45:49

DataFile Name :

014CCBE.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Uranium	238-1	0.00	0.00	-0.01	0.00		ppb
Vanadium	51-2	0.00	0.00	0.00	0.00	128.68	ppb
Yttrium	89-1				100		%
Yttrium	89-2				102		%
Zinc	66-2	0.05	0.09	0.04	0.06	44.21	ppb
Zirconium	90-1	0.05	0.04	0.04	0.04	9.05	ppb
Zirconium	91-1	0.05	0.05	0.06	0.05	8.13	ppb

LB Number :LB133196Operator :Jaswal

Lab Sample ID :ICSA006Instrumnet Name :P7

Client Sample ID :ICSA006Dilution Factor :1

Date & Time Acquired :2024-10-29 18:49:07DataFile Name :015ICSA.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Aluminium	27-2	90369.95	90193.70	90768.60	90444.08	0.33	ppb
Antimony	121-1	1.14	1.12	1.14	1.13	0.94	ppb
Arsenic	75-2	0.38	0.33	0.30	0.34	11.16	ppb
Barium	135-1	1.47	1.37	1.22	1.35	9.27	ppb
Barium	137-1	1.36	1.35	1.36	1.36	0.67	ppb
Beryllium	9-1	0.33	0.31	0.28	0.31	7.72	ppb
Bismuth	209-1				105		%
Bismuth	209-2				100		%
Bromine	81-1						cps
Bromine	81-2						cps
Cadmium	108-1	6.44	5.73	5.34	5.83	9.56	ppb
Cadmium	106-1	-0.08	0.29	-0.24	-0.01		ppb
Cadmium	111-1	0.29	0.29	0.30	0.29	1.96	ppb
Calcium	43-1	95583.44	100349.44	98642.26	98191.72	2.46	ppb
Calcium	44-1	96011.64	99598.91	98534.98	98048.51	1.88	ppb
Carbon	12-1						cps
Carbon	12-2						cps
Chlorine	35-1						cps
Chlorine	35-2						cps
Chromium	52-2	19.83	19.78	19.55	19.72	0.76	ppb
Cobalt	59-2	1.24	1.23	1.25	1.24	0.85	ppb
Copper	63-2	7.13	7.06	7.08	7.09	0.48	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				107		%
Holmium	165-2				107		%
Indium	115-1				103		%
Indium	115-2				102		%
Iron	56-2	102842.49	101420.28	101522.19	101928.32	0.78	ppb
Iron	57-2	100693.91	100768.42	100005.32	100489.22	0.42	ppb
Iron	54-2	101864.90	102018.53	102289.92	102057.78	0.21	ppb
Krypton	83-1						cps

LB Number : LB133196 Operator : Jaswal
Lab Sample ID : ICSA006 Instrumnet Name : P7
Client Sample ID : ICSA006 Dilution Factor : 1
Date & Time Acquired : 2024-10-29 18:49:07 DataFile Name : 015ICSA.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Lead	206-1	4.16	4.28	4.35	4.26	2.24	ppb
Lead	207-1	3.50	3.87	4.02	3.80	7.02	ppb
Lead	208-1	3.82	4.05	4.16	4.01	4.22	ppb
Lithium	6-1				111		%
Magnesium	24-2	98006.17	97204.94	97010.55	97407.22	0.54	ppb
Manganese	55-2	8.71	8.76	8.47	8.65	1.77	ppb
Molybdenum	94-1	1500.31	1478.95	1514.28	1497.85	1.19	ppb
Molybdenum	95-1	1786.02	1778.77	1792.12	1785.64	0.37	ppb
Molybdenum	96-1	1737.63	1743.44	1737.80	1739.62	0.19	ppb
Molybdenum	97-1	1727.01	1762.26	1772.40	1753.89	1.36	ppb
Molybdenum	98-1	1750.81	1793.12	1771.83	1771.92	1.19	ppb
Neodymium	150-1						cps
Neodymium	150-2						cps
Nickel	60-2	5.36	5.34	5.62	5.44	2.84	ppb
Phosphorus	31-2	102118.68	101112.30	100366.77	101199.25	0.87	ppb
Potassium	39-2	98087.13	97258.83	96652.89	97332.95	0.74	ppb
Rhodium	103-1				99		%
Rhodium	103-2				101		%
Scandium	45-1				107		%
Scandium	45-2				105		%
Selenium	82-1	0.65	0.30	0.29	0.41	48.99	ppb
Selenium	77-2	0.11	0.11	-0.24	-0.01		ppb
Selenium	78-2	-0.45	-0.48	-0.24	-0.39		ppb
Silicon	28-1	4.67	4.57	3.80	4.35	10.99	ppb
Silver	107-1	0.13	0.09	0.10	0.11	18.91	ppb
Silver	109-1	0.11	0.10	0.11	0.11	8.61	ppb
Sodium	23-2	99322.47	98105.43	99123.23	98850.37	0.66	ppb
Strontium	86-1	33.75	34.68	34.76	34.40	1.63	ppb
Strontium	88-1	33.61	33.62	33.72	33.65	0.18	ppb
Sulfur	34-1	96176.45	100728.92	98821.86	98575.74	2.32	ppb
Terbium	159-1				107		%
Terbium	159-2				107		%
Thallium	203-1	0.13	0.15	0.16	0.15	12.07	ppb
Thallium	205-1	0.13	0.15	0.15	0.14	10.26	ppb
Tin	118-1	0.22	0.22	0.23	0.23	3.35	ppb
Titanium	47-1	1802.50	1810.10	1763.40	1792.00	1.40	ppb

LB Number :

LB133196

Operator :

Jaswal

Lab Sample ID :

ICSA006

Instrumnet Name :

P7

Client Sample ID :

ICSA006

Dilution Factor :

1

Date & Time Acquired :

2024-10-29 18:49:07

DataFile Name :

015ICSA.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Uranium	238-1	0.02	0.02	0.02	0.02	18.15	ppb
Vanadium	51-2	0.19	0.17	0.19	0.19	5.58	ppb
Yttrium	89-1				104		%
Yttrium	89-2				104		%
Zinc	66-2	12.24	12.15	12.32	12.24	0.71	ppb
Zirconium	90-1	0.03	0.03	0.03	0.03	2.69	ppb
Zirconium	91-1	0.05	0.06	0.04	0.05	20.02	ppb

LB Number : LB133196 Operator : Jaswal
Lab Sample ID : ICSAB006 Instrumnet Name : P7
Client Sample ID : ICSAB006 Dilution Factor : 1
Date & Time Acquired : 2024-10-29 18:52:10 DataFile Name : 016ICSB.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Aluminium	27-2	89112.92	89210.51	89021.74	89115.06	0.11	ppb
Antimony	121-1	19.44	19.07	19.44	19.32	1.11	ppb
Arsenic	75-2	19.72	20.05	20.65	20.14	2.32	ppb
Barium	135-1	19.40	19.39	19.69	19.49	0.90	ppb
Barium	137-1	18.83	19.00	19.33	19.05	1.33	ppb
Beryllium	9-1	18.90	20.67	21.80	20.46	7.14	ppb
Bismuth	209-1				107		%
Bismuth	209-2				103		%
Bromine	81-1						cps
Bromine	81-2						cps
Cadmium	108-1	22.39	21.45	23.85	22.56	5.34	ppb
Cadmium	106-1	17.82	16.63	17.41	17.29	3.48	ppb
Cadmium	111-1	19.73	19.55	19.28	19.52	1.15	ppb
Calcium	43-1	92896.06	98479.28	97143.74	96173.03	3.03	ppb
Calcium	44-1	94137.10	98409.33	97327.07	96624.50	2.30	ppb
Carbon	12-1						cps
Carbon	12-2						cps
Chlorine	35-1						cps
Chlorine	35-2						cps
Chromium	52-2	38.93	39.78	39.03	39.25	1.18	ppb
Cobalt	59-2	20.33	20.55	20.53	20.47	0.59	ppb
Copper	63-2	25.60	26.08	25.45	25.71	1.29	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				111		%
Holmium	165-2				109		%
Indium	115-1				107		%
Indium	115-2				104		%
Iron	56-2	99968.75	100034.20	98959.44	99654.13	0.60	ppb
Iron	57-2	99403.69	99884.10	98316.11	99201.30	0.81	ppb
Iron	54-2	100776.84	100941.61	99752.61	100490.35	0.64	ppb
Krypton	83-1						cps

LB Number : LB133196 Operator : Jaswal
Lab Sample ID : ICSAB006 Instrumnet Name : P7
Client Sample ID : ICSAB006 Dilution Factor : 1
Date & Time Acquired : 2024-10-29 18:52:10 DataFile Name : 016ICSB.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Lead	206-1	23.22	24.41	25.21	24.28	4.11	ppb
Lead	207-1	21.54	23.33	23.07	22.65	4.26	ppb
Lead	208-1	22.25	23.30	23.59	23.05	3.06	ppb
Lithium	6-1				107		%
Magnesium	24-2	95171.72	97376.05	95252.80	95933.53	1.30	ppb
Manganese	55-2	28.57	27.71	27.64	27.97	1.85	ppb
Molybdenum	94-1	1490.75	1462.56	1502.09	1485.13	1.37	ppb
Molybdenum	95-1	1749.87	1754.20	1781.08	1761.72	0.96	ppb
Molybdenum	96-1	1697.29	1730.40	1753.60	1727.10	1.64	ppb
Molybdenum	97-1	1705.51	1761.21	1808.76	1758.50	2.94	ppb
Molybdenum	98-1	1711.49	1753.77	1797.75	1754.34	2.46	ppb
Neodymium	150-1						cps
Neodymium	150-2						cps
Nickel	60-2	25.32	25.78	25.60	25.57	0.90	ppb
Phosphorus	31-2	100699.31	100801.69	100722.72	100741.24	0.05	ppb
Potassium	39-2	95987.99	97785.67	96582.36	96785.34	0.95	ppb
Rhodium	103-1				103		%
Rhodium	103-2				104		%
Scandium	45-1				107		%
Scandium	45-2				108		%
Selenium	82-1	18.91	20.13	19.83	19.62	3.23	ppb
Selenium	77-2	17.90	19.48	18.81	18.73	4.23	ppb
Selenium	78-2	21.80	15.07	16.75	17.87	19.61	ppb
Silicon	28-1	5.48	8.06	8.81	7.45	23.44	ppb
Silver	107-1	17.81	17.41	17.68	17.64	1.15	ppb
Silver	109-1	17.20	17.44	17.31	17.31	0.68	ppb
Sodium	23-2	96257.96	98202.09	97694.77	97384.94	1.04	ppb
Strontium	86-1	33.14	32.74	32.99	32.96	0.61	ppb
Strontium	88-1	33.02	33.44	33.85	33.43	1.25	ppb
Sulfur	34-1	93584.20	101219.70	98760.09	97854.66	3.98	ppb
Terbium	159-1				111		%
Terbium	159-2				110		%
Thallium	203-1	18.77	19.92	19.82	19.50	3.25	ppb
Thallium	205-1	19.08	19.68	19.56	19.44	1.64	ppb
Tin	118-1	0.57	0.67	0.68	0.64	9.39	ppb
Titanium	47-1	1752.84	1818.73	1806.52	1792.70	1.96	ppb

LB Number :

LB133196

Operator :

Jaswal

Lab Sample ID :

ICSAB006

Instrumnet Name :

P7

Client Sample ID :

ICSAB006

Dilution Factor :

1

Date & Time Acquired :

2024-10-29 18:52:10

DataFile Name :

016ICSB.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Uranium	238-1	0.03	0.02	0.07	0.04	68.41	ppb
Vanadium	51-2	19.59	19.74	19.50	19.61	0.62	ppb
Yttrium	89-1				107		%
Yttrium	89-2				106		%
Zinc	66-2	37.10	35.92	37.43	36.81	2.16	ppb
Zirconium	90-1	0.02	0.03	0.04	0.03	38.05	ppb
Zirconium	91-1	0.05	0.02	0.05	0.04	36.74	ppb

LB Number :LB133196Operator :Jaswal

Lab Sample ID :CCV029Instrumnet Name :P7

Client Sample ID :CCV029Dilution Factor :1

Date & Time Acquired :2024-10-29 18:55:16DataFile Name :017CCV.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Aluminium	27-2	50390.42	50077.89	49842.96	50103.76	0.55	ppb
Antimony	121-1	477.21	491.12	507.05	491.79	3.04	ppb
Arsenic	75-2	545.19	546.68	535.49	542.46	1.12	ppb
Barium	135-1	2492.08	2499.97	2515.08	2502.38	0.47	ppb
Barium	137-1	2463.83	2493.49	2546.06	2501.13	1.67	ppb
Beryllium	9-1	512.71	523.82	526.18	520.91	1.38	ppb
Bismuth	209-1				106		%
Bismuth	209-2				101		%
Bromine	81-1						cps
Bromine	81-2						cps
Cadmium	108-1	506.21	509.21	528.26	514.56	2.32	ppb
Cadmium	106-1	500.12	519.39	527.54	515.68	2.73	ppb
Cadmium	111-1	504.65	516.95	525.06	515.55	1.99	ppb
Calcium	43-1	247375.70	256902.11	257755.17	254010.99	2.27	ppb
Calcium	44-1	245524.31	249839.83	253886.49	249750.21	1.67	ppb
Carbon	12-1						cps
Carbon	12-2						cps
Chlorine	35-1						cps
Chlorine	35-2						cps
Chromium	52-2	497.77	505.12	488.19	497.03	1.71	ppb
Cobalt	59-2	519.35	520.99	520.06	520.13	0.16	ppb
Copper	63-2	5076.10	5013.30	4983.08	5024.16	0.94	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				111		%
Holmium	165-2				109		%
Indium	115-1				108		%
Indium	115-2				102		%
Iron	56-2	128241.51	127064.55	125249.31	126851.79	1.19	ppb
Iron	57-2	126609.38	127780.46	124913.38	126434.41	1.14	ppb
Iron	54-2	127016.80	128236.42	125898.37	127050.53	0.92	ppb
Krypton	83-1						cps

LB Number : LB133196 Operator : Jaswal
Lab Sample ID : CCV029 Instrumnet Name : P7
Client Sample ID : CCV029 Dilution Factor : 1
Date & Time Acquired : 2024-10-29 18:55:16 DataFile Name : 017CCV.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Lead	206-1	2488.49	2596.30	2547.62	2544.13	2.12	ppb
Lead	207-1	2457.30	2561.78	2524.19	2514.42	2.10	ppb
Lead	208-1	2460.34	2553.93	2524.35	2512.87	1.90	ppb
Lithium	6-1				102		%
Magnesium	24-2	251463.65	251492.93	248980.10	250645.56	0.58	ppb
Manganese	55-2	4933.11	4924.49	4833.51	4897.04	1.13	ppb
Molybdenum	94-1	4790.09	5016.93	5065.53	4957.52	2.97	ppb
Molybdenum	95-1	4778.12	4994.51	5030.66	4934.43	2.77	ppb
Molybdenum	96-1	4781.90	4922.62	5008.44	4904.32	2.33	ppb
Molybdenum	97-1	4833.81	4877.68	4965.45	4892.31	1.37	ppb
Molybdenum	98-1	4886.13	4973.72	5003.74	4954.53	1.23	ppb
Neodymium	150-1						cps
Neodymium	150-2						cps
Nickel	60-2	517.90	513.62	509.48	513.67	0.82	ppb
Phosphorus	31-2	10241.48	10204.75	10103.06	10183.10	0.70	ppb
Potassium	39-2	124896.91	125719.54	124837.99	125151.48	0.39	ppb
Rhodium	103-1				102		%
Rhodium	103-2				102		%
Scandium	45-1				109		%
Scandium	45-2				110		%
Selenium	82-1	509.89	522.55	524.05	518.83	1.50	ppb
Selenium	77-2	529.00	511.71	516.92	519.21	1.71	ppb
Selenium	78-2	533.33	530.56	531.12	531.67	0.28	ppb
Silicon	28-1	2476.29	2487.04	2544.04	2502.46	1.46	ppb
Silver	107-1	499.40	507.48	517.96	508.28	1.83	ppb
Silver	109-1	505.92	507.38	519.35	510.88	1.44	ppb
Sodium	23-2	251722.20	246932.21	247125.23	248593.21	1.09	ppb
Strontium	86-1	12014.57	12323.19	12525.02	12287.59	2.09	ppb
Strontium	88-1	11880.49	12380.20	12519.83	12260.17	2.74	ppb
Sulfur	34-1	8485.65	8913.72	9168.66	8856.01	3.90	ppb
Terbium	159-1				112		%
Terbium	159-2				108		%
Thallium	203-1	493.91	517.50	505.09	505.50	2.33	ppb
Thallium	205-1	498.51	522.78	506.13	509.14	2.44	ppb
Tin	118-1	468.28	487.64	490.63	482.18	2.52	ppb
Titanium	47-1	4915.66	4901.53	5080.87	4966.02	2.01	ppb

LB Number :

LB133196

Operator :

Jaswal

Lab Sample ID :

CCV029

Instrumnet Name :

P7

Client Sample ID :

CCV029

Dilution Factor :

1

Date & Time Acquired :

2024-10-29 18:55:16

DataFile Name :

017CCV.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Uranium	238-1	498.83	522.34	520.51	513.90	2.54	ppb
Vanadium	51-2	504.30	511.26	504.94	506.83	0.76	ppb
Yttrium	89-1				110		%
Yttrium	89-2				106		%
Zinc	66-2	5119.13	5198.70	5062.15	5126.66	1.34	ppb
Zirconium	90-1	494.79	512.15	507.29	504.75	1.77	ppb
Zirconium	91-1	481.56	499.33	497.89	492.93	2.00	ppb

LB Number :LB133196Operator :Jaswal

Lab Sample ID :CCB029Instrumnet Name :P7

Client Sample ID :CCB029Dilution Factor :1

Date & Time Acquired :2024-10-29 18:58:02DataFile Name :018CCBE.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Aluminium	27-2	4.54	4.74	4.43	4.57	3.48	ppb
Antimony	121-1	0.35	0.31	0.32	0.33	7.67	ppb
Arsenic	75-2	0.01	0.04	0.06	0.04	59.11	ppb
Barium	135-1	0.15	0.14	0.16	0.15	7.45	ppb
Barium	137-1	0.18	0.15	0.15	0.16	11.50	ppb
Beryllium	9-1	0.10	0.08	0.06	0.08	23.49	ppb
Bismuth	209-1				107		%
Bismuth	209-2				104		%
Bromine	81-1						cps
Bromine	81-2						cps
Cadmium	108-1	-0.01	0.03	0.16	0.06	145.93	ppb
Cadmium	106-1	-0.03	1.23	0.94	0.71	92.74	ppb
Cadmium	111-1	0.07	0.15	0.12	0.11	34.90	ppb
Calcium	43-1	32.67	27.84	28.06	29.52	9.24	ppb
Calcium	44-1	34.22	30.97	34.38	33.19	5.81	ppb
Carbon	12-1						cps
Carbon	12-2						cps
Chlorine	35-1						cps
Chlorine	35-2						cps
Chromium	52-2	-0.01	-0.01	0.01	0.00		ppb
Cobalt	59-2	0.03	0.02	0.04	0.03	36.71	ppb
Copper	63-2	0.30	0.26	0.25	0.27	9.79	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				107		%
Holmium	165-2				105		%
Indium	115-1				107		%
Indium	115-2				104		%
Iron	56-2	9.60	9.68	9.79	9.69	0.98	ppb
Iron	57-2	8.19	8.15	10.57	8.97	15.42	ppb
Iron	54-2	8.98	8.64	9.44	9.02	4.49	ppb
Krypton	83-1						cps

LB Number :

LB133196

Operator :

Jaswal

Lab Sample ID :

CCB029

Instrumnet Name :

P7

Client Sample ID :

CCB029

Dilution Factor :

1

Date & Time Acquired :

2024-10-29 18:58:02

DataFile Name :

018CCBE.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Lead	206-1	0.23	0.21	0.21	0.22	3.42	ppb
Lead	207-1	0.21	0.22	0.19	0.20	6.51	ppb
Lead	208-1	0.23	0.20	0.19	0.21	8.54	ppb
Lithium	6-1				100		%
Magnesium	24-2	16.58	16.98	17.06	16.87	1.52	ppb
Manganese	55-2	0.58	0.53	0.55	0.55	4.08	ppb
Molybdenum	94-1	0.63	0.48	0.55	0.55	13.38	ppb
Molybdenum	95-1	0.51	0.42	0.44	0.46	10.54	ppb
Molybdenum	96-1	0.48	0.39	0.43	0.43	9.36	ppb
Molybdenum	97-1	0.48	0.41	0.38	0.42	12.16	ppb
Molybdenum	98-1	0.48	0.40	0.44	0.44	9.91	ppb
Neodymium	150-1						cps
Neodymium	150-2						cps
Nickel	60-2	0.03	0.03	0.04	0.03	25.79	ppb
Phosphorus	31-2	-9.22	-18.02	-11.29	-12.84		ppb
Potassium	39-2	26.41	21.74	23.08	23.74	10.13	ppb
Rhodium	103-1				106		%
Rhodium	103-2				105		%
Scandium	45-1				105		%
Scandium	45-2				105		%
Selenium	82-1	0.21	0.61	0.80	0.54	56.20	ppb
Selenium	77-2	-0.24	0.10	-0.24	-0.12		ppb
Selenium	78-2	-2.09	0.72	0.63	-0.25		ppb
Silicon	28-1	-1.31	-1.82	-1.58	-1.57		ppb
Silver	107-1	0.07	0.06	0.05	0.06	13.35	ppb
Silver	109-1	0.07	0.06	0.06	0.06	13.12	ppb
Sodium	23-2	74.36	73.97	71.47	73.27	2.14	ppb
Strontium	86-1	0.74	0.62	0.65	0.67	8.73	ppb
Strontium	88-1	0.72	0.64	0.62	0.66	8.31	ppb
Sulfur	34-1	-708.06	-769.25	-732.79	-736.70		ppb
Terbium	159-1				108		%
Terbium	159-2				105		%
Thallium	203-1	0.14	0.10	0.10	0.11	23.07	ppb
Thallium	205-1	0.14	0.11	0.11	0.12	13.86	ppb
Tin	118-1	0.18	0.19	0.21	0.19	8.59	ppb
Titanium	47-1	0.42	0.30	0.46	0.39	21.06	ppb

LB Number :

LB133196

Operator :

Jaswal

Lab Sample ID :

CCB029

Instrumnet Name :

P7

Client Sample ID :

CCB029

Dilution Factor :

1

Date & Time Acquired :

2024-10-29 18:58:02

DataFile Name :

018CCBE.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Uranium	238-1	0.03	0.02	0.02	0.02	23.24	ppb
Vanadium	51-2	0.03	0.02	0.03	0.03	14.57	ppb
Yttrium	89-1				105		%
Yttrium	89-2				104		%
Zinc	66-2	1.34	1.38	1.22	1.31	6.44	ppb
Zirconium	90-1	0.13	0.09	0.08	0.10	22.71	ppb
Zirconium	91-1	0.13	0.12	0.11	0.12	9.42	ppb

LB Number :

LB133196

Operator :

Jaswal

Lab Sample ID :

PB164339BL

Instrumnet Name :

P7

Client Sample ID :

PBW339

Dilution Factor :

1

Date & Time Acquired :

2024-10-29 19:01:21

DataFile Name :

019CCBE.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Aluminium	27-2	2.86	2.86	2.82	2.84	0.72	ppb
Antimony	121-1	0.10	0.11	0.11	0.11	5.11	ppb
Arsenic	75-2	0.06	0.02	0.03	0.04	47.49	ppb
Barium	135-1	0.08	0.07	0.10	0.08	16.95	ppb
Barium	137-1	0.09	0.08	0.07	0.08	13.75	ppb
Beryllium	9-1	0.05	0.02	0.03	0.04	41.31	ppb
Bismuth	209-1				103		%
Bismuth	209-2				103		%
Bromine	81-1						cps
Bromine	81-2						cps
Cadmium	108-1	0.10	0.00	0.06	0.05	97.01	ppb
Cadmium	106-1	-0.03	0.00	0.05	0.01	506.62	ppb
Cadmium	111-1	0.03	0.01	0.06	0.03	71.63	ppb
Calcium	43-1	11.92	12.49	10.76	11.72	7.52	ppb
Calcium	44-1	10.82	11.92	12.33	11.69	6.70	ppb
Carbon	12-1						cps
Carbon	12-2						cps
Chlorine	35-1						cps
Chlorine	35-2						cps
Chromium	52-2	0.02	-0.03	-0.02	-0.01		ppb
Cobalt	59-2	0.02	0.02	0.02	0.02	11.79	ppb
Copper	63-2	0.08	0.09	0.13	0.10	27.77	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				103		%
Indium	115-2				101		%
Iron	56-2	5.96	5.65	5.39	5.67	4.99	ppb
Iron	57-2	7.62	7.35	6.85	7.27	5.37	ppb
Iron	54-2	7.28	6.85	6.22	6.78	7.92	ppb
Krypton	83-1						cps

LB Number : LB133196 Operator : Jaswal
Lab Sample ID : PB164339BL Instrumnet Name : P7
Client Sample ID : PBW339 Dilution Factor : 1
Date & Time Acquired : 2024-10-29 19:01:21 DataFile Name : 019CCBE.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Lead	206-1	0.12	0.09	0.08	0.10	21.90	ppb
Lead	207-1	0.10	0.09	0.09	0.09	10.83	ppb
Lead	208-1	0.11	0.09	0.09	0.10	11.42	ppb
Lithium	6-1				97		%
Magnesium	24-2	9.98	9.41	9.95	9.78	3.27	ppb
Manganese	55-2	0.23	0.12	0.21	0.19	30.97	ppb
Molybdenum	94-1	0.34	0.30	0.26	0.30	13.99	ppb
Molybdenum	95-1	0.20	0.20	0.17	0.19	8.77	ppb
Molybdenum	96-1	0.25	0.19	0.22	0.22	13.41	ppb
Molybdenum	97-1	0.17	0.19	0.21	0.19	11.83	ppb
Molybdenum	98-1	0.18	0.20	0.17	0.18	10.20	ppb
Neodymium	150-1						cps
Neodymium	150-2						cps
Nickel	60-2	-0.03	0.02	-0.01	0.00		ppb
Phosphorus	31-2	-12.16	-12.26	-17.15	-13.86		ppb
Potassium	39-2	18.18	16.99	14.04	16.40	12.99	ppb
Rhodium	103-1				100		%
Rhodium	103-2				103		%
Scandium	45-1				101		%
Scandium	45-2				102		%
Selenium	82-1	0.36	-0.02	0.14	0.16	119.54	ppb
Selenium	77-2	0.46	-0.24	-0.24	0.00		ppb
Selenium	78-2	-0.75	-0.52	0.35	-0.31		ppb
Silicon	28-1	-1.04	-0.92	-1.46	-1.14		ppb
Silver	107-1	0.03	0.03	0.03	0.03	11.17	ppb
Silver	109-1	0.03	0.03	0.03	0.03	10.37	ppb
Sodium	23-2	46.51	44.34	42.39	44.41	4.64	ppb
Strontium	86-1	0.34	0.36	0.33	0.34	5.02	ppb
Strontium	88-1	0.35	0.34	0.32	0.34	4.99	ppb
Sulfur	34-1	-448.95	-431.06	-628.98	-503.00		ppb
Terbium	159-1				104		%
Terbium	159-2				103		%
Thallium	203-1	0.06	0.07	0.05	0.06	17.63	ppb
Thallium	205-1	0.07	0.07	0.07	0.07	2.01	ppb
Tin	118-1	0.06	0.06	0.13	0.08	49.19	ppb
Titanium	47-1	0.17	0.17	0.20	0.18	8.30	ppb

LB Number :

LB133196

Operator :

Jaswal

Lab Sample ID :

PB164339BL

Instrumnet Name :

P7

Client Sample ID :

PBW339

Dilution Factor :

1

Date & Time Acquired :

2024-10-29 19:01:21

DataFile Name :

019CCBE.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Uranium	238-1	0.01	0.01	0.01	0.01	16.69	ppb
Vanadium	51-2	0.01	0.01	0.01	0.01	21.55	ppb
Yttrium	89-1				101		%
Yttrium	89-2				101		%
Zinc	66-2	0.25	0.07	0.29	0.20	56.26	ppb
Zirconium	90-1	0.10	0.08	0.07	0.08	19.52	ppb
Zirconium	91-1	0.09	0.08	0.08	0.09	9.81	ppb

LB Number :

LB133196

Operator :

Jaswal

Lab Sample ID :

PB164339BS

Instrumnet Name :

P7

Client Sample ID :

LCS339

Dilution Factor :

1

Date & Time Acquired :

2024-10-29 19:04:37

DataFile Name :

020LCSE.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Aluminium	27-2	41.30	42.01	42.11	41.81	1.06	ppb
Antimony	121-1	3.80	3.96	3.91	3.89	2.05	ppb
Arsenic	75-2	2.16	2.24	2.04	2.15	4.68	ppb
Barium	135-1	17.69	17.87	18.06	17.87	1.04	ppb
Barium	137-1	17.68	18.30	18.01	17.99	1.71	ppb
Beryllium	9-1	2.16	2.34	1.86	2.12	11.33	ppb
Bismuth	209-1				104		%
Bismuth	209-2				101		%
Bromine	81-1						cps
Bromine	81-2						cps
Cadmium	108-1	2.47	1.95	2.35	2.26	12.00	ppb
Cadmium	106-1	2.16	2.36	2.97	2.50	17.03	ppb
Cadmium	111-1	2.40	2.41	2.60	2.47	4.52	ppb
Calcium	43-1	957.16	989.10	980.52	975.59	1.69	ppb
Calcium	44-1	963.88	1009.67	1000.09	991.21	2.44	ppb
Carbon	12-1						cps
Carbon	12-2						cps
Chlorine	35-1						cps
Chlorine	35-2						cps
Chromium	52-2	4.63	4.40	4.53	4.52	2.56	ppb
Cobalt	59-2	2.02	2.04	2.08	2.05	1.53	ppb
Copper	63-2	4.27	4.29	4.26	4.28	0.30	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				102		%
Indium	115-1				104		%
Indium	115-2				101		%
Iron	56-2	434.68	432.61	435.22	434.17	0.32	ppb
Iron	57-2	432.23	442.12	431.60	435.31	1.36	ppb
Iron	54-2	432.96	441.53	439.64	438.04	1.03	ppb
Krypton	83-1						cps

LB Number :LB133196Operator :Jaswal

Lab Sample ID :PB164339BSInstrumnet Name :P7

Client Sample ID :LCS339Dilution Factor :1

Date & Time Acquired :2024-10-29 19:04:37DataFile Name :020LCSE.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Lead	206-1	1.71	1.87	1.83	1.80	4.52	ppb
Lead	207-1	1.83	1.82	1.76	1.80	2.21	ppb
Lead	208-1	1.79	1.83	1.76	1.79	2.00	ppb
Lithium	6-1				98		%
Magnesium	24-2	1086.83	1090.03	1082.49	1086.45	0.35	ppb
Manganese	55-2	2.20	2.28	2.32	2.27	2.85	ppb
Molybdenum	94-1	10.42	10.98	10.79	10.73	2.65	ppb
Molybdenum	95-1	8.63	8.95	8.95	8.84	2.07	ppb
Molybdenum	96-1	8.74	9.05	9.16	8.98	2.41	ppb
Molybdenum	97-1	8.80	8.94	8.84	8.86	0.78	ppb
Molybdenum	98-1	8.82	8.90	8.97	8.90	0.86	ppb
Neodymium	150-1						cps
Neodymium	150-2						cps
Nickel	60-2	2.23	2.26	2.20	2.23	1.42	ppb
Phosphorus	31-2	-13.42	-13.82	-11.33	-12.86		ppb
Potassium	39-2	1052.55	1049.92	1059.92	1054.13	0.49	ppb
Rhodium	103-1				101		%
Rhodium	103-2				102		%
Scandium	45-1				102		%
Scandium	45-2				101		%
Selenium	82-1	8.87	10.69	10.12	9.89	9.40	ppb
Selenium	77-2	14.30	12.16	7.44	11.30	31.04	ppb
Selenium	78-2	8.58	8.78	10.06	9.14	8.83	ppb
Silicon	28-1	4.87	5.64	5.49	5.33	7.65	ppb
Silver	107-1	1.77	1.84	1.89	1.83	3.40	ppb
Silver	109-1	1.83	1.88	1.92	1.87	2.47	ppb
Sodium	23-2	1072.44	1068.23	1065.15	1068.61	0.34	ppb
Strontium	86-1	2.23	2.07	2.25	2.19	4.46	ppb
Strontium	88-1	2.14	2.21	2.27	2.20	3.01	ppb
Sulfur	34-1	-630.94	-522.46	-693.53	-615.64		ppb
Terbium	159-1				103		%
Terbium	159-2				102		%
Thallium	203-1	1.74	1.74	1.71	1.73	1.18	ppb
Thallium	205-1	1.69	1.77	1.72	1.73	2.18	ppb
Tin	118-1	0.08	0.09	0.09	0.08	7.36	ppb
Titanium	47-1	8.73	9.27	9.36	9.12	3.75	ppb

LB Number :

LB133196

Operator :

Jaswal

Lab Sample ID :

PB164339BS

Instrumnet Name :

P7

Client Sample ID :

LCS339

Dilution Factor :

1

Date & Time Acquired :

2024-10-29 19:04:37

DataFile Name :

020LCSE.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Uranium	238-1	1.60	1.71	1.59	1.63	3.96	ppb
Vanadium	51-2	10.10	10.37	10.01	10.16	1.86	ppb
Yttrium	89-1				102		%
Yttrium	89-2				101		%
Zinc	66-2	10.41	10.40	10.36	10.39	0.28	ppb
Zirconium	90-1	2.03	2.05	2.04	2.04	0.64	ppb
Zirconium	91-1	1.89	2.02	2.10	2.00	5.24	ppb

LB Number :LB133196Operator :Jaswal

Lab Sample ID :P4322-01Instrumnet Name :P7

Client Sample ID :MYD0L6Dilution Factor :1

Date & Time Acquired :2024-10-29 19:07:56DataFile Name :021SMPL.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Aluminium	27-2	112.21	113.02	111.09	112.11	0.86	ppb
Antimony	121-1	0.06	0.07	0.07	0.07	7.69	ppb
Arsenic	75-2	0.03	0.07	0.02	0.04	72.86	ppb
Barium	135-1	0.14	0.24	0.19	0.19	25.63	ppb
Barium	137-1	0.21	0.20	0.15	0.19	18.10	ppb
Beryllium	9-1	0.04	0.02	0.02	0.03	33.92	ppb
Bismuth	209-1				93		%
Bismuth	209-2				95		%
Bromine	81-1						cps
Bromine	81-2						cps
Cadmium	108-1	0.16	-0.03	0.07	0.07	143.29	ppb
Cadmium	106-1	0.36	0.15	-0.31	0.06	523.15	ppb
Cadmium	111-1	0.07	0.07	0.01	0.05	64.34	ppb
Calcium	43-1	69.22	72.30	67.76	69.76	3.32	ppb
Calcium	44-1	73.92	72.74	72.51	73.05	1.03	ppb
Carbon	12-1						cps
Carbon	12-2						cps
Chlorine	35-1						cps
Chlorine	35-2						cps
Chromium	52-2	0.20	0.22	0.25	0.22	12.14	ppb
Cobalt	59-2	0.02	0.02	0.02	0.02	7.32	ppb
Copper	63-2	1.09	1.18	1.11	1.13	4.35	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				94		%
Holmium	165-2				96		%
Indium	115-1				94		%
Indium	115-2				94		%
Iron	56-2	15.44	17.17	16.69	16.43	5.42	ppb
Iron	57-2	19.62	18.83	19.00	19.15	2.18	ppb
Iron	54-2	22.18	21.19	21.74	21.71	2.28	ppb
Krypton	83-1						cps

LB Number : LB133196 Operator : Jaswal
Lab Sample ID : P4322-01 Instrumnet Name : P7
Client Sample ID : MYD0L6 Dilution Factor : 1
Date & Time Acquired : 2024-10-29 19:07:56 DataFile Name : 021SMPL.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Lead	206-1	0.16	0.14	0.15	0.15	5.94	ppb
Lead	207-1	0.15	0.16	0.14	0.15	8.95	ppb
Lead	208-1	0.16	0.17	0.14	0.15	7.15	ppb
Lithium	6-1				94		%
Magnesium	24-2	44.84	46.19	45.12	45.38	1.56	ppb
Manganese	55-2	0.92	0.85	0.88	0.89	3.73	ppb
Molybdenum	94-1	1.49	0.81	0.54	0.95	51.63	ppb
Molybdenum	95-1	0.15	0.17	0.16	0.16	3.95	ppb
Molybdenum	96-1	0.28	0.23	0.19	0.24	19.06	ppb
Molybdenum	97-1	0.17	0.16	0.13	0.15	14.00	ppb
Molybdenum	98-1	0.17	0.17	0.14	0.16	9.79	ppb
Neodymium	150-1						cps
Neodymium	150-2						cps
Nickel	60-2	0.07	0.12	0.15	0.11	33.50	ppb
Phosphorus	31-2	-3.71	-3.26	-2.92	-3.30		ppb
Potassium	39-2	18.22	19.04	20.98	19.41	7.31	ppb
Rhodium	103-1				92		%
Rhodium	103-2				95		%
Scandium	45-1				93		%
Scandium	45-2				94		%
Selenium	82-1	0.11	-0.26	0.08	-0.02		ppb
Selenium	77-2	0.14	-0.24	-0.24	-0.11		ppb
Selenium	78-2	2.33	0.92	-0.06	1.07	112.73	ppb
Silicon	28-1	6.23	5.13	6.38	5.91	11.55	ppb
Silver	107-1	0.05	0.16	0.02	0.08	97.78	ppb
Silver	109-1	0.05	0.03	0.03	0.04	26.43	ppb
Sodium	23-2	70.25	69.95	66.77	68.99	2.80	ppb
Strontium	86-1	0.40	0.40	0.33	0.38	10.32	ppb
Strontium	88-1	0.34	0.36	0.29	0.33	10.55	ppb
Sulfur	34-1	194.35	-445.83	-306.40	-185.96		ppb
Terbium	159-1				94		%
Terbium	159-2				97		%
Thallium	203-1	0.06	0.04	0.04	0.05	21.79	ppb
Thallium	205-1	0.07	0.05	0.04	0.05	26.28	ppb
Tin	118-1	0.42	0.43	0.43	0.43	1.44	ppb
Titanium	47-1	0.28	0.19	0.21	0.22	21.28	ppb

LB Number :

LB133196

Operator :

Jaswal

Lab Sample ID :

P4322-01

Instrumnet Name :

P7

Client Sample ID :

MYD0L6

Dilution Factor :

1

Date & Time Acquired :

2024-10-29 19:07:56

DataFile Name :

021SMPL.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Uranium	238-1	0.01	0.01	0.01	0.01	15.45	ppb
Vanadium	51-2	0.01	0.04	0.03	0.03	46.15	ppb
Yttrium	89-1				92		%
Yttrium	89-2				93		%
Zinc	66-2	14.69	14.62	14.62	14.64	0.26	ppb
Zirconium	90-1	0.81	0.40	0.29	0.50	55.32	ppb
Zirconium	91-1	0.83	0.42	0.33	0.52	50.81	ppb

LB Number :LB133196Operator :Jaswal

Lab Sample ID :P4322-02Instrumnet Name :P7

Client Sample ID :MYD0Y6Dilution Factor :1

Date & Time Acquired :2024-10-29 19:11:12DataFile Name :022SMPL.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Aluminium	27-2	4.78	4.58	5.72	5.03	12.18	ppb
Antimony	121-1	0.04	0.03	0.05	0.04	14.86	ppb
Arsenic	75-2	0.03	0.04	0.05	0.04	29.76	ppb
Barium	135-1	0.32	0.36	0.34	0.34	5.70	ppb
Barium	137-1	0.37	0.35	0.31	0.34	10.10	ppb
Beryllium	9-1	0.00	0.03	0.00	0.01	211.68	ppb
Bismuth	209-1				94		%
Bismuth	209-2				92		%
Bromine	81-1						cps
Bromine	81-2						cps
Cadmium	108-1	0.16	0.00	0.07	0.08	100.40	ppb
Cadmium	106-1	-0.67	-0.25	-0.73	-0.55		ppb
Cadmium	111-1	-0.04	0.01	-0.03	-0.02		ppb
Calcium	43-1	76.54	75.95	64.58	72.35	9.31	ppb
Calcium	44-1	77.33	72.65	73.40	74.46	3.38	ppb
Carbon	12-1						cps
Carbon	12-2						cps
Chlorine	35-1						cps
Chlorine	35-2						cps
Chromium	52-2	0.15	0.17	0.17	0.16	9.10	ppb
Cobalt	59-2	0.01	0.03	0.02	0.02	61.11	ppb
Copper	63-2	0.54	0.65	0.69	0.63	13.04	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				94		%
Holmium	165-2				94		%
Indium	115-1				94		%
Indium	115-2				91		%
Iron	56-2	7.08	7.84	7.64	7.52	5.21	ppb
Iron	57-2	7.59	11.46	14.29	11.11	30.28	ppb
Iron	54-2	11.43	13.85	12.74	12.67	9.56	ppb
Krypton	83-1						cps

LB Number : LB133196 Operator : Jaswal
Lab Sample ID : P4322-02 Instrumnet Name : P7
Client Sample ID : MYD0Y6 Dilution Factor : 1
Date & Time Acquired : 2024-10-29 19:11:12 DataFile Name : 022SMPL.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Lead	206-1	0.08	0.10	0.10	0.10	11.97	ppb
Lead	207-1	0.09	0.10	0.09	0.09	5.17	ppb
Lead	208-1	0.09	0.09	0.10	0.09	4.46	ppb
Lithium	6-1				96		%
Magnesium	24-2	15.22	16.07	16.90	16.06	5.23	ppb
Manganese	55-2	0.48	0.53	0.49	0.50	5.40	ppb
Molybdenum	94-1	0.36	0.37	0.37	0.37	1.42	ppb
Molybdenum	95-1	0.13	0.15	0.16	0.14	10.37	ppb
Molybdenum	96-1	0.15	0.14	0.15	0.15	1.29	ppb
Molybdenum	97-1	0.13	0.11	0.13	0.12	11.46	ppb
Molybdenum	98-1	0.14	0.11	0.13	0.13	13.67	ppb
Neodymium	150-1						cps
Neodymium	150-2						cps
Nickel	60-2	0.03	0.11	0.12	0.09	52.14	ppb
Phosphorus	31-2	-3.50	-7.28	-0.70	-3.83		ppb
Potassium	39-2	11.74	39.56	30.41	27.24	52.05	ppb
Rhodium	103-1				92		%
Rhodium	103-2				92		%
Scandium	45-1				92		%
Scandium	45-2				90		%
Selenium	82-1	-0.36	0.24	0.51	0.13	340.59	ppb
Selenium	77-2	0.52	-0.24	-0.24	0.02	2874.24	ppb
Selenium	78-2	1.89	3.46	0.08	1.81	93.56	ppb
Silicon	28-1	7.40	5.57	5.91	6.29	15.49	ppb
Silver	107-1	0.02	0.01	0.02	0.02	15.63	ppb
Silver	109-1	0.02	0.02	0.02	0.02	12.16	ppb
Sodium	23-2	65.51	82.54	76.40	74.82	11.53	ppb
Strontium	86-1	0.37	0.37	0.27	0.34	16.36	ppb
Strontium	88-1	0.32	0.32	0.30	0.31	2.48	ppb
Sulfur	34-1	432.17	-206.76	-322.55	-32.38		ppb
Terbium	159-1				95		%
Terbium	159-2				93		%
Thallium	203-1	0.04	0.02	0.02	0.03	37.79	ppb
Thallium	205-1	0.04	0.03	0.04	0.04	8.67	ppb
Tin	118-1	0.44	0.55	0.43	0.47	13.71	ppb
Titanium	47-1	0.22	0.23	0.19	0.21	10.17	ppb

LB Number :

LB133196

Operator :

Jaswal

Lab Sample ID :

P4322-02

Instrumnet Name :

P7

Client Sample ID :

MYD0Y6

Dilution Factor :

1

Date & Time Acquired :

2024-10-29 19:11:12

DataFile Name :

022SMPL.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Uranium	238-1	0.01	0.01	0.01	0.01	26.31	ppb
Vanadium	51-2	0.02	0.01	0.02	0.02	49.65	ppb
Yttrium	89-1				93		%
Yttrium	89-2				90		%
Zinc	66-2	4.15	4.73	4.65	4.51	6.99	ppb
Zirconium	90-1	0.16	0.15	0.15	0.15	1.00	ppb
Zirconium	91-1	0.14	0.14	0.17	0.15	12.43	ppb

LB Number :

LB133196

Operator :

Jaswal

Lab Sample ID :

P4322-03

Instrumnet Name :

P7

Client Sample ID :

MYD0Y8

Dilution Factor :

1

Date & Time Acquired :

2024-10-29 19:14:30

DataFile Name :

023SMPL.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Aluminium	27-2	4.09	3.47	3.67	3.74	8.52	ppb
Antimony	121-1	0.03	0.03	0.03	0.03	10.33	ppb
Arsenic	75-2	0.04	0.00	0.02	0.02	103.91	ppb
Barium	135-1	0.13	0.10	0.12	0.12	9.05	ppb
Barium	137-1	0.12	0.07	0.12	0.10	28.29	ppb
Beryllium	9-1	0.01	0.00	0.00	0.00	104.08	ppb
Bismuth	209-1				97		%
Bismuth	209-2				97		%
Bromine	81-1						cps
Bromine	81-2						cps
Cadmium	108-1	0.00	0.04	-0.07	-0.01		ppb
Cadmium	106-1	1.35	0.00	-0.39	0.32	281.81	ppb
Cadmium	111-1	0.11	0.02	0.00	0.04	132.56	ppb
Calcium	43-1	30.70	19.37	27.84	25.97	22.69	ppb
Calcium	44-1	30.46	29.28	32.41	30.72	5.13	ppb
Carbon	12-1						cps
Carbon	12-2						cps
Chlorine	35-1						cps
Chlorine	35-2						cps
Chromium	52-2	0.14	0.21	0.12	0.16	29.12	ppb
Cobalt	59-2	0.01	0.02	0.01	0.01	38.83	ppb
Copper	63-2	0.67	0.67	0.62	0.65	4.56	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				95		%
Holmium	165-2				98		%
Indium	115-1				96		%
Indium	115-2				97		%
Iron	56-2	10.17	10.32	10.35	10.28	0.97	ppb
Iron	57-2	11.54	11.48	7.69	10.24	21.53	ppb
Iron	54-2	14.37	15.10	15.66	15.04	4.30	ppb
Krypton	83-1						cps

LB Number : LB133196 Operator : Jaswal
Lab Sample ID : P4322-03 Instrumnet Name : P7
Client Sample ID : MYD0Y8 Dilution Factor : 1
Date & Time Acquired : 2024-10-29 19:14:30 DataFile Name : 023SMPL.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Lead	206-1	0.10	0.10	0.11	0.11	4.60	ppb
Lead	207-1	0.08	0.10	0.11	0.10	11.35	ppb
Lead	208-1	0.09	0.10	0.11	0.10	7.42	ppb
Lithium	6-1				98		%
Magnesium	24-2	12.26	13.29	13.19	12.92	4.42	ppb
Manganese	55-2	0.35	0.27	0.29	0.30	13.09	ppb
Molybdenum	94-1	0.29	0.25	0.30	0.28	9.95	ppb
Molybdenum	95-1	0.12	0.10	0.12	0.11	12.08	ppb
Molybdenum	96-1	0.13	0.14	0.13	0.13	3.56	ppb
Molybdenum	97-1	0.10	0.13	0.11	0.11	15.53	ppb
Molybdenum	98-1	0.11	0.09	0.12	0.10	14.56	ppb
Neodymium	150-1						cps
Neodymium	150-2						cps
Nickel	60-2	0.23	0.18	0.24	0.22	15.35	ppb
Phosphorus	31-2	1.41	-5.09	-9.41	-4.36		ppb
Potassium	39-2	12.59	9.83	5.72	9.38	36.87	ppb
Rhodium	103-1				95		%
Rhodium	103-2				98		%
Scandium	45-1				94		%
Scandium	45-2				96		%
Selenium	82-1	0.48	-0.29	0.49	0.23	195.44	ppb
Selenium	77-2	-0.24	0.14	-0.24	-0.11		ppb
Selenium	78-2	-1.67	-2.31	-0.90	-1.63		ppb
Silicon	28-1	5.77	5.11	5.21	5.36	6.55	ppb
Silver	107-1	0.02	0.02	0.01	0.02	15.14	ppb
Silver	109-1	0.01	0.01	0.01	0.01	17.80	ppb
Sodium	23-2	48.60	48.85	45.70	47.72	3.67	ppb
Strontium	86-1	0.28	0.22	0.21	0.24	16.03	ppb
Strontium	88-1	0.22	0.22	0.21	0.22	0.80	ppb
Sulfur	34-1	315.44	-44.72	-147.43	41.10	591.50	ppb
Terbium	159-1				97		%
Terbium	159-2				99		%
Thallium	203-1	0.04	0.03	0.03	0.03	19.85	ppb
Thallium	205-1	0.04	0.03	0.03	0.03	21.96	ppb
Tin	118-1	0.27	0.27	0.25	0.27	5.21	ppb
Titanium	47-1	0.16	0.18	0.24	0.19	21.63	ppb

LB Number :

LB133196

Operator :

Jaswal

Lab Sample ID :

P4322-03

Instrumnet Name :

P7

Client Sample ID :

MYD0Y8

Dilution Factor :

1

Date & Time Acquired :

2024-10-29 19:14:30

DataFile Name :

023SMPL.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Uranium	238-1	0.01	0.01	0.01	0.01	8.55	ppb
Vanadium	51-2	0.00	0.01	0.01	0.01	38.46	ppb
Yttrium	89-1				94		%
Yttrium	89-2				95		%
Zinc	66-2	1.75	1.79	1.80	1.78	1.41	ppb
Zirconium	90-1	0.09	0.08	0.09	0.09	2.59	ppb
Zirconium	91-1	0.10	0.11	0.08	0.10	11.46	ppb

LB Number :

LB133196

Operator :

Jaswal

Lab Sample ID :

P4322-04

Instrumnet Name :

P7

Client Sample ID :

MYD035

Dilution Factor :

1

Date & Time Acquired :

2024-10-29 19:17:46

DataFile Name :

024SMPL.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Aluminium	27-2	4.04	3.35	4.22	3.87	11.94	ppb
Antimony	121-1	0.02	0.03	0.02	0.02	13.89	ppb
Arsenic	75-2	0.02	0.03	0.03	0.02	36.95	ppb
Barium	135-1	0.08	0.14	0.17	0.13	34.06	ppb
Barium	137-1	0.12	0.11	0.16	0.13	22.36	ppb
Beryllium	9-1	0.01	0.02	0.02	0.01	36.63	ppb
Bismuth	209-1				95		%
Bismuth	209-2				97		%
Bromine	81-1						cps
Bromine	81-2						cps
Cadmium	108-1	0.15	0.04	-0.03	0.05	180.25	ppb
Cadmium	106-1	0.20	0.84	-0.26	0.26	215.19	ppb
Cadmium	111-1	0.01	0.09	-0.01	0.03	173.22	ppb
Calcium	43-1	26.23	19.40	30.93	25.52	22.72	ppb
Calcium	44-1	31.78	27.77	31.81	30.46	7.64	ppb
Carbon	12-1						cps
Carbon	12-2						cps
Chlorine	35-1						cps
Chlorine	35-2						cps
Chromium	52-2	0.11	0.15	0.12	0.13	16.48	ppb
Cobalt	59-2	0.01	0.00	0.01	0.01	57.86	ppb
Copper	63-2	0.39	0.32	0.35	0.36	9.87	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				96		%
Holmium	165-2				99		%
Indium	115-1				97		%
Indium	115-2				96		%
Iron	56-2	6.24	5.99	6.38	6.20	3.19	ppb
Iron	57-2	2.30	6.67	6.60	5.19	48.28	ppb
Iron	54-2	9.50	11.28	9.79	10.19	9.37	ppb
Krypton	83-1						cps

LB Number : LB133196 Operator : Jaswal
Lab Sample ID : P4322-04 Instrumnet Name : P7
Client Sample ID : MYD035 Dilution Factor : 1
Date & Time Acquired : 2024-10-29 19:17:46 DataFile Name : 024SMPL.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Lead	206-1	0.08	0.07	0.08	0.08	4.60	ppb
Lead	207-1	0.06	0.05	0.08	0.06	16.96	ppb
Lead	208-1	0.06	0.07	0.07	0.07	9.22	ppb
Lithium	6-1				99		%
Magnesium	24-2	8.64	8.80	9.11	8.85	2.72	ppb
Manganese	55-2	0.52	0.47	0.49	0.49	4.57	ppb
Molybdenum	94-1	0.20	0.19	0.23	0.21	10.95	ppb
Molybdenum	95-1	0.11	0.11	0.13	0.11	10.28	ppb
Molybdenum	96-1	0.11	0.12	0.14	0.12	11.62	ppb
Molybdenum	97-1	0.10	0.07	0.11	0.09	20.60	ppb
Molybdenum	98-1	0.08	0.10	0.10	0.09	12.11	ppb
Neodymium	150-1						cps
Neodymium	150-2						cps
Nickel	60-2	0.09	0.11	0.12	0.11	15.14	ppb
Phosphorus	31-2	-2.59	-3.62	-5.69	-3.96		ppb
Potassium	39-2	4.89	9.91	9.29	8.03	34.04	ppb
Rhodium	103-1				95		%
Rhodium	103-2				99		%
Scandium	45-1				94		%
Scandium	45-2				96		%
Selenium	82-1	-0.26	0.40	0.76	0.30	172.62	ppb
Selenium	77-2	-0.24	-0.24	-0.24	-0.24		ppb
Selenium	78-2	-0.54	0.87	0.53	0.29	257.15	ppb
Silicon	28-1	5.88	3.82	5.74	5.15	22.34	ppb
Silver	107-1	0.01	0.01	0.01	0.01	35.66	ppb
Silver	109-1	0.01	0.02	0.01	0.01	40.99	ppb
Sodium	23-2	49.60	50.00	53.16	50.92	3.83	ppb
Strontium	86-1	0.20	0.12	0.23	0.19	29.95	ppb
Strontium	88-1	0.19	0.17	0.21	0.19	11.08	ppb
Sulfur	34-1	710.24	-189.72	220.74	247.09	182.35	ppb
Terbium	159-1				96		%
Terbium	159-2				99		%
Thallium	203-1	0.03	0.03	0.03	0.03	6.00	ppb
Thallium	205-1	0.03	0.03	0.03	0.03	11.59	ppb
Tin	118-1	0.32	0.36	0.65	0.44	40.58	ppb
Titanium	47-1	0.21	0.11	0.18	0.17	29.11	ppb

LB Number :

LB133196

Operator :

Jaswal

Lab Sample ID :

P4322-04

Instrumnet Name :

P7

Client Sample ID :

MYD035

Dilution Factor :

1

Date & Time Acquired :

2024-10-29 19:17:46

DataFile Name :

024SMPL.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Uranium	238-1	0.00	0.01	0.00	0.00	44.92	ppb
Vanadium	51-2	0.00	0.01	0.01	0.01	74.62	ppb
Yttrium	89-1				94		%
Yttrium	89-2				97		%
Zinc	66-2	1.10	0.96	1.25	1.11	13.40	ppb
Zirconium	90-1	0.07	0.06	0.07	0.07	12.57	ppb
Zirconium	91-1	0.06	0.04	0.08	0.06	28.01	ppb

LB Number :

LB133196

Operator :

Jaswal

Lab Sample ID :

P4322-05

Instrumnet Name :

P7

Client Sample ID :

MYD036

Dilution Factor :

1

Date & Time Acquired :

2024-10-29 19:21:05

DataFile Name :

025SMPL.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Aluminium	27-2	4.91	4.65	4.31	4.63	6.54	ppb
Antimony	121-1	0.01	0.02	0.03	0.02	36.43	ppb
Arsenic	75-2	0.03	0.06	0.00	0.03	116.39	ppb
Barium	135-1	0.17	0.15	0.15	0.16	6.72	ppb
Barium	137-1	0.13	0.14	0.14	0.13	4.13	ppb
Beryllium	9-1	0.01	0.01	0.00	0.01	57.54	ppb
Bismuth	209-1				95		%
Bismuth	209-2				96		%
Bromine	81-1						cps
Bromine	81-2						cps
Cadmium	108-1	0.08	0.04	0.00	0.04	97.76	ppb
Cadmium	106-1	-0.02	0.59	-0.59	-0.01		ppb
Cadmium	111-1	0.01	0.05	-0.02	0.01	288.38	ppb
Calcium	43-1	90.38	94.19	104.54	96.37	7.60	ppb
Calcium	44-1	101.49	94.14	102.22	99.28	4.50	ppb
Carbon	12-1						cps
Carbon	12-2						cps
Chlorine	35-1						cps
Chlorine	35-2						cps
Chromium	52-2	0.18	0.11	0.19	0.16	26.31	ppb
Cobalt	59-2	0.01	0.02	0.01	0.01	17.60	ppb
Copper	63-2	0.50	0.39	0.38	0.42	16.46	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				95		%
Holmium	165-2				96		%
Indium	115-1				94		%
Indium	115-2				95		%
Iron	56-2	6.64	6.33	6.31	6.42	2.86	ppb
Iron	57-2	9.15	9.69	8.40	9.08	7.14	ppb
Iron	54-2	12.77	12.25	10.29	11.77	11.14	ppb
Krypton	83-1						cps

LB Number : LB133196 Operator : Jaswal
Lab Sample ID : P4322-05 Instrumnet Name : P7
Client Sample ID : MYD036 Dilution Factor : 1
Date & Time Acquired : 2024-10-29 19:21:05 DataFile Name : 025SMPL.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Lead	206-1	0.07	0.08	0.05	0.07	20.90	ppb
Lead	207-1	0.06	0.06	0.08	0.07	24.16	ppb
Lead	208-1	0.07	0.07	0.07	0.07	4.45	ppb
Lithium	6-1				98		%
Magnesium	24-2	8.69	8.28	8.03	8.34	3.99	ppb
Manganese	55-2	0.29	0.25	0.28	0.27	8.13	ppb
Molybdenum	94-1	0.21	0.30	0.21	0.24	22.23	ppb
Molybdenum	95-1	0.10	0.10	0.10	0.10	3.52	ppb
Molybdenum	96-1	0.15	0.10	0.10	0.12	27.48	ppb
Molybdenum	97-1	0.10	0.08	0.10	0.09	15.97	ppb
Molybdenum	98-1	0.12	0.11	0.10	0.11	8.22	ppb
Neodymium	150-1						cps
Neodymium	150-2						cps
Nickel	60-2	0.11	0.14	0.05	0.10	44.18	ppb
Phosphorus	31-2	-5.00	-8.83	-8.17	-7.33		ppb
Potassium	39-2	5.92	7.25	4.06	5.74	27.96	ppb
Rhodium	103-1				93		%
Rhodium	103-2				96		%
Scandium	45-1				93		%
Scandium	45-2				95		%
Selenium	82-1	0.47	-0.28	0.18	0.12	312.73	ppb
Selenium	77-2	-0.24	-0.24	0.88	0.14	475.19	ppb
Selenium	78-2	-1.03	-0.07	1.24	0.05	2337.93	ppb
Silicon	28-1	6.77	4.84	6.28	5.96	16.82	ppb
Silver	107-1	0.00	0.01	0.01	0.01	35.87	ppb
Silver	109-1	0.01	0.00	0.01	0.01	56.00	ppb
Sodium	23-2	49.06	50.52	49.39	49.65	1.54	ppb
Strontium	86-1	0.21	0.27	0.27	0.25	12.83	ppb
Strontium	88-1	0.25	0.23	0.22	0.23	6.80	ppb
Sulfur	34-1	528.49	-96.63	-16.18	138.56	245.44	ppb
Terbium	159-1				95		%
Terbium	159-2				97		%
Thallium	203-1	0.02	0.02	0.02	0.02	21.06	ppb
Thallium	205-1	0.03	0.03	0.03	0.03	9.56	ppb
Tin	118-1	0.35	0.35	0.35	0.35	1.25	ppb
Titanium	47-1	0.17	0.19	0.17	0.18	5.44	ppb

LB Number :

LB133196

Operator :

Jaswal

Lab Sample ID :

P4322-05

Instrumnet Name :

P7

Client Sample ID :

MYD036

Dilution Factor :

1

Date & Time Acquired :

2024-10-29 19:21:05

DataFile Name :

025SMPL.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Uranium	238-1	0.00	0.00	0.01	0.00	34.66	ppb
Vanadium	51-2	0.02	0.02	0.01	0.02	43.86	ppb
Yttrium	89-1				93		%
Yttrium	89-2				95		%
Zinc	66-2	18.68	19.30	18.87	18.95	1.67	ppb
Zirconium	90-1	0.08	0.07	0.07	0.07	2.59	ppb
Zirconium	91-1	0.12	0.07	0.12	0.10	24.20	ppb

LB Number :

LB133196

Operator :

Jaswal

Lab Sample ID :

P4322-06

Instrumnet Name :

P7

Client Sample ID :

MYD038

Dilution Factor :

1

Date & Time Acquired :

2024-10-29 19:24:22

DataFile Name :

026SMPL.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Aluminium	27-2	2.42	3.06	3.00	2.83	12.64	ppb
Antimony	121-1	0.01	0.01	0.01	0.01	40.82	ppb
Arsenic	75-2	0.03	0.01	0.02	0.02	75.44	ppb
Barium	135-1	0.14	0.11	0.13	0.13	11.85	ppb
Barium	137-1	0.14	0.15	0.11	0.13	12.24	ppb
Beryllium	9-1	0.00	0.00	0.00	0.00		ppb
Bismuth	209-1				96		%
Bismuth	209-2				96		%
Bromine	81-1						cps
Bromine	81-2						cps
Cadmium	108-1	-0.03	0.11	0.07	0.05	147.47	ppb
Cadmium	106-1	0.97	-0.74	0.39	0.21	414.77	ppb
Cadmium	111-1	0.08	-0.05	0.03	0.02	391.22	ppb
Calcium	43-1	26.64	20.90	19.77	22.44	16.41	ppb
Calcium	44-1	27.74	25.62	25.32	26.23	5.03	ppb
Carbon	12-1						cps
Carbon	12-2						cps
Chlorine	35-1						cps
Chlorine	35-2						cps
Chromium	52-2	0.15	0.11	0.14	0.13	16.28	ppb
Cobalt	59-2	-0.01	0.01	0.00	0.00	1725.30	ppb
Copper	63-2	0.34	0.37	0.31	0.34	8.49	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				96		%
Holmium	165-2				97		%
Indium	115-1				95		%
Indium	115-2				95		%
Iron	56-2	4.96	4.70	4.91	4.86	2.79	ppb
Iron	57-2	4.03	9.84	7.79	7.22	40.83	ppb
Iron	54-2	8.82	9.08	9.07	8.99	1.64	ppb
Krypton	83-1						cps

LB Number : LB133196 Operator : Jaswal
Lab Sample ID : P4322-06 Instrumnet Name : P7
Client Sample ID : MYD038 Dilution Factor : 1
Date & Time Acquired : 2024-10-29 19:24:22 DataFile Name : 026SMPL.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Lead	206-1	0.08	0.06	0.05	0.06	23.69	ppb
Lead	207-1	0.07	0.05	0.07	0.06	15.68	ppb
Lead	208-1	0.06	0.05	0.06	0.06	16.57	ppb
Lithium	6-1				96		%
Magnesium	24-2	2.89	2.50	2.21	2.53	13.38	ppb
Manganese	55-2	1.16	1.11	1.11	1.13	2.37	ppb
Molybdenum	94-1	0.05	0.02	0.06	0.04	44.01	ppb
Molybdenum	95-1	0.02	0.01	-0.01	0.00	298.94	ppb
Molybdenum	96-1	0.00	0.00	0.01	0.00	287.32	ppb
Molybdenum	97-1	-0.01	0.00	-0.03	-0.01		ppb
Molybdenum	98-1	0.00	-0.01	-0.01	-0.01		ppb
Neodymium	150-1						cps
Neodymium	150-2						cps
Nickel	60-2	0.20	0.12	0.18	0.17	23.25	ppb
Phosphorus	31-2	-6.56	-15.32	-6.08	-9.32		ppb
Potassium	39-2	9.38	2.57	6.95	6.30	54.73	ppb
Rhodium	103-1				94		%
Rhodium	103-2				97		%
Scandium	45-1				94		%
Scandium	45-2				96		%
Selenium	82-1	-0.39	-0.37	-0.14	-0.30		ppb
Selenium	77-2	0.14	-0.24	-0.24	-0.11		ppb
Selenium	78-2	-2.00	-0.83	1.13	-0.56		ppb
Silicon	28-1	5.05	3.94	3.98	4.32	14.55	ppb
Silver	107-1	0.00	0.00	0.00	0.00		ppb
Silver	109-1	0.00	0.00	0.00	0.00	1015.92	ppb
Sodium	23-2	40.55	38.68	41.95	40.40	4.06	ppb
Strontium	86-1	0.03	0.02	-0.03	0.01	360.18	ppb
Strontium	88-1	-0.01	-0.02	-0.02	-0.02		ppb
Sulfur	34-1	107.88	-252.98	-327.89	-157.66		ppb
Terbium	159-1				96		%
Terbium	159-2				97		%
Thallium	203-1	0.01	0.01	0.00	0.01	60.65	ppb
Thallium	205-1	0.01	0.01	0.01	0.01	6.46	ppb
Tin	118-1	0.23	0.22	0.20	0.22	6.01	ppb
Titanium	47-1	0.07	0.06	0.07	0.07	10.27	ppb

LB Number :

LB133196

Operator :

Jaswal

Lab Sample ID :

P4322-06

Instrumnet Name :

P7

Client Sample ID :

MYD038

Dilution Factor :

1

Date & Time Acquired :

2024-10-29 19:24:22

DataFile Name :

026SMPL.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Uranium	238-1	-0.01	-0.01	-0.01	-0.01		ppb
Vanadium	51-2	0.00	0.00	0.00	0.00	770.79	ppb
Yttrium	89-1				95		%
Yttrium	89-2				95		%
Zinc	66-2	0.95	1.17	1.01	1.04	11.06	ppb
Zirconium	90-1	0.02	0.02	0.03	0.02	7.47	ppb
Zirconium	91-1	0.04	0.04	0.04	0.04	10.94	ppb

LB Number :

LB133196

Operator :

Jaswal

Lab Sample ID :

P4322-07

Instrumnet Name :

P7

Client Sample ID :

MYDD00

Dilution Factor :

1

Date & Time Acquired :

2024-10-29 19:27:41

DataFile Name :

027SMPL.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Aluminium	27-2	20.41	19.41	19.26	19.69	3.19	ppb
Antimony	121-1	0.01	0.00	0.00	0.00	86.12	ppb
Arsenic	75-2	0.03	0.02	0.04	0.03	37.49	ppb
Barium	135-1	0.00	0.04	0.03	0.02	76.63	ppb
Barium	137-1	0.03	0.05	0.05	0.04	18.32	ppb
Beryllium	9-1	-0.01	-0.02	0.00	-0.01		ppb
Bismuth	209-1				94		%
Bismuth	209-2				95		%
Bromine	81-1						cps
Bromine	81-2						cps
Cadmium	108-1	-0.03	0.07	0.00	0.02	357.88	ppb
Cadmium	106-1	0.60	-0.82	-0.08	-0.10		ppb
Cadmium	111-1	0.06	-0.06	0.00	0.00		ppb
Calcium	43-1	38.93	25.09	29.61	31.21	22.61	ppb
Calcium	44-1	36.81	34.32	36.68	35.94	3.90	ppb
Carbon	12-1						cps
Carbon	12-2						cps
Chlorine	35-1						cps
Chlorine	35-2						cps
Chromium	52-2	0.16	0.14	0.24	0.18	28.07	ppb
Cobalt	59-2	-0.01	0.00	0.00	0.00		ppb
Copper	63-2	0.18	0.23	0.20	0.20	13.75	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				94		%
Holmium	165-2				95		%
Indium	115-1				94		%
Indium	115-2				94		%
Iron	56-2	3.80	3.63	3.66	3.70	2.49	ppb
Iron	57-2	4.68	7.96	7.48	6.71	26.39	ppb
Iron	54-2	8.40	8.55	7.61	8.19	6.17	ppb
Krypton	83-1						cps

LB Number : LB133196 Operator : Jaswal
Lab Sample ID : P4322-07 Instrumnet Name : P7
Client Sample ID : MYDD00 Dilution Factor : 1
Date & Time Acquired : 2024-10-29 19:27:41 DataFile Name : 027SMPL.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Lead	206-1	0.03	0.02	0.03	0.02	14.75	ppb
Lead	207-1	0.04	0.03	0.04	0.04	15.66	ppb
Lead	208-1	0.03	0.03	0.04	0.03	13.52	ppb
Lithium	6-1				93		%
Magnesium	24-2	2.33	2.97	3.07	2.79	14.23	ppb
Manganese	55-2	0.26	0.26	0.28	0.27	5.30	ppb
Molybdenum	94-1	0.05	0.09	0.09	0.08	30.21	ppb
Molybdenum	95-1	0.00	0.00	0.00	0.00	205.79	ppb
Molybdenum	96-1	0.02	0.02	0.02	0.02	22.00	ppb
Molybdenum	97-1	0.00	0.01	0.00	0.00	9031.50	ppb
Molybdenum	98-1	0.00	0.00	-0.02	-0.01		ppb
Neodymium	150-1						cps
Neodymium	150-2						cps
Nickel	60-2	0.06	0.05	0.05	0.05	14.32	ppb
Phosphorus	31-2	-2.91	-3.02	-5.44	-3.79		ppb
Potassium	39-2	-0.16	3.94	1.62	1.80	114.01	ppb
Rhodium	103-1				92		%
Rhodium	103-2				95		%
Scandium	45-1				93		%
Scandium	45-2				94		%
Selenium	82-1	-0.77	0.65	0.60	0.16	498.53	ppb
Selenium	77-2	-0.24	-0.24	-0.24	-0.24		ppb
Selenium	78-2	2.30	-0.20	-0.02	0.69	201.19	ppb
Silicon	28-1	6.56	4.64	5.47	5.56	17.36	ppb
Silver	107-1	0.00	0.00	0.00	0.00		ppb
Silver	109-1	0.00	0.00	0.00	0.00		ppb
Sodium	23-2	51.53	51.23	50.21	50.99	1.35	ppb
Strontium	86-1	0.03	0.00	0.00	0.01	156.69	ppb
Strontium	88-1	-0.01	-0.02	-0.03	-0.02		ppb
Sulfur	34-1	282.97	-342.37	-327.76	-129.05		ppb
Terbium	159-1				95		%
Terbium	159-2				96		%
Thallium	203-1	0.01	0.00	0.00	0.00	152.66	ppb
Thallium	205-1	0.01	0.01	0.00	0.01	53.33	ppb
Tin	118-1	0.24	0.26	0.29	0.26	9.02	ppb
Titanium	47-1	0.13	0.05	0.04	0.07	68.41	ppb

LB Number :

LB133196

Operator :

Jaswal

Lab Sample ID :

P4322-07

Instrumnet Name :

P7

Client Sample ID :

MYDD00

Dilution Factor :

1

Date & Time Acquired :

2024-10-29 19:27:41

DataFile Name :

027SMPL.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Uranium	238-1	-0.01	-0.01	-0.01	-0.01		ppb
Vanadium	51-2	0.00	0.01	0.00	0.00	33.99	ppb
Yttrium	89-1				92		%
Yttrium	89-2				93		%
Zinc	66-2	10.35	9.60	9.28	9.75	5.63	ppb
Zirconium	90-1	0.05	0.05	0.04	0.05	8.44	ppb
Zirconium	91-1	0.06	0.06	0.07	0.06	13.94	ppb

LB Number : LB133196 Operator : Jaswal
Lab Sample ID : P4322-08 Instrumnet Name : P7
Client Sample ID : MYDD01 Dilution Factor : 1
Date & Time Acquired : 2024-10-29 19:30:57 DataFile Name : 028SMPL.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Aluminium	27-2	2.46	2.18	1.99	2.21	10.73	ppb
Antimony	121-1	0.00	0.01	0.00	0.01	25.21	ppb
Arsenic	75-2	0.02	0.02	0.02	0.02	0.52	ppb
Barium	135-1	0.06	0.06	0.04	0.05	25.57	ppb
Barium	137-1	0.07	0.08	0.06	0.07	13.26	ppb
Beryllium	9-1	0.01	0.02	0.01	0.01	61.32	ppb
Bismuth	209-1				95		%
Bismuth	209-2				95		%
Bromine	81-1						cps
Bromine	81-2						cps
Cadmium	108-1	0.04	0.04	0.07	0.05	33.90	ppb
Cadmium	106-1	0.39	0.77	-1.61	-0.15		ppb
Cadmium	111-1	0.03	0.06	-0.11	-0.01		ppb
Calcium	43-1	27.78	26.76	28.77	27.77	3.62	ppb
Calcium	44-1	35.57	32.95	35.56	34.69	4.35	ppb
Carbon	12-1						cps
Carbon	12-2						cps
Chlorine	35-1						cps
Chlorine	35-2						cps
Chromium	52-2	0.17	0.18	0.18	0.18	3.44	ppb
Cobalt	59-2	0.01	0.00	0.00	0.00	194.77	ppb
Copper	63-2	0.21	0.22	0.23	0.22	4.35	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				96		%
Holmium	165-2				97		%
Indium	115-1				96		%
Indium	115-2				96		%
Iron	56-2	3.17	3.28	3.10	3.18	2.78	ppb
Iron	57-2	3.99	5.74	6.62	5.45	24.62	ppb
Iron	54-2	7.73	7.71	6.83	7.42	6.96	ppb
Krypton	83-1						cps

LB Number : LB133196 Operator : Jaswal
Lab Sample ID : P4322-08 Instrumnet Name : P7
Client Sample ID : MYDD01 Dilution Factor : 1
Date & Time Acquired : 2024-10-29 19:30:57 DataFile Name : 028SMPL.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Lead	206-1	0.02	0.02	0.03	0.03	23.71	ppb
Lead	207-1	0.02	0.01	0.01	0.01	56.06	ppb
Lead	208-1	0.03	0.02	0.02	0.02	24.19	ppb
Lithium	6-1				94		%
Magnesium	24-2	3.49	3.85	4.77	4.04	16.34	ppb
Manganese	55-2	0.14	0.11	0.13	0.13	10.33	ppb
Molybdenum	94-1	0.06	0.09	0.09	0.08	23.54	ppb
Molybdenum	95-1	0.01	0.00	0.00	0.01	61.31	ppb
Molybdenum	96-1	0.02	0.02	0.01	0.02	33.32	ppb
Molybdenum	97-1	-0.01	-0.01	-0.01	-0.01		ppb
Molybdenum	98-1	0.00	0.01	0.01	0.01	64.54	ppb
Neodymium	150-1						cps
Neodymium	150-2						cps
Nickel	60-2	0.01	0.05	0.05	0.04	72.86	ppb
Phosphorus	31-2	-4.07	-8.64	-3.92	-5.55		ppb
Potassium	39-2	12.69	13.32	10.39	12.14	12.72	ppb
Rhodium	103-1				94		%
Rhodium	103-2				98		%
Scandium	45-1				94		%
Scandium	45-2				95		%
Selenium	82-1	0.08	-0.63	0.48	-0.02		ppb
Selenium	77-2	-0.24	-0.24	-0.24	-0.24		ppb
Selenium	78-2	0.29	0.96	0.48	0.58	60.60	ppb
Silicon	28-1	6.70	5.00	5.31	5.67	16.00	ppb
Silver	107-1	0.00	0.00	0.00	0.00		ppb
Silver	109-1	0.00	0.00	0.00	0.00	712.11	ppb
Sodium	23-2	62.92	65.71	61.60	63.41	3.31	ppb
Strontium	86-1	0.08	0.04	0.02	0.05	57.92	ppb
Strontium	88-1	0.04	0.04	0.04	0.04	5.64	ppb
Sulfur	34-1	193.17	-335.72	-299.64	-147.40		ppb
Terbium	159-1				96		%
Terbium	159-2				97		%
Thallium	203-1	0.00	0.00	0.00	0.00	404.15	ppb
Thallium	205-1	0.01	0.01	0.01	0.01	34.55	ppb
Tin	118-1	0.24	0.26	0.28	0.26	7.87	ppb
Titanium	47-1	0.10	0.04	0.07	0.07	45.27	ppb

LB Number :

LB133196

Operator :

Jaswal

Lab Sample ID :

P4322-08

Instrumnet Name :

P7

Client Sample ID :

MYDD01

Dilution Factor :

1

Date & Time Acquired :

2024-10-29 19:30:57

DataFile Name :

028SMPL.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Uranium	238-1	0.00	-0.01	-0.01	-0.01		ppb
Vanadium	51-2	0.00	0.00	0.00	0.00	364.46	ppb
Yttrium	89-1				95		%
Yttrium	89-2				96		%
Zinc	66-2	0.92	1.27	0.88	1.02	20.95	ppb
Zirconium	90-1	0.05	0.04	0.06	0.05	17.24	ppb
Zirconium	91-1	0.06	0.04	0.05	0.05	11.84	ppb

LB Number : LB133196 Operator : Jaswal
Lab Sample ID : P4322-09 Instrumnet Name : P7
Client Sample ID : MYDD02 Dilution Factor : 1
Date & Time Acquired : 2024-10-29 19:34:15 DataFile Name : 029SMPL.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Aluminium	27-2	2.60	2.93	2.07	2.53	17.11	ppb
Antimony	121-1	0.00	0.01	0.01	0.01	42.27	ppb
Arsenic	75-2	0.02	0.03	0.02	0.02	24.10	ppb
Barium	135-1	0.06	0.07	0.06	0.06	5.92	ppb
Barium	137-1	0.07	0.07	0.07	0.07	2.99	ppb
Beryllium	9-1	-0.01	0.00	-0.01	-0.01		ppb
Bismuth	209-1				96		%
Bismuth	209-2				97		%
Bromine	81-1						cps
Bromine	81-2						cps
Cadmium	108-1	-0.03	0.04	0.04	0.01	302.57	ppb
Cadmium	106-1	-0.30	-0.29	0.22	-0.13		ppb
Cadmium	111-1	0.00	-0.02	0.02	0.00	39673.50	ppb
Calcium	43-1	22.55	23.97	28.48	25.00	12.39	ppb
Calcium	44-1	27.26	24.18	24.84	25.43	6.37	ppb
Carbon	12-1						cps
Carbon	12-2						cps
Chlorine	35-1						cps
Chlorine	35-2						cps
Chromium	52-2	0.13	0.12	0.13	0.12	4.82	ppb
Cobalt	59-2	0.00	0.00	0.00	0.00	110.30	ppb
Copper	63-2	0.17	0.21	0.20	0.19	10.52	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				97		%
Holmium	165-2				98		%
Indium	115-1				97		%
Indium	115-2				96		%
Iron	56-2	4.20	4.24	4.42	4.29	2.79	ppb
Iron	57-2	6.06	9.04	5.83	6.98	25.70	ppb
Iron	54-2	9.18	9.69	9.48	9.45	2.74	ppb
Krypton	83-1						cps

LB Number : LB133196 Operator : Jaswal
Lab Sample ID : P4322-09 Instrumnet Name : P7
Client Sample ID : MYDD02 Dilution Factor : 1
Date & Time Acquired : 2024-10-29 19:34:15 DataFile Name : 029SMPL.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Lead	206-1	0.04	0.03	0.01	0.03	44.62	ppb
Lead	207-1	0.03	0.02	0.04	0.03	30.34	ppb
Lead	208-1	0.03	0.02	0.03	0.03	26.85	ppb
Lithium	6-1				98		%
Magnesium	24-2	4.99	5.06	4.81	4.95	2.64	ppb
Manganese	55-2	0.15	0.17	0.15	0.16	5.88	ppb
Molybdenum	94-1	0.10	0.08	0.08	0.09	13.30	ppb
Molybdenum	95-1	0.05	0.03	0.03	0.04	32.76	ppb
Molybdenum	96-1	0.03	0.06	0.06	0.05	30.16	ppb
Molybdenum	97-1	0.05	0.01	0.03	0.03	57.99	ppb
Molybdenum	98-1	0.03	0.05	0.03	0.04	39.04	ppb
Neodymium	150-1						cps
Neodymium	150-2						cps
Nickel	60-2	0.03	0.10	0.04	0.06	64.33	ppb
Phosphorus	31-2	-12.96	-4.90	-5.82	-7.89		ppb
Potassium	39-2	6.46	12.23	6.41	8.37	39.97	ppb
Rhodium	103-1				95		%
Rhodium	103-2				97		%
Scandium	45-1				97		%
Scandium	45-2				96		%
Selenium	82-1	0.85	0.23	1.14	0.74	62.27	ppb
Selenium	77-2	-0.24	-0.24	-0.24	-0.24		ppb
Selenium	78-2	1.50	0.43	-1.13	0.27	492.30	ppb
Silicon	28-1	20.87	19.86	22.32	21.02	5.89	ppb
Silver	107-1	0.00	0.00	0.01	0.00	60.91	ppb
Silver	109-1	0.00	0.00	0.00	0.00	99.75	ppb
Sodium	23-2	55.70	54.00	51.13	53.61	4.31	ppb
Strontium	86-1	0.08	0.08	0.07	0.08	7.89	ppb
Strontium	88-1	0.10	0.08	0.10	0.09	7.30	ppb
Sulfur	34-1	329.68	-250.40	-220.22	-46.98		ppb
Terbium	159-1				97		%
Terbium	159-2				98		%
Thallium	203-1	0.00	0.00	0.00	0.00	179.56	ppb
Thallium	205-1	0.01	0.01	0.01	0.01	13.01	ppb
Tin	118-1	0.24	0.25	0.23	0.24	2.89	ppb
Titanium	47-1	0.06	0.14	0.06	0.09	51.16	ppb

LB Number :

LB133196

Operator :

Jaswal

Lab Sample ID :

P4322-09

Instrumnet Name :

P7

Client Sample ID :

MYDD02

Dilution Factor :

1

Date & Time Acquired :

2024-10-29 19:34:15

DataFile Name :

029SMPL.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Uranium	238-1	0.00	0.00	0.00	0.00		ppb
Vanadium	51-2	0.01	0.01	0.00	0.01	44.45	ppb
Yttrium	89-1				95		%
Yttrium	89-2				96		%
Zinc	66-2	0.58	0.73	0.63	0.65	11.50	ppb
Zirconium	90-1	0.03	0.02	0.04	0.03	19.46	ppb
Zirconium	91-1	0.04	0.03	0.02	0.03	21.49	ppb

LB Number :

LB133196

Operator :

Jaswal

Lab Sample ID :

P4322-10

Instrumnet Name :

P7

Client Sample ID :

MYDD03

Dilution Factor :

1

Date & Time Acquired :

2024-10-29 19:37:32

DataFile Name :

030SMPL.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Aluminium	27-2	2.83	3.31	3.24	3.12	8.30	ppb
Antimony	121-1	0.01	0.01	0.01	0.01	6.80	ppb
Arsenic	75-2	0.02	0.05	0.03	0.03	61.46	ppb
Barium	135-1	0.10	0.10	0.10	0.10	1.80	ppb
Barium	137-1	0.09	0.10	0.07	0.09	19.48	ppb
Beryllium	9-1	0.01	0.01	0.01	0.01	17.08	ppb
Bismuth	209-1				93		%
Bismuth	209-2				95		%
Bromine	81-1						cps
Bromine	81-2						cps
Cadmium	108-1	0.04	0.04	0.01	0.03	67.82	ppb
Cadmium	106-1	1.01	-0.51	-0.30	0.07	1235.53	ppb
Cadmium	111-1	0.08	-0.03	0.00	0.01	396.12	ppb
Calcium	43-1	48.83	48.49	48.43	48.58	0.45	ppb
Calcium	44-1	52.04	47.53	55.00	51.52	7.31	ppb
Carbon	12-1						cps
Carbon	12-2						cps
Chlorine	35-1						cps
Chlorine	35-2						cps
Chromium	52-2	0.21	0.20	0.17	0.19	9.04	ppb
Cobalt	59-2	0.00	0.01	0.00	0.01	114.32	ppb
Copper	63-2	0.23	0.26	0.25	0.24	5.90	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				94		%
Holmium	165-2				96		%
Indium	115-1				94		%
Indium	115-2				96		%
Iron	56-2	7.36	7.03	6.94	7.11	3.09	ppb
Iron	57-2	9.53	9.67	10.00	9.74	2.50	ppb
Iron	54-2	11.34	12.28	11.12	11.58	5.34	ppb
Krypton	83-1						cps

LB Number : LB133196 Operator : Jaswal
Lab Sample ID : P4322-10 Instrumnet Name : P7
Client Sample ID : MYDD03 Dilution Factor : 1
Date & Time Acquired : 2024-10-29 19:37:32 DataFile Name : 030SMPL.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Lead	206-1	0.06	0.04	0.08	0.06	32.75	ppb
Lead	207-1	0.04	0.05	0.09	0.06	39.68	ppb
Lead	208-1	0.04	0.04	0.07	0.05	26.76	ppb
Lithium	6-1				95		%
Magnesium	24-2	6.90	6.07	6.25	6.41	6.86	ppb
Manganese	55-2	0.21	0.15	0.29	0.22	30.65	ppb
Molybdenum	94-1	0.13	0.13	0.19	0.15	21.78	ppb
Molybdenum	95-1	0.07	0.08	0.08	0.08	9.97	ppb
Molybdenum	96-1	0.09	0.08	0.10	0.09	9.52	ppb
Molybdenum	97-1	0.06	0.07	0.09	0.07	24.69	ppb
Molybdenum	98-1	0.07	0.05	0.09	0.07	32.37	ppb
Neodymium	150-1						cps
Neodymium	150-2						cps
Nickel	60-2	0.04	0.03	0.04	0.04	20.11	ppb
Phosphorus	31-2	-10.45	-1.08	-3.27	-4.93		ppb
Potassium	39-2	12.35	17.20	12.70	14.08	19.20	ppb
Rhodium	103-1				92		%
Rhodium	103-2				97		%
Scandium	45-1				92		%
Scandium	45-2				95		%
Selenium	82-1	-1.30	-0.08	0.26	-0.37		ppb
Selenium	77-2	1.65	-0.24	-0.24	0.39	277.65	ppb
Selenium	78-2	1.88	1.39	1.50	1.59	16.33	ppb
Silicon	28-1	9.09	7.38	11.66	9.38	22.95	ppb
Silver	107-1	0.00	0.00	0.02	0.01	155.65	ppb
Silver	109-1	0.01	0.00	0.01	0.00	22.73	ppb
Sodium	23-2	69.08	70.27	70.84	70.06	1.28	ppb
Strontium	86-1	0.18	0.15	0.17	0.17	10.21	ppb
Strontium	88-1	0.13	0.12	0.17	0.14	18.66	ppb
Sulfur	34-1	796.90	142.29	706.39	548.53	64.67	ppb
Terbium	159-1				95		%
Terbium	159-2				98		%
Thallium	203-1	0.00	0.00	0.01	0.00	195.38	ppb
Thallium	205-1	0.02	0.01	0.02	0.02	31.51	ppb
Tin	118-1	0.30	0.29	0.33	0.31	7.33	ppb
Titanium	47-1	0.17	0.10	0.21	0.16	33.17	ppb

LB Number :

LB133196

Operator :

Jaswal

Lab Sample ID :

P4322-10

Instrumnet Name :

P7

Client Sample ID :

MYDD03

Dilution Factor :

1

Date & Time Acquired :

2024-10-29 19:37:32

DataFile Name :

030SMPL.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Uranium	238-1	0.00	0.00	0.00	0.00	70.13	ppb
Vanadium	51-2	0.02	0.01	0.00	0.01	64.35	ppb
Yttrium	89-1				92		%
Yttrium	89-2				95		%
Zinc	66-2	1.27	1.34	1.15	1.25	7.83	ppb
Zirconium	90-1	0.04	0.04	0.06	0.05	29.68	ppb
Zirconium	91-1	0.05	0.07	0.09	0.07	27.10	ppb

LB Number :LB133196Operator :Jaswal

Lab Sample ID :CCV030Instrumnet Name :P7

Client Sample ID :CCV030Dilution Factor :1

Date & Time Acquired :2024-10-29 19:40:51DataFile Name :031CCV.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Aluminium	27-2	50897.98	49626.59	50260.20	50261.59	1.26	ppb
Antimony	121-1	503.07	503.30	501.12	502.50	0.24	ppb
Arsenic	75-2	545.21	533.72	540.88	539.94	1.07	ppb
Barium	135-1	2553.99	2501.81	2574.20	2543.33	1.47	ppb
Barium	137-1	2531.71	2571.49	2575.62	2559.61	0.95	ppb
Beryllium	9-1	501.13	493.94	500.41	498.49	0.79	ppb
Bismuth	209-1				111		%
Bismuth	209-2				104		%
Bromine	81-1						cps
Bromine	81-2						cps
Cadmium	108-1	516.20	519.26	524.07	519.84	0.76	ppb
Cadmium	106-1	515.75	517.54	527.43	520.24	1.21	ppb
Cadmium	111-1	513.61	519.09	533.29	522.00	1.95	ppb
Calcium	43-1	254773.06	259875.20	256669.38	257105.88	1.00	ppb
Calcium	44-1	251713.27	255363.69	254691.97	253922.97	0.77	ppb
Carbon	12-1						cps
Carbon	12-2						cps
Chlorine	35-1						cps
Chlorine	35-2						cps
Chromium	52-2	506.28	507.07	500.48	504.61	0.71	ppb
Cobalt	59-2	519.62	522.26	520.46	520.78	0.26	ppb
Copper	63-2	5064.93	5131.03	5066.44	5087.47	0.74	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				116		%
Holmium	165-2				110		%
Indium	115-1				110		%
Indium	115-2				104		%
Iron	56-2	128616.59	128436.36	128278.28	128443.74	0.13	ppb
Iron	57-2	126610.18	127548.04	126906.72	127021.65	0.38	ppb
Iron	54-2	127841.14	128995.67	127497.58	128111.46	0.61	ppb
Krypton	83-1						cps

LB Number : LB133196 Operator : Jaswal
Lab Sample ID : CCV030 Instrumnet Name : P7
Client Sample ID : CCV030 Dilution Factor : 1
Date & Time Acquired : 2024-10-29 19:40:51 DataFile Name : 031CCV.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Lead	206-1	2572.82	2500.76	2639.50	2571.03	2.70	ppb
Lead	207-1	2569.89	2509.55	2600.85	2560.10	1.81	ppb
Lead	208-1	2558.65	2504.10	2594.41	2552.39	1.78	ppb
Lithium	6-1				118		%
Magnesium	24-2	254240.06	251109.82	255127.51	253492.47	0.83	ppb
Manganese	55-2	4983.95	4947.91	4901.59	4944.49	0.83	ppb
Molybdenum	94-1	5067.67	5009.46	5162.31	5079.81	1.52	ppb
Molybdenum	95-1	5042.32	5003.04	5129.32	5058.23	1.28	ppb
Molybdenum	96-1	5041.54	4991.87	5135.72	5056.38	1.44	ppb
Molybdenum	97-1	4991.90	4942.13	5117.46	5017.16	1.80	ppb
Molybdenum	98-1	5008.50	5013.63	5108.26	5043.46	1.11	ppb
Neodymium	150-1						cps
Neodymium	150-2						cps
Nickel	60-2	513.38	513.69	514.32	513.80	0.09	ppb
Phosphorus	31-2	10273.74	10253.49	10156.94	10228.06	0.61	ppb
Potassium	39-2	126720.44	125175.46	126873.83	126256.58	0.74	ppb
Rhodium	103-1				105		%
Rhodium	103-2				104		%
Scandium	45-1				114		%
Scandium	45-2				110		%
Selenium	82-1	512.95	515.84	532.31	520.37	2.01	ppb
Selenium	77-2	534.77	518.22	523.97	525.65	1.60	ppb
Selenium	78-2	531.18	510.37	525.15	522.23	2.05	ppb
Silicon	28-1	2569.35	2496.54	2590.09	2551.99	1.93	ppb
Silver	107-1	511.65	513.25	521.56	515.49	1.03	ppb
Silver	109-1	511.92	512.02	525.47	516.47	1.51	ppb
Sodium	23-2	255097.49	253074.43	254050.54	254074.15	0.40	ppb
Strontium	86-1	12578.35	12433.09	12828.41	12613.29	1.59	ppb
Strontium	88-1	12498.42	12287.34	12645.14	12476.96	1.44	ppb
Sulfur	34-1	8819.73	8955.86	9090.11	8955.23	1.51	ppb
Terbium	159-1				114		%
Terbium	159-2				111		%
Thallium	203-1	512.77	505.84	527.63	515.41	2.16	ppb
Thallium	205-1	506.12	501.80	520.33	509.42	1.90	ppb
Tin	118-1	491.61	480.90	494.49	489.00	1.46	ppb
Titanium	47-1	4921.77	4983.44	5041.82	4982.34	1.20	ppb

LB Number :

LB133196

Operator :

Jaswal

Lab Sample ID :

CCV030

Instrumnet Name :

P7

Client Sample ID :

CCV030

Dilution Factor :

1

Date & Time Acquired :

2024-10-29 19:40:51

DataFile Name :

031CCV.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Uranium	238-1	510.88	506.89	526.96	514.91	2.06	ppb
Vanadium	51-2	509.38	500.80	502.12	504.10	0.92	ppb
Yttrium	89-1				113		%
Yttrium	89-2				106		%
Zinc	66-2	5165.90	5170.48	5149.02	5161.80	0.22	ppb
Zirconium	90-1	504.94	512.15	521.26	512.78	1.59	ppb
Zirconium	91-1	497.57	495.29	505.94	499.60	1.12	ppb

LB Number :LB133196Operator :Jaswal

Lab Sample ID :CCB030Instrumnet Name :P7

Client Sample ID :CCB030Dilution Factor :1

Date & Time Acquired :2024-10-29 19:43:36DataFile Name :032CCBE.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Aluminium	27-2	2.83	2.66	2.97	2.82	5.52	ppb
Antimony	121-1	0.36	0.35	0.35	0.35	2.50	ppb
Arsenic	75-2	0.03	0.05	0.02	0.04	37.84	ppb
Barium	135-1	0.13	0.09	0.13	0.12	20.25	ppb
Barium	137-1	0.14	0.12	0.15	0.14	10.60	ppb
Beryllium	9-1	0.07	0.08	0.06	0.07	14.16	ppb
Bismuth	209-1				110		%
Bismuth	209-2				104		%
Bromine	81-1						cps
Bromine	81-2						cps
Cadmium	108-1	0.12	0.09	0.06	0.09	33.11	ppb
Cadmium	106-1	0.68	-0.97	0.09	-0.07		ppb
Cadmium	111-1	0.09	-0.01	0.06	0.05	108.37	ppb
Calcium	43-1	21.18	25.89	24.87	23.98	10.34	ppb
Calcium	44-1	21.66	22.73	23.54	22.64	4.17	ppb
Carbon	12-1						cps
Carbon	12-2						cps
Chlorine	35-1						cps
Chlorine	35-2						cps
Chromium	52-2	-0.01	0.00	0.03	0.01	297.17	ppb
Cobalt	59-2	0.01	0.03	0.01	0.02	48.07	ppb
Copper	63-2	0.12	0.13	0.14	0.13	6.57	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				108		%
Holmium	165-2				103		%
Indium	115-1				107		%
Indium	115-2				102		%
Iron	56-2	6.59	6.89	6.66	6.71	2.36	ppb
Iron	57-2	6.26	3.85	8.74	6.28	38.89	ppb
Iron	54-2	5.61	5.84	6.55	6.00	8.20	ppb
Krypton	83-1						cps

LB Number : LB133196 Operator : Jaswal
Lab Sample ID : CCB030 Instrumnet Name : P7
Client Sample ID : CCB030 Dilution Factor : 1
Date & Time Acquired : 2024-10-29 19:43:36 DataFile Name : 032CCBE.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Lead	206-1	0.15	0.16	0.12	0.14	12.01	ppb
Lead	207-1	0.15	0.15	0.11	0.14	17.30	ppb
Lead	208-1	0.15	0.15	0.14	0.15	6.92	ppb
Lithium	6-1				110		%
Magnesium	24-2	13.95	13.00	12.31	13.09	6.27	ppb
Manganese	55-2	0.47	0.47	0.49	0.47	2.47	ppb
Molybdenum	94-1	0.42	0.40	0.36	0.39	7.90	ppb
Molybdenum	95-1	0.39	0.37	0.35	0.37	5.83	ppb
Molybdenum	96-1	0.38	0.36	0.38	0.37	2.01	ppb
Molybdenum	97-1	0.34	0.34	0.35	0.35	1.85	ppb
Molybdenum	98-1	0.37	0.34	0.36	0.36	4.65	ppb
Neodymium	150-1						cps
Neodymium	150-2						cps
Nickel	60-2	0.00	0.05	-0.02	0.01	294.21	ppb
Phosphorus	31-2	-15.45	-12.91	-7.93	-12.10		ppb
Potassium	39-2	12.43	10.45	6.41	9.76	31.40	ppb
Rhodium	103-1				104		%
Rhodium	103-2				102		%
Scandium	45-1				106		%
Scandium	45-2				101		%
Selenium	82-1	-0.11	0.51	0.27	0.22	139.94	ppb
Selenium	77-2	0.11	-0.24	-0.24	-0.12		ppb
Selenium	78-2	-1.66	0.09	0.11	-0.49		ppb
Silicon	28-1	-1.29	-0.60	-1.57	-1.15		ppb
Silver	107-1	0.06	0.04	0.04	0.04	22.38	ppb
Silver	109-1	0.06	0.05	0.05	0.05	15.61	ppb
Sodium	23-2	54.55	50.26	52.11	52.31	4.11	ppb
Strontium	86-1	0.52	0.50	0.51	0.51	1.88	ppb
Strontium	88-1	0.54	0.48	0.48	0.50	6.76	ppb
Sulfur	34-1	-874.30	-653.22	-804.05	-777.19		ppb
Terbium	159-1				107		%
Terbium	159-2				104		%
Thallium	203-1	0.06	0.06	0.05	0.06	7.76	ppb
Thallium	205-1	0.07	0.07	0.06	0.07	5.46	ppb
Tin	118-1	0.19	0.16	0.18	0.18	8.36	ppb
Titanium	47-1	0.24	0.26	0.29	0.26	9.67	ppb

LB Number :

LB133196

Operator :

Jaswal

Lab Sample ID :

CCB030

Instrumnet Name :

P7

Client Sample ID :

CCB030

Dilution Factor :

1

Date & Time Acquired :

2024-10-29 19:43:36

DataFile Name :

032CCBE.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Uranium	238-1	0.02	0.01	0.01	0.01	24.26	ppb
Vanadium	51-2	0.02	0.03	0.02	0.02	26.69	ppb
Yttrium	89-1				105		%
Yttrium	89-2				101		%
Zinc	66-2	1.06	1.17	1.30	1.18	10.21	ppb
Zirconium	90-1	0.06	0.05	0.05	0.05	15.38	ppb
Zirconium	91-1	0.07	0.07	0.05	0.06	21.86	ppb

LB Number :LB133196Operator :Jaswal

Lab Sample ID :S00Instrumnet Name :P7

Client Sample ID :S0Dilution Factor :1

Date & Time Acquired :2024-10-29 18:13:02DataFile Name :004CALB.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Aluminium	27-2	300	263	270	278	7.03	cps
Antimony	121-1	63	50	57	57	11.76	cps
Arsenic	75-2	3	0	0	1	173.21	cps
Barium	135-1	67	77	73	72	7.05	cps
Barium	137-1	130	83	137	117	24.91	cps
Beryllium	9-1	30	17	30	26	30.11	cps
Bismuth	209-1	3242738	3297308	3241823	3260623	0.97	cps
Bismuth	209-2	2720711	2711283	2757715	2729903	0.90	cps
Bromine	81-1	6381	6275	6341	6333	0.85	cps
Bromine	81-2	47	77	93	72	32.74	cps
Cadmium	108-1	0	17	3	7	132.33	cps
Cadmium	106-1	1277	1423	1337	1346	5.48	cps
Cadmium	111-1	897	988	940	942	4.83	cps
Calcium	43-1	263	333	243	280	16.88	cps
Calcium	44-1	15735	15058	15515	15436	2.24	cps
Carbon	12-1						cps
Carbon	12-2						cps
Chlorine	35-1						cps
Chlorine	35-2						cps
Chromium	52-2	733	800	717	750	5.88	cps
Cobalt	59-2	137	170	123	143	16.77	cps
Copper	63-2	1470	1417	1387	1425	2.96	cps
Dysprosium	156-1	343	333	403	360	10.52	cps
Dysprosium	156-2	143	97	133	124	19.74	cps
Erbium	164-1	37	37	47	40	14.43	cps
Erbium	164-2	27	27	20	24	15.75	cps
Gadolinium	160-1	23	17	33	24	34.31	cps
Gadolinium	160-2	150	143	160	151	5.55	cps
Holmium	165-1	5405619	5527583	5545331	5492845	1.38	cps
Holmium	165-2	3856635	3889462	3864718	3870272	0.44	cps
Indium	115-1	4874957	4891606	4949954	4905506	0.80	cps
Indium	115-2	1791656	1775829	1770896	1779461	0.61	cps
Iron	56-2	12178	11831	12105	12038	1.52	cps
Iron	57-2	2750	2910	2917	2859	3.30	cps
Iron	54-2	1600	1667	1577	1615	2.89	cps
Krypton	83-1	217	233	180	210	12.99	cps

LB Number : LB133196 Operator : Jaswal
Lab Sample ID : S0 Instrumnet Name : P7
Client Sample ID : S0 Dilution Factor : 1
Date & Time Acquired : 2024-10-29 18:13:02 DataFile Name : 004CALB.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Lead	206-1	273	323	263	287	11.21	cps
Lead	207-1	243	227	287	252	12.28	cps
Lead	208-1	1133	1157	1090	1127	3.00	cps
Lithium	6-1	431067	446703	444847	440873	1.94	cps
Magnesium	24-2	490	433	440	454	6.82	cps
Manganese	55-2	443	513	520	492	8.63	cps
Molybdenum	94-1	260	250	240	250	4.00	cps
Molybdenum	95-1	153	147	207	169	19.47	cps
Molybdenum	96-1	193	213	173	193	10.34	cps
Molybdenum	97-1	117	97	137	117	17.14	cps
Molybdenum	98-1	220	240	240	233	4.95	cps
Neodymium	150-1	3	7	3	4	43.40	cps
Neodymium	150-2	3	3	0	2	86.60	cps
Nickel	60-2	140	143	163	149	8.48	cps
Phosphorus	31-2	177	160	157	164	6.52	cps
Potassium	39-2	86615	85703	85692	86003	0.62	cps
Rhodium	103-1	4836683	4879194	4925846	4880574	0.91	cps
Rhodium	103-2	3003564	2929436	2956455	2963152	1.27	cps
Scandium	45-1	3016317	3157999	3178796	3117704	2.84	cps
Scandium	45-2	299969	297787	299536	299098	0.39	cps
Selenium	82-1	314	265	337	306	12.00	cps
Selenium	77-2	3	0	3	2	86.60	cps
Selenium	78-2	360	400	370	377	5.53	cps
Silicon	28-1	286132	286191	287968	286764	0.36	cps
Silver	107-1	67	70	73	70	4.76	cps
Silver	109-1	43	60	17	40	54.64	cps
Sodium	23-2	34726	34552	34198	34492	0.78	cps
Strontium	86-1	583	457	510	517	12.31	cps
Strontium	88-1	1333	1393	1490	1406	5.62	cps
Sulfur	34-1	185572	186493	185814	185960	0.26	cps
Terbium	159-1	5691834	5640291	5693468	5675198	0.53	cps
Terbium	159-2	3841117	3841586	3827109	3836604	0.21	cps
Thallium	203-1	110	117	117	114	3.36	cps
Thallium	205-1	197	200	200	199	0.97	cps
Tin	118-1	1007	1127	1160	1098	7.35	cps
Titanium	47-1	127	157	137	140	10.91	cps

LB Number :

LB133196

Operator :

Jaswal

Lab Sample ID :

S00

Instrumnet Name :

P7

Client Sample ID :

S0

Dilution Factor :

1

Date & Time Acquired :

2024-10-29 18:13:02

DataFile Name :

004CALB.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Uranium	238-1	117	123	110	117	5.72	cps
Vanadium	51-2	20	23	20	21	9.11	cps
Yttrium	89-1	8754565	8941777	8933284	8876542	1.19	cps
Yttrium	89-2	2384885	2363024	2367882	2371930	0.48	cps
Zinc	66-2	497	513	513	508	1.90	cps
Zirconium	90-1	450	443	443	446	0.86	cps
Zirconium	91-1	70	77	70	72	5.33	cps

LB Number : LB133196 Operator : Jaswal
Lab Sample ID : S02 Instrumnet Name : P7
Client Sample ID : S02 Dilution Factor : 1
Date & Time Acquired : 2024-10-29 18:19:37 DataFile Name : 006CALS.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Aluminium	27-2	2904	2614	2867	2795	5.65	cps
Antimony	121-1	10761	11024	10827	10871	1.26	cps
Arsenic	75-2	277	390	390	352	18.58	cps
Barium	135-1	12512	12466	12462	12480	0.22	cps
Barium	137-1	21239	21149	21359	21249	0.50	cps
Beryllium	9-1	603	683	663	650	6.41	cps
Bismuth	209-1	3242073	3269628	3231229	3247643	0.61	cps
Bismuth	209-2	2695050	2701106	2712544	2702900	0.33	cps
Bromine	81-1	6328	6318	6538	6395	1.94	cps
Bromine	81-2	73	87	90	83	10.59	cps
Cadmium	108-1	77	100	110	96	17.90	cps
Cadmium	106-1	1510	1433	1427	1457	3.18	cps
Cadmium	111-1	2183	2317	2382	2294	4.41	cps
Calcium	43-1	8129	8302	8242	8225	1.07	cps
Calcium	44-1	143043	145601	146413	145019	1.21	cps
Carbon	12-1						cps
Carbon	12-2						cps
Chlorine	35-1						cps
Chlorine	35-2						cps
Chromium	52-2	6251	6028	5941	6073	2.63	cps
Cobalt	59-2	4321	4077	4154	4184	2.97	cps
Copper	63-2	6612	7085	6888	6862	3.47	cps
Dysprosium	156-1	360	393	290	348	15.16	cps
Dysprosium	156-2	90	113	57	87	32.86	cps
Erbium	164-1	33	53	43	43	23.08	cps
Erbium	164-2	23	20	23	22	8.65	cps
Gadolinium	160-1	13	27	10	17	52.93	cps
Gadolinium	160-2	120	107	123	117	7.56	cps
Holmium	165-1	5433927	5443459	5505223	5460869	0.71	cps
Holmium	165-2	3809112	3830024	3782061	3807065	0.63	cps
Indium	115-1	5005927	4917260	4957854	4960347	0.89	cps
Indium	115-2	1729288	1786344	1730430	1748687	1.87	cps
Iron	56-2	126860	127123	128409	127464	0.65	cps
Iron	57-2	5738	6208	5921	5956	3.98	cps
Iron	54-2	8002	8159	8192	8118	1.25	cps
Krypton	83-1	240	230	200	223	9.32	cps

LB Number : LB133196 Operator : Jaswal
Lab Sample ID : S02 Instrumnet Name : P7
Client Sample ID : S02 Dilution Factor : 1
Date & Time Acquired : 2024-10-29 18:19:37 DataFile Name : 006CAL.S.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Lead	206-1	3204	3167	3227	3199	0.95	cps
Lead	207-1	2634	2817	2864	2771	4.39	cps
Lead	208-1	12282	12856	13103	12747	3.30	cps
Lithium	6-1	439914	441593	448117	443208	0.98	cps
Magnesium	24-2	119543	119517	119191	119417	0.16	cps
Manganese	55-2	2320	2367	2327	2338	1.08	cps
Molybdenum	94-1	11361	12025	11455	11614	3.09	cps
Molybdenum	95-1	13283	13927	14354	13854	3.89	cps
Molybdenum	96-1	15225	15582	15652	15486	1.48	cps
Molybdenum	97-1	8993	8539	8689	8740	2.64	cps
Molybdenum	98-1	21723	22885	22230	22279	2.61	cps
Neodymium	150-1	3	10	13	9	57.30	cps
Neodymium	150-2	7	0	0	2	173.21	cps
Nickel	60-2	1323	1173	1290	1262	6.24	cps
Phosphorus	31-2	337	300	423	353	17.92	cps
Potassium	39-2	240362	239813	239346	239840	0.21	cps
Rhodium	103-1	4829016	4735448	4819436	4794633	1.07	cps
Rhodium	103-2	2934594	2950157	2953894	2946215	0.35	cps
Scandium	45-1	3100752	3078287	3133306	3104115	0.89	cps
Scandium	45-2	295736	293999	295848	295194	0.35	cps
Selenium	82-1	749	733	782	754	3.28	cps
Selenium	77-2	33	37	47	39	17.85	cps
Selenium	78-2	537	570	510	539	5.58	cps
Silicon	28-1	300581	298520	297296	298799	0.56	cps
Silver	107-1	6068	6151	6251	6157	1.49	cps
Silver	109-1	5805	6055	6121	5994	2.79	cps
Sodium	23-2	228718	226243	226672	227211	0.58	cps
Strontium	86-1	2290	2260	2330	2294	1.53	cps
Strontium	88-1	16863	17260	17637	17254	2.24	cps
Sulfur	34-1	186054	184256	183899	184736	0.63	cps
Terbium	159-1	5594626	5638771	5813641	5682346	2.04	cps
Terbium	159-2	3791414	3845999	3906517	3847977	1.50	cps
Thallium	203-1	3891	4067	3981	3980	2.22	cps
Thallium	205-1	8660	9140	9377	9059	4.03	cps
Tin	118-1	21179	21236	21500	21305	0.80	cps
Titanium	47-1	3814	3911	3867	3864	1.25	cps

LB Number :LB133196

Operator :Jaswal

Lab Sample ID :S02

Instrumnet Name :P7

Client Sample ID :S02

Dilution Factor :1

Date & Time Acquired :2024-10-29 18:19:37

DataFile Name :006CALS.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Uranium	238-1	10851	10324	10811	10662	2.75	cps
Vanadium	51-2	11901	11935	11808	11881	0.55	cps
Yttrium	89-1	8865321	8865435	8745452	8825403	0.78	cps
Yttrium	89-2	2279753	2345450	2341081	2322095	1.58	cps
Zinc	66-2	2527	2610	2797	2645	5.23	cps
Zirconium	90-1	9887	9997	10104	9996	1.08	cps
Zirconium	91-1	2184	2144	2207	2178	1.47	cps

LB Number : LB133196 Operator : Jaswal
Lab Sample ID : S03 Instrumnet Name : P7
Client Sample ID : S03 Dilution Factor : 1
Date & Time Acquired : 2024-10-29 18:22:54 DataFile Name : 007CALS.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Aluminium	27-2	140490	140117	141236	140614	0.41	cps
Antimony	121-1	272076	278755	282865	277899	1.96	cps
Arsenic	75-2	18729	18792	18395	18638	1.14	cps
Barium	135-1	327348	332644	337842	332611	1.58	cps
Barium	137-1	567692	575088	580848	574543	1.15	cps
Beryllium	9-1	32975	33339	32955	33090	0.65	cps
Bismuth	209-1	3242572	3340014	3300991	3294526	1.49	cps
Bismuth	209-2	2647780	2732253	2754864	2711632	2.08	cps
Bromine	81-1	6288	6088	6425	6267	2.70	cps
Bromine	81-2	60	100	53	71	35.50	cps
Cadmium	108-1	4988	4838	5208	5011	3.72	cps
Cadmium	106-1	8503	8259	8713	8491	2.67	cps
Cadmium	111-1	69706	70678	70767	70384	0.84	cps
Calcium	43-1	92826	93704	96099	94209	1.80	cps
Calcium	44-1	1409948	1434405	1436599	1426984	1.04	cps
Carbon	12-1						cps
Carbon	12-2						cps
Chlorine	35-1						cps
Chlorine	35-2						cps
Chromium	52-2	141530	140784	139041	140452	0.91	cps
Cobalt	59-2	208918	206763	208640	208107	0.56	cps
Copper	63-2	1555074	1552779	1533817	1547224	0.75	cps
Dysprosium	156-1	383	390	333	369	8.40	cps
Dysprosium	156-2	103	110	107	107	3.12	cps
Erbium	164-1	63	43	50	52	19.50	cps
Erbium	164-2	20	20	17	19	10.18	cps
Gadolinium	160-1	20	30	30	27	21.65	cps
Gadolinium	160-2	117	147	167	143	17.56	cps
Holmium	165-1	5410480	5541328	5527851	5493219	1.31	cps
Holmium	165-2	3884753	3952694	3944344	3927264	0.94	cps
Indium	115-1	4895596	4920232	4906477	4907435	0.25	cps
Indium	115-2	1749166	1736886	1732998	1739683	0.49	cps
Iron	56-2	6031920	5966475	5971704	5990033	0.61	cps
Iron	57-2	157079	154607	155681	155789	0.80	cps
Iron	54-2	350721	345787	347786	348098	0.71	cps
Krypton	83-1	210	227	270	236	13.15	cps

LB Number : LB133196 Operator : Jaswal
Lab Sample ID : S03 Instrumnet Name : P7
Client Sample ID : S03 Dilution Factor : 1
Date & Time Acquired : 2024-10-29 18:22:54 DataFile Name : 007CAL.S.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Lead	206-1	795695	801128	814248	803690	1.19	cps
Lead	207-1	685448	695576	708895	696640	1.69	cps
Lead	208-1	3368409	3471751	3476680	3438947	1.78	cps
Lithium	6-1	441624	445143	440996	442588	0.50	cps
Magnesium	24-2	1177867	1168288	1142202	1162786	1.59	cps
Manganese	55-2	990638	983029	993125	988931	0.53	cps
Molybdenum	94-1	1095457	1123639	1122167	1113754	1.42	cps
Molybdenum	95-1	1650304	1664799	1652225	1655776	0.48	cps
Molybdenum	96-1	1771593	1798968	1810546	1793702	1.12	cps
Molybdenum	97-1	982090	986479	1017323	995297	1.93	cps
Molybdenum	98-1	2638807	2628536	2658758	2642034	0.58	cps
Neodymium	150-1	13	33	17	21	50.75	cps
Neodymium	150-2	7	10	0	6	91.64	cps
Nickel	60-2	53468	52137	53134	52913	1.31	cps
Phosphorus	31-2	8122	8159	8352	8211	1.51	cps
Potassium	39-2	928131	918739	922710	923193	0.51	cps
Rhodium	103-1	4794505	4745887	4856649	4799014	1.16	cps
Rhodium	103-2	2967877	2967649	2950613	2962046	0.33	cps
Scandium	45-1	3123216	3112313	3144041	3126523	0.52	cps
Scandium	45-2	301052	299612	302227	300964	0.44	cps
Selenium	82-1	4756	4899	4996	4884	2.47	cps
Selenium	77-2	467	500	440	469	6.41	cps
Selenium	78-2	1960	1990	1963	1971	0.83	cps
Silicon	28-1	668580	678016	689156	678584	1.52	cps
Silver	107-1	344846	349101	357249	350398	1.80	cps
Silver	109-1	324693	334470	333099	330754	1.60	cps
Sodium	23-2	2038398	2016250	2038411	2031020	0.63	cps
Strontium	86-1	2425766	2472081	2463560	2453802	1.00	cps
Strontium	88-1	21113384	21671706	21565906	21450332	1.38	cps
Sulfur	34-1	204688	206002	204644	205111	0.38	cps
Terbium	159-1	5743040	5639146	5727924	5703370	0.98	cps
Terbium	159-2	3918816	3898556	3893974	3903782	0.34	cps
Thallium	203-1	196961	200181	203093	200078	1.53	cps
Thallium	205-1	467853	472217	476618	472229	0.93	cps
Tin	118-1	222816	228351	229512	226893	1.58	cps
Titanium	47-1	434006	441011	443793	439603	1.15	cps

LB Number :LB133196

Operator :Jaswal

Lab Sample ID :S03

Instrumnet Name :P7

Client Sample ID :S03

Dilution Factor :1

Date & Time Acquired :2024-10-29 18:22:54

DataFile Name :007CALS.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Uranium	238-1	564403	571720	582502	572875	1.59	cps
Vanadium	51-2	125027	122533	124421	123994	1.05	cps
Yttrium	89-1	8748077	8924677	8803064	8825272	1.02	cps
Yttrium	89-2	2333322	2358769	2381070	2357720	1.01	cps
Zinc	66-2	243433	243146	244529	243703	0.30	cps
Zirconium	90-1	509277	509619	517769	512222	0.94	cps
Zirconium	91-1	111709	112376	113589	112558	0.85	cps

LB Number : LB133196 Operator : Jaswal
Lab Sample ID : S04 Instrumnet Name : P7
Client Sample ID : S04 Dilution Factor : 1
Date & Time Acquired : 2024-10-29 18:26:02 DataFile Name : 008CAL.S.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Aluminium	27-2	348651	342772	347299	346241	0.89	cps
Antimony	121-1	686338	702156	711069	699855	1.79	cps
Arsenic	75-2	46258	46399	45526	46061	1.02	cps
Barium	135-1	826840	835434	842339	834871	0.93	cps
Barium	137-1	1402743	1448094	1451585	1434141	1.90	cps
Beryllium	9-1	80625	81633	82890	81716	1.39	cps
Bismuth	209-1	3311668	3408589	3400077	3373445	1.59	cps
Bismuth	209-2	2732491	2793865	2715092	2747149	1.51	cps
Bromine	81-1	6435	6205	6331	6324	1.82	cps
Bromine	81-2	67	67	60	64	5.98	cps
Cadmium	108-1	12269	12452	12976	12566	2.92	cps
Cadmium	106-1	18959	19169	19513	19214	1.46	cps
Cadmium	111-1	170074	173640	176272	173329	1.79	cps
Calcium	43-1	229803	236358	239029	235063	2.02	cps
Calcium	44-1	3452118	3561195	3565450	3526254	1.82	cps
Carbon	12-1						cps
Carbon	12-2						cps
Chlorine	35-1						cps
Chlorine	35-2						cps
Chromium	52-2	351211	350117	344924	348751	0.96	cps
Cobalt	59-2	510451	516744	511087	512761	0.68	cps
Copper	63-2	3937772	3925383	3933747	3932301	0.16	cps
Dysprosium	156-1	317	287	350	318	9.97	cps
Dysprosium	156-2	117	120	90	109	15.10	cps
Erbium	164-1	30	60	50	47	32.73	cps
Erbium	164-2	23	23	30	26	15.07	cps
Gadolinium	160-1	30	23	43	32	31.61	cps
Gadolinium	160-2	147	113	100	120	20.03	cps
Holmium	165-1	5540756	5559838	5644020	5581538	0.98	cps
Holmium	165-2	3871981	3967639	3899108	3912909	1.26	cps
Indium	115-1	4971303	4944331	4997585	4971073	0.54	cps
Indium	115-2	1801078	1793698	1714771	1769849	2.70	cps
Iron	56-2	15079425	14764618	14951462	14931835	1.06	cps
Iron	57-2	389557	387984	388682	388741	0.20	cps
Iron	54-2	852182	854315	856100	854199	0.23	cps
Krypton	83-1	243	260	267	257	4.68	cps

LB Number : LB133196 Operator : Jaswal
Lab Sample ID : S04 Instrumnet Name : P7
Client Sample ID : S04 Dilution Factor : 1
Date & Time Acquired : 2024-10-29 18:26:02 DataFile Name : 008CAL.S.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Lead	206-1	2282282	2313795	2336151	2310743	1.17	cps
Lead	207-1	1998370	2037050	2042552	2025991	1.19	cps
Lead	208-1	9174548	9246537	9334785	9251957	0.87	cps
Lithium	6-1	441008	456159	448296	448488	1.69	cps
Magnesium	24-2	2861389	2903239	2864981	2876537	0.81	cps
Manganese	55-2	2493933	2467003	2541261	2500732	1.50	cps
Molybdenum	94-1	2788319	2882067	2877268	2849218	1.85	cps
Molybdenum	95-1	4029645	4176975	4174336	4126986	2.04	cps
Molybdenum	96-1	4396840	4551556	4539871	4496089	1.92	cps
Molybdenum	97-1	2506080	2601762	2561716	2556519	1.88	cps
Molybdenum	98-1	6484002	6614159	6665515	6587892	1.42	cps
Neodymium	150-1	47	27	53	42	32.86	cps
Neodymium	150-2	13	7	13	11	34.61	cps
Nickel	60-2	133630	131031	132953	132538	1.02	cps
Phosphorus	31-2	20457	20861	21018	20779	1.39	cps
Potassium	39-2	2058562	2071884	2029382	2053276	1.06	cps
Rhodium	103-1	4804277	4816313	4843701	4821430	0.42	cps
Rhodium	103-2	2956490	3031671	2928313	2972158	1.80	cps
Scandium	45-1	3143999	3172223	3150459	3155560	0.47	cps
Scandium	45-2	299603	301107	299985	300232	0.26	cps
Selenium	82-1	11479	11813	11888	11726	1.86	cps
Selenium	77-2	1103	1230	1380	1238	11.19	cps
Selenium	78-2	4314	4527	4217	4353	3.64	cps
Silicon	28-1	1268837	1301279	1348525	1306214	3.07	cps
Silver	107-1	861582	879382	883434	874799	1.33	cps
Silver	109-1	813654	830147	826161	823321	1.05	cps
Sodium	23-2	4945526	4977980	4931033	4951513	0.49	cps
Strontium	86-1	6058442	6165987	6192424	6138951	1.16	cps
Strontium	88-1	52356749	53816361	53929388	53367499	1.64	cps
Sulfur	34-1	233133	232806	234025	233321	0.27	cps
Terbium	159-1	5678522	5754625	5797755	5743634	1.05	cps
Terbium	159-2	3841830	3777257	3782307	3800465	0.94	cps
Thallium	203-1	494649	506603	508912	503388	1.52	cps
Thallium	205-1	1170002	1197810	1191133	1186315	1.22	cps
Tin	118-1	552416	567281	564797	561498	1.42	cps
Titanium	47-1	1073702	1103274	1101914	1092963	1.53	cps

LB Number :

LB133196

Operator :

Jaswal

Lab Sample ID :

S04

Instrumnet Name :

P7

Client Sample ID :

S04

Dilution Factor :

1

Date & Time Acquired :

2024-10-29 18:26:02

DataFile Name :

008CALS.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Uranium	238-1	1408584	1448472	1458489	1438515	1.84	cps
Vanadium	51-2	312522	310376	312775	311891	0.42	cps
Yttrium	89-1	8841471	9016277	9021233	8959661	1.14	cps
Yttrium	89-2	2413022	2398530	2367556	2393036	0.97	cps
Zinc	66-2	610039	610986	601270	607432	0.88	cps
Zirconium	90-1	1252457	1290780	1294935	1279391	1.83	cps
Zirconium	91-1	277355	285509	286138	283001	1.73	cps

LB Number : LB133196 Operator : Jaswal
Lab Sample ID : S05 Instrumnet Name : P7
Client Sample ID : S05 Dilution Factor : 1
Date & Time Acquired : 2024-10-29 18:29:01 DataFile Name : 009CAL.S.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Aluminium	27-2	700753	696269	689155	695392	0.84	cps
Antimony	121-1	1374369	1422509	1431892	1409590	2.19	cps
Arsenic	75-2	94290	92797	92040	93042	1.23	cps
Barium	135-1	1790441	1803985	1840301	1811576	1.42	cps
Barium	137-1	3077657	3124254	3185001	3128970	1.72	cps
Beryllium	9-1	162630	166274	167701	165535	1.58	cps
Bismuth	209-1	3361138	3422471	3354249	3379286	1.11	cps
Bismuth	209-2	2774843	2721733	2758672	2751749	0.99	cps
Bromine	81-1	6315	6145	6241	6234	1.37	cps
Bromine	81-2	53	53	87	64	29.87	cps
Cadmium	108-1	25332	25315	25756	25468	0.98	cps
Cadmium	106-1	36476	36559	37178	36738	1.04	cps
Cadmium	111-1	340217	350231	352722	347723	1.90	cps
Calcium	43-1	465262	477454	476051	472922	1.41	cps
Calcium	44-1	6859443	7225510	7158646	7081200	2.75	cps
Carbon	12-1						cps
Carbon	12-2						cps
Chlorine	35-1						cps
Chlorine	35-2						cps
Chromium	52-2	695146	689144	693147	692479	0.44	cps
Cobalt	59-2	1037288	1029979	1027601	1031623	0.49	cps
Copper	63-2	7694578	7740124	7572645	7669115	1.13	cps
Dysprosium	156-1	410	343	407	387	9.72	cps
Dysprosium	156-2	177	153	160	163	7.36	cps
Erbium	164-1	43	47	67	52	24.17	cps
Erbium	164-2	27	47	37	37	27.27	cps
Gadolinium	160-1	40	53	20	38	44.41	cps
Gadolinium	160-2	173	140	193	169	15.95	cps
Holmium	165-1	5599604	5787088	5778033	5721575	1.85	cps
Holmium	165-2	3957288	3917275	3956526	3943696	0.58	cps
Indium	115-1	4939074	4980124	4946214	4955138	0.44	cps
Indium	115-2	1796747	1781650	1760920	1779772	1.01	cps
Iron	56-2	29928793	29745015	29729360	29801056	0.37	cps
Iron	57-2	768300	762731	759993	763675	0.55	cps
Iron	54-2	1675144	1702877	1674864	1684295	0.96	cps
Krypton	83-1	233	220	227	227	2.94	cps

LB Number : LB133196 Operator : Jaswal
Lab Sample ID : S05 Instrumnet Name : P7
Client Sample ID : S05 Dilution Factor : 1
Date & Time Acquired : 2024-10-29 18:29:01 DataFile Name : 009CAL.S.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Lead	206-1	4644335	4709153	4707900	4687129	0.79	cps
Lead	207-1	4064032	4117153	4153126	4111437	1.09	cps
Lead	208-1	18382376	18781544	18851608	18671843	1.36	cps
Lithium	6-1	445519	461526	451882	452976	1.78	cps
Magnesium	24-2	5879260	5697599	5753932	5776930	1.61	cps
Manganese	55-2	4963257	4954946	4916207	4944803	0.51	cps
Molybdenum	94-1	5610347	5834997	5785944	5743763	2.06	cps
Molybdenum	95-1	8108329	8277655	8459485	8281823	2.12	cps
Molybdenum	96-1	8820416	9176458	9178378	9058417	2.28	cps
Molybdenum	97-1	5012372	5194989	5158390	5121917	1.89	cps
Molybdenum	98-1	13118572	13345657	13461007	13308412	1.31	cps
Neodymium	150-1	27	50	50	42	31.90	cps
Neodymium	150-2	17	10	20	16	32.73	cps
Nickel	60-2	262984	265644	260406	263011	1.00	cps
Phosphorus	31-2	41396	41005	40901	41101	0.63	cps
Potassium	39-2	4088673	3949695	4016437	4018268	1.73	cps
Rhodium	103-1	4824191	4920232	4935356	4893259	1.23	cps
Rhodium	103-2	3024986	2963087	2919067	2969047	1.79	cps
Scandium	45-1	3140930	3253686	3177352	3190656	1.80	cps
Scandium	45-2	302971	301340	302679	302330	0.29	cps
Selenium	82-1	22609	23341	23369	23106	1.86	cps
Selenium	77-2	2317	2624	2437	2459	6.29	cps
Selenium	78-2	8182	8149	8066	8132	0.74	cps
Silicon	28-1	2208019	2244669	2282278	2244989	1.65	cps
Silver	107-1	1807413	1849915	1883559	1846962	2.07	cps
Silver	109-1	1722218	1768593	1786246	1759019	1.88	cps
Sodium	23-2	10165716	9990710	9922004	10026144	1.25	cps
Strontium	86-1	12264370	12491940	12523846	12426719	1.14	cps
Strontium	88-1	106092505	108508232	110074975	108225237	1.85	cps
Sulfur	34-1	280960	283674	285556	283396	0.82	cps
Terbium	159-1	5871605	5903170	5848247	5874341	0.47	cps
Terbium	159-2	3965214	3913089	3956502	3944935	0.71	cps
Thallium	203-1	990728	1027264	1030080	1016024	2.16	cps
Thallium	205-1	2741268	2832802	2771173	2781747	1.68	cps
Tin	118-1	1115137	1142189	1158877	1138734	1.94	cps
Titanium	47-1	2164955	2240570	2226402	2210642	1.82	cps

LB Number :

LB133196

Operator :

Jaswal

Lab Sample ID :

S05

Instrumnet Name :

P7

Client Sample ID :

S05

Dilution Factor :

1

Date & Time Acquired :

2024-10-29 18:29:01

DataFile Name :

009CALS.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Uranium	238-1	3346162	3452144	3441474	3413260	1.71	cps
Vanadium	51-2	626084	619914	622786	622928	0.50	cps
Yttrium	89-1	9020174	8950270	9099874	9023439	0.83	cps
Yttrium	89-2	2368061	2366447	2319155	2351221	1.18	cps
Zinc	66-2	1210825	1205689	1200394	1205636	0.43	cps
Zirconium	90-1	2580344	2629569	2636721	2615544	1.17	cps
Zirconium	91-1	556282	573215	575029	568175	1.82	cps

LB Number : LB133196 Operator : Jaswal
Lab Sample ID : S06 Instrumnet Name : P7
Client Sample ID : S06 Dilution Factor : 1
Date & Time Acquired : 2024-10-29 18:31:54 DataFile Name : 010CAL.S.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Aluminium	27-2	1393986	1375550	1376111	1381883	0.76	cps
Antimony	121-1	2971357	3079178	3125301	3058612	2.58	cps
Arsenic	75-2	188764	188538	187337	188213	0.41	cps
Barium	135-1	3625708	3759068	3779852	3721543	2.25	cps
Barium	137-1	6163678	6453504	6311723	6309635	2.30	cps
Beryllium	9-1	329641	338832	340200	336224	1.71	cps
Bismuth	209-1	3459454	3277869	3390129	3375817	2.71	cps
Bismuth	209-2	2827206	2837893	2837591	2834230	0.21	cps
Bromine	81-1	6175	6552	6458	6395	3.07	cps
Bromine	81-2	67	80	93	80	16.66	cps
Cadmium	108-1	49799	51354	50956	50703	1.59	cps
Cadmium	106-1	71659	73582	74403	73215	1.92	cps
Cadmium	111-1	683932	714749	707706	702129	2.30	cps
Calcium	43-1	934530	957733	956642	949635	1.38	cps
Calcium	44-1	13798341	14303837	14334514	14145564	2.13	cps
Carbon	12-1						cps
Carbon	12-2						cps
Chlorine	35-1						cps
Chlorine	35-2						cps
Chromium	52-2	1381939	1380067	1392100	1384702	0.47	cps
Cobalt	59-2	2130435	2093055	2105693	2109728	0.90	cps
Copper	63-2	15396421	15447874	15375077	15406457	0.24	cps
Dysprosium	156-1	357	413	320	363	12.94	cps
Dysprosium	156-2	270	217	270	252	12.21	cps
Erbium	164-1	73	90	57	73	22.73	cps
Erbium	164-2	50	47	63	53	16.53	cps
Gadolinium	160-1	103	53	50	69	43.37	cps
Gadolinium	160-2	140	167	170	159	10.35	cps
Holmium	165-1	5770751	5497083	5627283	5631706	2.43	cps
Holmium	165-2	4058303	4128798	4071571	4086224	0.92	cps
Indium	115-1	4948447	4757284	5034439	4913390	2.89	cps
Indium	115-2	1804738	1785469	1794156	1794787	0.54	cps
Iron	56-2	60424131	59539517	59736202	59899950	0.78	cps
Iron	57-2	1502489	1502205	1476661	1493785	0.99	cps
Iron	54-2	3396211	3361571	3379446	3379076	0.51	cps
Krypton	83-1	267	260	213	247	11.78	cps

LB Number : LB133196 Operator : Jaswal
Lab Sample ID : S06 Instrumnet Name : P7
Client Sample ID : S06 Dilution Factor : 1
Date & Time Acquired : 2024-10-29 18:31:54 DataFile Name : 010CAL.S.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Lead	206-1	9399820	9761325	9642634	9601260	1.92	cps
Lead	207-1	8227065	8340295	8436148	8334503	1.26	cps
Lead	208-1	37355542	38216202	38509518	38027087	1.58	cps
Lithium	6-1	471952	454941	474785	467226	2.30	cps
Magnesium	24-2	11699142	11601102	11678114	11659453	0.44	cps
Manganese	55-2	9901890	9909520	10050934	9954115	0.84	cps
Molybdenum	94-1	11369976	11784867	11767449	11640764	2.02	cps
Molybdenum	95-1	16548426	17187045	17055909	16930460	1.99	cps
Molybdenum	96-1	18016535	18678628	18655471	18450211	2.04	cps
Molybdenum	97-1	10138595	10601971	10686986	10475851	2.82	cps
Molybdenum	98-1	26347645	27466752	27708381	27174260	2.67	cps
Neodymium	150-1	77	103	100	93	15.56	cps
Neodymium	150-2	30	53	17	33	55.67	cps
Nickel	60-2	521865	521049	523525	522146	0.24	cps
Phosphorus	31-2	81569	79552	82243	81121	1.73	cps
Potassium	39-2	8033468	7925857	8071692	8010339	0.94	cps
Rhodium	103-1	4817752	4668128	4821980	4769287	1.84	cps
Rhodium	103-2	2947279	3051146	2996125	2998183	1.73	cps
Scandium	45-1	3114920	3064133	3085841	3088298	0.83	cps
Scandium	45-2	307692	304693	306645	306344	0.50	cps
Selenium	82-1	44909	46594	46087	45863	1.88	cps
Selenium	77-2	4461	4767	4614	4614	3.32	cps
Selenium	78-2	16292	15732	16302	16109	2.03	cps
Silicon	28-1	4031930	4108696	4209059	4116562	2.16	cps
Silver	107-1	3643341	3721518	3771708	3712189	1.74	cps
Silver	109-1	3465277	3594674	3548622	3536191	1.85	cps
Sodium	23-2	20044022	19995425	20236171	20091873	0.63	cps
Strontium	86-1	24421816	25057639	25396997	24958817	1.98	cps
Strontium	88-1	212172530	220165690	223602037	218646752	2.68	cps
Sulfur	34-1	386134	390037	389075	388415	0.52	cps
Terbium	159-1	5873201	5804421	5970917	5882847	1.42	cps
Terbium	159-2	4107431	4068281	4045767	4073827	0.77	cps
Thallium	203-1	2363518	2429418	2452758	2415232	1.92	cps
Thallium	205-1	5539538	5716419	5678533	5644830	1.65	cps
Tin	118-1	2457449	2483999	2549972	2497140	1.91	cps
Titanium	47-1	4375900	4505948	4516886	4466245	1.76	cps

LB Number :LB133196

Operator :Jaswal

Lab Sample ID :S06

Instrumnet Name :P7

Client Sample ID :S06

Dilution Factor :1

Date & Time Acquired :2024-10-29 18:31:54

DataFile Name :010CALS.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Uranium	238-1	6962305	7067218	7082843	7037455	0.93	cps
Vanadium	51-2	1261254	1247546	1232116	1246972	1.17	cps
Yttrium	89-1	9043176	8811720	8970208	8941701	1.32	cps
Yttrium	89-2	2432764	2409550	2418288	2420200	0.48	cps
Zinc	66-2	2479079	2493376	2481436	2484630	0.31	cps
Zirconium	90-1	5211359	5420620	5419077	5350352	2.25	cps
Zirconium	91-1	1135978	1172443	1173975	1160799	1.85	cps

LB Number : LB133196 Operator : Jaswal
Lab Sample ID : S07 Instrumnet Name : P7
Client Sample ID : S07 Dilution Factor : 1
Date & Time Acquired : 2024-10-29 18:34:39 DataFile Name : 011CAL.S.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Aluminium	27-2	2812417	2794795	2814691	2807301	0.39	cps
Antimony	121-1	6189196	6248124	6234462	6223927	0.50	cps
Arsenic	75-2	382461	380542	380615	381206	0.29	cps
Barium	135-1	7432424	7608235	7659549	7566736	1.57	cps
Barium	137-1	12822068	13236741	13157366	13072058	1.68	cps
Beryllium	9-1	707076	715886	722736	715233	1.10	cps
Bismuth	209-1	3447799	3612505	3579102	3546469	2.46	cps
Bismuth	209-2	2894720	2812132	2835219	2847357	1.50	cps
Bromine	81-1	6602	6592	6421	6538	1.55	cps
Bromine	81-2	50	73	67	63	18.98	cps
Cadmium	108-1	103365	104909	106457	104911	1.47	cps
Cadmium	106-1	147221	149571	147985	148259	0.81	cps
Cadmium	111-1	1411201	1426687	1432857	1423582	0.78	cps
Calcium	43-1	1904344	1926052	1914475	1914957	0.57	cps
Calcium	44-1	28929030	29053816	29344010	29108952	0.73	cps
Carbon	12-1						cps
Carbon	12-2						cps
Chlorine	35-1						cps
Chlorine	35-2						cps
Chromium	52-2	2846522	2828782	2814448	2829917	0.57	cps
Cobalt	59-2	4253201	4208984	4231759	4231315	0.52	cps
Copper	63-2	30878009	30697709	30747141	30774286	0.30	cps
Dysprosium	156-1	510	450	483	481	6.25	cps
Dysprosium	156-2	437	473	397	436	8.80	cps
Erbium	164-1	97	90	100	96	5.33	cps
Erbium	164-2	93	67	47	69	33.98	cps
Gadolinium	160-1	107	63	80	83	26.23	cps
Gadolinium	160-2	270	183	200	218	21.12	cps
Holmium	165-1	5901009	6005493	6059975	5988826	1.35	cps
Holmium	165-2	4222588	4150129	4121420	4164713	1.25	cps
Indium	115-1	5054381	5149551	5125236	5109723	0.97	cps
Indium	115-2	1786626	1745083	1752510	1761406	1.26	cps
Iron	56-2	120853538	120993585	121512575	121119899	0.29	cps
Iron	57-2	3053613	3034154	3052217	3046661	0.36	cps
Iron	54-2	6775748	6720236	6724967	6740317	0.46	cps
Krypton	83-1	253	270	243	256	5.27	cps

LB Number : LB133196 Operator : Jaswal
Lab Sample ID : S07 Instrumnet Name : P7
Client Sample ID : S07 Dilution Factor : 1
Date & Time Acquired : 2024-10-29 18:34:39 DataFile Name : 011CAL.S.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Lead	206-1	19256754	19760304	19751030	19589363	1.47	cps
Lead	207-1	17037219	17513437	17325531	17292062	1.39	cps
Lead	208-1	77389738	79504512	78845517	78579922	1.38	cps
Lithium	6-1	491889	506961	510595	503148	1.97	cps
Magnesium	24-2	23795817	23252616	23527713	23525382	1.15	cps
Manganese	55-2	20120301	20183586	20053100	20118996	0.32	cps
Molybdenum	94-1	23737593	24354150	24241792	24111179	1.36	cps
Molybdenum	95-1	34613127	35165122	35199984	34992744	0.94	cps
Molybdenum	96-1	37743070	37781404	38454102	37992859	1.05	cps
Molybdenum	97-1	21460889	21716948	21982921	21720253	1.20	cps
Molybdenum	98-1	54771706	56411837	55942866	55708803	1.52	cps
Neodymium	150-1	247	250	277	258	6.38	cps
Neodymium	150-2	50	47	30	42	25.38	cps
Nickel	60-2	1046654	1033639	1041656	1040650	0.63	cps
Phosphorus	31-2	166491	164692	166023	165736	0.56	cps
Potassium	39-2	16182646	16117726	16248282	16182885	0.40	cps
Rhodium	103-1	4885668	4984692	5048960	4973107	1.65	cps
Rhodium	103-2	3035741	2967930	2988457	2997376	1.16	cps
Scandium	45-1	3275927	3258619	3279164	3271237	0.34	cps
Scandium	45-2	312612	310769	307973	310451	0.75	cps
Selenium	82-1	93206	93937	93790	93644	0.41	cps
Selenium	77-2	9480	9903	9613	9665	2.24	cps
Selenium	78-2	31965	31677	32148	31930	0.74	cps
Silicon	28-1	7718974	7809552	7701790	7743439	0.75	cps
Silver	107-1	7595079	7509256	7677955	7594097	1.11	cps
Silver	109-1	6967219	7220875	7354079	7180724	2.74	cps
Sodium	23-2	40855999	40337359	40496553	40563304	0.65	cps
Strontium	86-1	51175089	51467446	51738278	51460271	0.55	cps
Strontium	88-1	448046073	450857073	458088860	452330669	1.15	cps
Sulfur	34-1	603111	614327	610753	609397	0.94	cps
Terbium	159-1	6139027	6256459	6270110	6221865	1.16	cps
Terbium	159-2	4202856	4161302	4151613	4171924	0.65	cps
Thallium	203-1	4916539	4947670	5028421	4964210	1.16	cps
Thallium	205-1	11495012	11627301	11784002	11635438	1.24	cps
Tin	118-1	4930656	5044015	5029041	5001237	1.23	cps
Titanium	47-1	9005435	9132523	9147767	9095242	0.86	cps

LB Number :

LB133196

Operator :

Jaswal

Lab Sample ID :

S07

Instrumnet Name :

P7

Client Sample ID :

S07

Dilution Factor :

1

Date & Time Acquired :

2024-10-29 18:34:39

DataFile Name :

011CALS.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Uranium	238-1	14491443	14759204	14869810	14706819	1.32	cps
Vanadium	51-2	2514869	2532276	2517067	2521404	0.38	cps
Yttrium	89-1	9228921	9662815	9491627	9461121	2.31	cps
Yttrium	89-2	2479811	2446865	2391960	2439545	1.82	cps
Zinc	66-2	5057546	5007121	4994717	5019795	0.66	cps
Zirconium	90-1	10841962	11105061	11057073	11001365	1.27	cps
Zirconium	91-1	2404784	2500712	2452756	2452751	1.96	cps

LB Number :LB133196Operator :Jaswal

Lab Sample ID :S08Instrumnet Name :P7

Client Sample ID :S08Dilution Factor :1

Date & Time Acquired :2024-10-29 18:37:25DataFile Name :012CAL.S.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Aluminium	27-2	14883943	14809071	14810242	14834419	0.29	cps
Antimony	121-1	5041	4924	4654	4873	4.07	cps
Arsenic	75-2	290	250	230	257	11.90	cps
Barium	135-1	3077	3017	3094	3063	1.32	cps
Barium	137-1	5661	5404	5334	5467	3.15	cps
Beryllium	9-1	127	157	140	141	10.65	cps
Bismuth	209-1	3334707	3312833	3352002	3333180	0.59	cps
Bismuth	209-2	2659939	2730409	2723877	2704742	1.44	cps
Bromine	81-1	7128	6955	7419	7167	3.27	cps
Bromine	81-2	87	60	90	79	20.84	cps
Cadmium	108-1	83	57	47	62	30.46	cps
Cadmium	106-1	1527	1637	1527	1563	4.06	cps
Cadmium	111-1	1270	1316	1276	1288	1.93	cps
Calcium	43-1	8225386	8449484	8688413	8454427	2.74	cps
Calcium	44-1	137228675	137323241	141654135	138735350	1.82	cps
Carbon	12-1						cps
Carbon	12-2						cps
Chlorine	35-1						cps
Chlorine	35-2						cps
Chromium	52-2	9633	9760	9717	9703	0.66	cps
Cobalt	59-2	11671	11318	11481	11490	1.54	cps
Copper	63-2	8282	8496	8429	8402	1.30	cps
Dysprosium	156-1	567	567	500	544	7.07	cps
Dysprosium	156-2	270	230	243	248	8.22	cps
Erbium	164-1	217	237	237	230	5.02	cps
Erbium	164-2	197	177	123	166	22.90	cps
Gadolinium	160-1	187	193	220	200	8.82	cps
Gadolinium	160-2	260	243	217	240	9.11	cps
Holmium	165-1	6071908	6077056	6077932	6075632	0.05	cps
Holmium	165-2	4172185	4251316	4168106	4197202	1.12	cps
Indium	115-1	5084117	5095577	5073976	5084557	0.21	cps
Indium	115-2	1835533	1830404	1786229	1817389	1.49	cps
Iron	56-2	604838178	603303364	600085911	602742484	0.40	cps
Iron	57-2	15240692	15210070	15116457	15189073	0.43	cps
Iron	54-2	33383332	33575820	33231126	33396760	0.52	cps
Krypton	83-1	273	227	300	267	13.92	cps

LB Number : LB133196 Operator : Jaswal
Lab Sample ID : S08 Instrumnet Name : P7
Client Sample ID : S08 Dilution Factor : 1
Date & Time Acquired : 2024-10-29 18:37:25 DataFile Name : 012CAL.S.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Lead	206-1	4284	3974	4367	4208	4.93	cps
Lead	207-1	3694	3524	3561	3593	2.49	cps
Lead	208-1	17178	16374	16634	16729	2.45	cps
Lithium	6-1	515939	514746	530101	520262	1.64	cps
Magnesium	24-2	122429638	123259698	122897702	122862346	0.34	cps
Manganese	55-2	11385	10947	10941	11091	2.29	cps
Molybdenum	94-1	6125	5751	5554	5810	4.99	cps
Molybdenum	95-1	5401	5251	5001	5218	3.87	cps
Molybdenum	96-1	11328	10864	11184	11125	2.13	cps
Molybdenum	97-1	3247	3224	3234	3235	0.36	cps
Molybdenum	98-1	8012	7996	7715	7908	2.11	cps
Neodymium	150-1	97	147	93	112	26.62	cps
Neodymium	150-2	87	80	43	70	33.34	cps
Nickel	60-2	5164	5368	5168	5233	2.23	cps
Phosphorus	31-2	213	227	263	234	11.04	cps
Potassium	39-2	83864742	83841120	84541375	84082413	0.47	cps
Rhodium	103-1	4714429	4733957	4781433	4743273	0.73	cps
Rhodium	103-2	2933559	2908171	2926664	2922798	0.45	cps
Scandium	45-1	3334127	3292463	3354783	3327124	0.95	cps
Scandium	45-2	321681	318698	318268	319549	0.58	cps
Selenium	82-1	490	488	368	449	15.57	cps
Selenium	77-2	3	0	7	3	100.05	cps
Selenium	78-2	320	327	397	348	12.21	cps
Silicon	28-1	337392	331974	328471	332612	1.35	cps
Silver	107-1	1053	960	873	962	9.36	cps
Silver	109-1	870	870	687	809	13.09	cps
Sodium	23-2	209451584	207424110	205973710	207616468	0.84	cps
Strontium	86-1	9016	8593	8566	8725	2.90	cps
Strontium	88-1	75218	73600	72243	73687	2.02	cps
Sulfur	34-1	188608	193518	194622	192250	1.67	cps
Terbium	159-1	6236668	6141037	6292492	6223399	1.23	cps
Terbium	159-2	4197936	4173827	4121251	4164338	0.94	cps
Thallium	203-1	833	723	630	729	13.96	cps
Thallium	205-1	1733	1520	1463	1572	9.06	cps
Tin	118-1	3591	3424	3597	3537	2.78	cps
Titanium	47-1	1343	1467	1387	1399	4.47	cps

LB Number :LB133196

Operator :Jaswal

Lab Sample ID :S08

Instrumnet Name :P7

Client Sample ID :S08

Dilution Factor :1

Date & Time Acquired :2024-10-29 18:37:25

DataFile Name :012CALS.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Uranium	238-1	887	867	763	839	7.89	cps
Vanadium	51-2	587	543	673	601	11.01	cps
Yttrium	89-1	9335911	9439542	9352995	9376149	0.59	cps
Yttrium	89-2	2473828	2488174	2437720	2466574	1.05	cps
Zinc	66-2	5138	4961	5431	5177	4.59	cps
Zirconium	90-1	6345	6211	6211	6256	1.23	cps
Zirconium	91-1	1423	1467	1343	1411	4.43	cps

LB Number : LB133196 Operator : Jaswal
Lab Sample ID : ICV006 Instrumnet Name : P7
Client Sample ID : ICV006 Dilution Factor : 1
Date & Time Acquired : 2024-10-29 18:42:33 DataFile Name : 013ICV.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Aluminium	27-2	68449	68833	67993	68425	0.61	cps
Antimony	121-1	1096703	1124802	1139374	1120293	1.94	cps
Arsenic	75-2	76763	76379	75913	76352	0.56	cps
Barium	135-1	129829	132933	134875	132546	1.92	cps
Barium	137-1	221796	229421	229099	226772	1.90	cps
Beryllium	9-1	66261	69100	68179	67846	2.13	cps
Bismuth	209-1	3293728	3362199	3327527	3327818	1.03	cps
Bismuth	209-2	2652108	2867187	2760602	2759966	3.90	cps
Bromine	81-1	6205	6288	6682	6391	3.98	cps
Bromine	81-2	57	87	80	74	21.16	cps
Cadmium	108-1	9043	9496	9470	9336	2.73	cps
Cadmium	106-1	14260	14110	14504	14292	1.39	cps
Cadmium	111-1	137434	142331	142887	140884	2.13	cps
Calcium	43-1	32879	33353	33995	33409	1.68	cps
Calcium	44-1	550910	566041	568859	561937	1.72	cps
Carbon	12-1						cps
Carbon	12-2						cps
Chlorine	35-1						cps
Chlorine	35-2						cps
Chromium	52-2	289039	284269	285211	286173	0.88	cps
Cobalt	59-2	428293	421002	426888	425394	0.91	cps
Copper	63-2	291195	290919	287386	289833	0.73	cps
Dysprosium	156-1	333	307	297	312	6.07	cps
Dysprosium	156-2	77	127	60	88	39.53	cps
Erbium	164-1	30	40	23	31	26.97	cps
Erbium	164-2	40	43	27	37	24.04	cps
Gadolinium	160-1	23	23	33	27	21.65	cps
Gadolinium	160-2	140	173	150	154	11.08	cps
Holmium	165-1	5575127	5643658	5589005	5602596	0.65	cps
Holmium	165-2	3816184	4116922	3894418	3942508	3.96	cps
Indium	115-1	5037051	5153837	5082535	5091141	1.16	cps
Indium	115-2	1672008	1919477	1759215	1783567	7.04	cps
Iron	56-2	4850788	4761069	4746716	4786191	1.18	cps
Iron	57-2	124037	122559	124921	123839	0.96	cps
Iron	54-2	285113	277008	283007	281709	1.49	cps
Krypton	83-1	250	223	193	222	12.76	cps

LB Number : LB133196 Operator : Jaswal
Lab Sample ID : ICV006 Instrumnet Name : P7
Client Sample ID : ICV006 Dilution Factor : 1
Date & Time Acquired : 2024-10-29 18:42:33 DataFile Name : 013ICV.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Lead	206-1	704671	717932	723267	715290	1.34	cps
Lead	207-1	586505	601026	604781	597437	1.62	cps
Lead	208-1	2728510	2788331	2807533	2774791	1.49	cps
Lithium	6-1	460310	470414	463933	464886	1.10	cps
Magnesium	24-2	292944	287492	289748	290061	0.94	cps
Manganese	55-2	204114	196669	197979	199587	1.99	cps
Molybdenum	94-1	970	957	910	946	3.33	cps
Molybdenum	95-1	490	493	403	462	11.04	cps
Molybdenum	96-1	607	657	697	653	6.90	cps
Molybdenum	97-1	300	233	217	250	17.64	cps
Molybdenum	98-1	627	660	620	636	3.37	cps
Neodymium	150-1	13	13	10	12	15.73	cps
Neodymium	150-2	10	10	0	7	86.60	cps
Nickel	60-2	111024	107710	108688	109141	1.56	cps
Phosphorus	31-2	193	130	173	166	19.56	cps
Potassium	39-2	748252	746915	747547	747571	0.09	cps
Rhodium	103-1	4962112	4891739	4967761	4940537	0.86	cps
Rhodium	103-2	2908207	3167188	2980264	3018553	4.43	cps
Scandium	45-1	3226233	3240639	3234319	3233730	0.22	cps
Scandium	45-2	294395	321860	300879	305711	4.70	cps
Selenium	82-1	18993	19357	19284	19211	1.00	cps
Selenium	77-2	1940	1917	2104	1987	5.12	cps
Selenium	78-2	7112	6968	7168	7083	1.46	cps
Silicon	28-1	292218	295605	295852	294558	0.69	cps
Silver	107-1	335259	346252	342558	341356	1.64	cps
Silver	109-1	315995	327212	324893	322700	1.83	cps
Sodium	23-2	883119	865289	874401	874270	1.02	cps
Strontium	86-1	1087	1050	1170	1102	5.58	cps
Strontium	88-1	7062	6902	6965	6976	1.16	cps
Sulfur	34-1	185143	188092	184863	186033	0.96	cps
Terbium	159-1	5808552	5933532	5939803	5893963	1.26	cps
Terbium	159-2	3760789	4129776	3823861	3904809	5.05	cps
Thallium	203-1	870509	893938	895808	886752	1.59	cps
Thallium	205-1	2365632	2411809	2422774	2400072	1.26	cps
Tin	118-1	1643	1770	1857	1757	6.11	cps
Titanium	47-1	177	163	227	189	17.68	cps

LB Number :

LB133196

Operator :

Jaswal

Lab Sample ID :

ICV006

Instrumnet Name :

P7

Client Sample ID :

ICV006

Dilution Factor :

1

Date & Time Acquired :

2024-10-29 18:42:33

DataFile Name :

013ICV.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Uranium	238-1	103	113	100	106	6.58	cps
Vanadium	51-2	249815	245303	248322	247813	0.93	cps
Yttrium	89-1	8986494	9148878	9062265	9065879	0.90	cps
Yttrium	89-2	2298598	2513199	2361459	2391085	4.61	cps
Zinc	66-2	97553	96748	97070	97123	0.42	cps
Zirconium	90-1	1780	1630	1287	1566	16.15	cps
Zirconium	91-1	423	470	423	439	6.14	cps

LB Number :LB133196Operator :Jaswal

Lab Sample ID :ICB006Instrumnet Name :P7

Client Sample ID :ICB006Dilution Factor :1

Date & Time Acquired :2024-10-29 18:45:49DataFile Name :014CCBE.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Aluminium	27-2	303	283	263	283	7.06	cps
Antimony	121-1	860	773	837	823	5.45	cps
Arsenic	75-2	17	17	20	18	10.81	cps
Barium	135-1	127	70	73	90	35.33	cps
Barium	137-1	133	137	153	141	7.59	cps
Beryllium	9-1	17	37	57	37	54.54	cps
Bismuth	209-1	3276267	3338765	3395436	3336823	1.79	cps
Bismuth	209-2	2730410	2728185	2790577	2749724	1.29	cps
Bromine	81-1	6191	6278	6215	6228	0.72	cps
Bromine	81-2	77	73	70	73	4.55	cps
Cadmium	108-1	13	13	13	13	0.00	cps
Cadmium	106-1	1500	1493	1490	1495	0.34	cps
Cadmium	111-1	1064	1066	1057	1062	0.44	cps
Calcium	43-1	340	263	290	298	13.07	cps
Calcium	44-1	16763	15855	16219	16279	2.81	cps
Carbon	12-1						cps
Carbon	12-2						cps
Chlorine	35-1						cps
Chlorine	35-2						cps
Chromium	52-2	737	773	750	753	2.46	cps
Cobalt	59-2	153	167	137	152	9.87	cps
Copper	63-2	1233	1163	1233	1210	3.34	cps
Dysprosium	156-1	367	327	223	306	24.21	cps
Dysprosium	156-2	57	90	63	70	25.20	cps
Erbium	164-1	50	50	23	41	37.46	cps
Erbium	164-2	30	43	23	32	31.61	cps
Gadolinium	160-1	20	30	20	23	24.74	cps
Gadolinium	160-2	117	157	153	142	15.61	cps
Holmium	165-1	5517518	5650006	5576728	5581418	1.19	cps
Holmium	165-2	3958070	3884868	3919086	3920674	0.93	cps
Indium	115-1	5020795	4985766	4930477	4979013	0.91	cps
Indium	115-2	1805448	1802346	1791406	1799733	0.41	cps
Iron	56-2	14681	15091	14664	14812	1.63	cps
Iron	57-2	2937	3190	2974	3034	4.51	cps
Iron	54-2	1737	1767	1730	1745	1.12	cps
Krypton	83-1	267	280	183	243	21.53	cps

LB Number : LB133196 Operator : Jaswal
Lab Sample ID : ICB006 Instrumnet Name : P7
Client Sample ID : ICB006 Dilution Factor : 1
Date & Time Acquired : 2024-10-29 18:45:49 DataFile Name : 014CCBE.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Lead	206-1	537	500	450	496	8.78	cps
Lead	207-1	480	433	407	440	8.44	cps
Lead	208-1	2170	2053	1870	2031	7.45	cps
Lithium	6-1	445078	461881	454807	453922	1.86	cps
Magnesium	24-2	970	933	970	958	2.21	cps
Manganese	55-2	560	527	517	534	4.25	cps
Molybdenum	94-1	430	463	497	463	7.19	cps
Molybdenum	95-1	227	243	233	234	3.58	cps
Molybdenum	96-1	330	293	333	319	6.96	cps
Molybdenum	97-1	173	137	173	161	13.14	cps
Molybdenum	98-1	337	290	310	312	7.50	cps
Neodymium	150-1	7	13	10	10	33.30	cps
Neodymium	150-2	3	0	3	2	86.60	cps
Nickel	60-2	97	110	103	103	6.45	cps
Phosphorus	31-2	137	117	180	144	22.41	cps
Potassium	39-2	88958	87697	89002	88552	0.84	cps
Rhodium	103-1	4870387	4898371	4858105	4875621	0.42	cps
Rhodium	103-2	3016582	3055514	2975930	3016009	1.32	cps
Scandium	45-1	3178627	3152884	3111963	3147825	1.07	cps
Scandium	45-2	306017	301391	302916	303441	0.78	cps
Selenium	82-1	331	236	352	306	20.21	cps
Selenium	77-2	3	3	3	3	0.00	cps
Selenium	78-2	383	410	370	388	5.25	cps
Silicon	28-1	287648	288533	289381	288521	0.30	cps
Silver	107-1	340	260	220	273	22.36	cps
Silver	109-1	267	223	183	224	18.57	cps
Sodium	23-2	49453	49225	48479	49052	1.04	cps
Strontium	86-1	460	540	463	488	9.28	cps
Strontium	88-1	1370	1227	1280	1292	5.61	cps
Sulfur	34-1	183420	182647	183500	183189	0.26	cps
Terbium	159-1	5804083	5768125	5708546	5760251	0.84	cps
Terbium	159-2	3966191	3953178	3947188	3955519	0.25	cps
Thallium	203-1	257	257	237	250	4.62	cps
Thallium	205-1	627	553	540	573	8.14	cps
Tin	118-1	1260	1487	1600	1449	11.95	cps
Titanium	47-1	140	157	163	153	7.84	cps

LB Number :

LB133196

Operator :

Jaswal

Lab Sample ID :

ICB006

Instrumnet Name :

P7

Client Sample ID :

ICB006

Dilution Factor :

1

Date & Time Acquired :

2024-10-29 18:45:49

DataFile Name :

014CCBE.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Uranium	238-1	67	67	27	53	43.30	cps
Vanadium	51-2	20	27	33	27	24.99	cps
Yttrium	89-1	8968170	8827468	8835276	8876971	0.89	cps
Yttrium	89-2	2420994	2416853	2429308	2422385	0.26	cps
Zinc	66-2	547	557	533	546	2.15	cps
Zirconium	90-1	923	833	860	872	5.30	cps
Zirconium	91-1	197	187	207	197	5.08	cps

LB Number : LB133196 Operator : Jaswal
Lab Sample ID : ICSA006 Instrumnet Name : P7
Client Sample ID : ICSA006 Dilution Factor : 1
Date & Time Acquired : 2024-10-29 18:49:07 DataFile Name : 015ICSA.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Aluminium	27-2	13064932	13088873	13299352	13151052	0.98	cps
Antimony	121-1	6858	6928	7132	6973	2.04	cps
Arsenic	75-2	147	130	117	131	11.46	cps
Barium	135-1	2224	2120	1930	2091	7.12	cps
Barium	137-1	3530	3590	3681	3600	2.10	cps
Beryllium	9-1	270	237	220	242	10.51	cps
Bismuth	209-1	3507863	3449464	3334790	3430706	2.57	cps
Bismuth	209-2	2753927	2727829	2748682	2743479	0.50	cps
Bromine	81-1	6311	6605	6705	6540	3.13	cps
Bromine	81-2	133	103	110	116	13.64	cps
Cadmium	108-1	657	600	567	608	7.49	cps
Cadmium	106-1	1400	1490	1430	1440	3.18	cps
Cadmium	111-1	1384	1420	1451	1418	2.38	cps
Calcium	43-1	1608931	1706776	1702845	1672851	3.31	cps
Calcium	44-1	26407506	27679566	27793750	27293608	2.82	cps
Carbon	12-1						cps
Carbon	12-2						cps
Chlorine	35-1						cps
Chlorine	35-2						cps
Chromium	52-2	57064	57144	57024	57077	0.11	cps
Cobalt	59-2	5448	5404	5544	5465	1.31	cps
Copper	63-2	23619	23499	23799	23639	0.64	cps
Dysprosium	156-1	357	250	263	290	20.04	cps
Dysprosium	156-2	87	77	97	87	11.54	cps
Erbium	164-1	70	60	50	60	16.67	cps
Erbium	164-2	40	50	37	42	16.43	cps
Gadolinium	160-1	50	37	33	40	22.05	cps
Gadolinium	160-2	203	170	163	179	11.98	cps
Holmium	165-1	5961248	5916621	5822317	5900062	1.20	cps
Holmium	165-2	4120868	4151063	4099593	4123842	0.63	cps
Indium	115-1	5228059	5026851	4922736	5059215	3.07	cps
Indium	115-2	1836976	1780917	1803695	1807196	1.56	cps
Iron	56-2	242394803	239948883	242506696	241616794	0.60	cps
Iron	57-2	5981333	6008444	6020481	6003419	0.33	cps
Iron	54-2	13309184	13379773	13544757	13411238	0.90	cps
Krypton	83-1	230	287	243	253	11.70	cps

LB Number : LB133196 Operator : Jaswal
Lab Sample ID : ICSA006 Instrumnet Name : P7
Client Sample ID : ICSA006 Dilution Factor : 1
Date & Time Acquired : 2024-10-29 18:49:07 DataFile Name : 015ICSA.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Lead	206-1	16520	16710	16403	16545	0.94	cps
Lead	207-1	12286	13323	13370	12993	4.72	cps
Lead	208-1	60834	63238	62753	62275	2.04	cps
Lithium	6-1	510434	476155	476789	487793	4.02	cps
Magnesium	24-2	23485548	23381836	23560153	23475846	0.38	cps
Manganese	55-2	18144	18298	17894	18112	1.13	cps
Molybdenum	94-1	3543532	3480473	3545361	3523122	1.05	cps
Molybdenum	95-1	6122992	6076150	6090376	6096506	0.39	cps
Molybdenum	96-1	6475404	6473615	6419587	6456202	0.49	cps
Molybdenum	97-1	3671955	3733385	3735634	3713658	0.97	cps
Molybdenum	98-1	9574448	9770440	9604983	9649957	1.09	cps
Neodymium	150-1	60	33	43	46	29.58	cps
Neodymium	150-2	33	13	10	19	66.81	cps
Nickel	60-2	5788	5791	6141	5907	3.44	cps
Phosphorus	31-2	848122	842950	844807	845293	0.31	cps
Potassium	39-2	32224706	32074445	32182625	32160592	0.24	cps
Rhodium	103-1	4779819	4810435	4836981	4809079	0.59	cps
Rhodium	103-2	2979369	3027986	2941998	2983118	1.45	cps
Scandium	45-1	3284489	3318781	3368433	3323901	1.27	cps
Scandium	45-2	311820	313002	316021	313614	0.69	cps
Selenium	82-1	377	344	342	354	5.61	cps
Selenium	77-2	3	3	0	2	86.60	cps
Selenium	78-2	377	377	380	378	0.51	cps
Silicon	28-1	337967	340706	339755	339476	0.41	cps
Silver	107-1	1017	763	817	866	15.43	cps
Silver	109-1	800	723	857	793	8.43	cps
Sodium	23-2	40285255	39942878	40746150	40324761	1.00	cps
Strontium	86-1	68713	70331	70140	69728	1.27	cps
Strontium	88-1	597526	595499	594236	595754	0.28	cps
Sulfur	34-1	2204040	2323106	2317022	2281390	2.94	cps
Terbium	159-1	5949511	6103295	6177858	6076888	1.92	cps
Terbium	159-2	4110942	4117383	4121326	4116550	0.13	cps
Thallium	203-1	757	860	883	833	8.09	cps
Thallium	205-1	1673	1947	1857	1826	7.63	cps
Tin	118-1	2200	2294	2360	2285	3.52	cps
Titanium	47-1	1658409	1682783	1663896	1668362	0.77	cps

LB Number :LB133196

Operator :Jaswal

Lab Sample ID :ICSA006

Instrumnet Name :P7

Client Sample ID :ICSA006

Dilution Factor :1

Date & Time Acquired :2024-10-29 18:49:07

DataFile Name :015ICSA.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Uranium	238-1	377	480	430	429	12.05	cps
Vanadium	51-2	510	463	510	494	5.45	cps
Yttrium	89-1	9228937	9195648	9148519	9191035	0.44	cps
Yttrium	89-2	2462922	2468025	2440475	2457141	0.60	cps
Zinc	66-2	6702	6678	6832	6737	1.23	cps
Zirconium	90-1	757	770	757	761	1.01	cps
Zirconium	91-1	203	213	167	194	12.64	cps

LB Number : LB133196 Operator : Jaswal
Lab Sample ID : ICSAB006 Instrumnet Name : P7
Client Sample ID : ICSAB006 Dilution Factor : 1
Date & Time Acquired : 2024-10-29 18:52:10 DataFile Name : 016ICSB.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Aluminium	27-2	13434988	13271749	13308422	13338386	0.64	cps
Antimony	121-1	121169	122093	123898	122386	1.13	cps
Arsenic	75-2	7749	7785	8152	7896	2.83	cps
Barium	135-1	29524	30319	30663	30169	1.94	cps
Barium	137-1	49325	51132	51784	50747	2.51	cps
Beryllium	9-1	13289	13890	14187	13788	3.32	cps
Bismuth	209-1	3544450	3477040	3487363	3502951	1.04	cps
Bismuth	209-2	2824411	2819485	2826186	2823361	0.12	cps
Bromine	81-1	7228	7329	7432	7330	1.39	cps
Bromine	81-2	197	210	223	210	6.35	cps
Cadmium	108-1	2360	2324	2570	2418	5.51	cps
Cadmium	106-1	4094	4027	4127	4083	1.25	cps
Cadmium	111-1	29251	29798	29267	29439	1.06	cps
Calcium	43-1	1613829	1659201	1642195	1638408	1.40	cps
Calcium	44-1	26722240	27091630	26883759	26899210	0.69	cps
Carbon	12-1						cps
Carbon	12-2						cps
Chlorine	35-1						cps
Chlorine	35-2						cps
Chromium	52-2	116042	116983	115371	116132	0.70	cps
Cobalt	59-2	90454	90230	90551	90412	0.18	cps
Copper	63-2	84430	84869	83253	84184	0.99	cps
Dysprosium	156-1	317	297	227	280	16.88	cps
Dysprosium	156-2	60	77	77	71	13.53	cps
Erbium	164-1	83	73	57	71	18.94	cps
Erbium	164-2	30	73	43	49	45.40	cps
Gadolinium	160-1	43	50	20	38	41.70	cps
Gadolinium	160-2	133	153	173	153	13.04	cps
Holmium	165-1	5975087	6156624	6140211	6090641	1.65	cps
Holmium	165-2	4221177	4251697	4211074	4227983	0.50	cps
Indium	115-1	5159085	5290573	5321890	5257183	1.64	cps
Indium	115-2	1868647	1853441	1820950	1847679	1.32	cps
Iron	56-2	245713463	242621170	241188196	243174276	0.95	cps
Iron	57-2	6157628	6105508	6039096	6100744	0.97	cps
Iron	54-2	13730980	13571456	13477196	13593211	0.94	cps
Krypton	83-1	237	257	207	233	10.79	cps

LB Number : LB133196 Operator : Jaswal
Lab Sample ID : ICSAB006 Instrumnet Name : P7
Client Sample ID : ICSAB006 Dilution Factor : 1
Date & Time Acquired : 2024-10-29 18:52:10 DataFile Name : 016ICSB.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Lead	206-1	91767	94593	97972	94777	3.28	cps
Lead	207-1	74895	79524	78899	77773	3.23	cps
Lead	208-1	351720	361368	366814	359967	2.12	cps
Lithium	6-1	491397	469784	455001	472061	3.88	cps
Magnesium	24-2	23783120	24012003	23603290	23799471	0.86	cps
Manganese	55-2	60812	58229	58356	59132	2.46	cps
Molybdenum	94-1	3585061	3591623	3666615	3614433	1.25	cps
Molybdenum	95-1	6108291	6252883	6310658	6223944	1.67	cps
Molybdenum	96-1	6440249	6704696	6753866	6632937	2.54	cps
Molybdenum	97-1	3692290	3893484	3974642	3853472	3.77	cps
Molybdenum	98-1	9529863	9971724	10160550	9887379	3.27	cps
Neodymium	150-1	37	43	30	37	18.18	cps
Neodymium	150-2	7	23	10	13	66.12	cps
Nickel	60-2	27916	28043	27979	27980	0.23	cps
Phosphorus	31-2	872158	861493	865028	866226	0.63	cps
Potassium	39-2	32887707	33058620	32812610	32919646	0.38	cps
Rhodium	103-1	4886984	5006466	5124649	5006033	2.37	cps
Rhodium	103-2	3081727	3093131	3042970	3072609	0.86	cps
Scandium	45-1	3389776	3287530	3298559	3325289	1.69	cps
Scandium	45-2	325175	320873	322442	322830	0.67	cps
Selenium	82-1	2091	2251	2210	2184	3.81	cps
Selenium	77-2	180	193	190	188	3.70	cps
Selenium	78-2	1110	880	950	980	12.03	cps
Silicon	28-1	355160	364145	371147	363484	2.20	cps
Silver	107-1	135789	136414	137891	136698	0.79	cps
Silver	109-1	124163	129325	127821	127103	2.09	cps
Sodium	23-2	40715610	40987613	40975441	40892888	0.38	cps
Strontium	86-1	68706	69319	69416	69147	0.56	cps
Strontium	88-1	597591	618025	621854	612490	2.13	cps
Sulfur	34-1	2218828	2311489	2267663	2265993	2.05	cps
Terbium	159-1	6194044	6364408	6335998	6298150	1.45	cps
Terbium	159-2	4203569	4145304	4258717	4202530	1.35	cps
Thallium	203-1	92877	96667	96455	95333	2.23	cps
Thallium	205-1	222543	225185	224557	224095	0.62	cps
Tin	118-1	4071	4687	4727	4495	8.19	cps
Titanium	47-1	1664413	1674883	1669227	1669508	0.31	cps

LB Number : LB133196 Operator : Jaswal
Lab Sample ID : ICSAB006 Instrumnet Name : P7
Client Sample ID : ICSAB006 Dilution Factor : 1
Date & Time Acquired : 2024-10-29 18:52:10 DataFile Name : 016ICSB.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Uranium	238-1	547	413	1151	704	55.84	cps
Vanadium	51-2	51845	51541	51163	51517	0.66	cps
Yttrium	89-1	9396978	9595651	9538186	9510271	1.08	cps
Yttrium	89-2	2514502	2484783	2527364	2508883	0.87	cps
Zinc	66-2	20054	19176	20060	19763	2.57	cps
Zirconium	90-1	700	780	957	812	16.17	cps
Zirconium	91-1	200	137	197	178	20.05	cps

LB Number :LB133196Operator :Jaswal

Lab Sample ID :CCV029Instrumnet Name :P7

Client Sample ID :CCV029Dilution Factor :1

Date & Time Acquired :2024-10-29 18:55:16DataFile Name :017CCV.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Aluminium	27-2	7661037	7640801	7650837	7650892	0.13	cps
Antimony	121-1	3053330	3155193	3203848	3137457	2.45	cps
Arsenic	75-2	212246	213385	211698	212443	0.41	cps
Barium	135-1	3886459	3914704	3873451	3891538	0.54	cps
Barium	137-1	6613709	6720703	6749280	6694564	1.07	cps
Beryllium	9-1	328039	337768	337146	334318	1.63	cps
Bismuth	209-1	3503867	3424011	3475375	3467751	1.17	cps
Bismuth	209-2	2774573	2750272	2753386	2759410	0.48	cps
Bromine	81-1	7645	7202	7118	7322	3.87	cps
Bromine	81-2	90	63	117	90	29.63	cps
Cadmium	108-1	54643	55191	56312	55382	1.54	cps
Cadmium	106-1	77208	80451	80344	79334	2.32	cps
Cadmium	111-1	742794	763974	763151	756640	1.59	cps
Calcium	43-1	4333353	4512320	4461962	4435879	2.08	cps
Calcium	44-1	70258076	71684952	71794409	71245812	1.20	cps
Carbon	12-1						cps
Carbon	12-2						cps
Chlorine	35-1						cps
Chlorine	35-2						cps
Chromium	52-2	1486552	1513913	1472028	1490831	1.43	cps
Cobalt	59-2	2326072	2341771	2351710	2339851	0.55	cps
Copper	63-2	16576618	16430222	16429699	16478846	0.51	cps
Dysprosium	156-1	407	437	447	430	4.84	cps
Dysprosium	156-2	350	293	303	316	9.59	cps
Erbium	164-1	140	120	153	138	12.18	cps
Erbium	164-2	97	90	103	97	6.89	cps
Gadolinium	160-1	157	113	123	131	17.31	cps
Gadolinium	160-2	270	233	233	246	8.62	cps
Holmium	165-1	6167776	6036718	6101208	6101901	1.07	cps
Holmium	165-2	4209930	4222893	4223789	4218871	0.18	cps
Indium	115-1	5305808	5233410	5292456	5277225	0.73	cps
Indium	115-2	1823003	1803079	1824563	1816882	0.66	cps
Iron	56-2	317851095	316062409	313426869	315780124	0.70	cps
Iron	57-2	7907974	8009684	7877275	7931644	0.87	cps
Iron	54-2	17451228	17681902	17464280	17532470	0.74	cps
Krypton	83-1	293	247	267	269	8.71	cps

LB Number : LB133196 Operator : Jaswal
Lab Sample ID : CCV029 Instrumnet Name : P7
Client Sample ID : CCV029 Dilution Factor : 1
Date & Time Acquired : 2024-10-29 18:55:16 DataFile Name : 017CCV.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Lead	206-1	9688255	9877614	9837800	9801223	1.02	cps
Lead	207-1	8414215	8572066	8572989	8519757	1.07	cps
Lead	208-1	38320119	38871204	38997420	38729581	0.93	cps
Lithium	6-1	448178	451684	448830	449564	0.41	cps
Magnesium	24-2	63367414	63601851	63346234	63438500	0.22	cps
Manganese	55-2	10497368	10516575	10384556	10466166	0.68	cps
Molybdenum	94-1	12095415	12493329	12652177	12413640	2.31	cps
Molybdenum	95-1	17513436	18053896	18239038	17935457	2.10	cps
Molybdenum	96-1	19052198	19342133	19738335	19377555	1.78	cps
Molybdenum	97-1	10988261	10934938	11165051	11029417	1.09	cps
Molybdenum	98-1	28567860	28678548	28938155	28728188	0.66	cps
Neodymium	150-1	210	150	203	188	17.51	cps
Neodymium	150-2	53	110	70	78	37.45	cps
Nickel	60-2	572556	569860	568684	570367	0.35	cps
Phosphorus	31-2	89704	89704	89349	89586	0.23	cps
Potassium	39-2	43123897	43562826	43518997	43401907	0.56	cps
Rhodium	103-1	5015431	5019168	4968709	5001103	0.56	cps
Rhodium	103-2	3027583	3015810	2994160	3012517	0.56	cps
Scandium	45-1	3418449	3427642	3378173	3408088	0.77	cps
Scandium	45-2	327909	329083	331069	329354	0.48	cps
Selenium	82-1	50368	50898	51196	50821	0.83	cps
Selenium	77-2	5204	5048	5164	5139	1.58	cps
Selenium	78-2	17624	17581	17824	17676	0.74	cps
Silicon	28-1	20003652	20143091	20300276	20149007	0.74	cps
Silver	107-1	3909103	3988533	4003863	3967167	1.28	cps
Silver	109-1	3750497	3776721	3802131	3776450	0.68	cps
Sodium	23-2	107308515	105644422	106364808	106439248	0.78	cps
Strontium	86-1	25946362	26245494	26755286	26315714	1.55	cps
Strontium	88-1	225242883	231476983	234789277	230503048	2.10	cps
Sulfur	34-1	388148	398520	398244	394971	1.50	cps
Terbium	159-1	6362962	6388968	6283667	6345199	0.86	cps
Terbium	159-2	4154486	4149304	4163143	4155644	0.17	cps
Thallium	203-1	2412623	2470265	2447185	2443358	1.19	cps
Thallium	205-1	5743493	5885903	5783873	5804423	1.26	cps
Tin	118-1	2415966	2526070	2499684	2480573	2.32	cps
Titanium	47-1	4706893	4705986	4807755	4740211	1.23	cps

LB Number : LB133196 Operator : Jaswal
Lab Sample ID : CCV029 Instrumnet Name : P7
Client Sample ID : CCV029 Dilution Factor : 1
Date & Time Acquired : 2024-10-29 18:55:16 DataFile Name : 017CCV.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Uranium	238-1	7231464	7399718	7484422	7371868	1.75	cps
Vanadium	51-2	1345027	1368463	1359697	1357729	0.87	cps
Yttrium	89-1	9867258	9731055	9760219	9786177	0.73	cps
Yttrium	89-2	2492021	2498591	2530608	2507074	0.82	cps
Zinc	66-2	2714327	2766386	2709991	2730235	1.15	cps
Zirconium	90-1	5707358	5826043	5788083	5773828	1.05	cps
Zirconium	91-1	1230288	1258067	1258209	1248855	1.29	cps

LB Number : LB133196 Operator : Jaswal
Lab Sample ID : CCB029 Instrumnet Name : P7
Client Sample ID : CCB029 Dilution Factor : 1
Date & Time Acquired : 2024-10-29 18:58:02 DataFile Name : 018CCBE.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Aluminium	27-2	950	980	937	956	2.32	cps
Antimony	121-1	2274	1940	2010	2075	8.47	cps
Arsenic	75-2	7	17	23	16	53.90	cps
Barium	135-1	313	290	320	308	5.12	cps
Barium	137-1	600	507	507	538	10.02	cps
Beryllium	9-1	87	77	63	76	15.50	cps
Bismuth	209-1	3447029	3572754	3492212	3503998	1.82	cps
Bismuth	209-2	2839194	2859028	2853146	2850456	0.36	cps
Bromine	81-1	6845	6868	6768	6827	0.77	cps
Bromine	81-2	33	67	57	52	32.76	cps
Cadmium	108-1	7	10	23	13	66.12	cps
Cadmium	106-1	1467	1630	1567	1555	5.30	cps
Cadmium	111-1	1132	1227	1167	1176	4.10	cps
Calcium	43-1	843	770	763	792	5.60	cps
Calcium	44-1	25639	25001	25599	25413	1.41	cps
Carbon	12-1						cps
Carbon	12-2						cps
Chlorine	35-1						cps
Chlorine	35-2						cps
Chromium	52-2	753	760	810	774	4.00	cps
Cobalt	59-2	267	220	303	263	15.86	cps
Copper	63-2	2444	2317	2294	2351	3.43	cps
Dysprosium	156-1	223	267	260	250	9.33	cps
Dysprosium	156-2	63	83	77	74	13.68	cps
Erbium	164-1	47	73	40	53	33.07	cps
Erbium	164-2	23	33	40	32	26.04	cps
Gadolinium	160-1	37	20	27	28	30.20	cps
Gadolinium	160-2	160	153	147	153	4.35	cps
Holmium	165-1	5928059	5825024	5844430	5865838	0.93	cps
Holmium	165-2	4057521	4117341	4001438	4058767	1.43	cps
Indium	115-1	5302445	5205316	5223226	5243662	0.99	cps
Indium	115-2	1840020	1856616	1868279	1854972	0.77	cps
Iron	56-2	35345	35552	35909	35602	0.80	cps
Iron	57-2	3484	3484	3637	3535	2.50	cps
Iron	54-2	2870	2827	2940	2879	1.99	cps
Krypton	83-1	237	230	217	228	4.47	cps

LB Number : LB133196

Operator : Jaswal

Lab Sample ID : CCB029

Instrumnet Name : P7

Client Sample ID : CCB029

Dilution Factor : 1

Date & Time Acquired : 2024-10-29 18:58:02

DataFile Name : 018CCBE.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Lead	206-1	1170	1160	1137	1156	1.48	cps
Lead	207-1	963	1033	920	972	5.88	cps
Lead	208-1	4704	4480	4227	4470	5.34	cps
Lithium	6-1	441972	444128	441886	442662	0.29	cps
Magnesium	24-2	4467	4567	4597	4544	1.50	cps
Manganese	55-2	1687	1597	1640	1641	2.74	cps
Molybdenum	94-1	1773	1423	1550	1582	11.20	cps
Molybdenum	95-1	1970	1663	1673	1769	9.85	cps
Molybdenum	96-1	2007	1703	1817	1842	8.32	cps
Molybdenum	97-1	1167	1007	937	1037	11.37	cps
Molybdenum	98-1	2927	2450	2647	2675	8.96	cps
Neodymium	150-1	0	20	3	8	137.80	cps
Neodymium	150-2	10	3	3	6	69.34	cps
Nickel	60-2	187	187	203	192	5.01	cps
Phosphorus	31-2	197	123	180	167	23.07	cps
Potassium	39-2	98777	97318	97999	98032	0.74	cps
Rhodium	103-1	5119736	5172950	5185477	5159388	0.68	cps
Rhodium	103-2	3102184	3097464	3135783	3111810	0.67	cps
Scandium	45-1	3279052	3312783	3268163	3286666	0.71	cps
Scandium	45-2	313287	313538	314314	313713	0.17	cps
Selenium	82-1	342	381	391	371	6.90	cps
Selenium	77-2	0	3	0	1	173.21	cps
Selenium	78-2	327	420	407	384	13.13	cps
Silicon	28-1	291765	290849	288760	290458	0.53	cps
Silver	107-1	590	490	467	516	12.71	cps
Silver	109-1	567	503	433	501	13.31	cps
Sodium	23-2	66406	66299	65442	66049	0.80	cps
Strontium	86-1	2057	1833	1847	1912	6.55	cps
Strontium	88-1	14521	13036	12445	13334	8.02	cps
Sulfur	34-1	180661	181231	179547	180480	0.47	cps
Terbium	159-1	6204259	6118692	6039941	6120964	1.34	cps
Terbium	159-2	3991202	4037581	4072600	4033794	1.01	cps
Thallium	203-1	807	613	597	672	17.37	cps
Thallium	205-1	1750	1503	1433	1562	10.65	cps
Tin	118-1	2084	2144	2190	2139	2.50	cps
Titanium	47-1	530	427	567	508	14.30	cps

LB Number : LB133196 Operator : Jaswal
Lab Sample ID : CCB029 Instrumnet Name : P7
Client Sample ID : CCB029 Dilution Factor : 1
Date & Time Acquired : 2024-10-29 18:58:02 DataFile Name : 018CCBE.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Uranium	238-1	497	383	393	424	14.78	cps
Vanadium	51-2	90	80	100	90	11.11	cps
Yttrium	89-1	9380529	9407477	9218683	9335563	1.09	cps
Yttrium	89-2	2478572	2497320	2435926	2470606	1.27	cps
Zinc	66-2	1210	1233	1153	1199	3.43	cps
Zirconium	90-1	1873	1490	1373	1579	16.57	cps
Zirconium	91-1	393	377	333	368	8.42	cps

LB Number : LB133196 Operator : Jaswal
Lab Sample ID : PB164339BL Instrumnet Name : P7
Client Sample ID : PBW339 Dilution Factor : 1
Date & Time Acquired : 2024-10-29 19:01:21 DataFile Name : 019CCBE.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Aluminium	27-2	683	687	680	683	0.49	cps
Antimony	121-1	647	707	703	686	4.92	cps
Arsenic	75-2	23	10	13	16	44.60	cps
Barium	135-1	193	173	213	193	10.34	cps
Barium	137-1	347	330	293	323	8.44	cps
Beryllium	9-1	57	40	43	47	18.90	cps
Bismuth	209-1	3323822	3335560	3380888	3346757	0.90	cps
Bismuth	209-2	2794314	2828663	2784812	2802596	0.82	cps
Bromine	81-1	6505	6271	6305	6360	1.99	cps
Bromine	81-2	87	73	70	77	11.51	cps
Cadmium	108-1	17	7	13	12	41.65	cps
Cadmium	106-1	1390	1400	1407	1399	0.60	cps
Cadmium	111-1	1021	992	1055	1023	3.10	cps
Calcium	43-1	473	483	463	473	2.11	cps
Calcium	44-1	18388	18712	19143	18748	2.02	cps
Carbon	12-1						cps
Carbon	12-2						cps
Chlorine	35-1						cps
Chlorine	35-2						cps
Chromium	52-2	810	677	707	731	9.57	cps
Cobalt	59-2	227	220	210	219	3.83	cps
Copper	63-2	1680	1737	1850	1756	4.93	cps
Dysprosium	156-1	280	307	327	304	7.69	cps
Dysprosium	156-2	77	67	100	81	21.09	cps
Erbium	164-1	43	47	33	41	16.89	cps
Erbium	164-2	17	20	10	16	32.73	cps
Gadolinium	160-1	40	33	7	27	66.13	cps
Gadolinium	160-2	157	150	170	159	6.41	cps
Holmium	165-1	5613710	5728641	5642476	5661609	1.06	cps
Holmium	165-2	3961920	4035542	3916627	3971363	1.51	cps
Indium	115-1	5004738	5042257	5085602	5044199	0.80	cps
Indium	115-2	1777961	1787306	1810511	1791926	0.94	cps
Iron	56-2	25869	25291	24630	25264	2.45	cps
Iron	57-2	3340	3340	3304	3328	0.64	cps
Iron	54-2	2564	2520	2434	2506	2.64	cps
Krypton	83-1	210	237	263	237	11.27	cps

LB Number : LB133196 Operator : Jaswal
Lab Sample ID : PB164339BL Instrumnet Name : P7
Client Sample ID : PBW339 Dilution Factor : 1
Date & Time Acquired : 2024-10-29 19:01:21 DataFile Name : 019CCBE.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Lead	206-1	750	623	613	662	11.50	cps
Lead	207-1	597	537	557	563	5.42	cps
Lead	208-1	2817	2543	2560	2640	5.80	cps
Lithium	6-1	427857	431346	428357	429187	0.44	cps
Magnesium	24-2	2787	2667	2787	2747	2.52	cps
Manganese	55-2	947	740	920	869	12.94	cps
Molybdenum	94-1	1030	927	853	937	9.48	cps
Molybdenum	95-1	837	830	753	807	5.74	cps
Molybdenum	96-1	1103	883	993	993	11.07	cps
Molybdenum	97-1	467	513	570	517	10.02	cps
Molybdenum	98-1	1187	1310	1147	1215	7.01	cps
Neodymium	150-1	13	7	7	9	43.25	cps
Neodymium	150-2	10	7	7	8	24.71	cps
Nickel	60-2	123	177	143	148	18.23	cps
Phosphorus	31-2	167	167	127	153	15.06	cps
Potassium	39-2	93029	93079	91925	92678	0.70	cps
Rhodium	103-1	4825594	4864456	4984991	4891680	1.70	cps
Rhodium	103-2	3051146	3019494	3081130	3050590	1.01	cps
Scandium	45-1	3137608	3143200	3197294	3159368	1.04	cps
Scandium	45-2	303373	304784	304090	304082	0.23	cps
Selenium	82-1	341	304	327	324	5.70	cps
Selenium	77-2	7	0	0	2	173.21	cps
Selenium	78-2	360	360	397	372	5.69	cps
Silicon	28-1	281115	282524	283376	282338	0.40	cps
Silver	107-1	310	293	263	289	8.19	cps
Silver	109-1	260	227	267	251	8.53	cps
Sodium	23-2	53322	52710	51820	52617	1.44	cps
Strontium	86-1	1197	1217	1180	1198	1.53	cps
Strontium	88-1	7489	7262	7042	7264	3.08	cps
Sulfur	34-1	178037	178711	177764	178171	0.27	cps
Terbium	159-1	5877257	5904991	5900391	5894213	0.25	cps
Terbium	159-2	3916281	3977644	3951676	3948534	0.78	cps
Thallium	203-1	403	433	343	393	11.65	cps
Thallium	205-1	950	980	967	966	1.56	cps
Tin	118-1	1413	1433	1763	1537	12.79	cps
Titanium	47-1	290	293	320	301	5.46	cps

LB Number :

LB133196

Operator :

Jaswal

Lab Sample ID :

PB164339BL

Instrumnet Name :

P7

Client Sample ID :

PBW339

Dilution Factor :

1

Date & Time Acquired :

2024-10-29 19:01:21

DataFile Name :

019CCBE.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Uranium	238-1	220	253	263	246	9.24	cps
Vanadium	51-2	50	40	47	46	11.18	cps
Yttrium	89-1	8964388	8883270	9116127	8987928	1.32	cps
Yttrium	89-2	2414701	2368045	2428509	2403752	1.32	cps
Zinc	66-2	640	553	657	617	9.00	cps
Zirconium	90-1	1497	1283	1180	1320	12.23	cps
Zirconium	91-1	293	263	260	272	6.74	cps

LB Number : LB133196 Operator : Jaswal
Lab Sample ID : PB164339BS Instrumnet Name : P7
Client Sample ID : LCS339 Dilution Factor : 1
Date & Time Acquired : 2024-10-29 19:04:37 DataFile Name : 020LCSE.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Aluminium	27-2	6098	6195	6205	6166	0.96	cps
Antimony	121-1	22561	23282	23072	22972	1.61	cps
Arsenic	75-2	803	837	773	804	3.94	cps
Barium	135-1	25573	25613	25954	25713	0.81	cps
Barium	137-1	43991	45135	44536	44554	1.28	cps
Beryllium	9-1	1353	1463	1183	1333	10.58	cps
Bismuth	209-1	3405010	3348505	3439100	3397538	1.35	cps
Bismuth	209-2	2744312	2778298	2751346	2757985	0.65	cps
Bromine	81-1	6525	6425	6265	6405	2.05	cps
Bromine	81-2	47	70	60	59	19.88	cps
Cadmium	108-1	253	200	240	231	12.01	cps
Cadmium	106-1	1697	1710	1800	1736	3.24	cps
Cadmium	111-1	4237	4221	4483	4314	3.40	cps
Calcium	43-1	16065	16259	16272	16199	0.71	cps
Calcium	44-1	275421	281975	282082	279826	1.36	cps
Carbon	12-1						cps
Carbon	12-2						cps
Chlorine	35-1						cps
Chlorine	35-2						cps
Chromium	52-2	13556	12912	13276	13248	2.44	cps
Cobalt	59-2	8539	8619	8783	8647	1.44	cps
Copper	63-2	14374	14414	14327	14371	0.30	cps
Dysprosium	156-1	320	230	290	280	16.37	cps
Dysprosium	156-2	113	87	107	102	13.58	cps
Erbium	164-1	50	70	60	60	16.67	cps
Erbium	164-2	27	17	20	21	24.12	cps
Gadolinium	160-1	7	33	20	20	66.65	cps
Gadolinium	160-2	133	127	153	138	10.07	cps
Holmium	165-1	5705880	5774030	5643277	5707729	1.15	cps
Holmium	165-2	3932258	3968040	3929723	3943340	0.54	cps
Indium	115-1	5124024	5105035	5048619	5092559	0.77	cps
Indium	115-2	1804460	1782622	1787041	1791374	0.64	cps
Iron	56-2	1010219	1004836	1010112	1008389	0.31	cps
Iron	57-2	27903	28457	27829	28063	1.22	cps
Iron	54-2	56740	57794	57513	57349	0.95	cps
Krypton	83-1	230	233	207	223	6.51	cps

LB Number : LB133196 Operator : Jaswal
Lab Sample ID : PB164339BS Instrumnet Name : P7
Client Sample ID : LCS339 Dilution Factor : 1
Date & Time Acquired : 2024-10-29 19:04:37 DataFile Name : 020LCSE.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Lead	206-1	6778	7242	7312	7111	4.08	cps
Lead	207-1	6348	6208	6165	6240	1.54	cps
Lead	208-1	28225	28388	28068	28227	0.57	cps
Lithium	6-1	430210	431388	435859	432486	0.69	cps
Magnesium	24-2	254166	254755	252816	253913	0.39	cps
Manganese	55-2	4831	4994	5074	4966	2.50	cps
Molybdenum	94-1	24544	25723	25078	25115	2.35	cps
Molybdenum	95-1	29373	30295	30058	29908	1.60	cps
Molybdenum	96-1	32342	33318	33445	33035	1.83	cps
Molybdenum	97-1	18585	18772	18428	18595	0.93	cps
Molybdenum	98-1	47822	48036	48032	47963	0.26	cps
Neodymium	150-1	10	7	3	7	50.03	cps
Neodymium	150-2	0	3	3	2	86.60	cps
Nickel	60-2	2437	2467	2400	2435	1.37	cps
Phosphorus	31-2	157	153	173	161	6.65	cps
Potassium	39-2	423267	422166	425053	423496	0.34	cps
Rhodium	103-1	4944321	4958533	4940900	4947918	0.19	cps
Rhodium	103-2	2999002	3041110	3048830	3029647	0.89	cps
Scandium	45-1	3216745	3152211	3181907	3183621	1.01	cps
Scandium	45-2	303761	303573	303358	303564	0.07	cps
Selenium	82-1	1117	1275	1214	1202	6.65	cps
Selenium	77-2	137	117	73	109	29.74	cps
Selenium	78-2	643	650	700	664	4.66	cps
Silicon	28-1	332443	331402	333443	332430	0.31	cps
Silver	107-1	12866	13270	13683	13273	3.08	cps
Silver	109-1	12556	12812	13109	12826	2.16	cps
Sodium	23-2	458393	456449	454911	456584	0.38	cps
Strontium	86-1	4984	4641	4951	4859	3.90	cps
Strontium	88-1	38801	39861	40599	39754	2.27	cps
Sulfur	34-1	178805	177392	175603	177267	0.91	cps
Terbium	159-1	5882308	5832418	5847364	5854030	0.44	cps
Terbium	159-2	3865339	3947939	3923003	3912094	1.08	cps
Thallium	203-1	8393	8236	8299	8309	0.95	cps
Thallium	205-1	19137	19644	19688	19490	1.57	cps
Tin	118-1	1507	1547	1547	1533	1.51	cps
Titanium	47-1	8009	8326	8486	8273	2.93	cps

LB Number : LB133196 Operator : Jaswal
Lab Sample ID : PB164339BS Instrumnet Name : P7
Client Sample ID : LCS339 Dilution Factor : 1
Date & Time Acquired : 2024-10-29 19:04:37 DataFile Name : 020LCSE.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Uranium	238-1	22709	23765	22713	23062	2.64	cps
Vanadium	51-2	24967	25625	24710	25101	1.88	cps
Yttrium	89-1	9106297	9061238	8991303	9052946	0.64	cps
Yttrium	89-2	2382814	2384233	2419771	2395606	0.87	cps
Zinc	66-2	5628	5621	5594	5614	0.31	cps
Zirconium	90-1	22023	22187	21923	22044	0.60	cps
Zirconium	91-1	4527	4808	4954	4763	4.55	cps

LB Number : LB133196 Operator : Jaswal
Lab Sample ID : P4322-01 Instrumnet Name : P7
Client Sample ID : MYD0L6 Dilution Factor : 1
Date & Time Acquired : 2024-10-29 19:07:56 DataFile Name : 021SMPL.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Aluminium	27-2	14817	14917	14724	14819	0.65	cps
Antimony	121-1	383	447	437	422	8.06	cps
Arsenic	75-2	10	23	7	13	66.12	cps
Barium	135-1	247	377	320	314	20.73	cps
Barium	137-1	557	560	450	522	11.98	cps
Beryllium	9-1	43	37	37	39	9.89	cps
Bismuth	209-1	2965366	3002193	3136410	3034656	2.97	cps
Bismuth	209-2	2593230	2548889	2622624	2588248	1.43	cps
Bromine	81-1	6248	6285	6005	6179	2.46	cps
Bromine	81-2	127	143	110	127	13.16	cps
Cadmium	108-1	20	3	13	12	68.66	cps
Cadmium	106-1	1273	1270	1257	1267	0.70	cps
Cadmium	111-1	944	957	924	941	1.77	cps
Calcium	43-1	1257	1360	1270	1296	4.34	cps
Calcium	44-1	31499	32629	32037	32055	1.76	cps
Carbon	12-1						cps
Carbon	12-2						cps
Chlorine	35-1						cps
Chlorine	35-2						cps
Chromium	52-2	1200	1253	1340	1265	5.59	cps
Cobalt	59-2	213	203	213	210	2.75	cps
Copper	63-2	4367	4631	4454	4484	2.99	cps
Dysprosium	156-1	277	267	293	279	4.83	cps
Dysprosium	156-2	87	27	87	67	51.96	cps
Erbium	164-1	23	53	23	33	51.97	cps
Erbium	164-2	30	13	40	28	48.51	cps
Gadolinium	160-1	30	23	30	28	13.86	cps
Gadolinium	160-2	157	157	180	164	8.19	cps
Holmium	165-1	5052381	5173736	5257880	5161333	2.00	cps
Holmium	165-2	3715722	3685469	3691264	3697485	0.43	cps
Indium	115-1	4504718	4593671	4716295	4604895	2.31	cps
Indium	115-2	1677000	1642044	1689844	1669629	1.48	cps
Iron	56-2	43924	47558	46722	46068	4.13	cps
Iron	57-2	3721	3677	3700	3699	0.59	cps
Iron	54-2	4111	3994	4074	4060	1.47	cps
Krypton	83-1	260	260	240	253	4.56	cps

LB Number : LB133196 Operator : Jaswal
Lab Sample ID : P4322-01 Instrumnet Name : P7
Client Sample ID : MYD0L6 Dilution Factor : 1
Date & Time Acquired : 2024-10-29 19:07:56 DataFile Name : 021SMPL.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Lead	206-1	790	747	783	773	3.02	cps
Lead	207-1	660	710	660	677	4.27	cps
Lead	208-1	3070	3250	3087	3136	3.17	cps
Lithium	6-1	399534	421182	419830	413515	2.93	cps
Magnesium	24-2	10067	10354	10163	10195	1.43	cps
Manganese	55-2	2130	2010	2070	2070	2.90	cps
Molybdenum	94-1	3310	1920	1403	2211	44.60	cps
Molybdenum	95-1	613	657	667	646	4.39	cps
Molybdenum	96-1	1103	940	843	962	13.66	cps
Molybdenum	97-1	413	413	357	394	8.29	cps
Molybdenum	98-1	1030	1037	933	1000	5.78	cps
Neodymium	150-1	0	27	13	13	100.01	cps
Neodymium	150-2	7	10	3	7	50.03	cps
Nickel	60-2	210	250	283	248	14.82	cps
Phosphorus	31-2	217	220	223	220	1.52	cps
Potassium	39-2	85814	86031	86933	86259	0.69	cps
Rhodium	103-1	4384390	4526013	4498485	4469630	1.68	cps
Rhodium	103-2	2803498	2823201	2826254	2817651	0.44	cps
Scandium	45-1	2827296	2954852	2906265	2896138	2.22	cps
Scandium	45-2	279812	279737	280803	280117	0.21	cps
Selenium	82-1	287	260	296	281	6.69	cps
Selenium	77-2	3	0	0	1	173.21	cps
Selenium	78-2	420	373	353	382	8.95	cps
Silicon	28-1	301125	307170	310588	306294	1.56	cps
Silver	107-1	353	1132	223	570	86.29	cps
Silver	109-1	323	220	243	262	20.67	cps
Sodium	23-2	57815	57691	56747	57418	1.02	cps
Strontium	86-1	1177	1180	1097	1151	4.10	cps
Strontium	88-1	6491	6892	6005	6463	6.87	cps
Sulfur	34-1	171992	167725	167543	169087	1.49	cps
Terbium	159-1	5183766	5278440	5468125	5310110	2.73	cps
Terbium	159-2	3694938	3736736	3707875	3713183	0.58	cps
Thallium	203-1	357	277	307	313	12.90	cps
Thallium	205-1	817	697	583	699	16.70	cps
Tin	118-1	2777	2880	2960	2873	3.20	cps
Titanium	47-1	347	287	300	311	10.13	cps

LB Number :

LB133196

Operator :

Jaswal

Lab Sample ID :

P4322-01

Instrumnet Name :

P7

Client Sample ID :

MYD0L6

Dilution Factor :

1

Date & Time Acquired :

2024-10-29 19:07:56

DataFile Name :

021SMPL.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Uranium	238-1	223	260	280	254	11.29	cps
Vanadium	51-2	50	103	80	78	34.37	cps
Yttrium	89-1	8064713	8149337	8391177	8201743	2.07	cps
Yttrium	89-2	2221327	2186604	2234727	2214219	1.12	cps
Zinc	66-2	7118	7088	7112	7106	0.22	cps
Zirconium	90-1	8016	4201	3217	5144	49.27	cps
Zirconium	91-1	1793	943	783	1173	46.27	cps

LB Number : LB133196 Operator : Jaswal
Lab Sample ID : P4322-02 Instrumnet Name : P7
Client Sample ID : MYD0Y6 Dilution Factor : 1
Date & Time Acquired : 2024-10-29 19:11:12 DataFile Name : 022SMPL.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Aluminium	27-2	887	793	950	877	8.99	cps
Antimony	121-1	257	240	313	270	14.24	cps
Arsenic	75-2	10	13	17	13	25.01	cps
Barium	135-1	473	547	537	519	7.66	cps
Barium	137-1	923	907	833	888	5.39	cps
Beryllium	9-1	23	43	23	30	38.49	cps
Bismuth	209-1	2969771	3096472	3098116	3054786	2.41	cps
Bismuth	209-2	2613030	2427512	2496261	2512267	3.73	cps
Bromine	81-1	6038	6101	6161	6100	1.01	cps
Bromine	81-2	123	103	113	113	8.83	cps
Cadmium	108-1	20	7	13	13	49.99	cps
Cadmium	106-1	1147	1253	1227	1209	4.59	cps
Cadmium	111-1	809	906	886	867	5.93	cps
Calcium	43-1	1333	1400	1243	1326	5.93	cps
Calcium	44-1	31613	32258	32799	32223	1.84	cps
Carbon	12-1						cps
Carbon	12-2						cps
Chlorine	35-1						cps
Chlorine	35-2						cps
Chromium	52-2	1080	1053	1080	1071	1.44	cps
Cobalt	59-2	163	223	183	190	16.08	cps
Copper	63-2	2847	2914	3097	2953	4.39	cps
Dysprosium	156-1	227	287	293	269	13.66	cps
Dysprosium	156-2	77	73	67	72	7.05	cps
Erbium	164-1	43	20	27	30	40.05	cps
Erbium	164-2	23	20	20	21	9.11	cps
Gadolinium	160-1	27	27	27	27	0.00	cps
Gadolinium	160-2	107	113	140	120	14.70	cps
Holmium	165-1	5020279	5252009	5163023	5145104	2.27	cps
Holmium	165-2	3779754	3542077	3537082	3619638	3.83	cps
Indium	115-1	4458787	4637227	4726271	4607428	2.96	cps
Indium	115-2	1711659	1572609	1598372	1627546	4.55	cps
Iron	56-2	26450	25876	25986	26104	1.17	cps
Iron	57-2	3104	3054	3257	3138	3.38	cps
Iron	54-2	2874	2914	2847	2878	1.17	cps
Krypton	83-1	263	207	250	240	12.35	cps

LB Number : LB133196 Operator : Jaswal
Lab Sample ID : P4322-02 Instrumnet Name : P7
Client Sample ID : MYD0Y6 Dilution Factor : 1
Date & Time Acquired : 2024-10-29 19:11:12 DataFile Name : 022SMPL.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Lead	206-1	537	623	633	598	8.89	cps
Lead	207-1	493	543	523	520	4.84	cps
Lead	208-1	2197	2293	2390	2293	4.22	cps
Lithium	6-1	407770	421970	437375	422372	3.51	cps
Magnesium	24-2	3727	3607	3847	3727	3.22	cps
Manganese	55-2	1337	1320	1280	1312	2.22	cps
Molybdenum	94-1	970	1037	1030	1012	3.63	cps
Molybdenum	95-1	533	620	650	601	10.08	cps
Molybdenum	96-1	647	673	687	669	3.04	cps
Molybdenum	97-1	353	317	353	341	6.21	cps
Molybdenum	98-1	877	750	863	830	8.39	cps
Neodymium	150-1	3	7	10	7	50.03	cps
Neodymium	150-2	0	10	0	3	173.21	cps
Nickel	60-2	173	223	237	211	15.81	cps
Phosphorus	31-2	220	177	227	208	13.07	cps
Potassium	39-2	84580	85592	84737	84970	0.64	cps
Rhodium	103-1	4371337	4534137	4502065	4469179	1.93	cps
Rhodium	103-2	2879433	2594379	2669419	2714410	5.44	cps
Scandium	45-1	2766574	2923250	2955427	2881750	3.51	cps
Scandium	45-2	282045	260076	265225	269115	4.27	cps
Selenium	82-1	248	309	333	297	14.79	cps
Selenium	77-2	7	0	0	2	173.21	cps
Selenium	78-2	410	423	337	390	11.97	cps
Silicon	28-1	302228	306888	312584	307233	1.69	cps
Silver	107-1	170	153	190	171	10.73	cps
Silver	109-1	133	163	170	156	12.55	cps
Sodium	23-2	56537	57892	56921	57117	1.22	cps
Strontium	86-1	1117	1167	993	1092	8.17	cps
Strontium	88-1	6171	6415	6231	6273	2.02	cps
Sulfur	34-1	172481	170375	170074	170977	0.77	cps
Terbium	159-1	5183034	5421502	5582515	5395684	3.72	cps
Terbium	159-2	3748866	3443251	3528949	3573689	4.41	cps
Thallium	203-1	267	190	217	224	17.34	cps
Thallium	205-1	533	540	603	559	6.91	cps
Tin	118-1	2867	3445	3004	3105	9.72	cps
Titanium	47-1	293	317	287	299	5.27	cps

LB Number :

LB133196

Operator :

Jaswal

Lab Sample ID :

P4322-02

Instrumnet Name :

P7

Client Sample ID :

MYD0Y6

Dilution Factor :

1

Date & Time Acquired :

2024-10-29 19:11:12

DataFile Name :

022SMPL.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Uranium	238-1	180	243	220	214	14.94	cps
Vanadium	51-2	70	33	63	56	35.16	cps
Yttrium	89-1	8029632	8398204	8411587	8279808	2.62	cps
Yttrium	89-2	2236504	2079092	2106473	2140690	3.93	cps
Zinc	66-2	2370	2430	2444	2415	1.62	cps
Zirconium	90-1	1870	1933	1930	1911	1.87	cps
Zirconium	91-1	360	373	447	393	11.86	cps

LB Number : LB133196 Operator : Jaswal
Lab Sample ID : P4322-03 Instrumnet Name : P7
Client Sample ID : MYD0Y8 Dilution Factor : 1
Date & Time Acquired : 2024-10-29 19:14:30 DataFile Name : 023SMPL.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Aluminium	27-2	807	733	760	767	4.84	cps
Antimony	121-1	217	250	217	228	8.45	cps
Arsenic	75-2	13	0	10	8	89.21	cps
Barium	135-1	233	213	230	226	4.75	cps
Barium	137-1	387	277	390	351	18.37	cps
Beryllium	9-1	30	27	27	28	6.92	cps
Bismuth	209-1	3052405	3173872	3232561	3152946	2.91	cps
Bismuth	209-2	2691491	2626311	2640731	2652844	1.29	cps
Bromine	81-1	6431	6235	6148	6271	2.32	cps
Bromine	81-2	123	107	100	110	10.93	cps
Cadmium	108-1	7	10	0	6	91.64	cps
Cadmium	106-1	1447	1320	1277	1348	6.55	cps
Cadmium	111-1	1028	950	930	970	5.32	cps
Calcium	43-1	710	557	693	653	12.88	cps
Calcium	44-1	21562	21806	22868	22079	3.14	cps
Carbon	12-1						cps
Carbon	12-2						cps
Chlorine	35-1						cps
Chlorine	35-2						cps
Chromium	52-2	1090	1270	1037	1132	10.80	cps
Cobalt	59-2	167	207	187	187	10.71	cps
Copper	63-2	3257	3314	3157	3243	2.45	cps
Dysprosium	156-1	250	237	267	251	5.99	cps
Dysprosium	156-2	87	70	73	77	11.51	cps
Erbium	164-1	40	37	30	36	14.32	cps
Erbium	164-2	17	33	7	19	71.30	cps
Gadolinium	160-1	23	17	20	20	16.65	cps
Gadolinium	160-2	133	177	137	149	16.19	cps
Holmium	165-1	5057948	5317014	5296921	5223961	2.76	cps
Holmium	165-2	3849372	3752437	3742906	3781572	1.56	cps
Indium	115-1	4558271	4812076	4766316	4712221	2.87	cps
Indium	115-2	1724094	1717979	1713567	1718547	0.31	cps
Iron	56-2	33434	34206	34256	33965	1.36	cps
Iron	57-2	3357	3397	3187	3314	3.37	cps
Iron	54-2	3260	3390	3457	3369	2.97	cps
Krypton	83-1	217	283	233	244	14.19	cps

LB Number : LB133196 Operator : Jaswal
Lab Sample ID : P4322-03 Instrumnet Name : P7
Client Sample ID : MYD0Y8 Dilution Factor : 1
Date & Time Acquired : 2024-10-29 19:14:30 DataFile Name : 023SMPL.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Lead	206-1	613	647	683	648	5.40	cps
Lead	207-1	487	547	583	539	9.06	cps
Lead	208-1	2323	2447	2657	2476	6.81	cps
Lithium	6-1	419826	435844	445030	433567	2.94	cps
Magnesium	24-2	3124	3394	3370	3296	4.54	cps
Manganese	55-2	1113	983	1023	1040	6.40	cps
Molybdenum	94-1	827	777	880	828	6.24	cps
Molybdenum	95-1	513	467	537	506	7.05	cps
Molybdenum	96-1	610	657	617	628	4.02	cps
Molybdenum	97-1	297	377	320	331	12.43	cps
Molybdenum	98-1	730	673	817	740	9.76	cps
Neodymium	150-1	13	7	13	11	34.61	cps
Neodymium	150-2	0	0	3	1	173.21	cps
Nickel	60-2	367	317	373	352	8.79	cps
Phosphorus	31-2	260	213	180	218	18.45	cps
Potassium	39-2	85877	86145	84858	85627	0.79	cps
Rhodium	103-1	4471659	4696481	4673444	4613861	2.68	cps
Rhodium	103-2	2903206	2866713	2908593	2892837	0.79	cps
Scandium	45-1	2873178	2944369	2982487	2933345	1.89	cps
Scandium	45-2	285523	289204	289075	287934	0.73	cps
Selenium	82-1	320	270	332	307	10.78	cps
Selenium	77-2	0	3	0	1	173.21	cps
Selenium	78-2	307	290	340	312	8.15	cps
Silicon	28-1	302937	305976	310635	306516	1.26	cps
Silver	107-1	193	187	167	182	7.62	cps
Silver	109-1	123	127	103	118	10.72	cps
Sodium	23-2	50961	51713	50506	51060	1.19	cps
Strontium	86-1	983	913	887	928	5.38	cps
Strontium	88-1	4711	4891	4818	4806	1.88	cps
Sulfur	34-1	176995	174639	174952	175528	0.73	cps
Terbium	159-1	5370635	5563982	5600672	5511763	2.24	cps
Terbium	159-2	3768638	3816068	3849548	3811418	1.07	cps
Thallium	203-1	270	247	230	249	8.07	cps
Thallium	205-1	607	517	493	539	11.11	cps
Tin	118-1	2230	2310	2217	2252	2.24	cps
Titanium	47-1	257	280	333	290	13.55	cps

LB Number :

LB133196

Operator :

Jaswal

Lab Sample ID :

P4322-03

Instrumnet Name :

P7

Client Sample ID :

MYD0Y8

Dilution Factor :

1

Date & Time Acquired :

2024-10-29 19:14:30

DataFile Name :

023SMPL.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Uranium	238-1	193	203	193	197	2.94	cps
Vanadium	51-2	30	40	43	38	18.36	cps
Yttrium	89-1	8160585	8544123	8438046	8380918	2.36	cps
Yttrium	89-2	2235982	2249497	2309455	2264978	1.73	cps
Zinc	66-2	1293	1330	1330	1318	1.61	cps
Zirconium	90-1	1260	1277	1270	1269	0.66	cps
Zirconium	91-1	280	303	253	279	8.97	cps

LB Number : LB133196 Operator : Jaswal
Lab Sample ID : P4322-04 Instrumnet Name : P7
Client Sample ID : MYD035 Dilution Factor : 1
Date & Time Acquired : 2024-10-29 19:17:46 DataFile Name : 024SMPL.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Aluminium	27-2	813	713	827	784	7.90	cps
Antimony	121-1	160	200	177	179	11.23	cps
Arsenic	75-2	7	13	10	10	33.30	cps
Barium	135-1	180	257	293	243	23.77	cps
Barium	137-1	387	370	480	412	14.38	cps
Beryllium	9-1	30	37	37	34	11.18	cps
Bismuth	209-1	3098990	3200906	3035430	3111776	2.68	cps
Bismuth	209-2	2578669	2656534	2686788	2640664	2.11	cps
Bromine	81-1	6455	6548	6602	6535	1.14	cps
Bromine	81-2	163	117	83	121	33.18	cps
Cadmium	108-1	20	10	3	11	75.52	cps
Cadmium	106-1	1307	1430	1230	1322	7.63	cps
Cadmium	111-1	911	1034	872	939	9.01	cps
Calcium	43-1	640	573	723	646	11.64	cps
Calcium	44-1	21739	22060	22193	21997	1.06	cps
Carbon	12-1						cps
Carbon	12-2						cps
Chlorine	35-1						cps
Chlorine	35-2						cps
Chromium	52-2	1030	1123	1030	1061	5.08	cps
Cobalt	59-2	190	150	183	174	12.29	cps
Copper	63-2	2520	2297	2370	2396	4.75	cps
Dysprosium	156-1	250	257	250	252	1.52	cps
Dysprosium	156-2	47	40	97	61	50.68	cps
Erbium	164-1	30	33	20	28	24.98	cps
Erbium	164-2	20	13	20	18	21.66	cps
Gadolinium	160-1	30	10	37	26	54.31	cps
Gadolinium	160-2	120	130	153	134	12.73	cps
Holmium	165-1	5136544	5430305	5175395	5247415	3.04	cps
Holmium	165-2	3784253	3867597	3799999	3817283	1.16	cps
Indium	115-1	4764666	4829957	4627929	4740851	2.17	cps
Indium	115-2	1719397	1697210	1722364	1712990	0.80	cps
Iron	56-2	25358	24587	25331	25092	1.74	cps
Iron	57-2	2900	3114	3097	3037	3.91	cps
Iron	54-2	2720	2910	2720	2784	3.94	cps
Krypton	83-1	253	210	210	224	11.15	cps

LB Number : LB133196 Operator : Jaswal
Lab Sample ID : P4322-04 Instrumnet Name : P7
Client Sample ID : MYD035 Dilution Factor : 1
Date & Time Acquired : 2024-10-29 19:17:46 DataFile Name : 024SMPL.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Lead	206-1	550	543	523	539	2.58	cps
Lead	207-1	433	417	460	437	5.01	cps
Lead	208-1	1883	2037	2007	1976	4.11	cps
Lithium	6-1	428330	451938	435493	438587	2.76	cps
Magnesium	24-2	2367	2380	2440	2396	1.63	cps
Manganese	55-2	1453	1357	1383	1398	3.57	cps
Molybdenum	94-1	663	663	723	683	5.07	cps
Molybdenum	95-1	483	507	540	510	5.58	cps
Molybdenum	96-1	550	590	630	590	6.78	cps
Molybdenum	97-1	297	253	310	287	10.34	cps
Molybdenum	98-1	603	717	690	670	8.84	cps
Neodymium	150-1	10	7	10	9	21.63	cps
Neodymium	150-2	7	7	3	6	34.70	cps
Nickel	60-2	230	250	257	246	5.65	cps
Phosphorus	31-2	233	223	207	221	6.09	cps
Potassium	39-2	84912	85662	85130	85235	0.45	cps
Rhodium	103-1	4562595	4776802	4501749	4613715	3.13	cps
Rhodium	103-2	2936875	2940191	2935840	2937635	0.08	cps
Scandium	45-1	2854750	3030514	2913426	2932897	3.05	cps
Scandium	45-2	290115	287506	286341	287987	0.67	cps
Selenium	82-1	265	331	344	313	13.50	cps
Selenium	77-2	0	0	0	0	0.00	cps
Selenium	78-2	350	393	377	373	5.85	cps
Silicon	28-1	301765	305830	307007	304868	0.90	cps
Silver	107-1	110	160	153	141	19.24	cps
Silver	109-1	87	140	90	106	28.30	cps
Sodium	23-2	52158	51837	52803	52266	0.94	cps
Strontium	86-1	847	737	897	827	9.90	cps
Strontium	88-1	4364	4154	4617	4378	5.30	cps
Sulfur	34-1	183025	176954	177720	179233	1.84	cps
Terbium	159-1	5404077	5561653	5327373	5431034	2.20	cps
Terbium	159-2	3842938	3766497	3810210	3806548	1.01	cps
Thallium	203-1	233	227	220	227	2.94	cps
Thallium	205-1	453	540	483	492	8.94	cps
Tin	118-1	2467	2684	3844	2998	24.70	cps
Titanium	47-1	297	233	277	269	12.04	cps

LB Number :

LB133196

Operator :

Jaswal

Lab Sample ID :

P4322-04

Instrumnet Name :

P7

Client Sample ID :

MYD035

Dilution Factor :

1

Date & Time Acquired :

2024-10-29 19:17:46

DataFile Name :

024SMPL.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Uranium	238-1	147	197	150	164	17.00	cps
Vanadium	51-2	23	50	47	40	36.33	cps
Yttrium	89-1	8324551	8609868	8196319	8376913	2.53	cps
Yttrium	89-2	2305608	2312569	2272711	2296963	0.93	cps
Zinc	66-2	1010	933	1067	1003	6.67	cps
Zirconium	90-1	1137	1010	1037	1061	6.29	cps
Zirconium	91-1	193	170	233	199	16.11	cps

LB Number :

LB133196

Operator :

Jaswal

Lab Sample ID :

P4322-05

Instrumnet Name :

P7

Client Sample ID :

MYD036

Dilution Factor :

1

Date & Time Acquired :

2024-10-29 19:21:05

DataFile Name :

025SMPL.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Aluminium	27-2	910	870	833	871	4.40	cps
Antimony	121-1	117	147	197	153	26.36	cps
Arsenic	75-2	10	23	0	11	105.35	cps
Barium	135-1	283	267	277	276	3.04	cps
Barium	137-1	390	427	430	416	5.34	cps
Beryllium	9-1	30	30	27	29	6.65	cps
Bismuth	209-1	3029769	3078553	3142633	3083652	1.84	cps
Bismuth	209-2	2580605	2604527	2663749	2616293	1.64	cps
Bromine	81-1	6428	6481	6455	6455	0.41	cps
Bromine	81-2	160	110	150	140	18.90	cps
Cadmium	108-1	13	10	7	10	33.30	cps
Cadmium	106-1	1240	1357	1237	1278	5.35	cps
Cadmium	111-1	882	959	891	911	4.64	cps
Calcium	43-1	1557	1710	1830	1699	8.06	cps
Calcium	44-1	37867	38338	39532	38579	2.22	cps
Carbon	12-1						cps
Carbon	12-2						cps
Chlorine	35-1						cps
Chlorine	35-2						cps
Chromium	52-2	1173	990	1193	1119	10.02	cps
Cobalt	59-2	180	193	180	184	4.18	cps
Copper	63-2	2774	2434	2427	2545	7.79	cps
Dysprosium	156-1	280	270	230	260	10.18	cps
Dysprosium	156-2	63	47	43	51	20.96	cps
Erbium	164-1	70	50	53	58	18.55	cps
Erbium	164-2	40	33	27	33	20.00	cps
Gadolinium	160-1	20	40	20	27	43.30	cps
Gadolinium	160-2	153	157	173	161	6.65	cps
Holmium	165-1	5046090	5347572	5309427	5234363	3.14	cps
Holmium	165-2	3687585	3714521	3796968	3733025	1.53	cps
Indium	115-1	4475727	4706859	4687978	4623522	2.78	cps
Indium	115-2	1701123	1682808	1707649	1697193	0.76	cps
Iron	56-2	25655	24837	25038	25177	1.69	cps
Iron	57-2	3207	3217	3177	3200	0.65	cps
Iron	54-2	3050	2970	2764	2928	5.05	cps
Krypton	83-1	260	243	210	238	10.71	cps

LB Number : LB133196 Operator : Jaswal
Lab Sample ID : P4322-05 Instrumnet Name : P7
Client Sample ID : MYD036 Dilution Factor : 1
Date & Time Acquired : 2024-10-29 19:21:05 DataFile Name : 025SMPL.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Lead	206-1	490	537	453	493	8.47	cps
Lead	207-1	400	413	503	439	12.81	cps
Lead	208-1	1960	2023	2120	2035	3.96	cps
Lithium	6-1	423998	434586	435931	431505	1.51	cps
Magnesium	24-2	2327	2224	2190	2247	3.17	cps
Manganese	55-2	1007	920	977	968	4.55	cps
Molybdenum	94-1	657	880	680	739	16.62	cps
Molybdenum	95-1	457	463	487	469	3.36	cps
Molybdenum	96-1	667	517	510	564	15.70	cps
Molybdenum	97-1	297	257	300	284	8.48	cps
Molybdenum	98-1	780	767	730	759	3.41	cps
Neodymium	150-1	10	23	13	16	44.60	cps
Neodymium	150-2	7	7	7	7	0.00	cps
Nickel	60-2	247	277	193	239	17.67	cps
Phosphorus	31-2	210	180	187	192	8.19	cps
Potassium	39-2	83363	83252	83072	83229	0.18	cps
Rhodium	103-1	4439341	4569841	4538856	4516013	1.51	cps
Rhodium	103-2	2795234	2862554	2835939	2831242	1.20	cps
Scandium	45-1	2815707	2987420	2926151	2909759	2.99	cps
Scandium	45-2	283775	282056	284684	283505	0.47	cps
Selenium	82-1	313	265	305	294	8.65	cps
Selenium	77-2	0	0	10	3	173.21	cps
Selenium	78-2	327	353	397	359	9.84	cps
Silicon	28-1	303427	308533	312011	307991	1.40	cps
Silver	107-1	93	130	127	117	17.38	cps
Silver	109-1	87	67	133	96	35.80	cps
Sodium	23-2	50817	51044	51101	50987	0.30	cps
Strontium	86-1	837	977	983	932	8.88	cps
Strontium	88-1	5074	4958	4851	4961	2.25	cps
Sulfur	34-1	177268	176206	174089	175854	0.92	cps
Terbium	159-1	5238858	5400303	5544717	5394626	2.84	cps
Terbium	159-2	3726709	3729525	3752227	3736154	0.37	cps
Thallium	203-1	203	173	207	194	9.44	cps
Thallium	205-1	513	463	503	493	5.36	cps
Tin	118-1	2484	2587	2667	2579	3.56	cps
Titanium	47-1	263	293	273	277	5.52	cps

LB Number :

LB133196

Operator :

Jaswal

Lab Sample ID :

P4322-05

Instrumnet Name :

P7

Client Sample ID :

MYD036

Dilution Factor :

1

Date & Time Acquired :

2024-10-29 19:21:05

DataFile Name :

025SMPL.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Uranium	238-1	163	143	183	163	12.24	cps
Vanadium	51-2	57	77	43	59	28.49	cps
Yttrium	89-1	8001576	8387542	8416706	8268608	2.80	cps
Yttrium	89-2	2244867	2237205	2267543	2249872	0.70	cps
Zinc	66-2	9053	9280	9166	9166	1.24	cps
Zirconium	90-1	1113	1147	1133	1131	1.48	cps
Zirconium	91-1	303	230	330	288	18.00	cps

LB Number : LB133196 Operator : Jaswal
Lab Sample ID : P4322-06 Instrumnet Name : P7
Client Sample ID : MYD038 Dilution Factor : 1
Date & Time Acquired : 2024-10-29 19:24:22 DataFile Name : 026SMPL.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Aluminium	27-2	587	673	663	641	7.40	cps
Antimony	121-1	123	87	110	107	17.40	cps
Arsenic	75-2	13	3	7	8	65.47	cps
Barium	135-1	250	223	247	240	6.05	cps
Barium	137-1	407	453	380	413	8.98	cps
Beryllium	9-1	23	23	23	23	0.00	cps
Bismuth	209-1	3087606	3150042	3158408	3132019	1.24	cps
Bismuth	209-2	2585978	2636506	2640502	2620995	1.16	cps
Bromine	81-1	6185	6141	6255	6194	0.92	cps
Bromine	81-2	180	120	143	148	20.47	cps
Cadmium	108-1	3	17	13	11	62.48	cps
Cadmium	106-1	1363	1217	1367	1316	6.51	cps
Cadmium	111-1	965	850	954	923	6.89	cps
Calcium	43-1	650	583	573	602	6.92	cps
Calcium	44-1	20901	21035	21222	21053	0.76	cps
Carbon	12-1						cps
Carbon	12-2						cps
Chlorine	35-1						cps
Chlorine	35-2						cps
Chromium	52-2	1117	1007	1083	1069	5.28	cps
Cobalt	59-2	103	193	123	140	33.76	cps
Copper	63-2	2327	2424	2254	2335	3.65	cps
Dysprosium	156-1	217	227	187	210	9.91	cps
Dysprosium	156-2	67	50	63	60	14.70	cps
Erbium	164-1	47	50	33	43	20.36	cps
Erbium	164-2	20	27	33	27	24.99	cps
Gadolinium	160-1	23	40	13	26	52.73	cps
Gadolinium	160-2	173	117	140	143	19.87	cps
Holmium	165-1	5138775	5304585	5319759	5254373	1.91	cps
Holmium	165-2	3739646	3798989	3756097	3764911	0.81	cps
Indium	115-1	4498653	4691647	4810738	4667013	3.37	cps
Indium	115-2	1728524	1667490	1683830	1693281	1.87	cps
Iron	56-2	22260	21726	22113	22033	1.25	cps
Iron	57-2	2957	3277	3157	3130	5.17	cps
Iron	54-2	2604	2637	2630	2624	0.67	cps
Krypton	83-1	290	240	263	264	9.46	cps

LB Number : LB133196 Operator : Jaswal
Lab Sample ID : P4322-06 Instrumnet Name : P7
Client Sample ID : MYD038 Dilution Factor : 1
Date & Time Acquired : 2024-10-29 19:24:22 DataFile Name : 026SMPL.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Lead	206-1	533	490	443	489	9.21	cps
Lead	207-1	457	407	453	439	6.37	cps
Lead	208-1	1950	1757	2003	1903	6.82	cps
Lithium	6-1	413671	429926	430480	424692	2.25	cps
Magnesium	24-2	1070	987	920	992	7.58	cps
Manganese	55-2	2624	2540	2534	2566	1.95	cps
Molybdenum	94-1	337	280	363	327	13.03	cps
Molybdenum	95-1	210	177	133	173	22.18	cps
Molybdenum	96-1	183	167	233	194	17.84	cps
Molybdenum	97-1	90	113	63	89	28.15	cps
Molybdenum	98-1	227	163	163	184	19.82	cps
Neodymium	150-1	40	7	3	17	121.66	cps
Neodymium	150-2	7	17	7	10	57.72	cps
Nickel	60-2	337	263	313	304	12.31	cps
Phosphorus	31-2	200	133	203	179	22.07	cps
Potassium	39-2	85153	83186	84298	84212	1.17	cps
Rhodium	103-1	4489520	4664110	4618388	4590673	1.97	cps
Rhodium	103-2	2876064	2869765	2858642	2868157	0.31	cps
Scandium	45-1	2872436	2962882	2999963	2945094	2.23	cps
Scandium	45-2	286326	286602	285904	286277	0.12	cps
Selenium	82-1	253	258	284	265	6.21	cps
Selenium	77-2	3	0	0	1	173.21	cps
Selenium	78-2	300	333	390	341	13.34	cps
Silicon	28-1	298054	299817	303817	300563	0.98	cps
Silver	107-1	70	57	67	64	10.76	cps
Silver	109-1	57	43	20	40	46.40	cps
Sodium	23-2	48108	47459	48560	48042	1.15	cps
Strontium	86-1	543	523	450	506	9.72	cps
Strontium	88-1	1170	1017	1013	1067	8.39	cps
Sulfur	34-1	173159	171814	172535	172503	0.39	cps
Terbium	159-1	5236980	5541036	5544078	5440698	3.24	cps
Terbium	159-2	3689568	3799563	3676386	3721839	1.82	cps
Thallium	203-1	147	137	120	134	10.02	cps
Thallium	205-1	320	313	330	321	2.61	cps
Tin	118-1	1987	2057	1987	2010	2.01	cps
Titanium	47-1	187	183	197	189	3.67	cps

LB Number :

LB133196

Operator :

Jaswal

Lab Sample ID :

P4322-06

Instrumnet Name :

P7

Client Sample ID :

MYD038

Dilution Factor :

1

Date & Time Acquired :

2024-10-29 19:24:22

DataFile Name :

026SMPL.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Uranium	238-1	30	23	27	27	12.51	cps
Vanadium	51-2	13	23	27	21	32.88	cps
Yttrium	89-1	8289779	8360513	8587959	8412750	1.85	cps
Yttrium	89-2	2257207	2250928	2247524	2251886	0.22	cps
Zinc	66-2	927	1030	950	969	5.59	cps
Zirconium	90-1	650	637	690	659	4.21	cps
Zirconium	91-1	163	160	150	158	4.40	cps

LB Number : LB133196 Operator : Jaswal
Lab Sample ID : P4322-07 Instrumnet Name : P7
Client Sample ID : MYDD00 Dilution Factor : 1
Date & Time Acquired : 2024-10-29 19:27:41 DataFile Name : 027SMPL.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Aluminium	27-2	2917	2797	2797	2837	2.44	cps
Antimony	121-1	93	57	80	77	24.20	cps
Arsenic	75-2	10	7	13	10	33.30	cps
Barium	135-1	70	117	110	99	25.52	cps
Barium	137-1	180	220	217	206	10.80	cps
Beryllium	9-1	20	13	23	19	26.96	cps
Bismuth	209-1	2996512	3095098	3110728	3067446	2.02	cps
Bismuth	209-2	2553472	2600391	2617122	2590328	1.27	cps
Bromine	81-1	5775	5888	5791	5818	1.05	cps
Bromine	81-2	83	80	93	86	8.11	cps
Cadmium	108-1	3	13	7	8	65.47	cps
Cadmium	106-1	1310	1183	1280	1258	5.26	cps
Cadmium	111-1	931	826	898	885	6.10	cps
Calcium	43-1	810	647	710	722	11.40	cps
Calcium	44-1	22500	23181	23592	23091	2.39	cps
Carbon	12-1						cps
Carbon	12-2						cps
Chlorine	35-1						cps
Chlorine	35-2						cps
Chromium	52-2	1113	1067	1320	1167	11.56	cps
Cobalt	59-2	93	137	127	119	19.09	cps
Copper	63-2	1840	2000	1907	1916	4.20	cps
Dysprosium	156-1	210	183	203	199	6.98	cps
Dysprosium	156-2	70	33	63	56	35.16	cps
Erbium	164-1	53	53	23	43	39.97	cps
Erbium	164-2	17	33	33	28	34.63	cps
Gadolinium	160-1	27	23	23	24	7.89	cps
Gadolinium	160-2	107	103	110	107	3.13	cps
Holmium	165-1	5029544	5213654	5255974	5166391	2.33	cps
Holmium	165-2	3635428	3678206	3760120	3691251	1.72	cps
Indium	115-1	4476691	4697443	4690015	4621383	2.71	cps
Indium	115-2	1665397	1656163	1698303	1673288	1.32	cps
Iron	56-2	19363	19066	19272	19234	0.79	cps
Iron	57-2	2934	3120	3117	3057	3.50	cps
Iron	54-2	2504	2530	2437	2490	1.93	cps
Krypton	83-1	290	230	177	232	24.42	cps

LB Number : LB133196 Operator : Jaswal
Lab Sample ID : P4322-07 Instrumnet Name : P7
Client Sample ID : MYDD00 Dilution Factor : 1
Date & Time Acquired : 2024-10-29 19:27:41 DataFile Name : 027SMPL.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Lead	206-1	347	343	370	353	4.11	cps
Lead	207-1	347	327	353	342	4.06	cps
Lead	208-1	1480	1473	1607	1520	4.94	cps
Lithium	6-1	403716	414589	414988	411098	1.56	cps
Magnesium	24-2	930	1070	1100	1033	8.78	cps
Manganese	55-2	933	933	987	951	3.24	cps
Molybdenum	94-1	327	430	430	396	15.08	cps
Molybdenum	95-1	157	167	153	159	4.37	cps
Molybdenum	96-1	223	247	263	244	8.22	cps
Molybdenum	97-1	100	123	100	108	12.50	cps
Molybdenum	98-1	207	203	143	184	19.32	cps
Neodymium	150-1	23	10	23	19	40.75	cps
Neodymium	150-2	7	0	13	7	99.98	cps
Nickel	60-2	197	183	190	190	3.51	cps
Phosphorus	31-2	223	223	207	218	4.42	cps
Potassium	39-2	80662	82170	82076	81636	1.04	cps
Rhodium	103-1	4335071	4559858	4620283	4505071	3.34	cps
Rhodium	103-2	2783707	2794164	2834711	2804194	0.96	cps
Scandium	45-1	2800151	2961565	2939787	2900501	3.02	cps
Scandium	45-2	280681	281713	283761	282052	0.56	cps
Selenium	82-1	212	340	336	296	24.49	cps
Selenium	77-2	0	0	0	0	0.00	cps
Selenium	78-2	420	347	350	372	11.12	cps
Silicon	28-1	300426	304497	307923	304282	1.23	cps
Silver	107-1	50	63	57	57	11.76	cps
Silver	109-1	33	33	43	37	15.75	cps
Sodium	23-2	51165	51245	51242	51217	0.09	cps
Strontium	86-1	517	493	480	497	3.74	cps
Strontium	88-1	1027	983	910	973	6.06	cps
Sulfur	34-1	171918	170054	169077	170350	0.85	cps
Terbium	159-1	5212232	5437875	5442945	5364351	2.46	cps
Terbium	159-2	3684479	3630195	3688667	3667780	0.89	cps
Thallium	203-1	127	120	103	117	10.30	cps
Thallium	205-1	307	260	233	267	13.92	cps
Tin	118-1	2020	2194	2317	2177	6.85	cps
Titanium	47-1	230	177	163	190	18.56	cps

LB Number :LB133196

Operator :Jaswal

Lab Sample ID :P4322-07

Instrumnet Name :P7

Client Sample ID :MYDD00

Dilution Factor :1

Date & Time Acquired :2024-10-29 19:27:41

DataFile Name :027SMPL.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Uranium	238-1	30	30	37	32	11.95	cps
Vanadium	51-2	30	33	27	30	11.10	cps
Yttrium	89-1	7922201	8324111	8301924	8182745	2.76	cps
Yttrium	89-2	2226592	2219159	2207079	2217610	0.44	cps
Zinc	66-2	5174	4851	4741	4922	4.58	cps
Zirconium	90-1	847	893	823	854	4.17	cps
Zirconium	91-1	190	187	223	200	10.14	cps

LB Number : LB133196 Operator : Jaswal
Lab Sample ID : P4322-08 Instrumnet Name : P7
Client Sample ID : MYDD01 Dilution Factor : 1
Date & Time Acquired : 2024-10-29 19:30:57 DataFile Name : 028SMPL.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Aluminium	27-2	587	553	530	557	5.12	cps
Antimony	121-1	73	90	83	82	10.20	cps
Arsenic	75-2	7	7	7	7	0.00	cps
Barium	135-1	140	147	120	136	10.24	cps
Barium	137-1	270	303	267	280	7.24	cps
Beryllium	9-1	27	37	30	31	16.37	cps
Bismuth	209-1	2973140	3145005	3200095	3106080	3.81	cps
Bismuth	209-2	2528398	2615568	2596594	2580187	1.78	cps
Bromine	81-1	6095	6208	6038	6114	1.42	cps
Bromine	81-2	87	57	97	80	26.02	cps
Cadmium	108-1	10	10	13	11	17.30	cps
Cadmium	106-1	1290	1387	1113	1263	10.97	cps
Cadmium	111-1	909	974	787	890	10.68	cps
Calcium	43-1	657	680	707	681	3.67	cps
Calcium	44-1	22437	23115	23629	23060	2.59	cps
Carbon	12-1						cps
Carbon	12-2						cps
Chlorine	35-1						cps
Chlorine	35-2						cps
Chromium	52-2	1150	1173	1193	1172	1.85	cps
Cobalt	59-2	187	137	133	152	19.63	cps
Copper	63-2	1940	1987	2013	1980	1.87	cps
Dysprosium	156-1	247	260	183	230	17.81	cps
Dysprosium	156-2	70	47	43	53	27.24	cps
Erbium	164-1	40	33	30	34	14.78	cps
Erbium	164-2	13	37	27	26	45.82	cps
Gadolinium	160-1	40	27	17	28	42.13	cps
Gadolinium	160-2	113	177	133	141	22.94	cps
Holmium	165-1	5058977	5375423	5438674	5291025	3.84	cps
Holmium	165-2	3701749	3747690	3799523	3749654	1.30	cps
Indium	115-1	4517767	4721591	4832376	4690578	3.40	cps
Indium	115-2	1715019	1688873	1702230	1702041	0.77	cps
Iron	56-2	18184	18531	18224	18313	1.04	cps
Iron	57-2	2924	3037	3097	3019	2.92	cps
Iron	54-2	2447	2460	2364	2424	2.16	cps
Krypton	83-1	223	220	220	221	0.87	cps

LB Number : LB133196 Operator : Jaswal
Lab Sample ID : P4322-08 Instrumnet Name : P7
Client Sample ID : MYDD01 Dilution Factor : 1
Date & Time Acquired : 2024-10-29 19:30:57 DataFile Name : 028SMPL.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Lead	206-1	327	360	393	360	9.26	cps
Lead	207-1	287	277	267	277	3.61	cps
Lead	208-1	1437	1357	1437	1410	3.28	cps
Lithium	6-1	396824	422333	421824	413660	3.53	cps
Magnesium	24-2	1190	1277	1483	1317	11.45	cps
Manganese	55-2	720	677	703	700	3.12	cps
Molybdenum	94-1	347	443	440	410	13.38	cps
Molybdenum	95-1	187	177	177	180	3.21	cps
Molybdenum	96-1	247	270	227	248	8.75	cps
Molybdenum	97-1	80	100	100	93	12.37	cps
Molybdenum	98-1	220	273	277	257	12.39	cps
Neodymium	150-1	17	10	7	11	45.82	cps
Neodymium	150-2	0	3	0	1	173.21	cps
Nickel	60-2	147	193	187	176	14.38	cps
Phosphorus	31-2	217	183	220	207	9.81	cps
Potassium	39-2	85244	85964	85418	85542	0.44	cps
Rhodium	103-1	4421673	4635056	4670900	4575876	2.94	cps
Rhodium	103-2	2919523	2880942	2871555	2890673	0.88	cps
Scandium	45-1	2828754	2996922	2979278	2934985	3.15	cps
Scandium	45-2	283319	285081	286195	284865	0.51	cps
Selenium	82-1	283	243	334	287	15.98	cps
Selenium	77-2	0	0	0	0	0.00	cps
Selenium	78-2	370	387	373	377	2.34	cps
Silicon	28-1	304416	310618	310992	308675	1.20	cps
Silver	107-1	60	70	60	63	9.12	cps
Silver	109-1	30	37	53	40	30.04	cps
Sodium	23-2	55841	57219	55914	56325	1.38	cps
Strontium	86-1	600	570	543	571	4.96	cps
Strontium	88-1	1863	2074	2020	1986	5.50	cps
Sulfur	34-1	172059	172211	171881	172050	0.10	cps
Terbium	159-1	5234070	5430571	5601967	5422203	3.40	cps
Terbium	159-2	3671673	3799995	3729056	3733575	1.72	cps
Thallium	203-1	123	103	110	112	9.08	cps
Thallium	205-1	247	323	280	283	13.57	cps
Tin	118-1	2027	2217	2354	2199	7.47	cps
Titanium	47-1	207	167	190	188	10.70	cps

LB Number :LB133196

Operator :Jaswal

Lab Sample ID :P4322-08

Instrumnet Name :P7

Client Sample ID :MYDD01

Dilution Factor :1

Date & Time Acquired :2024-10-29 19:30:57

DataFile Name :028SMPL.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Uranium	238-1	60	37	37	44	30.31	cps
Vanadium	51-2	27	13	27	22	34.66	cps
Yttrium	89-1	8033022	8611646	8526728	8390465	3.72	cps
Yttrium	89-2	2276248	2257061	2262522	2265277	0.44	cps
Zinc	66-2	903	1070	893	956	10.39	cps
Zirconium	90-1	860	830	987	892	9.32	cps
Zirconium	91-1	183	170	187	180	4.90	cps

LB Number : LB133196 Operator : Jaswal
Lab Sample ID : P4322-09 Instrumnet Name : P7
Client Sample ID : MYDD02 Dilution Factor : 1
Date & Time Acquired : 2024-10-29 19:34:15 DataFile Name : 029SMPL.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Aluminium	27-2	620	657	543	607	9.53	cps
Antimony	121-1	80	123	107	103	21.16	cps
Arsenic	75-2	10	10	7	9	21.63	cps
Barium	135-1	153	167	153	158	4.88	cps
Barium	137-1	277	290	273	280	3.15	cps
Beryllium	9-1	17	23	20	20	16.65	cps
Bismuth	209-1	3057928	3202384	3164069	3141460	2.38	cps
Bismuth	209-2	2635798	2625704	2652177	2637893	0.51	cps
Bromine	81-1	6208	6388	6465	6354	2.07	cps
Bromine	81-2	67	60	83	70	17.17	cps
Cadmium	108-1	3	10	10	8	49.52	cps
Cadmium	106-1	1250	1290	1327	1289	2.98	cps
Cadmium	111-1	899	909	932	913	1.81	cps
Calcium	43-1	600	653	720	658	9.14	cps
Calcium	44-1	21145	21445	21486	21359	0.87	cps
Carbon	12-1						cps
Carbon	12-2						cps
Chlorine	35-1						cps
Chlorine	35-2						cps
Chromium	52-2	1060	1023	1053	1046	1.87	cps
Cobalt	59-2	143	157	140	147	6.01	cps
Copper	63-2	1883	1980	1933	1932	2.50	cps
Dysprosium	156-1	240	257	297	264	11.01	cps
Dysprosium	156-2	63	50	57	57	11.76	cps
Erbium	164-1	47	40	37	41	12.39	cps
Erbium	164-2	37	40	17	31	40.56	cps
Gadolinium	160-1	40	27	33	33	20.00	cps
Gadolinium	160-2	137	107	183	142	27.16	cps
Holmium	165-1	5250007	5362269	5349592	5320623	1.16	cps
Holmium	165-2	3778172	3777009	3782385	3779189	0.07	cps
Indium	115-1	4632385	4883544	4766922	4760950	2.64	cps
Indium	115-2	1714993	1712984	1714260	1714079	0.06	cps
Iron	56-2	20898	20768	21205	20957	1.07	cps
Iron	57-2	3110	3240	3070	3140	2.83	cps
Iron	54-2	2684	2717	2697	2699	0.62	cps
Krypton	83-1	207	240	203	217	9.36	cps

LB Number : LB133196 Operator : Jaswal
Lab Sample ID : P4322-09 Instrumnet Name : P7
Client Sample ID : MYDD02 Dilution Factor : 1
Date & Time Acquired : 2024-10-29 19:34:15 DataFile Name : 029SMPL.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Lead	206-1	403	387	330	373	10.30	cps
Lead	207-1	313	310	357	327	7.97	cps
Lead	208-1	1453	1367	1537	1452	5.85	cps
Lithium	6-1	425893	427284	442426	431868	2.12	cps
Magnesium	24-2	1553	1553	1500	1536	2.01	cps
Manganese	55-2	763	787	760	770	1.89	cps
Molybdenum	94-1	453	427	423	434	3.79	cps
Molybdenum	95-1	320	270	257	282	11.83	cps
Molybdenum	96-1	287	377	393	352	16.29	cps
Molybdenum	97-1	200	137	177	171	18.72	cps
Molybdenum	98-1	340	500	403	414	19.44	cps
Neodymium	150-1	10	13	20	14	35.26	cps
Neodymium	150-2	3	3	3	3	0.00	cps
Nickel	60-2	173	237	183	198	17.21	cps
Phosphorus	31-2	153	213	207	191	17.21	cps
Potassium	39-2	85448	86279	84684	85470	0.93	cps
Rhodium	103-1	4564577	4680058	4697463	4647366	1.55	cps
Rhodium	103-2	2881714	2857045	2865677	2868145	0.44	cps
Scandium	45-1	2922101	3072934	3054351	3016462	2.73	cps
Scandium	45-2	290313	287221	287765	288433	0.57	cps
Selenium	82-1	354	314	393	354	11.12	cps
Selenium	77-2	0	0	0	0	0.00	cps
Selenium	78-2	410	373	327	370	11.29	cps
Silicon	28-1	410717	424733	439648	425033	3.40	cps
Silver	107-1	93	87	123	101	19.32	cps
Silver	109-1	60	60	37	52	25.79	cps
Sodium	23-2	54496	53279	52309	53361	2.05	cps
Strontium	86-1	633	640	637	637	0.52	cps
Strontium	88-1	2837	2744	2950	2844	3.64	cps
Sulfur	34-1	180273	178246	177754	178758	0.75	cps
Terbium	159-1	5435097	5605010	5474322	5504809	1.62	cps
Terbium	159-2	3792428	3722784	3813796	3776336	1.26	cps
Thallium	203-1	123	110	113	116	6.01	cps
Thallium	205-1	273	297	270	280	5.19	cps
Tin	118-1	2090	2200	2090	2127	2.99	cps
Titanium	47-1	183	260	190	211	20.12	cps

LB Number :

LB133196

Operator :

Jaswal

Lab Sample ID :

P4322-09

Instrumnet Name :

P7

Client Sample ID :

MYDD02

Dilution Factor :

1

Date & Time Acquired :

2024-10-29 19:34:15

DataFile Name :

029SMPL.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Uranium	238-1	70	73	100	81	20.27	cps
Vanadium	51-2	47	40	30	39	21.57	cps
Yttrium	89-1	8256604	8546943	8592360	8465302	2.15	cps
Yttrium	89-2	2299218	2270396	2265522	2278378	0.80	cps
Zinc	66-2	767	827	783	792	3.91	cps
Zirconium	90-1	700	670	790	720	8.67	cps
Zirconium	91-1	147	143	123	138	9.16	cps

LB Number : LB133196 Operator : Jaswal
Lab Sample ID : P4322-10 Instrumnet Name : P7
Client Sample ID : MYDD03 Dilution Factor : 1
Date & Time Acquired : 2024-10-29 19:37:32 DataFile Name : 030SMPL.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Aluminium	27-2	640	700	690	677	4.75	cps
Antimony	121-1	120	117	113	117	2.85	cps
Arsenic	75-2	7	20	10	12	56.76	cps
Barium	135-1	200	207	190	199	4.22	cps
Barium	137-1	317	360	260	312	16.06	cps
Beryllium	9-1	30	30	30	30	0.00	cps
Bismuth	209-1	3061863	3177722	2886021	3041869	4.83	cps
Bismuth	209-2	2557920	2611698	2641959	2603859	1.63	cps
Bromine	81-1	6231	6415	6321	6323	1.45	cps
Bromine	81-2	100	140	90	110	24.05	cps
Cadmium	108-1	10	10	7	9	21.63	cps
Cadmium	106-1	1393	1257	1193	1281	7.98	cps
Cadmium	111-1	982	883	861	908	7.10	cps
Calcium	43-1	967	1010	940	972	3.63	cps
Calcium	44-1	26470	26674	26587	26577	0.38	cps
Carbon	12-1						cps
Carbon	12-2						cps
Chlorine	35-1						cps
Chlorine	35-2						cps
Chromium	52-2	1260	1220	1163	1215	4.00	cps
Cobalt	59-2	147	193	143	161	17.35	cps
Copper	63-2	2014	2084	2053	2050	1.71	cps
Dysprosium	156-1	270	210	250	243	12.56	cps
Dysprosium	156-2	47	40	57	48	17.56	cps
Erbium	164-1	37	60	47	48	24.50	cps
Erbium	164-2	13	17	43	24	67.26	cps
Gadolinium	160-1	10	40	27	26	58.81	cps
Gadolinium	160-2	113	80	153	116	31.78	cps
Holmium	165-1	5172059	5270805	5000072	5147645	2.66	cps
Holmium	165-2	3700376	3733355	3748605	3727446	0.66	cps
Indium	115-1	4551738	4793524	4455630	4600297	3.78	cps
Indium	115-2	1702687	1711389	1698713	1704263	0.38	cps
Iron	56-2	27395	26547	26340	26761	2.09	cps
Iron	57-2	3250	3240	3257	3249	0.26	cps
Iron	54-2	2900	2997	2857	2918	2.46	cps
Krypton	83-1	307	233	233	258	16.42	cps

LB Number : LB133196 Operator : Jaswal
Lab Sample ID : P4322-10 Instrumnet Name : P7
Client Sample ID : MYDD03 Dilution Factor : 1
Date & Time Acquired : 2024-10-29 19:37:32 DataFile Name : 030SMPL.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Lead	206-1	487	417	503	469	9.81	cps
Lead	207-1	357	407	463	409	13.05	cps
Lead	208-1	1667	1727	1883	1759	6.36	cps
Lithium	6-1	411919	434110	408669	418233	3.31	cps
Magnesium	24-2	1950	1757	1797	1835	5.56	cps
Manganese	55-2	867	753	1000	873	14.14	cps
Molybdenum	94-1	497	533	613	548	10.89	cps
Molybdenum	95-1	360	427	397	394	8.46	cps
Molybdenum	96-1	453	460	483	466	3.38	cps
Molybdenum	97-1	217	240	277	244	12.37	cps
Molybdenum	98-1	533	460	640	544	16.63	cps
Neodymium	150-1	3	10	17	10	66.70	cps
Neodymium	150-2	7	3	3	4	43.40	cps
Nickel	60-2	183	170	183	179	4.31	cps
Phosphorus	31-2	170	240	223	211	17.32	cps
Potassium	39-2	85874	86862	85479	86072	0.83	cps
Rhodium	103-1	4455500	4649179	4323860	4476180	3.66	cps
Rhodium	103-2	2857379	2890100	2867818	2871766	0.58	cps
Scandium	45-1	2842992	2986103	2781485	2870193	3.66	cps
Scandium	45-2	285751	284221	284087	284686	0.32	cps
Selenium	82-1	172	286	295	251	27.26	cps
Selenium	77-2	17	0	0	6	173.21	cps
Selenium	78-2	410	400	400	403	1.43	cps
Silicon	28-1	321724	326077	331392	326397	1.48	cps
Silver	107-1	83	60	160	101	51.74	cps
Silver	109-1	73	63	70	69	7.39	cps
Sodium	23-2	58608	58731	58916	58752	0.26	cps
Strontium	86-1	787	773	763	774	1.51	cps
Strontium	88-1	3327	3337	3901	3522	9.32	cps
Sulfur	34-1	183837	180664	178260	180920	1.55	cps
Terbium	159-1	5335710	5582777	5189794	5369427	3.70	cps
Terbium	159-2	3773708	3755982	3716231	3748640	0.79	cps
Thallium	203-1	117	100	147	121	19.53	cps
Thallium	205-1	350	300	363	338	9.88	cps
Tin	118-1	2330	2377	2394	2367	1.39	cps
Titanium	47-1	263	220	287	257	13.18	cps

LB Number :

LB133196

Operator :

Jaswal

Lab Sample ID :

P4322-10

Instrumnet Name :

P7

Client Sample ID :

MYDD03

Dilution Factor :

1

Date & Time Acquired :

2024-10-29 19:37:32

DataFile Name :

030SMPL.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Uranium	238-1	127	117	123	122	4.17	cps
Vanadium	51-2	57	50	27	44	35.44	cps
Yttrium	89-1	8018791	8517730	7967814	8168112	3.72	cps
Yttrium	89-2	2237498	2261837	2244362	2247899	0.56	cps
Zinc	66-2	1070	1100	1010	1060	4.32	cps
Zirconium	90-1	793	803	997	864	13.26	cps
Zirconium	91-1	177	217	253	216	17.79	cps

LB Number :LB133196Operator :Jaswal

Lab Sample ID :CCV030Instrumnet Name :P7

Client Sample ID :CCV030Dilution Factor :1

Date & Time Acquired :2024-10-29 19:40:51DataFile Name :031CCV.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Aluminium	27-2	7828974	7534662	7668636	7677424	1.92	cps
Antimony	121-1	3291048	3316405	3241938	3283130	1.15	cps
Arsenic	75-2	214669	213051	211225	212982	0.81	cps
Barium	135-1	4072422	4018124	4059101	4049882	0.70	cps
Barium	137-1	6948491	7108789	6990574	7015951	1.18	cps
Beryllium	9-1	364745	370318	371033	368699	0.93	cps
Bismuth	209-1	3601496	3687366	3542515	3610459	2.02	cps
Bismuth	209-2	2846561	2843981	2833929	2841490	0.23	cps
Bromine	81-1	6658	6678	6852	6729	1.58	cps
Bromine	81-2	57	73	70	67	13.22	cps
Cadmium	108-1	56971	57724	57199	57298	0.67	cps
Cadmium	106-1	81360	82228	82244	81944	0.62	cps
Cadmium	111-1	772932	786820	793600	784451	1.34	cps
Calcium	43-1	4673255	4754519	4630124	4685966	1.35	cps
Calcium	44-1	75423226	76319064	75052617	75598302	0.86	cps
Carbon	12-1						cps
Carbon	12-2						cps
Chlorine	35-1						cps
Chlorine	35-2						cps
Chromium	52-2	1529704	1512243	1499996	1513981	0.99	cps
Cobalt	59-2	2354607	2335929	2339418	2343318	0.42	cps
Copper	63-2	16734166	16733225	16604374	16690589	0.45	cps
Dysprosium	156-1	450	403	393	416	7.28	cps
Dysprosium	156-2	293	333	357	328	9.77	cps
Erbium	164-1	173	193	187	184	5.52	cps
Erbium	164-2	113	127	103	114	10.23	cps
Gadolinium	160-1	137	130	127	131	3.88	cps
Gadolinium	160-2	250	250	223	241	6.38	cps
Holmium	165-1	6370187	6316925	6445276	6377463	1.01	cps
Holmium	165-2	4338758	4218394	4265060	4274071	1.42	cps
Indium	115-1	5406979	5396071	5389953	5397668	0.16	cps
Indium	115-2	1878228	1823457	1850812	1850832	1.48	cps
Iron	56-2	322520229	317901482	319082142	319834617	0.75	cps
Iron	57-2	8000791	7955754	7954957	7970501	0.33	cps
Iron	54-2	17770518	17699002	17580082	17683201	0.54	cps
Krypton	83-1	300	260	247	269	10.32	cps

LB Number : LB133196 Operator : Jaswal
Lab Sample ID : CCV030 Instrumnet Name : P7
Client Sample ID : CCV030 Dilution Factor : 1
Date & Time Acquired : 2024-10-29 19:40:51 DataFile Name : 031CCV.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Lead	206-1	10295645	10245929	10389520	10310365	0.71	cps
Lead	207-1	9044946	9043162	9003999	9030703	0.26	cps
Lead	208-1	40961625	41044274	40853937	40953279	0.23	cps
Lithium	6-1	509847	525164	519380	518130	1.49	cps
Magnesium	24-2	64818602	63192276	64521182	64177353	1.35	cps
Manganese	55-2	10729956	10514547	10467698	10570734	1.32	cps
Molybdenum	94-1	13001103	12978592	13035644	13005113	0.22	cps
Molybdenum	95-1	18777581	18815163	18801198	18797981	0.10	cps
Molybdenum	96-1	20408108	20406451	20462433	20425664	0.16	cps
Molybdenum	97-1	11529216	11526919	11633350	11563162	0.53	cps
Molybdenum	98-1	29751932	30076324	29867399	29898552	0.55	cps
Neodymium	150-1	180	240	180	200	17.32	cps
Neodymium	150-2	80	67	70	72	9.61	cps
Nickel	60-2	574222	567134	570637	570664	0.62	cps
Phosphorus	31-2	91042	89687	89285	90005	1.02	cps
Potassium	39-2	44265383	43161138	43962039	43796187	1.30	cps
Rhodium	103-1	5078400	5141352	5126701	5115485	0.64	cps
Rhodium	103-2	3117782	3047374	3047654	3070936	1.32	cps
Scandium	45-1	3579554	3570305	3520317	3556725	0.90	cps
Scandium	45-2	331755	327463	329084	329434	0.66	cps
Selenium	82-1	51479	52278	52569	52109	1.08	cps
Selenium	77-2	5321	5228	5171	5240	1.45	cps
Selenium	78-2	17754	17310	17414	17493	1.33	cps
Silicon	28-1	21721135	21060413	21531486	21437678	1.59	cps
Silver	107-1	4094882	4137426	4127900	4120069	0.54	cps
Silver	109-1	3880190	3909037	3938679	3909302	0.75	cps
Sodium	23-2	110022565	107738178	108689022	108816588	1.05	cps
Strontium	86-1	27598565	27549062	27704617	27617415	0.29	cps
Strontium	88-1	240750070	239019983	239746196	239838750	0.36	cps
Sulfur	34-1	414044	416064	413243	414450	0.35	cps
Terbium	159-1	6505799	6552929	6433620	6497449	0.92	cps
Terbium	159-2	4309622	4230364	4200490	4246825	1.33	cps
Thallium	203-1	2574539	2600323	2605778	2593546	0.64	cps
Thallium	205-1	5993675	6084221	6061024	6046307	0.78	cps
Tin	118-1	2593194	2555104	2579462	2575920	0.75	cps
Titanium	47-1	4934842	4983764	4971551	4963386	0.51	cps

LB Number : LB133196 Operator : Jaswal
Lab Sample ID : CCV030 Instrumnet Name : P7
Client Sample ID : CCV030 Dilution Factor : 1
Date & Time Acquired : 2024-10-29 19:40:51 DataFile Name : 031CCV.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Uranium	238-1	7612484	7733124	7723502	7689703	0.87	cps
Vanadium	51-2	1374517	1333872	1344013	1350801	1.57	cps
Yttrium	89-1	10025159	10124096	9867519	10005591	1.29	cps
Yttrium	89-2	2520403	2555224	2499798	2525142	1.11	cps
Zinc	66-2	2771255	2737827	2739961	2749681	0.68	cps
Zirconium	90-1	5917583	6061354	6012739	5997226	1.22	cps
Zirconium	91-1	1291516	1298299	1292597	1294137	0.28	cps

LB Number : LB133196 Operator : Jaswal
Lab Sample ID : CCB030 Instrumnet Name : P7
Client Sample ID : CCB030 Dilution Factor : 1
Date & Time Acquired : 2024-10-29 19:43:36 DataFile Name : 032CCBE.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Aluminium	27-2	680	653	697	677	3.23	cps
Antimony	121-1	2294	2227	2134	2218	3.62	cps
Arsenic	75-2	13	20	10	14	35.26	cps
Barium	135-1	277	217	270	254	12.92	cps
Barium	137-1	483	447	503	478	6.02	cps
Beryllium	9-1	77	80	67	74	9.32	cps
Bismuth	209-1	3619082	3596230	3533545	3582952	1.24	cps
Bismuth	209-2	2786751	2882837	2861005	2843531	1.77	cps
Bromine	81-1	5805	6158	6041	6001	3.00	cps
Bromine	81-2	80	60	60	67	17.32	cps
Cadmium	108-1	20	17	13	17	20.01	cps
Cadmium	106-1	1550	1323	1423	1432	7.93	cps
Cadmium	111-1	1141	1011	1074	1075	6.03	cps
Calcium	43-1	663	727	713	701	4.76	cps
Calcium	44-1	22637	22400	22741	22593	0.77	cps
Carbon	12-1						cps
Carbon	12-2						cps
Chlorine	35-1						cps
Chlorine	35-2						cps
Chromium	52-2	730	760	850	780	8.01	cps
Cobalt	59-2	190	257	207	218	15.93	cps
Copper	63-2	1803	1823	1847	1825	1.19	cps
Dysprosium	156-1	250	230	190	223	13.68	cps
Dysprosium	156-2	43	40	40	41	4.68	cps
Erbium	164-1	60	30	50	47	32.73	cps
Erbium	164-2	37	33	33	34	5.60	cps
Gadolinium	160-1	13	23	17	18	28.64	cps
Gadolinium	160-2	113	137	163	138	18.16	cps
Holmium	165-1	6016168	5901638	5803845	5907217	1.80	cps
Holmium	165-2	3996062	4004660	3961425	3987382	0.57	cps
Indium	115-1	5296480	5341062	5146021	5261188	1.94	cps
Indium	115-2	1821378	1824681	1821423	1822494	0.10	cps
Iron	56-2	27298	27896	27368	27521	1.19	cps
Iron	57-2	3260	3110	3390	3254	4.31	cps
Iron	54-2	2350	2370	2460	2394	2.45	cps
Krypton	83-1	267	207	210	228	14.80	cps

LB Number : LB133196

Operator : Jaswal

Lab Sample ID : CCB030

Instrumnet Name : P7

Client Sample ID : CCB030

Dilution Factor : 1

Date & Time Acquired : 2024-10-29 19:43:36

DataFile Name : 032CCBE.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Lead	206-1	907	950	800	886	8.72	cps
Lead	207-1	823	810	657	763	12.13	cps
Lead	208-1	3727	3704	3360	3597	5.71	cps
Lithium	6-1	487881	483525	479838	483748	0.83	cps
Magnesium	24-2	3710	3477	3317	3502	5.65	cps
Manganese	55-2	1417	1410	1450	1426	1.50	cps
Molybdenum	94-1	1293	1220	1100	1205	8.10	cps
Molybdenum	95-1	1577	1463	1367	1469	7.16	cps
Molybdenum	96-1	1667	1577	1593	1612	2.97	cps
Molybdenum	97-1	880	863	870	871	0.96	cps
Molybdenum	98-1	2360	2124	2174	2219	5.62	cps
Neodymium	150-1	10	13	7	10	33.30	cps
Neodymium	150-2	7	3	10	7	50.03	cps
Nickel	60-2	153	200	133	162	21.09	cps
Phosphorus	31-2	140	160	200	167	18.33	cps
Potassium	39-2	91154	90205	88891	90083	1.26	cps
Rhodium	103-1	5144194	5111402	4987342	5080979	1.63	cps
Rhodium	103-2	3019144	3053970	3014915	3029343	0.71	cps
Scandium	45-1	3344862	3266453	3283704	3298340	1.25	cps
Scandium	45-2	303242	302167	302063	302491	0.22	cps
Selenium	82-1	319	369	341	343	7.33	cps
Selenium	77-2	3	0	0	1	173.21	cps
Selenium	78-2	330	383	380	364	8.20	cps
Silicon	28-1	297780	296032	290210	294674	1.34	cps
Silver	107-1	500	363	370	411	18.74	cps
Silver	109-1	480	397	360	412	14.92	cps
Sodium	23-2	56467	54583	55292	55447	1.72	cps
Strontium	86-1	1643	1567	1560	1590	2.91	cps
Strontium	88-1	11428	10124	9933	10495	7.75	cps
Sulfur	34-1	180752	181106	178913	180257	0.65	cps
Terbium	159-1	6120682	6179191	5950713	6083529	1.95	cps
Terbium	159-2	4026746	3978058	4007744	4004183	0.61	cps
Thallium	203-1	417	420	373	403	6.46	cps
Thallium	205-1	1060	1067	967	1031	5.42	cps
Tin	118-1	2107	1993	2037	2046	2.80	cps
Titanium	47-1	373	387	413	391	5.21	cps

LB Number :LB133196

Operator :Jaswal

Lab Sample ID :CCB030

Instrumnet Name :P7

Client Sample ID :CCB030

Dilution Factor :1

Date & Time Acquired :2024-10-29 19:43:36

DataFile Name :032CCBE.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Uranium	238-1	407	300	330	346	15.92	cps
Vanadium	51-2	60	87	70	72	18.66	cps
Yttrium	89-1	9551423	9334069	9172157	9352550	2.03	cps
Yttrium	89-2	2404366	2396850	2371957	2391058	0.71	cps
Zinc	66-2	1033	1087	1147	1089	5.21	cps
Zirconium	90-1	1183	1060	957	1067	10.64	cps
Zirconium	91-1	243	253	187	228	15.78	cps

Prep Standard - Chemical Standard Summary

Order ID : P4322

Test : Metals CLP MS

Prepbatch ID : PB164339,

Sequence ID/Qc Batch ID: LB133196,

Standard ID :

MP81119,MP82127,MP82568,MP82569,MP82570,MP82571,MP82572,MP82573,MP82574,MP82575,MP82576,MP82577,MP82578,MP82579,MP82580,MP82581,MP82582,MP82585,MP82586,MP82587,

Chemical ID :

M5192,M5288,M5289,M5295,M5304,M5390,M5473,M5476,M5498,M5513,M5515,M5519,M5658,M5697,M5698,M5739,M5768,M5769,M5798,M5799,M5800,M5801,M5802,M5806,M5815,M5816,M5817,M5818,M5819,M5820,M5873,M5874,M5935,M5961,M5962,M5976,M5978,M5981,M5982,M5983,M6021,M6023,M6025,M6028,M6030,M6033,M6037,M6040,M6055,W2606,W3112,

Metals STANDARD PREPARATION LOG

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
169	1:1HNO3	MP81119	06/21/2024	04/24/2025	Al-Terek Isaac	METALS_SCALE_2 (M SC-2)	METALS_PIPETTE_1 (ICP A)	Sarabjit Jaswal
FROM 1250.00000ml of M5935 + 1250.00000ml of W2606 = Final Quantity: 2500.000 ml								

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
170	1:1HCL	MP82127	09/03/2024	02/08/2025	Janvi Patel	None	None	Sarabjit Jaswal
FROM 1250.00000ml of M6040 + 1250.00000ml of W3112 = Final Quantity: 2500.000 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>
1122	ICPMS CALIB BLANK(S0/ICB/CCB)	MP82568	09/28/2024	10/31/2024	Sarabjit Jaswal	None	None	Mohan Bera
								09/30/2024

FROM 25.00000ml of M6040 + 4925.00000ml of W3112 + 50.00000ml of M6037 = Final Quantity: 5000.000 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>
2902	S8 ICPMS	MP82569	09/28/2024	10/31/2024	Sarabjit Jaswal	None	METALS_PIP ETTE_3 (A)	Mohan Bera
								09/30/2024

FROM 1.00000ml of M6033 + 2.50000ml of M5288 + 2.50000ml of M5515 + 5.00000ml of M5498 + 5.00000ml of M5768 + 5.00000ml of M5806 + 79.00000ml of MP82568 = 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>
3947	S7(SFAM,6020,200.8)	MP82570	09/28/2024	10/31/2024	Sarabjit Jaswal	None	METALS_PIPETTE_3 (A)	Mohan Bera 09/30/2024
FROM 1.00000ml of M5818 + 1.00000ml of M5981 + 1.00000ml of M5983 + 1.90000ml of M6033 + 10.00000ml of M5976 + 10.00000ml of M5978 + 10.00000ml of M6037 + 2.00000ml of M5815 + 2.00000ml of M5817 + 2.50000ml of M5476 + 4.00000ml of M5390 + 4.00000ml of M6025 + 4.90000ml of M5515 + 4.90000ml of M5519 + 5.00000ml of M6040 + 50.00000ml of M5304 + 829.10000ml of W3112 + 9.00000ml of M5697 + 9.00000ml of M5698 + 9.00000ml of M5819 + 9.90000ml of M5498 + 9.90000ml of M5768 + 9.90000ml of M5806 = 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>
3948	S6(SFAM,6020,200.8)	MP82571	09/28/2024	10/31/2024	Sarabjit Jaswal	None	METALS_PIPETTE_3 (A)	Mohan Bera 09/30/2024
FROM 0.50000ml of M6040 + 1.00000ml of M6037 + 88.50000ml of W3112 + 25.00000ml of MP82570 = 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)	MP82572	09/28/2024	10/31/2024	Sarabjit Jaswal	None	METALS_PIPETTE_3 (A)	Mohan Bera 09/30/2024

FROM 0.50000ml of M6040 + 1.00000ml of M6037 + 73.50000ml of W3112 + 25.00000ml of MP82570 = 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)	MP82573	09/28/2024	10/31/2024	Sarabjit Jaswal	None	METALS_PIPETTE_3 (A)	Mohan Bera 09/30/2024

FROM 0.50000ml of M6040 + 1.00000ml of M6037 + 88.50000ml of W3112 + 12.50000ml of MP82570 = 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>
3951	S3(SFAM, 6020,200.8)	MP82574	09/28/2024	10/31/2024	Sarabjit Jaswal	None	METALS_PIPETTE_3 (A)	Mohan Bera 09/30/2024

FROM 0.50000ml of M6040 + 1.00000ml of M6037 + 88.50000ml of W3112 + 10.00000ml of MP82571 = 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>
3955	S2CONC(SFAM,6020,200.8)	MP82575	09/28/2024	10/31/2024	Sarabjit Jaswal	None	METALS_PIPETTE_3 (A)	Mohan Bera 09/30/2024

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 M5697 + 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 M6040 + 226.25000ml of W3112 + 5.00000ml of M6037 = 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>
3956	S2(SFAM,6020,200.8)	MP82576	09/28/2024	10/31/2024	Sarabjit Jaswal	None	METALS_PIPETTE_3 (A)	Mohan Bera 09/30/2024

FROM 0.50000ml of M6040 + 1.00000ml of M6037 + 88.50000ml of W3112 + 0.50000ml of MP82575 = 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>
3957	S1(SFAM,6020,200.8)	MP82577	09/28/2024	10/31/2024	Sarabjit Jaswal	None	METALS_PIPETTE_3 (A)	Mohan Bera 09/30/2024

FROM 0.50000ml of M6040 + 1.00000ml of M6037 + 88.50000ml of W3112 + 10.00000ml of MP82576 = 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>
3958	ICV(SFAM)	MP82578	09/28/2024	10/31/2024	Sarabjit Jaswal	None	METALS_PIPETTE_3 (A)	Mohan Bera 09/30/2024

FROM 2.00000ml of M5295 + 98.00000ml of MP82568 = 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>
3961	CCV	MP82579	09/28/2024	10/31/2024	Sarabjit Jaswal	None	METALS_PIPETTE_3 (A)	Mohan Bera 09/30/2024

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 M5473 + 10.00000ml of M6037 + 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 M5697 + 4.50000ml of M5698 + 4.50000ml of M5819 + 4.95000ml of M6033 + 5.00000ml of M5976 + 5.00000ml of M5978 + 5.00000ml of M6040 + 824.35000ml of W3112 = 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>
1142	ICSA ICPMS	MP82580	09/28/2024	10/31/2024	Sarabjit Jaswal	None	METALS_PIPETTE_3 (A)	Mohan Bera 09/30/2024

FROM 10.00000ml of M5873 + 90.00000ml of MP82568 = 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>
1143	ICSAB ICPMS	MP82581	09/28/2024	10/31/2024	Sarabjit Jaswal	None	METALS_PIPETTE_3 (A)	Mohan Bera 09/30/2024

FROM 10.00000ml of M5873 + 10.00000ml of M5874 + 80.00000ml of MP82568 = 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>
3963	CONC.LCSW SPIKE	MP82582	09/28/2024	10/31/2024	Sarabjit Jaswal	None	METALS_PIPETTE_3 (A)	Mohan Bera 09/30/2024
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 M5289 + 0.10000ml of M5658 + 0.10000ml of M5697 + 0.10000ml of M5802 + 0.25000ml of M5192 + 0.25000ml of M5799 + 0.25000ml of M5819 + 0.25000ml of M5962 + 0.25000ml of M5978 + 0.25000ml of M6021 + 0.50000ml of M5390 + 0.50000ml of M5818 + 1.00000ml of M5515 + 1.25000ml of M5816 + 1.25000ml of M5820 + 2.50000ml of M5498 + 2.50000ml of M5519 + 2.50000ml of M5769 + 2.50000ml of M5806 + 2.50000ml of M6040 + 225.50000ml of W3112 + 5.00000ml of M6037 = 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>
3962	MG 10PPM FOR TUNE	MP82585	09/28/2024	10/31/2024	Sarabjit Jaswal	None	METALS_PIPETTE_3 (A)	Mohan Bera 09/30/2024
FROM 0.01000ml of M5768 + 9.99000ml of MP82568 = 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	MP82586	09/28/2024	10/31/2024	Sarabjit Jaswal	None	METALS_PIPETTE_3 (A)	Mohan Bera 09/30/2024

FROM 2.00000ml of M6055 + 2.00000ml of MP82585 + 96.00000ml of MP82568 = 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	MP82587	09/28/2024	10/31/2024	Sarabjit Jaswal	None	METALS_PIPETTE_3 (A)	Mohan Bera 09/30/2024

FROM 5.00000ml of M6037 + 75.00000ml of M5739 + 170.00000ml of MP82568 = Final Quantity: 250.000 ml

CHEMICAL RECEIPT LOG BOOK

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	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	02/05/2025	08/07/2024 / jaswal	02/20/2020 / bin	M5295

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Inorganic Ventures	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	03/16/2023 / jaswal	03/16/2023 / jaswal	M5473

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	08/09/2025	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

CHEMICAL RECEIPT LOG BOOK

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

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	58029 / Cu, 1000 PPM, 500 ml	102523	10/25/2026	04/03/2024 / jaswal	10/27/2023 / jaswal	M5697

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

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
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.	58112 / Mg, 10000 PPM, 500 ml	091823	09/18/2026	01/08/2024 / bin	01/03/2024 / bin	M5768

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

CHEMICAL RECEIPT LOG BOOK

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

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

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

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

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

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

CHEMICAL RECEIPT LOG BOOK

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

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

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

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

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

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

CHEMICAL RECEIPT LOG BOOK

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
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

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	12/08/2024	06/21/2024 / Al-Terek	06/07/2024 / Al-Terek	M5935

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

CHEMICAL RECEIPT LOG BOOK

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

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	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

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 #
Absolute Standards, Inc.	57023 / V, 1000 PPM, 125 ml	062424	06/24/2027	09/28/2024 / jaswal	08/05/2024 / Jaswal	M6021

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

CHEMICAL RECEIPT LOG BOOK

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	57082 / Pb, 1000 PPM, 125 ml	061224	06/12/2027	08/05/2024 / Jaswal	08/05/2024 / Jaswal	M6025

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	57048 / Cd, 1000 PPM, 125 ml	070124	07/01/2027	08/05/2024 / kareem	01/25/2019 / Jaswal	M6028

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

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

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Seidler Chemical	BA-9598-34 / Nitric Acid, Instra-Analyzed (cs/4x2.5L)	24D1062002	02/02/2025	08/24/2024 / Janvi	08/01/2024 / Janvi	M6037

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 / Janvi	08/01/2024 / Janvi	M6040

CHEMICAL RECEIPT LOG BOOK

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	DIW / DI Water	Daily Lab-Certified	10/24/2024	10/24/2019 / apatel	10/24/2019 / apatel	W2606

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



CERTIFIED WEIGHT REPORT:

Part Number: 57048
Lot Number: 070124
Description: Cadmium (Cd)

Lot #
Solvent: 24002546 Nitric Acid

2% 40.0 Nitric Acid (mL)

Expiration Date: 070127

Recommended Storage: Ambient (20 °C)

Nominal Concentration (µg/mL): 1000

NIST Test Number: 6UTB

SE-05 Balance Uncertainty

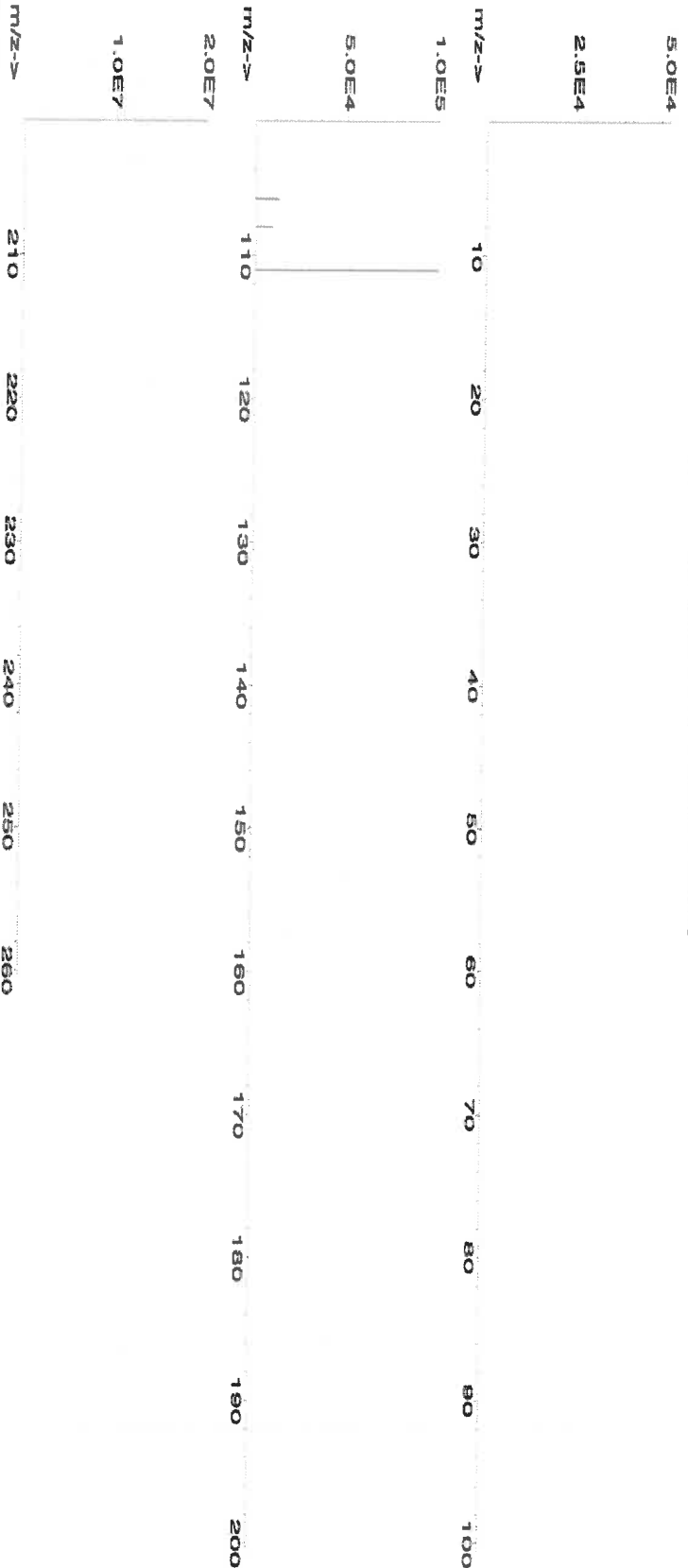
Weight shown below was diluted to (mL): 2000.07 0.100 Flask Uncertainty

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

SDS Information

Compound	Lot Number	Nominal Conc. (µg/mL)	Purity (%)	Uncertainty (%)	Assay (%)	Target Weight (g)	Actual Weight (g)	Actual Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	CAS#	OSHA PEL (TWA)	LD50	NIST SRM
1. Cadmium nitrate tetrahydrate (Cd)	INO24 CDM09221A1	1000	99.999	0.10	36.5	5.4797	5.4804	1000.1	2.0	10022-68-1	0.01 mg/m3	or-rat 60.2mg/kg	3108

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





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

266

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

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

(T) = Target analyte

Physical Characterization:

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:

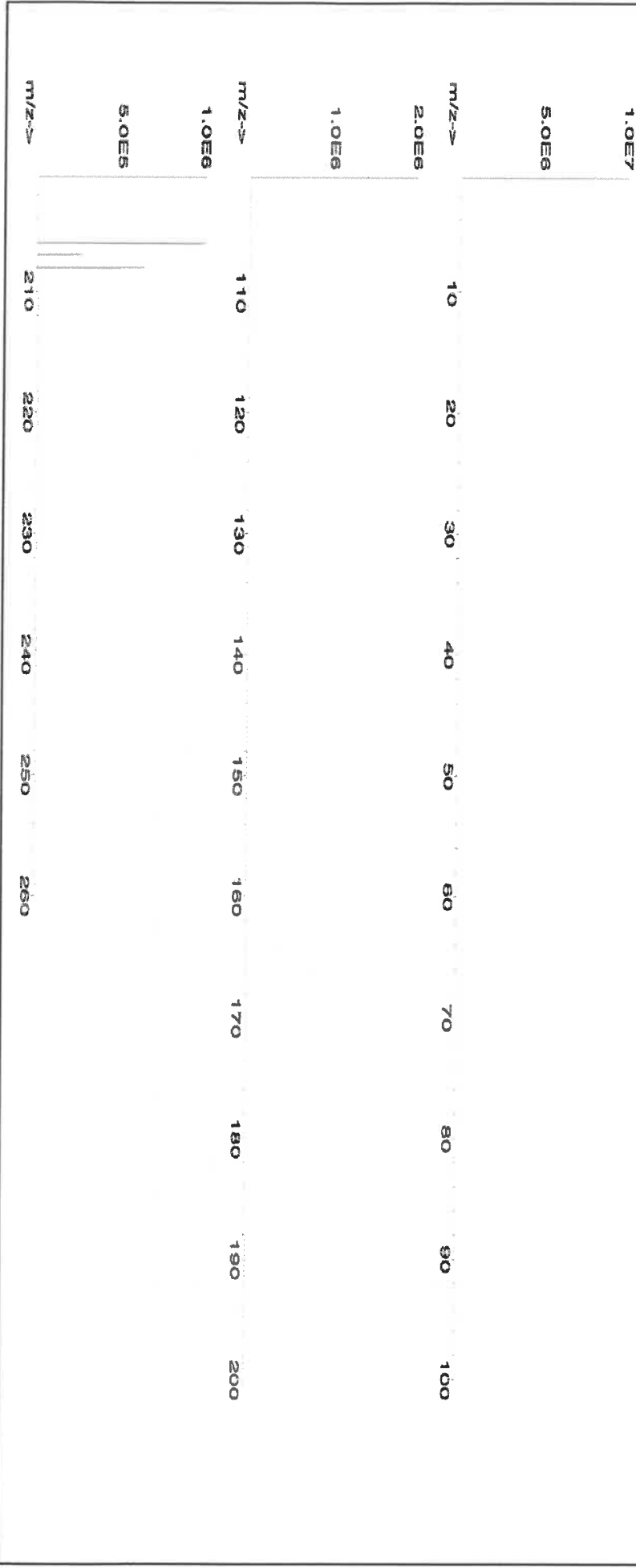
Part Number: 57182
Lot Number: 110923
Description: Lead (Pb)
Solvent: 24002546 Nitric Acid
Lot #

Expiration Date: 110926
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

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

SDS Information									
Compound	Lot	Nominal	Purity	Uncertainty	Assay	Target	Actual	Actual	Expanded
RM#	Number	Conc. (µg/mL)	(%)	Purity (%)	(%)	Weight (g)	Weight (g)	Conc. (µg/mL)	+/- (µg/mL)
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):

268

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.
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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 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:

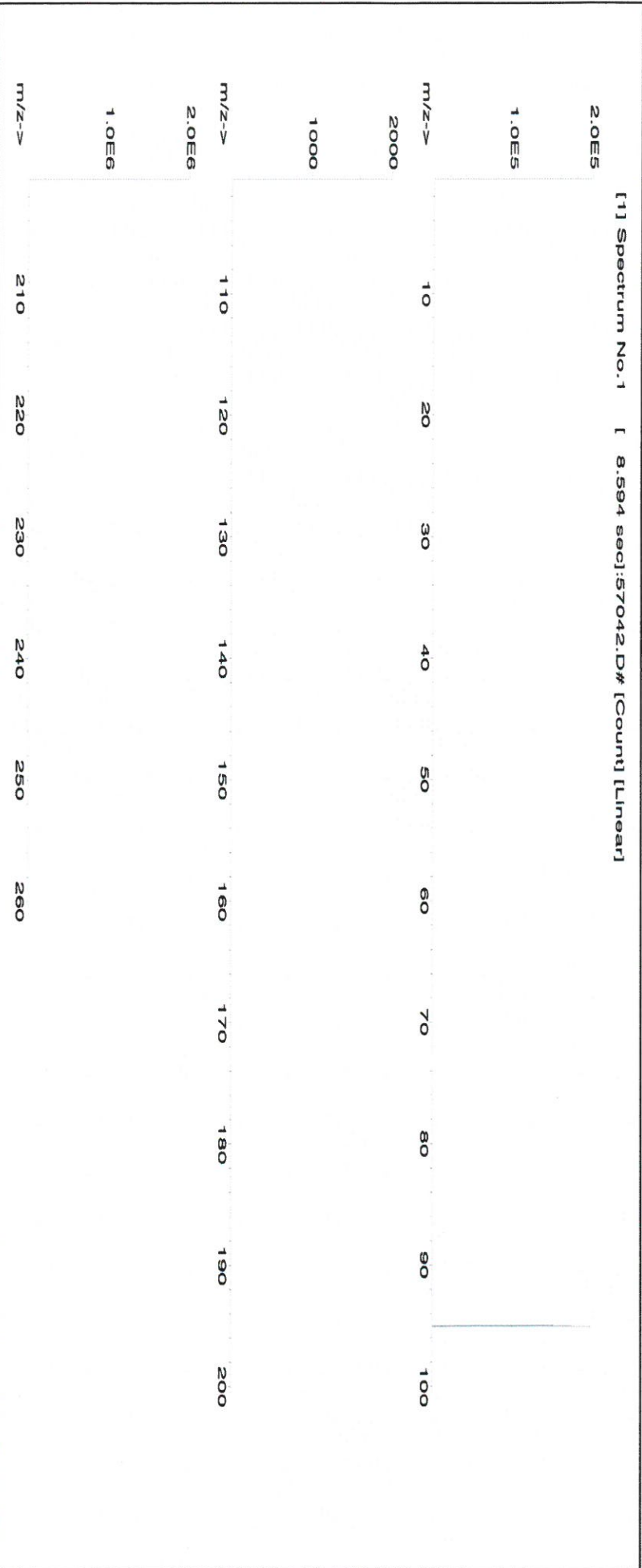
6UTB
5E-05 Balance Uncertainty
0.058 Flask Uncertainty

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

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):

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 WEIGHT REPORT:

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

2% 40.0 (mL) Nitric Acid

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

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

Compound

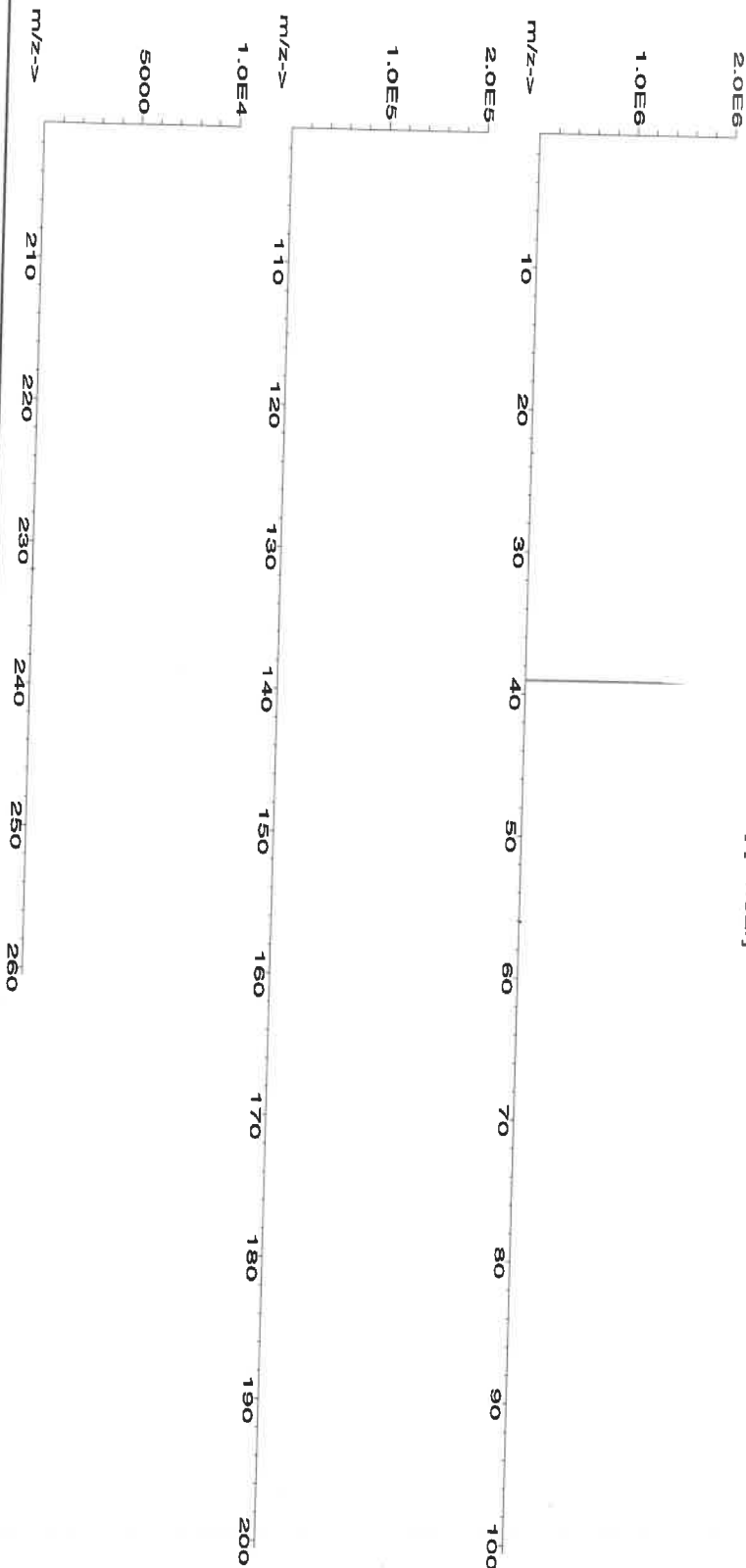
1. Potassium nitrate (K)

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
IN034	KD022021A1	10000	99.999	0.10	37.6	53.1925	53.1934	10000.2	20.0	7757-79-1	5 mg/m3	or-rat 3015 mg/kg	3141a

SDS Information

(Solvent Safety Info. On Attached pg.)
CAS# OSHA PEL (TWA)

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





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

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

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

(T) = Target analyte

Physical Characterization:

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Certified by:

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M5289

R: 07/12/22
Certified Reference Material CRM

34



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

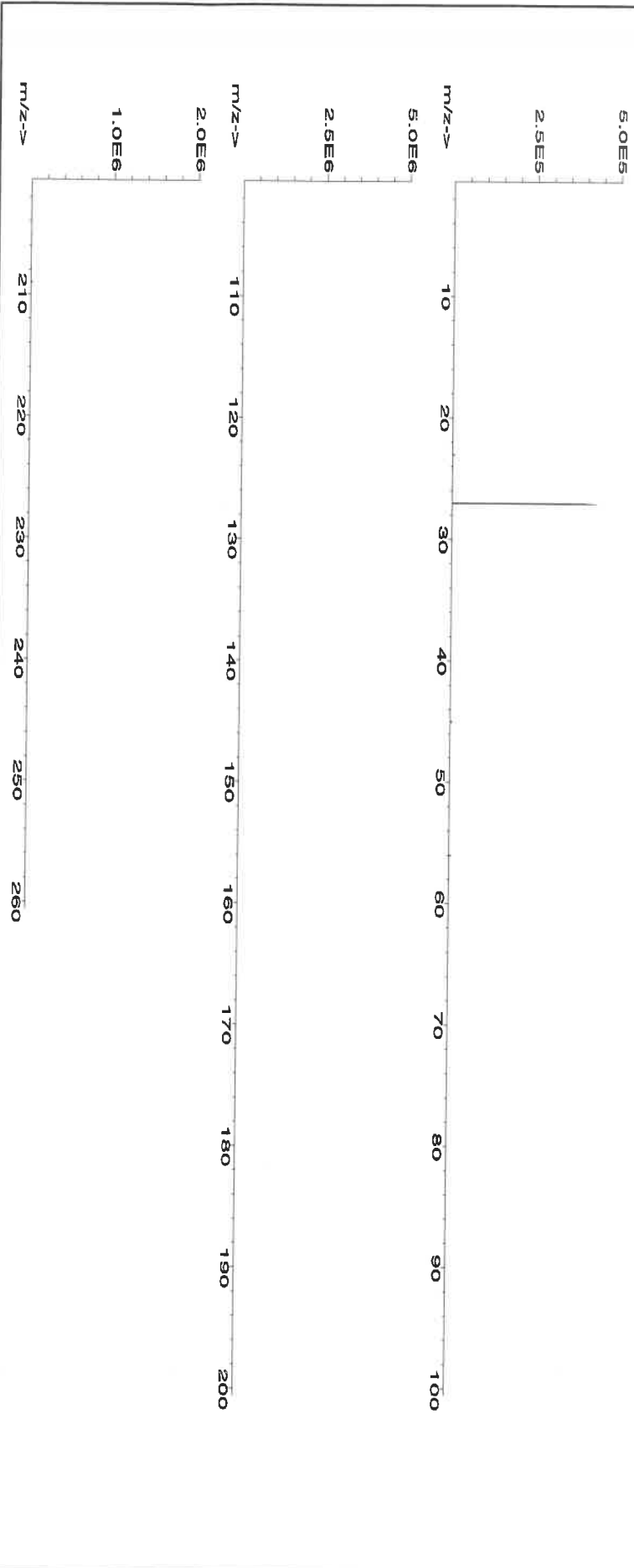
Compound

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

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

[1] Spectrum No. 1 [15.014 sec]:58113.D# [Count] [Linear]





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

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



R: 4/20/21

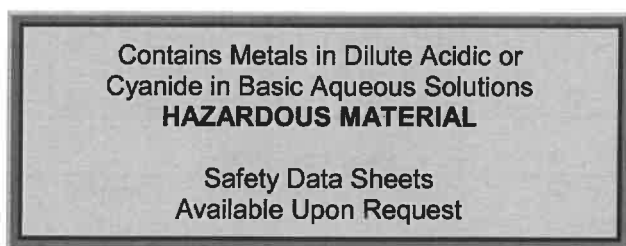
Instructions for QATS Reference Material: *Inorganic ICV Solutions*

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 **(B1)**
Certified Reference Material CRM

CERTIFIED WEIGHT REPORT:

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

Solvent: 20510011 Nitric Acid

Lot #

Expiration Date: 072125
Recommended Storage: Ambient (20 °C)
Nominal Concentration (µg/mL): 1000
NIST Test Number: 6UTB
Weight shown below was diluted to (mL): 2000.02
5E-05 Balance Uncertainty
0.058 Flask Uncertainty

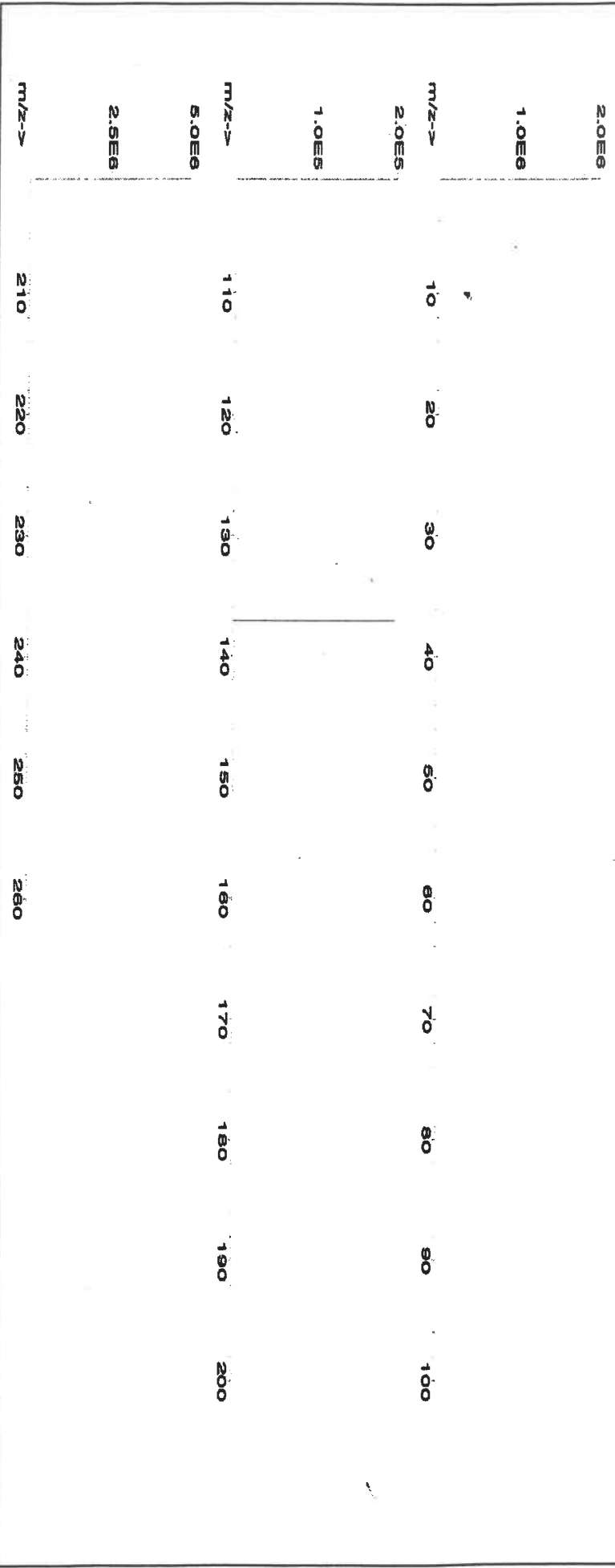
2% 40.0 (mL) Nitric Acid

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

SDS Information									
Compound	Lot Number	Nominal Conc. (µg/mL)	Purity (%)	Uncertainty Purity (%)	Assay (%)	Target Weight (g)	Actual Weight (g)	Actual Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)
1. Barium nitrate (Ba)	IN023 BA022019A1	1000	99.999	0.10	52.3	3.82417	3.82426	1000.0	2.0

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-ral 355 mg/kg 31046

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





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

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

Al	<0.02	Cd	<0.02	Dy	<0.02	Hf	<0.02	Li	<0.02	Ni	<0.02	Pr	<0.02	Se	<0.2	Tb	<0.02	W	<0.02
Sb	<0.02	Ca	<0.2	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	T	Cs	<0.02	Gd	<0.02	Ir	<0.02	Mn	<0.02	Pd	<0.02	Rb	<0.02	Na	<0.2	Th	<0.02	Yb	<0.02
Be	<0.01	Cr	<0.02	Ga	<0.02	Fe	<0.02	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:

Ben. P. R.

* The certified value is the concentration calculated from gravimetric and volumetric measurements unless otherwise stated.
* Purified acids, 18.2 megohm deionized water, calibrated Class A glassware and the highest purity raw materials are used in the preparation of all standards.

* All standard containers are meticulously cleaned prior to use.

* Standards are prepared gravimetrically using balances that are calibrated with weights traceable to NIST (see above).

* Standards are certified (+/-) 0.5% of the stated value, unless otherwise stated.

All Standards should be stored with caps tight and under appropriate laboratory conditions.

Uncertainty References: 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: 031523

Description:

Calcium (Ca)

Expiration Date:

031526

Recommended Storage: Ambient (20 °C)

10000

NIST Test Number:

6UTB

Weight shown below was diluted to (mL): 3000.41

5E-05 Balance Uncertainty

0.058 Flask Uncertainty

卷十

Solvent: 21110221 Nitric Acid

Nitric Acid

2% Nitric Acid

Nitric Acid

(mL)

(mL)

SDS Information

Expanded

Uncertainty

Actual

Actual

Target

Assay

Inc

Purity

Nomina

Lot

1

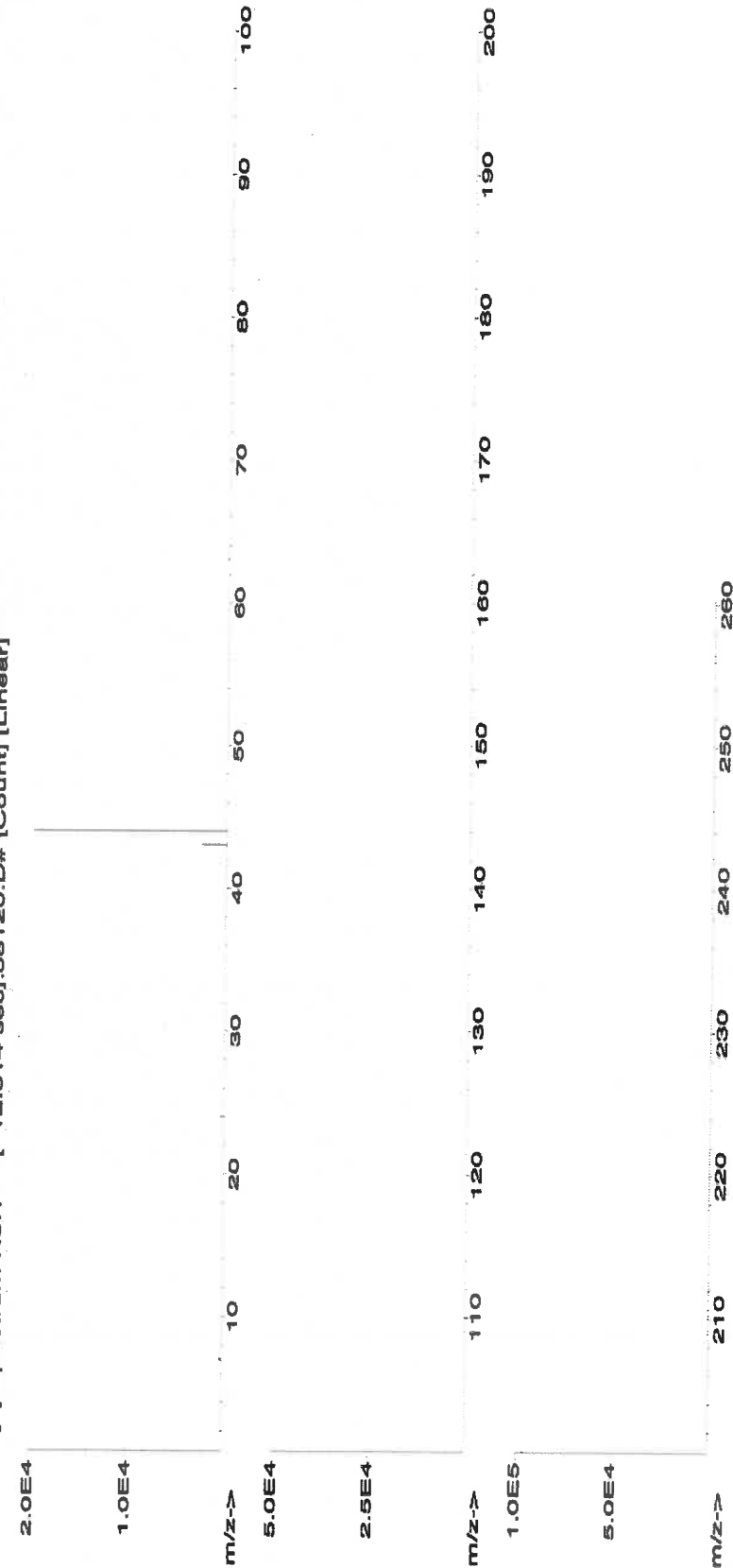
(Solvent Safety Info. On Attached pg.)

LIST

SRM

[illegible]

[1] Spectrum No.1 [12.514 sec]:58120.D# [Count] [Linear]



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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	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	<0.2	Ta	<0.02	Tl	<0.02	Zr	<0.02

(T) = Target analyte

Physical Characterization:

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

Certified by:

- * The certified value is the concentration calculated from gravimetric and volumetric measurements unless otherwise stated.
- * Purified acids, 18.2 megohm deionized water, calibrated Class A glassware and the highest purity raw materials are used in the preparation of all standards.
- * 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).

004

CERTIFIED WEIGHT REPORT:

Part Number:
Lot Number:
Description:

57182
061522
Lead (Pb)

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

061525
Ambient (20 °C)
10000
6UTB

Weight shown below was diluted to (mL):

2000.02

5E-05 Balance Uncertainty

0.058 Flask Uncertainty

Solvent:

20510011

Nitric Acid

2%

40.0

(mL)

Nitric Acid

Lot #

20510011

Nitric Acid

Formulated By:

Giovanni Esposito

Reviewed By:

Pedro L. Rentas

061522

061522

Expanded

Uncertainty

Actual

Conc. (µg/mL)

Actual

Weight (g)

Target

Assay

Purity (%)

Uncertainty

Assay

Purity (%)

Uncertainty

Assay

Purity (%)

Uncertainty

Assay

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Purity (%)

Uncertainty

Assay

Purity (%)



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	<0.2	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	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.

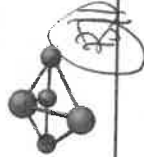
Certified by:

[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).



Certified Reference Material CRM



MS54-MS55 R:03/17/22

CERTIFIED WEIGHT REPORT:

Part Number:
Lot Number:
Description:

58126
092122
Iron (Fe)

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

092125
Ambient (20 °C)
10000
6UTB

Weight shown below was diluted to (mL):

5000.1

Solvent: 20510011 Nitric Acid

7.0% 350.0 Nitric Acid
(mL)

5E-05 Balance Uncertainty
0.12 Flask Uncertainty

Formulated By:	Giovanni Esposito	092122
Reviewed By:	Pedro L. Rentas	092122

SDS Information

Expanded
Uncertainty
(Solvent Safety Info. On Attached pg.)
LD50
SRM

Actual
Conc. (µg/mL)
CAS#

Actual
Weight (g)
Conc. (µg/mL)

Target
Weight (g)

Assay
(%)
Purity (%)

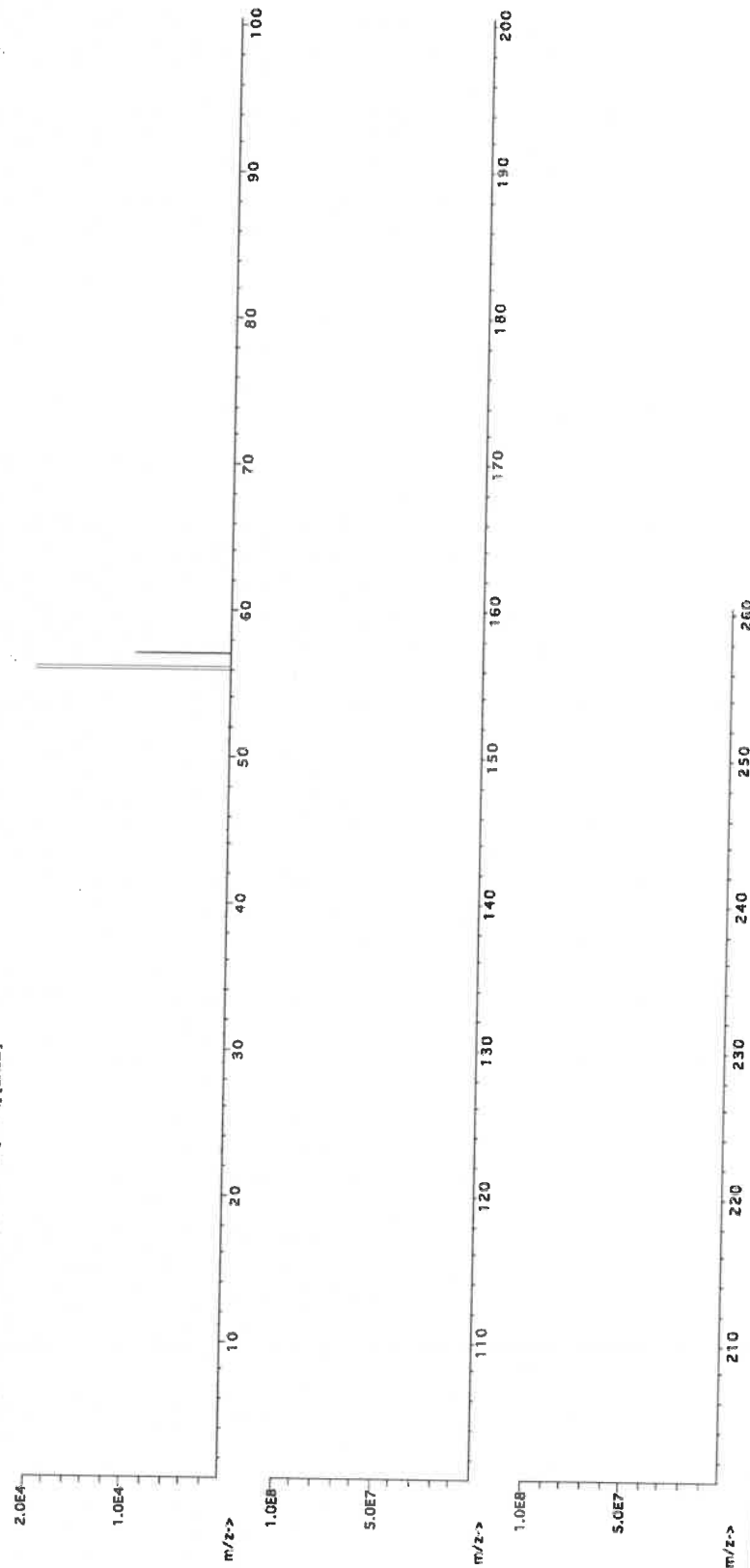
Nominal
Conc. (µg/mL)

Lot
Number

Compound

1. Iron (Fe)	IN346	2224912-500	10000	99.985	0.10	100.0	50.0034	50.0111	10001.5	20.0	7439-88-6	5 mg/m3	orl-rat 7500mg/kg 3126a

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



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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	<0.10	Pr	<0.02	Se	<0.2	Tb	<0.02	W	<0.02
Sb	<0.02	Ca	<0.2	Er	<0.02	Ho	<0.02	La	<0.02	Nb	<0.02	Re	<0.02	Si	<0.02	Te	<0.02	U	<0.02
As	<0.2	Ce	<0.02	Eu	<0.02	In	<0.02	Mg	<0.02	Os	<0.02	Rh	<0.02	Ag	<0.02	Tl	<0.02	V	<0.02
Ba	<0.02	Cs	<0.02	Gd	<0.02	Ir	<0.02	Mn	<0.02	Pd	<0.02	Rb	<0.02	Na	<0.2	Th	<0.02	Yb	<0.02
Be	<0.01	Cr	<0.05	Ga	<0.02	Fe	<0.2	Hg	<0.2	P	<0.02	Ru	<0.02	Sr	<0.02	Tm	<0.02	Y	<0.02
Bi	<0.02	Co	<0.10	Ge	<0.10	La	<0.02	Mo	<0.02	Pt	<0.02	Sm	<0.02	S	<0.02	Sn	<0.02	Zn	<0.05
B	<0.02	Cu	<0.10	Au	<0.02	Pb	<0.02	Nd	<0.02	K	<0.2	Sc	<0.02	Ta	<0.02	Ti	<0.02	Zr	<0.02

(T)= Target analyte

Physical Characterization:

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

Certified by:

- * The certified value is the concentration calculated from gravimetric and volumetric measurements unless otherwise stated.
- * Purified acids, 18.2 megohm deionized water, calibrated Class A glassware and the highest purity raw materials are used in the preparation of all standards.
- * 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: **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. Rantas

Reviewed By: Pedro L. Rantas 120822

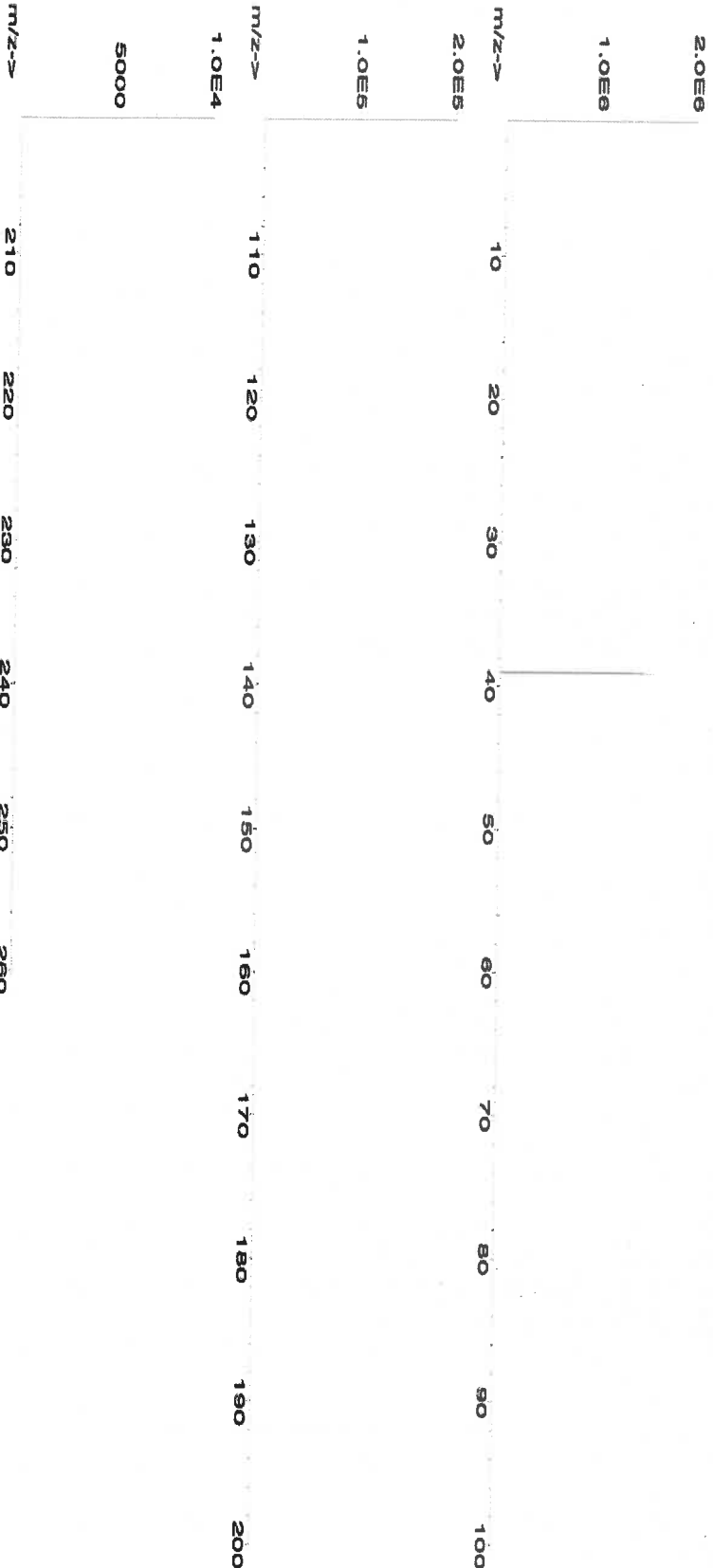
Weight shown below was diluted to (mL): 3000.4 0.06 Flask Uncertainty

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):

290

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



CERTIFIED WEIGHT REPORT:

Part Number: 58024
Lot Number: 060523
Description: Chromium (Cr)

Lot #
21110221
Solvent: Nitric Acid

2.0%

40.0 (mL)
Nitric Acid

Formulated By: *Lawrence Barry*
Lawrence Barry
060523

Reviewed By: *Pedro L. Henrias*
Pedro L. Henrias
060523

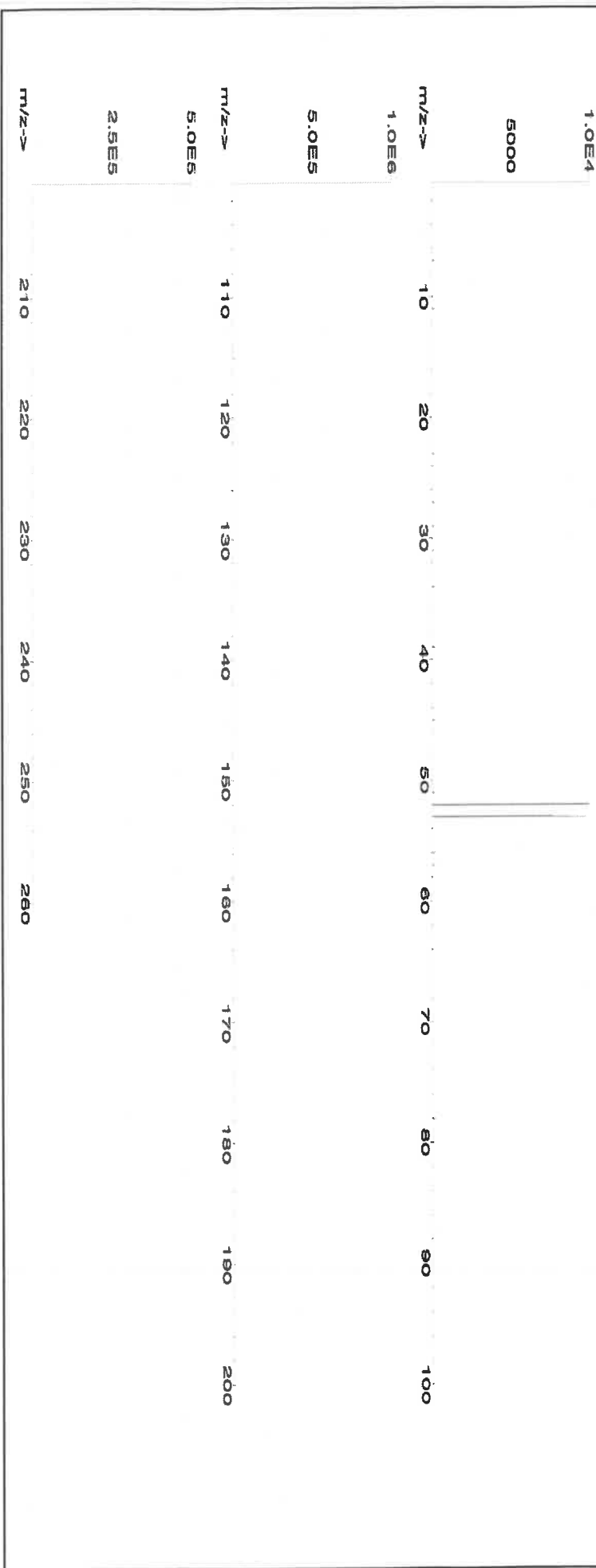
Expiration Date: 060526
Recommended Storage: Ambient (20 °C)
Nominal Concentration (µg/mL): 1000
NIST Test Number: 6UTB
Volume shown below was diluted to (mL): 2000.02
5E-05 Balance Uncertainty
0.058 Flask Uncertainty

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. 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):

292

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

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

(T) = Target analyte

Physical Characterization:

Certified by:

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

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



CERTIFIED WEIGHT REPORT:

Part Number:

Lot Number:

Description:

58029

102523

Copper (Cu)

Expiration Date:

Recommended Storage:

Nominal Concentration ($\mu\text{g/mL}$):

NIST Test Number:

Volume shown below was diluted to (mL):

102526

Ambient (20 °C)

1000

GUTB

Volume shown below was diluted to (mL): 2000.02

5E-05 Balance Uncertainty

Flask Uncertainty

Lot #

24002546 Nitric Acid

2.0%

40.0
(mL)

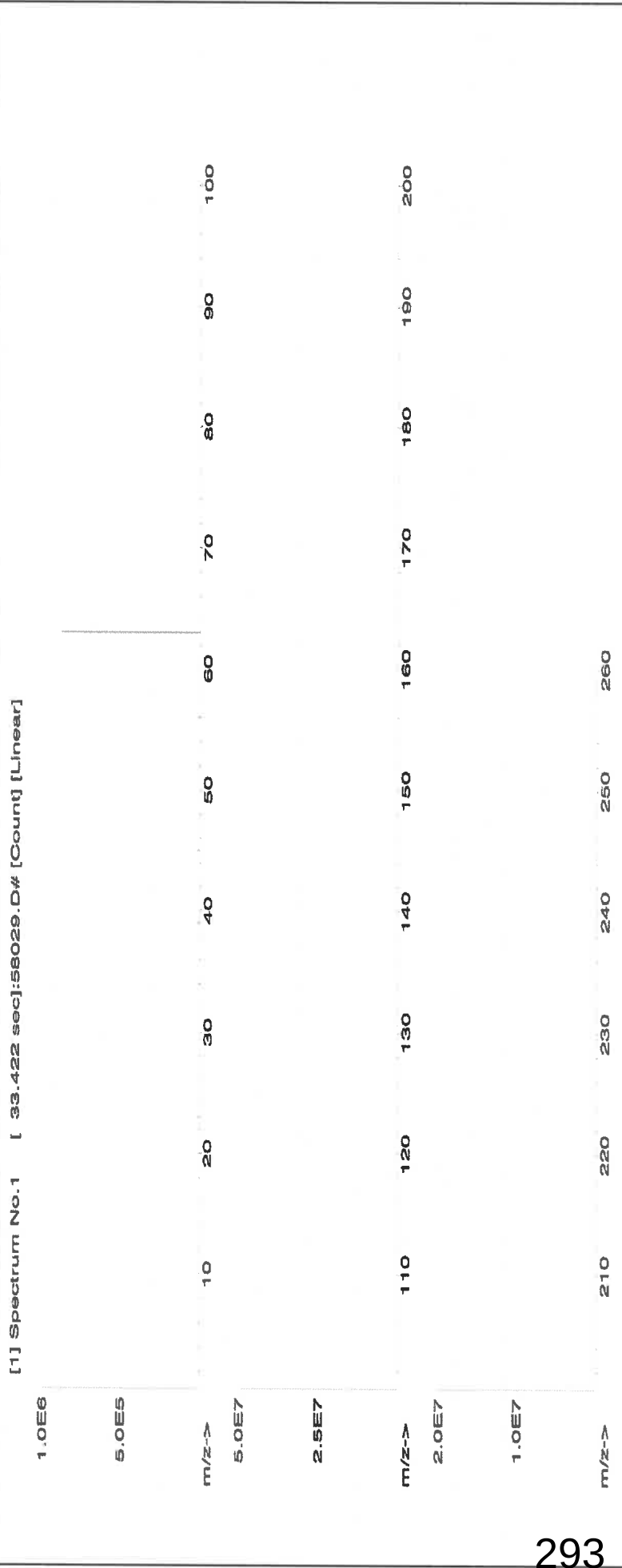
Formulated By:	Benson Chan	102523

Reviewed By:	Pedro L. Rentas	102523

Expanded
SDS Information

Uncertainty	(Solvent Safety Info. On Attached pg.)	NIST
+/- (µg/mL)	CAS# OSHA PEL (TWA) LD50	SRM

Compound	Number	Factor	Vol. (mL)	Pipette (mL)	Conc. ($\mu\text{g/mL}$)	+/- ($\mu\text{g/mL}$)	CAS#	OSHA PEL (TWA)	SRM
	Number				Conc. ($\mu\text{g/mL}$)				LD50

[illegible]



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	<0.02	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	<0.02	Fe	<0.2	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	T	Au	<0.02	Pb	<0.02	Nd	<0.02	K	<0.2	Sc	<0.02	Ta	<0.02	Ti	<0.02	Zr	<0.02

(T) = Target analyte

Physical Characterization:

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

Certified by:

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



Certified Reference Material CRM



M5648 R: 10/23/23

CERTIFIED WEIGHT REPORT:

Part Number:
Lot Number:
Description:

58025
102623
Manganese (Mn)

Lot # **Solvent:**
24002546 Nitric Acid

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

102626
Ambient (20 °C)
1000
6UTB
5E-05 Balance Uncertainty
0.058 Flask Uncertainty

2.0% Nitric Acid
60.0 (mL)

Formulated By:	Benson Chan	102623
Reviewed By:	Pedro L. Rentas	102623

SDS Information

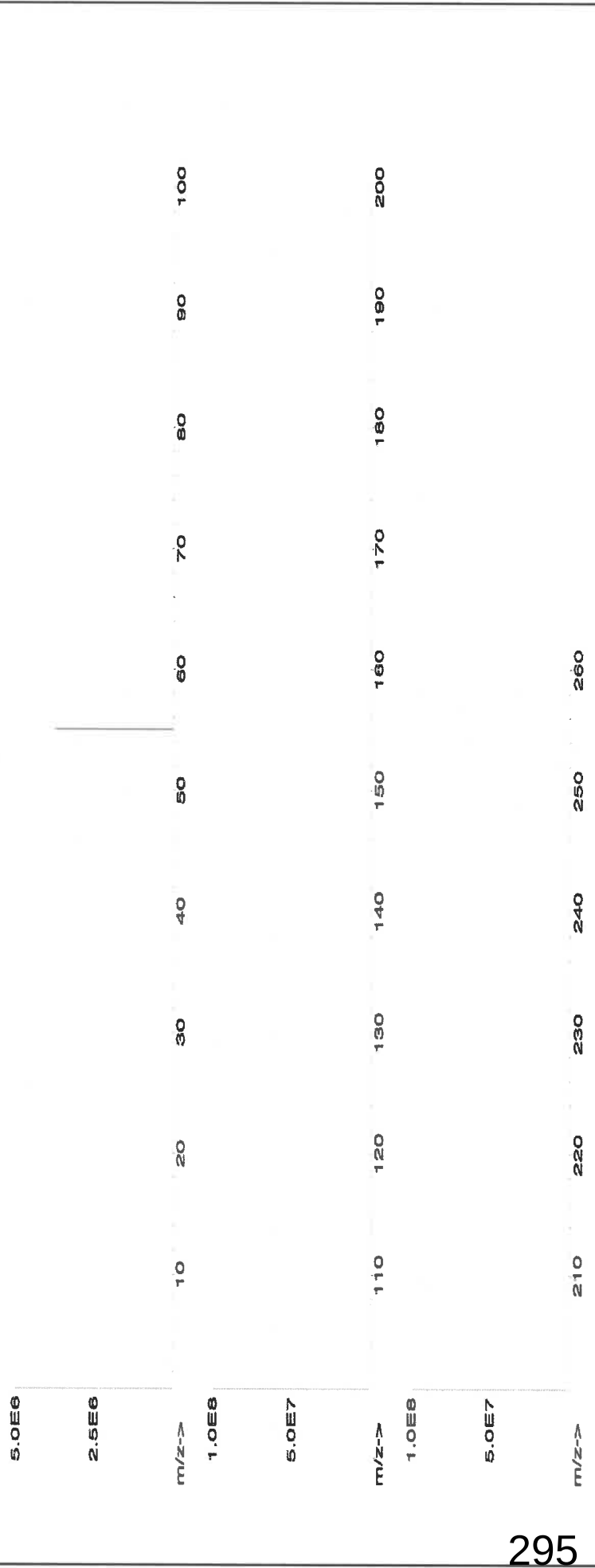
Expanded Uncertainty (Solvent Safety Info. On Attached pg.)
+/- (µg/mL) CAS# OSHA PEL (TWA) LD50 SRM

2.1 20894-39-7 5 mg/m3 ori-rat >300mg/kg 3132

Compound

1. Manganese(II) nitrate tetrahydrate (Mn) 58125 071123 0.1000 300.0 0.084 1000 10000.1 1000.0 2.1 20894-39-7 5 mg/m3 ori-rat >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 ($\mu\text{g/mL}$)

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

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M5768 M5769
Certified Reference Material CRM
R: 1/13/24



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

CERTIFIED WEIGHT REPORT:

Part Number: 58112
Lot Number: 091823
Description: Magnesium (Mg)

Solvent: 24002546 Nitric Acid

Lot #

Expiration Date: 091826

Recommended Storage: Ambient (20 °C)

Nominal Concentration (µg/mL): 10000

NIST Test Number: 6UTB

Weight shown below was diluted to (mL): 2000.02

2% 40.0 (mL) Nitric Acid

M5768 M5769
BP R: 1/13/24

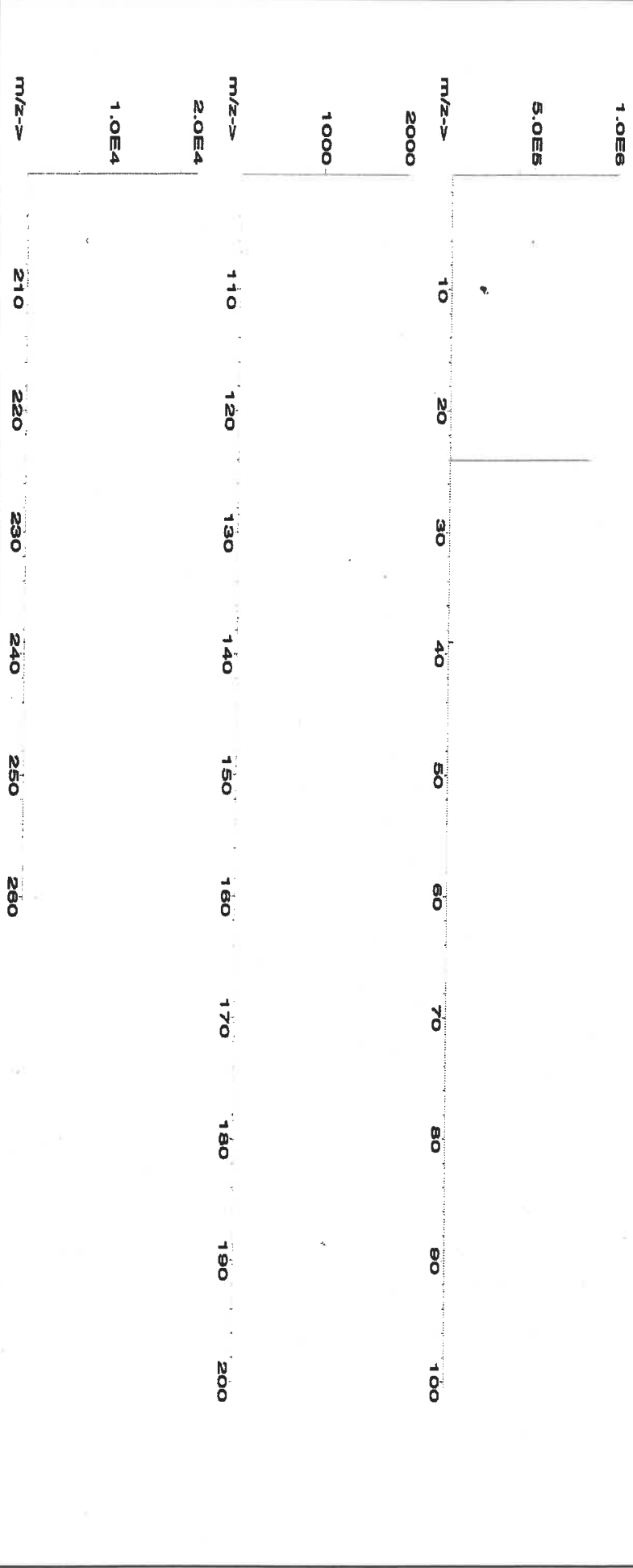
<i>Lawrence Barry</i>	
Formulated By:	Lawrence Barry
Reviewed By:	Pedro L. Rentas
	091823

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

1. Magnesium nitrate hexahydrate (Mg) IN030 M500222A1 10000 99.999 0.10 8.51 234.9118 234.9126 10000.0 20.0 13446-18-9 NA or-rat 5440 mg/kg 3131a

[1] Spectrum No. 1 [19.923 sec]:58112.D# [Count] [Linear]





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

298

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

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

(T) = Target analyte

Physical Characterization:

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

Certified by:

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



M5768 M5769
Certified Reference Material CRM
R: 1/13/24



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

CERTIFIED WEIGHT REPORT:

Part Number: 58112
Lot Number: 091823
Description: Magnesium (Mg)

Solvent: 24002546 Nitric Acid

Lot #

Expiration Date: 091826

Recommended Storage: Ambient (20 °C)

Nominal Concentration (µg/mL): 10000

NIST Test Number: 6UTB

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

2% 40.0 (mL) Nitric Acid

M5768 M5769

BP R: 1/13/24

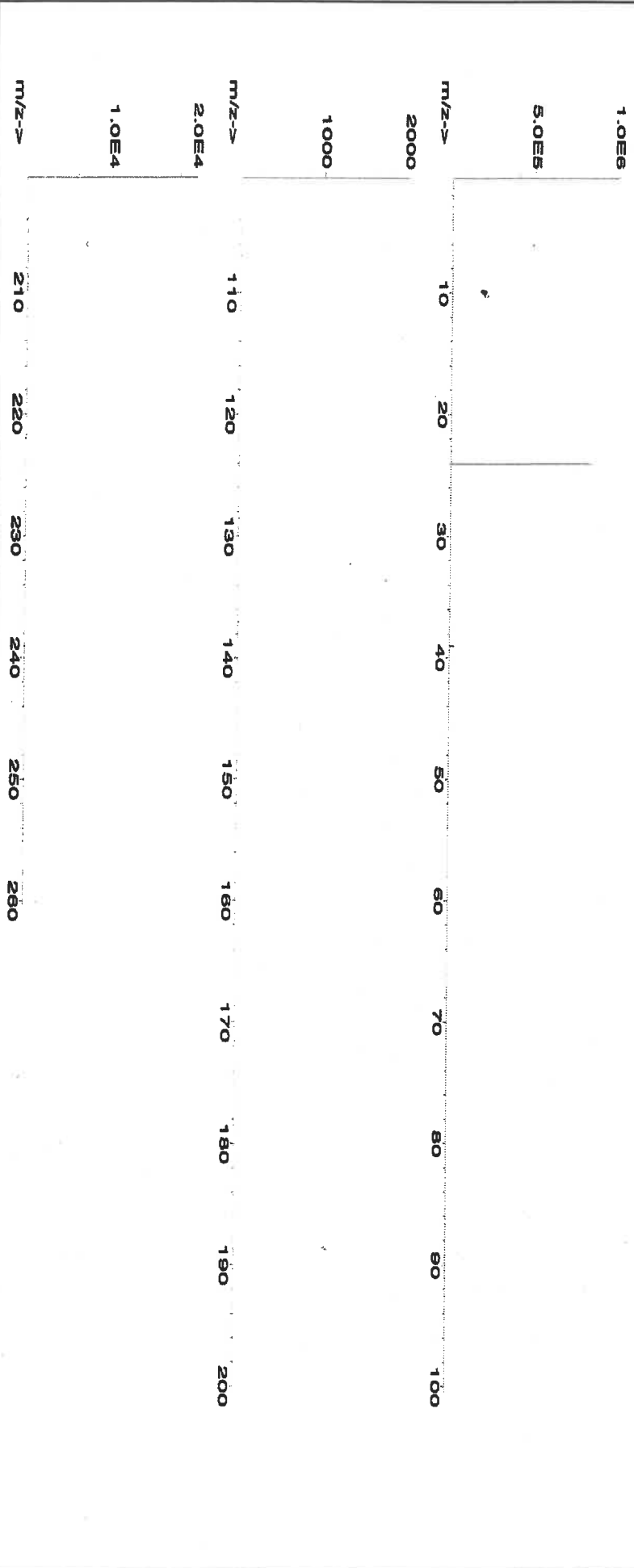
Formulated By: <i>Lawrence Barry</i>		091823
Reviewed By: <i>Pedro L. Rentas</i>		091823

Compound

Lot	Nominal	Purity	Uncertainty	Assay	Target	Actual	Actual	Expanded	SDS Information	NIST
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):

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

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

(T) = Target analyte

Physical Characterization:

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

Certified by:

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



CERTIFIED WEIGHT REPORT:

Part Number: 57004
Lot Number: 102523
Description: Beryllium (Be)

Lot # 24002546
Solvent: Nitric Acid

Expiration Date:

102526

2.0%

40.0 (mL)

Nitric Acid

Recommended Storage:

Ambient (20 °C)

Nominal Concentration (µg/mL):

1000

NIST Test Number:

6UTB

Volume shown below was diluted to (mL): 2000.02

5E-05 Balance Uncertainty

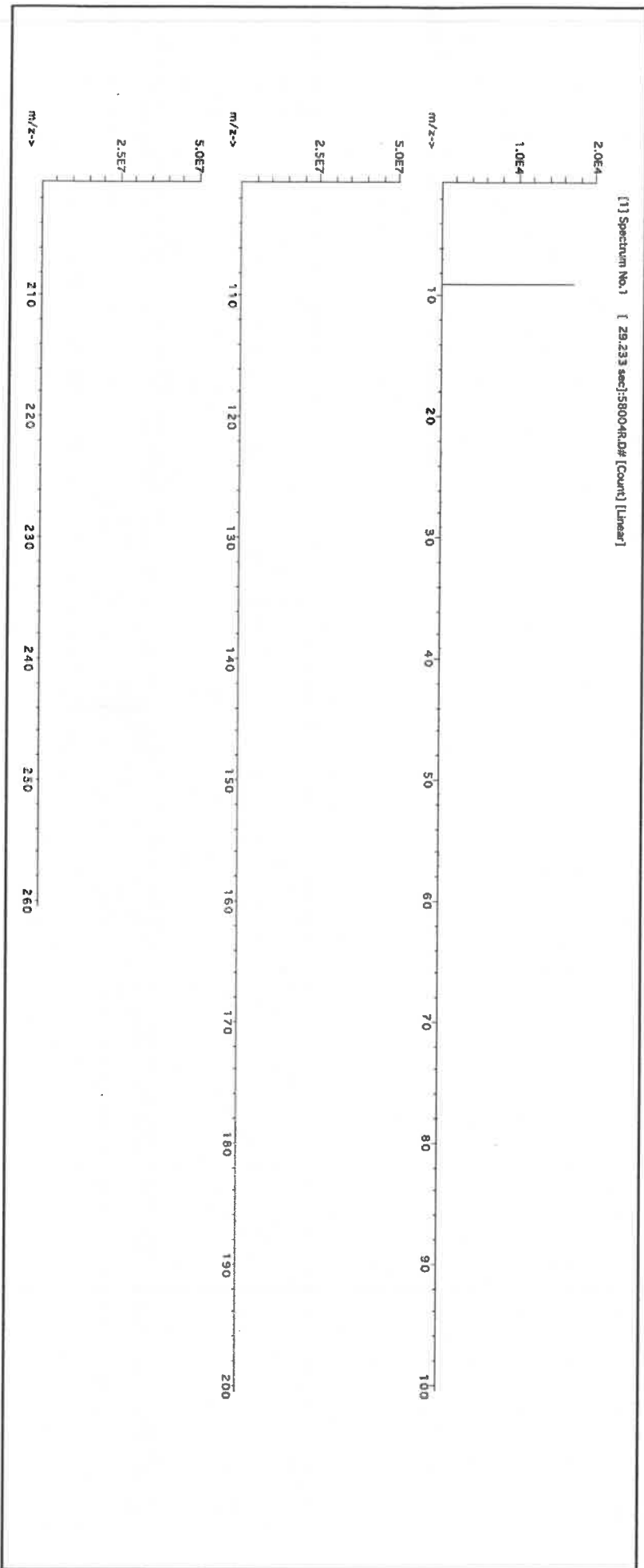
0.058 Flask Uncertainty

Formulated By:	Benson Chan	102523
Reviewed By:	Pedro L. Rentas	102523

SDS Information

Compound	Part Number	Lot	Dilution Factor	Initial Vol. (mL)	Uncertainty Pipette (mL)	Nominal Conc. (µg/mL)	Initial Conc. (µg/mL)	Final Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	CAS#	OSHA PEL (TWA)	LD50	NIST SRM

1. Beryllium nitrate (Be)	58104	091423	0.1000	200.0	0.084	1000	10001.5	1000.0	2.2	13597-99-4	0.2µg/m3	intrinsc-rat 3.16mg/kg	NA





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

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

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

(T) = Target analyte

Physical Characterization:

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

Certified by:

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



Certified Reference Material CRM

CERTIFIED WEIGHT REPORT:

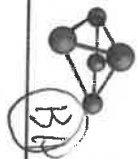
Part Number: 57050
Lot Number: 071123
Description: Tin (Sn)

Solvents: 21110221 Nitric Acid
22D0562008 Hydrochloric acid

Lot #

R-02509124

M599



Expiration Date: 071126
Recommended Storage: Ambient (20 °C)
Nominal Concentration (µg/mL): 1000
NIST Test Number: 6UTB

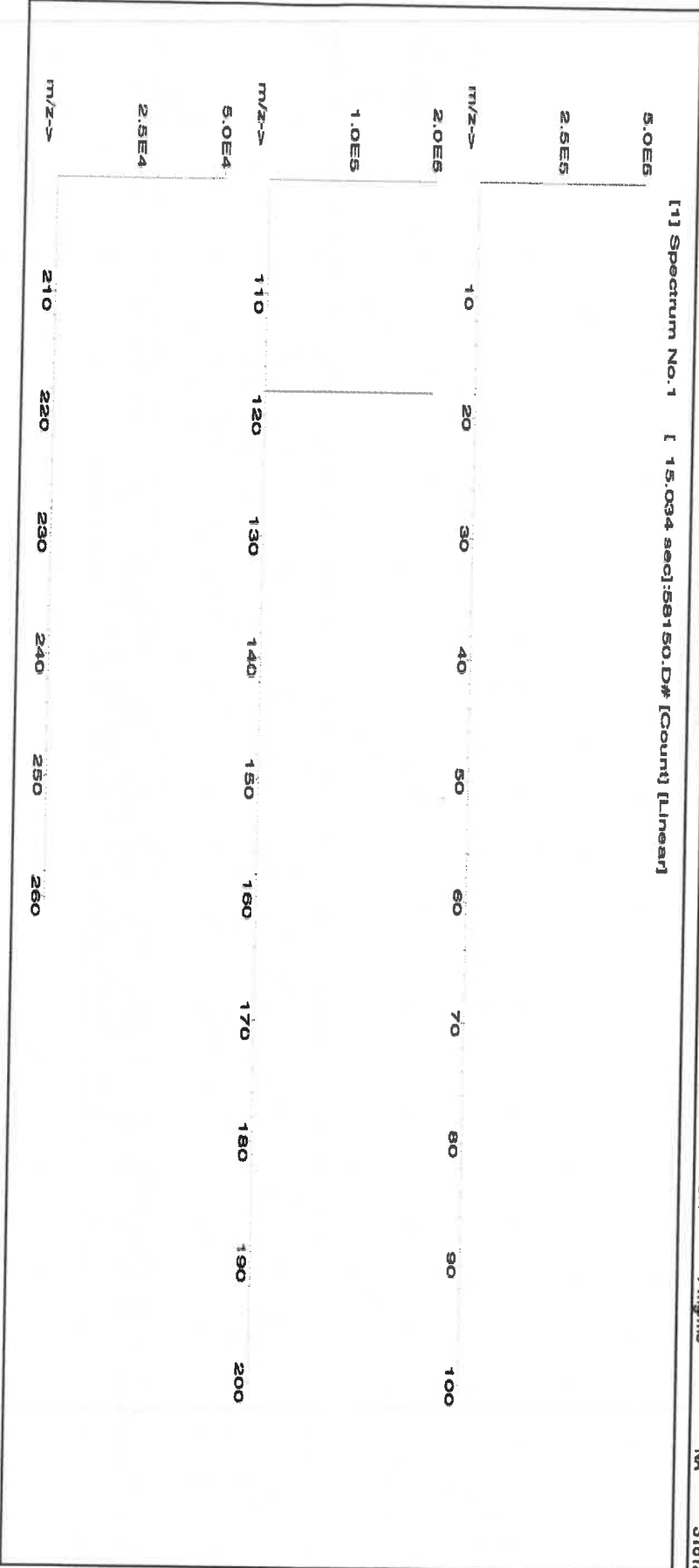
Weight shown below was diluted to (mL): 499.93
5E-05 Balance Uncertainty
0.058 Flask Uncertainty

Formulated By: Benson Chan	
071123	
Reviewed By: Pedro L. Rientas	
071123	

SDS Information															NIST		
Compound		Lot		Nominal		Purity		Uncertainty		Assay		Target		Actual		Expanded	
RM#	Number	Conc. (µg/mL)	(%)	Purity (%)	(%)	Weight (g)	Weight (g)	Conc. (µg/mL)	(%)	Weight (g)	Weight (g)	Conc. (µg/mL)	(%)	Weight (g)	Weight (g)	Conc. (µg/mL)	(%)

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):

304

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

Al	<0.02	Cd	<0.02	Dy	<0.02	Hf	<0.02	Li	<0.02	Ni	<0.02	Pr	<0.02	Se	<0.2	Tb	<0.02	W	<0.02
Sb	<0.02	Ca	<0.2	Er	<0.02	Ho	<0.02	Lu	<0.02	Nb	<0.02	Re	<0.02	Si	<0.02	Te	<0.02	U	<0.02
As	<0.2	Ce	<0.02	Eu	<0.02	In	<0.02	Mg	<0.01	Os	<0.02	Rh	<0.02	Ag	<0.02	Ti	<0.02	V	<0.02
Ba	<0.02	Cs	<0.02	Gd	<0.02	Ir	<0.02	Mn	<0.02	Pd	<0.02	Rb	<0.02	Na	<500	Th	<0.02	Yb	<0.02
Be	<0.01	Cr	<0.02	Ga	<0.02	Fe	<0.2	Hg	<0.2	P	<0.02	Ru	<0.02	Sr	<0.02	Tm	<0.02	Y	<0.02
Bi	<0.02	Co	<0.02	Ge	<0.02	La	<0.02	Mo	<0.02	Pt	<0.02	Sm	<0.02	S	<0.02	Ta	<0.02	Zn	<0.02
B	<0.02	Cu	<0.02	Au	<0.02	Pb	<0.02	Nd	<0.02	K	<0.2	Sc	<0.02	Ta	<0.02	Ti	<0.02	Zr	<0.02

(T) = Target analyte

Physical Characterization:

Certified by:

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

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



R: 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

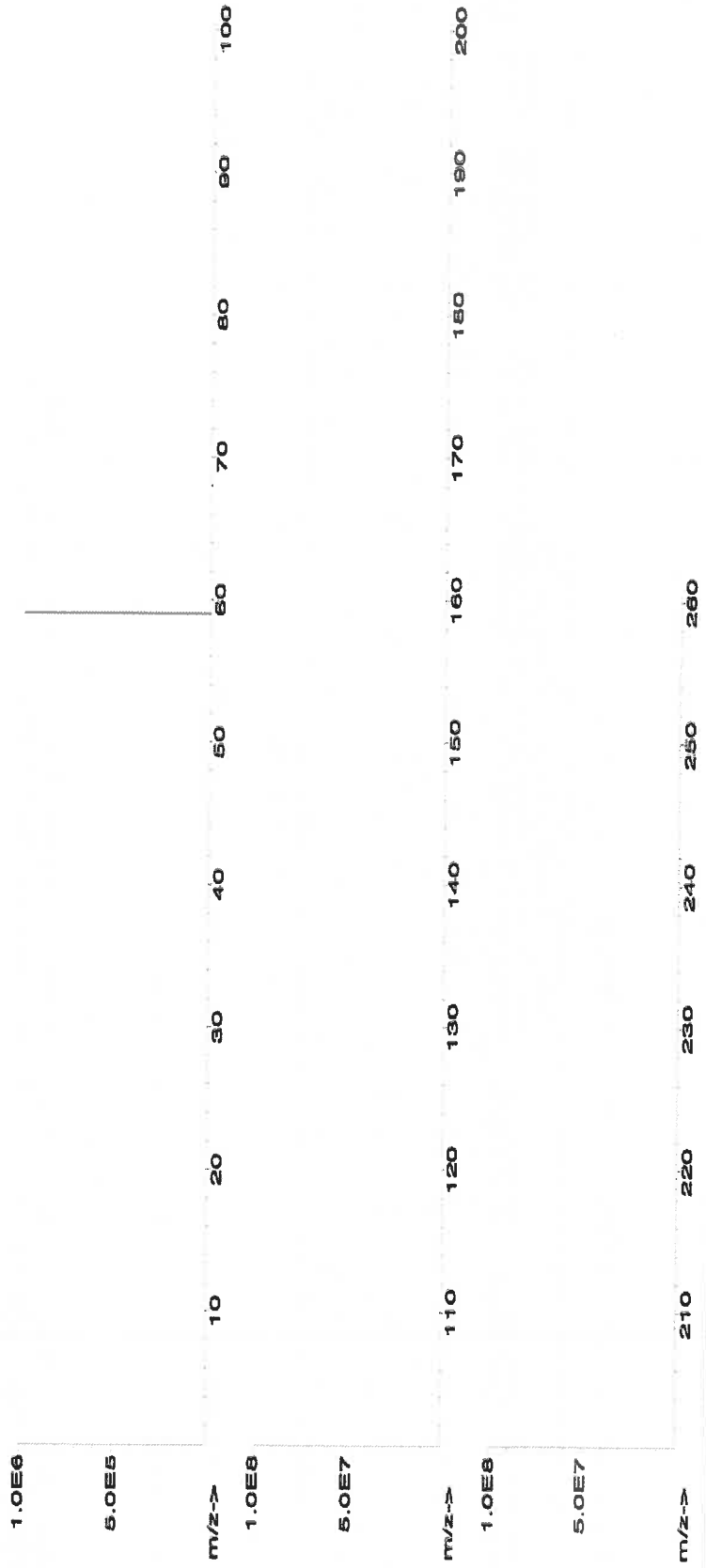
SDS Information

Expanded Uncertainty +/- (µg/mL)
(Solvent Safety Info. On Attached pg.)
NIST SRM
CAS# OSHA PEL (TWA) LD50

Compound

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	or-rat 691 mg/kg	3113

[1] Spectrum No.1 [34.243 sec]:58027.D# [Count] [Linear]



305



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.
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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).



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

2.0%

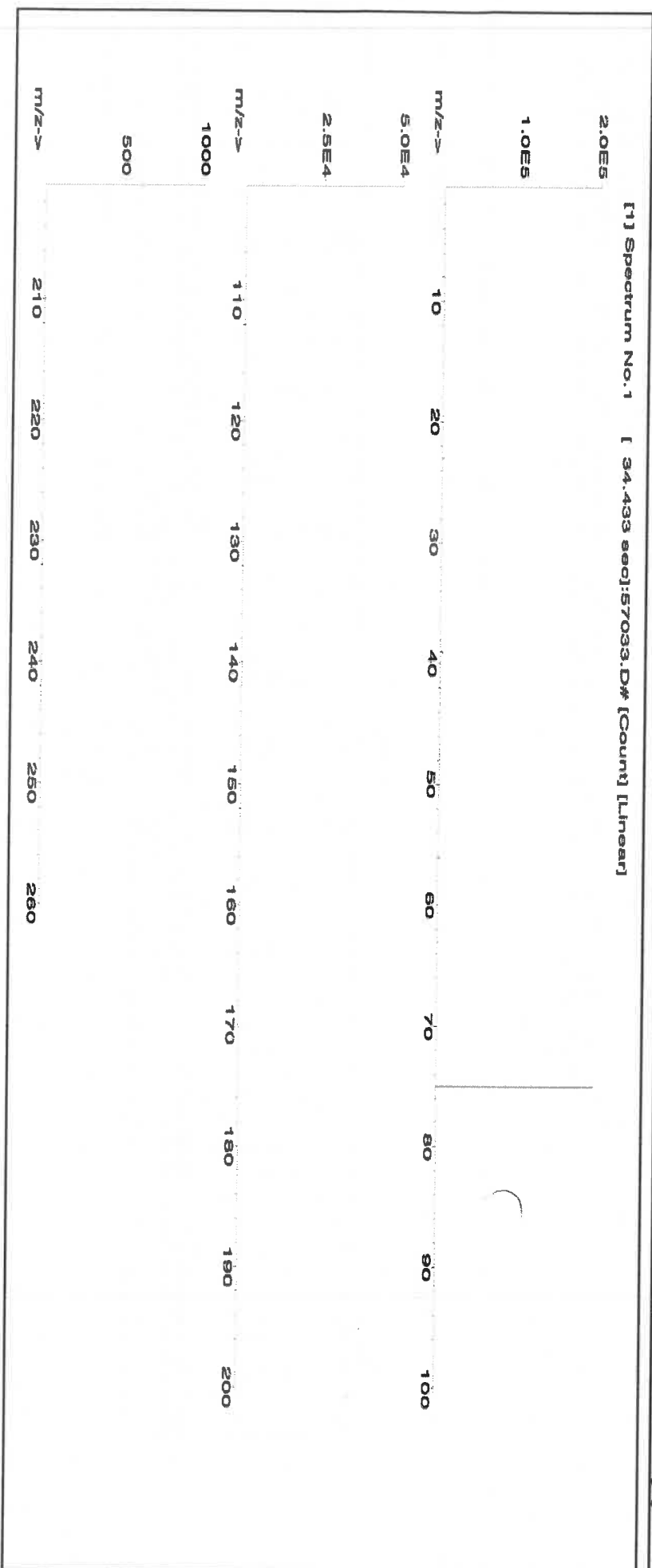
80.0 (mL)

Nitric Acid

Formulated By:	Lawrence Barry	111323
Reviewed By:	Pedro L. Rendas	111323

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)
1. Arsenic (As)	57033	020522	0.1000	400.0	0.084	1000	10001.0	1000.0	2.0
						7440-38-2		0.5 mg/m3	or rat 500 mg/kg
									3103a

[1] Spectrum No. 1 [34.433 sec]:57033.D# [Count] [Linear]





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

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

Al	<0.02	Cd	<0.02	Dy	<0.02	Hf	<0.02	Li	<0.02	Ni	<0.02	Pr	<0.02	Se	<0.2	Tb	<0.02	W	<0.02
Sb	<0.02	Ca	<0.2	Er	<0.02	Ho	<0.02	Lu	<0.02	Nb	<0.02	Re	<0.02	Si	<0.02	Te	<0.02	U	<0.02
As	T	Ce	<0.02	Eu	<0.02	In	<0.02	Mg	<0.01	Os	<0.02	Rh	<0.02	Ag	<0.02	Tl	<0.02	V	<0.02
Ba	<0.02	Cs	<0.02	Gd	<0.02	Ir	<0.02	Mn	<0.02	Pd	<0.02	Rb	<0.02	Na	<0.2	Tl	<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:

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



CERTIFIED WEIGHT REPORT:

Part Number: 57115
Lot Number: 041723
Description: Phosphorous (P)

Solvent: 21110221 Nitric Acid

Lot #

309

Expiration Date: 041726
Recommended Storage: Ambient (20 °C)
Nominal Concentration (µg/mL): 10000
NIST Test Number: 6UTB

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

Formulated By: Lawrence Barry	041723
Reviewed By: Pedro L. Rentas	041723

SDS Information

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

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



CERTIFIED WEIGHT REPORT:

Part Number:
Lot Number:
Description:

57016
122923
Sulfur (S)

Lot #

ASTM Type 1 Water

Solvent: 122923

Formulated By:	Benson Chan	122923
Reviewed By:	Pedro L. Rentas	122923

Expiration Date: 122926

Recommended Storage: Ambient (20 °C)

Nominal Concentration (µg/mL): 1000

NIST Test Number: 6L7B

Weight shown below was diluted to (mL): 4000.0

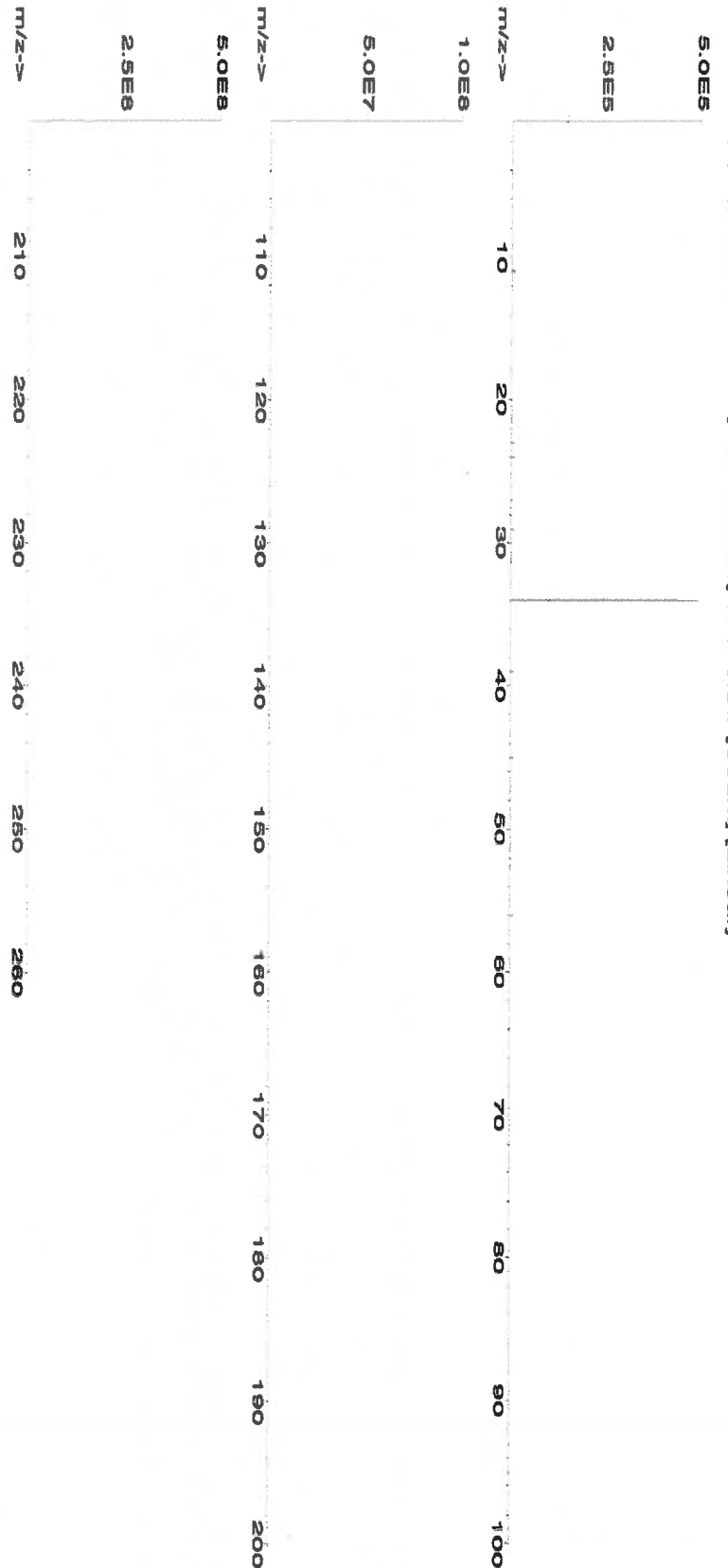
5E-05 Balance Uncertainty
0.06 Flask Uncertainty

Compound

RM#	Lot Number	Nominal Conc. (µg/mL)	Purity (%)	Uncertainty (%)	Assay (%)	Target Weight (g)	Actual Weight (g)	Actual Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	CAS#	OSHA PEL (TWA)	LD50	NIST SRM

1. Ammonium sulfate (S) IN117 SLBR725V 1000 99.9 0.10 24.3 16.4979 16.4980 1000.0 2.0 7783-20-2 NA 3181

[1] Spectrum No. 1 [33.603 sec]:57016.D# [Count] [Linear]





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

312

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:

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: **57116**
Lot Number: **071123**
Description: **Sulfur (S)**

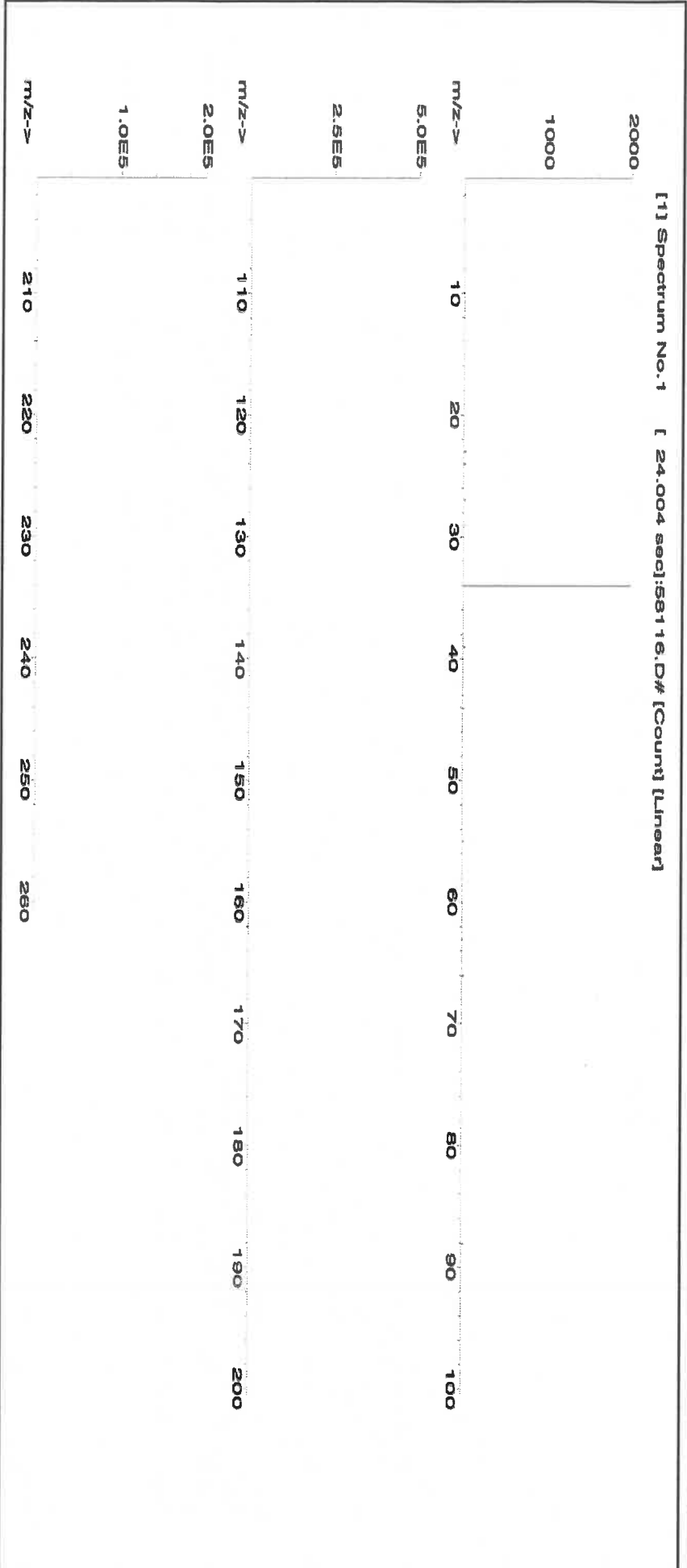
Solvent: **071123** Lot # **071123**
ASTM Type 1 Water

Formulated By:	Lawrence Barry
Reviewed By:	Pedro L. Rentas
071123	

313

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





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	Ti	<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.
- * 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: **57014**
Lot Number: **122023**
Description: **Silicon (Si)**

Solvent: **24002546 Nitric Acid**

Lot #

Formulated By: **Aleah O Brady**

Reviewed By: **Pedro L. Rentas**

2% 40.0 (mL) Nitric Acid

122023

Expiration Date: **122026**
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

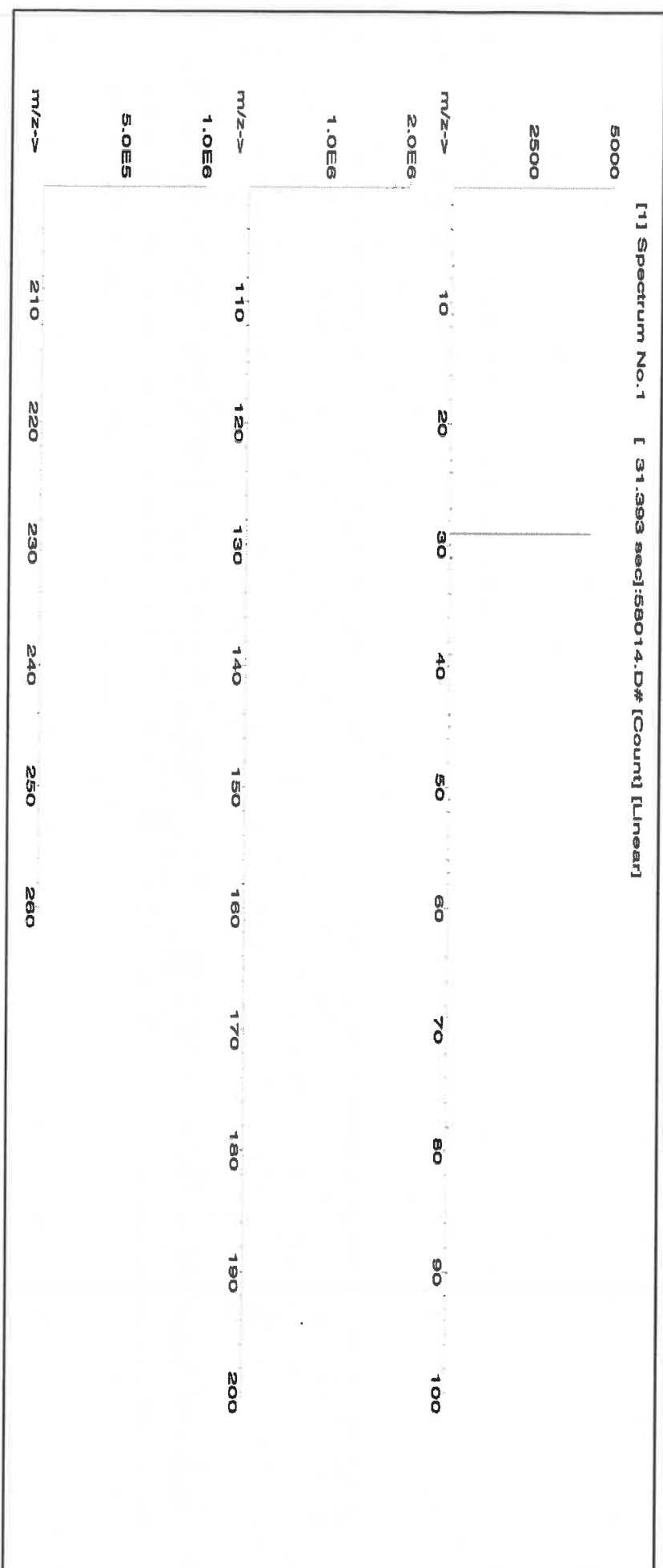
Expanded

SDS Information

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

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] 58014.D# [Count] [Linear]





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

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

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

(T) = Target analyte

Physical Characterization:

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

Certified by:

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



CERTIFIED WEIGHT REPORT:

Part Number: 58030
Lot Number: 111623
Description: Zinc (Zn)

Solvent: 24002546 Nitric Acid

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

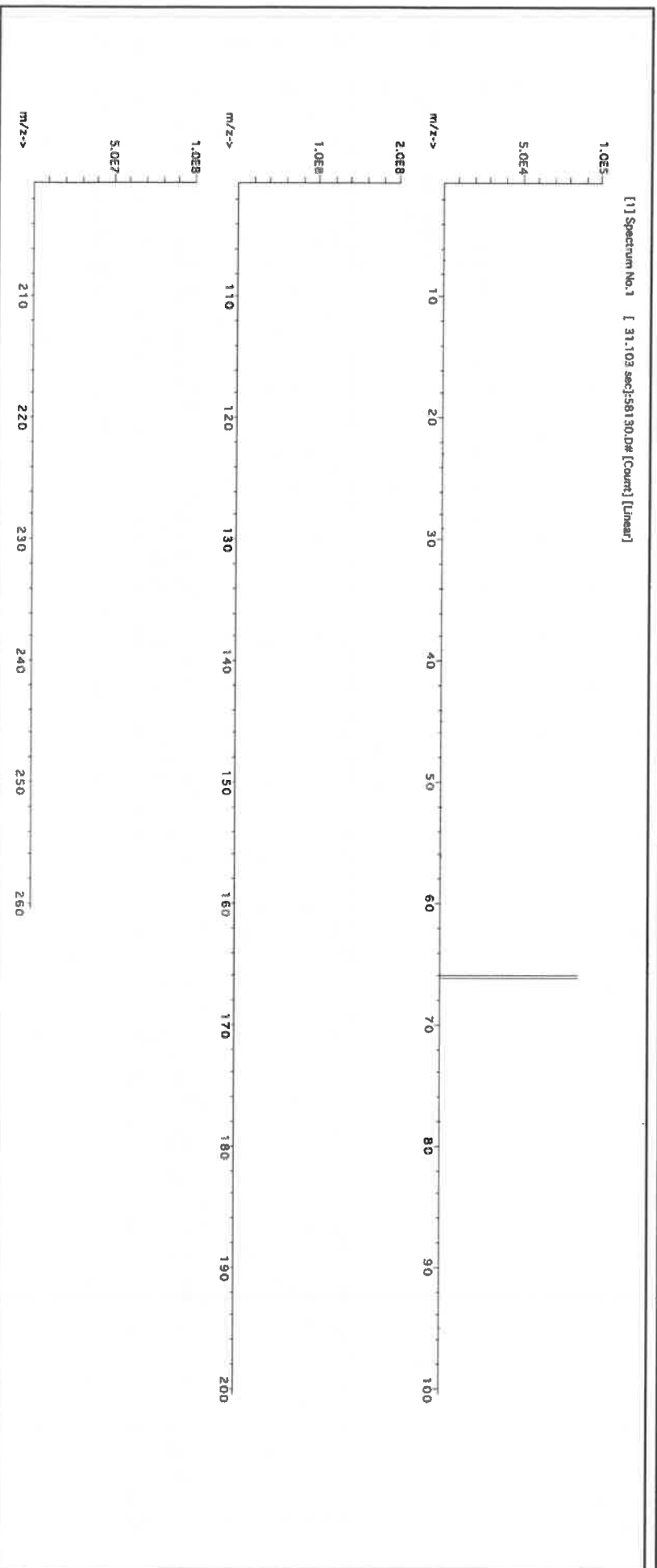
0.06 Flask Uncertainty

Formulated By:	Benson Chan	111623
Reviewed By:	Pedro L. Rientas	111623

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)	LDSO	NIST SRM

1. Zinc nitrate hexahydrate (Zn) IN016 ZNE03021A1 1000 99.999 0.10 24.3 12.3475 12.3502 1000.2 2.0 10196-18-6 1 mg/mL 3168 on-rat 1190mg/kg





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 #

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

091123

2% 40.0 (mL) Nitric Acid

Expiration Date: 091126
Recommended Storage: Ambient (20 °C)
Nominal Concentration (µg/mL): 1000
NIST Test Number: 6LUTB

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

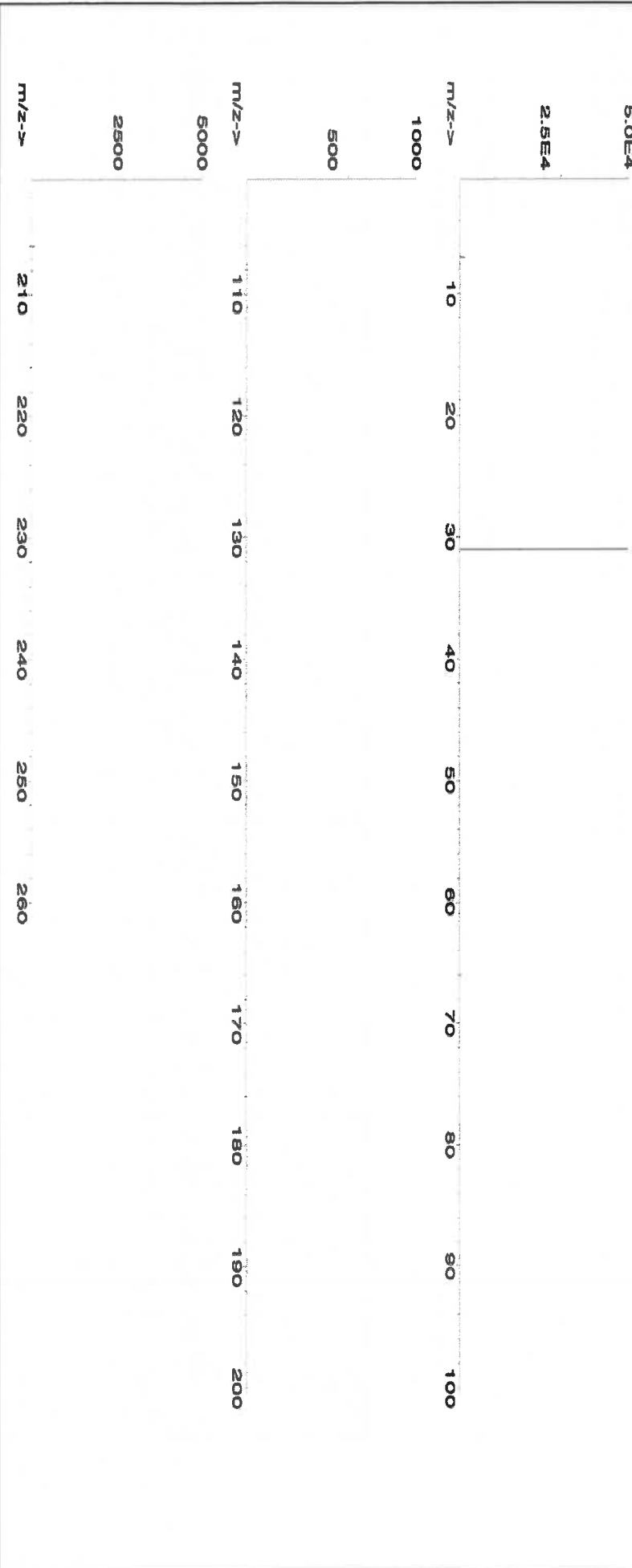
Compound

RM#	Lot Number	Nominal Conc. (µg/mL)	Purity (%)	Uncertainty Purity (%)	Assay (%)	Target Weight (g)	Actual Weight (g)	Actual Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	CAS#	OSHA PEL (TWA)	LD50	NIST SRM

SDS Information

1. Ammonium dihydrogen phosphate (P) IN008 PY062019A1 1000 99.999 0.10 27.5 7.2729 7.2730 1000.0 2.0 7722-76-1 5 mg/m3 xH-rat >2000mg/kg 3186

[1] Spectrum No.1 [12.074 sec]:58115.D# [Count] [Linear]





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

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

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

(T) = Target analyte

Physical Characterization:

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

Certified by:

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



Certified Reference Material CRM



CERTIFIED WEIGHT REPORT:

MS961 R-611124

Lot #

Part Number:

57028

Solvent:

24002546 Nitric Acid

Lot Number:

041124

Description:

Nickel (NI)

Expiration Date:

041127

2%

5.0

Nitric Acid

Recommended Storage:

Ambient (20 °C)

Nominal Concentration (µg/mL):

1000

NIST Test Number:

6UTB

Weight shown below was diluted to (mL):

249.85

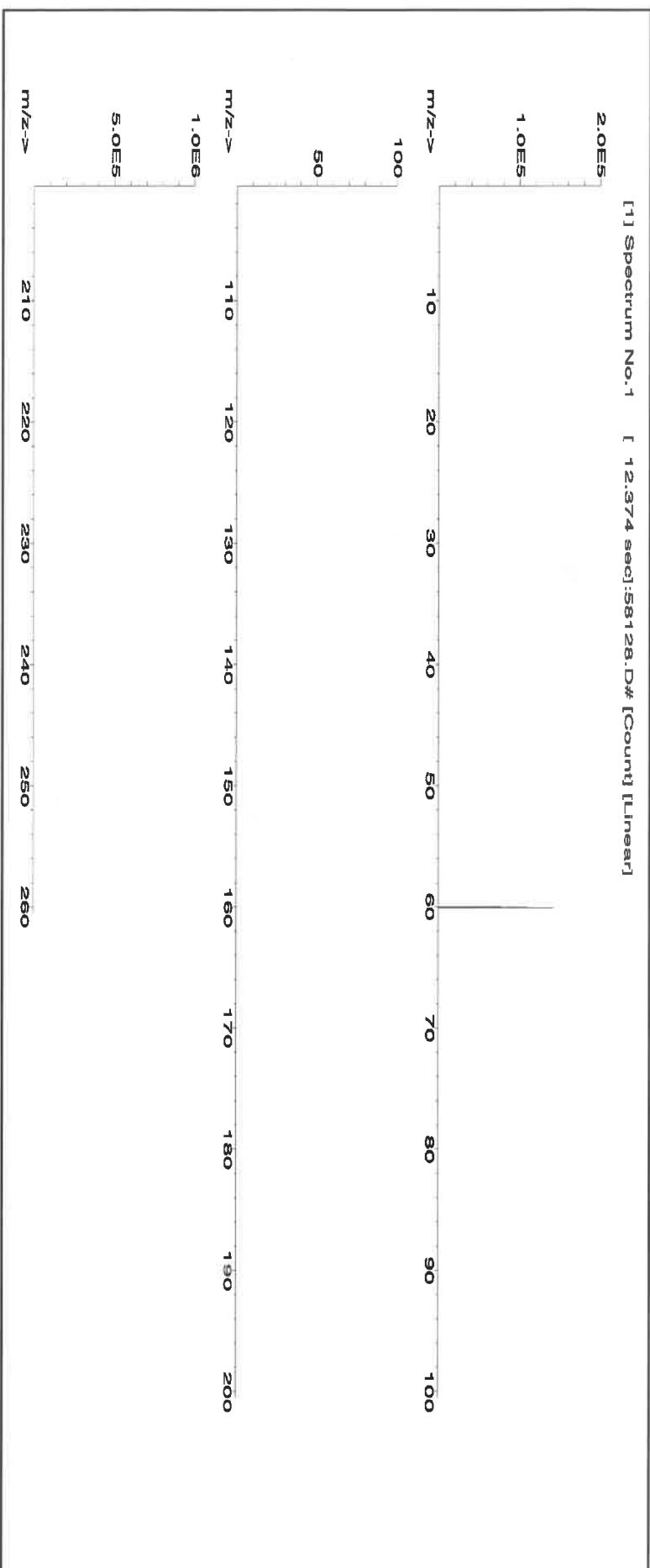
5E-05 Balance Uncertainty
0.002 Flask Uncertainty

Formulated By:	Brian Geddes	041124
Reviewed By:	Pedro L. Rentas	041124

SDS Information

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

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 of-rat 1620 mg/kg 3136





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

(T) = Target analyte

Physical Characterization:

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

Certified by:

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



CERTIFIED WEIGHT REPORT:

MS962 **R: 06/14/24**

Lot # 24002546 Solvent: Nitric Acid

Part Number: **57034**
Lot Number: **060624**
Description: **Selenium (Se)**

2.0%

40.0 (mL)

Nitric Acid

Expiration Date: 060627
Recommended Storage: Ambient (20 °C)
Nominal Concentration (µg/mL): 1000

NIST Test Number: 6LUTB

Volume shown below was diluted to (mL): 2000.07

SE-05 Balance Uncertainty
0.100 Flask Uncertainty

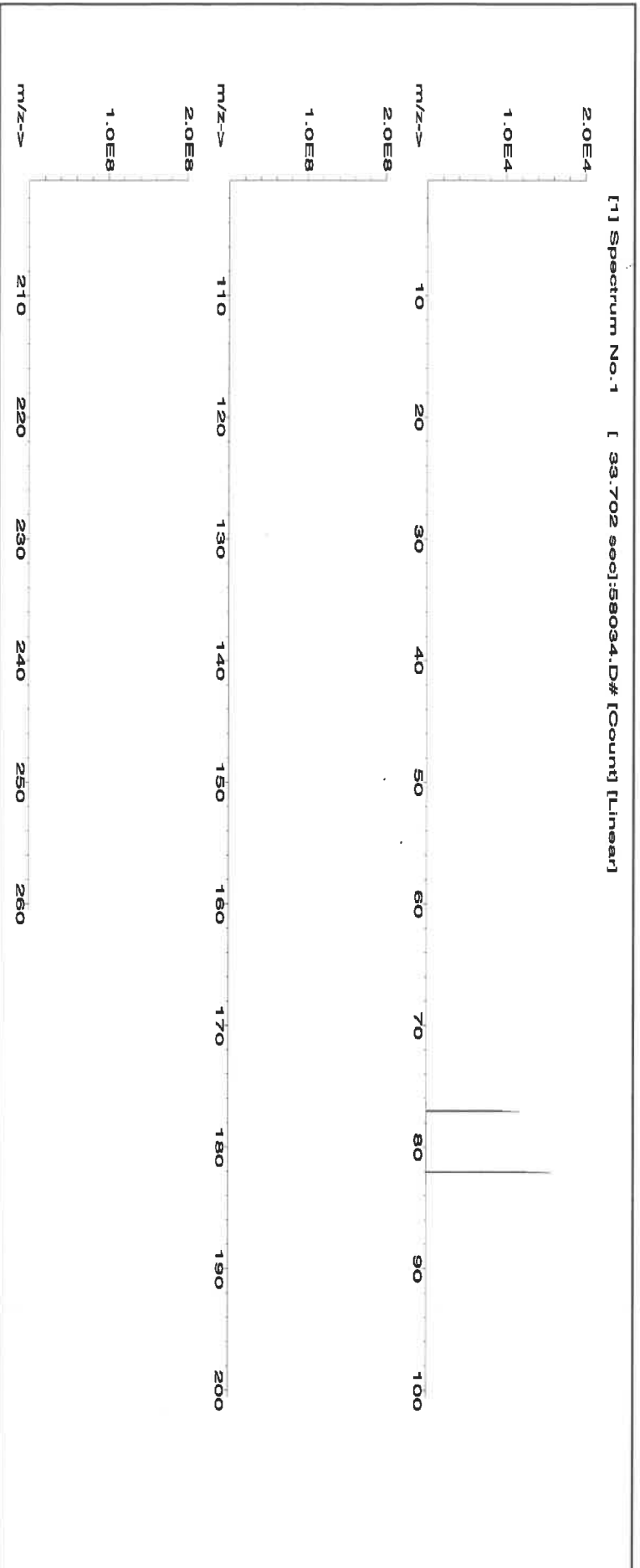
Expanded

SDS Information

Compound	Part Number	Lot Number	Dilution Factor	Initial Vol. (mL)	Uncertainty Pipette (mL)	Nominal Conc. (µg/mL)	Initial Conc. (µg/mL)	Final Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	(Solvent Safety Info. On Attached pg.)	CAS#	OSHA PEL (TWA)	LDSO	NIST SRM

1. Selenium (Se)	58134	071223	0.1000	200.0	0.084	1000	10002.5	1000.0	2.2	7782-49-2	0.2 mg/m3	or-tral 6700 mg/kg	3149

[1] Spectrum No. 1 [33.702 sec]:58034.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	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		<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).

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: 800.669.6798; 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



Redefine 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

1.0 ACCREDITATION / REGISTRATION

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



2.0 PRODUCT DESCRIPTION

Product Code: Single Analyte Custom Grade Solution

Catalog Number: CGT1

Lot Number: T2-T1719972

Matrix: 2% (v/v) HNO₃

Value / Analyte(s): tr. HF

Starting Material: 1 000 µg/mL ea.

Starting Material: Titanium

Starting Material: Ti Metal

Starting Material Lot#: 2094

3.0 CERTIFIED VALUES AND UNCERTAINTIES

Certified Value: 1002 ± 5 µg/mL

Density: 1.012 g/mL (measured at 20 ± 4 °C)

Assay Information:

Assay Method #1 1002 ± 4 µg/mL

ICP Assay NIST SRM 3162a Lot Number: 130925

- The Calculated Value is a value calculated from the weight of a starting material that has been certified directly vs. a National Institute of Standards and Technology (NIST) SRM/RM. See Sec 4.2 for balance traceability.

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

Characterization of CRM/RM by Two or More Methods
Certified Value, $X_{CRM/RM}$, where two or more methods of characterization are used is the weighted mean of the results:

$$X_{CRM/RM} = 2(w) / (w_1 + w_2)$$

w_1 = the weighting factors for each method calculated using the inverse square of the variance

$$w_1 = (1/u_{CRM}^2) / (1/u_{CRM}^2 + 1/u_{CRM}^2)$$

$$u_{CRM} = \sqrt{u_{CRM}^2 + u_{CRM}^2 + u_{CRM}^2 + u_{CRM}^2}$$

$$u_{CRM} = \sqrt{u_{CRM}^2 + u_{CRM}^2 + u_{CRM}^2 + u_{CRM}^2}$$

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$$u_{CRM} = \sqrt{u_{CRM}^2 + u_{CRM}^2 + u_{CRM}^2 + u_{CRM}^2}$$

4.0 TRACEABILITY TO NIST

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

4.1 Thermometer Calibration

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

4.2 Balance Calibration

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

4.3 Glassware Calibration

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

5.0

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

CRM/RMs are tested for trace metallic impurities by Axial ICP-OES and ICP-MS. The result from the most sensitive method for each element, is reported below. Solutions tested by ICP-MS were analyzed in an UHPA-filtered Clean Room. An UHPA-filter is 99.9985% efficient for the removal of particles down to 0.3 µm.

M Ag	<	0.000536	M Eu	<	0.000268	O Na	<	0.032670	M Se	0.001204	O Zn	<	0.003267
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	<	0.002268	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); K2S2O7 - no KF if silica not present); Organic Matrices (Dry ash at 450EC in P10 and dissolve by heating with 1:1:1 H2O / HF / H2SO4 or fuse ash with pyrosulfate if oxide is as plastic pigment and likely in brookite crystaline form).

Atomic Spectroscopic Information (ICP-OES D.L.s are given as radial/axial view):

Technique/Line	Estimated D.L.	Order
ICP-MS 48 amu	14 ppt	N/A
Interferences (underlined indicates severe)		
ICP-OES 323.452 nm	0.0054 / 0.00092 µg/mL	14N16O18O, 14N17N2, 36Ar12C, 48Ca, [96X=2
ICP-OES 334.941 nm	0.0038 / 0.00028 µg/mL	14N17N2, 36Ar12C, 48Ca, [96X=2
ICP-OES 336.121 nm	0.0053 / 0.00034 µg/mL	14N17N2, 36Ar12C, 48Ca, [96X=2
HF Note: This standard should not be prepared or stored in glass.		
		W, Mo, Co
		Nb, Ta, Cr, U
		Ce, Ar, Ni
		Ru]]
		(where X = Zr, Mo,

HAZARDOUS INFORMATION

HF Note: This standard should not be prepared or stored in glass.

1
1
1

W, Mo, Co
Nb, Ta, Cr, U
Ce, Ar, Ni
Ru]]
(where X = Zr, Mo,

HOMOGENEITY

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

- 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.

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"

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: 540.565.3012; 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

Thomas Kozlikowski
Manager, Quality Control

Signature: *TD9784*

Certifying Officer:

Paul Gaines
Chairman / Senior Technical Director

Signature: *Paul R. Gaines*



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 #

24002546

Solvent:

Nitric Acid
2.0% 40.0 Nitric Acid
(mL)

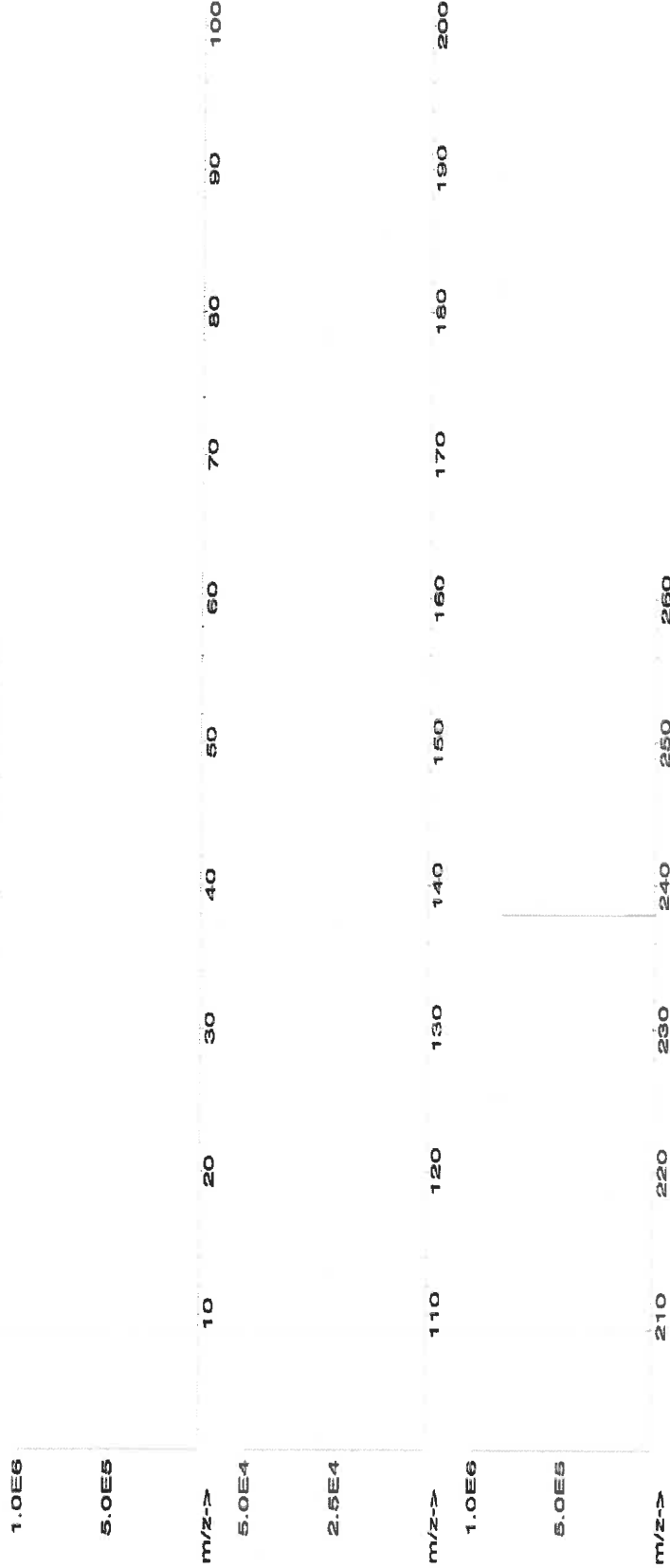
<i>Giovanni Esposito</i>	
Formulated By:	Giovanni Esposito
<i>Pedro L. Rentas</i>	
Reviewed By:	Pedro L. Rentas

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 (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	<0.02	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:

[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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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:

[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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2024 JUN 7 10:01 AM



45983

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) = Target analyte									
										T									

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.
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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).

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Certified Reference Material CRM
R: 01/03/24 M6033



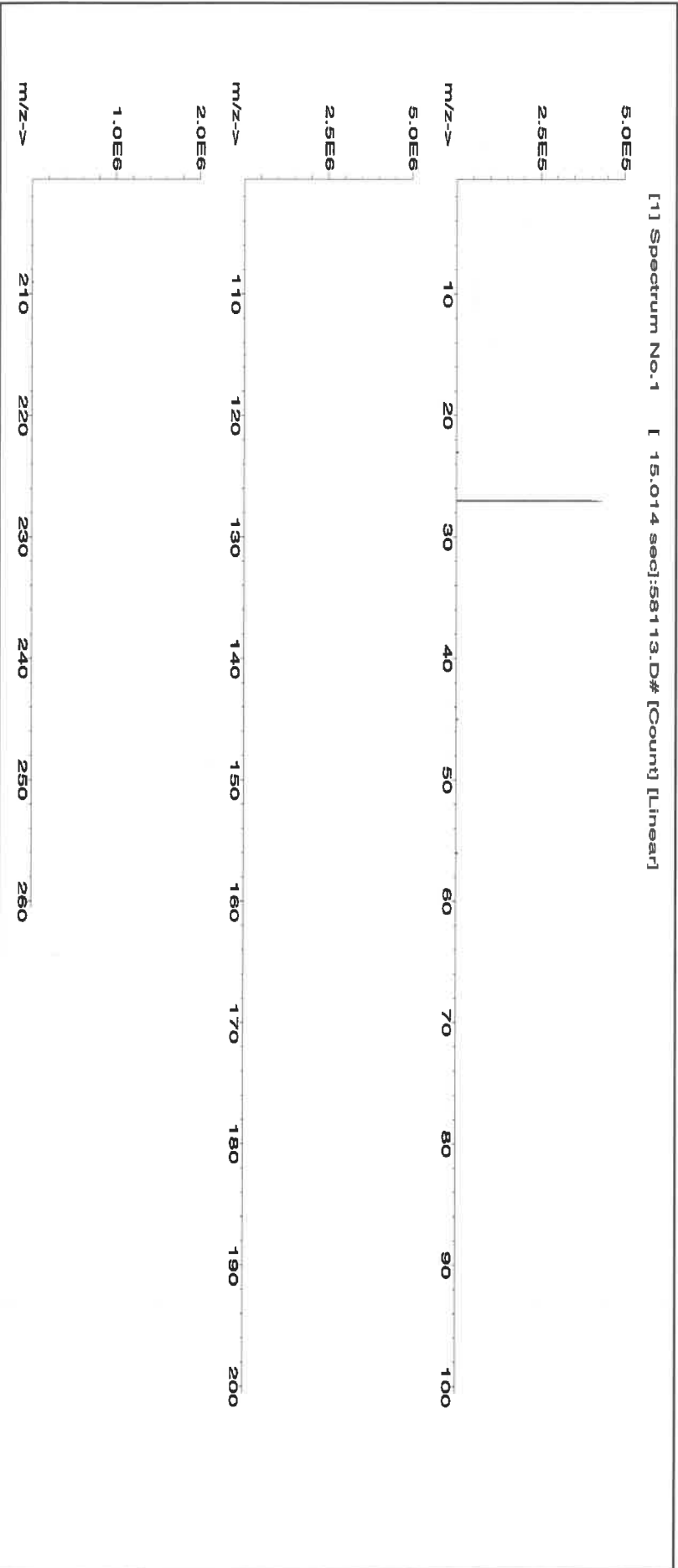
CERTIFIED WEIGHT REPORT:

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

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



Nitric Acid 69%
CMOS

avantor™



Material No.: 9606-03
Batch No.: 24D1062002
Manufactured Date: 2024-03-26
Retest Date: 2029-03-25
Revision No.: 0

Draw
date: 1.1 - 08/01/2023

M6034, M6037
M6035, M6038,
M6036, 1

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

 **avantorsTM**



Material No.: 9606-03
Batch No.: 24D1062002

Test	Specification	Result
Trace Impurities – Niobium (Nb)	≤ 50.0 ppb	< 1.0 ppb
Trace Impurities – Potassium (K)	≤ 50 ppb	16 ppb
Trace Impurities – Silicon (Si)	≤ 50 ppb	< 10 ppb
Trace Impurities – Silver (Ag)	≤ 20.0 ppb	< 1.0 ppb
Trace Impurities – Sodium (Na)	≤ 150.0 ppb	< 5.0 ppb
Trace Impurities – Strontium (Sr)	≤ 30.0 ppb	< 1.0 ppb
Trace Impurities – Tantalum (Ta)	≤ 10.0 ppb	< 5.0 ppb
Trace Impurities – Thallium (Tl)	≤ 10.0 ppb	< 5.0 ppb
Trace Impurities – Tin (Sn)	≤ 20.0 ppb	< 10.0 ppb
Trace Impurities – Titanium (Ti)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities – Vanadium (V)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities – Zinc (Zn)	≤ 20.0 ppb	< 1.0 ppb
Trace Impurities – Zirconium (Zr)	≤ 10.0 ppb	< 1.0 ppb
Particle Count – 0.5 µm and greater	≤ 60 par/ml	10 par/ml
Particle Count – 1.0 µm and greater	≤ 10 par/ml	3 par/ml

>>> Continued on page 3 >>>

Nitric Acid 69%
CMOS

 **avantor™**



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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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

 **avantor™**



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

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

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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

Certified Abundance:

IV's Certified Abundance

Isotope	Atom %
Uranium 238U	99.8 ± 0.1
Uranium 235U	0.19 ± 0.05

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

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





CERTIFIED WEIGHT REPORT:

Part Number: 58111
Lot Number: 122223
Description: Sodium (Na)

Solvent: 24002546 Nitric Acid

Lot #

2% 60.0 (mL) Nitric Acid

Expiration Date: 122226

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): 3000.4 0.06 Flask Uncertainty

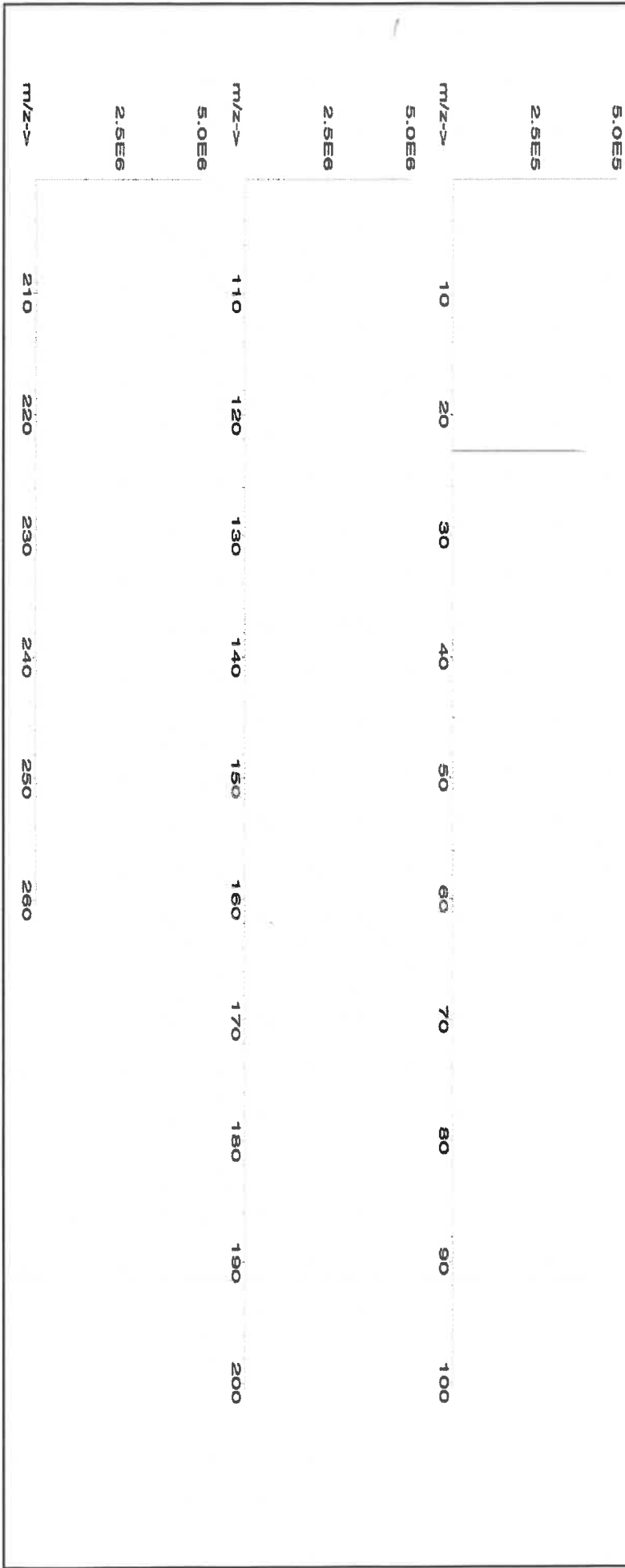
<i>Aleah O Brady</i>	
Formulated By:	Aleah O Brady
	122223
<i>Pedro L Rentas</i>	
Reviewed By:	Pedro L Rentas
	122223

350

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

1. Sodium nitrate (Na) IN036 NAV01201511 10000 99.999 0.10 26.9 111.5406 111.5479 10000.7 20.0 7631-99-4 5 mg/m3 or-trat 3430 mg/kg 3152a

[1] Spectrum No.1 [8.935 sec]:58111.D# [Count] [Linear]





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

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

Al	<0.02	Cd	<0.02	Dy	<0.02	Li	<0.02	Ni	<0.02	Pt	<0.02	Se	<0.2	Tb	<0.02	W	<0.02
Sb	<0.02	Ca	<0.2	Er	<0.02	Lu	<0.02	Nb	<0.02	Re	<0.02	Si	<0.02	Tc	<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	Tm	<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	Ti	<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 ± 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.



**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
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(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 ± 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:

120526

Recommended Storage:
Ambient (20 °C)

Nominal Concentration (µg/mL):
1000

NIST Test Number:
6U7B

Volume shown below was diluted to (mL):
3000.41

5E-05 Balance Uncertainty
0.058 Flask Uncertainty

Formulated By:	Lawrence Barry	120523
Reviewed By:	Pedro L. Renteria	120523

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. 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)**

Lot #
Solvent: 24002546 Nitric Acid

Formulated By:	Benson Chan
Reviewed By:	Pedro L. Rentas
	122823

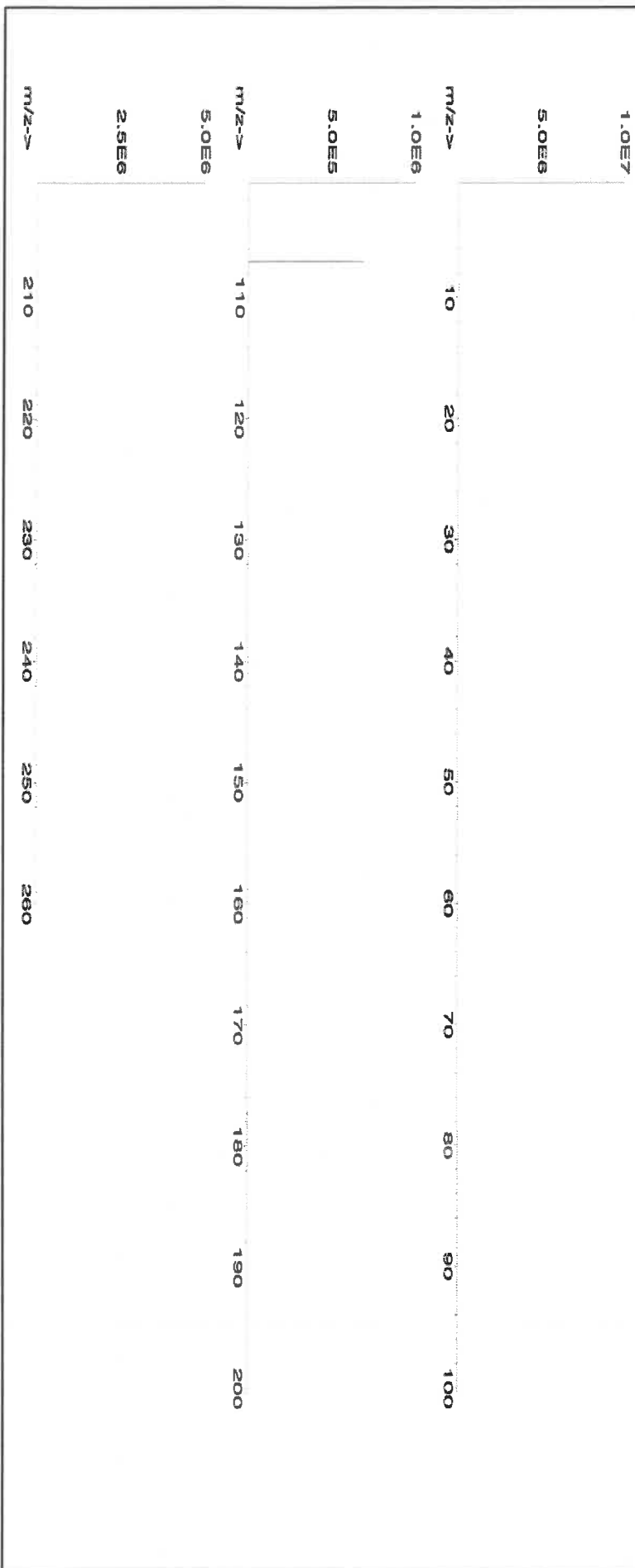
2% 80.0 (mL) Nitric Acid

Expiration Date: 122826
Recommended Storage: Ambient (20 °C)
Nominal Concentration (µg/mL): 1000
NIST Test Number: 6UTB
Weight shown below was diluted to (mL): 4000.30
5E-05 Balance Uncertainty
0.058 Flask Uncertainty

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

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/m³ NA 3151

[1] Spectrum No. 1 [14.044 sec]:58147.D# [Count] [Linear]





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

363

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

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 Reference Material CRM



R: 03/16/23 MS473 MS474 MS475 MS476

CERTIFIED WEIGHT REPORT:

Part Number:
Lot Number:
Description:

56138
082922
Strontium (Sr)

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

082925
Ambient (20 °C)
10000
6UTB

Weight shown below was diluted to (mL):

1000.12 5E-05 Balance Uncertainty
0.058 Flask Uncertainty

Solvent: 20510011 Nitric Acid

2% 20.0 Nitric Acid
(mL)

Lot #

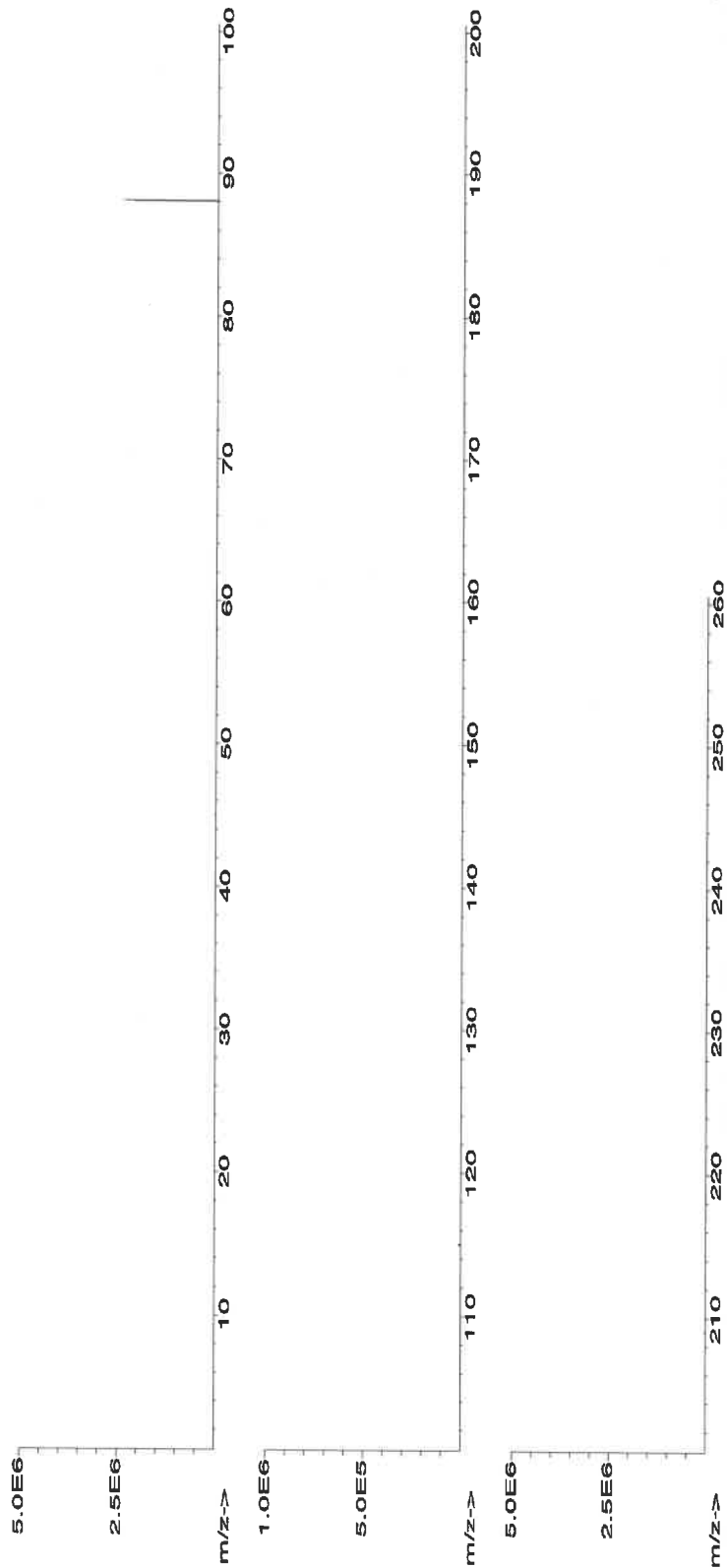
Formulated By:	Lawrence Barry
Reviewed By:	Pedro L. Rentas
082922	

SDS Information

Expanded Uncertainty	(Solvent Safety Info. On Attached pg.)	NIST
+/- (µg/mL)	CAS#	LD50
20.0	10042-76-9	NA

1. Strontium nitrate (Sr) IN017 SRZ02019A1 10000 99.997 0.10 41.2 24.2756 24.2758 10000.1 20.0 10042-76-9 NA orl-rat >2000mg/kg 3153a

[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 ($\mu\text{g/mL}$)

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



R: 03/16/23 MS473 MS474 MS475 MS476

CERTIFIED WEIGHT REPORT:

Part Number:
Lot Number:
Description:

56138
082922
Strontium (Sr)

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

082925
Ambient (20 °C)
10000

NIST Test Number:
Weight shown below was diluted to (mL):

6UTB
5E-05 Balance Uncertainty
0.058 Flask Uncertainty

Lot #

Solvent: 20510011 Nitric Acid

2% 20.0 Nitric Acid
(mL)

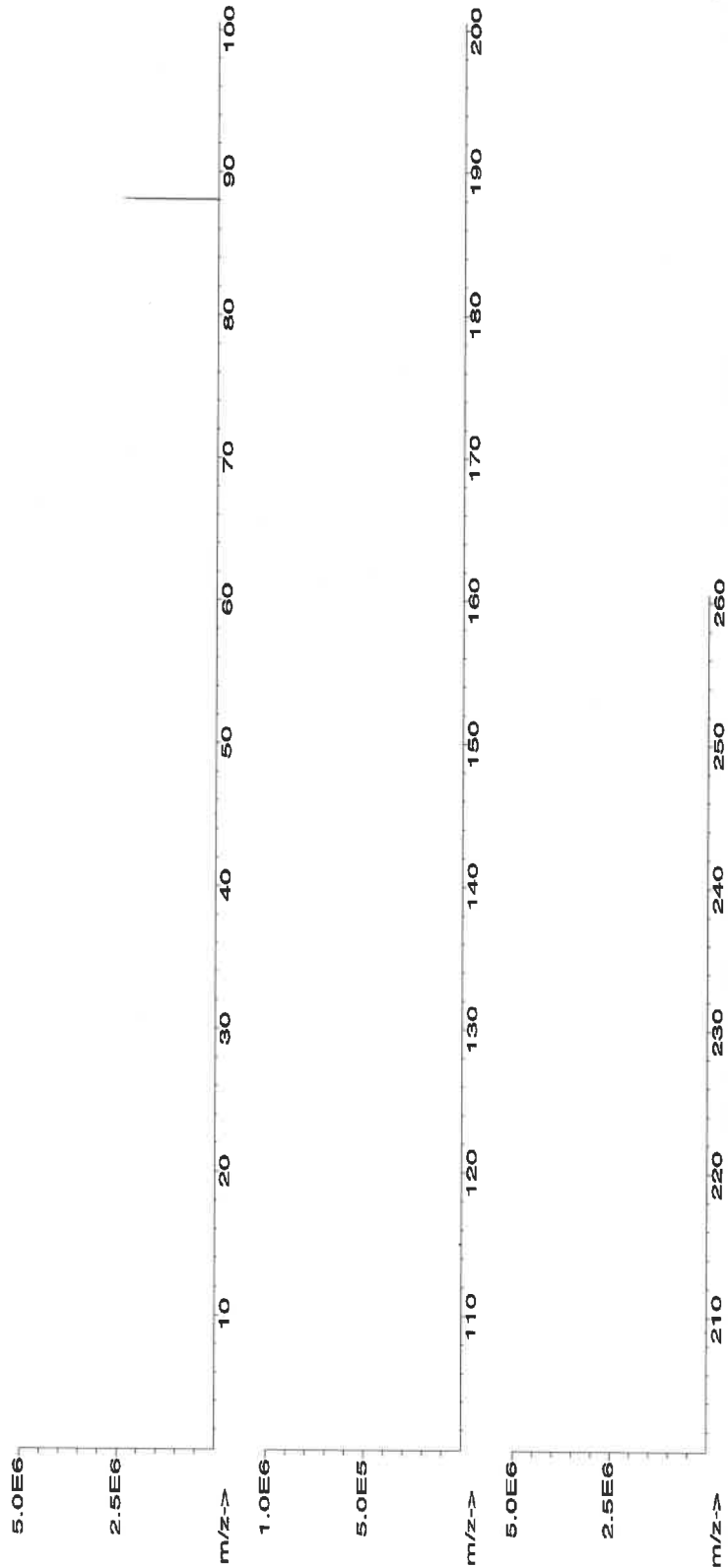
Formulated By:	Lawrence Barry
Reviewed By:	Pedro L. Rentas
082922	

SDS Information

Expanded Uncertainty	(Solvent Safety Info. On Attached pg.)	NIST
+/- (µg/mL)	CAS#	LD50
20.0	10042-76-9	NA

1. Strontium nitrate (Sr) IN017 SRZ02019A1 10000 99.997 0.10 41.2 24.2756 24.2758 10000.1 20.0 10042-76-9 NA orl-rat >2000mg/kg 3153a

[1] Spectrum No.1 [14.495 sec]:58138.D# [Count] [Linear]



366



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

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

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

Weight shown below was diluted to (mL):

2000.1

5E-05 Balance Uncertainty
0.10 Flask Uncertainty

368

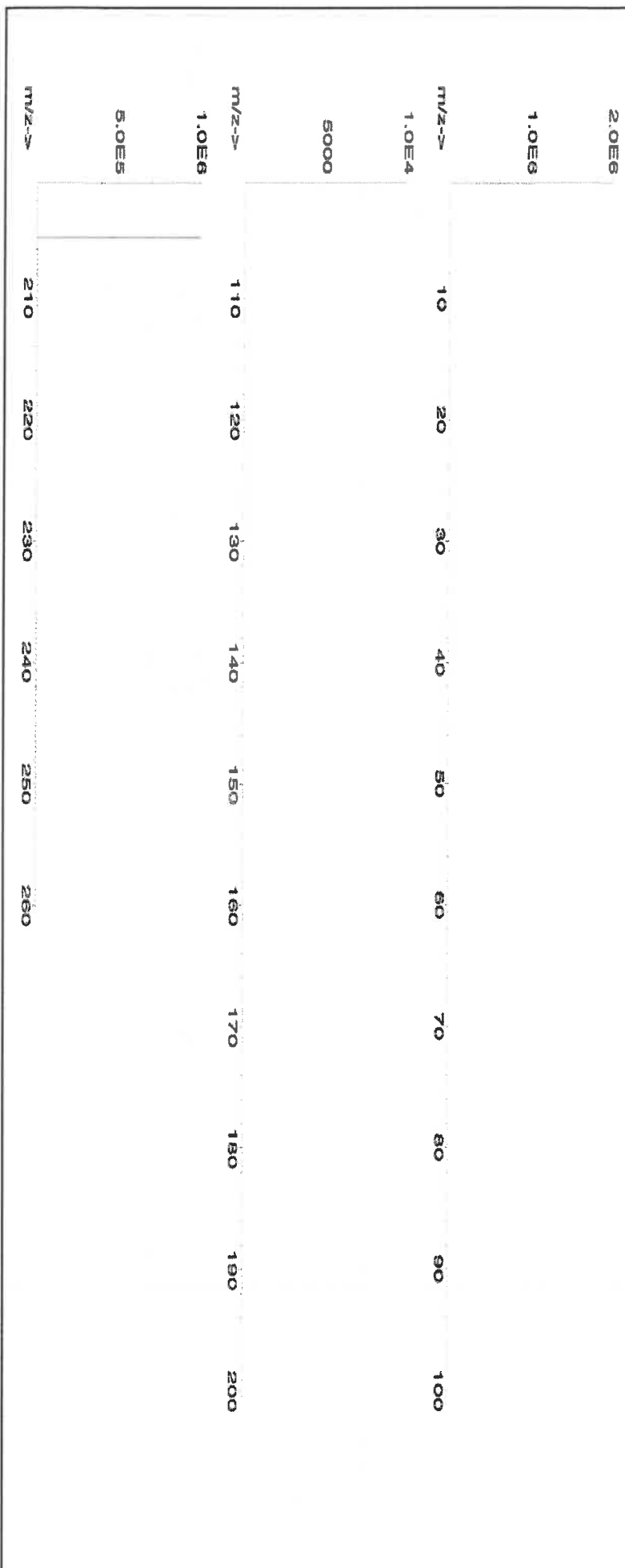
<i>Aleah O'Brady</i>	
Formulated By:	Aleah O'Brady
Reviewed By:	<i>Pedro L. Rendas</i>
	Pedro L. Rendas
	062724

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

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):

369

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



Certified Reference Material CRM

M6021



CERTIFIED WEIGHT REPORT:

Part Number: 57023
Lot Number: 062424
Description: Vanadium (V)

Lot # 24002546
Solvent: Nitric Acid

<i>Aleah O'Brady</i>	
Formulated By:	Aleah O'Brady
Reviewed By:	<i>Pedro L. Rantas</i>
	Pedro L. Rantas
	062424

Expiration Date: 062427

Recommended Storage: Ambient (20 °C)

Nominal Concentration (µg/mL): 1000

NIST Test Number: 6UTB

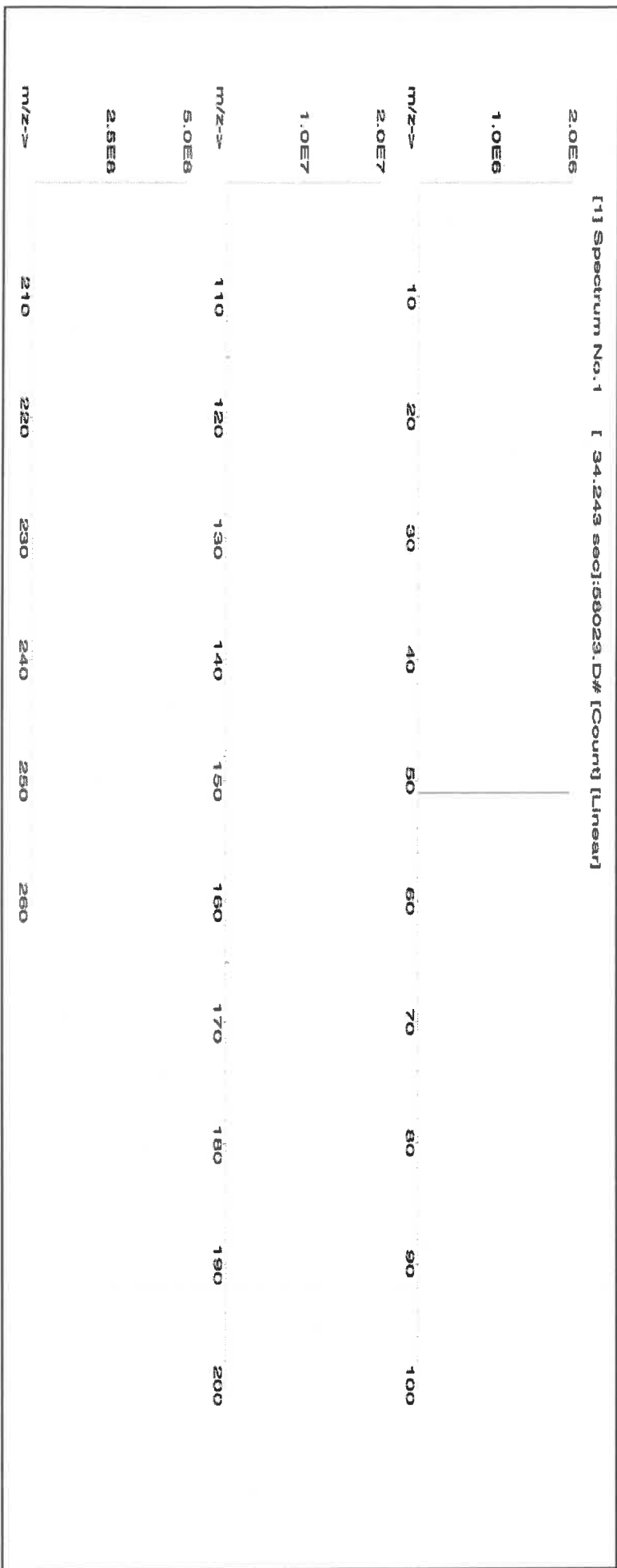
Volume shown below was diluted to (mL): 2000.3

5E-05 Balance Uncertainty
0.06 Flask Uncertainty

Compound	Part Number	Lot Number	Dilution Factor	Initial Vol. (mL)	Uncertainty Pipette (mL)	Nominal Conc. (µg/mL)	Initial Conc. (µg/mL)	Final Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	CAS#	SDS Information (Solvent Safety Info. On Attached pg.)	NIST SRM

1. Ammonium metavanadate (V) 58123 021224 0.1000 200.0 0.084 1000 10000.3 1000.0 2.2 7803-55-6 0.05 mg/m3 or-at 58.1mg/kg 3165

[1] Spectrum No.1 [34.243 sec]:58023.D# [Count] [Linear]





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

371

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:

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).

SOP ID : M200.8-Trace Elements-22, MSFAM01.1-Metals ICPMS-2

SDG No : MYD0L6

Matrix : WATER

Pipette ID: ICP A

Balance ID : N/A

Filter paper ID : N/A

pH Strip ID : M6069

Hood ID : #1

Block ID: 1. HOT BLOCK #1 2. N/A

Start Digest Date: 10/23/2024 **Time :** 09:20 **Temp :** 95 °C

End Digest Date: 10/23/2024 **Time :** 11:30 **Temp :** 95 °C

Digestion tube ID: M5595

Block thermometer ID: MET-DIG. #1

Dig Technician Signature: 

Supervisor Signature: 

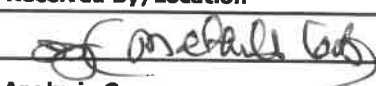
Temp : 1. 95°C 2. N/A

Standard Name	MLS USED	STD REF. # FROM LOG
LCSW	0.50	MP82582
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A

Chemical Used	ML/SAMPLE USED	Lot Number
1:1 HNO3	1.00	MP81119
1:1 HCL	0.50	MP82127
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 #50 : 95 C

Date / Time	Prepped Sample Relinquished By/Location	Received By/Location
10/23/24 12:00	Jepp Met dig	
	Preparation Group	Analysis Group

Lab Sample ID	Client Sample ID	pH	Initial Vol (ml)	Final Vol (ml)	Color Before	Color After	Clarity Before	Clarity After	Comment	Prep Pos
P4322-01	MYD0L6	<2	50	50	Colorless	Colorless	Clear	Clear	N/A	1
P4322-02	MYD0Y6	<2	50	50	Colorless	Colorless	Clear	Clear	N/A	2
P4322-03	MYD0Y8	<2	50	50	Colorless	Colorless	Clear	Clear	N/A	3
P4322-04	MYD035	<2	50	50	Colorless	Colorless	Clear	Clear	N/A	4
P4322-05	MYD036	<2	50	50	Colorless	Colorless	Clear	Clear	N/A	5
P4322-06	MYD038	<2	50	50	Colorless	Colorless	Clear	Clear	N/A	6
P4322-07	MYDD00	<2	50	50	Colorless	Colorless	Clear	Clear	N/A	7
P4322-08	MYDD01	<2	50	50	Colorless	Colorless	Clear	Clear	N/A	8
P4322-09	MYDD02	<2	50	50	Colorless	Colorless	Clear	Clear	N/A	9
P4322-10	MYDD03	<2	50	50	Colorless	Colorless	Clear	Clear	N/A	10
PB164339BL	PBW339	<2	50	50	Colorless	Colorless	Clear	Clear	N/A	11
PB164339BS	LCS339	<2	50	50	Colorless	Colorless	Clear	Clear	MP82582	12

Instrument ID: P7

Daily Analysis Runlog For Sequence/QC Batch ID # LB133196

Review By	Sarabjit Jaswal	Review On	10/29/2024 8:26:02 PM
Supervise By	Mohan Bera	Supervise On	10/29/2024 8:26:44 PM
STD. NAME	STD REF.#		
ICAL Standard	MP82568,MP82577,MP82576,MP82574,MP82573,MP82572,MP82571,MP82570,MP82569		
ICV Standard	MP82578		
CCV Standard	MP82579		
ICSA Standard	MP82580,MP82581		
CRI Standard			
LCS Standard	MP82582		
Chk Standard	MP82587,MP82586		

Sr#	SampleId	ClientID	QcType	Date	Comment	Operator	Status
1	TUNE	TUNE006	TUNE	10/29/24 17:38		Jaswal	OK
2	S00	S0	CAL1	10/29/24 18:13		Jaswal	OK
3	S02	S02	CAL3	10/29/24 18:19		Jaswal	OK
4	S03	S03	CAL4	10/29/24 18:22		Jaswal	OK
5	S04	S04	CAL5	10/29/24 18:26		Jaswal	OK
6	S05	S05	CAL6	10/29/24 18:29		Jaswal	OK
7	S06	S06	CAL7	10/29/24 18:31		Jaswal	OK
8	S07	S07	CAL8	10/29/24 18:34		Jaswal	OK
9	S08	S08	CAL9	10/29/24 18:37		Jaswal	OK
10	ICV006	ICV006	ICV	10/29/24 18:42		Jaswal	OK
11	ICB006	ICB006	ICB	10/29/24 18:45		Jaswal	OK
12	ICSA006	ICSA006	ICSA	10/29/24 18:49		Jaswal	OK
13	ICSAB006	ICSAB006	ICSAB	10/29/24 18:52		Jaswal	OK
14	CCV029	CCV029	CCV	10/29/24 18:55		Jaswal	OK
15	CCB029	CCB029	CCB	10/29/24 18:58		Jaswal	OK
16	PB164339BL	PBW339	MB	10/29/24 19:01		Jaswal	OK
17	PB164339BS	LCS339	LCS	10/29/24 19:04		Jaswal	OK
18	P4322-01	MYD0L6	SAM	10/29/24 19:07		Jaswal	OK

Instrument ID: P7

Daily Analysis Runlog For Sequence/QC Batch ID # LB133196

Review By	Sarabjit Jaswal	Review On	10/29/2024 8:26:02 PM
Supervise By	Mohan Bera	Supervise On	10/29/2024 8:26:44 PM

STD. NAME	STD REF.#
ICAL Standard	MP82568,MP82577,MP82576,MP82574,MP82573,MP82572,MP82571,MP82570,MP82569
ICV Standard	MP82578
CCV Standard	MP82579
ICSA Standard	MP82580,MP82581
CRI Standard	
LCS Standard	MP82582
Chk Standard	MP82587,MP82586

19	P4322-02	MYD0Y6	SAM	10/29/24 19:11		Jaswal	OK
20	P4322-03	MYD0Y8	SAM	10/29/24 19:14		Jaswal	OK
21	P4322-04	MYD035	SAM	10/29/24 19:17		Jaswal	OK
22	P4322-05	MYD036	SAM	10/29/24 19:21		Jaswal	OK
23	P4322-06	MYD038	SAM	10/29/24 19:24		Jaswal	OK
24	P4322-07	MYDD00	SAM	10/29/24 19:27		Jaswal	OK
25	P4322-08	MYDD01	SAM	10/29/24 19:30		Jaswal	OK
26	P4322-09	MYDD02	SAM	10/29/24 19:34		Jaswal	OK
27	P4322-10	MYDD03	SAM	10/29/24 19:37		Jaswal	OK
28	CCV030	CCV030	CCV	10/29/24 19:40		Jaswal	OK
29	CCB030	CCB030	CCB	10/29/24 19:43		Jaswal	OK

ORIGIN ID:MSCA (480) 477-4900
SHIP DATE: 03OCT24
ACTWGT: 10.00 LB
CAD: 110555859/INET4760
DIMS: 17x11x15 IN
BILL SENDER

TO SOHIL JODHANI

ALLIANCE TECHNICAL GROUP LLC
284 SHEFFIELD ST

MOUNTAINSIDE NJ 07092

(908) 789-8900 REF: W3150.1.043.09MX.A.K0P551.0700

INV: PO: DEPT:



FRI - 04 OCT 10:30A
PRIORITY OVERNIGHT

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CAROLINA GILIARRO
WESTON SOLUTIONS
105 SOUTH ALARCO STREET
APARTMENT #6
PRESCOTT, AZ 85284
UNITED STATES US

SHIP DATE: 07OCT24
ACTWGT: 20.00 LB
CAD: 110555859/INET4760
DIMS: 17x11x15 IN
BILL SENDER

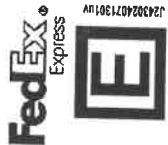
TO SOHIL JODHANI

ALLIANCE TECHNICAL GROUP LLC
284 SHEFFIELD ST

MOUNTAINSIDE NJ 07092

(908) 789-8900 REF: W3150.1.043.09MX.A.KOP551.0700
INV: PO: DEPT:

58CJ2/B264/C8C4
10-8-24
9-45
2-6



TUE - 08 OCT 10:30A
PRIORITY OVERNIGHT

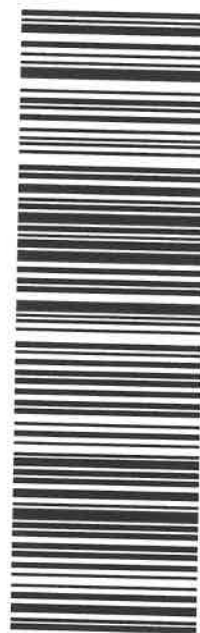
TRK# 7790 1775 0469

0201

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within strict time limits, see current FedEx Service Guide.

Login Summary Report

Order ID :	P4322	Order Date :	10/8/2024 9:45:00 AM	Project Mgr :	Deepak
Client :	USEPA CLP SMO	Project :	51772	Report Type :	USEPA CLP
Contact :	Anita Kapadia	Receive Date :	10/8/2024 9:45:00 AM	EDD Type :	EPA CLP
Date Sign Off :	10/9/2024 11:50:04 AM				

Sample ID	Client ID	Matrix	Sampling Date	Test	Test Group	Method	TAT Days	Fax Due Date	HC Due Date
P4322-01	MYD0L6	Water	10/01/2024		RB				
				Metals CLP MS		SFAM_MS	15	10/29/2024	10/29/2024
P4322-02	MYD0Y6	Water	10/02/2024		RB				
				Metals CLP MS		SFAM_MS	15	10/29/2024	10/29/2024
P4322-03	MYD0Y8	Water	10/03/2024		RB				
				Metals CLP MS		SFAM_MS	15	10/29/2024	10/29/2024
P4322-04	MYD035	Water	09/17/2024		RB				
				Metals CLP MS		SFAM_MS	15	10/29/2024	10/29/2024
P4322-05	MYD036	Water	09/18/2024		RB				
				Metals CLP MS		SFAM_MS	15	10/29/2024	10/29/2024
P4322-06	MYD038	Water	09/20/2024		RB				
				Metals CLP MS		SFAM_MS	15	10/29/2024	10/29/2024
P4322-07	MYDD00	Water	06/21/2024		RB				
				Metals CLP MS		SFAM_MS	15	10/29/2024	10/29/2024
P4322-08	MYDD01	Water	06/20/2024		RB				
				Metals CLP MS		SFAM_MS	15	10/29/2024	10/29/2024
P4322-09	MYDD02	Water	06/19/2024		RB				
				Metals CLP MS		SFAM_MS	15	10/29/2024	10/29/2024
P4322-10	MYDD03	Water	06/18/2024		RB				
				Metals CLP MS		SFAM_MS	15	10/29/2024	10/29/2024

WORKLIST(Hardcopy Internal Chain)

Worklist Name : PB164339

Worklist ID : 184687

Department : Digestion

Date : 10-23-2024 08:52:34

Sample	Customer Sample	Matrix	Test	Preservative	Customer	Raw Sample Storage Location	Collect Date	Method
P4322-01	MYD0L6	Water	Metals CLP MS	1:1 HNO3 to pH < 2	USEP01	Q11	10/01/2024	SFAM_MS
P4322-02	MYD0Y6	Water	Metals CLP MS	1:1 HNO3 to pH < 2	USEP01	Q11	10/02/2024	SFAM_MS
P4322-03	MYD0Y8	Water	Metals CLP MS	1:1 HNO3 to pH < 2	USEP01	Q11	10/03/2024	SFAM_MS
P4322-04	MYD035	Water	Metals CLP MS	1:1 HNO3 to pH < 2	USEP01	Q11	09/17/2024	SFAM_MS
P4322-05	MYD036	Water	Metals CLP MS	1:1 HNO3 to pH < 2	USEP01	Q11	09/18/2024	SFAM_MS
P4322-06	MYD038	Water	Metals CLP MS	1:1 HNO3 to pH < 2	USEP01	Q11	09/20/2024	SFAM_MS
P4322-07	MYDD00	Water	Metals CLP MS	1:1 HNO3 to pH < 2	USEP01	Q11	06/21/2024	SFAM_MS
P4322-08	MYDD01	Water	Metals CLP MS	1:1 HNO3 to pH < 2	USEP01	Q11	06/20/2024	SFAM_MS
P4322-09	MYDD02	Water	Metals CLP MS	1:1 HNO3 to pH < 2	USEP01	Q11	06/19/2024	SFAM_MS
P4322-10	MYDD03	Water	Metals CLP MS	1:1 HNO3 to pH < 2	USEP01	Q11	06/18/2024	SFAM_MS

379

Date/Time

10/23/24 8:55

Raw Sample Received by:

Raw Sample Relinquished by:

for (not dig)
of sn

Date/Time

10/23/24 9:55

Raw Sample Received by:

Raw Sample Relinquished by:

for (not dig)
of sn