284 Sheffield Street, Mountainside, New Jersey 07092, Phone : 908 789 8900,
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# DATA PACKAGE

## METALS

**PROJECT NAME : JF HUEBNER**

**AMBRIC TECHNOLOGY CORPORATION**

**100 Pine Street**

**Colwyn, PA - 19023**

**Phone No: 215-928-8930**

**ORDER ID : Q3068**

**ATTENTION : Dan Mulvihill**

**Laboratory Certification ID # 20012**

Alliance TECHNICAL GROUP

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# Cover Page

**Order ID :** Q3068

**Project ID :** JF Huebner

**Client :** Ambric Technology Corporation

| Lab Sample Number | Client Sample Number |
|---|---|
| Q3068-01 | AMBRIC-TECH-9-9 |

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

Signature : _____

Date: 12/12/2025

NYDOH CERTIFICATION NO - 11376

NJDEP CERTIFICATION NO - 20012

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# CASE NARRATIVE

**Ambric Technology Corporation**
**Project Name: JF Huebner**
**Project # N/A**
**Order ID # Q3068**
**Test Name: Metals Group4**

**A. Number of Samples and Date of Receipt:**
1 Solid sample was received on 09/10/2025.

**B. Parameters:**
According to the Chain of Custody document, the following analyses were requested: Metals Group4. This data package contains results for Metals Group4.

**C. Analytical Techniques:**
The analysis of Metals Group4 was based on method 6010D and digestion based on method 3050 (soils).

**D. QA/ QC Samples:**
The Holding Times were met for all analysis.
The Blank Spike met requirements for all compounds.
The Duplicate (MH-384DUP) analysis met criteria for all compounds except for Calcium, Copper, Manganese and Zinc due to Sample Matrix interference.
The Matrix Spike analysis met criteria for all compounds.
The Matrix Spike Duplicate analysis met criteria for all compounds.
The Blank analysis did not indicate the presence of lab contamination.
The Calibration met the requirements.
The Serial Dilution met the acceptable requirements.

**E. Additional Comments:**
This package has been revised due to project name updated.

The Date and time of sampling was not listed in the COC.
The temperature of the samples at the time of receipt was 27.3°C.
The Fax and Hardcopy is not matching. At the time of second review lab noticed the fax data were not calculated with Percent solids, therefore the data were reprocessed with Percent solids and reported in Hardcopy. Hardcopy is reported corrected.

---

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. The laboratory manager or his designee, as verified by the following signature has authorized release of the data contained in this hard copy data package.

Signature_____

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

# DATA REPORTING QUALIFIERS- INORGANIC

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

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

## METALS CONFORMANCE/NON-CONFORMANCE SUMMARY

ORDER ID: Q3068 MATRIX: Solid

METHOD: 6010D

| | | NA | NO | YES |
|---|---|---|---|---|
| 1. | Calibration Summary met criteria. | | | ✓ |
| 2. | ICP Interference Check Sample Results Summary Submitted. | | | ✓ |
| 3. | Serial Dilution Summary (if applicable) Submitted. | | | ✓ |
| 4. | Laboratory Control Sample Summary (if applicable) Submitted. | | | ✓ |
| 5. | Blank Contamination - If yes, list compounds and concentrations in each blank: | | ✓ | |
| 6. | Matrix Spike/Matrix Spike Duplicate Recoveries Met Criteria | | | ✓ |
| | If not met, list those compounds and their recoveries which fall outside the acceptable range. | | | |
| 7. | Sample Duplicate Analysis Met QC Criteria | | ✓ | |
| | If not met, list those compounds and their recoveries which fall outside the acceptable range. | | | |
| | The Duplicate (MH-384DUP) analysis met criteria for all compounds except for Calcium, Copper, Manganese and Zinc due to Sample Matrix interference. | | | |
| 8. | Digestion Holding Time Met | | | ✓ |
| | If not met, list number of days exceeded for each sample: | | | |
| 9. | Analysis Holding Time Met | | | ✓ |
| | If not met, list those compounds and their recoveries which fall outside the acceptable range. | | | |

ADDITIONAL COMMENTS:

This package has been revise due to project name updated.

The Date and time of sampling was not listed in the COC.

The temperature of the samples at the time of receipt was 27.3°C.

The Fax and Hardcopy is not matching. At the time of second review lab noticed the fax data were not calculated with Percent solids, therefore the data were reprocessed with Percent solids and reported in Hardcopy. Hardcopy is reported corrected.

_____ _____

QA REVIEW Date

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## APPENDIX A

## QA REVIEW GENERAL DOCUMENTATION

**Project #:** Q3068

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

**QA Review Signature:** SOHIL JODHANI **Date:** 12/12/2025

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# LAB CHRONICLE

| | | | |
|---|---|---|---|
| **OrderID:** | Q3068 | **OrderDate:** | 9/10/2025 10:27:58 AM |
| **Client:** | Ambric Technology Corporation | **Project:** | JF Huebner |
| **Contact:** | Dan Mulvihill | **Location:** | D31 |

| LabID | ClientID | Matrix | Test | Method | Sample Date | Prep Date | Anal Date | Received |
|---|---|---|---|---|---|---|---|---|
| **Q3068-01** | **AMBRIC-TECH-9-9** | **SOIL** | | | **09/09/25** | | | **09/10/25** |
| | | | Metals Group4 | 6010D | | 09/10/25 | 09/10/25 | |

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# Hit Summary Sheet
**SW-846**

| | | | |
|---|---|---|---|
| **SDG No.:** | Q3068 | **Order ID:** | Q3068 |
| **Client:** | Ambric Technology Corporation | **Project ID:** | JF Huebner |

| Sample ID | Client ID | Matrix | Parameter | Concentration | C | MDL | RDL | Units |
|---|---|---|---|---|---|---|---|---|
| **Client ID : AMBRIC-TECH-9-9** | | | | | | | | |
| Q3068-01 | AMBRIC-TECH-9-9 | SOIL | Calcium | 11800 | | 11.7 | 105 | mg/Kg |
| Q3068-01 | AMBRIC-TECH-9-9 | SOIL | Copper | 34.9 | | 0.23 | 1.05 | mg/Kg |
| Q3068-01 | AMBRIC-TECH-9-9 | SOIL | Iron | 19900 | | 4.19 | 5.25 | mg/Kg |
| Q3068-01 | AMBRIC-TECH-9-9 | SOIL | Magnesium | 6560 | | 12.6 | 105 | mg/Kg |
| Q3068-01 | AMBRIC-TECH-9-9 | SOIL | Manganese | 286 | | 0.15 | 1.05 | mg/Kg |
| Q3068-01 | AMBRIC-TECH-9-9 | SOIL | Potassium | 2850 | | 29.1 | 105 | mg/Kg |
| Q3068-01 | AMBRIC-TECH-9-9 | SOIL | Zinc | 90.8 | | 0.24 | 2.10 | mg/Kg |

# SAMPLE DATA

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# Report of Analysis

| | | | |
|---|---|---|---|
| Client: | Ambric Technology Corporation | Date Collected: | 09/09/25 |
| Project: | JF Huebner | Date Received: | 09/10/25 |
| Client Sample ID: | AMBRIC-TECH-9-9 | SDG No.: | Q3068 |
| Lab Sample ID: | Q3068-01 | Matrix: | SOIL |
| Level (low/med): | low | % Solid: | 89 |

| Cas | Parameter | Conc. | Qua. | DF | MDL | LOQ / CRQL | Units | Prep Date | Date Ana. | Ana Met. | Prep Met. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 7440-70-2 | Calcium | 11800 | * | 1 | 11.7 | 105 | mg/Kg | 09/10/25 14:10 | 09/10/25 16:12 | 6010D | SW3050 |
| 7440-50-8 | Copper | 34.9 | * | 1 | 0.23 | 1.05 | mg/Kg | 09/10/25 14:10 | 09/10/25 16:12 | 6010D | SW3050 |
| 7439-89-6 | Iron | 19900 | | 1 | 4.19 | 5.25 | mg/Kg | 09/10/25 14:10 | 09/10/25 16:12 | 6010D | SW3050 |
| 7439-95-4 | Magnesium | 6560 | | 1 | 12.6 | 105 | mg/Kg | 09/10/25 14:10 | 09/10/25 16:12 | 6010D | SW3050 |
| 7439-96-5 | Manganese | 286 | * | 1 | 0.15 | 1.05 | mg/Kg | 09/10/25 14:10 | 09/10/25 16:12 | 6010D | SW3050 |
| 7440-09-7 | Potassium | 2850 | | 1 | 29.1 | 105 | mg/Kg | 09/10/25 14:10 | 09/10/25 16:12 | 6010D | SW3050 |
| 7440-66-6 | Zinc | 90.8 | * | 1 | 0.24 | 2.10 | mg/Kg | 09/10/25 14:10 | 09/10/25 16:12 | 6010D | SW3050 |

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

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

# METAL CALIBRATION DATA

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# Metals

## - 2a -

## INITIAL AND CONTINUING CALIBRATION VERIFICATION

**Client:** Ambric Technology Corporation **SDG No.:** Q3068

**Contract:** AMBR01 **Lab Code:** ACE

**Initial Calibration Source:** EPA

**Continuing Calibration Source:** Inorganic Ventures

| Sample ID | Analyte | Result ug/L | True Value | % Recovery | Acceptance Window (%R) | M | Analysis Date | Analysis Time | Run Number |
|---|---|---|---|---|---|---|---|---|---|
| ICV01 | Calcium | 19000 | 20000 | 95 | 90 - 110 | P | 09/10/2025 | 11:31 | LB137144 |
| | Copper | 982 | 1000 | 98 | 90 - 110 | P | 09/10/2025 | 11:31 | LB137144 |
| | Iron | 3870 | 4000 | 97 | 90 - 110 | P | 09/10/2025 | 11:31 | LB137144 |
| | Magnesium | 19000 | 20000 | 95 | 90 - 110 | P | 09/10/2025 | 11:31 | LB137144 |
| | Manganese | 1900 | 2000 | 95 | 90 - 110 | P | 09/10/2025 | 11:31 | LB137144 |
| | Potassium | 18900 | 20000 | 95 | 90 - 110 | P | 09/10/2025 | 11:31 | LB137144 |
| | Zinc | 1940 | 2000 | 97 | 90 - 110 | P | 09/10/2025 | 11:31 | LB137144 |

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# Metals

## - 2a -

## INITIAL AND CONTINUING CALIBRATION VERIFICATION

**Client:** Ambric Technology Corporation **SDG No.:** Q3068

**Contract:** AMBR01 **Lab Code:** ACE

**Initial Calibration Source:** EPA

**Continuing Calibration Source:** Inorganic Ventures

| Sample ID | Analyte | Result ug/L | True Value | % Recovery | Acceptance Window (%R) | M | Analysis Date | Analysis Time | Run Number |
|---|---|---|---|---|---|---|---|---|---|
| LLICV01 | Calcium | 2070 | 2000 | 104 | 80 - 120 | P | 09/10/2025 | 11:39 | LB137144 |
| | Copper | 21.3 | 20.0 | 106 | 80 - 120 | P | 09/10/2025 | 11:39 | LB137144 |
| | Iron | 109 | 100 | 109 | 80 - 120 | P | 09/10/2025 | 11:39 | LB137144 |
| | Magnesium | 2120 | 2000 | 106 | 80 - 120 | P | 09/10/2025 | 11:39 | LB137144 |
| | Manganese | 21.4 | 20.0 | 107 | 80 - 120 | P | 09/10/2025 | 11:39 | LB137144 |
| | Potassium | 1890 | 2000 | 94 | 80 - 120 | P | 09/10/2025 | 11:39 | LB137144 |
| | Zinc | 42.4 | 40.0 | 106 | 80 - 120 | P | 09/10/2025 | 11:39 | LB137144 |

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# Metals

## - 2a -

## INITIAL AND CONTINUING CALIBRATION VERIFICATION

**Client:** Ambric Technology Corporation **SDG No.:** Q3068

**Contract:** AMBR01 **Lab Code:** ACE

**Initial Calibration Source:** EPA

**Continuing Calibration Source:** Inorganic Ventures

| Sample ID | Analyte | Result ug/L | True Value | % Recovery | Acceptance Window (%R) | M | Analysis Date | Analysis Time | Run Number |
|---|---|---|---|---|---|---|---|---|---|
| CCV01 | Calcium | 24700 | 25000 | 99 | 90 - 110 | P | 09/10/2025 | 12:09 | LB137144 |
| | Copper | 1240 | 1250 | 99 | 90 - 110 | P | 09/10/2025 | 12:09 | LB137144 |
| | Iron | 4940 | 5000 | 99 | 90 - 110 | P | 09/10/2025 | 12:09 | LB137144 |
| | Magnesium | 24700 | 25000 | 99 | 90 - 110 | P | 09/10/2025 | 12:09 | LB137144 |
| | Manganese | 2460 | 2500 | 99 | 90 - 110 | P | 09/10/2025 | 12:09 | LB137144 |
| | Potassium | 24600 | 25000 | 98 | 90 - 110 | P | 09/10/2025 | 12:09 | LB137144 |
| | Zinc | 2510 | 2500 | 100 | 90 - 110 | P | 09/10/2025 | 12:09 | LB137144 |
| CCV02 | Calcium | 24300 | 25000 | 97 | 90 - 110 | P | 09/10/2025 | 13:14 | LB137144 |
| | Copper | 1220 | 1250 | 98 | 90 - 110 | P | 09/10/2025 | 13:14 | LB137144 |
| | Iron | 4930 | 5000 | 99 | 90 - 110 | P | 09/10/2025 | 13:14 | LB137144 |
| | Magnesium | 24100 | 25000 | 96 | 90 - 110 | P | 09/10/2025 | 13:14 | LB137144 |
| | Manganese | 2430 | 2500 | 97 | 90 - 110 | P | 09/10/2025 | 13:14 | LB137144 |
| | Potassium | 24400 | 25000 | 98 | 90 - 110 | P | 09/10/2025 | 13:14 | LB137144 |
| | Zinc | 2410 | 2500 | 96 | 90 - 110 | P | 09/10/2025 | 13:14 | LB137144 |
| CCV03 | Calcium | 23600 | 25000 | 94 | 90 - 110 | P | 09/10/2025 | 14:04 | LB137144 |
| | Copper | 1200 | 1250 | 96 | 90 - 110 | P | 09/10/2025 | 14:04 | LB137144 |
| | Iron | 4880 | 5000 | 98 | 90 - 110 | P | 09/10/2025 | 14:04 | LB137144 |
| | Magnesium | 23500 | 25000 | 94 | 90 - 110 | P | 09/10/2025 | 14:04 | LB137144 |
| | Manganese | 2340 | 2500 | 94 | 90 - 110 | P | 09/10/2025 | 14:04 | LB137144 |
| | Potassium | 26700 | 25000 | 107 | 90 - 110 | P | 09/10/2025 | 14:04 | LB137144 |
| | Zinc | 2420 | 2500 | 97 | 90 - 110 | P | 09/10/2025 | 14:04 | LB137144 |
| CCV04 | Calcium | 24200 | 25000 | 97 | 90 - 110 | P | 09/10/2025 | 15:27 | LB137144 |
| | Copper | 1200 | 1250 | 96 | 90 - 110 | P | 09/10/2025 | 15:27 | LB137144 |
| | Iron | 4810 | 5000 | 96 | 90 - 110 | P | 09/10/2025 | 15:27 | LB137144 |
| | Magnesium | 24300 | 25000 | 97 | 90 - 110 | P | 09/10/2025 | 15:27 | LB137144 |
| | Manganese | 2400 | 2500 | 96 | 90 - 110 | P | 09/10/2025 | 15:27 | LB137144 |
| | Potassium | 24200 | 25000 | 97 | 90 - 110 | P | 09/10/2025 | 15:27 | LB137144 |
| | Zinc | 2480 | 2500 | 99 | 90 - 110 | P | 09/10/2025 | 15:27 | LB137144 |
| CCV05 | Calcium | 24100 | 25000 | 96 | 90 - 110 | P | 09/10/2025 | 16:16 | LB137144 |
| | Copper | 1210 | 1250 | 97 | 90 - 110 | P | 09/10/2025 | 16:16 | LB137144 |
| | Iron | 4870 | 5000 | 97 | 90 - 110 | P | 09/10/2025 | 16:16 | LB137144 |
| | Magnesium | 24300 | 25000 | 97 | 90 - 110 | P | 09/10/2025 | 16:16 | LB137144 |
| | Manganese | 2380 | 2500 | 95 | 90 - 110 | P | 09/10/2025 | 16:16 | LB137144 |
| | Potassium | 24000 | 25000 | 96 | 90 - 110 | P | 09/10/2025 | 16:16 | LB137144 |

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# Metals

## - 2a -

## INITIAL AND CONTINUING CALIBRATION VERIFICATION

**Client:** Ambric Technology Corporation **SDG No.:** Q3068

**Contract:** AMBR01 **Lab Code:** ACE

**Initial Calibration Source:** EPA

**Continuing Calibration Source:** Inorganic Ventures

| Sample ID | Analyte | Result ug/L | True Value | % Recovery | Acceptance Window (%R) | M | Analysis Date | Analysis Time | Run Number |
|---|---|---|---|---|---|---|---|---|---|
| CCV05 | Zinc | 2500 | 2500 | 100 | 90 - 110 | P | 09/10/2025 | 16:16 | LB137144 |
| CCV06 | Calcium | 24400 | 25000 | 98 | 90 - 110 | P | 09/10/2025 | 16:43 | LB137144 |
| | Copper | 1220 | 1250 | 98 | 90 - 110 | P | 09/10/2025 | 16:43 | LB137144 |
| | Iron | 4900 | 5000 | 98 | 90 - 110 | P | 09/10/2025 | 16:43 | LB137144 |
| | Magnesium | 24800 | 25000 | 99 | 90 - 110 | P | 09/10/2025 | 16:43 | LB137144 |
| | Manganese | 2410 | 2500 | 97 | 90 - 110 | P | 09/10/2025 | 16:43 | LB137144 |
| | Potassium | 24100 | 25000 | 96 | 90 - 110 | P | 09/10/2025 | 16:43 | LB137144 |
| | Zinc | 2550 | 2500 | 102 | 90 - 110 | P | 09/10/2025 | 16:43 | LB137144 |

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# Metals

## - 2b -
## CRDL STANDARD FOR AA & ICP

**Client:** Ambric Technology Corporation **SDG No.:** Q3068

**Contract:** AMBR01 **Lab Code:** ACE

**Initial Calibration Source:**

**Continuing Calibration Source:**

| Sample ID | Analyte | Result ug/L | True Value ug/L | % Recovery | Acceptance Window (%R) | M | Analysis Date | Analysis Time | Run Number |
|---|---|---|---|---|---|---|---|---|---|
| CRI01 | Calcium | 2080 | 2000 | 104 | 65 - 135 | P | 09/10/2025 | 11:48 | LB137144 |
| | Copper | 21.7 | 20.0 | 108 | 65 - 135 | P | 09/10/2025 | 11:48 | LB137144 |
| | Iron | 109 | 100 | 109 | 65 - 135 | P | 09/10/2025 | 11:48 | LB137144 |
| | Magnesium | 2100 | 2000 | 105 | 65 - 135 | P | 09/10/2025 | 11:48 | LB137144 |
| | Manganese | 21.5 | 20.0 | 108 | 65 - 135 | P | 09/10/2025 | 11:48 | LB137144 |
| | Potassium | 1970 | 2000 | 99 | 65 - 135 | P | 09/10/2025 | 11:48 | LB137144 |
| | Zinc | 43.0 | 40.0 | 108 | 65 - 135 | P | 09/10/2025 | 11:48 | LB137144 |

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# Metals

## - 3a -

## INITIAL AND CONTINUING CALIBRATION BLANK SUMMARY

**Client:** Ambric Technology Corporation **SDG No.:** Q3068

**Contract:** AMBR01 **Lab Code:** ACE

| Sample ID | Analyte | Result ug/L | Acceptance Limit | Conc Qual | CRQL | M | Analysis Date | Analysis Time | Run Number |
|---|---|---|---|---|---|---|---|---|---|
| ICB01 | Calcium | 234 | +/-1000 | U | 2000 | P | 09/10/2025 | 11:43 | LB137144 |
| | Copper | 4.60 | +/-10 | U | 20.0 | P | 09/10/2025 | 11:43 | LB137144 |
| | Iron | 23.4 | +/-50 | U | 100 | P | 09/10/2025 | 11:43 | LB137144 |
| | Magnesium | 244 | +/-1000 | U | 2000 | P | 09/10/2025 | 11:43 | LB137144 |
| | Manganese | 5.94 | +/-10 | U | 20.0 | P | 09/10/2025 | 11:43 | LB137144 |
| | Potassium | 918 | +/-1000 | U | 2000 | P | 09/10/2025 | 11:43 | LB137144 |
| | Zinc | 16.7 | +/-20 | U | 40.0 | P | 09/10/2025 | 11:43 | LB137144 |

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# Metals

## - 3a -

## INITIAL AND CONTINUING CALIBRATION BLANK SUMMARY

**Client:** Ambric Technology Corporation **SDG No.:** Q3068

**Contract:** AMBR01 **Lab Code:** ACE

| Sample ID | Analyte | Result ug/L | Acceptance Limit | Conc Qual | CRQL | M | Analysis Date | Analysis Time | Run Number |
|---|---|---|---|---|---|---|---|---|---|
| **CCB01** | Calcium | 234 | +/-1000 | U | 2000 | P | 09/10/2025 | 12:13 | LB137144 |
| | Copper | 4.60 | +/-10 | U | 20.0 | P | 09/10/2025 | 12:13 | LB137144 |
| | Iron | 23.4 | +/-50 | U | 100 | P | 09/10/2025 | 12:13 | LB137144 |
| | Magnesium | 244 | +/-1000 | U | 2000 | P | 09/10/2025 | 12:13 | LB137144 |
| | Manganese | 5.94 | +/-10 | U | 20.0 | P | 09/10/2025 | 12:13 | LB137144 |
| | Potassium | 918 | +/-1000 | U | 2000 | P | 09/10/2025 | 12:13 | LB137144 |
| | Zinc | 16.7 | +/-20 | U | 40.0 | P | 09/10/2025 | 12:13 | LB137144 |
| **CCB02** | Calcium | 234 | +/-1000 | U | 2000 | P | 09/10/2025 | 13:18 | LB137144 |
| | Copper | 4.60 | +/-10 | U | 20.0 | P | 09/10/2025 | 13:18 | LB137144 |
| | Iron | 23.4 | +/-50 | U | 100 | P | 09/10/2025 | 13:18 | LB137144 |
| | Magnesium | 244 | +/-1000 | U | 2000 | P | 09/10/2025 | 13:18 | LB137144 |
| | Manganese | 5.94 | +/-10 | U | 20.0 | P | 09/10/2025 | 13:18 | LB137144 |
| | Potassium | 918 | +/-1000 | U | 2000 | P | 09/10/2025 | 13:18 | LB137144 |
| | Zinc | 16.7 | +/-20 | U | 40.0 | P | 09/10/2025 | 13:18 | LB137144 |
| **CCB03** | Calcium | 234 | +/-1000 | U | 2000 | P | 09/10/2025 | 14:25 | LB137144 |
| | Copper | 4.60 | +/-10 | U | 20.0 | P | 09/10/2025 | 14:25 | LB137144 |
| | Iron | 23.4 | +/-50 | U | 100 | P | 09/10/2025 | 14:25 | LB137144 |
| | Magnesium | 244 | +/-1000 | U | 2000 | P | 09/10/2025 | 14:25 | LB137144 |
| | Manganese | 5.94 | +/-10 | U | 20.0 | P | 09/10/2025 | 14:25 | LB137144 |
| | Potassium | 918 | +/-1000 | U | 2000 | P | 09/10/2025 | 14:25 | LB137144 |
| | Zinc | 16.7 | +/-20 | U | 40.0 | P | 09/10/2025 | 14:25 | LB137144 |
| **CCB04** | Calcium | 234 | +/-1000 | U | 2000 | P | 09/10/2025 | 15:31 | LB137144 |
| | Copper | 4.60 | +/-10 | U | 20.0 | P | 09/10/2025 | 15:31 | LB137144 |
| | Iron | 23.4 | +/-50 | U | 100 | P | 09/10/2025 | 15:31 | LB137144 |
| | Magnesium | 244 | +/-1000 | U | 2000 | P | 09/10/2025 | 15:31 | LB137144 |
| | Manganese | 5.94 | +/-10 | U | 20.0 | P | 09/10/2025 | 15:31 | LB137144 |
| | Potassium | 918 | +/-1000 | U | 2000 | P | 09/10/2025 | 15:31 | LB137144 |
| | Zinc | 16.7 | +/-20 | U | 40.0 | P | 09/10/2025 | 15:31 | LB137144 |
| **CCB05** | Calcium | 234 | +/-1000 | U | 2000 | P | 09/10/2025 | 16:20 | LB137144 |
| | Copper | 4.60 | +/-10 | U | 20.0 | P | 09/10/2025 | 16:20 | LB137144 |
| | Iron | 23.4 | +/-50 | U | 100 | P | 09/10/2025 | 16:20 | LB137144 |
| | Magnesium | 244 | +/-1000 | U | 2000 | P | 09/10/2025 | 16:20 | LB137144 |
| | Manganese | 5.94 | +/-10 | U | 20.0 | P | 09/10/2025 | 16:20 | LB137144 |
| | Potassium | 918 | +/-1000 | U | 2000 | P | 09/10/2025 | 16:20 | LB137144 |
| | Zinc | 16.7 | +/-20 | U | 40.0 | P | 09/10/2025 | 16:20 | LB137144 |
| **CCB06** | Calcium | 234 | +/-1000 | U | 2000 | P | 09/10/2025 | 16:48 | LB137144 |
| | Copper | 4.60 | +/-10 | U | 20.0 | P | 09/10/2025 | 16:48 | LB137144 |
| | Iron | 23.4 | +/-50 | U | 100 | P | 09/10/2025 | 16:48 | LB137144 |
| | Magnesium | 244 | +/-1000 | U | 2000 | P | 09/10/2025 | 16:48 | LB137144 |

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# Metals

## - 3a -

## INITIAL AND CONTINUING CALIBRATION BLANK SUMMARY

**Client:** Ambric Technology Corporation **SDG No.:** Q3068

**Contract:** AMBR01 **Lab Code:** ACE

| Sample ID | Analyte | Result ug/L | Acceptance Limit | Conc Qual | CRQL | M | Analysis Date | Analysis Time | Run Number |
|---|---|---|---|---|---|---|---|---|---|
| **CCB06** | Manganese | 5.94 | +/-10 | U | 20.0 | P | 09/10/2025 | 16:48 | LB137144 |
| | Potassium | 918 | +/-1000 | U | 2000 | P | 09/10/2025 | 16:48 | LB137144 |
| | Zinc | 16.7 | +/-20 | U | 40.0 | P | 09/10/2025 | 16:48 | LB137144 |

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# Metals
## - 3b -
## PREPARATION BLANK SUMMARY

**Client:** Ambric Technology Corporation **SDG No.:** Q3068

**Instrument:** P4

| Sample ID | Analyte | Result (mg/Kg) | Acceptance Limit | Conc Qual | CRQL mg/Kg | M | Analysis Date | Analysis Time | Run |
|---|---|---|---|---|---|---|---|---|---|
| **PB169634BL** | | **SOLID** | | **Batch Number:** | **PB169634** | | **Prep Date:** | **09/10/2025** | |
| | Calcium | 11.1 | <50 | U | 100 | P | 09/10/2025 | 15:23 | LB137144 |
| | Copper | 0.22 | <0.5 | U | 1.00 | P | 09/10/2025 | 15:23 | LB137144 |
| | Iron | 3.99 | <2.5 | U | 5.00 | P | 09/10/2025 | 15:23 | LB137144 |
| | Magnesium | 12.0 | <50 | U | 100 | P | 09/10/2025 | 15:23 | LB137144 |
| | Manganese | 0.14 | <0.5 | U | 1.00 | P | 09/10/2025 | 15:23 | LB137144 |
| | Potassium | 27.7 | <50 | U | 100 | P | 09/10/2025 | 15:23 | LB137144 |
| | Zinc | 0.23 | <1 | U | 2.00 | P | 09/10/2025 | 15:23 | LB137144 |

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# Metals
## - 4 -
## INTERFERENCE CHECK SAMPLE

**Client:** Ambric Technology Corporation **SDG No.:** Q3068

**Contract:** AMBR01 **Lab Code:** ACE

**ICS Source:** EPA **Instrument ID:** P4

| Sample ID | Analyte | Result ug/L | True Value ug/L | % Recovery | Low Limit (ug/L) | High Limit (ug/L) | Analysis Date | Analysis Time | Run Number |
|---|---|---|---|---|---|---|---|---|---|
| ICSA01 | Calcium | 265000 | 245000 | 108 | 208000 | 282000 | 09/10/2025 | 11:52 | LB137144 |
| | Copper | 2.32 | 2.0 | 116 | -18 | 22 | 09/10/2025 | 11:52 | LB137144 |
| | Iron | 111000 | 101000 | 110 | 85600 | 116500 | 09/10/2025 | 11:52 | LB137144 |
| | Magnesium | 281000 | 255000 | 110 | 216000 | 294000 | 09/10/2025 | 11:52 | LB137144 |
| | Manganese | 10.8 | 7.0 | 155 | -13 | 27 | 09/10/2025 | 11:52 | LB137144 |
| | Potassium | 200 | | | 0 | 0 | 09/10/2025 | 11:52 | LB137144 |
| | Zinc | 4.41 | | | -40 | 40 | 09/10/2025 | 11:52 | LB137144 |
| ICSAB01 | Calcium | 236000 | 235000 | 100 | 199000 | 271000 | 09/10/2025 | 11:56 | LB137144 |
| | Copper | 471 | 511 | 92 | 434 | 588 | 09/10/2025 | 11:56 | LB137144 |
| | Iron | 97500 | 99300 | 98 | 84400 | 114500 | 09/10/2025 | 11:56 | LB137144 |
| | Magnesium | 251000 | 248000 | 101 | 210000 | 286000 | 09/10/2025 | 11:56 | LB137144 |
| | Manganese | 486 | 507 | 96 | 430 | 584 | 09/10/2025 | 11:56 | LB137144 |
| | Potassium | -95.0 | | | 0 | 0 | 09/10/2025 | 11:56 | LB137144 |
| | Zinc | 1030 | 952 | 108 | 809 | 1095 | 09/10/2025 | 11:56 | LB137144 |

# METAL QC DATA

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# metals
## - 5a -
## MATRIX SPIKE SUMMARY

**client:** Ambric Technology Corporation **level:** low **sdg no.:** Q3068

**contract:** AMBR01 **lab code:** ACE

**matrix:** Solid **sample id:** Q3054-05 **client id:** MH-384MS

**Percent Solids for Sample:** 89.5 **Spiked ID:** Q3054-05MS **Percent Solids for Spike Sample:** 89.5

| Analyte | Units | Acceptance Limit %R | Spiked Result | C | Sample Result | C | Spike Added | % Recovery | Qual | M |
|---|---|---|---|---|---|---|---|---|---|---|
| Calcium | mg/Kg | 75 - 125 | 1450 | | 1210 | | 50.1 | 495 | | P |
| Copper | mg/Kg | 75 - 125 | 19.6 | | 6.77 | | 15.0 | 85 | | P |
| Iron | mg/Kg | 75 - 125 | 11800 | | 10600 | | 150 | 805 | | P |
| Magnesium | mg/Kg | 75 - 125 | 1350 | | 1170 | | 100 | 183 | | P |
| Manganese | mg/Kg | 75 - 125 | 332 | | 320 | | 10.0 | 117 | | P |
| Potassium | mg/Kg | 75 - 125 | 933 | | 412 | | 500 | 104 | | P |
| Zinc | mg/Kg | 75 - 125 | 25.1 | | 13.9 | | 10.0 | 112 | | P |

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# metals
## - 5a -
## MATRIX SPIKE DUPLICATE SUMMARY

**client:** Ambric Technology Corporation **level:** low **sdg no.:** Q3068

**contract:** AMBR01 **lab code:** ACE

**matrix:** Solid **sample id:** Q3054-05 **client id:** MH-384MSD

**Percent Solids for Sample:** 89.5 **Spiked ID:** Q3054-05MSD **Percent Solids for Spike Sample:** 89.5

| Analyte | Units | Acceptance Limit %R | MSD Result | C | Sample Result | C | Spike Added | % Recovery | Qual | M |
|---|---|---|---|---|---|---|---|---|---|---|
| Calcium | mg/Kg | 75 - 125 | 1580 | | 1210 | | 51.3 | 736 | | P |
| Copper | mg/Kg | 75 - 125 | 19.6 | | 6.77 | | 15.4 | 83 | | P |
| Iron | mg/Kg | 75 - 125 | 10900 | | 10600 | | 150 | 230 | | P |
| Magnesium | mg/Kg | 75 - 125 | 1260 | | 1170 | | 100 | 88 | | P |
| Manganese | mg/Kg | 75 - 125 | 330 | | 320 | | 10.3 | 92 | | P |
| Potassium | mg/Kg | 75 - 125 | 946 | | 412 | | 510 | 105 | | P |
| Zinc | mg/Kg | 75 - 125 | 23.8 | | 13.9 | | 10.3 | 97 | | P |

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# Metals
## - 5b -

**Client:** Ambric Technology Corporation **SDG No.:** Q3068

**Contract:** AMBR01 **Lab Code:** ACE

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

**Sample ID:** **Spiked ID:**

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

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# Metals

## - 6 -
## DUPLICATE SAMPLE SUMMARY

**Client:** Ambric Technology Corporation **Level:** LOW **SDG No.:** Q3068

**Contract:** AMBR01 **Lab Code:** ACE

**Matrix:** Solid **Sample ID:** Q3054-05 **Client ID:** MH-384DUP

**Percent Solids for Sample:** 89.5 **Duplicate ID** Q3054-05DUP **Percent Solids for Spike Sample:** 89.5

| Analyte | Units | Acceptance Limit | Sample Result | C | Duplicate Result | C | RPD | Qual | M |
|---|---|---|---|---|---|---|---|---|---|
| Calcium | mg/Kg | 20 | 1210 | | 2060 | | 52 | * | P |
| Copper | mg/Kg | 20 | 6.77 | | 8.58 | | 24 | * | P |
| Iron | mg/Kg | 20 | 10600 | | 12600 | | 17 | | P |
| Magnesium | mg/Kg | 20 | 1170 | | 1300 | | 11 | | P |
| Manganese | mg/Kg | 20 | 320 | | 451 | | 34 | * | P |
| Potassium | mg/Kg | 20 | 412 | | 496 | | 19 | | P |
| Zinc | mg/Kg | 20 | 13.9 | | 18.7 | | 29 | * | P |

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

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# Metals

## - 6 -

## DUPLICATE SAMPLE SUMMARY

**Client:** Ambric Technology Corporation **Level:** LOW **SDG No.:** Q3068

**Contract:** AMBR01 **Lab Code:** ACE

**Matrix:** Solid **Sample ID:** Q3054-05MS **Client ID:** MH-384MSD

**Percent Solids for Sample:** 89.5 **Duplicate ID** Q3054-05MSD **Percent Solids for Spike Sample:** 89.5

| Analyte | Units | Acceptance Limit | Sample Result | C | Duplicate Result | C | RPD | Qual | M |
|---|---|---|---|---|---|---|---|---|---|
| Calcium | mg/Kg | 20 | 1450 | | 1580 | | 9 | | P |
| Copper | mg/Kg | 20 | 19.6 | | 19.6 | | 0 | | P |
| Iron | mg/Kg | 20 | 11800 | | 10900 | | 8 | | P |
| Magnesium | mg/Kg | 20 | 1350 | | 1260 | | 7 | | P |
| Manganese | mg/Kg | 20 | 332 | | 330 | | 1 | | P |
| Potassium | mg/Kg | 20 | 933 | | 946 | | 1 | | P |
| Zinc | mg/Kg | 20 | 25.1 | | 23.8 | | 5 | | P |

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

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## LABORATORY CONTROL SAMPLE SUMMARY

**Client:** Ambric Technology Corporation **SDG No.:** Q3068

**Contract:** AMBR01 **Lab Code:** ACE

| Analyte | Units | True Value | Result | C | % Recovery | Acceptance Limits | M |
|---|---|---|---|---|---|---|---|
| PB169634BS | | | | | | | |
| Calcium | mg/Kg | 50.0 | 48.8 | J | 98 | 80 - 120 | P |
| Copper | mg/Kg | 15.0 | 14.4 | | 96 | 80 - 120 | P |
| Iron | mg/Kg | 150 | 140 | | 93 | 80 - 120 | P |
| Magnesium | mg/Kg | 100 | 98.0 | J | 98 | 80 - 120 | P |
| Manganese | mg/Kg | 10.0 | 9.68 | | 97 | 80 - 120 | P |
| Potassium | mg/Kg | 500 | 496 | | 99 | 80 - 120 | P |
| Zinc | mg/Kg | 10.0 | 9.95 | | 100 | 80 - 120 | P |

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# Metals

## -9 -

## ICP SERIAL DILUTIONS

SAMPLE NO.

MH-384L

**Lab Name:** Alliance **Contract:** AMBR01

**Lab Code:** ACE **Lb No.:** lb137144 **Lab Sample ID :** Q3054-05L **SDG No.:** Q3068

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

**Concentration Units:** mg/Kg

| Analyte | Initial Sample Result (I) | C | Serial Dilution Result (S) | C | % Difference | Q | M |
|---|---|---|---|---|---|---|---|
| Calcium | 1210 | | 1350 | | 12 | | P |
| Copper | 6.77 | | 8.08 | | 19 | | P |
| Iron | 10600 | | 11100 | | 5 | | P |
| Magnesium | 1170 | | 1320 | | 13 | | P |
| Manganese | 320 | | 360 | | 12 | | P |
| Potassium | 412 | | 495 | | 20 | | P |
| Zinc | 13.9 | | 15.2 | | 9 | | P |

# METAL PREPARATION & INSTRUMENT DATA

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# Metals
## - 11 -
## ICP INTERELEMENT CORRECTION FACTORS

**Client:** Ambric Technology Corporation **SDG No.:** Q3068

**Contract:** AMBR01 **Lab Code:** ACE

**Instrument ID:** **Date:**

**Interelement Correction Factors (apparent ppb analyte/ppm interferent )**

| Analyte | Wave-Length (nm) | ICP Interelement Correction Factors For: Al | Ca | Fe | Mg | Ag |
|---|---|---|---|---|---|---|
| Calcium | 373.690 | 0.0000000 | 0.0000000 | -0.0075970 | 0.0000000 | 0.0000000 |
| Copper | 224.700 | 0.0000000 | 0.0000000 | 0.0007850 | 0.0000000 | 0.0000000 |
| Iron | 240.488 | 0.0000000 | 0.0000000 | 0.0000000 | 0.0000000 | 0.0000000 |
| Magnesium | 279.079 | 0.0000000 | 0.0000000 | 0.0000000 | 0.0000000 | 0.0000000 |
| Manganese | 257.610 | 0.0000000 | 0.0000000 | 0.0000000 | 0.0000000 | 0.0000000 |
| Potassium | 766.490 | 0.0000000 | 0.0000000 | 0.0000000 | 0.0000000 | 0.0000000 |
| Zinc | 213.800 | 0.0000000 | 0.0000000 | 0.0001050 | 0.0000000 | 0.0000000 |

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# Metals
## - 11 -
## ICP INTERELEMENT CORRECTION FACTORS

**Client:** Ambric Technology Corporation **SDG No.:** Q3068

**Contract:** AMBR01 **Lab Code:** ACE

**Instrument ID:** **Date:**

**Interelement Correction Factors (apparent ppb analyte/ppm interferent )**

| Analyte | Wave-Length (nm) | ICP Interelement Correction Factors For: As | Ba | Be | Cd | Co |
|---|---|---|---|---|---|---|
| Calcium | 373.690 | 0.0000000 | 0.0000000 | 0.0000000 | 0.0000000 | 0.0000000 |
| Copper | 224.700 | 0.0000000 | 0.0000000 | 0.0000000 | 0.0000000 | 0.0009530 |
| Iron | 240.488 | 0.0000000 | 0.0000000 | 0.0000000 | 0.0000000 | -0.0039600 |
| Magnesium | 279.079 | 0.0000000 | 0.0000000 | 0.0000000 | 0.0000000 | 0.0000000 |
| Manganese | 257.610 | 0.0000000 | 0.0000000 | 0.0000000 | 0.0000000 | 0.0000000 |
| Potassium | 766.490 | 0.0000000 | 0.0000000 | 0.0000000 | 0.0000000 | 0.0000000 |
| Zinc | 213.800 | 0.0000000 | 0.0000000 | 0.0000000 | 0.0000000 | 0.0000000 |

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# Metals
## - 11 -
## ICP INTERELEMENT CORRECTION FACTORS

**Client:** Ambric Technology Corporation **SDG No.:** Q3068

**Contract:** AMBR01 **Lab Code:** ACE

**Instrument ID:** **Date:**

**Interelement Correction Factors (apparent ppb analyte/ppm interferent )**

| Analyte | Wave-Length (nm) | ICP Interelement Correction Factors For: Cr | Cu | K | Mn | Mo |
|---|---|---|---|---|---|---|
| Calcium | 373.690 | 0.0000000 | 0.0000000 | 0.0000000 | 0.0000000 | 0.0000000 |
| Copper | 224.700 | 0.0000000 | 0.0000000 | 0.0000000 | 0.0006510 | 0.0020500 |
| Iron | 240.488 | 0.0000000 | 0.0000000 | 0.0000730 | 0.0000000 | -0.0015250 |
| Magnesium | 279.079 | 0.0000000 | 0.0000000 | 0.0000000 | 0.0000000 | 0.0000000 |
| Manganese | 257.610 | 0.0000000 | 0.0000000 | 0.0000000 | 0.0000000 | 0.0000000 |
| Potassium | 766.490 | 0.0000000 | 0.0000000 | 0.0000000 | 0.0000000 | 0.0000000 |
| Zinc | 213.800 | 0.0000000 | 0.0009010 | 0.0000000 | 0.0000000 | 0.0000000 |

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# Metals
## - 11 -
## ICP INTERELEMENT CORRECTION FACTORS

**Client:** Ambric Technology Corporation **SDG No.:** Q3068

**Contract:** AMBR01 **Lab Code:** ACE

**Instrument ID:** **Date:**

**Interelement Correction Factors (apparent ppb analyte/ppm interferent )**

| Analyte | Wave-Length (nm) | ICP Interelement Correction Factors For: Na | Ni | Pb | Sb | Se |
|---|---|---|---|---|---|---|
| Calcium | 373.690 | 0.0000000 | 0.0000000 | 0.0000000 | 0.0000000 | 0.0000000 |
| Copper | 224.700 | 0.0000000 | -0.0047000 | 0.0036100 | 0.0000000 | 0.0000000 |
| Iron | 240.488 | 0.0000000 | -0.0017000 | 0.0000000 | 0.0000000 | 0.0000000 |
| Magnesium | 279.079 | 0.0000000 | 0.0000000 | 0.0000000 | 0.0000000 | 0.0000000 |
| Manganese | 257.610 | 0.0000000 | 0.0000000 | 0.0000000 | 0.0000000 | 0.0000000 |
| Potassium | 766.490 | 0.0000000 | 0.0000000 | 0.0000000 | 0.0000000 | 0.0000000 |
| Zinc | 213.800 | 0.0000000 | 0.0067600 | 0.0000000 | 0.0000000 | 0.0000000 |

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# Metals
## - 11 -
## ICP INTERELEMENT CORRECTION FACTORS

**Client:** Ambric Technology Corporation **SDG No.:** Q3068

**Contract:** AMBR01 **Lab Code:** ACE

**Instrument ID:** **Date:**

**Interelement Correction Factors (apparent ppb analyte/ppm interferent )**

| Analyte | Wave-Length (nm) | ICP Interelement Correction Factors For: Sn | Ti | Tl | V | Zn |
|---|---|---|---|---|---|---|
| Calcium | 373.690 | 0.0000000 | 0.0000000 | 0.0000000 | 0.0000000 | 0.0000000 |
| Copper | 224.700 | 0.0000000 | 0.0003840 | 0.0000000 | 0.0000000 | 0.0000000 |
| Iron | 240.488 | 0.0000000 | 0.0000000 | 0.0000000 | 0.0000000 | 0.0000000 |
| Magnesium | 279.079 | 0.0000000 | 0.0000000 | 0.0000000 | 0.0000000 | 0.0000000 |
| Manganese | 257.610 | 0.0000000 | 0.0000000 | 0.0000000 | 0.0000000 | 0.0000000 |
| Potassium | 766.490 | 0.0000000 | 0.0000000 | 0.0000000 | 0.0000000 | 0.0000000 |
| Zinc | 213.800 | 0.0000000 | 0.0000000 | 0.0000000 | 0.0000000 | 0.0000000 |

# METAL PREPARATION & ANALYICAL SUMMARY

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# Metals
## - 13 -
## SAMPLE PREPARATION SUMMARY

**Client:** Ambric Technology Corporation **SDG No.:** Q3068

**Contract:** AMBR01 **Lab Code:** ACE **Method:**

| Sample ID | Client ID | Sample Type | Matrix | Prep Date | Initial Sample Size(g) | Final Sample Volume (mL) | Percent Solids |
|---|---|---|---|---|---|---|---|
| **Batch Number:** | **PB169634** | | | | | | |
| PB169634BL | PB169634BL | MB | SOLID | 09/10/2025 | 2.00 | 100.0 | 100.00 |
| PB169634BS | PB169634BS | LCS | SOLID | 09/10/2025 | 2.00 | 100.0 | 100.00 |
| Q3054-05DUP | MH-384DUP | DUP | SOLID | 09/10/2025 | 2.21 | 100.0 | 89.50 |
| Q3054-05MS | MH-384MS | MS | SOLID | 09/10/2025 | 2.23 | 100.0 | 89.50 |
| Q3054-05MSD | MH-384MSD | MSD | SOLID | 09/10/2025 | 2.18 | 100.0 | 89.50 |
| Q3068-01 | AMBRIC-TECH-9-9 | SAM | SOLID | 09/10/2025 | 2.14 | 100.0 | 89.00 |

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**metals**
**- 14 -**
**ANALYSIS RUN LOG**

**Client:** Ambric Technology Corporation **Contract:** AMBR01

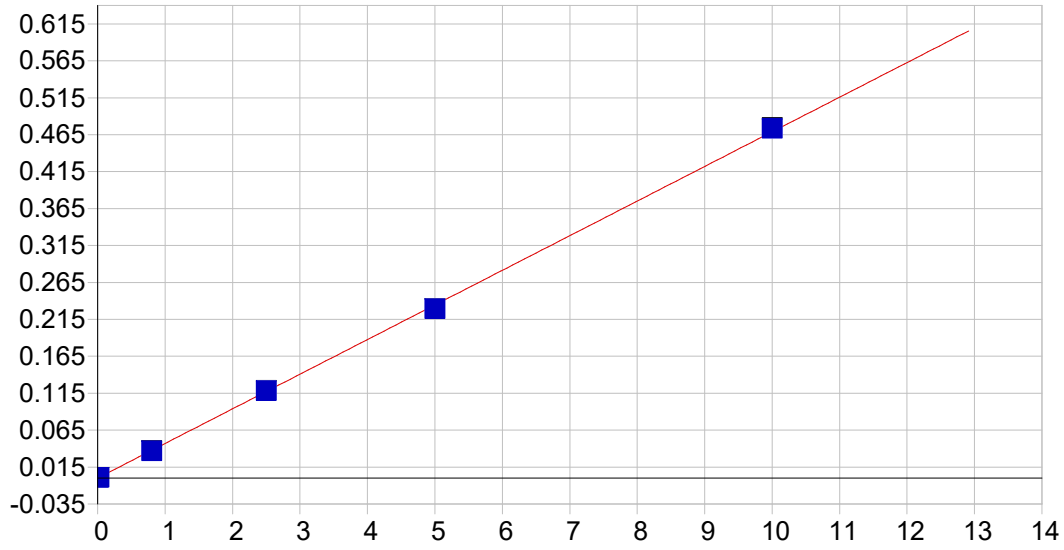
**Lab code:** ACE **Sdg no.:** Q3068

**Instrument id number:** **Method:** **Run number:** LB137144

**Start date:** 09/10/2025 **End date:** 09/10/2025

| Lab sample id. | Client Sample Id | d/f | Time | Parameter list |
|---|---|---|---|---|
| S0 | S0 | 1 | 1106 | Ca,Cu,Fe,K,Mg,Mn,Zn |
| S1 | S1 | 1 | 1110 | Ca,Cu,Fe,K,Mg,Mn,Zn |
| S2 | S2 | 1 | 1114 | Ca,Cu,Fe,K,Mg,Mn,Zn |
| S3 | S3 | 1 | 1119 | Ca,Cu,Fe,K,Mg,Mn,Zn |
| S4 | S4 | 1 | 1123 | Ca,Cu,Fe,K,Mg,Mn,Zn |
| S5 | S5 | 1 | 1127 | Ca,Cu,Fe,K,Mg,Mn,Zn |
| ICV01 | ICV01 | 1 | 1131 | Ca,Cu,Fe,K,Mg,Mn,Zn |
| LLICV01 | LLICV01 | 1 | 1139 | Ca,Cu,Fe,K,Mg,Mn,Zn |
| ICB01 | ICB01 | 1 | 1143 | Ca,Cu,Fe,K,Mg,Mn,Zn |
| CRI01 | CRI01 | 1 | 1148 | Ca,Cu,Fe,K,Mg,Mn,Zn |
| ICSA01 | ICSA01 | 1 | 1152 | Ca,Cu,Fe,K,Mg,Mn,Zn |
| ICSAB01 | ICSAB01 | 1 | 1156 | Ca,Cu,Fe,K,Mg,Mn,Zn |
| CCV01 | CCV01 | 1 | 1209 | Ca,Cu,Fe,K,Mg,Mn,Zn |
| CCB01 | CCB01 | 1 | 1213 | Ca,Cu,Fe,K,Mg,Mn,Zn |
| CCV02 | CCV02 | 1 | 1314 | Ca,Cu,Fe,K,Mg,Mn,Zn |
| CCB02 | CCB02 | 1 | 1318 | Ca,Cu,Fe,K,Mg,Mn,Zn |
| CCV03 | CCV03 | 1 | 1404 | Ca,Cu,Fe,K,Mg,Mn,Zn |
| CCB03 | CCB03 | 1 | 1425 | Ca,Cu,Fe,K,Mg,Mn,Zn |
| PB169634BS | PB169634BS | 1 | 1517 | Ca,Cu,Fe,K,Mg,Mn,Zn |
| PB169634BL | PB169634BL | 1 | 1523 | Ca,Cu,Fe,K,Mg,Mn,Zn |
| CCV04 | CCV04 | 1 | 1527 | Ca,Cu,Fe,K,Mg,Mn,Zn |
| CCB04 | CCB04 | 1 | 1531 | Ca,Cu,Fe,K,Mg,Mn,Zn |
| Q3054-05DUP | MH-384DUP | 1 | 1551 | Ca,Cu,Fe,K,Mg,Mn,Zn |
| Q3054-05L | MH-384L | 5 | 1556 | Ca,Cu,Fe,K,Mg,Mn,Zn |
| Q3054-05MS | MH-384MS | 1 | 1600 | Ca,Cu,Fe,K,Mg,Mn,Zn |
| Q3054-05MSD | MH-384MSD | 1 | 1604 | Ca,Cu,Fe,K,Mg,Mn,Zn |
| Q3068-01 | AMBRIC-TECH-9-9 | 1 | 1612 | Ca,Cu,Fe,K,Mg,Mn,Zn |
| CCV05 | CCV05 | 1 | 1616 | Ca,Cu,Fe,K,Mg,Mn,Zn |
| CCB05 | CCB05 | 1 | 1620 | Ca,Cu,Fe,K,Mg,Mn,Zn |
| CCV06 | CCV06 | 1 | 1643 | Ca,Cu,Fe,K,Mg,Mn,Zn |
| CCB06 | CCB06 | 1 | 1648 | Ca,Cu,Fe,K,Mg,Mn,Zn |

# METAL
# RAW DATA

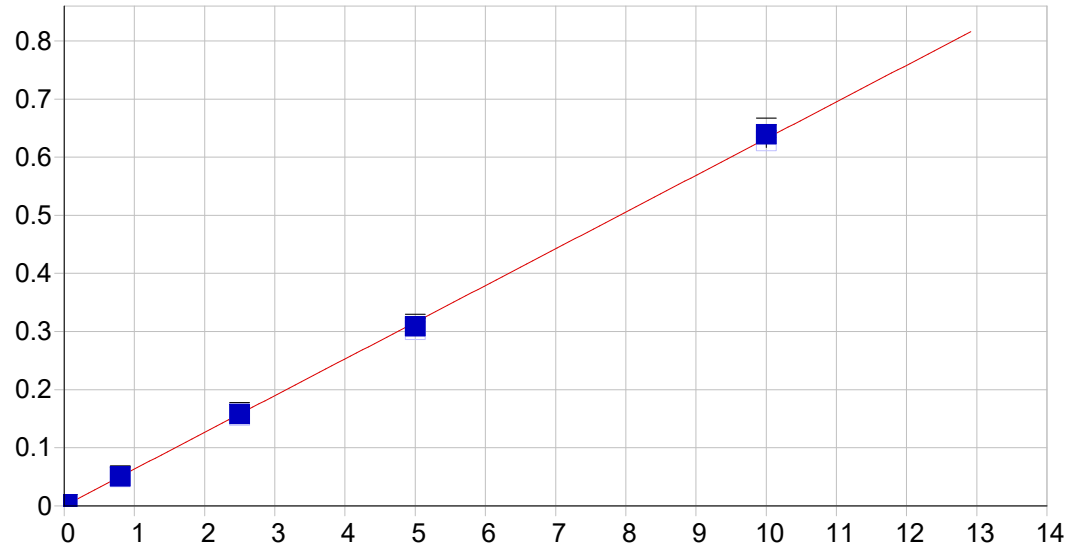



**As 189.042 {479}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 9/10/2025 15:12:09 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000046 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.046883 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999891 | Status: | OK. |
| Std Error of Est: | 0.000016 | | |
| Predicted MDL: | 0.002254 | | |
| Predicted MQL: | 0.007514 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| S0 | .00000 | .00000 | .000 | .000 | .00005 | .000 | 1 |
| S1 | .02000 | .01975 | -.000 | -1.24 | .00097 | .000 | 1 |
| S3 | 2.5000 | 2.5241 | .024 | .965 | .11826 | .000 | 1 |
| S4 | 5.0000 | 4.8922 | -.108 | -2.16 | .22916 | .000 | 1 |
| S5 | 10.000 | 10.102 | .102 | 1.02 | .47316 | .001 | 1 |
| S2 | .80000 | .78206 | -.018 | -2.24 | .03667 | .000 | 1 |

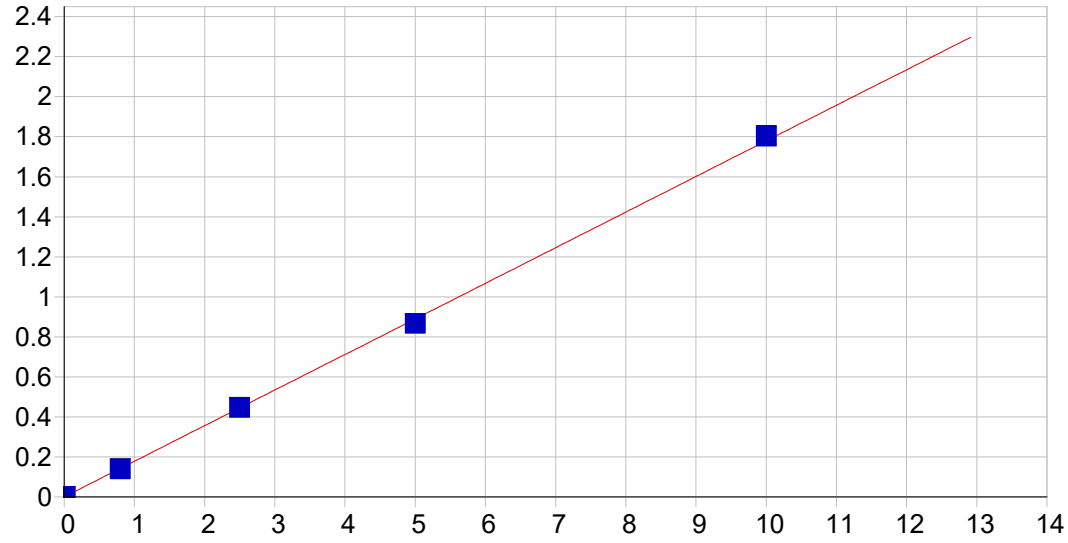



**Tl 190.856 {477}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 9/10/2025 15:12:09 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000192 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.063165 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999889 | Status: | OK. |
| Std Error of Est: | 0.000031 | | |
| Predicted MDL: | 0.002494 | | |
| Predicted MQL: | 0.008314 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| S0 | .00000 | -.00000 | -.000 | .000 | .00019 | .000 | 1 |
| S1 | .04000 | .04100 | .001 | 2.50 | .00262 | .000 | 1 |
| S3 | 2.5000 | 2.5000 | .000 | .002 | .15523 | .002 | 1 |
| S4 | 5.0000 | 4.8864 | -.114 | -2.27 | .30308 | .004 | 1 |
| S5 | 10.000 | 10.115 | .115 | 1.15 | .62755 | .011 | 1 |
| S2 | .80000 | .79812 | -.002 | -.235 | .04968 | .001 | 1 |

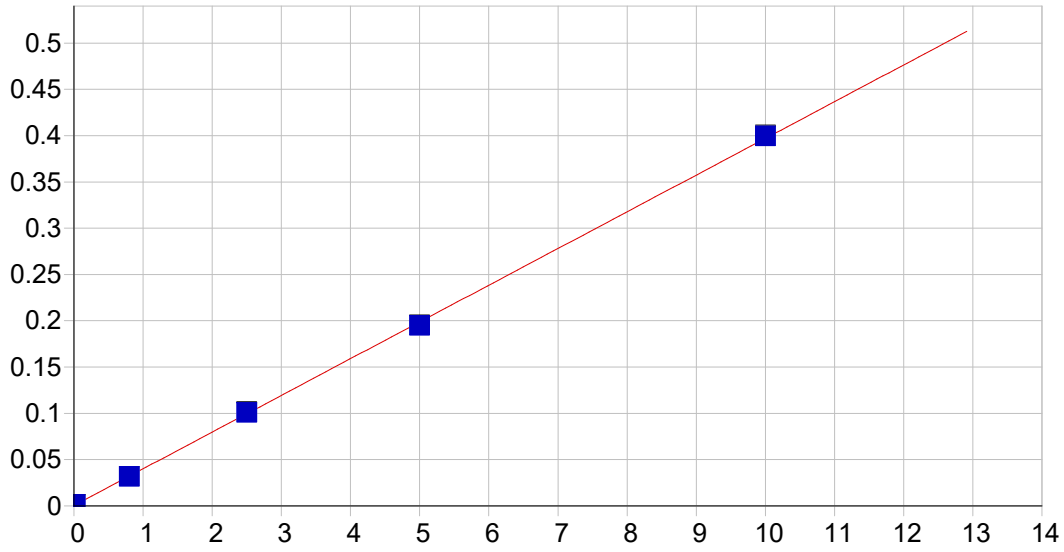



**Pb 220.353 {453}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 9/10/2025 15:12:09 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000173 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.177881 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999850 | Status: | OK. |
| Std Error of Est: | 0.000056 | | |
| Predicted MDL: | 0.001403 | | |
| Predicted MQL: | 0.004677 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| S0 | .00000 | .00000 | .000 | .000 | .00017 | .000 | 1 |
| S1 | .01200 | .01165 | -.000 | -2.89 | .00220 | .000 | 1 |
| S3 | 2.5000 | 2.5086 | .009 | .345 | .44592 | .001 | 1 |
| S4 | 5.0000 | 4.8712 | -.129 | -2.58 | .86567 | .000 | 1 |
| S5 | 10.000 | 10.136 | .136 | 1.36 | 1.8011 | .002 | 1 |
| S2 | .80000 | .78494 | -.015 | -1.88 | .13964 | .001 | 1 |

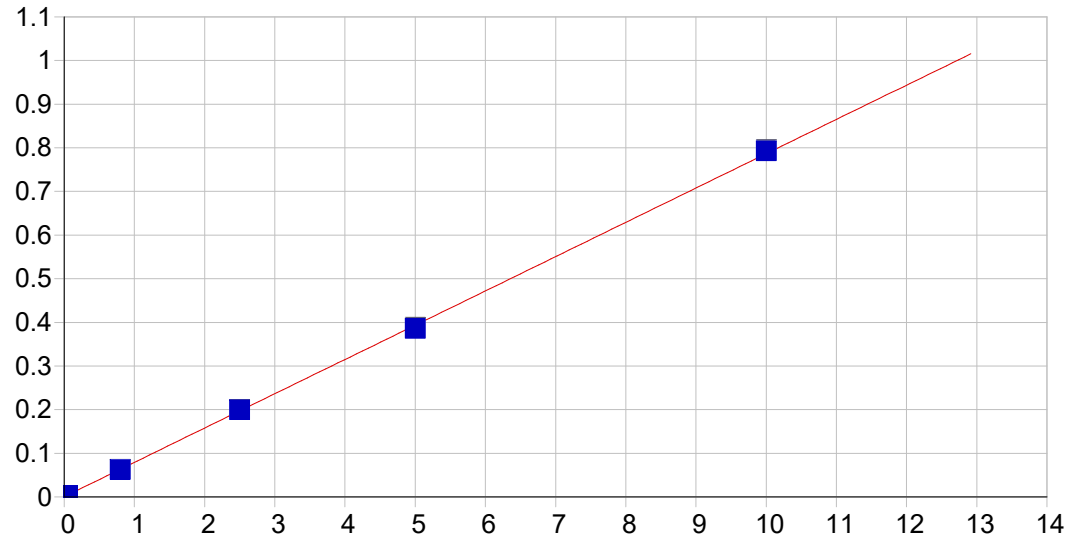



**Se 196.090 {472}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 9/10/2025 15:12:09 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000438 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.039660 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999920 | Status: | OK. |
| Std Error of Est: | 0.000012 | | |
| Predicted MDL: | 0.003296 | | |
| Predicted MQL: | 0.010986 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| S0 | .00000 | -.00000 | -.000 | .000 | .00044 | .000 | 1 |
| S1 | .02000 | .02032 | .000 | 1.62 | .00124 | .000 | 1 |
| S3 | 2.5000 | 2.5367 | .037 | 1.47 | .10102 | .000 | 1 |
| S4 | 5.0000 | 4.9045 | -.096 | -1.91 | .19490 | .000 | 1 |
| S5 | 10.000 | 10.068 | .068 | .680 | .39963 | .001 | 1 |
| S2 | .80000 | .79047 | -.010 | -1.19 | .03178 | .000 | 1 |

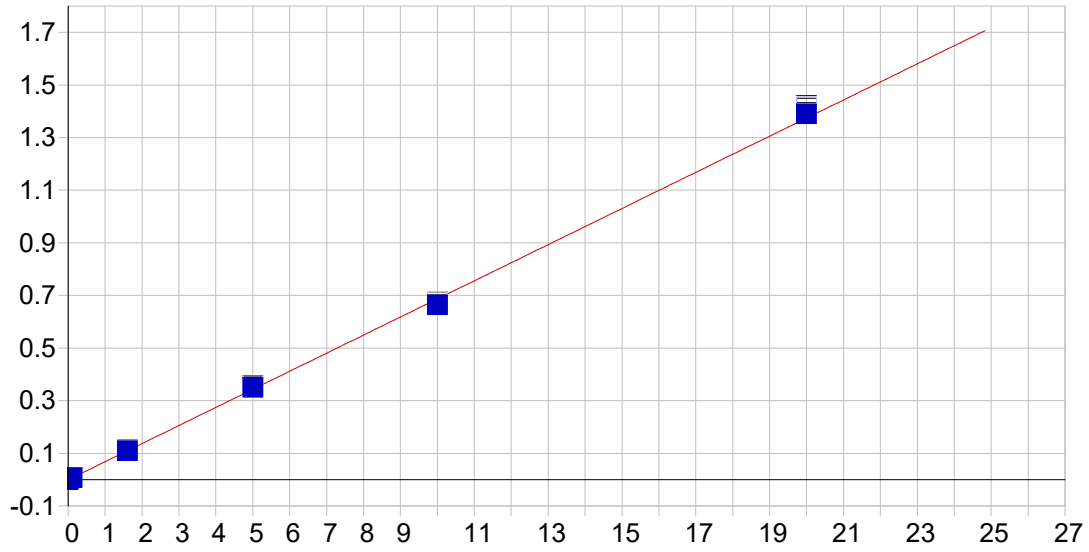



**Sb 206.833 {463}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 9/10/2025 15:12:09 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000556 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.078585 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999924 | Status: | OK. |
| Std Error of Est: | 0.000036 | | |
| Predicted MDL: | 0.002121 | | |
| Predicted MQL: | 0.007069 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| S0 | .00000 | .00000 | .000 | .000 | .00056 | .000 | 1 |
| S1 | .05000 | .05052 | .001 | 1.05 | .00453 | .000 | 1 |
| S3 | 2.5000 | 2.5266 | .027 | 1.06 | .19964 | .000 | 1 |
| S4 | 5.0000 | 4.9061 | -.094 | -1.88 | .38717 | .001 | 1 |
| S5 | 10.000 | 10.077 | .077 | .774 | .79462 | .001 | 1 |
| S2 | .80000 | .78946 | -.011 | -1.32 | .06277 | .000 | 1 |

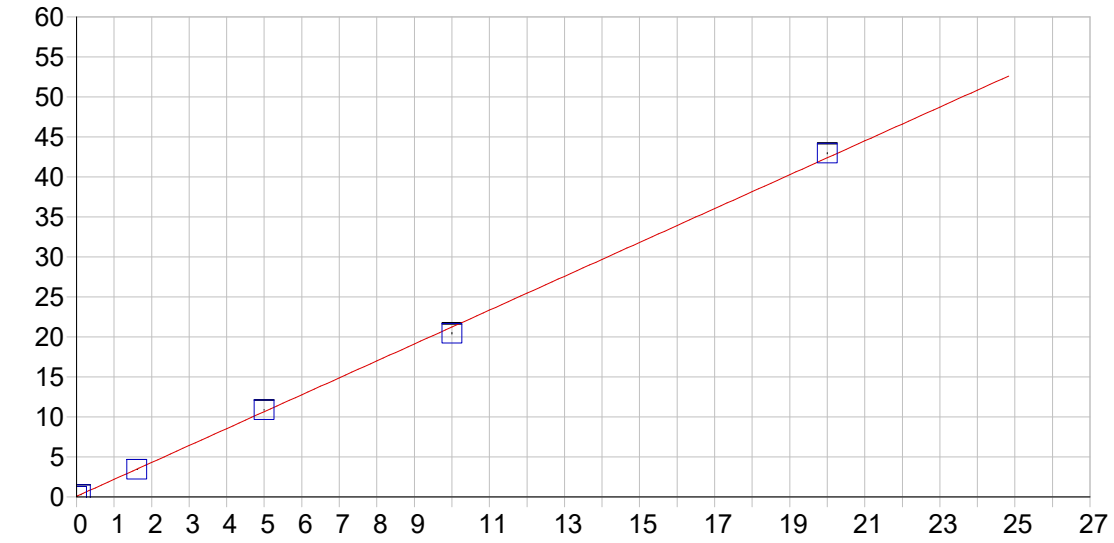



**Al 396.152 { 85}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 9/10/2025 15:12:09 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000552 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.068739 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999786 | Status: | OK. |
| Std Error of Est: | 0.000107 | | |
| Predicted MDL: | 0.011646 | | |
| Predicted MQL: | 0.038821 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| S0 | .00000 | -.00001 | -.000 | .000 | -.00055 | .000 | 1 |
| S1 | .10000 | .10642 | .006 | 6.42 | .00730 | .001 | 1 |
| S3 | 5.0000 | 5.0933 | .093 | 1.87 | .35622 | .001 | 1 |
| S4 | 10.000 | 9.6619 | -.338 | -3.38 | .67693 | .000 | 1 |
| S5 | 20.000 | 20.233 | .233 | 1.16 | 1.4169 | .005 | 1 |
| S2 | 1.6000 | 1.6052 | .005 | .325 | .11192 | .001 | 1 |

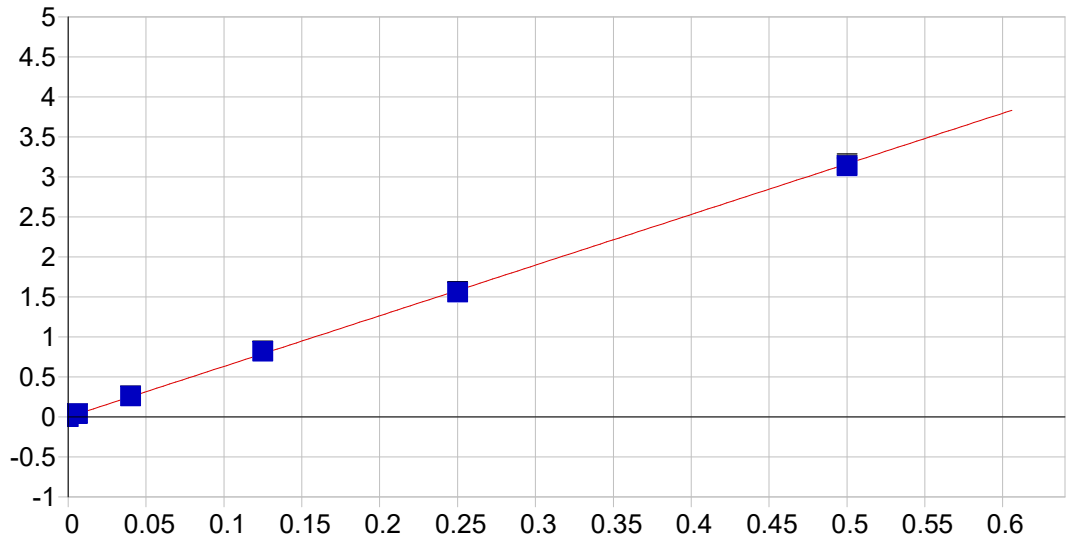



**Ba 493.409 { 68}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 9/10/2025 15:12:09 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.075431 | Re-Slope: | 1.000000 |
| A1 (Gain): | 2.115509 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999735 | Status: | OK. |
| Std Error of Est: | 0.003609 | | |
| Predicted MDL: | 0.001043 | | |
| Predicted MQL: | 0.003475 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| S0 | .00000 | -.00000 | -.000 | .000 | .07543 | .002 | 1 |
| S1 | .10000 | .10168 | .002 | 1.68 | .29054 | .001 | 1 |
| S3 | 5.0000 | 5.1035 | .103 | 2.07 | 10.872 | .049 | 1 |
| S4 | 10.000 | 9.6319 | -.368 | -3.68 | 20.452 | .110 | 1 |
| S5 | 20.000 | 20.271 | .271 | 1.35 | 42.959 | .081 | 1 |
| S2 | 1.6000 | 1.5921 | -.008 | -.495 | 3.4435 | .012 | 1 |

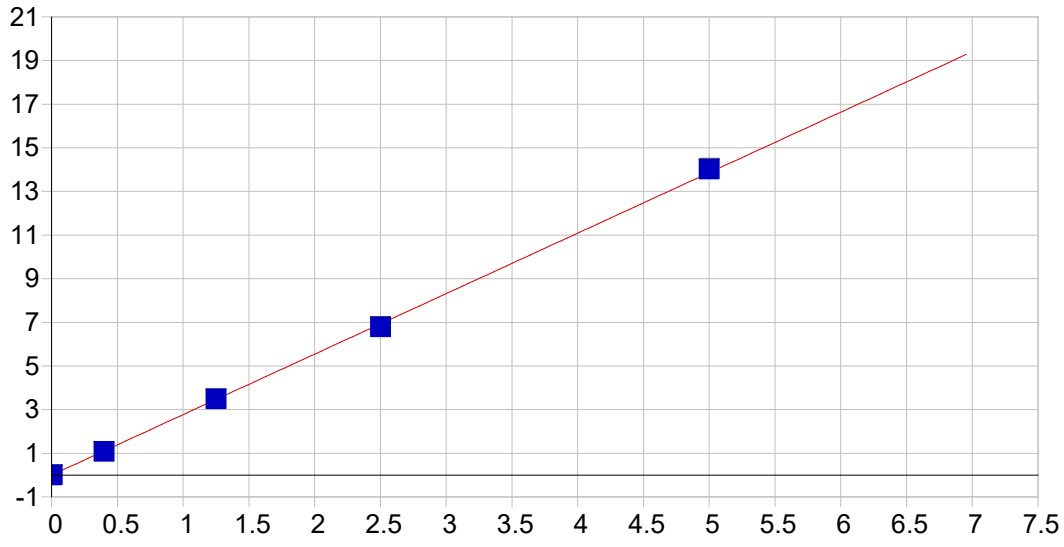



**Be 234.861 {144}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 9/10/2025 15:12:09 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.001506 | Re-Slope: | 1.000000 |
| A1 (Gain): | 6.329007 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999821 | Status: | OK. |
| Std Error of Est: | 0.000343 | | |
| Predicted MDL: | 0.000075 | | |
| Predicted MQL: | 0.000249 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| S0 | .00000 | -.00000 | -.000 | .000 | -.00151 | .001 | 1 |
| S1 | .00600 | .00644 | .000 | 7.37 | .03898 | .000 | 1 |
| S3 | .12500 | .12979 | .005 | 3.83 | .81636 | .002 | 1 |
| S4 | .25000 | .24678 | -.003 | -1.29 | 1.5533 | .006 | 1 |
| S5 | .50000 | .49663 | -.003 | -.675 | 3.1275 | .022 | 1 |
| S2 | .04000 | .04136 | .001 | 3.41 | .25914 | .002 | 1 |

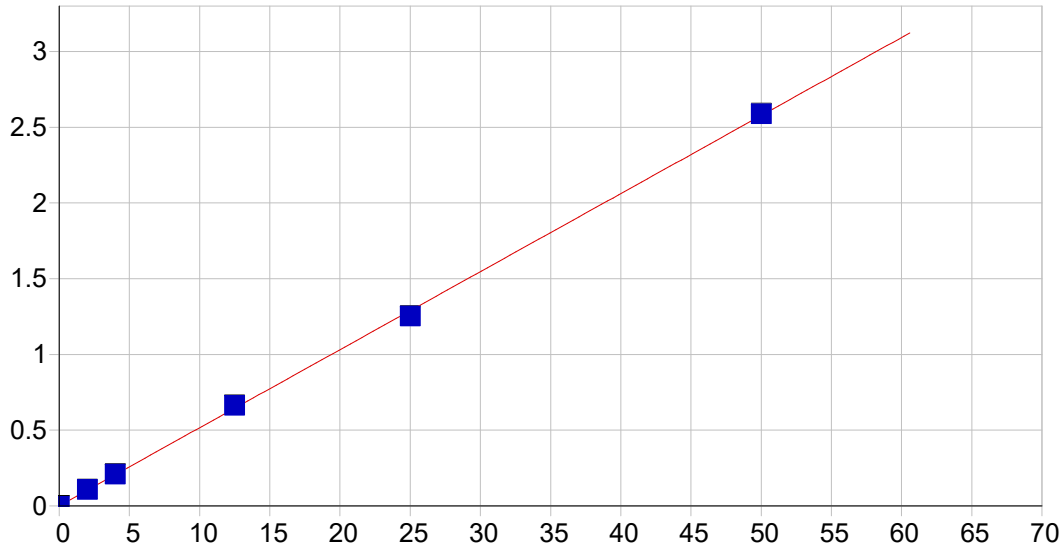



**Cd 226.502 {449}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 9/10/2025 15:12:09 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000277 | Re-Slope: | 1.000000 |
| A1 (Gain): | 2.772502 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999884 | Status: | OK. |
| Std Error of Est: | 0.000383 | | |
| Predicted MDL: | 0.000077 | | |
| Predicted MQL: | 0.000257 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| S0 | .00000 | .00000 | .000 | .000 | -.00028 | .000 | 1 |
| S1 | .00600 | .00612 | .000 | 2.02 | .01675 | .000 | 1 |
| S3 | 1.2500 | 1.2560 | .006 | .477 | 3.4842 | .005 | 1 |
| S4 | 2.5000 | 2.4480 | -.052 | -2.08 | 6.7914 | .005 | 1 |
| S5 | 5.0000 | 5.0577 | .058 | 1.15 | 14.031 | .032 | 1 |
| S2 | .40000 | .38818 | -.012 | -2.96 | 1.0767 | .003 | 1 |

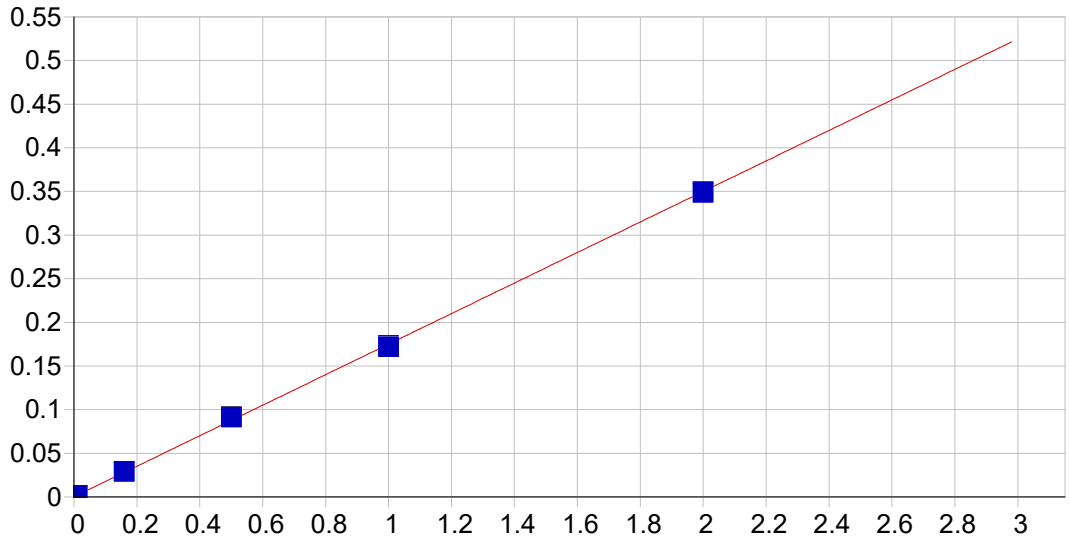



**Ca 373.690 { 90}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 9/10/2025 15:12:09 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000815 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.051527 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999805 | Status: | OK. |
| Std Error of Est: | 0.000539 | | |
| Predicted MDL: | 0.012217 | | |
| Predicted MQL: | 0.040724 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| S0 | .00000 | -.00013 | -.000 | .000 | .00081 | .000 | 1 |
| S2 | 4.0000 | 4.0544 | .054 | 1.36 | .20973 | .001 | 1 |
| S3 | 12.500 | 12.855 | .355 | 2.84 | .66322 | .001 | 1 |
| S4 | 25.000 | 24.282 | -.718 | -2.87 | 1.2520 | .003 | 1 |
| S5 | 50.000 | 50.219 | .219 | .437 | 2.5885 | .004 | 1 |
| S1 | 2.0000 | 2.0899 | .090 | 4.50 | .10850 | .001 | 1 |

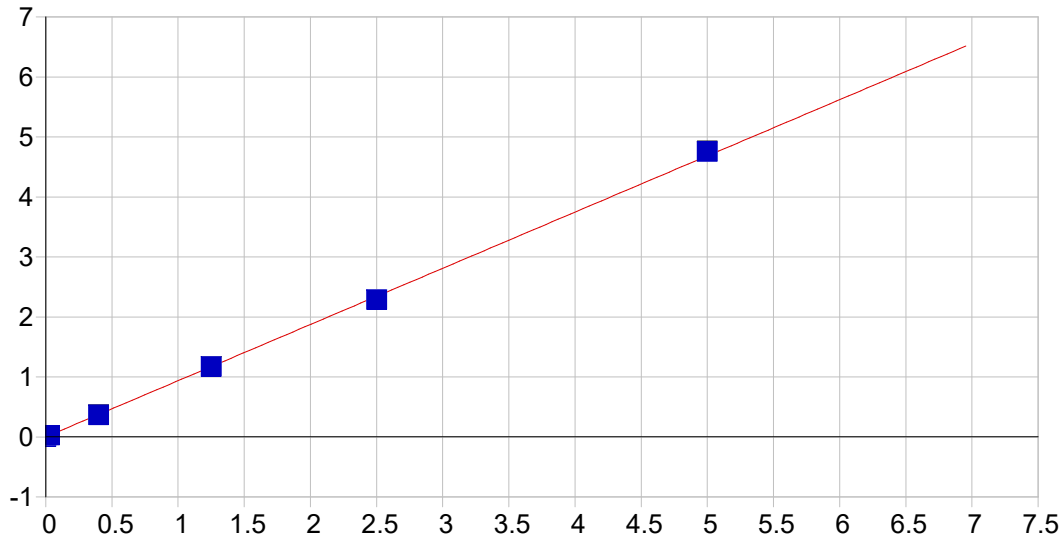



**Cr 267.716 {126}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 9/10/2025 15:12:09 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000167 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.174906 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999821 | Status: | OK. |
| Std Error of Est: | 0.000025 | | |
| Predicted MDL: | 0.000366 | | |
| Predicted MQL: | 0.001219 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| S0 | .00000 | -.00000 | -.000 | .000 | .00017 | .000 | 1 |
| S1 | .01000 | .01046 | .000 | 4.59 | .00200 | .000 | 1 |
| S3 | .50000 | .52087 | .021 | 4.17 | .09134 | .000 | 1 |
| S4 | 1.0000 | .98290 | -.017 | -1.71 | .17222 | .001 | 1 |
| S5 | 2.0000 | 1.9918 | -.008 | -.408 | .34883 | .001 | 1 |
| S2 | .16000 | .16393 | .004 | 2.46 | .02886 | .000 | 1 |

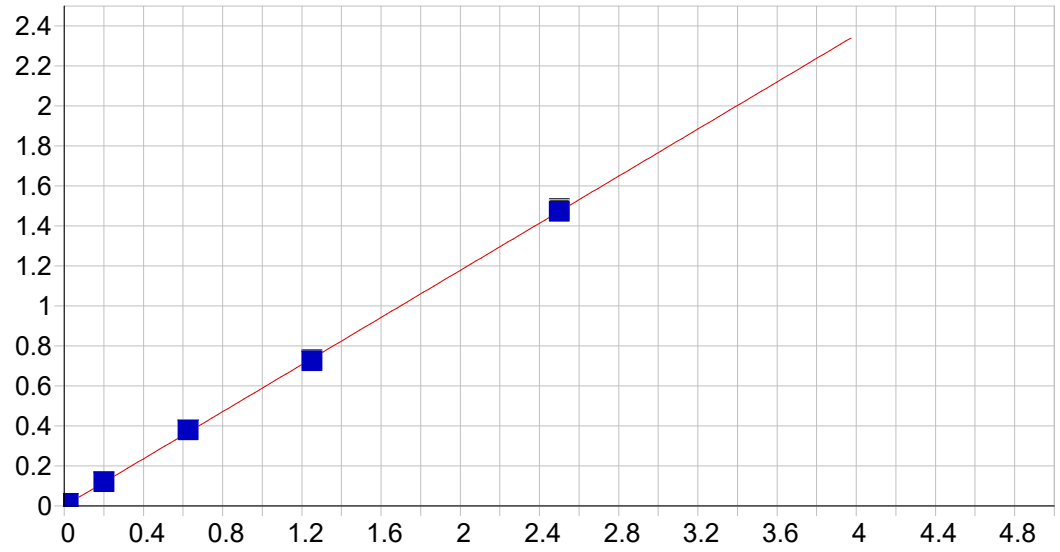



**Co 228.616 {448}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 9/10/2025 15:12:09 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000116 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.936701 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999841 | Status: | OK. |
| Std Error of Est: | 0.000340 | | |
| Predicted MDL: | 0.000202 | | |
| Predicted MQL: | 0.000672 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| S0 | .00000 | .00000 | .000 | .000 | .00012 | .000 | 1 |
| S1 | .03000 | .03005 | .000 | .174 | .02815 | .000 | 1 |
| S3 | 1.2500 | 1.2487 | -.001 | -.102 | 1.1718 | .001 | 1 |
| S4 | 2.5000 | 2.4390 | -.061 | -2.44 | 2.2887 | .001 | 1 |
| S5 | 5.0000 | 5.0739 | .074 | 1.48 | 4.7608 | .005 | 1 |
| S2 | .40000 | .38831 | -.012 | -2.92 | .36448 | .001 | 1 |

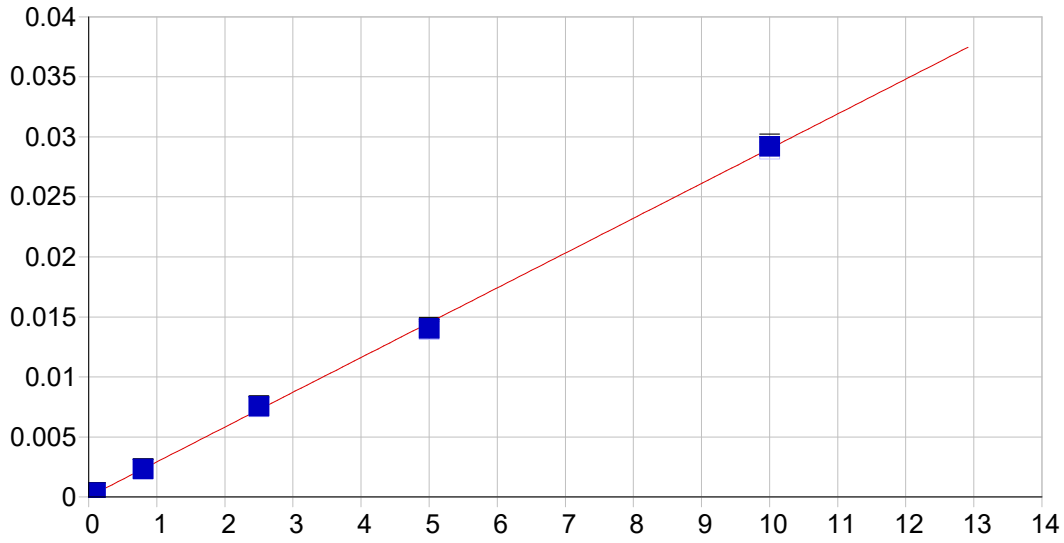



**Cu 224.700 {450}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 9/10/2025 15:12:09 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000294 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.589004 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999895 | Status: | OK. |
| Std Error of Est: | 0.000101 | | |
| Predicted MDL: | 0.000434 | | |
| Predicted MQL: | 0.001445 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| S0 | .00000 | -.00000 | -.000 | .000 | .00029 | .000 | 1 |
| S1 | .02000 | .02138 | .001 | 6.92 | .01302 | .000 | 1 |
| S3 | .62500 | .64278 | .018 | 2.84 | .38196 | .000 | 1 |
| S4 | 1.2500 | 1.2293 | -.021 | -1.65 | .73051 | .000 | 1 |
| S5 | 2.5000 | 2.4988 | -.001 | -.049 | 1.4843 | .003 | 1 |
| S2 | .20000 | .20273 | .003 | 1.37 | .12068 | .001 | 1 |

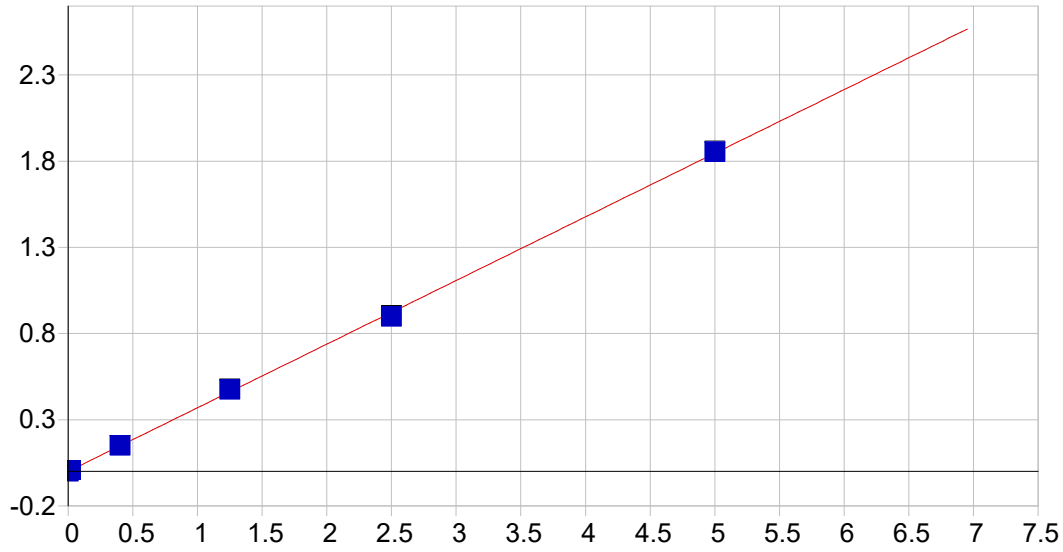



**Fe 240.488 {140}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 9/10/2025 15:12:09 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000017 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.002900 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999702 | Status: | OK. |
| Std Error of Est: | 0.000004 | | |
| Predicted MDL: | 0.007028 | | |
| Predicted MQL: | 0.023427 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| S0 | .00000 | -.00001 | -.000 | .000 | .00002 | .000 | 1 |
| S1 | .10000 | .10974 | .010 | 9.74 | .00033 | .000 | 1 |
| S3 | 2.5000 | 2.5985 | .099 | 3.94 | .00749 | .000 | 1 |
| S4 | 5.0000 | 4.8338 | -.166 | -3.32 | .01391 | .000 | 1 |
| S5 | 10.000 | 10.063 | .063 | .633 | .02895 | .000 | 1 |
| S2 | .80000 | .79468 | -.005 | -.664 | .00230 | .000 | 1 |

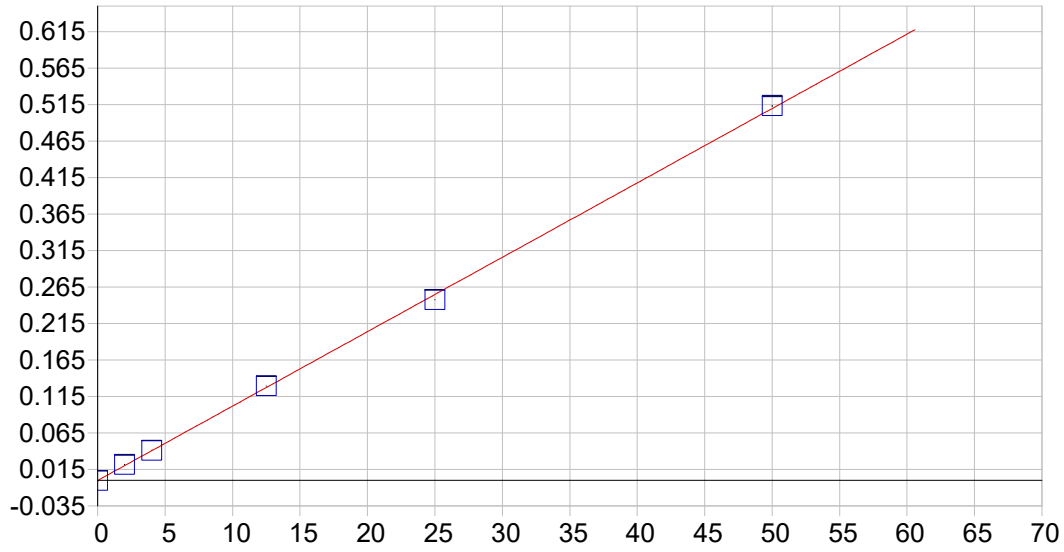



**Mn 257.610 {131}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 9/10/2025 15:12:09 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000275 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.369156 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999829 | Status: | OK. |
| Std Error of Est: | 0.000113 | | |
| Predicted MDL: | 0.000624 | | |
| Predicted MQL: | 0.002079 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| S0 | .00000 | -.00000 | -.000 | .000 | .00027 | .000 | 1 |
| S1 | .02000 | .02148 | .001 | 7.41 | .00821 | .000 | 1 |
| S3 | 1.2500 | 1.2864 | .036 | 2.91 | .47525 | .003 | 1 |
| S4 | 2.5000 | 2.4334 | -.067 | -2.66 | .89876 | .007 | 1 |
| S5 | 5.0000 | 5.0228 | .023 | .457 | 1.8549 | .003 | 1 |
| S2 | .40000 | .40587 | .006 | 1.47 | .15014 | .001 | 1 |

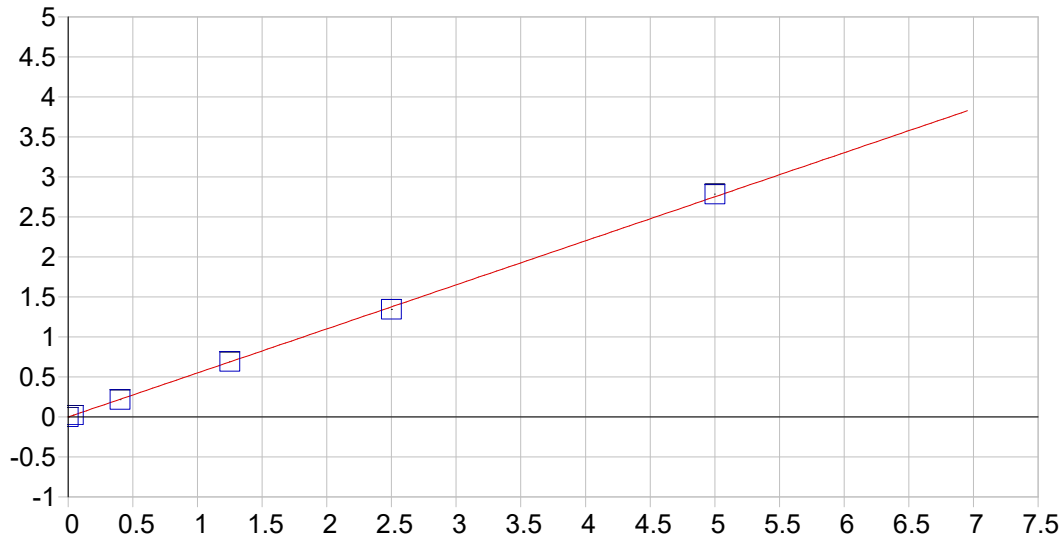



**Mg 279.079 {121}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 9/10/2025 15:12:09 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000195 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.010197 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999808 | Status: | OK. |
| Std Error of Est: | 0.000106 | | |
| Predicted MDL: | 0.029011 | | |
| Predicted MQL: | 0.096704 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| S0 | .00000 | -.00015 | -.000 | .000 | -.00020 | .000 | 1 |
| S2 | 4.0000 | 4.0359 | .036 | .897 | .04096 | .000 | 1 |
| S3 | 12.500 | 12.711 | .211 | 1.69 | .12942 | .000 | 1 |
| S4 | 25.000 | 24.288 | -.712 | -2.85 | .24747 | .000 | 1 |
| S5 | 50.000 | 50.327 | .327 | .654 | .51298 | .001 | 1 |
| S1 | 2.0000 | 2.1382 | .138 | 6.91 | .02161 | .001 | 1 |

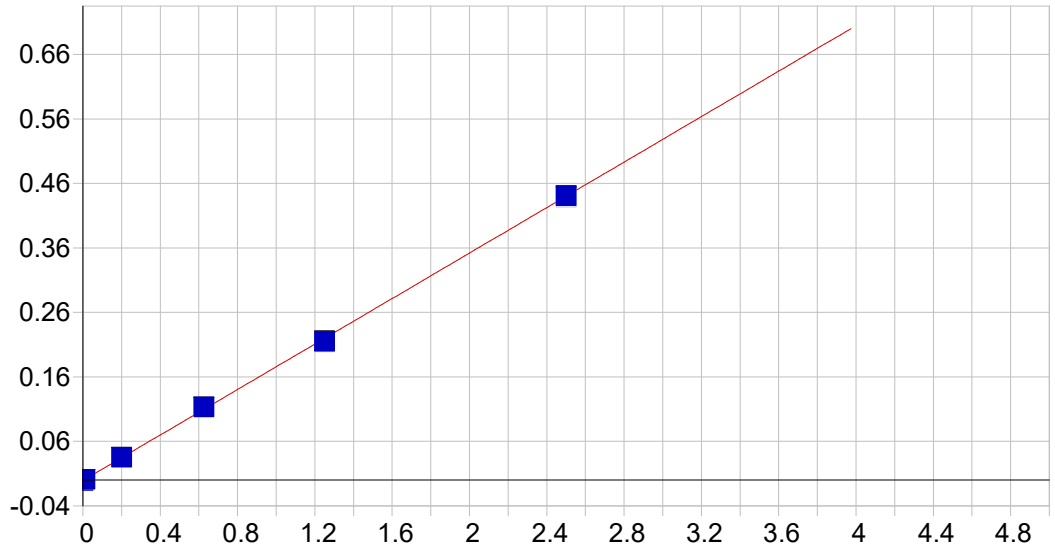



**Ni 231.604 {446}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 9/10/2025 15:12:09 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000750 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.550496 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999874 | Status: | OK. |
| Std Error of Est: | 0.000205 | | |
| Predicted MDL: | 0.000366 | | |
| Predicted MQL: | 0.001222 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| S0 | .00000 | -.00000 | -.000 | .000 | -.00075 | .000 | 1 |
| S1 | .04000 | .04143 | .001 | 3.57 | .02206 | .000 | 1 |
| S3 | 1.2500 | 1.2561 | .006 | .488 | .69073 | .001 | 1 |
| S4 | 2.5000 | 2.4415 | -.059 | -2.34 | 1.3433 | .000 | 1 |
| S5 | 5.0000 | 5.0591 | .059 | 1.18 | 2.7843 | .005 | 1 |
| S2 | .40000 | .39185 | -.008 | -2.04 | .21496 | .001 | 1 |

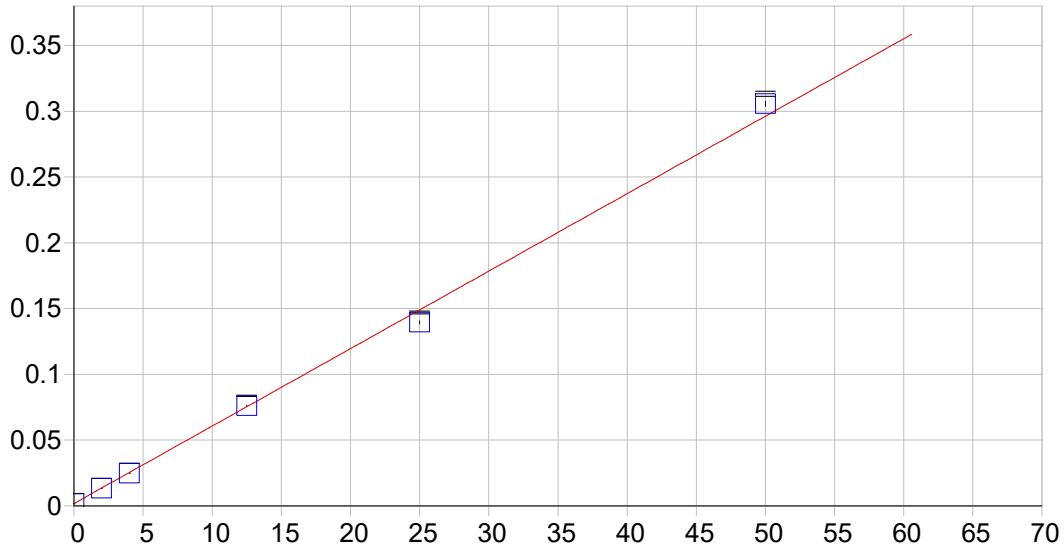



**Ag 328.068 {103}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 9/10/2025 15:12:09 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000604 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.176336 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999866 | Status: | OK. |
| Std Error of Est: | 0.000024 | | |
| Predicted MDL: | 0.000576 | | |
| Predicted MQL: | 0.001921 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| S0 | .00000 | -.00000 | -.000 | .000 | -.00060 | .000 | 1 |
| S1 | .01000 | .01001 | .000 | .136 | .00115 | .000 | 1 |
| S3 | .62500 | .64502 | .020 | 3.20 | .11260 | .000 | 1 |
| S4 | 1.2500 | 1.2243 | -.026 | -2.05 | .21422 | .001 | 1 |
| S5 | 2.5000 | 2.5025 | .003 | .102 | .43855 | .000 | 1 |
| S2 | .20000 | .20309 | .003 | 1.54 | .03504 | .000 | 1 |

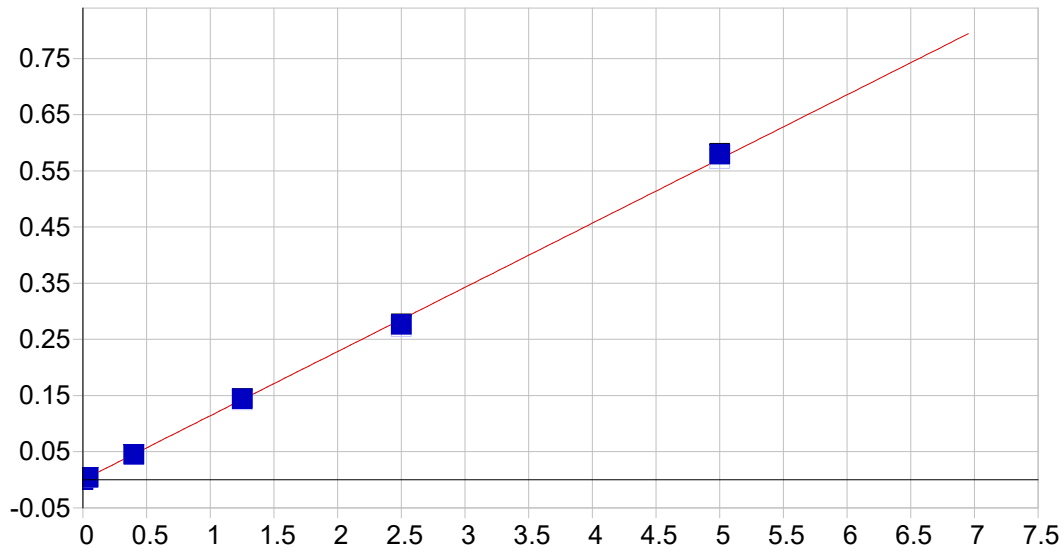



**Na 589.592 { 57}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 9/10/2025 15:12:09 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.001825 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.005888 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999146 | Status: | OK. |
| Std Error of Est: | 0.000129 | | |
| Predicted MDL: | 0.023015 | | |
| Predicted MQL: | 0.076717 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| S0 | .00000 | .00013 | .000 | .000 | .00183 | .000 | 1 |
| S2 | 4.0000 | 3.9078 | -.092 | -2.31 | .02484 | .000 | 1 |
| S3 | 12.500 | 12.612 | .112 | .893 | .07609 | .000 | 1 |
| S4 | 25.000 | 23.393 | -1.61 | -6.43 | .13957 | .001 | 1 |
| S5 | 50.000 | 51.624 | 1.62 | 3.25 | .30581 | .002 | 1 |
| S1 | 2.0000 | 1.9627 | -.037 | -1.87 | .01338 | .000 | 1 |

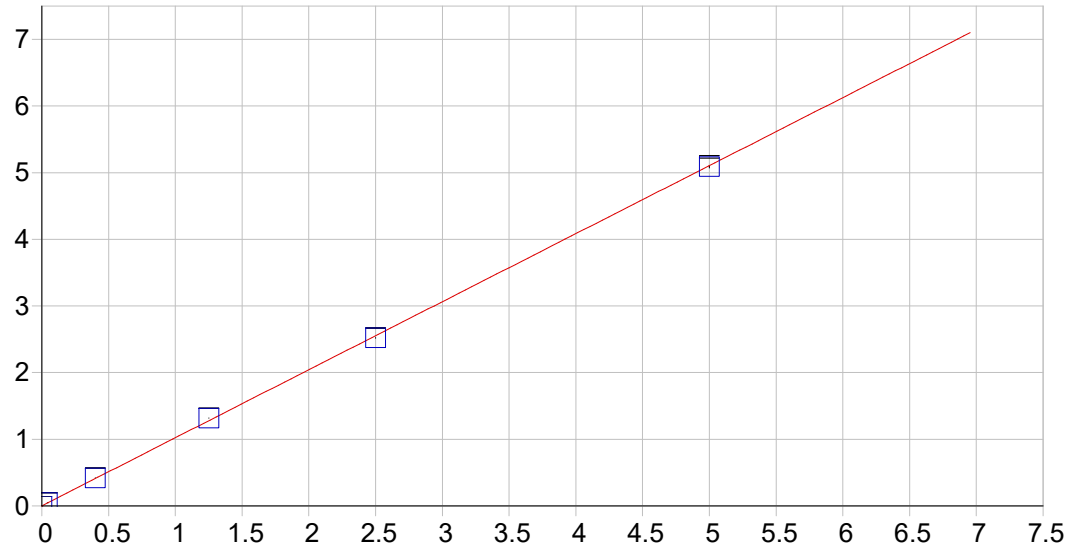



**V 292.402 {115}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 9/10/2025 15:12:09 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.000127 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.114288 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999775 | Status: | OK. |
| Std Error of Est: | 0.000056 | | |
| Predicted MDL: | 0.003052 | | |
| Predicted MQL: | 0.010172 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| S0 | .00000 | .00000 | .000 | .000 | -.00013 | .000 | 1 |
| S1 | .04000 | .03722 | -.003 | -6.96 | .00396 | .000 | 1 |
| S3 | 1.2500 | 1.2623 | .012 | .985 | .14206 | .000 | 1 |
| S4 | 2.5000 | 2.4204 | -.080 | -3.19 | .27233 | .001 | 1 |
| S5 | 5.0000 | 5.0745 | .075 | 1.49 | .57150 | .001 | 1 |
| S2 | .40000 | .39552 | -.004 | -1.12 | .04441 | .000 | 1 |

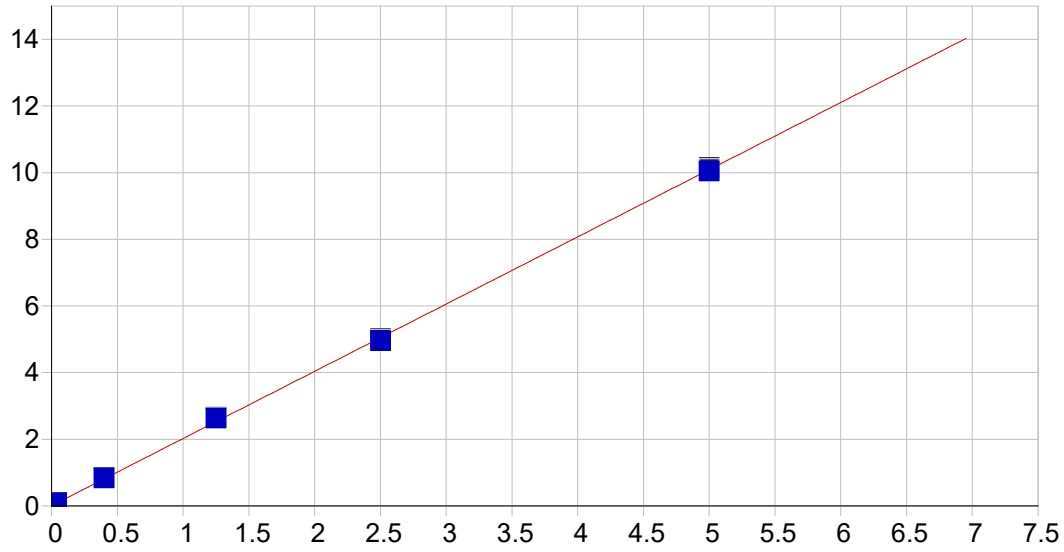



**Zn 206.200 {464}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 9/10/2025 15:12:09 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.002004 | Re-Slope: | 1.000000 |
| A1 (Gain): | 1.020752 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999890 | Status: | OK. |
| Std Error of Est: | 0.000356 | | |
| Predicted MDL: | 0.000148 | | |
| Predicted MQL: | 0.000493 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| S0 | .00000 | -.00000 | -.000 | .000 | .00200 | .000 | 1 |
| S1 | .04000 | .04302 | .003 | 7.55 | .04592 | .000 | 1 |
| S3 | 1.2500 | 1.2880 | .038 | 3.04 | 1.3167 | .002 | 1 |
| S4 | 2.5000 | 2.4669 | -.033 | -1.32 | 2.5201 | .005 | 1 |
| S5 | 5.0000 | 4.9841 | -.016 | -.317 | 5.0896 | .018 | 1 |
| S2 | .40000 | .40797 | .008 | 1.99 | .41844 | .002 | 1 |

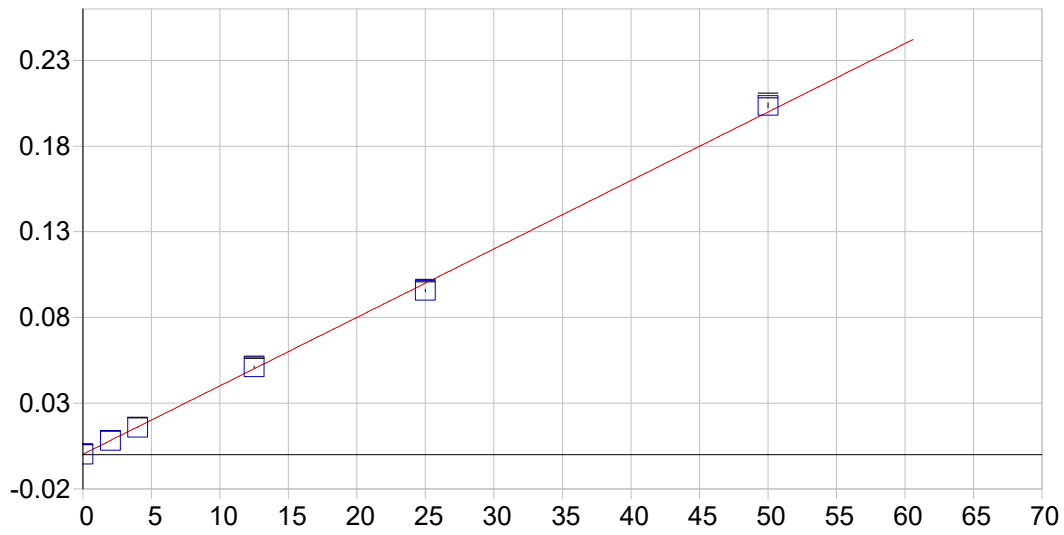



**Zn 213.856 {158}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 9/10/2025 15:12:09 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.005502 | Re-Slope: | 1.000000 |
| A1 (Gain): | 2.017130 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999812 | Status: | OK. |
| Std Error of Est: | 0.000925 | | |
| Predicted MDL: | 0.000261 | | |
| Predicted MQL: | 0.000870 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| S0 | .00000 | -.00000 | -.000 | .000 | .00549 | .000 | 1 |
| S1 | .04000 | .04317 | .003 | 7.92 | .09314 | .000 | 1 |
| S3 | 1.2500 | 1.3018 | .052 | 4.15 | 2.6490 | .006 | 1 |
| S4 | 2.5000 | 2.4561 | -.044 | -1.76 | 4.9948 | .018 | 1 |
| S5 | 5.0000 | 4.9790 | -.021 | -.420 | 10.119 | .034 | 1 |
| S2 | .40000 | .40995 | .010 | 2.49 | .83805 | .001 | 1 |

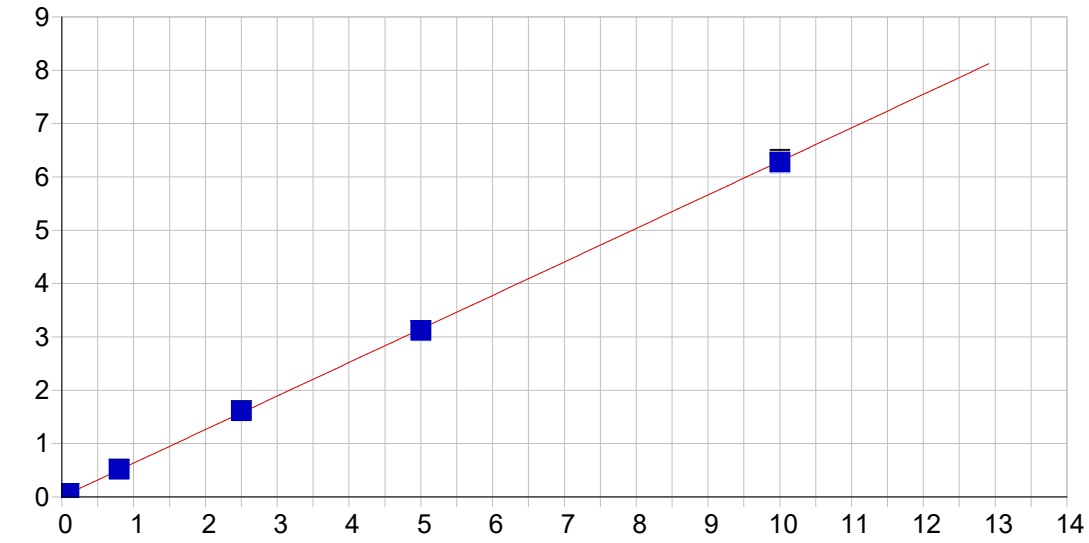



**K 766.490 { 44}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 9/10/2025 15:12:09 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000221 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.003992 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999609 | Status: | OK. |
| Std Error of Est: | 0.000059 | | |
| Predicted MDL: | 0.042553 | | |
| Predicted MQL: | 0.141842 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| S0 | .00000 | .00008 | .000 | .000 | .00022 | .000 | 1 |
| S2 | 4.0000 | 3.8973 | -.103 | -2.57 | .01578 | .000 | 1 |
| S3 | 12.500 | 12.747 | .247 | 1.97 | .05111 | .001 | 1 |
| S4 | 25.000 | 23.916 | -1.08 | -4.33 | .09570 | .001 | 1 |
| S5 | 50.000 | 50.961 | .961 | 1.92 | .20367 | .001 | 1 |
| S1 | 2.0000 | 1.9790 | -.021 | -1.05 | .00812 | .000 | 1 |

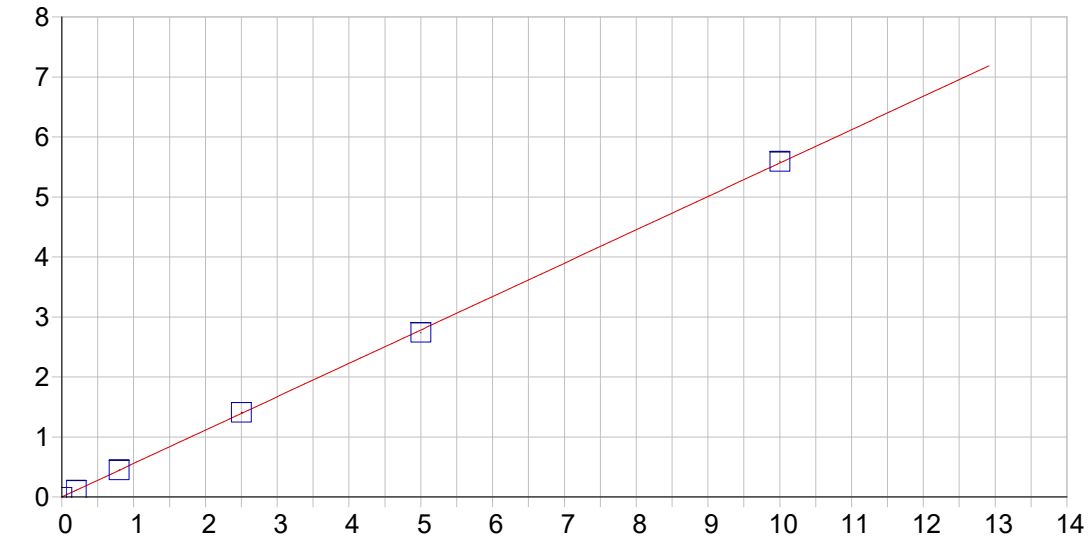



**B 249.678 {135}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 9/10/2025 15:12:09 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.005320 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.628583 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999943 | Status: | OK. |
| Std Error of Est: | 0.000351 | | |
| Predicted MDL: | 0.000809 | | |
| Predicted MQL: | 0.002696 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| S0 | .00000 | -.00000 | -.000 | .000 | .00532 | .000 | 1 |
| S1 | .10000 | .10127 | .001 | 1.27 | .06860 | .001 | 1 |
| S3 | 2.5000 | 2.5579 | .058 | 2.32 | 1.6075 | .007 | 1 |
| S4 | 5.0000 | 4.9505 | -.050 | -.991 | 3.1058 | .003 | 1 |
| S5 | 10.000 | 9.9783 | -.022 | -.217 | 6.2548 | .053 | 1 |
| S2 | .80000 | .81211 | .012 | 1.51 | .51398 | .005 | 1 |

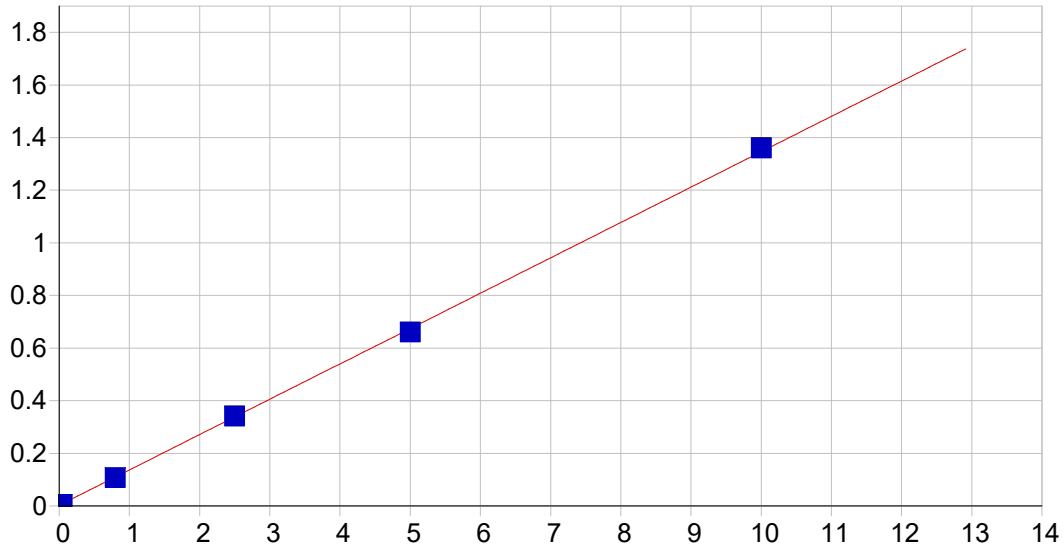



**Mo 202.030 {467}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 9/10/2025 15:12:09 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000419 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.556399 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999948 | Status: | OK. |
| Std Error of Est: | 0.000420 | | |
| Predicted MDL: | 0.000285 | | |
| Predicted MQL: | 0.000951 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| S0 | .00000 | .00000 | .000 | .000 | .00042 | .000 | 1 |
| S1 | .20000 | .19641 | -.004 | -1.80 | .10970 | .000 | 1 |
| S3 | 2.5000 | 2.5302 | .030 | 1.21 | 1.4082 | .001 | 1 |
| S4 | 5.0000 | 4.9216 | -.078 | -1.57 | 2.7388 | .002 | 1 |
| S5 | 10.000 | 10.048 | .048 | .480 | 5.5911 | .005 | 1 |
| S2 | .80000 | .80375 | .004 | .469 | .44763 | .002 | 1 |

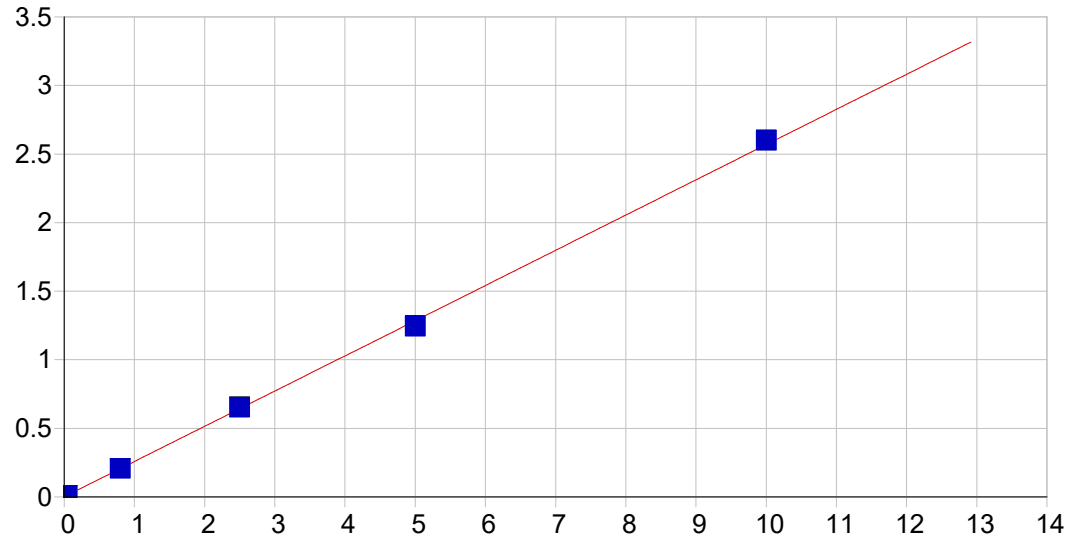



**Sn 189.989 {478}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 9/10/2025 15:12:09 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.002275 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.134381 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999898 | Status: | OK. |
| Std Error of Est: | 0.000064 | | |
| Predicted MDL: | 0.000669 | | |
| Predicted MQL: | 0.002229 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| S0 | .00000 | .00000 | .000 | .000 | .00227 | .000 | 1 |
| S1 | .04000 | .03969 | -.000 | -.782 | .00760 | .000 | 1 |
| S3 | 2.5000 | 2.5192 | .019 | .768 | .34046 | .001 | 1 |
| S4 | 5.0000 | 4.8947 | -.105 | -2.11 | .65935 | .000 | 1 |
| S5 | 10.000 | 10.102 | .102 | 1.02 | 1.3585 | .002 | 1 |
| S2 | .80000 | .78404 | -.016 | -2.00 | .10752 | .000 | 1 |

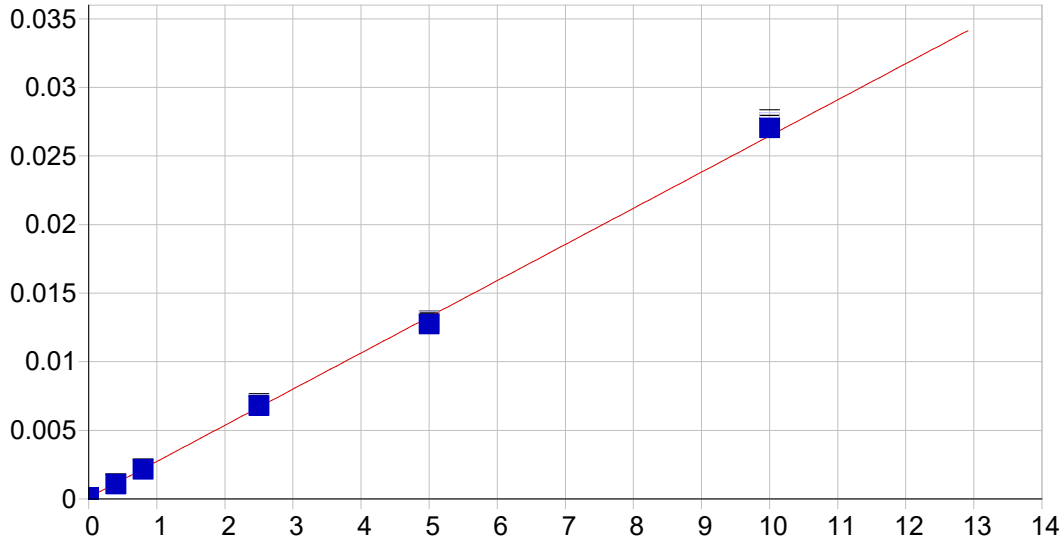



**Ti 336.121 {100}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 9/10/2025 15:12:09 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.001296 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.256719 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999796 | Status: | OK. |
| Std Error of Est: | 0.000172 | | |
| Predicted MDL: | 0.001775 | | |
| Predicted MQL: | 0.005915 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| S0 | .00000 | .00000 | .000 | .000 | .00130 | .000 | 1 |
| S1 | .04000 | .03898 | -.001 | -2.54 | .01130 | .000 | 1 |
| S3 | 2.5000 | 2.5399 | .040 | 1.60 | .65311 | .002 | 1 |
| S4 | 5.0000 | 4.8375 | -.163 | -3.25 | 1.2427 | .006 | 1 |
| S5 | 10.000 | 10.123 | .123 | 1.23 | 2.5992 | .001 | 1 |
| S2 | .80000 | .80024 | .000 | .030 | .20666 | .000 | 1 |

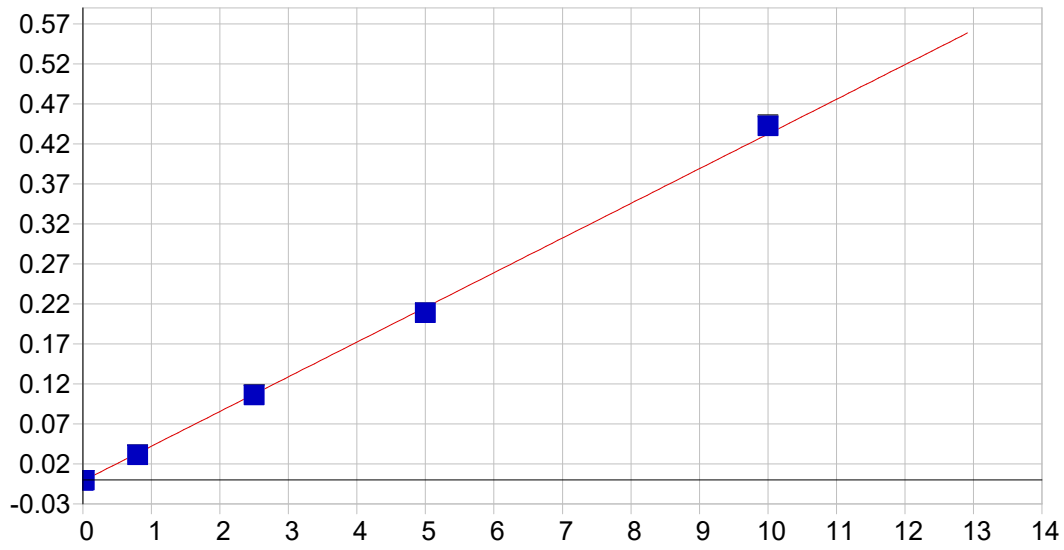



**Si 288.158 {117}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 9/10/2025 15:12:09 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000091 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.002637 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999560 | Status: | OK. |
| Std Error of Est: | 0.000008 | | |
| Predicted MDL: | 0.013919 | | |
| Predicted MQL: | 0.046398 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| S0 | .00000 | .00004 | .000 | .000 | .00009 | .000 | 1 |
| S1 | .40000 | .36953 | -.030 | -7.62 | .00107 | .000 | 1 |
| S3 | 2.5000 | 2.5381 | .038 | 1.52 | .00688 | .000 | 1 |
| S4 | 5.0000 | 4.7928 | -.207 | -4.14 | .01293 | .000 | 1 |
| S5 | 10.000 | 10.221 | .221 | 2.21 | .02744 | .000 | 1 |
| S2 | .80000 | .77834 | -.022 | -2.71 | .00218 | .000 | 1 |

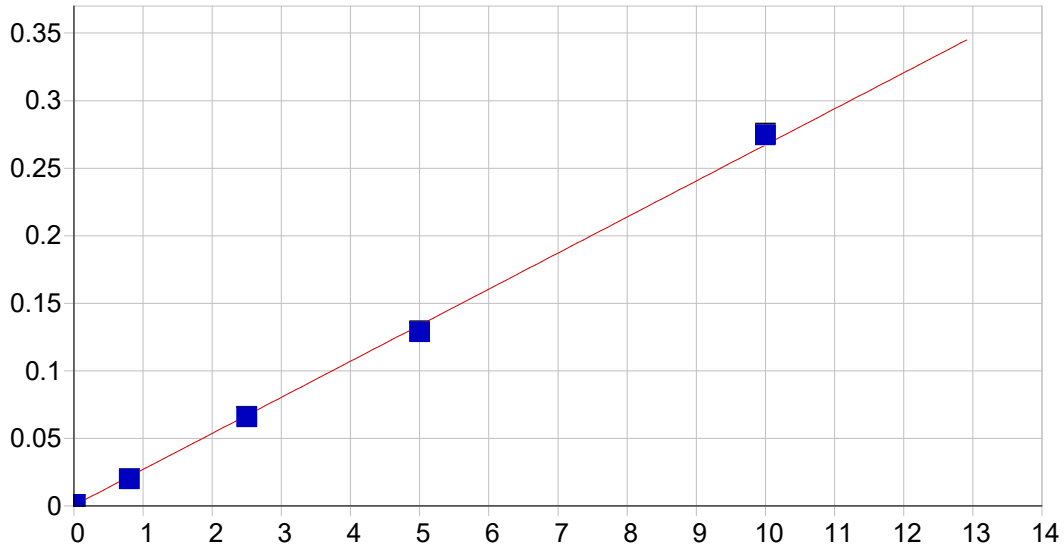



**P 177.495 {490}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 9/10/2025 15:12:09 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | -0.001142 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.043349 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999613 | Status: | OK. |
| Std Error of Est: | 0.000028 | | |
| Predicted MDL: | 0.001737 | | |
| Predicted MQL: | 0.005792 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| S0 | .00000 | .00000 | .000 | .000 | -.00114 | .000 | 1 |
| S1 | .02000 | .02078 | .001 | 3.90 | -.00024 | .000 | 1 |
| S3 | 2.5000 | 2.4733 | -.027 | -1.07 | .10606 | .000 | 1 |
| S4 | 5.0000 | 4.8460 | -.154 | -3.08 | .20890 | .000 | 1 |
| S5 | 10.000 | 10.234 | .234 | 2.34 | .44242 | .001 | 1 |
| S2 | .80000 | .74603 | -.054 | -6.75 | .03119 | .000 | 1 |

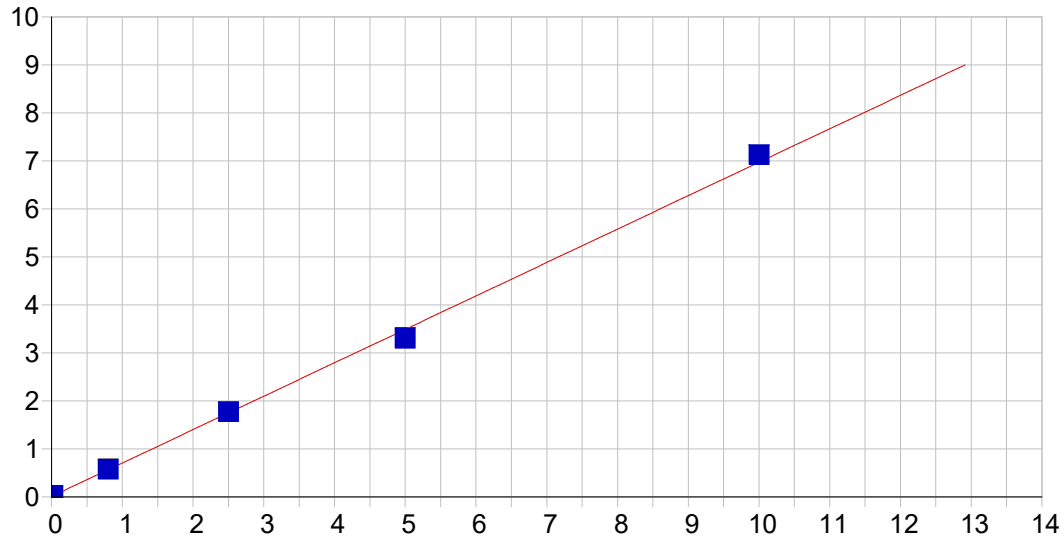



**S 182.034 {485}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 9/10/2025 15:12:09 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000327 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.026689 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999432 | Status: | OK. |
| Std Error of Est: | 0.000021 | | |
| Predicted MDL: | 0.003033 | | |
| Predicted MQL: | 0.010110 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| S0 | .00000 | -.00000 | -.000 | .000 | .00033 | .000 | 1 |
| S1 | .02000 | .02238 | .002 | 11.9 | .00090 | .000 | 1 |
| S3 | 2.5000 | 2.4568 | -.043 | -1.73 | .06572 | .000 | 1 |
| S4 | 5.0000 | 4.8180 | -.182 | -3.64 | .12857 | .001 | 1 |
| S5 | 10.000 | 10.286 | .286 | 2.86 | .27415 | .001 | 1 |
| S2 | .80000 | .73733 | -.063 | -7.83 | .01995 | .000 | 1 |

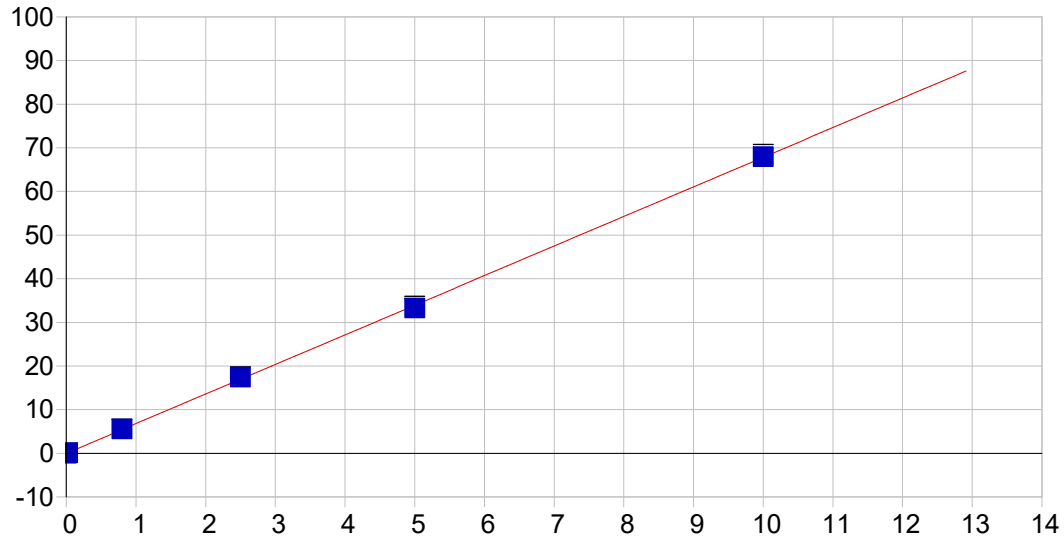



**Li 670.784 { 50}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 9/10/2025 15:12:09 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.009129 | Re-Slope: | 1.000000 |
| A1 (Gain): | 0.696318 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999453 | Status: | OK. |
| Std Error of Est: | 0.000540 | | |
| Predicted MDL: | 0.002092 | | |
| Predicted MQL: | 0.006973 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| S0 | .00000 | -.00000 | -.000 | .000 | .00913 | .001 | 1 |
| S5 | 10.000 | 10.218 | .218 | 2.18 | 7.1300 | .006 | 1 |
| S4 | 5.0000 | 4.7307 | -.269 | -5.39 | 3.3060 | .015 | 1 |
| S3 | 2.5000 | 2.5352 | .035 | 1.41 | 1.7759 | .007 | 1 |
| S1 | .02000 | .02083 | .001 | 4.14 | .02388 | .001 | 1 |
| S2 | .80000 | .81474 | .015 | 1.84 | .57690 | .002 | 1 |

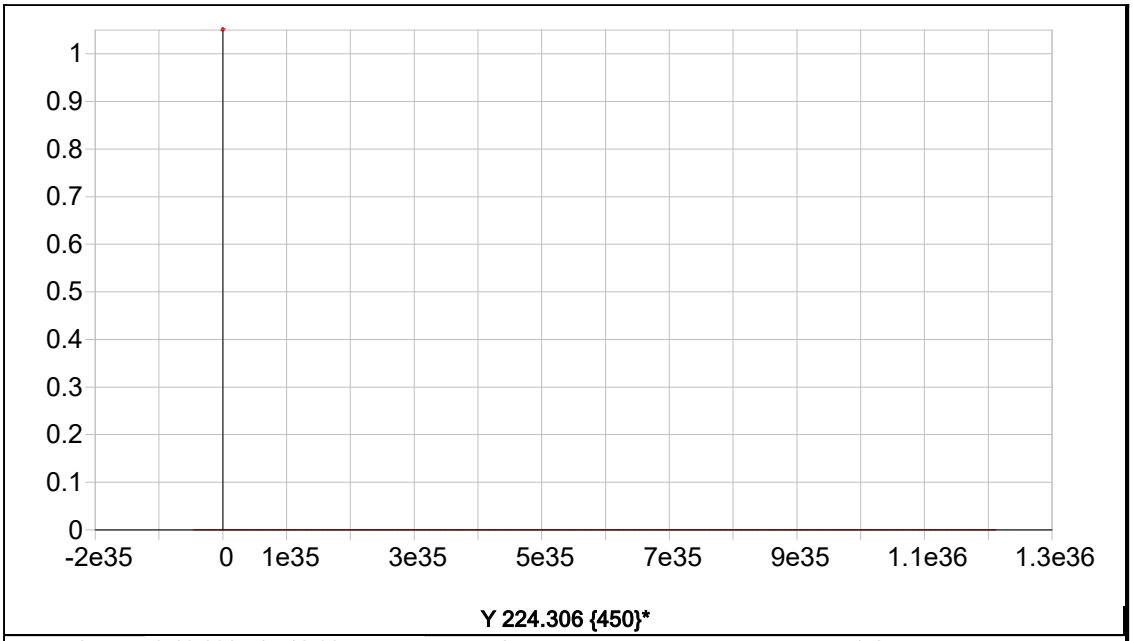



**Sr 407.771 { 83}**

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 9/10/2025 15:12:09 | Type of Fit: | Linear | Weighting: | 1/Conc |

| | | | |
|---|---|---|---|
| A0 (Offset): | 0.000565 | Re-Slope: | 1.000000 |
| A1 (Gain): | 6.783935 | Y-int: | 0.000000 |
| A2 (Curvature): | 0.000000 | | |
| n (Exponent): | 1.000000 | | |
| Correlation: | 0.999889 | Status: | OK. |
| Std Error of Est: | 0.002367 | | |
| Predicted MDL: | 0.000115 | | |
| Predicted MQL: | 0.000383 | | |

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|
| S0 | .00000 | -.00000 | -.000 | .000 | .00055 | .001 | 1 |
| S1 | .02000 | .02149 | .001 | 7.46 | .14702 | .001 | 1 |
| S3 | 2.5000 | 2.5685 | .068 | 2.74 | 17.441 | .142 | 1 |
| S4 | 5.0000 | 4.9036 | -.096 | -1.93 | 33.299 | .429 | 1 |
| S5 | 10.000 | 10.014 | .014 | .139 | 67.999 | .519 | 1 |
| S2 | .80000 | .81252 | .013 | 1.56 | 5.5178 | .022 | 1 |

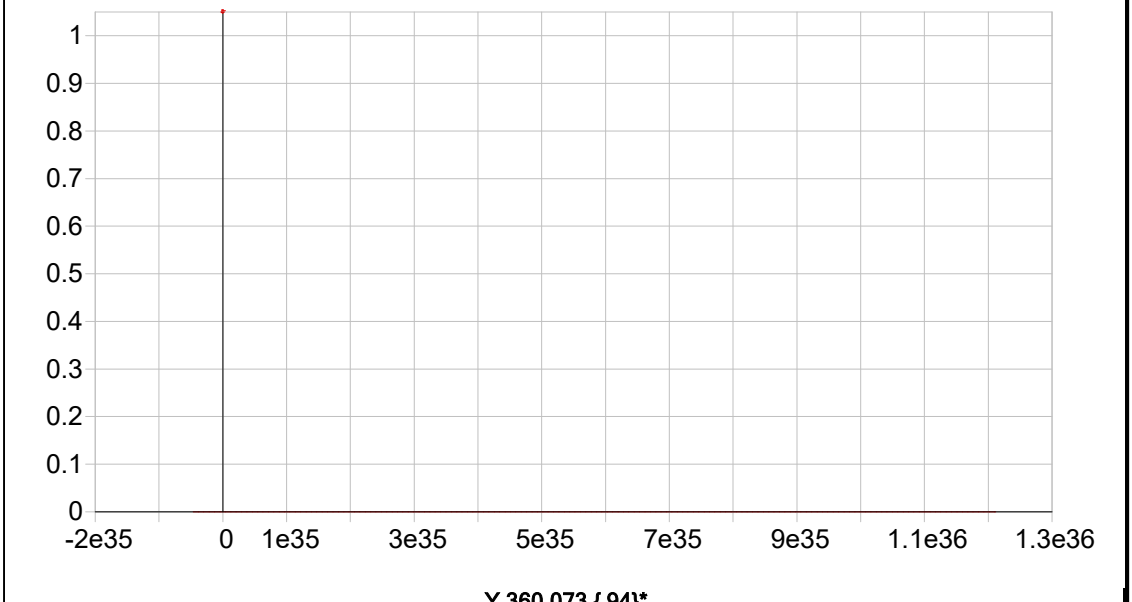



**Y 224.306 {450}***

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | 9/10/2025 15:12:09 | Type of Fit: | Linear | Weighting: | 1/Conc |

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

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



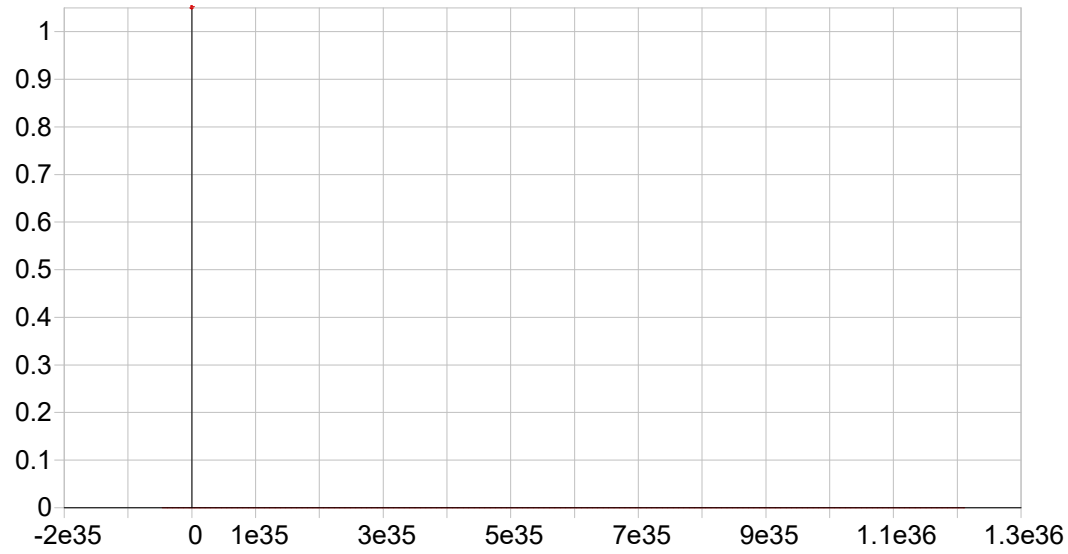

**Y 360.073 { 94}***

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | <not fit> | Type of Fit: | Linear | Weighting: | 1/Conc |

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

| | | | | | | |
|---|---|---|---|---|---|---|
| A2 (Curvature): | 0.000000 | | | | | |
| n (Exponent): | 1.000000 | | | | | |
| Correlation: | 0.000000 | | Status: | Warning | Zero Gain | |
| Std Error of Est: | 0.000000 | | | | | |
| Predicted MDL: | n/a | | | | | |
| Predicted MQL: | n/a | | | | | |

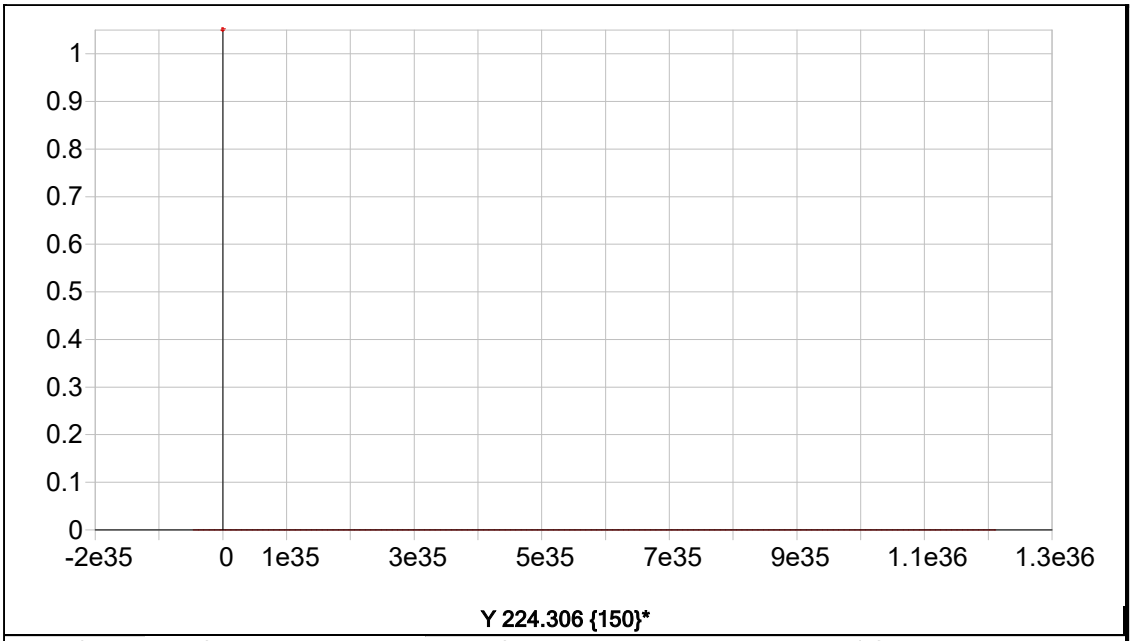
| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR | Std Dev | Emphasis |
|---|---|---|---|---|---|---|---|




**Y 371.030 { 91}***

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

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

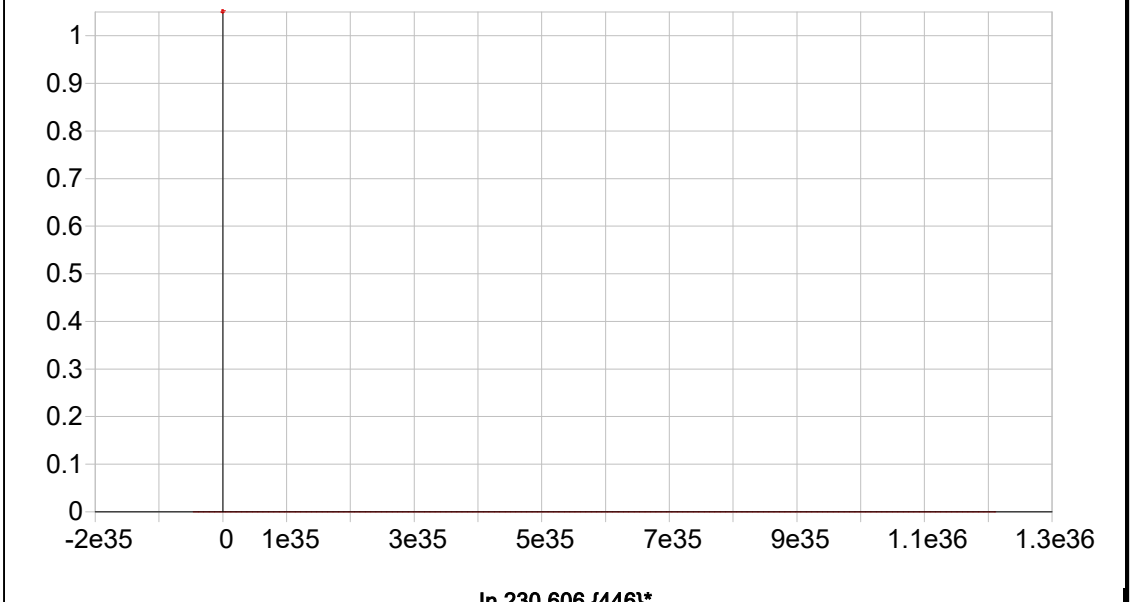



**Y 224.306 {150}***

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | <not fit> | Type of Fit: | Linear | Weighting: | 1/Conc |

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

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




**In 230.606 {446}***

| | | | | | |
|---|---|---|---|---|---|
| Date of Fit: | <not fit> | Type of Fit: | Linear | Weighting: | 1/Conc |

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

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

Sample Name: S0 Acquired: 9/10/2025 11:06:09 Type: Cal
Method: 6010-200.7 NEW(v160) Mode: IR Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ba4934 | Be2348 |
|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.00005** | **.00019** | **.00017** | **.00044** | **.00056** | **-.00055** | **.07543** | **-.00151** |
| Stddev | .00010 | .00012 | .00015 | .00004 | .00005 | .00048 | .00215 | .00058 |
| %RSD | 219.42 | 64.992 | 85.349 | 8.3288 | 9.3483 | 87.752 | 2.8457 | 38.415 |
| #1 | .00004 | .00030 | .00001 | .00041 | .00050 | -.00099 | .07746 | -.00141 |
| #2 | -.00005 | .00005 | .00021 | .00042 | .00056 | -.00064 | .07318 | -.00099 |
| #3 | .00015 | .00022 | .00030 | .00048 | .00060 | -.00003 | .07564 | -.00213 |

| Elem | Cd2265 | Ca3736 | Cr2677 | Co2286 | Cu2247 | Fe2404 | Mn2576 | Mg2790 |
|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **-.00028** | **.00081** | **.00017** | **.00012** | **.00029** | **.00002** | **.00027** | **-.00020** |
| Stddev | .00011 | .00030 | .00004 | .00013 | .00008 | .00001 | .00033 | .00006 |
| %RSD | 40.060 | 37.084 | 24.463 | 113.71 | 27.615 | 72.106 | 120.69 | 29.826 |
| #1 | -.00029 | .00115 | .00020 | -.00003 | .00039 | .00002 | .00064 | -.00013 |
| #2 | -.00016 | .00060 | .00012 | .00017 | .00025 | .00001 | -.00001 | -.00024 |
| #3 | -.00038 | .00067 | .00017 | .00022 | .00024 | .00003 | .00019 | -.00022 |

| Elem | Ni2316 | Ag3280 | Na5895 | V_2924 | Zn2138 | K_7664 | B_2496 | Mo2020 |
|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **-.00075** | **-.00060** | **.00183** | **-.00013** | **.00549** | **.00022** | **.00532** | **.00042** |
| Stddev | .00013 | .00005 | .00014 | .00032 | .00046 | .00024 | .00028 | .00008 |
| %RSD | 17.086 | 7.5229 | 7.4940 | 255.11 | 8.3073 | 108.65 | 5.2954 | 19.767 |
| #1 | -.00088 | -.00056 | .00167 | -.00016 | .00507 | .00018 | .00564 | .00036 |
| #2 | -.00062 | -.00060 | .00186 | .00021 | .00598 | .00000 | .00513 | .00052 |
| #3 | -.00074 | -.00065 | .00194 | -.00043 | .00543 | .00048 | .00518 | .00038 |

| Elem | Sn1899 | Ti3361 | Si2881 | P_1774 | S_1820 | Li6707 | Sr4077 |
|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.00227** | **.00130** | **.00009** | **-.00114** | **.00033** | **.00913** | **.00055** |
| Stddev | .00007 | .00019 | .00003 | .00005 | .00007 | .00150 | .00056 |
| %RSD | 3.0916 | 14.532 | 36.132 | 4.0967 | 19.938 | 16.410 | 101.30 |
| #1 | .00233 | .00130 | .00009 | -.00114 | .00027 | .01002 | -.00009 |
| #2 | .00230 | .00111 | .00006 | -.00119 | .00040 | .00996 | .00092 |
| #3 | .00220 | .00148 | .00012 | -.00110 | .00031 | .00740 | .00083 |

Reviewed By:jaswal
On:9/12/2025 10:24:55 PM
Inst Id :P4
LB :LB137144

Sample Name: S0 Acquired: 9/10/2025 11:06:09 Type: Cal
Method: 6010-200.7 NEW(v160) Mode: IR Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_2243 | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **6430.5** | **109360.** | **10705.** | **5112.8** | **7907.8** |
| Stddev | 4.0 | 270. | 61. | 16.5 | 7.2 |
| %RSD | .06241 | .24714 | .57124 | .32189 | .09158 |
| #1 | 6428.8 | 109330. | 10642. | 5095.7 | 7902.3 |
| #2 | 6435.0 | 109100. | 10708. | 5128.6 | 7916.0 |
| #3 | 6427.5 | 109640. | 10764. | 5114.1 | 7905.0 |

Sample Name: S1 Acquired: 9/10/2025 11:10:34 Type: Cal
Method: 6010-200.7 NEW(v160) Mode: IR Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ba4934 | Be2348 |
|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.00097** | **.00262** | **.00220** | **.00124** | **.00453** | **.00730** | **.29054** | **.03898** |
| Stddev | .00006 | .00019 | .00018 | .00001 | .00011 | .00051 | .00073 | .00029 |
| %RSD | 6.2240 | 7.3503 | 8.2838 | 1.0960 | 2.4901 | 6.9407 | .24959 | .75642 |
| #1 | .00091 | .00250 | .00241 | .00126 | .00458 | .00719 | .29124 | .03897 |
| #2 | .00103 | .00252 | .00210 | .00123 | .00462 | .00785 | .29058 | .03928 |
| #3 | .00096 | .00284 | .00210 | .00125 | .00441 | .00685 | .28979 | .03869 |

| Elem | Cd2265 | Ca3736 | Cr2677 | Co2286 | Cu2247 | Fe2404 | Mn2576 | Mg2790 |
|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.01675** | **.10850** | **.00200** | **.02815** | **.01302** | **.00033** | **.00821** | **.02161** |
| Stddev | .00013 | .00060 | .00009 | .00015 | .00035 | .00001 | .00008 | .00056 |
| %RSD | .78643 | .55544 | 4.5932 | .52560 | 2.7161 | 2.3860 | .93028 | 2.5973 |
| #1 | .01686 | .10909 | .00205 | .02810 | .01313 | .00034 | .00823 | .02117 |
| #2 | .01678 | .10789 | .00189 | .02831 | .01263 | .00032 | .00827 | .02224 |
| #3 | .01660 | .10853 | .00205 | .02803 | .01331 | .00033 | .00812 | .02141 |

| Elem | Ni2316 | Ag3280 | Na5895 | V_2924 | Zn2138 | K_7664 | B_2496 | Mo2020 |
|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.02206** | **.00115** | **.01338** | **.00396** | **.09314** | **.00812** | **.06860** | **.10970** |
| Stddev | .00014 | .00000 | .00010 | .00013 | .00023 | .00004 | .00060 | .00050 |
| %RSD | .64673 | .08608 | .73133 | 3.2458 | .25058 | .43763 | .86978 | .45519 |
| #1 | .02210 | .00115 | .01337 | .00381 | .09340 | .00809 | .06813 | .10952 |
| #2 | .02190 | .00115 | .01349 | .00399 | .09308 | .00816 | .06841 | .10931 |
| #3 | .02218 | .00115 | .01329 | .00406 | .09294 | .00811 | .06927 | .11026 |

| Elem | Sn1899 | Ti3361 | Si2881 | P_1774 | S_1820 | Li6707 | Sr4077 |
|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.00760** | **.01130** | **.00107** | **-.00024** | **.00090** | **.02388** | **.14702** |
| Stddev | .00006 | .00016 | .00003 | .00007 | .00004 | .00067 | .00090 |
| %RSD | .80821 | 1.4376 | 2.6608 | 28.071 | 4.2663 | 2.7877 | .61121 |
| #1 | .00766 | .01135 | .00108 | -.00031 | .00094 | .02335 | .14776 |
| #2 | .00754 | .01111 | .00108 | -.00018 | .00089 | .02365 | .14729 |
| #3 | .00761 | .01143 | .00103 | -.00022 | .00087 | .02462 | .14602 |

Reviewed By:jaswal
On:9/12/2025 10:24:55 PM
Inst Id :P4
LB :LB137144

Sample Name: S1 Acquired: 9/10/2025 11:10:34 Type: Cal
Method: 6010-200.7 NEW(v160) Mode: IR Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_2243 | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | 6174.1 | 106250. | 10773. | 5005.2 | 7297.0 |
| Stddev | 7.6 | 705. | 72. | 14.8 | 10.0 |
| %RSD | .12267 | .66367 | .66902 | .29595 | .13764 |
| #1 | 6180.1 | 106750. | 10852. | 5012.1 | 7305.6 |
| #2 | 6176.6 | 105440. | 10711. | 4988.2 | 7299.4 |
| #3 | 6165.6 | 106550. | 10756. | 5015.3 | 7285.9 |

Sample Name: S2 Acquired: 9/10/2025 11:14:56 Type: Cal
Method: 6010-200.7 NEW(v160) Mode: IR Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ba4934 | Be2348 |
|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.03667** | **.04968** | **.13964** | **.03178** | **.06277** | **.11192** | **3.4435** | **.25914** |
| Stddev | .00021 | .00090 | .00074 | .00012 | .00026 | .00108 | .0117 | .00154 |
| %RSD | .55975 | 1.8022 | .53330 | .36435 | .41040 | .96531 | .34028 | .59288 |
| #1 | .03646 | .04953 | .13906 | .03165 | .06249 | .11311 | 3.4508 | .25864 |
| #2 | .03686 | .05065 | .13939 | .03187 | .06282 | .11166 | 3.4496 | .26087 |
| #3 | .03670 | .04887 | .14048 | .03182 | .06299 | .11099 | 3.4300 | .25792 |

| Elem | Cd2265 | Ca3736 | Cr2677 | Co2286 | Cu2247 | Fe2404 | Mn2576 | Mg2790 |
|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **1.0767** | **.20973** | **.02886** | **.36448** | **.12068** | **.00230** | **.15014** | **.04096** |
| Stddev | .0032 | .00104 | .00017 | .00108 | .00074 | .00002 | .00089 | .00023 |
| %RSD | .29372 | .49699 | .59056 | .29644 | .61300 | .84007 | .59220 | .55798 |
| #1 | 1.0736 | .21045 | .02897 | .36364 | .12002 | .00229 | .15080 | .04070 |
| #2 | 1.0765 | .21021 | .02867 | .36412 | .12056 | .00232 | .15048 | .04113 |
| #3 | 1.0799 | .20853 | .02895 | .36570 | .12148 | .00229 | .14913 | .04105 |

| Elem | Ni2316 | Ag3280 | Na5895 | V_2924 | Zn2138 | K_7664 | B_2496 | Mo2020 |
|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.21496** | **.03504** | **.02484** | **.04441** | **.83805** | **.01578** | **.51398** | **.44763** |
| Stddev | .00076 | .00012 | .00005 | .00011 | .00070 | .00017 | .00459 | .00190 |
| %RSD | .35526 | .35449 | .18993 | .25447 | .08388 | 1.1026 | .89371 | .42389 |
| #1 | .21436 | .03518 | .02486 | .04453 | .83731 | .01565 | .51572 | .44548 |
| #2 | .21470 | .03500 | .02478 | .04430 | .83872 | .01598 | .51746 | .44830 |
| #3 | .21582 | .03494 | .02487 | .04440 | .83811 | .01572 | .50878 | .44909 |

| Elem | Sn1899 | Ti3361 | Si2881 | P_1774 | S_1820 | Li6707 | Sr4077 |
|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.10752** | **.20666** | **.00218** | **.03119** | **.01995** | **.57690** | **5.5178** |
| Stddev | .00036 | .00022 | .00001 | .00008 | .00011 | .00240 | .0221 |
| %RSD | .33138 | .10419 | .56435 | .25341 | .57327 | .41636 | .39952 |
| #1 | .10715 | .20678 | .00216 | .03117 | .01982 | .57877 | 5.5332 |
| #2 | .10785 | .20678 | .00218 | .03128 | .02004 | .57774 | 5.5277 |
| #3 | .10758 | .20641 | .00218 | .03113 | .01999 | .57419 | 5.4926 |

Reviewed By:jaswal
On:9/12/2025 10:24:55 PM
Inst Id :P4
LB :LB137144

Sample Name: S2 Acquired: 9/10/2025 11:14:56 Type: Cal
Method: 6010-200.7 NEW(v160) Mode: IR Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_2243 | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | 6226.7 | 105660. | 10707. | 5018.4 | 7333.3 |
| Stddev | 20.6 | 165. | 78. | 17.5 | 17.2 |
| %RSD | .33096 | .15637 | .73188 | .34907 | .23417 |
| #1 | 6244.0 | 105830. | 10691. | 5001.4 | 7349.5 |
| #2 | 6232.1 | 105650. | 10637. | 5036.4 | 7335.1 |
| #3 | 6203.9 | 105500. | 10791. | 5017.5 | 7315.3 |

Sample Name: S3 Acquired: 9/10/2025 11:19:05 Type: Cal
Method: 6010-200.7 NEW(v160) Mode: IR Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ba4934 | Be2348 |
|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.11826** | **.15523** | **.44592** | **.10102** | **.19964** | **.35622** | **10.872** | **.81636** |
| Stddev | .00042 | .00244 | .00102 | .00042 | .00039 | .00150 | .049 | .00248 |
| %RSD | .35442 | 1.5721 | .22924 | .41889 | .19723 | .42014 | .45175 | .30343 |
| #1 | .11791 | .15337 | .44474 | .10102 | .20006 | .35677 | 10.837 | .81916 |
| #2 | .11814 | .15432 | .44657 | .10059 | .19929 | .35737 | 10.928 | .81445 |
| #3 | .11873 | .15799 | .44645 | .10144 | .19957 | .35453 | 10.851 | .81548 |

| Elem | Cd2265 | Ca3736 | Cr2677 | Co2286 | Cu2247 | Fe2404 | Mn2576 | Mg2790 |
|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **3.4842** | **.66322** | **.09134** | **1.1718** | **.38196** | **.00749** | **.47525** | **.12942** |
| Stddev | .0053 | .00124 | .00039 | .0012 | .00024 | .00006 | .00280 | .00022 |
| %RSD | .15323 | .18680 | .42226 | .10111 | .06383 | .77422 | .58833 | .16777 |
| #1 | 3.4787 | .66252 | .09093 | 1.1708 | .38171 | .00742 | .47421 | .12938 |
| #2 | 3.4893 | .66465 | .09138 | 1.1731 | .38219 | .00753 | .47842 | .12965 |
| #3 | 3.4845 | .66250 | .09170 | 1.1714 | .38198 | .00752 | .47313 | .12923 |

| Elem | Ni2316 | Ag3280 | Na5895 | V_2924 | Zn2138 | K_7664 | B_2496 | Mo2020 |
|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.69073** | **.11260** | **.07609** | **.14206** | **2.6490** | **.05111** | **1.6075** | **1.4082** |
| Stddev | .00125 | .00037 | .00045 | .00022 | .0065 | .00066 | .0065 | .0011 |
| %RSD | .18146 | .33249 | .59150 | .15371 | .24435 | 1.2993 | .40600 | .07770 |
| #1 | .68934 | .11230 | .07559 | .14185 | 2.6451 | .05042 | 1.6128 | 1.4077 |
| #2 | .69178 | .11249 | .07646 | .14229 | 2.6454 | .05175 | 1.6002 | 1.4074 |
| #3 | .69106 | .11302 | .07621 | .14203 | 2.6565 | .05115 | 1.6094 | 1.4095 |

| Elem | Sn1899 | Ti3361 | Si2881 | P_1774 | S_1820 | Li6707 | Sr4077 |
|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.34046** | **.65311** | **.00688** | **.10606** | **.06572** | **1.7759** | **17.441** |
| Stddev | .00061 | .00191 | .00007 | .00020 | .00039 | .0067 | .142 |
| %RSD | .17915 | .29267 | 1.0447 | .18702 | .59367 | .37897 | .81173 |
| #1 | .33986 | .65131 | .00680 | .10590 | .06560 | 1.7702 | 17.533 |
| #2 | .34045 | .65512 | .00694 | .10599 | .06541 | 1.7833 | 17.278 |
| #3 | .34108 | .65290 | .00691 | .10628 | .06616 | 1.7741 | 17.513 |

Reviewed By:jaswal
On:9/12/2025 10:24:55 PM
Inst Id :P4
LB :LB137144

Sample Name: S3 Acquired: 9/10/2025 11:19:05 Type: Cal
Method: 6010-200.7 NEW(v160) Mode: IR Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_2243 | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | 6011.8 | 101970. | 10629. | 4873.7 | 6931.7 |
| Stddev | 16.7 | 277. | 21. | 13.3 | 26.3 |
| %RSD | .27753 | .27179 | .19850 | .27208 | .37933 |
| #1 | 6028.9 | 102280. | 10605. | 4886.1 | 6957.4 |
| #2 | 5995.6 | 101740. | 10645. | 4859.7 | 6904.8 |
| #3 | 6011.1 | 101890. | 10636. | 4875.4 | 6933.0 |

Sample Name: S4 Acquired: 9/10/2025 11:23:13 Type: Cal
Method: 6010-200.7 NEW(v160) Mode: IR Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ba4934 | Be2348 |
|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.22916** | **.30308** | **.86567** | **.19490** | **.38717** | **.67693** | **20.452** | **1.5533** |
| Stddev | .00007 | .00380 | .00048 | .00033 | .00128 | .00035 | .110 | .0064 |
| %RSD | .03179 | 1.2552 | .05535 | .16928 | .32976 | .05177 | .53938 | .40994 |
| #1 | .22912 | .30066 | .86512 | .19451 | .38574 | .67654 | 20.331 | 1.5510 |
| #2 | .22925 | .30111 | .86592 | .19508 | .38756 | .67722 | 20.546 | 1.5484 |
| #3 | .22912 | .30746 | .86598 | .19509 | .38820 | .67704 | 20.479 | 1.5605 |

| Elem | Cd2265 | Ca3736 | Cr2677 | Co2286 | Cu2247 | Fe2404 | Mn2576 | Mg2790 |
|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **6.7914** | **1.2520** | **.17222** | **2.2887** | **.73051** | **.01391** | **.89876** | **.24747** |
| Stddev | .0049 | .0026 | .00085 | .0012 | .00046 | .00009 | .00660 | .00026 |
| %RSD | .07194 | .20478 | .49331 | .05374 | .06235 | .63818 | .73490 | .10382 |
| #1 | 6.7928 | 1.2517 | .17150 | 2.2876 | .73050 | .01382 | .89634 | .24746 |
| #2 | 6.7955 | 1.2495 | .17201 | 2.2900 | .73097 | .01393 | .89371 | .24722 |
| #3 | 6.7860 | 1.2547 | .17316 | 2.2885 | .73005 | .01399 | .90624 | .24773 |

| Elem | Ni2316 | Ag3280 | Na5895 | V_2924 | Zn2138 | K_7664 | B_2496 | Mo2020 |
|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **1.3433** | **.21422** | **.13957** | **.27233** | **4.9948** | **.09570** | **3.1058** | **2.7388** |
| Stddev | .0005 | .00092 | .00116 | .00118 | .0182 | .00077 | .0031 | .0021 |
| %RSD | .03501 | .43079 | .82997 | .43311 | .36403 | .80628 | .09812 | .07589 |
| #1 | 1.3430 | .21340 | .13893 | .27225 | 4.9949 | .09502 | 3.1075 | 2.7408 |
| #2 | 1.3438 | .21405 | .13888 | .27119 | 4.9765 | .09554 | 3.1022 | 2.7367 |
| #3 | 1.3431 | .21522 | .14091 | .27354 | 5.0129 | .09654 | 3.1075 | 2.7389 |

| Elem | Sn1899 | Ti3361 | Si2881 | P_1774 | S_1820 | Li6707 | Sr4077 |
|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.65935** | **1.2427** | **.01293** | **.20890** | **.12857** | **3.3060** | **33.299** |
| Stddev | .00023 | .0056 | .00005 | .00038 | .00061 | .0147 | .429 |
| %RSD | .03483 | .45256 | .37248 | .18355 | .47305 | .44547 | 1.2877 |
| #1 | .65908 | 1.2412 | .01287 | .20850 | .12813 | 3.2970 | 32.897 |
| #2 | .65952 | 1.2380 | .01295 | .20893 | .12831 | 3.2980 | 33.250 |
| #3 | .65943 | 1.2489 | .01296 | .20926 | .12926 | 3.3230 | 33.750 |

Sample Name: S4 Acquired: 9/10/2025 11:23:13 Type: Cal
Method: 6010-200.7 NEW(v160) Mode: IR Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_2243 | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | 6140.7 | 106400. | 10863. | 5038.6 | 6995.0 |
| Stddev | 13.0 | 655. | 55. | 43.1 | 16.8 |
| %RSD | .21140 | .61579 | .50877 | .85521 | .24047 |
| #1 | 6133.1 | 106800. | 10860. | 5061.6 | 6989.9 |
| #2 | 6133.3 | 106750. | 10920. | 5065.2 | 6981.4 |
| #3 | 6155.7 | 105640. | 10810. | 4988.9 | 7013.8 |

Reviewed By:jaswal
On:9/12/2025 10:24:55 PM
Inst Id :P4
LB :LB137144

Sample Name: S5 Acquired: 9/10/2025 11:27:26 Type: Cal
Method: 6010-200.7 NEW(v160) Mode: IR Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ba4934 | Be2348 |
|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.47316** | **.62755** | **1.8011** | **.39963** | **.79462** | **1.4169** | **42.959** | **3.1275** |
| Stddev | .00085 | .01107 | .0021 | .00079 | .00106 | .0049 | .081 | .0223 |
| %RSD | .17913 | 1.7637 | .11887 | .19773 | .13285 | .34687 | .18828 | .71324 |
| #1 | .47219 | .62036 | 1.8023 | .39875 | .79367 | 1.4185 | 42.974 | 3.1441 |
| #2 | .47368 | .62200 | 1.8024 | .39987 | .79445 | 1.4114 | 43.031 | 3.1021 |
| #3 | .47363 | .64030 | 1.7987 | .40027 | .79575 | 1.4208 | 42.871 | 3.1362 |

| Elem | Cd2265 | Ca3736 | Cr2677 | Co2286 | Cu2247 | Fe2404 | Mn2576 | Mg2790 |
|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **14.031** | **2.5885** | **.34883** | **4.7608** | **1.4843** | **.02895** | **1.8549** | **.51298** |
| Stddev | .032 | .0039 | .00075 | .0049 | .0030 | .00021 | .0034 | .00085 |
| %RSD | .22817 | .14889 | .21611 | .10302 | .20121 | .72509 | .18300 | .16627 |
| #1 | 14.048 | 2.5928 | .34796 | 4.7632 | 1.4857 | .02874 | 1.8581 | .51321 |
| #2 | 14.052 | 2.5855 | .34923 | 4.7640 | 1.4864 | .02916 | 1.8551 | .51204 |
| #3 | 13.994 | 2.5871 | .34930 | 4.7552 | 1.4809 | .02897 | 1.8513 | .51370 |

| Elem | Ni2316 | Ag3280 | Na5895 | V_2924 | Zn2138 | K_7664 | B_2496 | Mo2020 |
|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **2.7843** | **.43855** | **.30581** | **.57150** | **10.119** | **.20367** | **6.2548** | **5.5911** |
| Stddev | .0052 | .00020 | .00198 | .00129 | .034 | .00143 | .0532 | .0050 |
| %RSD | .18694 | .04578 | .64877 | .22644 | .33568 | .70019 | .85096 | .08936 |
| #1 | 2.7862 | .43843 | .30369 | .57230 | 10.082 | .20210 | 6.2980 | 5.5856 |
| #2 | 2.7883 | .43844 | .30762 | .57218 | 10.127 | .20489 | 6.1954 | 5.5954 |
| #3 | 2.7784 | .43878 | .30612 | .57000 | 10.148 | .20401 | 6.2712 | 5.5924 |

| Elem | Sn1899 | Ti3361 | Si2881 | P_1774 | S_1820 | Li6707 | Sr4077 |
|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **1.3585** | **2.5992** | **.02744** | **.44242** | **.27415** | **7.1300** | **67.999** |
| Stddev | .0018 | .0013 | .00020 | .00103 | .00123 | .0061 | .519 |
| %RSD | .13323 | .05107 | .73528 | .23359 | .44717 | .08571 | .76372 |
| #1 | 1.3573 | 2.5997 | .02725 | .44171 | .27282 | 7.1346 | 68.583 |
| #2 | 1.3606 | 2.5977 | .02765 | .44195 | .27439 | 7.1231 | 67.825 |
| #3 | 1.3576 | 2.6003 | .02742 | .44361 | .27524 | 7.1324 | 67.590 |

Reviewed By:jaswal
On:9/12/2025 10:24:55 PM
Inst Id :P4
LB :LB137144

Sample Name: S5 Acquired: 9/10/2025 11:27:26 Type: Cal
Method: 6010-200.7 NEW(v160) Mode: IR Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_2243 | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **5887.8** | **103530.** | **10662.** | **4795.8** | **6570.4** |
| Stddev | 16.8 | 286. | 56. | 36.5 | 20.0 |
| %RSD | .28507 | .27589 | .52724 | .76062 | .30442 |
| #1 | 5878.7 | 103780. | 10607. | 4832.0 | 6559.0 |
| #2 | 5877.6 | 103220. | 10719. | 4759.0 | 6558.8 |
| #3 | 5907.2 | 103590. | 10660. | 4796.4 | 6593.5 |

Sample Name: ICV01 Acquired: 9/10/2025 11:31:38 Type: Unk
Method: 6010-200.7 NEW(v160) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: ICV01 Custom ID2: Custom ID3:
Comment:

| Elem | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **3.878485** | **3.797544** | **3.747251** | **3.899665** | **3.959305** | **7.620146** |
| Stddev | .018964 | .097124 | .005494 | .012620 | .006561 | .012898 |
| %RSD | .4889444 | 2.557535 | .1466039 | .3236191 | .1657105 | .1692567 |
| #1 | 3.886921 | 3.708898 | 3.740973 | 3.896635 | 3.964087 | 7.605326 |
| #2 | 3.856768 | 3.782374 | 3.751174 | 3.888836 | 3.951825 | 7.628831 |
| #3 | 3.891768 | 3.901360 | 3.749607 | 3.913524 | 3.962003 | 7.626281 |

| Elem | Ba4934 | Be2348 | Cd2265 | Ca3736 | Cr2677 | Co2286 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **7.702464** | **.1928900** | **1.910706** | **18.98688** | **.7817881** | **1.915321** |
| Stddev | .040232 | .0020450 | .002921 | .03534 | .0019751 | .002563 |
| %RSD | .5223232 | 1.060174 | .1528593 | .1861454 | .2526371 | .1337918 |
| #1 | 7.739149 | .1909875 | 1.907336 | 18.94921 | .7795075 | 1.912493 |
| #2 | 7.708805 | .1950526 | 1.912503 | 18.99211 | .7829415 | 1.915981 |
| #3 | 7.659439 | .1926300 | 1.912278 | 19.01932 | .7829153 | 1.917489 |

| Elem | Cu2247 | Fe2404 | Mn2576 | Mg2790 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.9817785** | **3.874155** | **1.901878** | **19.03293** | **1.920170** | **.9797976** |
| Stddev | .0002962 | .034945 | .003861 | .08017 | .002976 | .0020647 |
| %RSD | .0301694 | .9019977 | .2030259 | .4211929 | .1549846 | .2107284 |
| #1 | .9814889 | 3.897245 | 1.902540 | 18.94129 | 1.916747 | .9781214 |
| #2 | .9817657 | 3.833952 | 1.897728 | 19.06749 | 1.921625 | .9791674 |
| #3 | .9820809 | 3.891269 | 1.905365 | 19.09003 | 1.922139 | .9821039 |

| Elem | Na5895 | V_2924 | Zn2138 | K_7664 | B_2496 | Mo2020 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **18.78638** | **1.900701** | **1.938312** | **18.94103** | **3.749363** | **3.871481** |
| Stddev | .16817 | .001617 | .004914 | .17785 | .041894 | .005509 |
| %RSD | .8951489 | .0850610 | .2535400 | .9389719 | 1.117355 | .1422975 |
| #1 | 18.93445 | 1.900826 | 1.935726 | 19.05639 | 3.711399 | 3.872400 |
| #2 | 18.60355 | 1.899025 | 1.943980 | 18.73621 | 3.794309 | 3.865570 |
| #3 | 18.82114 | 1.902251 | 1.935231 | 19.03049 | 3.742380 | 3.876473 |

Sample Name: ICV01 Acquired: 9/10/2025 11:31:38 Type: Unk
Method: 6010-200.7 NEW(v160) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: ICV01 Custom ID2: Custom ID3:
Comment:

| Elem | Sn1899 | Ti3361 | Si2881 | P_1774 | S_1820 | Li6707 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | 3.825560 | 3.798831 | 3.614705 | F .0054444 | F .0209225 | F -.002436 |
| Stddev | .012630 | .011902 | .044071 | .0004871 | .0033318 | .002145 |
| %RSD | .3301535 | .3133174 | 1.219213 | 8.946538 | 15.92446 | 88.05520 |
| #1 | 3.823165 | 3.797040 | 3.613736 | .0056780 | .0247093 | -.004523 |
| #2 | 3.814299 | 3.787926 | 3.571126 | .0057707 | .0196175 | -.000237 |
| #3 | 3.839216 | 3.811528 | 3.659251 | .0048845 | .0184408 | -.002549 |

| Elem | Sr4077 |
|---|---|
| Units | ppm |
| Avg | F -.003062 |
| Stddev | .000007 |
| %RSD | .2352279 |
| #1 | -.003071 |
| #2 | -.003059 |
| #3 | -.003058 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | 6173.346 | 107909.4 | 11312.69 | 5018.352 | 7109.421 |
| Stddev | 19.023 | 255.6 | 68.16 | 12.440 | 16.268 |
| %RSD | .3081517 | .2368780 | .6025490 | .2478841 | .2288235 |
| #1 | 6157.951 | 107633.3 | 11352.01 | 5004.521 | 7100.883 |
| #2 | 6167.474 | 108137.8 | 11233.98 | 5021.908 | 7099.201 |
| #3 | 6194.613 | 107957.2 | 11352.07 | 5028.626 | 7128.181 |

Sample Name: LLICV01 Acquired: 9/10/2025 11:39:42 Type: Unk
Method: 6010-200.7 NEW(v160) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: LLICV01 Custom ID2: Custom ID3:
Comment:

| Elem | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ba4934 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0204437** | **.0422102** | **.0119205** | **.0185372** | **.0511046** | **.1013883** | **.1002830** |
| Stddev | .0009432 | .0018706 | .0017084 | .0021445 | .0008490 | .0090059 | .0008165 |
| %RSD | 4.613463 | 4.431618 | 14.33142 | 11.56880 | 1.661358 | 8.882566 | .8141759 |
| #1 | .0195010 | .0443242 | .0099684 | .0171173 | .0515304 | .0980193 | .0993465 |
| #2 | .0204428 | .0407692 | .0131428 | .0174902 | .0501269 | .1115929 | .1006575 |
| #3 | .0213873 | .0415373 | .0126502 | .0210041 | .0516564 | .0945525 | .1008451 |

| Elem | Be2348 | Cd2265 | Ca3736 | Cr2677 | Co2286 | Cu2247 | Fe2404 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0063212** | **.0060734** | **2.074755** | **.0104395** | **.0298750** | **.0212770** | **.1089789** |
| Stddev | .0001341 | .0000396 | .003964 | .0001771 | .0001831 | .0001784 | .0036367 |
| %RSD | 2.121336 | .6516889 | .1910621 | 1.696770 | .6127195 | .8382423 | 3.337094 |
| #1 | .0062253 | .0060425 | 2.071272 | .0106044 | .0297897 | .0212255 | .1106839 |
| #2 | .0062638 | .0060598 | 2.079069 | .0104618 | .0297501 | .0211300 | .1114499 |
| #3 | .0064744 | .0061180 | 2.073924 | .0102523 | .0300851 | .0214754 | .1048029 |

| Elem | Mn2576 | Mg2790 | Ni2316 | Ag3280 | Na5895 | V_2924 | Zn2138 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0213571** | **2.120326** | **.0401841** | **.0095998** | **1.922947** | **.0363081** | **.0423518** |
| Stddev | .0000152 | .009925 | .0003951 | .0003974 | .027811 | .0006107 | .0006196 |
| %RSD | .0710239 | .4680866 | .9831176 | 4.140199 | 1.446264 | 1.682048 | 1.462947 |
| #1 | .0213445 | 2.109150 | .0406076 | .0098002 | 1.923444 | .0364105 | .0430494 |
| #2 | .0213739 | 2.123718 | .0398256 | .0098570 | 1.894891 | .0356526 | .0421405 |
| #3 | .0213528 | 2.128111 | .0401192 | .0091420 | 1.950506 | .0368611 | .0418654 |

| Elem | K_7664 | B_2496 | Mo2020 | Sn1899 | Ti3361 | Si2881 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **1.889217** | **.1036219** | **.1941594** | **.0364800** | **.0386506** | **.3597566** | **.0189453** |
| Stddev | .042603 | .0013640 | .0011578 | .0009082 | .0007321 | .0064825 | .0008771 |
| %RSD | 2.255042 | 1.316324 | .5963277 | 2.489585 | 1.894078 | 1.801908 | 4.629632 |
| #1 | 1.841696 | .1028109 | .1935978 | .0355197 | .0382605 | .3561652 | .0186236 |
| #2 | 1.923992 | .1028583 | .1933894 | .0373252 | .0381962 | .3558647 | .0199378 |
| #3 | 1.901963 | .1051967 | .1954909 | .0365950 | .0394951 | .3672399 | .0182744 |

Sample Name: LLICV01 Acquired: 9/10/2025 11:39:42 Type: Unk
Method: 6010-200.7 NEW(v160) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: LLICV01 Custom ID2: Custom ID3:
Comment:

| Elem | S_1820 | Li6707 | Sr4077 |
|---|---|---|---|
| Units | ppm | ppm | ppm |
| Avg | .0226464 | .0199257 | .0211884 |
| Stddev | .0027679 | .0008054 | .0002022 |
| %RSD | 12.22224 | 4.041797 | .9544509 |
| #1 | .0194504 | .0190106 | .0210349 |
| #2 | .0242663 | .0205267 | .0211127 |
| #3 | .0242225 | .0202397 | .0214175 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | 6273.882 | 108426.8 | 11229.20 | 5095.113 | 7383.864 |
| Stddev | 11.335 | 113.6 | 97.30 | 12.174 | 9.856 |
| %RSD | .1806617 | .1047334 | .8665044 | .2389407 | .1334768 |
| #1 | 6279.844 | 108514.4 | 11223.86 | 5090.510 | 7389.854 |
| #2 | 6280.991 | 108467.5 | 11329.05 | 5085.911 | 7389.250 |
| #3 | 6260.811 | 108298.5 | 11134.67 | 5108.917 | 7372.489 |

Sample Name: ICB01 Acquired: 9/10/2025 11:43:57 Type: Unk
Method: 6010-200.7 NEW(v160) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: ICB01 Custom ID2: Custom ID3:
Comment:

| Elem | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ba4934 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0014556** | **.0008662** | **.0004876** | **-.001357** | **.0015433** | **.0092742** | **.0008138** |
| Stddev | .0026910 | .0019942 | .0007055 | .000898 | .0005692 | .0040525 | .0012237 |
| %RSD | 184.8732 | 230.2250 | 144.6746 | 66.15601 | 36.88610 | 43.69610 | 150.3689 |
| #1 | .0045347 | .0000978 | .0011747 | -.000358 | .0021357 | .0129931 | .0004984 |
| #2 | -.000446 | .0031302 | .0005230 | -.001619 | .0014937 | .0098744 | -.000221 |
| #3 | .000278 | -.000629 | -.000235 | -.002095 | .0010004 | .0049551 | .002164 |

| Elem | Be2348 | Cd2265 | Ca3736 | Cr2677 | Co2286 | Cu2247 | Fe2404 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0000932** | **-.000003** | **.0017080** | **.0003614** | **.0000825** | **-.000069** | **.0014427** |
| Stddev | .0000473 | .000053 | .0117818 | .0001362 | .0000769 | .000315 | .0066866 |
| %RSD | 50.75210 | 1701.361 | 689.7815 | 37.67413 | 93.16180 | 458.7620 | 463.4699 |
| #1 | .0000475 | .000014 | .0024602 | .0005131 | .0000055 | -.000289 | -.002611 |
| #2 | .0001419 | -.000063 | .0130957 | .0003213 | .0001592 | -.000210 | -.002221 |
| #3 | .0000901 | .000040 | -.010432 | .0002498 | .0000829 | .000293 | .009160 |

| Elem | Mn2576 | Mg2790 | Ni2316 | Ag3280 | Na5895 | V_2924 | Zn2138 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.000206** | **.0210730** | **.0001811** | **-.000464** | **-.086064** | **-.000995** | **-.000656** |
| Stddev | .000247 | .0091641 | .0002992 | .000460 | .037204 | .000963 | .000148 |
| %RSD | 120.3015 | 43.48755 | 165.2404 | 99.09916 | 43.22869 | 96.81774 | 22.58698 |
| #1 | .000015 | .0214600 | .0002376 | -.000169 | -.121972 | -.001349 | -.000755 |
| #2 | -.000473 | .0300376 | .0004479 | -.000993 | -.088533 | -.001730 | -.000728 |
| #3 | -.000159 | .0117216 | -.000142 | -.000229 | -.047686 | .000095 | -.000486 |

| Elem | K_7664 | B_2496 | Mo2020 | Sn1899 | Ti3361 | Si2881 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.065315** | **.0035033** | **.0000462** | **.0001557** | **.0009271** | **.0029155** | **-.000554** |
| Stddev | .023519 | .0003302 | .0000928 | .0002653 | .0012053 | .0011302 | .001605 |
| %RSD | 36.00781 | 9.426343 | 200.7295 | 170.3996 | 130.0014 | 38.76387 | 289.6864 |
| #1 | -.053092 | .0036831 | .0000148 | -.000093 | -.000190 | .0038927 | -.001565 |
| #2 | -.092429 | .0037045 | -.000027 | .000125 | .002204 | .0031760 | -.001393 |
| #3 | -.050425 | .0031222 | .000151 | .000435 | .000767 | .0016779 | .001297 |

Reviewed By:jaswal
On:9/12/2025 10:24:55 PM
Inst Id :P4
LB :LB137144

Sample Name: ICB01 Acquired: 9/10/2025 11:43:57 Type: Unk
Method: 6010-200.7 NEW(v160) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: ICB01 Custom ID2: Custom ID3:
Comment:

| Elem | S_1820 | Li6707 | Sr4077 |
|---|---|---|---|
| Units | ppm | ppm | ppm |
| Avg | -.001697 | -.001211 | .0000037 |
| Stddev | .000132 | .000818 | .0001133 |
| %RSD | 7.797330 | 67.59623 | 3035.474 |
| | | | |
| #1 | -.001826 | -.001273 | .0001115 |
| #2 | -.001704 | -.001996 | .0000141 |
| #3 | -.001562 | -.000363 | -.000114 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | 6433.297 | 111515.3 | 11338.08 | 5218.538 | 7692.987 |
| Stddev | 10.696 | 795.7 | 62.77 | 35.458 | 18.534 |
| %RSD | .1662608 | .7134973 | .5536129 | .6794634 | .2409173 |
| | | | | | |
| #1 | 6425.723 | 110798.9 | 11367.20 | 5181.455 | 7678.521 |
| #2 | 6445.533 | 111375.5 | 11381.00 | 5222.047 | 7713.878 |
| #3 | 6428.635 | 112371.6 | 11266.04 | 5252.110 | 7686.561 |

Sample Name: CRI01 Acquired: 9/10/2025 11:48:15 Type: Unk
Method: 6010-200.7 NEW(v160) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: CRI01 Custom ID2: Custom ID3:
Comment:

| Elem | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ba4934 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0195343** | **.0423665** | **.0134111** | **.0192306** | **.0502085** | **.1067292** | **.1001300** |
| Stddev | .0004229 | .0010204 | .0004625 | .0015080 | .0020993 | .0046934 | .0004561 |
| %RSD | 2.164647 | 2.408483 | 3.448679 | 7.841883 | 4.181145 | 4.397494 | .4555197 |
| #1 | .0194554 | .0427144 | .0133025 | .0184026 | .0480740 | .1094139 | .1006324 |
| #2 | .0199910 | .0412177 | .0130126 | .0209712 | .0502809 | .1013098 | .0997419 |
| #3 | .0191564 | .0431675 | .0139183 | .0183180 | .0522707 | .1094640 | .1000156 |

| Elem | Be2348 | Cd2265 | Ca3736 | Cr2677 | Co2286 | Cu2247 | Fe2404 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0062809** | **.0060414** | **2.079349** | **.0107609** | **.0300662** | **.0216552** | **.1090180** |
| Stddev | .0000483 | .0000217 | .007343 | .0002765 | .0001091 | .0002176 | .0012912 |
| %RSD | .7682660 | .3582902 | .3531568 | 2.569185 | .3629676 | 1.004588 | 1.184422 |
| #1 | .0063306 | .0060180 | 2.087352 | .0109880 | .0300298 | .0218840 | .1076238 |
| #2 | .0062342 | .0060454 | 2.077773 | .0104531 | .0299799 | .0214510 | .1101727 |
| #3 | .0062780 | .0060607 | 2.072922 | .0108417 | .0301889 | .0216307 | .1092574 |

| Elem | Mn2576 | Mg2790 | Ni2316 | Ag3280 | Na5895 | V_2924 | Zn2138 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0215267** | **2.104956** | **.0407037** | **.0097934** | **1.907116** | **.0363818** | **.0429841** |
| Stddev | .0002586 | .018913 | .0004594 | .0007049 | .011462 | .0047186 | .0001312 |
| %RSD | 1.201170 | .8985208 | 1.128654 | 7.197374 | .6009998 | 12.96953 | .3051665 |
| #1 | .0217358 | 2.110103 | .0406003 | .0092385 | 1.901087 | .0417998 | .0431322 |
| #2 | .0216066 | 2.084002 | .0403048 | .0105865 | 1.920333 | .0341716 | .0429378 |
| #3 | .0212376 | 2.120763 | .0412060 | .0095552 | 1.899926 | .0331741 | .0428824 |

| Elem | K_7664 | B_2496 | Mo2020 | Sn1899 | Ti3361 | Si2881 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **1.971835** | **.1002189** | **.1952657** | **.0366445** | **.0389090** | **.3765161** | **.0198467** |
| Stddev | .025643 | .0018356 | .0004951 | .0003637 | .0006536 | .0073532 | .0004285 |
| %RSD | 1.300460 | 1.831620 | .2535700 | .9925508 | 1.679922 | 1.952966 | 2.159047 |
| #1 | 1.972146 | .1021003 | .1951390 | .0364324 | .0394026 | .3826179 | .0193638 |
| #2 | 1.946038 | .0984328 | .1948462 | .0364365 | .0381677 | .3785786 | .0199946 |
| #3 | 1.997321 | .1001236 | .1958118 | .0370644 | .0391566 | .3683519 | .0201816 |

Sample Name: CRI01 Acquired: 9/10/2025 11:48:15 Type: Unk
Method: 6010-200.7 NEW(v160) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: CRI01 Custom ID2: Custom ID3:
Comment:

| Elem | S_1820 | Li6707 | Sr4077 |
|---|---|---|---|
| Units | ppm | ppm | ppm |
| Avg | .0226174 | .0187849 | .0211035 |
| Stddev | .0018381 | .0005424 | .0000574 |
| %RSD | 8.126834 | 2.887589 | .2718086 |
| #1 | .0240867 | .0183255 | .0211144 |
| #2 | .0205563 | .0186458 | .0210414 |
| #3 | .0232092 | .0193833 | .0211546 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | 6264.673 | 105749.4 | 11114.10 | 5028.931 | 7407.073 |
| Stddev | 7.210 | 110.3 | 69.20 | 9.713 | 9.713 |
| %RSD | .1150914 | .1042869 | .6226071 | .1931386 | .1311279 |
| #1 | 6257.448 | 105842.9 | 11045.47 | 5025.265 | 7396.781 |
| #2 | 6264.704 | 105627.8 | 11183.85 | 5039.944 | 7408.359 |
| #3 | 6271.868 | 105777.6 | 11112.98 | 5021.585 | 7416.078 |

Sample Name: ICSA01 Acquired: 9/10/2025 11:52:30 Type: Unk
Method: 6010-200.7 NEW(v160) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: ICSA01 Custom ID2: Custom ID3:
Comment:

| Elem | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0070161** | **.0069040** | **.0042947** | **.0063653** | **-.000183** | **279.0936** |
| Stddev | .0016945 | .0026725 | .0017854 | .0028044 | .001386 | .8681 |
| %RSD | 24.15124 | 38.70881 | 41.57218 | 44.05711 | 756.2195 | .3110400 |
| #1 | .0072347 | .0038308 | .0034926 | .0076040 | -.001526 | 279.8973 |
| #2 | .0085907 | .0086828 | .0063405 | .0031548 | .001243 | 279.2106 |
| #3 | .0052229 | .0081985 | .0030510 | .0083369 | -.000267 | 278.1730 |

| Elem | Ba4934 | Be2348 | Cd2265 | Ca3736 | Cr2677 | Co2286 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0054555** | **.0018764** | **.0002320** | **264.7308** | **.0607817** | **.0018767** |
| Stddev | .0014682 | .0000790 | .0002264 | 1.0136 | .0001317 | .0002874 |
| %RSD | 26.91232 | 4.208196 | 97.61386 | .3828799 | .2167433 | 15.31416 |
| #1 | .0057158 | .0017983 | .0004048 | 265.7766 | .0609236 | .0021169 |
| #2 | .0067761 | .0018747 | .0003155 | 264.6631 | .0606632 | .0015583 |
| #3 | .0038746 | .0019562 | -.000024 | 263.7528 | .0607583 | .0019550 |

| Elem | Cu2247 | Fe2404 | Mn2576 | Mg2790 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0023169** | **111.4515** | **.0108268** | **280.9140** | **.0076676** | **.0012985** |
| Stddev | .0004891 | 1.2632 | .0000561 | 1.2018 | .0007748 | .0003838 |
| %RSD | 21.10838 | 1.133401 | .5180549 | .4278049 | 10.10486 | 29.55602 |
| #1 | .0026362 | 112.8953 | .0107758 | 281.8210 | .0084269 | .0017207 |
| #2 | .0025607 | 110.9089 | .0108178 | 281.3700 | .0076977 | .0009708 |
| #3 | .0017539 | 110.5502 | .0108869 | 279.5510 | .0068782 | .0012038 |

| Elem | Na5895 | V_2924 | Zn2138 | K_7664 | B_2496 | Mo2020 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.1881009** | **.0024600** | **.0044138** | **.2001057** | **.0653801** | **.0022380** |
| Stddev | .0138424 | .0034570 | .0000644 | .0282776 | .0038903 | .0007344 |
| %RSD | 7.358999 | 140.5247 | 1.458344 | 14.13133 | 5.950310 | 32.81379 |
| #1 | .1732536 | -.000771 | .0043479 | .1793459 | .0698688 | .0029158 |
| #2 | .2006507 | .006105 | .0044765 | .2323121 | .0629844 | .0023405 |
| #3 | .1903985 | .002046 | .0044168 | .1886591 | .0632869 | .0014578 |

Sample Name: ICSA01 Acquired: 9/10/2025 11:52:30 Type: Unk
Method: 6010-200.7 NEW(v160) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: ICSA01 Custom ID2: Custom ID3:
Comment:

| Elem | Sn1899 | Ti3361 | Si2881 | P_1774 | S_1820 | Li6707 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | -.003310 | -.004495 | .0315088 | .0102638 | -.008101 | F -.032769 |
| Stddev | .000749 | .000284 | .0068407 | .0021493 | .004536 | .001684 |
| %RSD | 22.62054 | 6.315898 | 21.71052 | 20.94044 | 55.99216 | 5.138930 |
| #1 | -.003329 | -.004795 | .0382551 | .0113217 | -.006637 | -.033827 |
| #2 | -.002552 | -.004459 | .0316940 | .0116790 | -.004477 | -.033653 |
| #3 | -.004049 | -.004230 | .0245774 | .0077906 | -.013187 | -.030827 |

| Elem | Sr4077 |
|---|---|
| Units | ppm |
| Avg | .0047941 |
| Stddev | .0007715 |
| %RSD | 16.09191 |
| #1 | .0042156 |
| #2 | .0044966 |
| #3 | .0056700 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | 5765.414 | 98458.31 | 10854.91 | 4584.906 | 6472.496 |
| Stddev | 21.067 | 391.25 | 57.99 | 12.305 | 26.534 |
| %RSD | .3653970 | .3973812 | .5342045 | .2683906 | .4099441 |
| #1 | 5742.521 | 98683.57 | 10921.50 | 4581.368 | 6443.278 |
| #2 | 5769.738 | 98006.53 | 10815.54 | 4574.758 | 6479.122 |
| #3 | 5783.983 | 98684.84 | 10827.69 | 4598.593 | 6495.089 |

Sample Name: ICSAB01 Acquired: 9/10/2025 11:56:40 Type: Unk
Method: 6010-200.7 NEW(v160) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: ICSAB01 Custom ID2: Custom ID3:
Comment:

| Elem | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.1024831** | **.1101508** | **.0500709** | **.0521134** | **.5857863** | **248.7054** |
| Stddev | .0048694 | .0014462 | .0020209 | .0034659 | .0017546 | .2183 |
| %RSD | 4.751440 | 1.312950 | 4.036122 | 6.650618 | .2995261 | .0877631 |
| #1 | .0985848 | .1100645 | .0477449 | .0552684 | .5843697 | 248.4882 |
| #2 | .1079414 | .1087497 | .0513959 | .0526681 | .5877490 | 248.7031 |
| #3 | .1009232 | .1116383 | .0510720 | .0484036 | .5852402 | 248.9248 |

| Elem | Ba4934 | Be2348 | Cd2265 | Ca3736 | Cr2677 | Co2286 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.4871788** | **.4977067** | **.9477865** | **235.9138** | **.5549640** | **.4795866** |
| Stddev | .0013219 | .0002863 | .0001789 | .3480 | .0014935 | .0007185 |
| %RSD | .2713423 | .0575339 | .0188700 | .1475321 | .2691192 | .1498210 |
| #1 | .4871278 | .4980269 | .9476391 | 235.5189 | .5562020 | .4799509 |
| #2 | .4858831 | .4974751 | .9479855 | 236.0463 | .5533052 | .4787589 |
| #3 | .4885254 | .4976182 | .9477349 | 236.1760 | .5553847 | .4800499 |

| Elem | Cu2247 | Fe2404 | Mn2576 | Mg2790 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.4712930** | **97.45379** | **.4860831** | **250.8526** | **.9527495** | **.2122091** |
| Stddev | .0016936 | .16205 | .0015440 | .1666 | .0007975 | .0008270 |
| %RSD | .3593488 | .1662821 | .3176489 | .0664194 | .0837013 | .3897059 |
| #1 | .4729254 | 97.31412 | .4862026 | 250.6602 | .9536057 | .2113901 |
| #2 | .4695442 | 97.41579 | .4875640 | 250.9482 | .9526150 | .2130438 |
| #3 | .4714094 | 97.63146 | .4844828 | 250.9493 | .9520279 | .2121934 |

| Elem | Na5895 | V_2924 | Zn2138 | K_7664 | B_2496 | Mo2020 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0604927** | **.4774325** | **1.033219** | **-.095018** | **.9770648** | **.9827998** |
| Stddev | .0129263 | .0033496 | .002413 | .049325 | .0021798 | .0020279 |
| %RSD | 21.36844 | .7015828 | .2335220 | 51.91093 | .2230952 | .2063350 |
| #1 | .0456367 | .4751861 | 1.031089 | -.151797 | .9766356 | .9839642 |
| #2 | .0691721 | .4812824 | 1.035839 | -.070510 | .9794272 | .9804582 |
| #3 | .0666691 | .4758291 | 1.032729 | -.062747 | .9751315 | .9839770 |

Sample Name: ICSAB01 Acquired: 9/10/2025 11:56:40 Type: Unk
Method: 6010-200.7 NEW(v160) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: ICSAB01 Custom ID2: Custom ID3:
Comment:

| Elem | Sn1899 | Ti3361 | Si2881 | P_1774 | S_1820 | Li6707 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | .9531709 | .9508181 | .9861224 | F .0105086 | F .0039201 | F -.032558 |
| Stddev | .0025103 | .0019685 | .0079318 | .0020758 | .0011997 | .002092 |
| %RSD | .2633604 | .2070309 | .8043448 | 19.75355 | 30.60444 | 6.423893 |
| #1 | .9524796 | .9486824 | .9774135 | .0108907 | .0032664 | -.033538 |
| #2 | .9510788 | .9525598 | .9929324 | .0082683 | .0031893 | -.030157 |
| #3 | .9559544 | .9512120 | .9880215 | .0123669 | .0053048 | -.033980 |

| Elem | Sr4077 |
|---|---|
| Units | ppm |
| Avg | F .0052482 |
| Stddev | .0000289 |
| %RSD | .5498506 |
| #1 | .0052757 |
| #2 | .0052182 |
| #3 | .0052507 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | 5939.746 | 100066.7 | 10859.43 | 4637.731 | 6675.588 |
| Stddev | 14.197 | 203.3 | 9.06 | 9.373 | 10.190 |
| %RSD | .2390228 | .2031597 | .0834453 | .2021065 | .1526481 |
| #1 | 5923.418 | 100029.4 | 10849.08 | 4635.244 | 6665.604 |
| #2 | 5949.180 | 100286.1 | 10865.92 | 4629.851 | 6675.189 |
| #3 | 5946.640 | 99884.6 | 10863.30 | 4648.096 | 6685.973 |

Sample Name: ICSADLX20 Acquired: 9/10/2025 12:00:41 Type: Unk
Method: 6010-200.7 NEW(v160) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: ICSA01DLX20 Custom ID2: Custom ID3:
Comment:

| Elem | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ba4934 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.000727** | **.0019062** | **.0004867** | **-.001240** | **.0001369** | **11.41735** | **.0010297** |
| Stddev | .001506 | .0006175 | .0009468 | .000485 | .0015182 | .03228 | .0009454 |
| %RSD | 207.2606 | 32.39277 | 194.5502 | 39.09700 | 1108.688 | .2827247 | 91.81054 |
| #1 | .000408 | .0012735 | .0012612 | -.001039 | .0016024 | 11.38855 | -.000061 |
| #2 | -.002435 | .0025072 | .0007676 | -.000889 | .0002374 | 11.41125 | .001533 |
| #3 | -.000153 | .0019377 | -.000569 | -.001794 | -.001429 | 11.45224 | .001617 |

| Elem | Be2348 | Cd2265 | Ca3736 | Cr2677 | Co2286 | Cu2247 | Fe2404 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0001721** | **-.000004** | **11.30872** | **.0027405** | **.0001900** | **.0003153** | **4.486796** |
| Stddev | .0000640 | .000034 | .03180 | .0001127 | .0001940 | .0001643 | .010053 |
| %RSD | 37.20964 | 936.8534 | .2812100 | 4.113385 | 102.0679 | 52.08932 | .2240553 |
| #1 | .0002444 | -.000036 | 11.32288 | .0028563 | .0000994 | .0003058 | 4.496632 |
| #2 | .0001497 | .000031 | 11.33098 | .0027342 | .0000580 | .0004841 | 4.476539 |
| #3 | .0001223 | -.000006 | 11.27230 | .0026311 | .0004127 | .0001560 | 4.487219 |

| Elem | Mn2576 | Mg2790 | Ni2316 | Ag3280 | Na5895 | V_2924 | Zn2138 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0007703** | **11.85879** | **.0006318** | **-.000550** | **-.142022** | **.0009953** | **-.000238** |
| Stddev | .0006121 | .03852 | .0004868 | .000568 | .032108 | .0024499 | .000045 |
| %RSD | 79.46615 | .3248400 | 77.05133 | 103.2627 | 22.60801 | 246.1547 | 18.95348 |
| #1 | .0011934 | 11.89864 | .0006345 | -.000947 | -.178812 | .0000417 | -.000253 |
| #2 | .0000684 | 11.85600 | .0001437 | .000101 | -.127597 | -.000834 | -.000187 |
| #3 | .0010490 | 11.82174 | .0011174 | -.000804 | -.119655 | .003779 | -.000274 |

| Elem | K_7664 | B_2496 | Mo2020 | Sn1899 | Ti3361 | Si2881 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.294757** | **.0019040** | **.0001815** | **-.001006** | **.0006463** | **-.000120** | **.0006668** |
| Stddev | .031663 | .0006930 | .0001934 | .000666 | .0008912 | .007804 | .0019188 |
| %RSD | 10.74194 | 36.39803 | 106.4966 | 66.17926 | 137.8902 | 6522.572 | 287.7721 |
| #1 | -.327020 | .0014235 | .0002465 | -.001512 | .0009236 | .006775 | .0019258 |
| #2 | -.263732 | .0015901 | -.000036 | -.000252 | .0013660 | -.008592 | .0016161 |
| #3 | -.293519 | .0026984 | .000334 | -.001255 | -.000351 | .001459 | -.001542 |

Sample Name: ICSADLX20 Acquired: 9/10/2025 12:00:41 Type: Unk
Method: 6010-200.7 NEW(v160) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: ICSA01DLX20 Custom ID2: Custom ID3:
Comment:

| Elem | S_1820 | Li6707 | Sr4077 |
|---|---|---|---|
| Units | ppm | ppm | ppm |
| Avg | -.001099 | -.005121 | .0003472 |
| Stddev | .000408 | .000777 | .0000875 |
| %RSD | 37.14104 | 15.16558 | 25.19860 |
| #1 | -.000743 | -.005261 | .0003740 |
| #2 | -.001009 | -.004284 | .0004181 |
| #3 | -.001544 | -.005818 | .0002494 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | 6432.356 | 109634.0 | 11227.63 | 5129.542 | 7662.682 |
| Stddev | 2.702 | 136.7 | 28.00 | 5.477 | 8.924 |
| %RSD | .0420124 | .1246643 | .2494107 | .1067717 | .1164607 |
| #1 | 6430.623 | 109591.8 | 11225.93 | 5133.709 | 7652.936 |
| #2 | 6430.974 | 109786.8 | 11200.52 | 5131.578 | 7664.657 |
| #3 | 6435.469 | 109523.4 | 11256.45 | 5123.338 | 7670.453 |

Reviewed By:jaswal
On:9/12/2025 10:24:55 PM
Inst Id :P4
LB :LB137144

Sample Name: ICSABDLX20 Acquired: 9/10/2025 12:04:56 Type: Unk
Method: 6010-200.7 NEW(v160) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: ICSAB01DLX20 Custom ID2: Custom ID3:
Comment:

| Elem | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ba4934 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0050904** | **.0065976** | **.0019318** | **.0007970** | **.0287943** | **12.38000** | **.0257892** |
| Stddev | .0010785 | .0014616 | .0006485 | .0011348 | .0006223 | .03825 | .0009349 |
| %RSD | 21.18657 | 22.15408 | 33.56992 | 142.3881 | 2.161287 | .3089625 | 3.625089 |
| #1 | .0051753 | .0054646 | .0026090 | .0016534 | .0294458 | 12.33593 | .0259672 |
| #2 | .0039719 | .0060807 | .0018701 | .0012277 | .0287312 | 12.40457 | .0247782 |
| #3 | .0061239 | .0082474 | .0013164 | -.000490 | .0282060 | 12.39949 | .0266223 |

| Elem | Be2348 | Cd2265 | Ca3736 | Cr2677 | Co2286 | Cu2247 | Fe2404 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0256041** | **.0479867** | **12.27236** | **.0285491** | **.0239297** | **.0253922** | **4.808966** |
| Stddev | .0004524 | .0001813 | .04736 | .0000526 | .0002932 | .0003791 | .051973 |
| %RSD | 1.766723 | .3779183 | .3859383 | .1841096 | 1.225234 | 1.493124 | 1.080760 |
| #1 | .0251068 | .0477797 | 12.23455 | .0285774 | .0236357 | .0254858 | 4.845432 |
| #2 | .0257144 | .0481176 | 12.32549 | .0284885 | .0242221 | .0249750 | 4.832013 |
| #3 | .0259911 | .0480629 | 12.25704 | .0285815 | .0239312 | .0257158 | 4.749455 |

| Elem | Mn2576 | Mg2790 | Ni2316 | Ag3280 | Na5895 | V_2924 | Zn2138 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0252311** | **12.87159** | **.0491055** | **.0096835** | **-.154691** | **.0231377** | **.0508107** |
| Stddev | .0003860 | .05745 | .0002320 | .0001543 | .002953 | .0022065 | .0001948 |
| %RSD | 1.529943 | .4463260 | .4725191 | 1.593171 | 1.908841 | 9.536590 | .3832970 |
| #1 | .0250589 | 12.80973 | .0488427 | .0098207 | -.152794 | .0206035 | .0510088 |
| #2 | .0256733 | 12.92326 | .0492822 | .0095165 | -.158093 | .0241762 | .0508037 |
| #3 | .0249612 | 12.88179 | .0491915 | .0097134 | -.153186 | .0246334 | .0506195 |

| Elem | K_7664 | B_2496 | Mo2020 | Sn1899 | Ti3361 | Si2881 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.273857** | **.0492465** | **.0503080** | **.0468143** | **.0500151** | **.0550144** | **.0016443** |
| Stddev | .028285 | .0004594 | .0001027 | .0003982 | .0009439 | .0037610 | .0004791 |
| %RSD | 10.32836 | .9329415 | .2042231 | .8504995 | 1.887249 | 6.836474 | 29.13777 |
| #1 | -.302199 | .0487175 | .0504266 | .0463604 | .0494054 | .0532963 | .0020254 |
| #2 | -.245630 | .0494763 | .0502483 | .0469781 | .0511023 | .0593277 | .0011065 |
| #3 | -.273742 | .0495457 | .0502489 | .0471044 | .0495374 | .0524193 | .0018011 |

Sample Name: ICSABDLX20 Acquired: 9/10/2025 12:04:56 Type: Unk
Method: 6010-200.7 NEW(v160) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: ICSAB01DLX20 Custom ID2: Custom ID3:
Comment:

| Elem | S_1820 | Li6707 | Sr4077 |
|---|---|---|---|
| Units | ppm | ppm | ppm |
| Avg | -.002367 | -.006925 | .0004609 |
| Stddev | .002933 | .000477 | .0001039 |
| %RSD | 123.9133 | 6.888427 | 22.53485 |
| #1 | -.004315 | -.006391 | .0003639 |
| #2 | .001006 | -.007308 | .0004484 |
| #3 | -.003792 | -.007077 | .0005705 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | 6413.582 | 110754.0 | 11310.53 | 5117.519 | 7654.961 |
| Stddev | 13.477 | 456.4 | 89.98 | 38.623 | 15.601 |
| %RSD | .2101296 | .4120925 | .7955086 | .7547211 | .2038067 |
| #1 | 6428.348 | 110513.8 | 11414.37 | 5125.153 | 7672.564 |
| #2 | 6410.453 | 110467.9 | 11255.62 | 5075.649 | 7642.845 |
| #3 | 6401.945 | 111280.4 | 11261.60 | 5151.754 | 7649.472 |

Sample Name: CCV01 Acquired: 9/10/2025 12:09:07 Type: Unk
Method: 6010-200.7 NEW(v160) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: CCV01 Custom ID2: Custom ID3:
Comment:

| Elem | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ba4934 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **4.970478** | **4.957738** | **4.880945** | **4.983528** | **4.971516** | **9.938828** | **9.852827** |
| Stddev | .013512 | .089776 | .007992 | .005354 | .005310 | .029253 | .066652 |
| %RSD | .2718539 | 1.810823 | .1637397 | .1074270 | .1068010 | .2943287 | .6764739 |
| #1 | 4.955829 | 4.873360 | 4.872455 | 4.978819 | 4.975645 | 9.908486 | 9.821932 |
| #2 | 4.973150 | 4.947774 | 4.882056 | 4.989351 | 4.973377 | 9.941143 | 9.807229 |
| #3 | 4.982454 | 5.052080 | 4.888323 | 4.982414 | 4.965527 | 9.966854 | 9.929320 |

| Elem | Be2348 | Cd2265 | Ca3736 | Cr2677 | Co2286 | Cu2247 | Fe2404 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.2457963** | **2.453851** | **24.72245** | **.9982891** | **2.448670** | **1.236591** | **4.943810** |
| Stddev | .0022680 | .006009 | .01746 | .0033048 | .003805 | .002254 | .032906 |
| %RSD | .9227288 | .2448987 | .0706183 | .3310477 | .1553924 | .1823110 | .6656076 |
| #1 | .2439567 | 2.447346 | 24.70243 | .9951708 | 2.444285 | 1.234024 | 4.955388 |
| #2 | .2451019 | 2.455012 | 24.73449 | .9979431 | 2.450630 | 1.237498 | 4.969363 |
| #3 | .2483304 | 2.459196 | 24.73044 | 1.001753 | 2.451096 | 1.238249 | 4.906680 |

| Elem | Mn2576 | Mg2790 | Ni2316 | Ag3280 | Na5895 | V_2924 | Zn2138 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.464322** | **24.66385** | **2.449667** | **1.241373** | **24.93777** | **2.484360** | **2.512667** |
| Stddev | .009436 | .04158 | .004244 | .002091 | .12259 | .000476 | .006282 |
| %RSD | .3829103 | .1685765 | .1732647 | .1684117 | .4915831 | .0191734 | .2500070 |
| #1 | 2.453807 | 24.64279 | 2.444816 | 1.241983 | 24.94354 | 2.483977 | 2.514667 |
| #2 | 2.472053 | 24.71174 | 2.451484 | 1.239045 | 25.05737 | 2.484893 | 2.505628 |
| #3 | 2.467105 | 24.63701 | 2.452700 | 1.243091 | 24.81240 | 2.484210 | 2.517705 |

| Elem | K_7664 | B_2496 | Mo2020 | Sn1899 | Ti3361 | Si2881 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **24.59138** | **4.914693** | **5.003404** | **4.918573** | **4.959962** | **4.967240** | **4.877107** |
| Stddev | .10966 | .035399 | .001849 | .008872 | .017567 | .048850 | .027106 |
| %RSD | .4459400 | .7202739 | .0369517 | .1803776 | .3541787 | .9834343 | .5557876 |
| #1 | 24.62978 | 4.883872 | 5.001443 | 4.908653 | 4.940662 | 4.990878 | 4.848553 |
| #2 | 24.67668 | 4.906850 | 5.005116 | 4.921317 | 4.975019 | 4.999775 | 4.880279 |
| #3 | 24.46768 | 4.953355 | 5.003652 | 4.925749 | 4.964206 | 4.911068 | 4.902487 |

Sample Name: CCV01 Acquired: 9/10/2025 12:09:07 Type: Unk
Method: 6010-200.7 NEW(v160) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: CCV01 Custom ID2: Custom ID3:
Comment:

| Elem | S_1820 | Li6707 | Sr4077 |
|---|---|---|---|
| Units | ppm | ppm | ppm |
| Avg | **4.857109** | **4.948876** | **4.981889** |
| Stddev | .027871 | .008918 | .060913 |
| %RSD | .5738155 | .1802062 | 1.222687 |
| #1 | 4.827691 | 4.938615 | 4.912885 |
| #2 | 4.860515 | 4.953259 | 5.028190 |
| #3 | 4.883120 | 4.954755 | 5.004593 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **6162.835** | **107425.7** | **11147.21** | **4935.481** | **7061.404** |
| Stddev | 16.137 | 365.5 | 101.25 | 11.413 | 23.465 |
| %RSD | .2618510 | .3402779 | .9082991 | .2312510 | .3323055 |
| #1 | 6171.379 | 107846.7 | 11247.58 | 4939.724 | 7076.500 |
| #2 | 6172.905 | 107241.9 | 11148.94 | 4944.165 | 7073.341 |
| #3 | 6144.222 | 107188.5 | 11045.10 | 4922.554 | 7034.370 |

Reviewed By:jaswal
On:9/12/2025 10:24:55 PM
Inst Id :P4
LB :LB137144

Sample Name: CCB01 Acquired: 9/10/2025 12:13:19 Type: Unk
Method: 6010-200.7 NEW(v160) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: CCB01 Custom ID2: Custom ID3:
Comment:

| Elem | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ba4934 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.001257** | **.0003832** | **.0002678** | **-.001948** | **-.000321** | **.0017037** | **-.000141** |
| Stddev | .001454 | .0012740 | .0012755 | .001724 | .000436 | .0116683 | .000624 |
| %RSD | 115.6441 | 332.4668 | 476.2592 | 88.52360 | 135.9834 | 684.8646 | 443.5097 |
| #1 | -.002161 | .0018472 | .0002265 | -.003851 | -.000310 | .0065263 | -.000782 |
| #2 | .000420 | -.000473 | .0015635 | -.001503 | .000110 | .0101877 | -.000104 |
| #3 | -.002030 | -.000225 | -.000987 | -.000489 | -.000762 | -.011603 | .000464 |

| Elem | Be2348 | Cd2265 | Ca3736 | Cr2677 | Co2286 | Cu2247 | Fe2404 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0001392** | **.0001135** | **.0007469** | **.0003712** | **.0001445** | **-.000151** | **.0052643** |
| Stddev | .0000146 | .0000346 | .0084463 | .0001651 | .0001169 | .000326 | .0028673 |
| %RSD | 10.51396 | 30.44175 | 1130.877 | 44.48051 | 80.89321 | 215.3069 | 54.46739 |
| #1 | .0001472 | .0000785 | .0104212 | .0002119 | .0002641 | -.000336 | .0079726 |
| #2 | .0001481 | .0001145 | -.003020 | .0005416 | .0001388 | .000225 | .0022608 |
| #3 | .0001223 | .0001476 | -.005161 | .0003602 | .0000306 | -.000343 | .0055595 |

| Elem | Mn2576 | Mg2790 | Ni2316 | Ag3280 | Na5895 | V_2924 | Zn2138 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0003498** | **.0048893** | **.0003259** | **-.000222** | **-.151789** | **.0013850** | **-.000327** |
| Stddev | .0006432 | .0076727 | .0002350 | .000117 | .011074 | .0008515 | .000017 |
| %RSD | 183.8872 | 156.9280 | 72.12238 | 52.97720 | 7.295868 | 61.48301 | 5.256834 |
| #1 | .0007601 | .0129170 | .0005439 | -.000106 | -.163712 | .0022032 | -.000313 |
| #2 | -.000391 | .0041220 | .0003569 | -.000341 | -.149829 | .0014480 | -.000347 |
| #3 | .000681 | -.002371 | .0000769 | -.000217 | -.141825 | .0005037 | -.000323 |

| Elem | K_7664 | B_2496 | Mo2020 | Sn1899 | Ti3361 | Si2881 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.284719** | **.0045192** | **.0005835** | **.0001552** | **.0001373** | **.0098993** | **.0012764** |
| Stddev | .011080 | .0005279 | .0002012 | .0003064 | .0014481 | .0067722 | .0001415 |
| %RSD | 3.891477 | 11.68121 | 34.47570 | 197.4641 | 1054.940 | 68.41083 | 11.08500 |
| #1 | -.286301 | .0045603 | .0006338 | .0004794 | .0013654 | .0152104 | .0013299 |
| #2 | -.272933 | .0039720 | .0007547 | -.000130 | -.001460 | .0022731 | .0013834 |
| #3 | -.294923 | .0050254 | .0003619 | .000116 | .000506 | .0122145 | .0011160 |

Reviewed By:jaswal
On:9/12/2025 10:24:55 PM
Inst Id :P4
LB :LB137144

Sample Name: CCB01 Acquired: 9/10/2025 12:13:19 Type: Unk
Method: 6010-200.7 NEW(v160) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: CCB01 Custom ID2: Custom ID3:
Comment:

| Elem | S_1820 | Li6707 | Sr4077 |
|---|---|---|---|
| Units | ppm | ppm | ppm |
| Avg | -.000533 | -.004567 | .0002522 |
| Stddev | .000538 | .001034 | .0000527 |
| %RSD | 101.0746 | 22.64160 | 20.88984 |
| #1 | -.000404 | -.004535 | .0002065 |
| #2 | -.001124 | -.005617 | .0002404 |
| #3 | -.000070 | -.003550 | .0003098 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | 6337.804 | 111538.7 | 11474.75 | 5182.771 | 7568.632 |
| Stddev | 19.597 | 493.3 | 47.88 | 7.384 | 22.468 |
| %RSD | .3092090 | .4422860 | .4172574 | .1424776 | .2968524 |
| #1 | 6342.426 | 112105.7 | 11510.58 | 5183.748 | 7573.921 |
| #2 | 6354.676 | 111302.8 | 11420.37 | 5174.947 | 7587.984 |
| #3 | 6316.309 | 111207.6 | 11493.30 | 5189.618 | 7543.992 |

Sample Name: LR-1 Acquired: 9/10/2025 12:17:37 Type: Unk
Method: 6010-200.7 NEW(v160) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ba4934 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.000945** | **.0057343** | **.0169481** | **-.023405** | **.0192912** | **.2043062** | **-.007025** |
| Stddev | .001764 | .0029514 | .0013429 | .003917 | .0037182 | .0198247 | .000601 |
| %RSD | 186.7697 | 51.46930 | 7.923630 | 16.73762 | 19.27396 | 9.703419 | 8.560657 |
| #1 | -.000098 | .0067374 | .0163486 | -.027273 | .0216850 | .1878155 | -.007392 |
| #2 | -.002973 | .0080534 | .0184864 | -.019440 | .0211809 | .1988018 | -.006331 |
| #3 | .000237 | .0024121 | .0160095 | -.023501 | .0150077 | .2263015 | -.007353 |

| Elem | Be2348 | Cd2265 | Ca3736 | Cr2677 | Co2286 | Cu2247 | Fe2404 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0003706** | **.0007122** | **2469.546** | **.0266098** | **.0001630** | **.0031411** | **.5143729** |
| Stddev | .0000679 | .0001417 | 14.941 | .0001834 | .0002412 | .0005998 | .0072348 |
| %RSD | 18.32023 | 19.89177 | .6050235 | .6893587 | 147.9830 | 19.09347 | 1.406522 |
| #1 | .0004466 | .0008008 | 2475.767 | .0268215 | -.000023 | .0031025 | .5061760 |
| #2 | .0003491 | .0005488 | 2452.499 | .0264982 | .000436 | .0025616 | .5198678 |
| #3 | .0003160 | .0007869 | 2480.371 | .0265098 | .000076 | .0037593 | .5170750 |

| Elem | Mn2576 | Mg2790 | Ni2316 | Ag3280 | Na5895 | V_2924 | Zn2138 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0163784** | **2243.311** | **.0179784** | **-.002283** | **2528.536** | **.0075259** | **.0558527** |
| Stddev | .0001874 | 5.228 | .0003228 | .000611 | 31.419 | .0020633 | .0006488 |
| %RSD | 1.144346 | .2330519 | 1.795308 | 26.77417 | 1.242578 | 27.41565 | 1.161720 |
| #1 | .0165924 | 2249.160 | .0179919 | -.001913 | 2521.870 | .0099081 | .0564020 |
| #2 | .0162993 | 2239.093 | .0176492 | -.001948 | 2500.984 | .0063675 | .0560191 |
| #3 | .0162435 | 2241.678 | .0182943 | -.002989 | 2562.753 | .0063022 | .0551368 |

| Elem | K_7664 | B_2496 | Mo2020 | Sn1899 | Ti3361 | Si2881 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **5.604153** | **.0095809** | **.0043907** | **-.014689** | **-.113051** | **-.025217** | **.0182880** |
| Stddev | .670676 | .0002603 | .0007351 | .000430 | .001978 | .007570 | .0015634 |
| %RSD | 11.96748 | 2.716529 | 16.74219 | 2.925144 | 1.749986 | 30.01858 | 8.548847 |
| #1 | 4.891098 | .0093572 | .0048469 | -.014193 | -.114978 | -.016484 | .0166032 |
| #2 | 5.699013 | .0095189 | .0047824 | -.014933 | -.111025 | -.029259 | .0185689 |
| #3 | 6.222348 | .0098666 | .0035427 | -.014941 | -.113151 | -.029909 | .0196920 |

Sample Name: LR-1 Acquired: 9/10/2025 12:17:37 Type: Unk
Method: 6010-200.7 NEW(v160) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | S_1820 | Li6707 | Sr4077 |
|---|---|---|---|
| Units | ppm | ppm | ppm |
| Avg | .2191950 | -.385295 | .0637106 |
| Stddev | .0105897 | .003349 | .0003477 |
| %RSD | 4.831189 | .8691792 | .5456804 |
| #1 | .2302156 | -.388161 | .0637927 |
| #2 | .2090965 | -.381614 | .0640098 |
| #3 | .2182727 | -.386111 | .0633292 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | 4195.472 | 75779.11 | 9888.645 | 3324.222 | 4458.958 |
| Stddev | 10.982 | 260.37 | 20.532 | 9.594 | 20.498 |
| %RSD | .2617653 | .3435899 | .2076322 | .2886183 | .4597149 |
| #1 | 4195.200 | 76063.49 | 9900.556 | 3326.568 | 4449.362 |
| #2 | 4184.629 | 75721.44 | 9900.443 | 3332.425 | 4445.017 |
| #3 | 4206.588 | 75552.42 | 9864.937 | 3313.671 | 4482.494 |

Reviewed By:jaswal
On:9/12/2025 10:24:55 PM
Inst Id :P4
LB :LB137144

Sample Name: LR-2 Acquired: 9/10/2025 12:22:16 Type: Unk
Method: 6010-200.7 NEW(v160) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ba4934 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.1047105** | **-.177451** | **.1063313** | **.0290805** | **-.128163** | **1820.865** | **.0210559** |
| Stddev | .0080235 | .008122 | .0017227 | .0126989 | .004378 | 24.089 | .0009700 |
| %RSD | 7.662590 | 4.576850 | 1.620143 | 43.66815 | 3.415841 | 1.322933 | 4.607045 |
| #1 | .1139161 | -.175723 | .1057793 | .0171912 | -.131517 | 1848.672 | .0214700 |
| #2 | .1010134 | -.170332 | .1049523 | .0424579 | -.129762 | 1807.576 | .0199475 |
| #3 | .0992021 | -.186297 | .1082624 | .0275924 | -.123211 | 1806.348 | .0217501 |

| Elem | Be2348 | Cd2265 | Ca3736 | Cr2677 | Co2286 | Cu2247 | Fe2404 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0382932** | **.0038435** | **11.29941** | **-.245390** | **.0572172** | **.0796345** | **2595.870** |
| Stddev | .0002798 | .0004631 | .17076 | .001195 | .0002219 | .0035598 | 6.918 |
| %RSD | .7307084 | 12.04892 | 1.511202 | .4871732 | .3878015 | 4.470235 | .2664872 |
| #1 | .0383509 | .0034360 | 11.41230 | -.244013 | .0569711 | .0836185 | 2588.761 |
| #2 | .0385397 | .0037474 | 11.10297 | -.246002 | .0574020 | .0785194 | 2596.272 |
| #3 | .0379890 | .0043471 | 11.38297 | -.246157 | .0572784 | .0767658 | 2602.578 |

| Elem | Mn2576 | Mg2790 | Ni2316 | Ag3280 | Na5895 | V_2924 | Zn2138 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.172436** | **1.179537** | **.0479188** | **^ *****| **4.231388** | **.0441292** | **.0678894** |
| Stddev | .001937 | .023744 | .0008759 | ----- | .028632 | .0024668 | .0012238 |
| %RSD | 1.123091 | 2.013033 | 1.827883 | ----- | .6766460 | 5.589910 | 1.802564 |
| #1 | -.173064 | 1.200606 | .0476142 | ^ ----- | 4.251506 | .0432174 | .0692012 |
| #2 | -.173980 | 1.153808 | .0472359 | ^ ----- | 4.244049 | .0469221 | .0667785 |
| #3 | -.170263 | 1.184196 | .0489064 | ^ ----- | 4.198608 | .0422482 | .0676886 |

| Elem | K_7664 | B_2496 | Mo2020 | Sn1899 | Ti3361 | Si2881 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **1756.502** | **^ *****| **-.014212** | **.0156583** | **.0028362** | **.4898420** | **.0828388** |
| Stddev | 17.173 | ----- | .000826 | .0008413 | .0011170 | .0185455 | .0040520 |
| %RSD | .9776850 | ----- | 5.808873 | 5.372873 | 39.38297 | 3.786013 | 4.891385 |
| #1 | 1762.931 | ^ ----- | -.013426 | .0166150 | .0016196 | .4731403 | .0808191 |
| #2 | 1769.533 | ^ ----- | -.015072 | .0153261 | .0038154 | .5097999 | .0875036 |
| #3 | 1737.042 | ^ ----- | -.014136 | .0150338 | .0030737 | .4865858 | .0801936 |

Sample Name: LR-2 Acquired: 9/10/2025 12:22:16 Type: Unk
Method: 6010-200.7 NEW(v160) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | S_1820 | Li6707 | Sr4077 |
|---|---|---|---|
| Units | ppm | ppm | ppm |
| Avg | -.472644 | .2538931 | -2.48834 |
| Stddev | .009203 | .0013154 | .00673 |
| %RSD | 1.947179 | .5181063 | .2706592 |
| #1 | -.478117 | .2527968 | -2.48143 |
| #2 | -.462018 | .2553518 | -2.48870 |
| #3 | -.477796 | .2535308 | -2.49488 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | 5206.915 | 88445.02 | 11293.55 | 4138.451 | 5624.740 |
| Stddev | .867 | 138.36 | 83.63 | 5.722 | 1.519 |
| %RSD | .0166469 | .1564348 | .7405506 | .1382635 | .0270046 |
| #1 | 5206.273 | 88334.36 | 11205.05 | 4133.221 | 5622.989 |
| #2 | 5206.571 | 88400.57 | 11304.33 | 4144.563 | 5625.708 |
| #3 | 5207.901 | 88600.15 | 11371.28 | 4137.571 | 5625.523 |

Sample Name: PB169620BS Acquired: 9/10/2025 12:35:38 Type: Unk
Method: 6010-200.7 NEW(v160) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.7644555** | **1.971297** | **.9272577** | **1.946159** | **.7760358** | **1.920772** |
| Stddev | .0005681 | .021620 | .0011197 | .003057 | .0013950 | .003905 |
| %RSD | .0743195 | 1.096722 | .1207543 | .1570911 | .1797607 | .2032787 |
| #1 | .7644364 | 1.985838 | .9267583 | 1.946672 | .7768557 | 1.916791 |
| #2 | .7650329 | 1.981600 | .9264745 | 1.948927 | .7768266 | 1.920931 |
| #3 | .7638971 | 1.946453 | .9285402 | 1.942878 | .7744250 | 1.924595 |

| Elem | Ba4934 | Be2348 | Cd2265 | Ca3736 | Cr2677 | Co2286 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.1869647** | **.1923535** | **.1881066** | **.9793522** | **.3879271** | **.1894891** |
| Stddev | .0013413 | .0014560 | .0002537 | .0064115 | .0006843 | .0005336 |
| %RSD | .7174035 | .7569563 | .1348675 | .6546645 | .1763886 | .2816259 |
| #1 | .1875906 | .1914376 | .1878277 | .9726181 | .3879028 | .1894827 |
| #2 | .1854249 | .1915905 | .1883236 | .9853830 | .3886232 | .1900259 |
| #3 | .1878787 | .1940325 | .1881686 | .9800557 | .3872553 | .1889587 |

| Elem | Cu2247 | Fe2404 | Mn2576 | Mg2790 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.2962149** | **2.890556** | **.1932846** | **1.919827** | **.4748874** | **.0725064** |
| Stddev | .0000623 | .012287 | .0008714 | .040859 | .0003902 | .0001201 |
| %RSD | .0210406 | .4250673 | .4508578 | 2.128244 | .0821556 | .1656683 |
| #1 | .2961430 | 2.899887 | .1942688 | 1.878045 | .4745137 | .0724849 |
| #2 | .2962477 | 2.895146 | .1926111 | 1.959695 | .4752922 | .0723985 |
| #3 | .2962539 | 2.876635 | .1929739 | 1.921742 | .4748562 | .0726358 |

| Elem | Na5895 | V_2924 | Zn2138 | K_7664 | B_2496 | Mo2020 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.828507** | **.2877576** | **.2004711** | **9.418613** | **.2829936** | **.3925060** |
| Stddev | .009028 | .0040518 | .0004588 | .078992 | .0023489 | .0005763 |
| %RSD | .3191810 | 1.408061 | .2288433 | .8386834 | .8300300 | .1468364 |
| #1 | 2.834080 | .2860596 | .2007485 | 9.502979 | .2807827 | .3931282 |
| #2 | 2.833350 | .2848310 | .2007233 | 9.406456 | .2827384 | .3923994 |
| #3 | 2.818091 | .2923821 | .1999416 | 9.346404 | .2854597 | .3919904 |

Sample Name: PB169620BS Acquired: 9/10/2025 12:35:38 Type: Unk
Method: 6010-200.7 NEW(v160) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Sn1899 | Ti3361 | Si2881 | P_1774 | S_1820 | Li6707 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.6639346** | **.1882316** | **.8769711** | **5.433305** | F **-.008182** | **.1935193** |
| Stddev | .0013888 | .0011133 | .0093561 | .008025 | .004276 | .0019195 |
| %RSD | .2091728 | .5914341 | 1.066867 | .1476924 | 52.26705 | .9918723 |
| #1 | .6627461 | .1869868 | .8841768 | 5.426855 | -.010254 | .1953842 |
| #2 | .6635964 | .1891319 | .8803394 | 5.442291 | -.011028 | .1915495 |
| #3 | .6654612 | .1885760 | .8663973 | 5.430768 | -.003264 | .1936241 |

| Elem | Sr4077 |
|---|---|
| Units | ppm |
| Avg | **.1889285** |
| Stddev | .0008378 |
| %RSD | .4434547 |
| #1 | .1896078 |
| #2 | .1879923 |
| #3 | .1891853 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **6324.124** | **111887.7** | **11614.17** | **5140.734** | **7492.747** |
| Stddev | 7.043 | 96.9 | 76.59 | 14.807 | 14.721 |
| %RSD | .1113739 | .0866342 | .6594584 | .2880362 | .1964677 |
| #1 | 6331.262 | 111908.7 | 11674.76 | 5130.712 | 7508.324 |
| #2 | 6317.179 | 111782.0 | 11639.67 | 5133.748 | 7479.065 |
| #3 | 6323.931 | 111972.4 | 11528.08 | 5157.742 | 7490.852 |

Sample Name: PB169596BL Acquired: 9/10/2025 12:39:39 Type: Unk
Method: 6010-200.7 NEW(v160) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ba4934 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.003181** | **.0005163** | **-.000200** | **-.001285** | **-.000100** | **.0007453** | **-.000737** |
| Stddev | .000894 | .0029149 | .001107 | .002701 | .001027 | .0049337 | .001866 |
| %RSD | 28.12138 | 564.5558 | 553.0446 | 210.1073 | 1029.753 | 662.0145 | 253.2598 |
| #1 | -.003921 | -.000529 | -.000770 | .000079 | -.001038 | .0008409 | -.002744 |
| #2 | -.002187 | .003810 | -.000906 | -.004396 | .000998 | .0056304 | -.000411 |
| #3 | -.003433 | -.001732 | .001075 | .000461 | -.000259 | -.004236 | .000945 |

| Elem | Be2348 | Cd2265 | Ca3736 | Cr2677 | Co2286 | Cu2247 | Fe2404 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0000825** | **-.000012** | **-.002588** | **.0004971** | **.0000566** | **-.000282** | **.0020887** |
| Stddev | .0001067 | .000044 | .014699 | .0003043 | .0001180 | .000054 | .0016866 |
| %RSD | 129.3402 | 373.0655 | 567.9766 | 61.21106 | 208.3276 | 19.23076 | 80.74951 |
| #1 | .0001804 | -.000035 | -.002123 | .0004560 | .0000516 | -.000303 | .0023957 |
| #2 | .0000984 | .000039 | -.017514 | .0008198 | .0001770 | -.000220 | .0002697 |
| #3 | -.000031 | -.000039 | .011873 | .0002155 | -.000059 | -.000322 | .0036006 |

| Elem | Mn2576 | Mg2790 | Ni2316 | Ag3280 | Na5895 | V_2924 | Zn2138 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.000020** | **.0291633** | **.0001848** | **-.000541** | **.0018506** | **-.001659** | **-.000469** |
| Stddev | .000179 | .0191382 | .0002522 | .000790 | .0059430 | .001870 | .000290 |
| %RSD | 885.0691 | 65.62447 | 136.4430 | 146.1547 | 321.1443 | 112.6853 | 61.83587 |
| #1 | .000179 | .0218634 | -.000014 | -.000027 | .0086819 | -.003401 | -.000697 |
| #2 | -.000070 | .0508771 | .000100 | -.001451 | -.001000 | -.001894 | -.000567 |
| #3 | -.000170 | .0147492 | .000469 | -.000145 | -.002130 | .000317 | -.000143 |

| Elem | K_7664 | B_2496 | Mo2020 | Sn1899 | Ti3361 | Si2881 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.014901** | **-.003114** | **.0000822** | **.0001577** | **.0006683** | **-.004461** | **.0019562** |
| Stddev | .020888 | .000189 | .0000840 | .0002359 | .0003682 | .010839 | .0015975 |
| %RSD | 140.1848 | 6.058578 | 102.2288 | 149.5497 | 55.10111 | 242.9441 | 81.65940 |
| #1 | -.031853 | -.003332 | .0000601 | .0004087 | .0009620 | -.013335 | .0015010 |
| #2 | .008435 | -.003006 | .0000114 | .0001239 | .0002552 | -.007668 | .0037319 |
| #3 | -.021283 | -.003004 | .0001750 | -.000059 | .0007876 | .007619 | .0006358 |

Sample Name: PB169596BL Acquired: 9/10/2025 12:39:39 Type: Unk
Method: 6010-200.7 NEW(v160) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | S_1820 | Li6707 | Sr4077 |
|---|---|---|---|
| Units | ppm | ppm | ppm |
| Avg | -.002958 | -.003388 | .0000178 |
| Stddev | .001588 | .001378 | .0000670 |
| %RSD | 53.69221 | 40.67287 | 375.3255 |
| #1 | -.001879 | -.003151 | .0000830 |
| #2 | -.004782 | -.004868 | .0000212 |
| #3 | -.002213 | -.002143 | -.000051 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | 6315.559 | 110371.5 | 11373.44 | 5081.642 | 7629.983 |
| Stddev | 2.163 | 325.4 | 127.08 | 8.505 | 3.299 |
| %RSD | .0342480 | .2948099 | 1.117340 | .1673677 | .0432348 |
| #1 | 6313.083 | 110498.2 | 11500.80 | 5082.878 | 7633.750 |
| #2 | 6316.512 | 110001.8 | 11372.89 | 5072.586 | 7628.591 |
| #3 | 6317.081 | 110614.5 | 11246.64 | 5089.461 | 7627.609 |

Sample Name: PB169596BS Acquired: 9/10/2025 12:43:59 Type: Unk
Method: 6010-200.7 NEW(v160) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.7500181** | **1.902716** | **.9155882** | **1.908349** | **.7627911** | **1.938200** |
| Stddev | .0031173 | .021257 | .0033820 | .012635 | .0041194 | .009945 |
| %RSD | .4156351 | 1.117171 | .3693824 | .6620910 | .5400432 | .5131239 |
| #1 | .7527322 | 1.882568 | .9181322 | 1.921385 | .7660924 | 1.927298 |
| #2 | .7507086 | 1.924930 | .9168821 | 1.907504 | .7641062 | 1.940527 |
| #3 | .7466134 | 1.900650 | .9117502 | 1.896158 | .7581748 | 1.946777 |

| Elem | Ba4934 | Be2348 | Cd2265 | Ca3736 | Cr2677 | Co2286 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.1900785** | **.1958441** | **.1843280** | **.9839090** | **.3867553** | **.1867644** |
| Stddev | .0002473 | .0001105 | .0005704 | .0100757 | .0001990 | .0009107 |
| %RSD | .1300947 | .0564309 | .3094305 | 1.024050 | .0514474 | .4875991 |
| #1 | .1902616 | .1959436 | .1847622 | .9811115 | .3866533 | .1877855 |
| #2 | .1901767 | .1957251 | .1845397 | .9950879 | .3869846 | .1864713 |
| #3 | .1897972 | .1958637 | .1836820 | .9755276 | .3866281 | .1860364 |

| Elem | Cu2247 | Fe2404 | Mn2576 | Mg2790 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.2926684** | **2.854763** | **.1945689** | **1.963144** | **.4677035** | **.0728238** |
| Stddev | .0007804 | .007545 | .0007390 | .003262 | .0016730 | .0002699 |
| %RSD | .2666496 | .2643096 | .3798335 | .1661869 | .3577120 | .3706466 |
| #1 | .2934229 | 2.857208 | .1952317 | 1.962531 | .4693101 | .0725158 |
| #2 | .2927177 | 2.860783 | .1937720 | 1.966670 | .4678292 | .0729367 |
| #3 | .2918645 | 2.846299 | .1947031 | 1.960232 | .4659712 | .0730190 |

| Elem | Na5895 | V_2924 | Zn2138 | K_7664 | B_2496 | Mo2020 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.729434** | **.2893939** | **.1998172** | **9.232452** | **.2895216** | **.3888731** |
| Stddev | .004966 | .0018895 | .0002585 | .049138 | .0004327 | .0013751 |
| %RSD | .1819532 | .6529157 | .1293885 | .5322349 | .1494662 | .3536079 |
| #1 | 2.734972 | .2915550 | .1995330 | 9.287829 | .2894505 | .3904198 |
| #2 | 2.725375 | .2885728 | .2000386 | 9.215472 | .2899855 | .3884107 |
| #3 | 2.727955 | .2880538 | .1998799 | 9.194056 | .2891289 | .3877889 |

Sample Name: PB169596BS Acquired: 9/10/2025 12:43:59 Type: Unk
Method: 6010-200.7 NEW(v160) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Sn1899 | Ti3361 | Si2881 | P_1774 | S_1820 | Li6707 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | .6469291 | .1890125 | .8464739 | 5.265630 | F -.006444 | .2008061 |
| Stddev | .0034141 | .0026400 | .0070006 | .018998 | .002639 | .0002770 |
| %RSD | .5277341 | 1.396744 | .8270356 | .3607991 | 40.94848 | .1379258 |
| #1 | .6501229 | .1918636 | .8545552 | 5.285317 | -.007703 | .2004880 |
| #2 | .6473337 | .1885215 | .8422633 | 5.264168 | -.008217 | .2009360 |
| #3 | .6433308 | .1866525 | .8426033 | 5.247404 | -.003411 | .2009941 |

| Elem | Sr4077 |
|---|---|
| Units | ppm |
| Avg | .1906037 |
| Stddev | .0011609 |
| %RSD | .6090789 |
| #1 | .1919120 |
| #2 | .1896966 |
| #3 | .1902023 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | 6471.014 | 112831.0 | 11421.60 | 5154.697 | 7742.130 |
| Stddev | 14.593 | 226.3 | 6.96 | 16.431 | 21.523 |
| %RSD | .2255131 | .2005280 | .0609038 | .3187526 | .2779991 |
| #1 | 6457.687 | 112995.5 | 11414.89 | 5142.254 | 7722.991 |
| #2 | 6468.747 | 112572.9 | 11428.78 | 5148.515 | 7737.971 |
| #3 | 6486.608 | 112924.4 | 11421.15 | 5173.322 | 7765.430 |

Sample Name: PB169620BL Acquired: 9/10/2025 12:52:45 Type: Unk
Method: 6010-200.7 NEW(v160) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ba4934 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0002786** | **.0003250** | **.0047273** | **-.001108** | **-.000420** | **.0023476** | **-.001175** |
| Stddev | .0023565 | .0010813 | .0013734 | .000379 | .001736 | .0033580 | .000300 |
| %RSD | 845.7853 | 332.7567 | 29.05264 | 34.17864 | 413.6526 | 143.0404 | 25.57266 |
| #1 | -.002292 | .0012608 | .0031620 | -.000707 | .001170 | .0045756 | -.000986 |
| #2 | .000792 | .0005729 | .0057302 | -.001460 | -.002272 | -.001515 | -.001017 |
| #3 | .002336 | -.000859 | .0052899 | -.001156 | -.000157 | .003982 | -.001521 |

| Elem | Be2348 | Cd2265 | Ca3736 | Cr2677 | Co2286 | Cu2247 | Fe2404 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0001221** | **.0000445** | **-.001210** | **.0012250** | **.0001058** | **.0016027** | **.0019908** |
| Stddev | .0000210 | .0000573 | .004961 | .0000232 | .0001486 | .0005302 | .0078547 |
| %RSD | 17.20523 | 128.5764 | 410.0537 | 1.895172 | 140.4266 | 33.08105 | 394.5543 |
| #1 | .0001430 | .0000000 | -.006512 | .0012512 | .0002439 | .0018513 | .0100295 |
| #2 | .0001010 | .0001091 | -.000440 | .0012164 | -.000051 | .0009939 | -.005666 |
| #3 | .0001221 | .0000244 | .003321 | .0012072 | .000125 | .0019630 | .001609 |

| Elem | Mn2576 | Mg2790 | Ni2316 | Ag3280 | Na5895 | V_2924 | Zn2138 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0023861** | **.0226813** | **.0008039** | **-.000155** | **-.073986** | **-.001023** | **.0028146** |
| Stddev | .0005749 | .0018417 | .0001100 | .000302 | .010896 | .001511 | .0005167 |
| %RSD | 24.09497 | 8.119778 | 13.68733 | 194.8333 | 14.72646 | 147.6772 | 18.35877 |
| #1 | .0025908 | .0214366 | .0009153 | -.000489 | -.080177 | -.000456 | .0026423 |
| #2 | .0017368 | .0218104 | .0006953 | .000098 | -.061406 | -.002736 | .0033954 |
| #3 | .0028307 | .0247969 | .0008011 | -.000074 | -.080375 | .000122 | .0024060 |

| Elem | K_7664 | B_2496 | Mo2020 | Sn1899 | Ti3361 | Si2881 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.062348** | **-.003420** | **.0001795** | **.0000867** | **-.000033** | **-.004323** | **.0015987** |
| Stddev | .050937 | .000297 | .0000525 | .0005110 | .000311 | .009285 | .0016010 |
| %RSD | 81.69801 | 8.678010 | 29.25893 | 589.7439 | 948.6183 | 214.7917 | 100.1424 |
| #1 | -.119743 | -.003220 | .0001257 | -.000287 | -.000199 | .006299 | .0033827 |
| #2 | -.022520 | -.003279 | .0001820 | .000669 | -.000225 | -.008371 | .0002870 |
| #3 | -.044781 | -.003761 | .0002307 | -.000122 | .000326 | -.010896 | .0011264 |

Sample Name: PB169620BL Acquired: 9/10/2025 12:52:45 Type: Unk
Method: 6010-200.7 NEW(v160) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | S_1820 | Li6707 | Sr4077 |
|---|---|---|---|
| Units | ppm | ppm | ppm |
| Avg | **-.001563** | **-.003755** | **.0000732** |
| Stddev | .002358 | .001581 | .0001149 |
| %RSD | 150.8802 | 42.09730 | 156.9110 |
| | | | |
| #1 | .000802 | -.004129 | -.000048 |
| #2 | -.001577 | -.005114 | .000180 |
| #3 | -.003914 | -.002020 | .000087 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **6466.191** | **112980.3** | **11582.56** | **5143.619** | **7858.331** |
| Stddev | 19.524 | 368.6 | 114.63 | 27.775 | 18.062 |
| %RSD | .3019458 | .3262491 | .9897028 | .5399958 | .2298432 |
| | | | | | |
| #1 | 6481.157 | 113268.3 | 11480.36 | 5138.904 | 7877.065 |
| #2 | 6473.310 | 113107.6 | 11706.51 | 5173.450 | 7856.902 |
| #3 | 6444.106 | 112564.9 | 11560.82 | 5118.503 | 7841.027 |

Sample Name: Q3046-01 Acquired: 9/10/2025 12:57:04 Type: Unk
Method: 6010-200.7 NEW(v160) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0830086** | **-.008427** | **.2457272** | **-.008320** | **.0005274** | **216.4917** |
| Stddev | .0023909 | .005139 | .0024838 | .002660 | .0020701 | 1.7299 |
| %RSD | 2.880304 | 60.97799 | 1.010793 | 31.97076 | 392.4928 | .7990524 |
| #1 | .0843521 | -.002497 | .2485861 | -.006866 | .0011165 | 218.0092 |
| #2 | .0802482 | -.011230 | .2444961 | -.006705 | -.001773 | 216.8578 |
| #3 | .0844256 | -.011555 | .2440994 | -.011391 | .002239 | 214.6080 |

| Elem | Ba4934 | Be2348 | Cd2265 | Ca3736 | Cr2677 | Co2286 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **1.488980** | **.0131350** | **.0058610** | **1767.691** | **.2453216** | **.0956954** |
| Stddev | .008813 | .0002177 | .0000995 | 20.459 | .0017309 | .0002905 |
| %RSD | .5919118 | 1.657369 | 1.698533 | 1.157361 | .7055628 | .3036197 |
| #1 | 1.499124 | .0133031 | .0059094 | 1791.043 | .2471670 | .0956053 |
| #2 | 1.484617 | .0132128 | .0059270 | 1759.113 | .2450634 | .0960204 |
| #3 | 1.483199 | .0128891 | .0057465 | 1752.918 | .2437342 | .0954606 |

| Elem | Cu2247 | Fe2404 | Mn2576 | Mg2790 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.3895117** | **257.6101** | **2.610987** | **71.20459** | **.1819465** | **.0021299** |
| Stddev | .0013290 | 1.0613 | .025149 | .75182 | .0003377 | .0006072 |
| %RSD | .3412043 | .4119777 | .9632031 | 1.055860 | .1855997 | 28.50850 |
| #1 | .3902975 | 257.4426 | 2.637567 | 71.88479 | .1817267 | .0025749 |
| #2 | .3902603 | 256.6426 | 2.607825 | 71.33164 | .1823354 | .0014382 |
| #3 | .3879772 | 258.7452 | 2.587568 | 70.39734 | .1817776 | .0023767 |

| Elem | Na5895 | V_2924 | Zn2138 | K_7664 | B_2496 | Mo2020 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **4.715589** | **.4464767** | **.4410524** | **12.55966** | **.8229153** | **.0254613** |
| Stddev | .055961 | .0007643 | .0032348 | .11970 | .0004183 | .0005696 |
| %RSD | 1.186725 | .1711883 | .7334342 | .9530169 | .0508367 | 2.237248 |
| #1 | 4.666717 | .4473236 | .4441393 | 12.54821 | .8224500 | .0261117 |
| #2 | 4.703415 | .4462681 | .4413304 | 12.44610 | .8232604 | .0250508 |
| #3 | 4.776635 | .4458383 | .4376875 | 12.68466 | .8230355 | .0252216 |

Sample Name: Q3046-01 Acquired: 9/10/2025 12:57:04 Type: Unk
Method: 6010-200.7 NEW(v160) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Sn1899 | Ti3361 | Si2881 | P_1774 | S_1820 | Li6707 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | .1773349 | 8.109163 | 2.380451 | 8.673984 | F 105.6615 | .0393742 |
| Stddev | .0021307 | .048157 | .000784 | .033430 | .5880 | .0014223 |
| %RSD | 1.201500 | .5938538 | .0329329 | .3854044 | .5564708 | 3.612281 |
| #1 | .1790958 | 8.161435 | 2.380635 | 8.703304 | 106.2697 | .0382993 |
| #2 | .1779425 | 8.099450 | 2.379591 | 8.681067 | 105.6187 | .0388363 |
| #3 | .1749664 | 8.066603 | 2.381126 | 8.637580 | 105.0960 | .0409870 |

| Elem | Sr4077 |
|---|---|
| Units | ppm |
| Avg | 6.114671 |
| Stddev | .097005 |
| %RSD | 1.586424 |
| #1 | 6.167538 |
| #2 | 6.173758 |
| #3 | 6.002718 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | 6488.728 | 110315.4 | 13209.51 | 5059.699 | 5993.377 |
| Stddev | 7.564 | 189.6 | 168.10 | 31.325 | 8.293 |
| %RSD | .1165647 | .1719017 | 1.272537 | .6191117 | .1383733 |
| #1 | 6488.867 | 110124.2 | 13074.12 | 5024.481 | 5988.944 |
| #2 | 6481.096 | 110318.8 | 13156.75 | 5070.168 | 5988.243 |
| #3 | 6496.222 | 110503.4 | 13397.65 | 5084.450 | 6002.945 |

Sample Name: LR-3 Acquired: 9/10/2025 13:01:22 Type: Unk
Method: 6010-200.7 NEW(v160) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ba4934 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0947641** | **.0128918** | **236.3181** | **-.003458** | **.1397123** | **.0549853** | **-.001852** |
| Stddev | .0019475 | .0009779 | 1.2464 | .001797 | .0084175 | .0023881 | .001020 |
| %RSD | 2.055071 | 7.585536 | .5274243 | 51.97493 | 6.024920 | 4.343074 | 55.08884 |
| #1 | .0941404 | .0131186 | 234.8987 | -.005371 | .1394520 | .0560119 | -.001845 |
| #2 | .0969470 | .0137364 | 236.8217 | -.001804 | .1314279 | .0522556 | -.000835 |
| #3 | .0932049 | .0118204 | 237.2339 | -.003200 | .1482570 | .0566884 | -.002875 |

| Elem | Be2348 | Cd2265 | Ca3736 | Cr2677 | Co2286 | Cu2247 | Fe2404 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.004459** | **-.001692** | **.2481818** | **23.86143** | **.0064688** | **51.81636** | **.0586758** |
| Stddev | .000092 | .000034 | .0014531 | .28559 | .0001521 | .16058 | .0054987 |
| %RSD | 2.055462 | 1.999762 | .5854806 | 1.196870 | 2.351378 | .3099072 | 9.371362 |
| #1 | -.004450 | -.001653 | .2465044 | 23.76931 | .0063167 | 51.89518 | .0549797 |
| #2 | -.004372 | -.001713 | .2490550 | 24.18171 | .0066209 | 51.63159 | .0649949 |
| #3 | -.004555 | -.001709 | .2489859 | 23.63326 | .0064686 | 51.92230 | .0560528 |

| Elem | Mn2576 | Mg2790 | Ni2316 | Ag3280 | Na5895 | V_2924 | Zn2138 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **48.87572** | **-.198727** | **23.68723** | **.0034474** | **-.024967** | **-.040867** | **30.78070** |
| Stddev | .71426 | .023326 | .08112 | .0009102 | .014171 | .002052 | .16469 |
| %RSD | 1.461383 | 11.73785 | .3424773 | 26.40255 | 56.75974 | 5.021925 | .5350361 |
| #1 | 49.32794 | -.212481 | 23.73784 | .0024895 | -.041035 | -.042425 | 30.96184 |
| #2 | 48.05229 | -.211904 | 23.59366 | .0043009 | -.014253 | -.038542 | 30.74025 |
| #3 | 49.24693 | -.171794 | 23.73019 | .0035518 | -.019613 | -.041635 | 30.64000 |

| Elem | K_7664 | B_2496 | Mo2020 | Sn1899 | Ti3361 | Si2881 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.168253** | **.0005145** | **-.015930** | **-.005984** | **-.043804** | **-.134882** | **.1439100** |
| Stddev | .042830 | .0001270 | .000179 | .000233 | .001600 | .006689 | .0028768 |
| %RSD | 25.45561 | 24.68651 | 1.120528 | 3.886879 | 3.651884 | 4.959038 | 1.999062 |
| #1 | -.189709 | .0006604 | -.015816 | -.005851 | -.042651 | -.128153 | .1472212 |
| #2 | -.196114 | .0004292 | -.015838 | -.006253 | -.043130 | -.141530 | .1420238 |
| #3 | -.118936 | .0004538 | -.016136 | -.005849 | -.045630 | -.134961 | .1424849 |

Sample Name: LR-3 Acquired: 9/10/2025 13:01:22 Type: Unk
Method: 6010-200.7 NEW(v160) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | S_1820 | Li6707 | Sr4077 |
|---|---|---|---|
| Units | ppm | ppm | ppm |
| Avg | .0748088 | -.004047 | .0007465 |
| Stddev | .0064948 | .001448 | .0000469 |
| %RSD | 8.681825 | 35.78308 | 6.281672 |
| #1 | .0707242 | -.004410 | .0007306 |
| #2 | .0822980 | -.002452 | .0007993 |
| #3 | .0714041 | -.005280 | .0007096 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | 6041.482 | 108564.6 | 11605.06 | 4898.520 | 7510.967 |
| Stddev | 7.244 | 531.4 | 23.22 | 2.306 | 12.197 |
| %RSD | .1199027 | .4894720 | .2001087 | .0470774 | .1623896 |
| #1 | 6045.608 | 109067.4 | 11615.46 | 4900.824 | 7505.662 |
| #2 | 6045.720 | 108008.6 | 11621.26 | 4896.212 | 7524.918 |
| #3 | 6033.118 | 108617.6 | 11578.45 | 4898.526 | 7502.321 |

Sample Name: Q3048-01 Acquired: 9/10/2025 13:06:16 Type: Unk
Method: 6010-200.7 NEW(v160) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ba4934 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0872473** | **-.019780** | **.9284102** | **.0054102** | **-.009658** | **168.4455** | **2.135062** |
| Stddev | .0008964 | .001504 | .0002409 | .0017348 | .000480 | .1596 | .012625 |
| %RSD | 1.027396 | 7.604043 | .0259520 | 32.06572 | 4.972977 | .0947644 | .5913366 |
| #1 | .0879562 | -.021179 | .9284780 | .0048781 | -.009966 | 168.6285 | 2.146165 |
| #2 | .0875459 | -.018189 | .9281426 | .0040037 | -.009104 | 168.3349 | 2.121329 |
| #3 | .0862397 | -.019972 | .9286099 | .0073487 | -.009903 | 168.3730 | 2.137693 |

| Elem | Be2348 | Cd2265 | Ca3736 | Cr2677 | Co2286 | Cu2247 | Fe2404 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0146746** | **.0076666** | **78.70423** | **.3040114** | **.1825017** | **.4776402** | **338.8205** |
| Stddev | .0002258 | .0005862 | .17019 | .0017028 | .0005198 | .0013771 | 2.9514 |
| %RSD | 1.538899 | 7.645539 | .2162412 | .5601058 | .2848445 | .2883138 | .8710944 |
| #1 | .0147962 | .0079442 | 78.89215 | .3020870 | .1822050 | .4768774 | 337.5585 |
| #2 | .0148134 | .0080624 | 78.66005 | .3046240 | .1821980 | .4792299 | 336.7098 |
| #3 | .0144140 | .0069932 | 78.56048 | .3053230 | .1831019 | .4768133 | 342.1931 |

| Elem | Mn2576 | Mg2790 | Ni2316 | Ag3280 | Na5895 | V_2924 | Zn2138 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **6.980573** | **71.45224** | **.3688433** | **.0099538** | **5.022060** | **.4682821** | **2.055091** |
| Stddev | .036865 | .15060 | .0010394 | .0009963 | .081375 | .0023210 | .012464 |
| %RSD | .5281136 | .2107713 | .2817901 | 10.00961 | 1.620351 | .4956353 | .6064993 |
| #1 | 7.020895 | 71.54360 | .3676489 | .0095648 | 4.973437 | .4661830 | 2.043245 |
| #2 | 6.948595 | 71.53471 | .3693385 | .0092107 | 4.976738 | .4707747 | 2.068093 |
| #3 | 6.972229 | 71.27842 | .3695424 | .0110860 | 5.116004 | .4678887 | 2.053935 |

| Elem | K_7664 | B_2496 | Mo2020 | Sn1899 | Ti3361 | Si2881 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **28.85120** | **.3179211** | **.0081574** | **.0702353** | **3.977011** | **5.206459** | **8.427034** |
| Stddev | .22481 | .0123135 | .0003894 | .0009390 | .016284 | .034054 | .039766 |
| %RSD | .7792157 | 3.873136 | 4.773669 | 1.336969 | .4094519 | .6540689 | .4718896 |
| #1 | 28.69176 | .3116554 | .0077164 | .0695110 | 3.993368 | 5.170853 | 8.404851 |
| #2 | 28.75352 | .3100006 | .0084539 | .0698986 | 3.960801 | 5.209811 | 8.472943 |
| #3 | 29.10834 | .3321074 | .0083019 | .0712962 | 3.976865 | 5.238713 | 8.403308 |

Sample Name: Q3048-01 Acquired: 9/10/2025 13:06:16 Type: Unk
Method: 6010-200.7 NEW(v160) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | S_1820 | Li6707 | Sr4077 |
|---|---|---|---|
| Units | ppm | ppm | ppm |
| Avg | 3.209754 | .4787352 | .0781389 |
| Stddev | .025413 | .0001947 | .0032604 |
| %RSD | .7917504 | .0406629 | 4.172633 |
| #1 | 3.208978 | .4789498 | .0813510 |
| #2 | 3.235546 | .4786855 | .0782336 |
| #3 | 3.184737 | .4785701 | .0748322 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | 7104.628 | 126639.6 | 14230.38 | 5759.075 | 6915.144 |
| Stddev | 4.088 | 808.8 | 68.50 | 37.975 | 3.517 |
| %RSD | .0575384 | .6386788 | .4813338 | .6593910 | .0508610 |
| #1 | 7102.426 | 127521.8 | 14197.65 | 5796.493 | 6918.183 |
| #2 | 7102.114 | 126464.2 | 14184.39 | 5720.567 | 6915.957 |
| #3 | 7109.345 | 125933.0 | 14309.10 | 5760.164 | 6911.291 |

Sample Name: Q3048-01DUP Acquired: 9/10/2025 13:10:17 Type: Unk
Method: 6010-200.7 NEW(v160) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ba4934 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0909779** | **-.020219** | **1.015360** | **.0061217** | **-.006092** | **182.1631** | **2.342643** |
| Stddev | .0020387 | .002562 | .003371 | .0026996 | .001983 | .7186 | .013157 |
| %RSD | 2.240916 | 12.67150 | .3319741 | 44.09865 | 32.54475 | .3944944 | .5616397 |
| #1 | .0907229 | -.021742 | 1.019024 | .0060415 | -.006506 | 181.3684 | 2.348257 |
| #2 | .0931321 | -.021655 | 1.012390 | .0088604 | -.003935 | 182.3535 | 2.327610 |
| #3 | .0890786 | -.017261 | 1.014666 | .0034631 | -.007836 | 182.7673 | 2.352062 |

| Elem | Be2348 | Cd2265 | Ca3736 | Cr2677 | Co2286 | Cu2247 | Fe2404 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0159295** | **.0109168** | **73.79085** | **.3292003** | **.2093412** | **.5621903** | **375.5652** |
| Stddev | .0000728 | .0001241 | .26779 | .0015259 | .0005714 | .0024684 | .4605 |
| %RSD | .4572373 | 1.136461 | .3628988 | .4635057 | .2729562 | .4390745 | .1226268 |
| #1 | .0158672 | .0109940 | 73.62043 | .3276056 | .2093131 | .5598114 | 375.7226 |
| #2 | .0160096 | .0107737 | 73.65261 | .3293489 | .2087844 | .5620202 | 375.0466 |
| #3 | .0159118 | .0109827 | 74.09950 | .3306465 | .2099262 | .5647394 | 375.9264 |

| Elem | Mn2576 | Mg2790 | Ni2316 | Ag3280 | Na5895 | V_2924 | Zn2138 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **7.700729** | **80.36028** | **.4339700** | **.0093249** | **5.113733** | **.5053247** | **2.337397** |
| Stddev | .049144 | .28879 | .0009125 | .0005292 | .025256 | .0040083 | .008905 |
| %RSD | .6381695 | .3593650 | .2102638 | 5.674611 | .4938893 | .7932105 | .3809651 |
| #1 | 7.711587 | 80.11098 | .4344680 | .0098195 | 5.130130 | .5022053 | 2.330523 |
| #2 | 7.647064 | 80.29314 | .4329169 | .0087669 | 5.084649 | .5039231 | 2.334211 |
| #3 | 7.743536 | 80.67672 | .4345252 | .0093883 | 5.126421 | .5098455 | 2.347456 |

| Elem | K_7664 | B_2496 | Mo2020 | Sn1899 | Ti3361 | Si2881 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **30.96694** | **.3733250** | **.0109453** | **.0674602** | **4.389884** | **4.899644** | **8.864708** |
| Stddev | .10473 | .0060211 | .0002959 | .0006105 | .016427 | .048774 | .025165 |
| %RSD | .3381900 | 1.612839 | 2.703113 | .9049524 | .3742051 | .9954509 | .2838799 |
| #1 | 30.86229 | .3782052 | .0107167 | .0681513 | 4.385429 | 4.866586 | 8.835736 |
| #2 | 30.96678 | .3751734 | .0108396 | .0672349 | 4.376144 | 4.955660 | 8.881129 |
| #3 | 31.07175 | .3665964 | .0112795 | .0669943 | 4.408079 | 4.876686 | 8.877260 |

Reviewed By:jaswal
On:9/12/2025 10:24:55 PM
Inst Id :P4
LB :LB137144

Sample Name: Q3048-01DUP Acquired: 9/10/2025 13:10:17 Type: Unk
Method: 6010-200.7 NEW(v160) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | S_1820 | Li6707 | Sr4077 |
|---|---|---|---|
| Units | ppm | ppm | ppm |
| Avg | **2.959844** | **.5196420** | **.0232587** |
| Stddev | .004616 | .0022159 | .0018476 |
| %RSD | .1559529 | .4264273 | 7.943675 |
| #1 | 2.954823 | .5175535 | .0234945 |
| #2 | 2.960806 | .5194061 | .0213045 |
| #3 | 2.963903 | .5219664 | .0249770 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **7167.063** | **123903.1** | **14340.35** | **5658.710** | **6751.750** |
| Stddev | 21.285 | 401.7 | 66.21 | 9.160 | 21.195 |
| %RSD | .2969797 | .3241898 | .4616743 | .1618789 | .3139188 |
| #1 | 7173.272 | 124366.6 | 14372.21 | 5667.794 | 6747.836 |
| #2 | 7184.553 | 123657.5 | 14384.60 | 5658.861 | 6774.629 |
| #3 | 7143.364 | 123685.2 | 14264.24 | 5649.475 | 6732.785 |

Sample Name: CCV02 Acquired: 9/10/2025 13:14:18 Type: Unk
Method: 6010-200.7 NEW(v160) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: CCV02 Custom ID2: Custom ID3:
Comment:

| Elem | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ba4934 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **4.954439** | **4.884225** | **4.756953** | **5.002908** | **4.968256** | **9.796534** | **9.767588** |
| Stddev | .009217 | .070634 | .001454 | .012742 | .005110 | .055161 | .110339 |
| %RSD | .1860309 | 1.446173 | .0305575 | .2547004 | .1028541 | .5630665 | 1.129647 |
| #1 | 4.946520 | 4.942724 | 4.755899 | 4.995895 | 4.962411 | 9.859835 | 9.748267 |
| #2 | 4.952241 | 4.805756 | 4.758612 | 4.995211 | 4.970480 | 9.771006 | 9.668185 |
| #3 | 4.964556 | 4.904195 | 4.756349 | 5.017616 | 4.971878 | 9.758761 | 9.886312 |

| Elem | Be2348 | Cd2265 | Ca3736 | Cr2677 | Co2286 | Cu2247 | Fe2404 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.2393314** | **2.398500** | **24.28894** | **.9675513** | **2.397791** | **1.223537** | **4.927942** |
| Stddev | .0019843 | .000637 | .12737 | .0008530 | .001849 | .000421 | .018298 |
| %RSD | .8290905 | .0265409 | .5243768 | .0881588 | .0771160 | .0344374 | .3713133 |
| #1 | .2416133 | 2.397982 | 24.42425 | .9667760 | 2.397035 | 1.223743 | 4.906830 |
| #2 | .2380114 | 2.398309 | 24.27118 | .9684650 | 2.396439 | 1.223052 | 4.939240 |
| #3 | .2383695 | 2.399211 | 24.17138 | .9674127 | 2.399898 | 1.223815 | 4.937755 |

| Elem | Mn2576 | Mg2790 | Ni2316 | Ag3280 | Na5895 | V_2924 | Zn2138 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.428006** | **24.10588** | **2.398774** | **1.219652** | **24.60864** | **2.448831** | **2.406764** |
| Stddev | .016941 | .10005 | .001928 | .003108 | .08580 | .015049 | .002607 |
| %RSD | .6977200 | .4150640 | .0803652 | .2548172 | .3486769 | .6145262 | .1083391 |
| #1 | 2.444341 | 24.22135 | 2.398209 | 1.222029 | 24.56136 | 2.461239 | 2.404282 |
| #2 | 2.429158 | 24.04503 | 2.397192 | 1.220792 | 24.70769 | 2.453164 | 2.409481 |
| #3 | 2.410518 | 24.05124 | 2.400921 | 1.216135 | 24.55688 | 2.432092 | 2.406530 |

| Elem | K_7664 | B_2496 | Mo2020 | Sn1899 | Ti3361 | Si2881 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **24.41366** | **4.806891** | **4.909277** | **4.796163** | **4.902210** | **4.923912** | **4.886652** |
| Stddev | .14633 | .042169 | .004042 | .011351 | .030694 | .021886 | .020081 |
| %RSD | .5993799 | .8772525 | .0823339 | .2366756 | .6261247 | .4444887 | .4109334 |
| #1 | 24.26817 | 4.855520 | 4.908600 | 4.790101 | 4.935158 | 4.902654 | 4.890404 |
| #2 | 24.56082 | 4.780431 | 4.905616 | 4.789130 | 4.897047 | 4.922707 | 4.864959 |
| #3 | 24.41198 | 4.784722 | 4.913615 | 4.809259 | 4.874425 | 4.946376 | 4.904592 |

Sample Name: CCV02 Acquired: 9/10/2025 13:14:18 Type: Unk
Method: 6010-200.7 NEW(v160) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: CCV02 Custom ID2: Custom ID3:
Comment:

| Elem | S_1820 | Li6707 | Sr4077 |
|---|---|---|---|
| Units | ppm | ppm | ppm |
| Avg | **4.896620** | **4.858008** | **4.944927** |
| Stddev | .034103 | .029098 | .055926 |
| %RSD | .6964628 | .5989766 | 1.130969 |
| #1 | 4.885425 | 4.890238 | 5.009460 |
| #2 | 4.869522 | 4.850116 | 4.910579 |
| #3 | 4.934914 | 4.833670 | 4.914742 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **6234.086** | **111456.6** | **11621.88** | **5107.226** | **7162.710** |
| Stddev | 7.682 | 259.7 | 81.85 | 19.094 | 4.906 |
| %RSD | .1232284 | .2329904 | .7042695 | .3738651 | .0684987 |
| #1 | 6230.213 | 111752.1 | 11529.73 | 5128.930 | 7159.749 |
| #2 | 6229.112 | 111353.4 | 11686.16 | 5093.016 | 7160.008 |
| #3 | 6242.934 | 111264.5 | 11649.74 | 5099.731 | 7168.374 |

Sample Name: CCB02 Acquired: 9/10/2025 13:18:30 Type: Unk
Method: 6010-200.7 NEW(v160) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: CCB02 Custom ID2: Custom ID3:
Comment:

| Elem | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ba4934 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.002685** | **.0023783** | **.0011492** | **.0003226** | **-.000017** | **.0030248** | **-.000521** |
| Stddev | .001825 | .0008335 | .0008659 | .0009858 | .001287 | .0159421 | .001014 |
| %RSD | 67.96693 | 35.04778 | 75.34938 | 305.5762 | 7698.843 | 527.0447 | 194.8487 |
| #1 | -.003243 | .0025937 | .0019903 | .0009472 | .000080 | -.014606 | -.001678 |
| #2 | -.004165 | .0014582 | .0011967 | -.000814 | .001219 | .016426 | .000214 |
| #3 | -.000646 | .0030829 | .0002605 | .000834 | -.001349 | .007254 | -.000097 |

| Elem | Be2348 | Cd2265 | Ca3736 | Cr2677 | Co2286 | Cu2247 | Fe2404 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0001229** | **.0001077** | **-.000508** | **.0003395** | **.0001416** | **.0001415** | **.0050555** |
| Stddev | .0000355 | .0000587 | .008558 | .0002328 | .0001933 | .0005996 | .0058961 |
| %RSD | 28.88125 | 54.50656 | 1685.843 | 68.58079 | 136.5185 | 423.6364 | 116.6282 |
| #1 | .0000868 | .0000935 | .008918 | .0003201 | -.000082 | -.000157 | -.000412 |
| #2 | .0001578 | .0001723 | -.002648 | .0001170 | .000259 | -.000250 | .011302 |
| #3 | .0001240 | .0000574 | -.007793 | .0005815 | .000248 | .000832 | .004276 |

| Elem | Mn2576 | Mg2790 | Ni2316 | Ag3280 | Na5895 | V_2924 | Zn2138 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0001924** | **.0111604** | **.0001964** | **-.000633** | **-.066022** | **-.000654** | **-.000370** |
| Stddev | .0002814 | .0174593 | .0001916 | .000440 | .020240 | .001723 | .000345 |
| %RSD | 146.2811 | 156.4393 | 97.59012 | 69.48249 | 30.65625 | 263.2124 | 93.26224 |
| #1 | .0002732 | .0313196 | .0002834 | -.001007 | -.083864 | -.002640 | -.000255 |
| #2 | -.000121 | .0009022 | -.000023 | -.000148 | -.044028 | .000234 | -.000757 |
| #3 | .000424 | .0012595 | .000329 | -.000744 | -.070172 | .000442 | -.000097 |

| Elem | K_7664 | B_2496 | Mo2020 | Sn1899 | Ti3361 | Si2881 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.064735** | **.0013338** | **.0004853** | **.0001661** | **.0024821** | **-.003546** | **.0006947** |
| Stddev | .015960 | .0008508 | .0002458 | .0005172 | .0008786 | .002649 | .0011744 |
| %RSD | 24.65382 | 63.78922 | 50.64999 | 311.4072 | 35.39560 | 74.71461 | 169.0374 |
| #1 | -.078127 | .0018714 | .0005214 | .0006141 | .0023630 | -.006311 | .0012617 |
| #2 | -.069003 | .0017771 | .0007110 | -.000400 | .0034142 | -.001030 | .0014781 |
| #3 | -.047075 | .0003529 | .0002234 | .000284 | .0016692 | -.003296 | -.000656 |

Reviewed By:jaswal
On:9/12/2025 10:24:55 PM
Inst Id :P4
LB :LB137144

Sample Name: CCB02 Acquired: 9/10/2025 13:18:30 Type: Unk
Method: 6010-200.7 NEW(v160) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: CCB02 Custom ID2: Custom ID3:
Comment:

| Elem | S_1820 | Li6707 | Sr4077 |
|---|---|---|---|
| Units | ppm | ppm | ppm |
| Avg | -.000332 | -.002922 | .0001270 |
| Stddev | .002750 | .001308 | .0000665 |
| %RSD | 828.6204 | 44.76701 | 52.33483 |
| #1 | -.002726 | -.003539 | .0001970 |
| #2 | -.000942 | -.001420 | .0001193 |
| #3 | .002672 | -.003807 | .0000648 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | 6220.646 | 111816.8 | 11597.81 | 5115.293 | 7484.856 |
| Stddev | 16.225 | 1052.6 | 47.54 | 37.310 | 17.779 |
| %RSD | .2608250 | .9413882 | .4099131 | .7293739 | .2375322 |
| #1 | 6202.862 | 112463.8 | 11604.54 | 5133.389 | 7465.660 |
| #2 | 6234.641 | 112384.5 | 11547.27 | 5140.105 | 7500.757 |
| #3 | 6224.436 | 110602.2 | 11641.63 | 5072.387 | 7488.150 |

Sample Name: Q3048-01LX5 Acquired: 9/10/2025 13:22:48 Type: Unk
Method: 6010-200.7 NEW(v160) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ba4934 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0173300** | **-.002734** | **.1944599** | **-.003067** | **-.004713** | **39.12759** | **.4822372** |
| Stddev | .0007994 | .000656 | .0010401 | .001232 | .001548 | .05307 | .0015863 |
| %RSD | 4.612523 | 23.99788 | .5348466 | 40.18142 | 32.85068 | .1356238 | .3289395 |
| #1 | .0171746 | -.003371 | .1947251 | -.002397 | -.003451 | 39.08589 | .4823880 |
| #2 | .0181956 | -.002773 | .1933129 | -.002315 | -.006441 | 39.18732 | .4805809 |
| #3 | .0166198 | -.002060 | .1953417 | -.004490 | -.004249 | 39.10956 | .4837426 |

| Elem | Be2348 | Cd2265 | Ca3736 | Cr2677 | Co2286 | Cu2247 | Fe2404 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0036797** | **.0007194** | **18.92562** | **.0734530** | **.0371406** | **.1178658** | **77.08990** |
| Stddev | .0000642 | .0001607 | .02415 | .0006031 | .0001838 | .0005340 | .43834 |
| %RSD | 1.745527 | 22.34469 | .1276071 | .8210333 | .4948680 | .4530897 | .5686151 |
| #1 | .0037424 | .0008999 | 18.92556 | .0740762 | .0373393 | .1183531 | 76.62635 |
| #2 | .0036140 | .0005918 | 18.94979 | .0734104 | .0371060 | .1172949 | 77.49770 |
| #3 | .0036829 | .0006664 | 18.90149 | .0728723 | .0369766 | .1179495 | 77.14566 |

| Elem | Mn2576 | Mg2790 | Ni2316 | Ag3280 | Na5895 | V_2924 | Zn2138 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **1.669708** | **17.31122** | **.0768817** | **.0006163** | **.9991762** | **.1097425** | **.4867383** |
| Stddev | .005292 | .07886 | .0005161 | .0004680 | .0273618 | .0013349 | .0035286 |
| %RSD | .3169648 | .4555595 | .6713237 | 75.93947 | 2.738437 | 1.216370 | .7249370 |
| #1 | 1.675729 | 17.24477 | .0769824 | .0007274 | .9781981 | .1087256 | .4839944 |
| #2 | 1.667604 | 17.39836 | .0773400 | .0001027 | .9892055 | .1092479 | .4907187 |
| #3 | 1.665791 | 17.29052 | .0763226 | .0010188 | 1.030125 | .1112541 | .4855018 |

| Elem | K_7664 | B_2496 | Mo2020 | Sn1899 | Ti3361 | Si2881 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **6.107552** | **.0582120** | **.0021005** | **.0141891** | **.9305799** | **1.144739** | **1.727580** |
| Stddev | .064185 | .0019715 | .0000318 | .0002722 | .0008659 | .015098 | .010523 |
| %RSD | 1.050905 | 3.386682 | 1.514416 | 1.918206 | .0930523 | 1.318911 | .6091321 |
| #1 | 6.034382 | .0576005 | .0020642 | .0138991 | .9296047 | 1.136801 | 1.736250 |
| #2 | 6.154347 | .0604167 | .0021236 | .0142293 | .9312589 | 1.162150 | 1.730617 |
| #3 | 6.133928 | .0566187 | .0021136 | .0144390 | .9308759 | 1.135265 | 1.715872 |

Reviewed By:jaswal
On:9/12/2025 10:24:55 PM
Inst Id :P4
LB :LB137144

Sample Name: Q3048-01LX5 Acquired: 9/10/2025 13:22:48 Type: Unk
Method: 6010-200.7 NEW(v160) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | S_1820 | Li6707 | Sr4077 |
|---|---|---|---|
| Units | ppm | ppm | ppm |
| Avg | .6314918 | .1034551 | .0195452 |
| Stddev | .0052653 | .0015683 | .0006303 |
| %RSD | .8337931 | 1.515877 | 3.224764 |
| #1 | .6354395 | .1024162 | .0200492 |
| #2 | .6335224 | .1026899 | .0188385 |
| #3 | .6255135 | .1052590 | .0197478 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | 6505.762 | 114204.9 | 12038.23 | 5235.823 | 7395.899 |
| Stddev | 10.809 | 701.9 | 34.88 | 35.339 | 12.281 |
| %RSD | .1661430 | .6145542 | .2897666 | .6749519 | .1660499 |
| #1 | 6495.449 | 114807.5 | 12003.58 | 5262.967 | 7384.451 |
| #2 | 6504.831 | 113434.3 | 12037.77 | 5195.864 | 7394.375 |
| #3 | 6517.007 | 114372.8 | 12073.35 | 5248.637 | 7408.870 |

Sample Name: Q3048-01MS Acquired: 9/10/2025 13:26:52 Type: Unk
Method: 6010-200.7 NEW(v160) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.7381896** | **1.832990** | **1.891853** | **1.605372** | **.3221209** | **178.6550** |
| Stddev | .0045916 | .022640 | .004443 | .006096 | .0006512 | .8984 |
| %RSD | .6220123 | 1.235117 | .2348407 | .3797322 | .2021641 | .5028636 |
| #1 | .7433544 | 1.831787 | 1.892497 | 1.612388 | .3214727 | 178.5535 |
| #2 | .7366449 | 1.856207 | 1.895939 | 1.601377 | .3221149 | 179.5999 |
| #3 | .7345695 | 1.810975 | 1.887123 | 1.602349 | .3227751 | 177.8117 |

| Elem | Ba4934 | Be2348 | Cd2265 | Ca3736 | Cr2677 | Co2286 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.204096** | **.1685107** | **.1963490** | **62.76749** | **.6309369** | **.4025772** |
| Stddev | .005585 | .0004226 | .0004543 | .19893 | .0030789 | .0006197 |
| %RSD | .2533770 | .2508024 | .2313641 | .3169387 | .4879908 | .1539421 |
| #1 | 2.199482 | .1682770 | .1960471 | 62.77011 | .6339752 | .4029025 |
| #2 | 2.210304 | .1689985 | .1968715 | 62.96511 | .6310166 | .4029666 |
| #3 | 2.202501 | .1682564 | .1961285 | 62.56727 | .6278189 | .4018626 |

| Elem | Cu2247 | Fe2404 | Mn2576 | Mg2790 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.8055249** | **315.5107** | **7.133925** | **72.90502** | **.8416181** | **.0717427** |
| Stddev | .0016115 | 1.4131 | .009374 | .23642 | .0019988 | .0009656 |
| %RSD | .2000553 | .4478862 | .1314030 | .3242896 | .2374956 | 1.345912 |
| #1 | .8037325 | 317.0415 | 7.141822 | 72.96706 | .8404945 | .0728170 |
| #2 | .8068539 | 315.2346 | 7.136387 | 73.10423 | .8439258 | .0709472 |
| #3 | .8059883 | 314.2560 | 7.123565 | 72.64376 | .8404338 | .0714638 |

| Elem | Na5895 | V_2924 | Zn2138 | K_7664 | B_2496 | Mo2020 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **7.158992** | **.6933186** | **2.182532** | **38.21574** | **.5035229** | **.3327922** |
| Stddev | .016915 | .0029489 | .006739 | .15836 | .0025182 | .0004763 |
| %RSD | .2362731 | .4253305 | .3087804 | .4143955 | .5001095 | .1431293 |
| #1 | 7.173930 | .6918492 | 2.185040 | 38.32180 | .5059462 | .3325118 |
| #2 | 7.162421 | .6967135 | 2.187658 | 38.29172 | .5037029 | .3333421 |
| #3 | 7.140626 | .6913930 | 2.174899 | 38.03371 | .5009196 | .3325225 |

Sample Name: Q3048-01MS Acquired: 9/10/2025 13:26:52 Type: Unk
Method: 6010-200.7 NEW(v160) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Sn1899 | Ti3361 | Si2881 | P_1774 | S_1820 | Li6707 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | .7240119 | 4.604662 | 6.861759 | F 13.25398 | 3.110008 | .6337823 |
| Stddev | .0029786 | .015161 | .182700 | .04498 | .013001 | .0015169 |
| %RSD | .4113983 | .3292537 | 2.662578 | .3393499 | .4180443 | .2393358 |
| #1 | .7257671 | 4.598378 | 6.660335 | 13.21966 | 3.112673 | .6343507 |
| #2 | .7256958 | 4.621954 | 7.016788 | 13.30490 | 3.121470 | .6349328 |
| #3 | .7205728 | 4.593653 | 6.908154 | 13.23738 | 3.095880 | .6320633 |

| Elem | Sr4077 |
|---|---|
| Units | ppm |
| Avg | .2327749 |
| Stddev | .0019041 |
| %RSD | .8179794 |
| #1 | .2306249 |
| #2 | .2342481 |
| #3 | .2334516 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | 7085.607 | 126295.8 | 14069.33 | 5726.755 | 6779.920 |
| Stddev | 7.608 | 612.8 | 26.54 | 41.391 | 10.793 |
| %RSD | .1073693 | .4852159 | .1886120 | .7227665 | .1591927 |
| #1 | 7086.140 | 125647.5 | 14050.66 | 5704.263 | 6775.936 |
| #2 | 7077.747 | 126374.5 | 14057.62 | 5701.479 | 6771.685 |
| #3 | 7092.934 | 126865.5 | 14099.71 | 5774.522 | 6792.138 |

Sample Name: Q3048-01MSD Acquired: 9/10/2025 13:30:47 Type: Unk
Method: 6010-200.7 NEW(v160) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.7261319** | **1.682810** | **2.047378** | **1.543170** | **.3326412** | **193.5799** |
| Stddev | .0024371 | .030214 | .001399 | .010218 | .0013401 | .3512 |
| %RSD | .3356275 | 1.795437 | .0683474 | .6621347 | .4028571 | .1814418 |
| #1 | .7233646 | 1.649143 | 2.046006 | 1.531427 | .3322061 | 193.6084 |
| #2 | .7270726 | 1.691720 | 2.047324 | 1.548047 | .3315727 | 193.9160 |
| #3 | .7279585 | 1.707566 | 2.048803 | 1.550035 | .3341447 | 193.2152 |

| Elem | Ba4934 | Be2348 | Cd2265 | Ca3736 | Cr2677 | Co2286 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.372682** | **.1638827** | **.1905502** | **72.08112** | **.6495398** | **.5345534** |
| Stddev | .011866 | .0002225 | .0006608 | .19409 | .0008207 | .0011971 |
| %RSD | .5001203 | .1357556 | .3468019 | .2692726 | .1263593 | .2239528 |
| #1 | 2.365115 | .1636447 | .1904699 | 72.13743 | .6495593 | .5349265 |
| #2 | 2.386358 | .1639181 | .1899332 | 72.24084 | .6487095 | .5332141 |
| #3 | 2.366572 | .1640854 | .1912475 | 71.86510 | .6503507 | .5355195 |

| Elem | Cu2247 | Fe2404 | Mn2576 | Mg2790 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.9418676** | **366.1796** | **7.607861** | **82.08946** | **.8746687** | **.0716124** |
| Stddev | .0034711 | 1.7816 | .042452 | .30193 | .0012212 | .0008829 |
| %RSD | .3685355 | .4865246 | .5580067 | .3678035 | .1396173 | 1.232957 |
| #1 | .9419897 | 366.2052 | 7.599906 | 82.25906 | .8744801 | .0715729 |
| #2 | .9383371 | 367.9482 | 7.653728 | 82.26845 | .8735529 | .0725144 |
| #3 | .9452761 | 364.3854 | 7.569949 | 81.74086 | .8759733 | .0707498 |

| Elem | Na5895 | V_2924 | Zn2138 | K_7664 | B_2496 | Mo2020 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **7.734838** | **.7211874** | **2.897450** | **39.84172** | **.5496322** | **.3243878** |
| Stddev | .044547 | .0054103 | .002227 | .08452 | .0060906 | .0008043 |
| %RSD | .5759222 | .7501859 | .0768463 | .2121498 | 1.108116 | .2479466 |
| #1 | 7.696545 | .7256027 | 2.895537 | 39.87571 | .5511090 | .3236447 |
| #2 | 7.783727 | .7228073 | 2.896919 | 39.90397 | .5548486 | .3242769 |
| #3 | 7.724241 | .7151523 | 2.899894 | 39.74550 | .5429390 | .3252418 |

Sample Name: Q3048-01MSD Acquired: 9/10/2025 13:30:47 Type: Unk
Method: 6010-200.7 NEW(v160) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Sn1899 | Ti3361 | Si2881 | P_1774 | S_1820 | Li6707 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | .7800646 | 4.812267 | 8.799471 | F 13.86511 | 3.721765 | .6641071 |
| Stddev | .0026571 | .016437 | .040683 | .09025 | .019380 | .0015640 |
| %RSD | .3406264 | .3415692 | .4623384 | .6509294 | .5207104 | .2355073 |
| #1 | .7776895 | 4.809819 | 8.832813 | 13.76701 | 3.699446 | .6623044 |
| #2 | .7795703 | 4.829792 | 8.811460 | 13.88368 | 3.734330 | .6649145 |
| #3 | .7829342 | 4.797192 | 8.754140 | 13.94463 | 3.731519 | .6651024 |

| Elem | Sr4077 |
|---|---|
| Units | ppm |
| Avg | .2329480 |
| Stddev | .0011191 |
| %RSD | .4804016 |
| #1 | .2316565 |
| #2 | .2335572 |
| #3 | .2336304 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | 7120.309 | 124694.2 | 14217.26 | 5681.746 | 6780.769 |
| Stddev | 13.205 | 71.4 | 23.89 | 14.431 | 12.780 |
| %RSD | .1854613 | .0572415 | .1680459 | .2539804 | .1884689 |
| #1 | 7108.402 | 124664.7 | 14234.10 | 5676.981 | 6766.914 |
| #2 | 7134.512 | 124642.3 | 14189.92 | 5697.956 | 6792.096 |
| #3 | 7118.014 | 124775.6 | 14227.76 | 5670.300 | 6783.297 |

Sample Name: Q3048-01A Acquired: 9/10/2025 13:34:42 Type: Unk
Method: 6010-200.7 NEW(v160) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.7487410** | **1.795626** | **1.825820** | **1.641214** | **.6524357** | **173.1540** |
| Stddev | .0028445 | .011458 | .009739 | .001450 | .0045319 | .5476 |
| %RSD | .3799074 | .6380815 | .5334024 | .0883515 | .6946171 | .3162305 |
| #1 | .7520210 | 1.782751 | 1.814585 | 1.640299 | .6500410 | 173.7560 |
| #2 | .7472501 | 1.804700 | 1.831852 | 1.642886 | .6496034 | 172.6857 |
| #3 | .7469518 | 1.799427 | 1.831024 | 1.640457 | .6576626 | 173.0204 |

| Elem | Ba4934 | Be2348 | Cd2265 | Ca3736 | Cr2677 | Co2286 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.306581** | **.1687733** | **.1917432** | **80.94039** | **.6140822** | **.3724583** |
| Stddev | .010767 | .0022212 | .0018931 | .27906 | .0271752 | .0012232 |
| %RSD | .4668148 | 1.316076 | .9873270 | .3447705 | 4.425335 | .3284234 |
| #1 | 2.313900 | .1713358 | .1899777 | 81.19666 | .6361172 | .3710631 |
| #2 | 2.294217 | .1675872 | .1915095 | 80.64309 | .6224125 | .3729653 |
| #3 | 2.311625 | .1673970 | .1937423 | 80.98141 | .5837170 | .3733466 |

| Elem | Cu2247 | Fe2404 | Mn2576 | Mg2790 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.7233559** | **337.7011** | **7.214400** | **74.51526** | **.8342147** | **.0720721** |
| Stddev | .0082337 | 11.3056 | .039675 | .20424 | .0026879 | .0010863 |
| %RSD | 1.138263 | 3.347826 | .5499453 | .2740940 | .3222023 | 1.507302 |
| #1 | .7158518 | 346.0696 | 7.239020 | 74.70509 | .8311238 | .0726937 |
| #2 | .7220524 | 342.1940 | 7.168631 | 74.29915 | .8355172 | .0727048 |
| #3 | .7321637 | 324.8397 | 7.235549 | 74.54155 | .8360032 | .0708177 |

| Elem | Na5895 | V_2924 | Zn2138 | K_7664 | B_2496 | Mo2020 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **7.374855** | **.7242300** | **2.198122** | **36.95515** | **.5306966** | **.3420536** |
| Stddev | .272829 | .0023206 | .091717 | 1.27384 | .0331953 | .0012102 |
| %RSD | 3.699454 | .3204283 | 4.172524 | 3.446986 | 6.255043 | .3538080 |
| #1 | 7.587998 | .7261113 | 2.269554 | 37.87160 | .5518657 | .3406637 |
| #2 | 7.469191 | .7216368 | 2.230119 | 37.49330 | .5477858 | .3426225 |
| #3 | 7.067377 | .7249418 | 2.094692 | 35.50055 | .4924385 | .3428745 |

Sample Name: Q3048-01A Acquired: 9/10/2025 13:34:42 Type: Unk
Method: 6010-200.7 NEW(v160) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Sn1899 | Ti3361 | Si2881 | P_1774 | S_1820 | Li6707 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | .7206103 | 4.206027 | 7.172467 | F 13.89733 | 3.250442 | .6510785 |
| Stddev | .0035797 | .011969 | .240919 | .02524 | .010221 | .0029640 |
| %RSD | .4967581 | .2845568 | 3.358949 | .1816531 | .3144561 | .4552505 |
| #1 | .7164887 | 4.218307 | 7.329756 | 13.86901 | 3.239141 | .6542911 |
| #2 | .7229424 | 4.194396 | 7.292536 | 13.91746 | 3.259039 | .6504945 |
| #3 | .7223998 | 4.205376 | 6.895108 | 13.90552 | 3.253146 | .6484500 |

| Elem | Sr4077 |
|---|---|
| Units | ppm |
| Avg | .2462035 |
| Stddev | .0116942 |
| %RSD | 4.749789 |
| #1 | .2408731 |
| #2 | .2381242 |
| #3 | .2596131 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | 7009.781 | 126933.0 | 13896.46 | 5749.035 | 6800.658 |
| Stddev | 7.727 | 4580.9 | 116.92 | 195.113 | 8.843 |
| %RSD | .1102371 | 3.608928 | .8413366 | 3.393832 | .1300291 |
| #1 | 7006.516 | 123225.8 | 13793.07 | 5597.699 | 6804.355 |
| #2 | 7004.222 | 125518.9 | 14023.34 | 5680.163 | 6790.567 |
| #3 | 7018.605 | 132054.2 | 13872.95 | 5969.244 | 6807.053 |

Sample Name: Q3033-01 Acquired: 9/10/2025 13:38:39 Type: Unk
Method: 6010-200.7 NEW(v160) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | .0854115 | -.000711 | .5532494 | .0038972 | .0086340 | 47.08570 |
| Stddev | .0030612 | .001895 | .0031802 | .0027993 | .0032533 | .15454 |
| %RSD | 3.584047 | 266.5911 | .5748281 | 71.82847 | 37.67951 | .3282146 |
| #1 | .0880368 | -.002066 | .5549397 | .0061643 | .0094007 | 46.91615 |
| #2 | .0861486 | -.001521 | .5495809 | .0007684 | .0050659 | 47.21867 |
| #3 | .0820490 | .001454 | .5552275 | .0047589 | .0114354 | 47.12229 |

| Elem | Ba4934 | Be2348 | Cd2265 | Ca3736 | Cr2677 | Co2286 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | .6179458 | .0050774 | .0263314 | 112.3632 | .1048163 | .1887737 |
| Stddev | .0019002 | .0001221 | .0000957 | .1780 | .0003658 | .0007526 |
| %RSD | .3075030 | 2.405437 | .3634639 | .1583965 | .3490304 | .3986979 |
| #1 | .6158296 | .0051737 | .0263313 | 112.4129 | .1051521 | .1882739 |
| #2 | .6195060 | .0051186 | .0262357 | 112.5111 | .1048705 | .1884078 |
| #3 | .6185018 | .0049400 | .0264272 | 112.1657 | .1044265 | .1896393 |

| Elem | Cu2247 | Fe2404 | Mn2576 | Mg2790 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | 1.726583 | 87.79120 | 5.294339 | 35.78394 | .2434902 | .0042693 |
| Stddev | .005839 | .46692 | .004607 | .09983 | .0007003 | .0006620 |
| %RSD | .3381703 | .5318502 | .0870173 | .2789816 | .2875927 | 15.50561 |
| #1 | 1.721127 | 87.25298 | 5.296419 | 35.77028 | .2432788 | .0043846 |
| #2 | 1.725880 | 88.08780 | 5.297540 | 35.88990 | .2429200 | .0035572 |
| #3 | 1.732741 | 88.03281 | 5.289059 | 35.69165 | .2442718 | .0048661 |

| Elem | Na5895 | V_2924 | Zn2138 | K_7664 | B_2496 | Mo2020 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | 179.5512 | .1787943 | 7.496525 | 28.79686 | .2177430 | .0584954 |
| Stddev | 1.1562 | .0012671 | .026311 | .13896 | .0010101 | .0002507 |
| %RSD | .6439310 | .7087000 | .3509705 | .4825610 | .4638743 | .4286163 |
| #1 | 178.8703 | .1776664 | 7.475473 | 28.73216 | .2173765 | .0587836 |
| #2 | 180.8861 | .1801654 | 7.526021 | 28.70205 | .2169674 | .0583270 |
| #3 | 178.8971 | .1785512 | 7.488081 | 28.95638 | .2188852 | .0583757 |

Reviewed By:jaswal
On:9/12/2025 10:24:55 PM
Inst Id :P4
LB :LB137144

Sample Name: Q3033-01 Acquired: 9/10/2025 13:38:39 Type: Unk
Method: 6010-200.7 NEW(v160) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Sn1899 | Ti3361 | Si2881 | P_1774 | S_1820 | Li6707 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | .0017413 | 1.208359 | F 60.24236 | 8.709320 | F 52.91157 | .0450360 |
| Stddev | .0009484 | .001433 | .07753 | .049507 | .31427 | .0019443 |
| %RSD | 54.46090 | .1185973 | .1287022 | .5684362 | .5939513 | 4.317207 |
| #1 | .0024944 | 1.207094 | 60.21766 | 8.667239 | 52.81631 | .0430666 |
| #2 | .0020533 | 1.208068 | 60.18018 | 8.696851 | 52.65595 | .0469542 |
| #3 | .0006763 | 1.209916 | 60.32923 | 8.763869 | 53.26245 | .0450872 |

| Elem | Sr4077 |
|---|---|
| Units | ppm |
| Avg | .4156134 |
| Stddev | .0005516 |
| %RSD | .1327315 |
| #1 | .4151298 |
| #2 | .4154961 |
| #3 | .4162142 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | 6528.869 | 115643.6 | 12768.02 | 5288.426 | 6699.046 |
| Stddev | 9.372 | 173.5 | 26.02 | 22.290 | 9.245 |
| %RSD | .1435539 | .1500261 | .2037617 | .4214878 | .1379990 |
| #1 | 6539.572 | 115839.3 | 12746.99 | 5312.237 | 6704.502 |
| #2 | 6524.912 | 115582.4 | 12759.95 | 5268.058 | 6704.264 |
| #3 | 6522.125 | 115508.9 | 12797.11 | 5284.982 | 6688.372 |

Sample Name: Q3036-03DLX5 Acquired: 9/10/2025 13:42:48 Type: Unk
Method: 6010-200.7 NEW(v160) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0056685** | **-.007608** | **.0061079** | **.0034565** | **-.001273** | **.2242557** |
| Stddev | .0012027 | .000567 | .0010289 | .0019111 | .000662 | .0185546 |
| %RSD | 21.21650 | 7.454589 | 16.84499 | 55.29128 | 52.02383 | 8.273850 |
| #1 | .0062975 | -.007421 | .0072299 | .0031606 | -.000535 | .2031863 |
| #2 | .0042818 | -.008244 | .0058850 | .0054983 | -.001815 | .2314238 |
| #3 | .0064263 | -.007157 | .0052087 | .0017106 | -.001468 | .2381570 |

| Elem | Ba4934 | Be2348 | Cd2265 | Ca3736 | Cr2677 | Co2286 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0123784** | **.0016089** | **-.000909** | **2.776883** | **.0372922** | **.0055377** |
| Stddev | .0008776 | .0001127 | .000043 | .022409 | .0003259 | .0001471 |
| %RSD | 7.089360 | 7.001749 | 4.739552 | .8069983 | .8738666 | 2.655648 |
| #1 | .0131602 | .0016450 | -.000955 | 2.751011 | .0376397 | .0053751 |
| #2 | .0114292 | .0014826 | -.000870 | 2.790199 | .0369934 | .0056613 |
| #3 | .0125460 | .0016990 | -.000901 | 2.789439 | .0372436 | .0055767 |

| Elem | Cu2247 | Fe2404 | Mn2576 | Mg2790 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0406187** | **93.31684** | **.4365192** | **.5941637** | **.0546877** | **.0015716** |
| Stddev | .0004038 | .41441 | .0010865 | .0095595 | .0003867 | .0002900 |
| %RSD | .9940717 | .4440936 | .2488973 | 1.608894 | .7071170 | 18.45011 |
| #1 | .0407436 | 92.90297 | .4376695 | .5885793 | .0546215 | .0013943 |
| #2 | .0401672 | 93.31576 | .4355104 | .6052018 | .0543384 | .0014142 |
| #3 | .0409453 | 93.73179 | .4363777 | .5887102 | .0551032 | .0019062 |

| Elem | Na5895 | V_2924 | Zn2138 | K_7664 | B_2496 | Mo2020 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **199.5913** | **.0019559** | **7.525753** | **2.430374** | **2.788409** | **.1465455** |
| Stddev | 1.9954 | .0025255 | .013470 | .070376 | .010444 | .0007569 |
| %RSD | .9997264 | 129.1200 | .1789875 | 2.895677 | .3745457 | .5164683 |
| #1 | 197.5184 | .0048334 | 7.536751 | 2.391743 | 2.785660 | .1473001 |
| #2 | 199.7568 | .0001072 | 7.510728 | 2.387774 | 2.779615 | .1457864 |
| #3 | 201.4988 | .0009272 | 7.529779 | 2.511604 | 2.799952 | .1465500 |

Sample Name: Q3036-03DLX5 Acquired: 9/10/2025 13:42:48 Type: Unk
Method: 6010-200.7 NEW(v160) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Sn1899 | Ti3361 | Si2881 | P_1774 | S_1820 | Li6707 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | .0114429 | .0080615 | 1.759724 | .9900771 | F 93.97983 | .0051469 |
| Stddev | .0002031 | .0009570 | .022638 | .0054003 | .22632 | .0012749 |
| %RSD | 1.774683 | 11.87095 | 1.286429 | .5454398 | .2408212 | 24.76994 |
| #1 | .0112344 | .0088856 | 1.733909 | .9930561 | 93.84869 | .0059960 |
| #2 | .0116401 | .0082871 | 1.769076 | .9838434 | 93.84963 | .0057637 |
| #3 | .0114543 | .0070119 | 1.776188 | .9933317 | 94.24116 | .0036809 |

| Elem | Sr4077 |
|---|---|
| Units | ppm |
| Avg | -.070679 |
| Stddev | .000501 |
| %RSD | .7089548 |
| #1 | -.070197 |
| #2 | -.070643 |
| #3 | -.071197 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | 6197.461 | 105522.1 | 11088.62 | 4860.312 | 7186.748 |
| Stddev | 16.624 | 278.4 | 28.50 | 16.898 | 18.755 |
| %RSD | .2682386 | .2638207 | .2569757 | .3476681 | .2609675 |
| #1 | 6184.621 | 105671.7 | 11097.33 | 4843.554 | 7174.818 |
| #2 | 6191.523 | 105693.6 | 11111.74 | 4860.036 | 7177.060 |
| #3 | 6216.239 | 105200.8 | 11056.79 | 4877.346 | 7208.365 |

Sample Name: Q3045-02 Acquired: 9/10/2025 13:47:04 Type: Unk
Method: 6010-200.7 NEW(v160) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.3146594** | **.0072629** | **.0260336** | **.0132795** | **.1808314** | **.0244454** |
| Stddev | .0008645 | .0017513 | .0026029 | .0033603 | .0057896 | .0082609 |
| %RSD | .2747359 | 24.11278 | 9.998412 | 25.30431 | 3.201643 | 33.79301 |
| #1 | .3150161 | .0092500 | .0257690 | .0167644 | .1836702 | .0326956 |
| #2 | .3152885 | .0059443 | .0287587 | .0100595 | .1846537 | .0161740 |
| #3 | .3136737 | .0065944 | .0235730 | .0130146 | .1741704 | .0244667 |

| Elem | Ba4934 | Be2348 | Cd2265 | Ca3736 | Cr2677 | Co2286 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.011754** | **-.000075** | **.0030993** | **15.55006** | F **30.72716** | **.0283631** |
| Stddev | .001047 | .000028 | .0000929 | .06629 | .10886 | .0003444 |
| %RSD | 8.910516 | 37.70286 | 2.996675 | .4263145 | .3542744 | 1.214379 |
| #1 | -.011454 | -.000095 | .0031207 | 15.61694 | 30.70168 | .0287064 |
| #2 | -.012918 | -.000087 | .0029976 | 15.48438 | 30.84650 | .0283654 |
| #3 | -.010888 | -.000043 | .0031797 | 15.54885 | 30.63331 | .0280175 |

| Elem | Cu2247 | Fe2404 | Mn2576 | Mg2790 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0745088** | **2.680820** | **.4754462** | **156.6780** | **.0901541** | **-.000017** |
| Stddev | .0009013 | .030757 | .0002684 | .5611 | .0011473 | .000277 |
| %RSD | 1.209680 | 1.147300 | .0564441 | .3581308 | 1.272557 | 1633.553 |
| #1 | .0752517 | 2.666548 | .4752340 | 156.8736 | .0901472 | -.000158 |
| #2 | .0747687 | 2.716120 | .4757479 | 156.0453 | .0913048 | .000302 |
| #3 | .0735061 | 2.659791 | .4753567 | 157.1152 | .0890103 | -.000195 |

| Elem | Na5895 | V_2924 | Zn2138 | K_7664 | B_2496 | Mo2020 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | F **3899.558** | **-.016704** | **.1801150** | **167.7163** | **1.316590** | **.0310144** |
| Stddev | 29.323 | .002336 | .0000985 | 2.0130 | .004521 | .0002879 |
| %RSD | .7519651 | 13.98695 | .0546905 | 1.200240 | .3434186 | .9284416 |
| #1 | 3918.210 | -.019359 | .1802251 | 165.5437 | 1.318155 | .0313452 |
| #2 | 3914.706 | -.015790 | .1800846 | 169.5182 | 1.311494 | .0308775 |
| #3 | 3865.759 | -.014963 | .1800352 | 168.0870 | 1.320122 | .0308204 |

Sample Name: Q3045-02 Acquired: 9/10/2025 13:47:04 Type: Unk
Method: 6010-200.7 NEW(v160) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Sn1899 | Ti3361 | Si2881 | P_1774 | S_1820 | Li6707 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | .0291711 | -.000494 | 7.865545 | .0488111 | F 315.4184 | .0312815 |
| Stddev | .0001454 | .001179 | .046885 | .0006955 | 1.2115 | .0007790 |
| %RSD | .4984628 | 238.6084 | .5960795 | 1.424823 | .3840806 | 2.490419 |
| #1 | .0291836 | -.001444 | 7.831395 | .0484679 | 314.9612 | .0320263 |
| #2 | .0293098 | .000826 | 7.919000 | .0483540 | 316.7919 | .0313458 |
| #3 | .0290198 | -.000864 | 7.846241 | .0496115 | 314.5021 | .0304722 |

| Elem | Sr4077 |
|---|---|
| Units | ppm |
| Avg | .0719461 |
| Stddev | .0001657 |
| %RSD | .2302658 |
| #1 | .0718717 |
| #2 | .0718307 |
| #3 | .0721359 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | 4481.556 | 81411.24 | 11152.35 | 3588.527 | 5011.042 |
| Stddev | 29.992 | 335.66 | 56.32 | 20.913 | 38.963 |
| %RSD | .6692341 | .4123054 | .5050496 | .5827636 | .7775515 |
| #1 | 4456.542 | 81492.76 | 11095.84 | 3571.124 | 4988.871 |
| #2 | 4473.319 | 81042.33 | 11208.49 | 3582.731 | 4988.223 |
| #3 | 4514.805 | 81698.64 | 11152.72 | 3611.726 | 5056.031 |

Sample Name: Q3045-02DUP Acquired: 9/10/2025 13:51:29 Type: Unk
Method: 6010-200.7 NEW(v160) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | .2791955 | .0070558 | .0231606 | .0060287 | .1550206 | .0157357 |
| Stddev | .0017045 | .0021963 | .0009093 | .0014223 | .0034250 | .0097106 |
| %RSD | .6104889 | 31.12778 | 3.926261 | 23.59242 | 2.209401 | 61.71066 |
| #1 | .2773881 | .0085241 | .0237878 | .0076710 | .1515645 | .0241376 |
| #2 | .2794248 | .0045309 | .0235762 | .0052129 | .1584137 | .0051042 |
| #3 | .2807737 | .0081124 | .0221177 | .0052022 | .1550835 | .0179651 |

| Elem | Ba4934 | Be2348 | Cd2265 | Ca3736 | Cr2677 | Co2286 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | -.009536 | -.000161 | .0027953 | 14.05101 | F 27.39788 | .0251762 |
| Stddev | .001447 | .000055 | .0000859 | .02727 | .14934 | .0002324 |
| %RSD | 15.16964 | 34.41944 | 3.072147 | .1940455 | .5450655 | .9230086 |
| #1 | -.010080 | -.000148 | .0028916 | 14.07829 | 27.53624 | .0251301 |
| #2 | -.007897 | -.000222 | .0027676 | 14.05096 | 27.41782 | .0254281 |
| #3 | -.010632 | -.000113 | .0027267 | 14.02376 | 27.23958 | .0249703 |

| Elem | Cu2247 | Fe2404 | Mn2576 | Mg2790 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | .0651499 | 2.243182 | .4277888 | 142.1635 | .0791862 | .0002157 |
| Stddev | .0010562 | .029279 | .0021775 | .6890 | .0008854 | .0004674 |
| %RSD | 1.621202 | 1.305223 | .5090132 | .4846387 | 1.118094 | 216.6289 |
| #1 | .0648473 | 2.221864 | .4293857 | 142.4491 | .0793418 | .0007215 |
| #2 | .0663243 | 2.231116 | .4286723 | 142.6638 | .0799836 | .0001259 |
| #3 | .0642780 | 2.276565 | .4253084 | 141.3777 | .0782334 | -.000200 |

| Elem | Na5895 | V_2924 | Zn2138 | K_7664 | B_2496 | Mo2020 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | F 3432.497 | -.015550 | .1562837 | 143.1846 | 1.225348 | .0272311 |
| Stddev | 25.620 | .002771 | .0007717 | 2.2093 | .015423 | .0004330 |
| %RSD | .7463863 | 17.81924 | .4937749 | 1.542946 | 1.258697 | 1.590275 |
| #1 | 3461.589 | -.015297 | .1568572 | 142.1826 | 1.233759 | .0270176 |
| #2 | 3422.600 | -.018440 | .1565875 | 141.6538 | 1.234738 | .0277294 |
| #3 | 3413.302 | -.012915 | .1554063 | 145.7172 | 1.207548 | .0269462 |

Sample Name: Q3045-02DUP Acquired: 9/10/2025 13:51:29 Type: Unk
Method: 6010-200.7 NEW(v160) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Sn1899 | Ti3361 | Si2881 | P_1774 | S_1820 | Li6707 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | .0193774 | .0000512 | 6.659851 | .0414196 | F 276.9136 | .0277476 |
| Stddev | .0008660 | .0012247 | .070209 | .0028382 | 4.4289 | .0006084 |
| %RSD | 4.469249 | 2392.878 | 1.054210 | 6.852290 | 1.599367 | 2.192612 |
| #1 | .0203518 | .0014649 | 6.622221 | .0381569 | 274.4279 | .0273025 |
| #2 | .0186954 | -.000686 | 6.616479 | .0427834 | 282.0270 | .0274996 |
| #3 | .0190851 | -.000626 | 6.740853 | .0433184 | 274.2859 | .0284409 |

| Elem | Sr4077 |
|---|---|
| Units | ppm |
| Avg | .0639731 |
| Stddev | .0001510 |
| %RSD | .2360297 |
| #1 | .0641461 |
| #2 | .0639051 |
| #3 | .0638680 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | 4714.413 | 85445.52 | 10979.18 | 3787.956 | 5260.134 |
| Stddev | 36.783 | 111.29 | 154.65 | 16.418 | 38.041 |
| %RSD | .7802285 | .1302472 | 1.408570 | .4334256 | .7231953 |
| #1 | 4732.019 | 85415.90 | 10899.23 | 3769.006 | 5268.272 |
| #2 | 4672.136 | 85352.04 | 10880.87 | 3797.900 | 5218.683 |
| #3 | 4739.085 | 85568.63 | 11157.44 | 3796.963 | 5293.448 |

Sample Name: Q3045-02LX5 Acquired: 9/10/2025 13:55:55 Type: Unk
Method: 6010-200.7 NEW(v160) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0609225** | **.0031711** | **.0058452** | **.0018404** | **.0279834** | **.0117468** |
| Stddev | .0011694 | .0030816 | .0021267 | .0009504 | .0021495 | .0047206 |
| %RSD | 1.919398 | 97.17679 | 36.38407 | 51.63922 | 7.681360 | 40.18648 |
| #1 | .0597016 | .0041982 | .0055293 | .0027491 | .0285321 | .0070937 |
| #2 | .0610337 | -.000293 | .0081123 | .0019188 | .0298055 | .0116146 |
| #3 | .0620323 | .005608 | .0038941 | .0008533 | .0256128 | .0165321 |

| Elem | Ba4934 | Be2348 | Cd2265 | Ca3736 | Cr2677 | Co2286 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.004336** | **.0000750** | **.0007104** | **3.367853** | **6.633225** | **.0060331** |
| Stddev | .001502 | .0000336 | .0000133 | .041091 | .028119 | .0001280 |
| %RSD | 34.63359 | 44.74911 | 1.864627 | 1.220110 | .4239097 | 2.122157 |
| #1 | -.003141 | .0000978 | .0007189 | 3.415111 | 6.606119 | .0060239 |
| #2 | -.006022 | .0000907 | .0006952 | 3.340548 | 6.631299 | .0061655 |
| #3 | -.003845 | .0000365 | .0007172 | 3.347899 | 6.662257 | .0059099 |

| Elem | Cu2247 | Fe2404 | Mn2576 | Mg2790 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0159024** | **.4987772** | **.1014665** | **33.83783** | **.0189471** | **-.000824** |
| Stddev | .0004320 | .0149013 | .0009142 | .48433 | .0004260 | .000315 |
| %RSD | 2.716697 | 2.987566 | .9009748 | 1.431324 | 2.248499 | 38.24839 |
| #1 | .0161265 | .4843742 | .1024394 | 34.36263 | .0184643 | -.000991 |
| #2 | .0154044 | .5141312 | .1013348 | 33.40806 | .0191069 | -.001021 |
| #3 | .0161764 | .4978262 | .1006253 | 33.74278 | .0192701 | -.000461 |

| Elem | Na5895 | V_2924 | Zn2138 | K_7664 | B_2496 | Mo2020 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **973.3475** | **-.006187** | **.0324741** | **31.34842** | **.3162692** | **.0059780** |
| Stddev | 23.5195 | .003276 | .0002669 | 1.01577 | .0107842 | .0001683 |
| %RSD | 2.416356 | 52.94655 | .8217447 | 3.240267 | 3.409804 | 2.815094 |
| #1 | 946.2065 | -.009860 | .0322080 | 30.22713 | .3280054 | .0060434 |
| #2 | 986.0861 | -.003569 | .0327417 | 32.20710 | .3067964 | .0057868 |
| #3 | 987.7500 | -.005132 | .0324726 | 31.61101 | .3140057 | .0061037 |

Sample Name: Q3045-02LX5 Acquired: 9/10/2025 13:55:55 Type: Unk
Method: 6010-200.7 NEW(v160) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Sn1899 | Ti3361 | Si2881 | P_1774 | S_1820 | Li6707 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | .0064019 | .0015771 | 1.405516 | .0093213 | F 62.05042 | .0171470 |
| Stddev | .0005381 | .0005470 | .022784 | .0004866 | .37926 | .0044405 |
| %RSD | 8.405531 | 34.68420 | 1.621027 | 5.220857 | .6112172 | 25.89697 |
| #1 | .0066181 | .0009833 | 1.379209 | .0098765 | 62.45588 | .0126237 |
| #2 | .0067983 | .0020604 | 1.418405 | .0089686 | 61.99100 | .0173175 |
| #3 | .0057893 | .0016876 | 1.418934 | .0091189 | 61.70437 | .0214999 |

| Elem | Sr4077 |
|---|---|
| Units | ppm |
| Avg | .0148959 |
| Stddev | .0000814 |
| %RSD | .5464046 |
| #1 | .0149879 |
| #2 | .0148334 |
| #3 | .0148664 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | 5708.398 | 100358.7 | 11728.02 | 4572.187 | 6327.012 |
| Stddev | 13.469 | 1251.3 | 307.81 | 45.211 | 25.693 |
| %RSD | .2359547 | 1.246780 | 2.624537 | .9888229 | .4060874 |
| #1 | 5712.765 | 101678.2 | 11466.48 | 4624.050 | 6329.784 |
| #2 | 5693.287 | 100208.7 | 12067.22 | 4541.090 | 6300.045 |
| #3 | 5719.141 | 99189.3 | 11650.37 | 4551.421 | 6351.206 |

Sample Name: Q3045-02MS Acquired: 9/10/2025 14:00:17 Type: Unk
Method: 6010-200.7 NEW(v160) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | 1.144616 | 1.627753 | .8625053 | 2.184547 | 1.022301 | 1.923323 |
| Stddev | .010762 | .061117 | .0030381 | .025128 | .011510 | .014646 |
| %RSD | .9401885 | 3.754670 | .3522382 | 1.150274 | 1.125887 | .7614725 |
| #1 | 1.144081 | 1.610088 | .8640180 | 2.190124 | 1.026125 | 1.917126 |
| #2 | 1.134132 | 1.577414 | .8590078 | 2.157099 | 1.009365 | 1.912795 |
| #3 | 1.155635 | 1.695756 | .8644900 | 2.206419 | 1.031412 | 1.940048 |

| Elem | Ba4934 | Be2348 | Cd2265 | Ca3736 | Cr2677 | Co2286 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | .1670979 | .1672891 | .1839999 | 14.90173 | F 27.54173 | .2089654 |
| Stddev | .0023392 | .0018279 | .0005167 | .13512 | .06653 | .0011208 |
| %RSD | 1.399883 | 1.092658 | .2808058 | .9067669 | .2415523 | .5363739 |
| #1 | .1684874 | .1676480 | .1843042 | 14.94959 | 27.46618 | .2093245 |
| #2 | .1643972 | .1653084 | .1834034 | 14.74919 | 27.56751 | .2077090 |
| #3 | .1684091 | .1689110 | .1842923 | 15.00641 | 27.59152 | .2098626 |

| Elem | Cu2247 | Fe2404 | Mn2576 | Mg2790 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | .3312777 | 5.651877 | .6024074 | 142.0351 | .5311017 | .0835074 |
| Stddev | .0013366 | .028070 | .0052548 | 1.0234 | .0016696 | .0003489 |
| %RSD | .4034619 | .4966470 | .8723017 | .7205453 | .3143602 | .4178081 |
| #1 | .3306916 | 5.652104 | .6041065 | 142.3041 | .5317906 | .0832178 |
| #2 | .3303343 | 5.679832 | .5965132 | 140.9040 | .5291979 | .0834096 |
| #3 | .3328072 | 5.623694 | .6066023 | 142.8972 | .5323166 | .0838947 |

| Elem | Na5895 | V_2924 | Zn2138 | K_7664 | B_2496 | Mo2020 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | F 3245.878 | .2530980 | .3971102 | 158.5037 | 1.423533 | .4268716 |
| Stddev | 42.573 | .0060943 | .0008379 | .8117 | .016709 | .0031643 |
| %RSD | 1.311587 | 2.407893 | .2110132 | .5121109 | 1.173751 | .7412801 |
| #1 | 3234.974 | .2576851 | .3961715 | 157.9955 | 1.424192 | .4272865 |
| #2 | 3292.842 | .2461828 | .3973766 | 159.4398 | 1.406505 | .4235204 |
| #3 | 3209.818 | .2554260 | .3977827 | 158.0757 | 1.439902 | .4298081 |

Sample Name: Q3045-02MS Acquired: 9/10/2025 14:00:17 Type: Unk
Method: 6010-200.7 NEW(v160) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Sn1899 | Ti3361 | Si2881 | P_1774 | S_1820 | Li6707 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | .6577554 | .1820904 | 7.782673 | 6.141813 | F 277.8200 | .2538304 |
| Stddev | .0022683 | .0028085 | .054695 | .045753 | 3.0456 | .0027919 |
| %RSD | .3448588 | 1.542383 | .7027762 | .7449413 | 1.096243 | 1.099900 |
| #1 | .6593722 | .1834451 | 7.772442 | 6.166760 | 278.9664 | .2570046 |
| #2 | .6551624 | .1788613 | 7.841760 | 6.089009 | 274.3676 | .2517554 |
| #3 | .6587315 | .1839647 | 7.733815 | 6.169670 | 280.1260 | .2527313 |

| Elem | Sr4077 |
|---|---|
| Units | ppm |
| Avg | .2413854 |
| Stddev | .0025403 |
| %RSD | 1.052391 |
| #1 | .2429306 |
| #2 | .2384535 |
| #3 | .2427720 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | 4724.391 | 87037.64 | 11327.53 | 3796.332 | 5280.426 |
| Stddev | 35.016 | 277.87 | 120.10 | 14.958 | 30.236 |
| %RSD | .7411833 | .3192536 | 1.060222 | .3940121 | .5726145 |
| #1 | 4740.932 | 87179.54 | 11304.45 | 3810.267 | 5286.737 |
| #2 | 4748.074 | 86717.47 | 11457.49 | 3798.203 | 5307.008 |
| #3 | 4684.169 | 87215.92 | 11220.64 | 3780.527 | 5247.531 |

Sample Name: CCV03 Acquired: 9/10/2025 14:04:32 Type: Unk
Method: 6010-200.7 NEW(v160) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: CCV03 Custom ID2: Custom ID3:
Comment:

| Elem | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ba4934 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **4.841887** | **4.832132** | **4.684950** | **4.879220** | **4.859344** | **9.536409** | **9.406752** |
| Stddev | .013421 | .136989 | .001562 | .018400 | .007647 | .026584 | .134363 |
| %RSD | .2771814 | 2.834951 | .0333310 | .3771089 | .1573631 | .2787680 | 1.428366 |
| #1 | 4.855007 | 4.968926 | 4.686556 | 4.898566 | 4.850948 | 9.506550 | 9.292218 |
| #2 | 4.828184 | 4.832518 | 4.684855 | 4.861941 | 4.861176 | 9.545166 | 9.373382 |
| #3 | 4.842470 | 4.694950 | 4.683437 | 4.877152 | 4.865909 | 9.557510 | 9.554655 |

| Elem | Be2348 | Cd2265 | Ca3736 | Cr2677 | Co2286 | Cu2247 | Fe2404 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.2320577** | **2.356878** | **23.56510** | **.9599725** | **2.358116** | **1.199609** | **4.881921** |
| Stddev | .0016810 | .003120 | .08158 | .0020958 | .002425 | .002899 | .011218 |
| %RSD | .7243816 | .1323959 | .3461719 | .2183172 | .1028202 | .2417009 | .2297892 |
| #1 | .2303707 | 2.360478 | 23.47206 | .9575718 | 2.360187 | 1.201255 | 4.892221 |
| #2 | .2320700 | 2.354947 | 23.59888 | .9614370 | 2.355449 | 1.196261 | 4.883575 |
| #3 | .2337326 | 2.355208 | 23.62436 | .9609086 | 2.358713 | 1.201311 | 4.869968 |

| Elem | Mn2576 | Mg2790 | Ni2316 | Ag3280 | Na5895 | V_2924 | Zn2138 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.343528** | **23.50740** | **2.353866** | **1.205547** | **26.51875** | **2.386390** | **2.419276** |
| Stddev | .013699 | .22804 | .001375 | .000513 | .15606 | .007601 | .011607 |
| %RSD | .5845440 | .9700748 | .0584272 | .0425364 | .5885061 | .3185354 | .4797834 |
| #1 | 2.328411 | 23.24529 | 2.355425 | 1.205450 | 26.63309 | 2.377773 | 2.406162 |
| #2 | 2.355119 | 23.66031 | 2.352826 | 1.205090 | 26.58221 | 2.389251 | 2.423433 |
| #3 | 2.347055 | 23.61659 | 2.353347 | 1.206101 | 26.34096 | 2.392146 | 2.428232 |

| Elem | K_7664 | B_2496 | Mo2020 | Sn1899 | Ti3361 | Si2881 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **26.68922** | **4.611998** | **4.840057** | **4.730676** | **4.737979** | **4.961385** | **4.813070** |
| Stddev | .06895 | .034619 | .009886 | .015372 | .014063 | .023702 | .008802 |
| %RSD | .2583604 | .7506288 | .2042550 | .3249452 | .2968067 | .4777314 | .1828809 |
| #1 | 26.60980 | 4.577525 | 4.845979 | 4.748126 | 4.723373 | 4.980445 | 4.821833 |
| #2 | 26.73376 | 4.611706 | 4.828644 | 4.719136 | 4.751426 | 4.968864 | 4.813149 |
| #3 | 26.72411 | 4.646761 | 4.845546 | 4.724766 | 4.739139 | 4.934845 | 4.804229 |

Reviewed By:jaswal
On:9/12/2025 10:24:55 PM
Inst Id :P4
LB :LB137144

Sample Name: CCV03 Acquired: 9/10/2025 14:04:32 Type: Unk
Method: 6010-200.7 NEW(v160) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: CCV03 Custom ID2: Custom ID3:
Comment:

| Elem | S_1820 | Li6707 | Sr4077 |
|---|---|---|---|
| Units | ppm | ppm | ppm |
| Avg | **4.820409** | **4.609906** | **4.776817** |
| Stddev | .020971 | .012894 | .067076 |
| %RSD | .4350408 | .2797122 | 1.404204 |
| | | | |
| #1 | 4.844586 | 4.595352 | 4.699640 |
| #2 | 4.809490 | 4.619905 | 4.809754 |
| #3 | 4.807150 | 4.614460 | 4.821058 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **6300.063** | **111116.2** | **11908.80** | **5056.873** | **7245.102** |
| Stddev | 19.075 | 172.5 | 86.23 | 28.656 | 19.194 |
| %RSD | .3027792 | .1552094 | .7240745 | .5666708 | .2649191 |
| | | | | | |
| #1 | 6284.348 | 111293.0 | 11990.74 | 5089.230 | 7224.114 |
| #2 | 6321.286 | 111107.2 | 11916.80 | 5034.702 | 7261.761 |
| #3 | 6294.555 | 110948.4 | 11818.84 | 5046.687 | 7249.432 |

Sample Name: CCB03 Acquired: 9/10/2025 14:25:19 Type: Unk
Method: 6010-200.7 NEW(v160) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: CCB03 Custom ID2: Custom ID3:
Comment:

| Elem | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ba4934 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.003445** | **-.002338** | **-.000876** | **-.001979** | **.0003661** | **.0069334** | **-.003135** |
| Stddev | .001215 | .001017 | .000262 | .002605 | .0008759 | .0005106 | .000306 |
| %RSD | 35.25997 | 43.50941 | 29.87635 | 131.6124 | 239.2263 | 7.364517 | 9.744722 |
| #1 | -.002408 | -.003508 | -.001002 | -.003303 | -.000642 | .0071390 | -.003480 |
| #2 | -.003146 | -.001667 | -.000575 | -.003656 | .000944 | .0073092 | -.003029 |
| #3 | -.004781 | -.001839 | -.001051 | .001022 | .000796 | .0063521 | -.002897 |

| Elem | Be2348 | Cd2265 | Ca3736 | Cr2677 | Co2286 | Cu2247 | Fe2404 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0000043** | **-.000010** | **-.004432** | **.0003259** | **-.000026** | **-.000158** | **.0007980** |
| Stddev | .0000421 | .000025 | .012610 | .0003083 | .000060 | .000027 | .0046118 |
| %RSD | 982.9492 | 245.4598 | 284.5378 | 94.59608 | 228.2953 | 17.24221 | 577.9498 |
| #1 | .0000502 | -.000028 | -.014635 | .0006816 | -.000096 | -.000134 | -.000009 |
| #2 | -.000005 | .000018 | -.008326 | .0001370 | .000002 | -.000187 | -.003357 |
| #3 | -.000032 | -.000020 | .009666 | .0001590 | .000014 | -.000152 | .005760 |

| Elem | Mn2576 | Mg2790 | Ni2316 | Ag3280 | Na5895 | V_2924 | Zn2138 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0001254** | **-.005342** | **.0005974** | **-.000607** | **-.189167** | **.0012595** | **-.000215** |
| Stddev | .0006305 | .017831 | .0001951 | .000476 | .006988 | .0027746 | .000110 |
| %RSD | 502.9931 | 333.8209 | 32.65142 | 78.40496 | 3.694001 | 220.2927 | 51.21312 |
| #1 | .0006508 | -.014421 | .0007423 | -.000126 | -.186699 | .0026501 | -.000142 |
| #2 | -.000574 | .015202 | .0003756 | -.000619 | -.197054 | .0030639 | -.000161 |
| #3 | .000299 | -.016806 | .0006743 | -.001078 | -.183748 | -.001935 | -.000342 |

| Elem | K_7664 | B_2496 | Mo2020 | Sn1899 | Ti3361 | Si2881 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.276666** | **-.003824** | **.0002905** | **-.015580** | **.0001497** | **.0021139** | **.0011039** |
| Stddev | .023295 | .000326 | .0002646 | .000303 | .0005947 | .0075711 | .0005435 |
| %RSD | 8.419835 | 8.513212 | 91.08194 | 1.946411 | 397.2040 | 358.1531 | 49.23800 |
| #1 | -.269252 | -.003508 | .0004118 | -.015730 | .0001058 | .0058911 | .0007312 |
| #2 | -.257981 | -.004159 | -.000013 | -.015780 | .0007651 | -.006603 | .0017276 |
| #3 | -.302766 | -.003805 | .000473 | -.015231 | -.000422 | .007053 | .0008529 |

Sample Name: CCB03 Acquired: 9/10/2025 14:25:19 Type: Unk
Method: 6010-200.7 NEW(v160) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: CCB03 Custom ID2: Custom ID3:
Comment:

| Elem | S_1820 | Li6707 | Sr4077 |
|---|---|---|---|
| Units | ppm | ppm | ppm |
| Avg | **-.001071** | **-.008329** | **.0000274** |
| Stddev | .001296 | .001065 | .0000654 |
| %RSD | 121.0558 | 12.78245 | 238.9983 |
| | | | |
| #1 | -.000060 | -.007272 | -.000038 |
| #2 | -.000620 | -.008314 | .000093 |
| #3 | -.002533 | -.009402 | .000026 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **6651.749** | **120849.5** | **12621.55** | **5391.861** | **8138.368** |
| Stddev | 14.280 | 196.4 | 56.48 | 2.566 | 29.715 |
| %RSD | .2146792 | .1625447 | .4474776 | .0475828 | .3651228 |
| | | | | | |
| #1 | 6667.056 | 120766.2 | 12653.47 | 5389.204 | 8168.867 |
| #2 | 6649.404 | 121073.9 | 12556.33 | 5392.056 | 8136.732 |
| #3 | 6638.787 | 120708.4 | 12654.83 | 5394.324 | 8109.505 |

Sample Name: Q3045-02MSD Acquired: 9/10/2025 14:29:37 Type: Unk
Method: 6010-200.7 NEW(v160) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | 1.030931 | 1.471830 | .7823759 | 1.916921 | .9138886 | 1.691013 |
| Stddev | .006665 | .042761 | .0033295 | .009062 | .0011569 | .006207 |
| %RSD | .6464839 | 2.905270 | .4255586 | .4727195 | .1265913 | .3670598 |
| #1 | 1.033874 | 1.511830 | .7860510 | 1.924843 | .9125638 | 1.694369 |
| #2 | 1.023302 | 1.426760 | .7795607 | 1.907040 | .9144025 | 1.683851 |
| #3 | 1.035619 | 1.476900 | .7815161 | 1.918880 | .9146996 | 1.694821 |

| Elem | Ba4934 | Be2348 | Cd2265 | Ca3736 | Cr2677 | Co2286 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | .1522193 | .1459302 | .1668090 | 14.04433 | F 25.75974 | .1894721 |
| Stddev | .0013660 | .0019626 | .0005594 | .08353 | .24700 | .0006160 |
| %RSD | .8973980 | 1.344913 | .3353290 | .5947318 | .9588521 | .3251314 |
| #1 | .1537356 | .1464271 | .1669818 | 14.13204 | 26.00881 | .1901239 |
| #2 | .1510849 | .1475965 | .1661836 | 14.03522 | 25.51487 | .1888995 |
| #3 | .1518373 | .1437668 | .1672614 | 13.96573 | 25.75555 | .1893928 |

| Elem | Cu2247 | Fe2404 | Mn2576 | Mg2790 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | .3009761 | 5.258212 | .5626104 | 133.2047 | .4840902 | .0749047 |
| Stddev | .0005902 | .119320 | .0036567 | .7590 | .0013013 | .0006314 |
| %RSD | .1960853 | 2.269212 | .6499472 | .5697637 | .2688132 | .8429266 |
| #1 | .3003374 | 5.244411 | .5667167 | 133.7550 | .4848681 | .0746575 |
| #2 | .3010897 | 5.146393 | .5614087 | 133.5201 | .4825879 | .0744342 |
| #3 | .3015012 | 5.383833 | .5597058 | 132.3389 | .4848146 | .0756222 |

| Elem | Na5895 | V_2924 | Zn2138 | K_7664 | B_2496 | Mo2020 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | F 3336.325 | .2292944 | .3755579 | 152.1487 | 1.307910 | .3749768 |
| Stddev | 43.975 | .0030497 | .0020504 | 4.1035 | .021867 | .0004377 |
| %RSD | 1.318070 | 1.330022 | .5459723 | 2.697058 | 1.671892 | .1167358 |
| #1 | 3313.452 | .2324624 | .3737161 | 151.5232 | 1.314855 | .3750520 |
| #2 | 3308.500 | .2263788 | .3751904 | 148.3938 | 1.325460 | .3745064 |
| #3 | 3387.022 | .2290420 | .3777673 | 156.5290 | 1.283414 | .3753721 |

Sample Name: Q3045-02MSD Acquired: 9/10/2025 14:29:37 Type: Unk
Method: 6010-200.7 NEW(v160) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Sn1899 | Ti3361 | Si2881 | P_1774 | S_1820 | Li6707 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | .5947286 | .1630627 | 7.421650 | 5.520747 | F 263.6033 | .2359333 |
| Stddev | .0023973 | .0008720 | .133171 | .032767 | 2.2425 | .0024857 |
| %RSD | .4030995 | .5347669 | 1.794360 | .5935329 | .8506984 | 1.053549 |
| #1 | .5944847 | .1640390 | 7.432952 | 5.533273 | 264.3610 | .2387184 |
| #2 | .5924625 | .1623611 | 7.283189 | 5.483564 | 261.0801 | .2339399 |
| #3 | .5972385 | .1627880 | 7.548811 | 5.545404 | 265.3688 | .2351415 |

| Elem | Sr4077 |
|---|---|
| Units | ppm |
| Avg | .2237803 |
| Stddev | .0017170 |
| %RSD | .7672918 |
| #1 | .2257251 |
| #2 | .2224740 |
| #3 | .2231417 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | 4791.653 | 88611.62 | 11889.50 | 3838.072 | 5316.607 |
| Stddev | 7.699 | 1349.44 | 96.93 | 38.851 | 5.186 |
| %RSD | .1606748 | 1.522872 | .8152478 | 1.012257 | .0975492 |
| #1 | 4800.231 | 88904.00 | 11868.31 | 3844.975 | 5322.579 |
| #2 | 4785.343 | 89790.90 | 11804.92 | 3873.009 | 5314.005 |
| #3 | 4789.386 | 87139.96 | 11995.27 | 3796.232 | 5313.238 |

Sample Name: Q3045-02A Acquired: 9/10/2025 14:33:52 Type: Unk
Method: 6010-200.7 NEW(v160) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **1.148690** | **1.743744** | **.8845067** | **2.190066** | **1.032955** | **1.920845** |
| Stddev | .003134 | .039435 | .0041404 | .009904 | .000526 | .009848 |
| %RSD | .2728638 | 2.261493 | .4680976 | .4522068 | .0508792 | .5126815 |
| #1 | 1.152308 | 1.786953 | .8892813 | 2.178713 | 1.033117 | 1.932154 |
| #2 | 1.146794 | 1.734585 | .8819080 | 2.194546 | 1.033380 | 1.914162 |
| #3 | 1.146967 | 1.709695 | .8823307 | 2.196937 | 1.032367 | 1.916218 |

| Elem | Ba4934 | Be2348 | Cd2265 | Ca3736 | Cr2677 | Co2286 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.1757306** | **.1742019** | **.1880453** | **15.26901** | F **28.08922** | **.2123119** |
| Stddev | .0023795 | .0038550 | .0011292 | .16022 | .20774 | .0009766 |
| %RSD | 1.354064 | 2.212920 | .6004714 | 1.049293 | .7395688 | .4599936 |
| #1 | .1782441 | .1779994 | .1893469 | 15.44548 | 28.09470 | .2134351 |
| #2 | .1754351 | .1743144 | .1873292 | 15.22889 | 27.87879 | .2118375 |
| #3 | .1735127 | .1702919 | .1874597 | 15.13267 | 28.29416 | .2116631 |

| Elem | Cu2247 | Fe2404 | Mn2576 | Mg2790 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.3323118** | **5.601828** | **.6187872** | **147.6449** | **.5413800** | **.0847344** |
| Stddev | .0013128 | .090454 | .0054074 | 1.7559 | .0033594 | .0001354 |
| %RSD | .3950472 | 1.614720 | .8738645 | 1.189304 | .6205171 | .1597845 |
| #1 | .3338276 | 5.515141 | .6240162 | 149.6386 | .5452522 | .0847810 |
| #2 | .3315420 | 5.594714 | .6191279 | 146.9676 | .5392438 | .0848402 |
| #3 | .3315657 | 5.695628 | .6132176 | 146.3285 | .5396441 | .0845818 |

| Elem | Na5895 | V_2924 | Zn2138 | K_7664 | B_2496 | Mo2020 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | F **3414.206** | **.2649921** | **.3850832** | **163.5367** | **1.480697** | **.4348005** |
| Stddev | 44.525 | .0026993 | .0023379 | 3.6607 | .034800 | .0007133 |
| %RSD | 1.304099 | 1.018650 | .6071130 | 2.238488 | 2.350231 | .1640505 |
| #1 | 3460.295 | .2618935 | .3827652 | 159.8433 | 1.513378 | .4356169 |
| #2 | 3371.430 | .2662483 | .3874405 | 163.6028 | 1.484603 | .4342978 |
| #3 | 3410.895 | .2668344 | .3850439 | 167.1639 | 1.444109 | .4344868 |

Sample Name: Q3045-02A Acquired: 9/10/2025 14:33:52 Type: Unk
Method: 6010-200.7 NEW(v160) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Sn1899 | Ti3361 | Si2881 | P_1774 | S_1820 | Li6707 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | .6825395 | .1869387 | 7.916688 | 6.326599 | F 282.1834 | .2688986 |
| Stddev | .0066738 | .0013820 | .102840 | .029068 | 1.5781 | .0004328 |
| %RSD | .9777819 | .7392934 | 1.299022 | .4594597 | .5592639 | .1609545 |
| #1 | .6902439 | .1885344 | 7.812653 | 6.358175 | 283.8375 | .2691582 |
| #2 | .6785445 | .1861243 | 7.919122 | 6.320668 | 282.0186 | .2683990 |
| #3 | .6788300 | .1861575 | 8.018289 | 6.300954 | 280.6941 | .2691387 |

| Elem | Sr4077 |
|---|---|
| Units | ppm |
| Avg | .2504727 |
| Stddev | .0011892 |
| %RSD | .4747661 |
| #1 | .2515737 |
| #2 | .2506327 |
| #3 | .2492116 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | 4716.204 | 85455.55 | 10947.24 | 3791.932 | 5241.866 |
| Stddev | 21.925 | 472.04 | 257.08 | 13.929 | 26.056 |
| %RSD | .4648899 | .5523779 | 2.348397 | .3673370 | .4970843 |
| #1 | 4694.669 | 85200.99 | 10659.41 | 3786.614 | 5212.109 |
| #2 | 4738.499 | 86000.22 | 11028.23 | 3807.737 | 5260.595 |
| #3 | 4715.446 | 85165.43 | 11154.07 | 3781.446 | 5252.895 |

Reviewed By:jaswal
On:9/12/2025 10:24:55 PM
Inst Id :P4
LB :LB137144

Sample Name: Q3045-02DLX5 Acquired: 9/10/2025 14:41:46 Type: Unk
Method: 6010-200.7 NEW(v160) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0584813** | **.0044274** | **.0056393** | **.0036327** | **.0297465** | **.0012314** |
| Stddev | .0031522 | .0042562 | .0008448 | .0031163 | .0027760 | .0089591 |
| %RSD | 5.390102 | 96.13406 | 14.97995 | 85.78328 | 9.332134 | 727.5788 |
| #1 | .0587843 | .0056569 | .0055569 | .0070024 | .0295239 | .0081045 |
| #2 | .0551886 | .0079336 | .0048388 | .0030412 | .0326270 | -.008901 |
| #3 | .0614711 | -.000308 | .0065223 | .0008546 | .0270885 | .004491 |

| Elem | Ba4934 | Be2348 | Cd2265 | Ca3736 | Cr2677 | Co2286 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.005801** | **.0000785** | **.0006416** | **3.171532** | **6.320326** | **.0057913** |
| Stddev | .000400 | .0000275 | .0000095 | .019897 | .024077 | .0001222 |
| %RSD | 6.902823 | 34.97067 | 1.481092 | .6273771 | .3809413 | 2.110036 |
| #1 | -.005448 | .0000663 | .0006520 | 3.194499 | 6.347925 | .0057374 |
| #2 | -.006236 | .0001100 | .0006334 | 3.159523 | 6.309428 | .0059312 |
| #3 | -.005720 | .0000593 | .0006393 | 3.160573 | 6.303625 | .0057053 |

| Elem | Cu2247 | Fe2404 | Mn2576 | Mg2790 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0151648** | **.4766757** | **.0952429** | **31.79601** | **.0179149** | **-.000542** |
| Stddev | .0002066 | .0109128 | .0008095 | .31116 | .0002422 | .000604 |
| %RSD | 1.362054 | 2.289344 | .8498952 | .9786214 | 1.352030 | 111.5062 |
| #1 | .0152327 | .4641036 | .0960361 | 32.14858 | .0180704 | -.000824 |
| #2 | .0149329 | .4837008 | .0944181 | 31.55979 | .0180384 | -.000953 |
| #3 | .0153289 | .4822225 | .0952746 | 31.67966 | .0176358 | .000152 |

| Elem | Na5895 | V_2924 | Zn2138 | K_7664 | B_2496 | Mo2020 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **918.2776** | **-.005561** | **.0308379** | **29.90169** | **.2933827** | **.0058834** |
| Stddev | 1.8901 | .001881 | .0001391 | .84780 | .0062353 | .0002968 |
| %RSD | .2058298 | 33.82030 | .4509891 | 2.835293 | 2.125326 | 5.044973 |
| #1 | 919.9957 | -.006656 | .0308390 | 28.93127 | .3002978 | .0059988 |
| #2 | 918.5841 | -.003390 | .0306983 | 30.27518 | .2881887 | .0061052 |
| #3 | 916.2530 | -.006638 | .0309764 | 30.49862 | .2916615 | .0055462 |

Sample Name: Q3045-02DLX5 Acquired: 9/10/2025 14:41:46 Type: Unk
Method: 6010-200.7 NEW(v160) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Sn1899 | Ti3361 | Si2881 | P_1774 | S_1820 | Li6707 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | .0065104 | -.000451 | 1.325990 | .0094385 | F 58.97287 | .0169244 |
| Stddev | .0009457 | .000498 | .004856 | .0000661 | .12235 | .0036867 |
| %RSD | 14.52549 | 110.2523 | .3662001 | .7002137 | .2074604 | 21.78363 |
| #1 | .0062470 | .000122 | 1.320649 | .0094010 | 58.90530 | .0137436 |
| #2 | .0075599 | -.000769 | 1.330138 | .0095148 | 59.11410 | .0160645 |
| #3 | .0057244 | -.000707 | 1.327183 | .0093996 | 58.89922 | .0209650 |

| Elem | Sr4077 |
|---|---|
| Units | ppm |
| Avg | .0140163 |
| Stddev | .0000554 |
| %RSD | .3949398 |
| #1 | .0140451 |
| #2 | .0139524 |
| #3 | .0140512 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | 5771.809 | 100785.7 | 11946.03 | 4674.128 | 6381.264 |
| Stddev | 40.032 | 714.2 | 260.67 | 32.403 | 52.052 |
| %RSD | .6935769 | .7086209 | 2.182040 | .6932390 | .8157061 |
| #1 | 5754.037 | 100606.4 | 11680.83 | 4653.941 | 6358.003 |
| #2 | 5743.739 | 101572.4 | 12201.92 | 4711.503 | 6344.897 |
| #3 | 5817.650 | 100178.2 | 11955.32 | 4656.939 | 6440.890 |

Sample Name: Q3045-02DUPDLX5 Acquired: 9/10/2025 14:46:08 Type: Unk
Method: 6010-200.7 NEW(v160) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0544132** | **.0045112** | **.0044655** | **-.000820** | **.0232382** | **-.002585** |
| Stddev | .0033538 | .0005510 | .0014564 | .000448 | .0026526 | .008127 |
| %RSD | 6.163579 | 12.21488 | 32.61357 | 54.62922 | 11.41493 | 314.3803 |
| #1 | .0582533 | .0040964 | .0029117 | -.001245 | .0252662 | -.002274 |
| #2 | .0520593 | .0043009 | .0046854 | -.000352 | .0242122 | .005382 |
| #3 | .0529270 | .0051365 | .0057994 | -.000865 | .0202363 | -.010863 |

| Elem | Ba4934 | Be2348 | Cd2265 | Ca3736 | Cr2677 | Co2286 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.005286** | **.0000687** | **.0006282** | **3.109983** | **6.182214** | **.0055781** |
| Stddev | .000426 | .0000672 | .0000553 | .024866 | .024438 | .0002307 |
| %RSD | 8.050006 | 97.79697 | 8.798265 | .7995517 | .3952884 | 4.135547 |
| #1 | -.004795 | .0000267 | .0006162 | 3.118124 | 6.154564 | .0057887 |
| #2 | -.005545 | .0001462 | .0005799 | 3.129757 | 6.200917 | .0056139 |
| #3 | -.005519 | .0000332 | .0006885 | 3.082066 | 6.191160 | .0053316 |

| Elem | Cu2247 | Fe2404 | Mn2576 | Mg2790 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0143568** | **.4535560** | **.0937785** | **31.25588** | **.0175111** | **-.000523** |
| Stddev | .0002767 | .0046886 | .0009612 | .25387 | .0001549 | .000127 |
| %RSD | 1.927493 | 1.033745 | 1.024983 | .8122246 | .8843639 | 24.34922 |
| #1 | .0142195 | .4565253 | .0945258 | 31.48173 | .0176715 | -.000550 |
| #2 | .0141755 | .4559919 | .0941156 | 31.30479 | .0174992 | -.000635 |
| #3 | .0146753 | .4481508 | .0926941 | 30.98112 | .0173625 | -.000384 |

| Elem | Na5895 | V_2924 | Zn2138 | K_7664 | B_2496 | Mo2020 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **858.3212** | **-.005665** | **.0294751** | **28.36825** | **.2975546** | **.0057106** |
| Stddev | 12.7754 | .000203 | .0001853 | .58829 | .0047549 | .0003595 |
| %RSD | 1.488421 | 3.590226 | .6284882 | 2.073769 | 1.597997 | 6.295848 |
| #1 | 843.5814 | -.005885 | .0292955 | 27.69291 | .3026798 | .0061204 |
| #2 | 866.2068 | -.005627 | .0296656 | 28.76934 | .2966973 | .0054483 |
| #3 | 865.1753 | -.005484 | .0294642 | 28.64250 | .2932867 | .0055631 |

Sample Name: Q3045-02DUPDLX5 Acquired: 9/10/2025 14:46:08 Type: Unk
Method: 6010-200.7 NEW(v160) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Sn1899 | Ti3361 | Si2881 | P_1774 | S_1820 | Li6707 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | .0050500 | .0008139 | 1.277275 | .0086478 | F 57.53737 | .0206011 |
| Stddev | .0004027 | .0003971 | .018420 | .0036237 | .62364 | .0008002 |
| %RSD | 7.973769 | 48.79396 | 1.442161 | 41.90363 | 1.083892 | 3.884189 |
| #1 | .0050199 | .0007077 | 1.262335 | .0061021 | 58.24777 | .0197275 |
| #2 | .0046632 | .0004807 | 1.297856 | .0070447 | 57.28432 | .0212984 |
| #3 | .0054668 | .0012534 | 1.271634 | .0127966 | 57.08003 | .0207775 |

| Elem | Sr4077 |
|---|---|
| Units | ppm |
| Avg | .0137390 |
| Stddev | .0000678 |
| %RSD | .4933686 |
| #1 | .0138045 |
| #2 | .0137434 |
| #3 | .0136692 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | 5782.087 | 100168.7 | 11578.49 | 4603.879 | 6413.969 |
| Stddev | 26.217 | 1101.0 | 60.90 | 27.298 | 40.154 |
| %RSD | .4534224 | 1.099101 | .5260047 | .5929303 | .6260438 |
| #1 | 5768.982 | 101438.7 | 11524.81 | 4635.393 | 6410.305 |
| #2 | 5765.005 | 99583.5 | 11565.98 | 4588.688 | 6375.772 |
| #3 | 5812.273 | 99484.0 | 11644.68 | 4587.557 | 6455.830 |

Sample Name: Q3045-02LDLX25 Acquired: 9/10/2025 14:50:32 Type: Unk
Method: 6010-200.7 NEW(v160) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0117973** | **.0015158** | **.0000233** | **.0009669** | **.0065010** | **.0084116** |
| Stddev | .0011852 | .0010256 | .0008864 | .0004755 | .0015958 | .0119110 |
| %RSD | 10.04663 | 67.66248 | 3808.613 | 49.17780 | 24.54673 | 141.6024 |
| #1 | .0111703 | .0004148 | -.000996 | .0014446 | .0083161 | .0095759 |
| #2 | .0131644 | .0024442 | .000452 | .0009626 | .0058683 | .0196977 |
| #3 | .0110573 | .0016884 | .000614 | .0004936 | .0053186 | -.004039 |

| Elem | Ba4934 | Be2348 | Cd2265 | Ca3736 | Cr2677 | Co2286 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.001870** | **.0001216** | **.0001463** | **.6368365** | **1.240029** | **.0010422** |
| Stddev | .000488 | .0000422 | .0000506 | .0006545 | .006267 | .0000338 |
| %RSD | 26.11497 | 34.74716 | 34.61647 | .1027756 | .5053859 | 3.246257 |
| #1 | -.001317 | .0000728 | .0000903 | .6371440 | 1.239392 | .0010707 |
| #2 | -.002049 | .0001469 | .0001596 | .6360848 | 1.234105 | .0010509 |
| #3 | -.002242 | .0001451 | .0001889 | .6372806 | 1.246590 | .0010048 |

| Elem | Cu2247 | Fe2404 | Mn2576 | Mg2790 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0028795** | **.0932521** | **.0188634** | **6.355410** | **.0036670** | **-.000798** |
| Stddev | .0004534 | .0030259 | .0009203 | .032667 | .0002259 | .000510 |
| %RSD | 15.74607 | 3.244843 | 4.878644 | .5139954 | 6.160672 | 63.85994 |
| #1 | .0033985 | .0911041 | .0178067 | 6.339283 | .0034822 | -.001240 |
| #2 | .0025603 | .0967126 | .0192946 | 6.393004 | .0039188 | -.000240 |
| #3 | .0026798 | .0919395 | .0194889 | 6.333944 | .0035998 | -.000915 |

| Elem | Na5895 | V_2924 | Zn2138 | K_7664 | B_2496 | Mo2020 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **177.4766** | **-.001178** | **.0053906** | **7.268437** | **.0601475** | **.0012652** |
| Stddev | 3.4421 | .001239 | .0003332 | .339226 | .0017580 | .0001233 |
| %RSD | 1.939446 | 105.1212 | 6.180436 | 4.667116 | 2.922907 | 9.747141 |
| #1 | 175.5997 | -.000349 | .0055697 | 6.896564 | .0621690 | .0012472 |
| #2 | 175.3808 | -.000584 | .0055959 | 7.347804 | .0592972 | .0011519 |
| #3 | 181.4491 | -.002602 | .0050062 | 7.560944 | .0589762 | .0013966 |

Reviewed By:jaswal
On:9/12/2025 10:24:55 PM
Inst Id :P4
LB :LB137144

Sample Name: Q3045-02LDLX25 Acquired: 9/10/2025 14:50:32 Type: Unk
Method: 6010-200.7 NEW(v160) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Sn1899 | Ti3361 | Si2881 | P_1774 | S_1820 | Li6707 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | .0013677 | .0011581 | .2434387 | .0025540 | F 11.20673 | .0127878 |
| Stddev | .0003413 | .0006520 | .0067195 | .0013515 | .03568 | .0015095 |
| %RSD | 24.95042 | 56.29751 | 2.760254 | 52.91591 | .3183413 | 11.80416 |
| #1 | .0014579 | .0014530 | .2385324 | .0040467 | 11.23940 | .0114576 |
| #2 | .0016548 | .0004108 | .2406863 | .0022019 | 11.16866 | .0124773 |
| #3 | .0009904 | .0016106 | .2510974 | .0014135 | 11.21213 | .0144283 |

| Elem | Sr4077 |
|---|---|
| Units | ppm |
| Avg | .0027257 |
| Stddev | .0000185 |
| %RSD | .6790949 |
| #1 | .0027256 |
| #2 | .0027072 |
| #3 | .0027442 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | 6239.968 | 107281.9 | 11755.78 | 4973.139 | 7149.534 |
| Stddev | 55.068 | 1248.0 | 166.23 | 40.598 | 71.759 |
| %RSD | .8825090 | 1.163305 | 1.414030 | .8163516 | 1.003686 |
| #1 | 6177.535 | 108215.9 | 11563.96 | 4982.460 | 7070.392 |
| #2 | 6260.737 | 107765.3 | 11845.71 | 5008.267 | 7167.852 |
| #3 | 6281.631 | 105864.5 | 11857.68 | 4928.691 | 7210.359 |

Sample Name: Q3045-02MSDLX5 Acquired: 9/10/2025 14:54:52 Type: Unk
Method: 6010-200.7 NEW(v160) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.2191442** | **.3803115** | **.1926678** | **.4033450** | **.1807333** | **.4249879** |
| Stddev | .0033056 | .0115880 | .0029669 | .0076143 | .0052286 | .0091728 |
| %RSD | 1.508430 | 3.046983 | 1.539929 | 1.887798 | 2.893016 | 2.158356 |
| #1 | .2222041 | .3859709 | .1950679 | .4089475 | .1834006 | .4355612 |
| #2 | .2195904 | .3879823 | .1935850 | .4064120 | .1840904 | .4202414 |
| #3 | .2156382 | .3669813 | .1893506 | .3946754 | .1747089 | .4191609 |

| Elem | Ba4934 | Be2348 | Cd2265 | Ca3736 | Cr2677 | Co2286 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0360990** | **.0405114** | **.0401637** | **3.521440** | **6.522923** | **.0451198** |
| Stddev | .0006370 | .0004681 | .0007742 | .044347 | .032669 | .0010460 |
| %RSD | 1.764629 | 1.155490 | 1.927584 | 1.259334 | .5008324 | 2.318230 |
| #1 | .0353692 | .0403941 | .0408093 | 3.572577 | 6.552643 | .0462087 |
| #2 | .0363842 | .0410270 | .0403764 | 3.493551 | 6.528184 | .0450278 |
| #3 | .0365436 | .0401132 | .0393054 | 3.498193 | 6.487944 | .0441228 |

| Elem | Cu2247 | Fe2404 | Mn2576 | Mg2790 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0720805** | **1.139099** | **.1404125** | **33.74324** | **.1165644** | **.0153845** |
| Stddev | .0011532 | .014558 | .0019889 | .20260 | .0027810 | .0003016 |
| %RSD | 1.599833 | 1.278047 | 1.416465 | .6004214 | 2.385782 | 1.960418 |
| #1 | .0732357 | 1.155902 | .1426629 | 33.97695 | .1193340 | .0154596 |
| #2 | .0720762 | 1.131129 | .1396839 | 33.63541 | .1165869 | .0150525 |
| #3 | .0709294 | 1.130266 | .1388906 | 33.61736 | .1137722 | .0156415 |

| Elem | Na5895 | V_2924 | Zn2138 | K_7664 | B_2496 | Mo2020 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **880.4261** | **.0550677** | **.0780847** | **29.38794** | **.3798595** | **.0862664** |
| Stddev | 23.6853 | .0010767 | .0004783 | .49004 | .0039171 | .0016037 |
| %RSD | 2.690211 | 1.955223 | .6125044 | 1.667503 | 1.031197 | 1.859007 |
| #1 | 903.0005 | .0543836 | .0786205 | 29.89997 | .3774652 | .0877944 |
| #2 | 882.5101 | .0545108 | .0779325 | 28.92332 | .3843799 | .0864083 |
| #3 | 855.7676 | .0563088 | .0777010 | 29.34053 | .3777333 | .0845965 |

Reviewed By:jaswal
On:9/12/2025 10:24:55 PM
Inst Id :P4
LB :LB137144

Sample Name: Q3045-02MSDLX5 Acquired: 9/10/2025 14:54:52 Type: Unk
Method: 6010-200.7 NEW(v160) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Sn1899 | Ti3361 | Si2881 | P_1774 | S_1820 | Li6707 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | .1426150 | .0424331 | 1.505461 | 1.246500 | F 58.26552 | .0599060 |
| Stddev | .0029183 | .0003629 | .021806 | .024596 | 1.32408 | .0000419 |
| %RSD | 2.046270 | .8552116 | 1.448446 | 1.973228 | 2.272496 | .0699847 |
| #1 | .1454659 | .0420969 | 1.530272 | 1.268564 | 59.56377 | .0599316 |
| #2 | .1427453 | .0428178 | 1.489340 | 1.250956 | 58.31574 | .0598576 |
| #3 | .1396337 | .0423846 | 1.496771 | 1.219980 | 56.91704 | .0599287 |

| Elem | Sr4077 |
|---|---|
| Units | ppm |
| Avg | .0546786 |
| Stddev | .0011315 |
| %RSD | 2.069366 |
| #1 | .0559340 |
| #2 | .0543643 |
| #3 | .0537374 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | 5895.149 | 101457.0 | 11189.57 | 4621.004 | 6544.612 |
| Stddev | 22.472 | 425.9 | 146.33 | 21.172 | 26.801 |
| %RSD | .3811931 | .4197518 | 1.307700 | .4581586 | .4095116 |
| #1 | 5894.925 | 101262.6 | 11258.40 | 4596.955 | 6542.792 |
| #2 | 5872.790 | 101163.0 | 11021.51 | 4629.224 | 6518.767 |
| #3 | 5917.732 | 101945.3 | 11288.78 | 4636.833 | 6572.276 |

Sample Name: Q3045-02MSDDLX5 Acquired: 9/10/2025 14:59:07 Type: Unk
Method: 6010-200.7 NEW(v160) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.2052051** | **.3390805** | **.1764361** | **.3705687** | **.1625933** | **.3838154** |
| Stddev | .0071110 | .0072739 | .0082383 | .0136345 | .0120931 | .0084911 |
| %RSD | 3.465303 | 2.145178 | 4.669282 | 3.679337 | 7.437666 | 2.212299 |
| #1 | .2128522 | .3454367 | .1849861 | .3851908 | .1761618 | .3852071 |
| #2 | .2039716 | .3406573 | .1757727 | .3683118 | .1586667 | .3915248 |
| #3 | .1987916 | .3311476 | .1685496 | .3582035 | .1529514 | .3747144 |

| Elem | Ba4934 | Be2348 | Cd2265 | Ca3736 | Cr2677 | Co2286 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0339582** | **.0361071** | **.0368220** | **3.341107** | **6.311636** | **.0415566** |
| Stddev | .0019444 | .0008610 | .0016242 | .038509 | .035351 | .0018609 |
| %RSD | 5.725837 | 2.384523 | 4.410851 | 1.152595 | .5600865 | 4.478079 |
| #1 | .0361869 | .0368996 | .0384615 | 3.341244 | 6.337932 | .0434857 |
| #2 | .0330788 | .0362309 | .0367908 | 3.379548 | 6.325527 | .0414119 |
| #3 | .0326089 | .0351910 | .0352136 | 3.302530 | 6.271450 | .0397723 |

| Elem | Cu2247 | Fe2404 | Mn2576 | Mg2790 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0660591** | **1.064067** | **.1310777** | **32.10117** | **.1070111** | **.0142759** |
| Stddev | .0024667 | .009456 | .0015488 | .40393 | .0046618 | .0003117 |
| %RSD | 3.734122 | .8886923 | 1.181576 | 1.258312 | 4.356361 | 2.183281 |
| #1 | .0687579 | 1.053635 | .1302141 | 32.44072 | .1119167 | .0140260 |
| #2 | .0654986 | 1.066491 | .1328657 | 32.20833 | .1064777 | .0146251 |
| #3 | .0639209 | 1.072076 | .1301533 | 31.65446 | .1026390 | .0141764 |

| Elem | Na5895 | V_2924 | Zn2138 | K_7664 | B_2496 | Mo2020 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **882.6105** | **.0514722** | **.0746508** | **28.99991** | **.3517971** | **.0772214** |
| Stddev | 22.5766 | .0036795 | .0004303 | .62547 | .0074888 | .0036676 |
| %RSD | 2.557933 | 7.148551 | .5763705 | 2.156812 | 2.128720 | 4.749511 |
| #1 | 896.6203 | .0473227 | .0746483 | 28.36071 | .3578314 | .0812226 |
| #2 | 856.5663 | .0527564 | .0742218 | 29.02835 | .3541440 | .0764229 |
| #3 | 894.6450 | .0543375 | .0750824 | 29.61068 | .3434160 | .0740188 |

Sample Name: Q3045-02MSDDLX5 Acquired: 9/10/2025 14:59:07 Type: Unk
Method: 6010-200.7 NEW(v160) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Sn1899 | Ti3361 | Si2881 | P_1774 | S_1820 | Li6707 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | .1312187 | .0372675 | 1.455195 | 1.143571 | F 55.92047 | .0569507 |
| Stddev | .0052362 | .0003785 | .009606 | .041060 | 2.31110 | .0016815 |
| %RSD | 3.990420 | 1.015599 | .6601342 | 3.590488 | 4.132840 | 2.952573 |
| #1 | .1360799 | .0376739 | 1.446034 | 1.186090 | 58.37882 | .0553454 |
| #2 | .1319016 | .0372037 | 1.465192 | 1.140475 | 55.59051 | .0586993 |
| #3 | .1256745 | .0369250 | 1.454361 | 1.104146 | 53.79208 | .0568074 |

| Elem | Sr4077 |
|---|---|
| Units | ppm |
| Avg | .0500966 |
| Stddev | .0005106 |
| %RSD | 1.019214 |
| #1 | .0498330 |
| #2 | .0506852 |
| #3 | .0497717 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | 5678.918 | 98270.43 | 11262.61 | 4564.914 | 6285.826 |
| Stddev | 56.452 | 482.18 | 273.56 | 28.593 | 62.594 |
| %RSD | .9940629 | .4906683 | 2.428919 | .6263592 | .9957889 |
| #1 | 5614.345 | 97819.50 | 11015.90 | 4532.674 | 6216.683 |
| #2 | 5703.488 | 98213.06 | 11215.14 | 4574.870 | 6302.167 |
| #3 | 5718.921 | 98778.73 | 11556.80 | 4587.197 | 6338.628 |

Sample Name: Q3045-02ADLX5 Acquired: 9/10/2025 15:03:24 Type: Unk
Method: 6010-200.7 NEW(v160) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.2215219** | **.3781440** | **.1942671** | **.4091353** | **.1872126** | **.3918833** |
| Stddev | .0023795 | .0033275 | .0014900 | .0130286 | .0061860 | .0091994 |
| %RSD | 1.074178 | .8799590 | .7669695 | 3.184427 | 3.304264 | 2.347481 |
| #1 | .2234096 | .3743256 | .1939250 | .4232587 | .1943043 | .3843871 |
| #2 | .2223073 | .3804233 | .1958984 | .4065615 | .1829274 | .4021494 |
| #3 | .2188490 | .3796831 | .1929779 | .3975856 | .1844059 | .3891134 |

| Elem | Ba4934 | Be2348 | Cd2265 | Ca3736 | Cr2677 | Co2286 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0348944** | **.0375980** | **.0404761** | **3.321941** | **6.415967** | **.0454510** |
| Stddev | .0016132 | .0011348 | .0003330 | .060119 | .118287 | .0004317 |
| %RSD | 4.622960 | 3.018170 | .8227646 | 1.809764 | 1.843637 | .9498100 |
| #1 | .0332324 | .0365004 | .0407043 | 3.253399 | 6.335731 | .0456706 |
| #2 | .0364538 | .0387666 | .0406299 | 3.365739 | 6.551811 | .0457287 |
| #3 | .0349970 | .0375269 | .0400939 | 3.346686 | 6.360359 | .0449536 |

| Elem | Cu2247 | Fe2404 | Mn2576 | Mg2790 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0720380** | **1.121870** | **.1324993** | **31.83320** | **.1170505** | **.0155207** |
| Stddev | .0007640 | .016332 | .0023566 | .77430 | .0006254 | .0003399 |
| %RSD | 1.060481 | 1.455817 | 1.778606 | 2.432361 | .5342789 | 2.189777 |
| #1 | .0729121 | 1.107207 | .1299843 | 30.96959 | .1176382 | .0153064 |
| #2 | .0714985 | 1.139473 | .1346567 | 32.46543 | .1171201 | .0153432 |
| #3 | .0717033 | 1.118930 | .1328568 | 32.06458 | .1163932 | .0159126 |

| Elem | Na5895 | V_2924 | Zn2138 | K_7664 | B_2496 | Mo2020 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **902.9025** | **.0565188** | **.0745326** | **29.91320** | **.3525753** | **.0870613** |
| Stddev | 11.6277 | .0023957 | .0010365 | .20557 | .0098096 | .0009352 |
| %RSD | 1.287809 | 4.238840 | 1.390678 | .6872358 | 2.782262 | 1.074212 |
| #1 | 899.5425 | .0541369 | .0736225 | 29.72172 | .3431781 | .0879518 |
| #2 | 915.8401 | .0564912 | .0756608 | 29.88745 | .3627508 | .0871453 |
| #3 | 893.3248 | .0589282 | .0743144 | 30.13044 | .3517971 | .0860870 |

Sample Name: Q3045-02ADLX5 Acquired: 9/10/2025 15:03:24 Type: Unk
Method: 6010-200.7 NEW(v160) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Sn1899 | Ti3361 | Si2881 | P_1774 | S_1820 | Li6707 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | .1462584 | .0397511 | 1.502391 | 1.257613 | F 58.53232 | .0596944 |
| Stddev | .0015861 | .0016508 | .011013 | .011832 | .69777 | .0021274 |
| %RSD | 1.084451 | 4.152793 | .7330591 | .9408438 | 1.192110 | 3.563769 |
| #1 | .1468403 | .0383001 | 1.492479 | 1.270336 | 59.26712 | .0572609 |
| #2 | .1474713 | .0394060 | 1.514247 | 1.255566 | 58.45117 | .0606204 |
| #3 | .1444635 | .0415471 | 1.500447 | 1.246939 | 57.87868 | .0612018 |

| Elem | Sr4077 |
|---|---|
| Units | ppm |
| Avg | .0525498 |
| Stddev | .0005450 |
| %RSD | 1.037148 |
| #1 | .0519206 |
| #2 | .0528745 |
| #3 | .0528543 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | 5760.135 | 97360.49 | 11422.08 | 4510.656 | 6381.765 |
| Stddev | 20.772 | 1499.88 | 316.11 | 85.892 | 42.874 |
| %RSD | .3606113 | 1.540544 | 2.767566 | 1.904204 | .6718205 |
| #1 | 5777.358 | 98520.67 | 11744.69 | 4567.387 | 6426.283 |
| #2 | 5737.067 | 95666.79 | 11112.89 | 4411.837 | 6340.751 |
| #3 | 5765.979 | 97894.01 | 11408.67 | 4552.743 | 6378.261 |

Sample Name: PB169634BS Acquired: 9/10/2025 15:17:41 Type: Unk
Method: 6010-200.7 NEW(v160) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.7331225** | **2.016069** | **.9021758** | **1.862875** | **.7552967** | **1.934154** |
| Stddev | .0008210 | .019574 | .0007976 | .005157 | .0004138 | .013161 |
| %RSD | .1119878 | .9709226 | .0884107 | .2768179 | .0547902 | .6804667 |
| #1 | .7340165 | 2.030940 | .9024001 | 1.868761 | .7557745 | 1.928834 |
| #2 | .7324024 | 2.023374 | .9028372 | 1.860708 | .7550512 | 1.949142 |
| #3 | .7329485 | 1.993892 | .9012900 | 1.859155 | .7550645 | 1.924484 |

| Elem | Ba4934 | Be2348 | Cd2265 | Ca3736 | Cr2677 | Co2286 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.1875946** | **.1963493** | **.1803313** | **.9753008** | **.3851540** | **.1836467** |
| Stddev | .0025381 | .0009246 | .0005614 | .0161148 | .0009529 | .0001058 |
| %RSD | 1.352974 | .4708852 | .3113094 | 1.652292 | .2474091 | .0576284 |
| #1 | .1884166 | .1953706 | .1797248 | .9567475 | .3852191 | .1835316 |
| #2 | .1896199 | .1972081 | .1804363 | .9833451 | .3860727 | .1837398 |
| #3 | .1847474 | .1964692 | .1808327 | .9858098 | .3841702 | .1836687 |

| Elem | Cu2247 | Fe2404 | Mn2576 | Mg2790 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.2873241** | **2.803336** | **.1936762** | **1.959890** | **.4579699** | **.0719503** |
| Stddev | .0007501 | .020940 | .0013713 | .030581 | .0007126 | .0003009 |
| %RSD | .2610464 | .7469814 | .7080490 | 1.560339 | .1556043 | .4181942 |
| #1 | .2867963 | 2.812102 | .1928045 | 1.953045 | .4571471 | .0718519 |
| #2 | .2869933 | 2.818469 | .1952569 | 1.993314 | .4583927 | .0717109 |
| #3 | .2881827 | 2.779437 | .1929673 | 1.933313 | .4583698 | .0722880 |

| Elem | Na5895 | V_2924 | Zn2138 | K_7664 | B_2496 | Mo2020 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **3.407736** | **.2895045** | **.1989247** | **9.923624** | **.2876428** | **.3914030** |
| Stddev | .056419 | .0038835 | .0001023 | .046635 | .0021085 | .0005687 |
| %RSD | 1.655620 | 1.341432 | .0514483 | .4699420 | .7330190 | .1452937 |
| #1 | 3.345333 | .2920352 | .1988065 | 9.875281 | .2865590 | .3911547 |
| #2 | 3.455139 | .2914452 | .1989810 | 9.927252 | .2900727 | .3910007 |
| #3 | 3.422736 | .2850332 | .1989865 | 9.968339 | .2862966 | .3920536 |

Sample Name: PB169634BS Acquired: 9/10/2025 15:17:41 Type: Unk
Method: 6010-200.7 NEW(v160) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Sn1899 | Ti3361 | Si2881 | P_1774 | S_1820 | Li6707 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | .6462760 | .1877565 | .8409449 | 5.168006 | F .0076229 | .1995935 |
| Stddev | .0015003 | .0010430 | .0054544 | .007013 | .0003565 | .0025644 |
| %RSD | .2321442 | .5554939 | .6486025 | .1356916 | 4.676475 | 1.284797 |
| #1 | .6450649 | .1873708 | .8367753 | 5.169122 | .0079236 | .1970536 |
| #2 | .6458087 | .1889373 | .8471176 | 5.160503 | .0077161 | .1995453 |
| #3 | .6479543 | .1869612 | .8389417 | 5.174394 | .0072291 | .2021816 |

| Elem | Sr4077 |
|---|---|
| Units | ppm |
| Avg | .1892194 |
| Stddev | .0011491 |
| %RSD | .6072862 |
| #1 | .1890514 |
| #2 | .1904433 |
| #3 | .1881636 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | 6500.770 | 111023.0 | 11118.99 | 5075.766 | 7859.955 |
| Stddev | 17.204 | 331.7 | 34.11 | 15.563 | 21.214 |
| %RSD | .2646454 | .2988083 | .3067885 | .3066142 | .2699025 |
| #1 | 6520.372 | 110756.3 | 11137.83 | 5063.524 | 7884.214 |
| #2 | 6493.764 | 110918.3 | 11079.61 | 5070.494 | 7844.879 |
| #3 | 6488.175 | 111394.5 | 11139.52 | 5093.280 | 7850.773 |

Sample Name: PB169634BL Acquired: 9/10/2025 15:23:04 Type: Unk
Method: 6010-200.7 NEW(v160) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ba4934 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.001534** | **.0044875** | **.0010504** | **-.001328** | **.0011711** | **.0104500** | **.0012121** |
| Stddev | .000903 | .0019543 | .0012177 | .002841 | .0007492 | .0086285 | .0001367 |
| %RSD | 58.87787 | 43.55042 | 115.9265 | 213.9540 | 63.97337 | 82.56911 | 11.27995 |
| #1 | -.001782 | .0024975 | .0017021 | .001950 | .0003453 | .0026066 | .0013616 |
| #2 | -.000533 | .0045609 | .0018035 | -.003084 | .0018072 | .0090509 | .0010935 |
| #3 | -.002287 | .0064041 | -.000354 | -.002850 | .0013610 | .0196926 | .0011812 |

| Elem | Be2348 | Cd2265 | Ca3736 | Cr2677 | Co2286 | Cu2247 | Fe2404 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0000166** | **.0000056** | **-.006390** | **.0002606** | **-.000051** | **.0000887** | **.0043538** |
| Stddev | .0000162 | .0000242 | .008980 | .0002703 | .000122 | .0004514 | .0013586 |
| %RSD | 97.70152 | 433.6786 | 140.5386 | 103.7563 | 237.4117 | 509.0424 | 31.20526 |
| #1 | .0000312 | .0000169 | -.002088 | -.000018 | -.000055 | -.000119 | .0051225 |
| #2 | -.000001 | -.000022 | -.016711 | .000278 | .000072 | -.000221 | .0051537 |
| #3 | .000019 | .000022 | -.000369 | .000522 | -.000172 | .000607 | .0027851 |

| Elem | Mn2576 | Mg2790 | Ni2316 | Ag3280 | Na5895 | V_2924 | Zn2138 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.000202** | **.0083308** | **.0002548** | **-.000516** | **-.171340** | **-.001692** | **.0000681** |
| Stddev | .000509 | .0184678 | .0002517 | .000440 | .009457 | .001839 | .0002914 |
| %RSD | 251.5722 | 221.6798 | 98.78879 | 85.27467 | 5.519246 | 108.6898 | 427.7375 |
| #1 | -.000486 | .0184367 | .0004891 | -.000839 | -.160994 | -.002031 | -.000131 |
| #2 | -.000506 | -.012984 | .0002867 | -.000015 | -.173486 | -.003339 | -.000067 |
| #3 | .000385 | .019540 | -.000011 | -.000695 | -.179539 | .000293 | .000403 |

| Elem | K_7664 | B_2496 | Mo2020 | Sn1899 | Ti3361 | Si2881 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.338660** | **-.003321** | **.0003904** | **-.015610** | **.0000052** | **.0051551** | **-.001084** |
| Stddev | .029910 | .000328 | .0001189 | .000454 | .0015843 | .0119224 | .000761 |
| %RSD | 8.831748 | 9.860750 | 30.43972 | 2.911575 | 30458.47 | 231.2770 | 70.27271 |
| #1 | -.304123 | -.003546 | .0005216 | -.015532 | -.001399 | -.001942 | -.000324 |
| #2 | -.356050 | -.003472 | .0002900 | -.015199 | .001723 | .018920 | -.001847 |
| #3 | -.355806 | -.002946 | .0003597 | -.016098 | -.000308 | -.001512 | -.001079 |

Reviewed By:jaswal
On:9/12/2025 10:24:55 PM
Inst Id :P4
LB :LB137144

Sample Name: PB169634BL Acquired: 9/10/2025 15:23:04 Type: Unk
Method: 6010-200.7 NEW(v160) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | S_1820 | Li6707 | Sr4077 |
|---|---|---|---|
| Units | ppm | ppm | ppm |
| Avg | -.002926 | -.006283 | -.000004 |
| Stddev | .001733 | .001367 | .000055 |
| %RSD | 59.23481 | 21.76078 | 1299.993 |
| #1 | -.004765 | -.007609 | .000026 |
| #2 | -.001323 | -.004878 | .000029 |
| #3 | -.002689 | -.006361 | -.000068 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | 6297.472 | 111575.4 | 11044.21 | 5100.482 | 7579.398 |
| Stddev | 63.496 | 657.5 | 146.40 | 32.920 | 76.360 |
| %RSD | 1.008282 | .5893225 | 1.325543 | .6454305 | 1.007469 |
| #1 | 6225.017 | 110819.3 | 11210.66 | 5063.856 | 7493.845 |
| #2 | 6323.980 | 111894.2 | 10986.47 | 5109.984 | 7603.700 |
| #3 | 6343.419 | 112012.8 | 10935.48 | 5127.606 | 7640.649 |

Sample Name: CCV04 Acquired: 9/10/2025 15:27:22 Type: Unk
Method: 6010-200.7 NEW(v160) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: CCV04 Custom ID2: Custom ID3:
Comment:

| Elem | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ba4934 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **4.806747** | **4.516240** | **4.765560** | **4.816096** | **4.856942** | **9.734410** | **9.484472** |
| Stddev | .006328 | .109844 | .018304 | .005064 | .013271 | .060154 | .221311 |
| %RSD | .1316448 | 2.432203 | .3840922 | .1051529 | .2732475 | .6179540 | 2.333407 |
| #1 | 4.799503 | 4.624156 | 4.757861 | 4.815768 | 4.849438 | 9.665942 | 9.354542 |
| #2 | 4.811199 | 4.520000 | 4.752363 | 4.811204 | 4.849122 | 9.758513 | 9.358867 |
| #3 | 4.809537 | 4.404564 | 4.786456 | 4.821317 | 4.872265 | 9.778775 | 9.740008 |

| Elem | Be2348 | Cd2265 | Ca3736 | Cr2677 | Co2286 | Cu2247 | Fe2404 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.2437689** | **2.379419** | **24.18393** | **.9868579** | **2.389982** | **1.202229** | **4.810956** |
| Stddev | .0009975 | .006086 | .09494 | .0041446 | .006304 | .005132 | .010038 |
| %RSD | .4091914 | .2557643 | .3925545 | .4199840 | .2637867 | .4268931 | .2086514 |
| #1 | .2431672 | 2.375923 | 24.07881 | .9838109 | 2.384954 | 1.197461 | 4.799526 |
| #2 | .2432192 | 2.375887 | 24.20954 | .9851852 | 2.387938 | 1.201564 | 4.818338 |
| #3 | .2449203 | 2.386446 | 24.26343 | .9915775 | 2.397055 | 1.207661 | 4.815005 |

| Elem | Mn2576 | Mg2790 | Ni2316 | Ag3280 | Na5895 | V_2924 | Zn2138 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.404634** | **24.32122** | **2.379208** | **1.221650** | **23.36845** | **2.433827** | **2.475808** |
| Stddev | .004455 | .11430 | .008759 | .005684 | .10927 | .009182 | .011720 |
| %RSD | .1852494 | .4699691 | .3681563 | .4652557 | .4675859 | .3772502 | .4733810 |
| #1 | 2.400830 | 24.21418 | 2.374055 | 1.219287 | 23.47425 | 2.426677 | 2.477539 |
| #2 | 2.409534 | 24.30788 | 2.374248 | 1.217528 | 23.25602 | 2.444182 | 2.463319 |
| #3 | 2.403538 | 24.44161 | 2.389322 | 1.228134 | 23.37509 | 2.430624 | 2.486567 |

| Elem | K_7664 | B_2496 | Mo2020 | Sn1899 | Ti3361 | Si2881 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **24.15195** | **4.864333** | **4.952996** | **4.817210** | **4.829223** | **4.863968** | **4.793948** |
| Stddev | .12680 | .016455 | .013001 | .004762 | .005265 | .045940 | .025636 |
| %RSD | .5249969 | .3382855 | .2624845 | .0988566 | .1090144 | .9444868 | .5347505 |
| #1 | 24.06235 | 4.850810 | 4.941195 | 4.813571 | 4.825005 | 4.816745 | 4.819707 |
| #2 | 24.09648 | 4.859534 | 4.950859 | 4.815460 | 4.827541 | 4.866652 | 4.793700 |
| #3 | 24.29703 | 4.882654 | 4.966932 | 4.822600 | 4.835123 | 4.908507 | 4.768437 |

Sample Name: CCV04 Acquired: 9/10/2025 15:27:22 Type: Unk
Method: 6010-200.7 NEW(v160) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: CCV04 Custom ID2: Custom ID3:
Comment:

| Elem | S_1820 | Li6707 | Sr4077 |
|---|---|---|---|
| Units | ppm | ppm | ppm |
| Avg | **4.653714** | **4.653180** | **4.812824** |
| Stddev | .024314 | .012165 | .031230 |
| %RSD | .5224713 | .2614305 | .6488973 |
| #1 | 4.679419 | 4.639211 | 4.777211 |
| #2 | 4.650641 | 4.658889 | 4.835542 |
| #3 | 4.631082 | 4.661440 | 4.825718 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **6221.950** | **106658.9** | **10985.02** | **4884.662** | **7186.552** |
| Stddev | 35.362 | 491.6 | 69.41 | 19.552 | 33.258 |
| %RSD | .5683495 | .4608759 | .6318850 | .4002662 | .4627809 |
| #1 | 6250.165 | 107180.1 | 11064.59 | 4902.988 | 7206.940 |
| #2 | 6233.404 | 106592.9 | 10953.55 | 4886.919 | 7204.543 |
| #3 | 6182.280 | 106203.6 | 10936.91 | 4864.081 | 7148.174 |

Sample Name: CCB04 Acquired: 9/10/2025 15:31:33 Type: Unk
Method: 6010-200.7 NEW(v160) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: CCB04 Custom ID2: Custom ID3:
Comment:

| Elem | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ba4934 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.004542** | **.0054518** | **.0012417** | **-.000894** | **.0010670** | **-.000379** | **.0024574** |
| Stddev | .002159 | .0014239 | .0004232 | .001567 | .0020284 | .015648 | .0006220 |
| %RSD | 47.54449 | 26.11875 | 34.07957 | 175.3115 | 190.1076 | 4127.107 | 25.31123 |
| #1 | -.002790 | .0070368 | .0014846 | .000914 | -.000607 | -.001644 | .0031629 |
| #2 | -.003881 | .0050381 | .0014876 | -.001871 | .003323 | .015863 | .0019880 |
| #3 | -.006954 | .0042805 | .0007531 | -.001726 | .000485 | -.015357 | .0022213 |

| Elem | Be2348 | Cd2265 | Ca3736 | Cr2677 | Co2286 | Cu2247 | Fe2404 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0000250** | **.0000812** | **.0013082** | **.0003244** | **.0000629** | **.0001053** | **.0009227** |
| Stddev | .0000667 | .0000662 | .0027757 | .0003013 | .0001609 | .0001248 | .0120565 |
| %RSD | 266.6265 | 81.51358 | 212.1725 | 92.86653 | 255.7046 | 118.5109 | 1306.587 |
| #1 | .0000571 | .0000151 | .0040395 | .0000512 | -.000117 | .0001798 | .0027499 |
| #2 | .0000696 | .0001476 | -.001510 | .0006475 | .000111 | .0001748 | -.011943 |
| #3 | -.000052 | .0000810 | .001395 | .0002745 | .000194 | -.000039 | .011961 |

| Elem | Mn2576 | Mg2790 | Ni2316 | Ag3280 | Na5895 | V_2924 | Zn2138 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0001063** | **-.004389** | **.0007030** | **-.000187** | **-.203972** | **-.001578** | **-.000066** |
| Stddev | .0009268 | .015308 | .0002676 | .000423 | .007236 | .000729 | .000320 |
| %RSD | 871.7528 | 348.7898 | 38.07000 | 226.3789 | 3.547699 | 46.21158 | 484.1941 |
| #1 | -.000665 | -.014795 | .0004874 | .000027 | -.206436 | -.002408 | .000276 |
| #2 | -.000150 | .013189 | .0010026 | -.000675 | -.195825 | -.001041 | -.000115 |
| #3 | .001134 | -.011561 | .0006192 | .000087 | -.209654 | -.001284 | -.000359 |

| Elem | K_7664 | B_2496 | Mo2020 | Sn1899 | Ti3361 | Si2881 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.351495** | **.0017098** | **.0004722** | **-.015526** | **.0020826** | **.0066894** | **-.000096** |
| Stddev | .026791 | .0005102 | .0002401 | .000398 | .0007776 | .0101845 | .000898 |
| %RSD | 7.622087 | 29.83959 | 50.85234 | 2.562645 | 37.33879 | 152.2489 | 934.7846 |
| #1 | -.326990 | .0022870 | .0002033 | -.015963 | .0026985 | .0182867 | -.000941 |
| #2 | -.347395 | .0015235 | .0006652 | -.015430 | .0012088 | -.000798 | -.000194 |
| #3 | -.380100 | .0013190 | .0005480 | -.015185 | .0023405 | .002579 | .000847 |

Sample Name: CCB04 Acquired: 9/10/2025 15:31:33 Type: Unk
Method: 6010-200.7 NEW(v160) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: CCB04 Custom ID2: Custom ID3:
Comment:

| Elem | S_1820 | Li6707 | Sr4077 |
|---|---|---|---|
| Units | ppm | ppm | ppm |
| Avg | **-.002972** | **-.006438** | **.0001481** |
| Stddev | .000364 | .000215 | .0000500 |
| %RSD | 12.25623 | 3.346089 | 33.78497 |
| #1 | -.002650 | -.006249 | .0001962 |
| #2 | -.002900 | -.006392 | .0000964 |
| #3 | -.003367 | -.006673 | .0001517 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **6285.817** | **109533.9** | **10843.92** | **5071.128** | **7581.640** |
| Stddev | 50.957 | 454.9 | 60.96 | 11.272 | 55.434 |
| %RSD | .8106732 | .4152957 | .5621555 | .2222829 | .7311581 |
| #1 | 6343.045 | 109063.2 | 10900.67 | 5058.767 | 7644.709 |
| #2 | 6269.052 | 109567.5 | 10779.48 | 5073.777 | 7559.574 |
| #3 | 6245.355 | 109971.1 | 10851.61 | 5080.839 | 7540.637 |

Sample Name: Q3055-01 Acquired: 9/10/2025 15:35:51 Type: Unk
Method: 6010-200.7 NEW(v160) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0390044** | **-.020999** | **.1756710** | **-.005035** | **-.012455** | **146.3492** |
| Stddev | .0006111 | .003957 | .0060358 | .004179 | .002082 | .2270 |
| %RSD | 1.566727 | 18.84422 | 3.435873 | 83.00236 | 16.71908 | .1551374 |
| #1 | .0387046 | -.021254 | .1707475 | -.009135 | -.010051 | 146.0882 |
| #2 | .0386011 | -.024823 | .1824049 | -.005189 | -.013603 | 146.4587 |
| #3 | .0397075 | -.016921 | .1738608 | -.000781 | -.013710 | 146.5008 |

| Elem | Ba4934 | Be2348 | Cd2265 | Ca3736 | Cr2677 | Co2286 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.7009785** | **.0093482** | **.0053941** | **47.72072** | **.2785728** | **.1665165** |
| Stddev | .0009308 | .0001617 | .0014636 | .09741 | .0116574 | .0055177 |
| %RSD | .1327877 | 1.729609 | 27.13327 | .2041215 | 4.184674 | 3.313618 |
| #1 | .7015423 | .0094871 | .0054319 | 47.72418 | .2707170 | .1622121 |
| #2 | .6999041 | .0091707 | .0068385 | 47.62163 | .2730346 | .1727367 |
| #3 | .7014891 | .0093869 | .0039120 | 47.81635 | .2919669 | .1646005 |

| Elem | Cu2247 | Fe2404 | Mn2576 | Mg2790 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.4299282** | **269.5408** | **2.645753** | **58.98068** | **.2365025** | **.0006065** |
| Stddev | .0170803 | 9.5104 | .010635 | .19928 | .0075132 | .0007746 |
| %RSD | 3.972834 | 3.528382 | .4019837 | .3378810 | 3.176799 | 127.7099 |
| #1 | .4228478 | 262.6859 | 2.647663 | 58.87176 | .2312547 | .0012016 |
| #2 | .4494101 | 265.5381 | 2.634292 | 58.85959 | .2451092 | .0008872 |
| #3 | .4175267 | 280.3983 | 2.655304 | 59.21069 | .2331436 | -.000269 |

| Elem | Na5895 | V_2924 | Zn2138 | K_7664 | B_2496 | Mo2020 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **5.660280** | **.4407786** | **.5661182** | **24.60048** | **.1949701** | **.0057372** |
| Stddev | .219053 | .0048103 | .0232469 | .89537 | .0253230 | .0006270 |
| %RSD | 3.870010 | 1.091307 | 4.106362 | 3.639647 | 12.98813 | 10.92850 |
| #1 | 5.504992 | .4352692 | .5497181 | 23.95473 | .1725367 | .0061058 |
| #2 | 5.565012 | .4429226 | .5559145 | 24.22411 | .1899444 | .0060926 |
| #3 | 5.910836 | .4441442 | .5927219 | 25.62260 | .2224290 | .0050133 |

Sample Name: Q3055-01 Acquired: 9/10/2025 15:35:51 Type: Unk
Method: 6010-200.7 NEW(v160) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Sn1899 | Ti3361 | Si2881 | P_1774 | S_1820 | Li6707 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | .0315585 | 7.205291 | F 25.39857 | 7.939902 | F 10.55467 | .1561251 |
| Stddev | .0013150 | .003909 | .78025 | .271651 | .37620 | .0024082 |
| %RSD | 4.166977 | .0542563 | 3.072021 | 3.421340 | 3.564272 | 1.542455 |
| #1 | .0306255 | 7.204434 | 24.65687 | 7.756181 | 10.34184 | .1550049 |
| #2 | .0330625 | 7.209558 | 25.32648 | 8.251942 | 10.98903 | .1544811 |
| #3 | .0309875 | 7.201882 | 26.21237 | 7.811582 | 10.33312 | .1588893 |

| Elem | Sr4077 |
|---|---|
| Units | ppm |
| Avg | -.150288 |
| Stddev | .009293 |
| %RSD | 6.183743 |
| #1 | -.143804 |
| #2 | -.146126 |
| #3 | -.160935 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | 6868.430 | 119095.2 | 13015.85 | 5434.319 | 6636.828 |
| Stddev | 134.830 | 3488.7 | 68.27 | 188.362 | 169.513 |
| %RSD | 1.963040 | 2.929295 | .5244766 | 3.466153 | 2.554132 |
| #1 | 6960.198 | 121477.6 | 12941.79 | 5558.878 | 6749.350 |
| #2 | 6713.628 | 120717.3 | 13029.50 | 5526.455 | 6441.863 |
| #3 | 6931.465 | 115090.9 | 13076.26 | 5217.624 | 6719.271 |

Sample Name: Q3056-01 Acquired: 9/10/2025 15:39:53 Type: Unk
Method: 6010-200.7 NEW(v160) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0431384** | **-.020030** | **.1324057** | **-.003573** | **-.014416** | **140.1186** |
| Stddev | .0024880 | .001300 | .0010043 | .002811 | .003339 | .8950 |
| %RSD | 5.767504 | 6.489452 | .7585266 | 78.65040 | 23.16119 | .6387686 |
| #1 | .0447170 | -.018936 | .1312988 | -.006339 | -.016117 | 140.9124 |
| #2 | .0402704 | -.021467 | .1326595 | -.000720 | -.010569 | 140.2950 |
| #3 | .0444279 | -.019687 | .1332587 | -.003662 | -.016562 | 139.1486 |

| Elem | Ba4934 | Be2348 | Cd2265 | Ca3736 | Cr2677 | Co2286 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.5822232** | **.0099869** | **.0058227** | **43.76252** | **.2150489** | **.1620366** |
| Stddev | .0042124 | .0000878 | .0000996 | .20851 | .0034246 | .0009198 |
| %RSD | .7235049 | .8786644 | 1.710882 | .4764503 | 1.592451 | .5676504 |
| #1 | .5849821 | .0100549 | .0057090 | 43.93217 | .2179538 | .1617344 |
| #2 | .5843130 | .0098878 | .0058645 | 43.82565 | .2159200 | .1630694 |
| #3 | .5773745 | .0100179 | .0058947 | 43.52975 | .2112729 | .1613058 |

| Elem | Cu2247 | Fe2404 | Mn2576 | Mg2790 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.9196964** | **296.1377** | **3.659014** | **64.36018** | **.3066536** | **.0023612** |
| Stddev | .0047528 | 1.8630 | .023673 | .25405 | .0011655 | .0009221 |
| %RSD | .5167795 | .6290902 | .6469653 | .3947360 | .3800661 | 39.05294 |
| #1 | .9142087 | 297.5836 | 3.679207 | 64.50028 | .3054285 | .0013350 |
| #2 | .9224902 | 296.7942 | 3.664872 | 64.51334 | .3077486 | .0026283 |
| #3 | .9223904 | 294.0353 | 3.632962 | 64.06692 | .3067838 | .0031204 |

| Elem | Na5895 | V_2924 | Zn2138 | K_7664 | B_2496 | Mo2020 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **6.611231** | **.4516408** | **.4888335** | **27.54869** | **.3156360** | **.0084642** |
| Stddev | .062467 | .0017330 | .0073163 | .31154 | .0012259 | .0002773 |
| %RSD | .9448669 | .3837073 | 1.496679 | 1.130877 | .3884020 | 3.276774 |
| #1 | 6.642327 | .4536242 | .4946188 | 27.69877 | .3166809 | .0081570 |
| #2 | 6.652048 | .4508793 | .4912724 | 27.75678 | .3142865 | .0086961 |
| #3 | 6.539319 | .4504190 | .4806093 | 27.19051 | .3159405 | .0085396 |

Sample Name: Q3056-01 Acquired: 9/10/2025 15:39:53 Type: Unk
Method: 6010-200.7 NEW(v160) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Sn1899 | Ti3361 | Si2881 | P_1774 | S_1820 | Li6707 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | .1001966 | 9.149216 | F 19.16777 | 8.790232 | F 13.50643 | .2001161 |
| Stddev | .0003166 | .046224 | .25222 | .039211 | .06295 | .0013848 |
| %RSD | .3160012 | .5052214 | 1.315848 | .4460744 | .4660387 | .6920182 |
| #1 | .0998795 | 9.183820 | 19.23643 | 8.745157 | 13.43403 | .1996652 |
| #2 | .1005127 | 9.167108 | 19.37855 | 8.809072 | 13.53711 | .2016702 |
| #3 | .1001976 | 9.096721 | 18.88833 | 8.816467 | 13.54815 | .1990128 |

| Elem | Sr4077 |
|---|---|
| Units | ppm |
| Avg | -.152672 |
| Stddev | .000915 |
| %RSD | .5993568 |
| #1 | -.153393 |
| #2 | -.152981 |
| #3 | -.151643 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | 7006.217 | 121258.6 | 12984.65 | 5565.852 | 6625.291 |
| Stddev | 16.246 | 1185.8 | 114.59 | 57.404 | 21.918 |
| %RSD | .2318807 | .9779314 | .8825356 | 1.031362 | .3308250 |
| #1 | 7020.970 | 120138.1 | 12862.70 | 5516.072 | 6638.510 |
| #2 | 6988.806 | 121137.3 | 13001.14 | 5552.837 | 6599.991 |
| #3 | 7008.875 | 122500.4 | 13090.10 | 5628.646 | 6637.372 |

Sample Name: Q3059-01 Acquired: 9/10/2025 15:43:54 Type: Unk
Method: 6010-200.7 NEW(v160) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.1256886** | **-.026037** | **.2022987** | **-.000986** | **-.021040** | **177.8866** |
| Stddev | .0022287 | .001890 | .0016161 | .004273 | .002063 | .9008 |
| %RSD | 1.773159 | 7.260183 | .7988616 | 433.3442 | 9.802721 | .5064116 |
| #1 | .1263687 | -.027050 | .2018405 | .002773 | -.023317 | 177.6649 |
| #2 | .1231991 | -.023856 | .2009613 | -.005633 | -.020509 | 177.1173 |
| #3 | .1274980 | -.027205 | .2040945 | -.000097 | -.019296 | 178.8776 |

| Elem | Ba4934 | Be2348 | Cd2265 | Ca3736 | Cr2677 | Co2286 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.4778316** | **.0127791** | **.0025895** | **86.84545** | **.2265003** | **.1262524** |
| Stddev | .0006364 | .0001279 | .0003573 | .27328 | .0009455 | .0007238 |
| %RSD | .1331948 | 1.000746 | 13.79802 | .3146700 | .4174168 | .5732575 |
| #1 | .4773860 | .0126685 | .0022026 | 86.77441 | .2269705 | .1256724 |
| #2 | .4775482 | .0127497 | .0026586 | 86.61471 | .2254120 | .1260214 |
| #3 | .4785605 | .0129192 | .0029071 | 87.14723 | .2271185 | .1270635 |

| Elem | Cu2247 | Fe2404 | Mn2576 | Mg2790 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.1995949** | **329.6448** | **3.081335** | **42.42039** | **.1469975** | **.0033710** |
| Stddev | .0033958 | 2.6337 | .006288 | .27824 | .0006390 | .0014598 |
| %RSD | 1.701363 | .7989523 | .2040594 | .6559130 | .4346750 | 43.30479 |
| #1 | .1971852 | 332.3028 | 3.079179 | 42.35463 | .1464588 | .0036913 |
| #2 | .1981207 | 329.5956 | 3.076408 | 42.18093 | .1477034 | .0046441 |
| #3 | .2034787 | 327.0360 | 3.088417 | 42.72563 | .1468302 | .0017776 |

| Elem | Na5895 | V_2924 | Zn2138 | K_7664 | B_2496 | Mo2020 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.576615** | **.5594418** | **.3846152** | **12.90034** | **.2167933** | **.0133415** |
| Stddev | .015251 | .0036841 | .0026578 | .12009 | .0115426 | .0002812 |
| %RSD | .5918927 | .6585346 | .6910321 | .9309177 | 5.324243 | 2.107707 |
| #1 | 2.585890 | .5556058 | .3840689 | 13.02351 | .2286603 | .0134685 |
| #2 | 2.559013 | .5597670 | .3822729 | 12.89392 | .2161146 | .0135368 |
| #3 | 2.584941 | .5629525 | .3875036 | 12.78358 | .2056050 | .0130192 |

Reviewed By:jaswal
On:9/12/2025 10:24:55 PM
Inst Id :P4
LB :LB137144

Sample Name: Q3059-01 Acquired: 9/10/2025 15:43:54 Type: Unk
Method: 6010-200.7 NEW(v160) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Sn1899 | Ti3361 | Si2881 | P_1774 | S_1820 | Li6707 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0656213** | **3.047894** | F **11.94737** | **3.875620** | **1.489821** | **.1190040** |
| Stddev | .0017715 | .015065 | .29546 | .026455 | .012518 | .0014519 |
| %RSD | 2.699641 | .4942607 | 2.472981 | .6825997 | .8402226 | 1.220053 |
| #1 | .0641048 | 3.039864 | 12.25249 | 3.845077 | 1.476054 | .1195001 |
| #2 | .0651907 | 3.065272 | 11.66263 | 3.891342 | 1.492890 | .1201429 |
| #3 | .0675685 | 3.038546 | 11.92699 | 3.890440 | 1.500518 | .1173691 |

| Elem | Sr4077 |
|---|---|
| Units | ppm |
| Avg | **-.168278** |
| Stddev | .002843 |
| %RSD | 1.689608 |
| #1 | -.171112 |
| #2 | -.168296 |
| #3 | -.165426 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **6467.128** | **111872.8** | **11938.78** | **5137.599** | **6769.628** |
| Stddev | 20.632 | 167.2 | 111.31 | 32.191 | 24.826 |
| %RSD | .3190316 | .1494603 | .9323757 | .6265745 | .3667231 |
| #1 | 6483.264 | 111690.4 | 12036.26 | 5166.443 | 6791.779 |
| #2 | 6474.240 | 112018.8 | 11962.61 | 5143.480 | 6774.312 |
| #3 | 6443.881 | 111909.2 | 11817.49 | 5102.872 | 6742.794 |

Sample Name: Q3054-05 Acquired: 9/10/2025 15:47:56 Type: Unk
Method: 6010-200.7 NEW(v160) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0331626** | **-.013267** | **.1562853** | **-.000684** | **-.012333** | **122.6418** |
| Stddev | .0008520 | .002450 | .0019650 | .004412 | .001623 | .2351 |
| %RSD | 2.569136 | 18.46469 | 1.257337 | 645.1574 | 13.15697 | .1916606 |
| #1 | .0323656 | -.010557 | .1554116 | .003796 | -.010462 | 122.5292 |
| #2 | .0340606 | -.015325 | .1585357 | -.005025 | -.013175 | 122.4842 |
| #3 | .0330617 | -.013918 | .1549086 | -.000822 | -.013361 | 122.9119 |

| Elem | Ba4934 | Be2348 | Cd2265 | Ca3736 | Cr2677 | Co2286 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.4519300** | **.0088410** | **.0027078** | **24.83143** | **.1484660** | **.1013281** |
| Stddev | .0007771 | .0000626 | .0000768 | .05144 | .0007471 | .0007583 |
| %RSD | .1719597 | .7082832 | 2.835454 | .2071694 | .5032218 | .7483822 |
| #1 | .4528216 | .0088362 | .0026196 | 24.86606 | .1489948 | .1010687 |
| #2 | .4515721 | .0087808 | .0027445 | 24.77232 | .1487918 | .1021820 |
| #3 | .4513964 | .0089058 | .0027593 | 24.85591 | .1476113 | .1007335 |

| Elem | Cu2247 | Fe2404 | Mn2576 | Mg2790 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.1393326** | **218.0022** | **6.588845** | **24.11765** | **.1449935** | **.0028568** |
| Stddev | .0004072 | 1.2486 | .019897 | .06981 | .0010025 | .0005615 |
| %RSD | .2922256 | .5727427 | .3019859 | .2894720 | .6914249 | 19.65690 |
| #1 | .1391063 | 218.1604 | 6.611103 | 24.19701 | .1444964 | .0025849 |
| #2 | .1398026 | 219.1641 | 6.572783 | 24.06567 | .1461474 | .0035025 |
| #3 | .1390888 | 216.6820 | 6.582648 | 24.09028 | .1443367 | .0024829 |

| Elem | Na5895 | V_2924 | Zn2138 | K_7664 | B_2496 | Mo2020 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **9.569061** | **.2447913** | **.2861990** | **8.490627** | **.1442848** | **.0025583** |
| Stddev | .054688 | .0034371 | .0010546 | .020729 | .0087852 | .0001688 |
| %RSD | .5715077 | 1.404090 | .3684869 | .2441362 | 6.088819 | 6.599649 |
| #1 | 9.587160 | .2437118 | .2872507 | 8.469530 | .1442505 | .0026246 |
| #2 | 9.612405 | .2420236 | .2862048 | 8.491386 | .1530872 | .0023663 |
| #3 | 9.507618 | .2486386 | .2851415 | 8.510966 | .1355168 | .0026839 |

Sample Name: Q3054-05 Acquired: 9/10/2025 15:47:56 Type: Unk
Method: 6010-200.7 NEW(v160) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Sn1899 | Ti3361 | Si2881 | P_1774 | S_1820 | Li6707 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | .0667376 | 2.556940 | F 18.60158 | 3.424675 | .4973348 | .0883578 |
| Stddev | .0006955 | .020840 | .19912 | .007498 | .0032321 | .0013266 |
| %RSD | 1.042131 | .8150357 | 1.070430 | .2189506 | .6498865 | 1.501366 |
| #1 | .0664106 | 2.581004 | 18.69983 | 3.422500 | .4941440 | .0878149 |
| #2 | .0675363 | 2.544982 | 18.73248 | 3.433020 | .5006067 | .0873888 |
| #3 | .0662658 | 2.544834 | 18.37243 | 3.418504 | .4972537 | .0898697 |

| Elem | Sr4077 |
|---|---|
| Units | ppm |
| Avg | -.120882 |
| Stddev | .001242 |
| %RSD | 1.027857 |
| #1 | -.121035 |
| #2 | -.122041 |
| #3 | -.119570 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | 6749.104 | 116551.3 | 12445.35 | 5417.366 | 6769.709 |
| Stddev | 26.060 | 484.9 | 102.05 | 58.959 | 30.123 |
| %RSD | .3861267 | .4160219 | .8200215 | 1.088328 | .4449653 |
| #1 | 6755.001 | 116038.5 | 12356.16 | 5371.501 | 6773.479 |
| #2 | 6720.601 | 116613.0 | 12556.65 | 5396.728 | 6737.879 |
| #3 | 6771.711 | 117002.4 | 12423.24 | 5483.870 | 6797.770 |

Sample Name: Q3054-05DUP Acquired: 9/10/2025 15:51:59 Type: Unk
Method: 6010-200.7 NEW(v160) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0492928** | **-.017457** | **.2221864** | **-.003724** | **-.016938** | **137.7645** |
| Stddev | .0007839 | .001666 | .0058299 | .000378 | .002273 | .9689 |
| %RSD | 1.590374 | 9.542569 | 2.623887 | 10.16062 | 13.41726 | .7032739 |
| #1 | .0496938 | -.019368 | .2170204 | -.004068 | -.019194 | 137.1092 |
| #2 | .0497951 | -.016308 | .2210314 | -.003319 | -.016970 | 137.3068 |
| #3 | .0483895 | -.016695 | .2285073 | -.003784 | -.014649 | 138.8774 |

| Elem | Ba4934 | Be2348 | Cd2265 | Ca3736 | Cr2677 | Co2286 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.5524559** | **.0104556** | **.0049031** | **40.71637** | **.1755557** | **.1144917** |
| Stddev | .0024108 | .0000355 | .0006023 | .21661 | .0006323 | .0032522 |
| %RSD | .4363703 | .3394069 | 12.28429 | .5319897 | .3601673 | 2.840569 |
| #1 | .5530149 | .0104661 | .0044945 | 40.59921 | .1762346 | .1118439 |
| #2 | .5498148 | .0104160 | .0046199 | 40.58358 | .1754489 | .1135095 |
| #3 | .5545381 | .0104847 | .0055948 | 40.96633 | .1749836 | .1181219 |

| Elem | Cu2247 | Fe2404 | Mn2576 | Mg2790 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.1697226** | **249.9838** | **8.913722** | **25.81069** | **.1789999** | **.0010818** |
| Stddev | .0072589 | .3898 | .039523 | .19654 | .0045613 | .0003768 |
| %RSD | 4.276922 | .1559114 | .4433931 | .7614698 | 2.548226 | 34.83277 |
| #1 | .1644372 | 249.9154 | 8.910597 | 25.68459 | .1757531 | .0008386 |
| #2 | .1667314 | 249.6327 | 8.875855 | 25.71034 | .1770318 | .0015158 |
| #3 | .1779991 | 250.4032 | 8.954715 | 26.03715 | .1842149 | .0008909 |

| Elem | Na5895 | V_2924 | Zn2138 | K_7664 | B_2496 | Mo2020 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **10.11583** | **.2809054** | **.3701925** | **9.805939** | **.1533870** | **.0032509** |
| Stddev | .03594 | .0020060 | .0023761 | .047487 | .0031616 | .0000695 |
| %RSD | .3553160 | .7141107 | .6418635 | .4842662 | 2.061160 | 2.137223 |
| #1 | 10.08919 | .2822869 | .3711914 | 9.754528 | .1515868 | .0032697 |
| #2 | 10.15671 | .2818247 | .3674800 | 9.815133 | .1570375 | .0031740 |
| #3 | 10.10158 | .2786045 | .3719061 | 9.848158 | .1515366 | .0033091 |

Sample Name: Q3054-05DUP Acquired: 9/10/2025 15:51:59 Type: Unk
Method: 6010-200.7 NEW(v160) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Sn1899 | Ti3361 | Si2881 | P_1774 | S_1820 | Li6707 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | .0676102 | 2.654069 | F 20.82576 | 4.598396 | 1.039753 | .1033074 |
| Stddev | .0021260 | .012032 | .19914 | .099765 | .029597 | .0016868 |
| %RSD | 3.144470 | .4533502 | .9562280 | 2.169569 | 2.846517 | 1.632802 |
| #1 | .0662012 | 2.662350 | 20.77866 | 4.511184 | 1.015551 | .1052254 |
| #2 | .0665738 | 2.640268 | 20.65440 | 4.576822 | 1.030957 | .1026423 |
| #3 | .0700556 | 2.659591 | 21.04423 | 4.707184 | 1.072750 | .1020546 |

| Elem | Sr4077 |
|---|---|
| Units | ppm |
| Avg | -.097667 |
| Stddev | .000754 |
| %RSD | .7715116 |
| #1 | -.096984 |
| #2 | -.098475 |
| #3 | -.097541 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | 6966.377 | 122351.8 | 12977.37 | 5651.945 | 6786.933 |
| Stddev | 117.065 | 209.3 | 61.72 | 40.103 | 146.274 |
| %RSD | 1.680431 | .1710956 | .4756174 | .7095424 | 2.155224 |
| #1 | 7087.723 | 122228.8 | 12964.92 | 5628.814 | 6937.122 |
| #2 | 6957.285 | 122593.5 | 13044.36 | 5698.252 | 6778.760 |
| #3 | 6854.123 | 122233.1 | 12922.82 | 5628.770 | 6644.918 |

Sample Name: Q3054-05LX5 Acquired: 9/10/2025 15:56:02 Type: Unk
Method: 6010-200.7 NEW(v160) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ba4934 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0068668** | **.0000683** | **.0321330** | **-.001187** | **-.004019** | **27.14604** | **.0996092** |
| Stddev | .0027972 | .0017621 | .0013743 | .002276 | .000606 | .17216 | .0014151 |
| %RSD | 40.73584 | 2580.322 | 4.276981 | 191.7468 | 15.07451 | .6342035 | 1.420632 |
| #1 | .0041828 | -.000214 | .0309356 | -.002162 | -.004308 | 27.01704 | .0981968 |
| #2 | .0066527 | .001955 | .0318297 | -.002814 | -.003323 | 27.07955 | .0996040 |
| #3 | .0097650 | -.001536 | .0336336 | .001414 | -.004427 | 27.34153 | .1010269 |

| Elem | Be2348 | Cd2265 | Ca3736 | Cr2677 | Co2286 | Cu2247 | Fe2404 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0022208** | **.0001498** | **5.577495** | **.0332916** | **.0194606** | **.0332501** | **45.74205** |
| Stddev | .0001138 | .0001051 | .039908 | .0005824 | .0001563 | .0002625 | .13903 |
| %RSD | 5.123115 | 70.13999 | .7155269 | 1.749344 | .8028866 | .7895397 | .3039512 |
| #1 | .0022292 | .0002610 | 5.546781 | .0336493 | .0196351 | .0330815 | 45.86481 |
| #2 | .0021030 | .0000522 | 5.563100 | .0326196 | .0193337 | .0335526 | 45.77028 |
| #3 | .0023301 | .0001363 | 5.622604 | .0336060 | .0194132 | .0331163 | 45.59107 |

| Elem | Mn2576 | Mg2790 | Ni2316 | Ag3280 | Na5895 | V_2924 | Zn2138 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **1.480341** | **5.427385** | **.0284748** | **-.001116** | **2.235161** | **.0540406** | **.0625447** |
| Stddev | .011381 | .047463 | .0003551 | .000335 | .043735 | .0013467 | .0003716 |
| %RSD | .7688228 | .8745158 | 1.247069 | 29.97825 | 1.956671 | 2.491930 | .5941186 |
| #1 | 1.472556 | 5.380596 | .0283326 | -.000904 | 2.184665 | .0551052 | .0628395 |
| #2 | 1.475064 | 5.426066 | .0288790 | -.000942 | 2.259778 | .0525267 | .0626673 |
| #3 | 1.493403 | 5.475495 | .0282129 | -.001502 | 2.261039 | .0544899 | .0621273 |

| Elem | K_7664 | B_2496 | Mo2020 | Sn1899 | Ti3361 | Si2881 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.039127** | **.0146235** | **.0005095** | **.0119728** | **.5587180** | **3.716677** | **.6555674** |
| Stddev | .033872 | .0010973 | .0000239 | .0003365 | .0193825 | .079026 | .0036281 |
| %RSD | 1.661122 | 7.503961 | 4.682307 | 2.810484 | 3.469106 | 2.126255 | .5534298 |
| #1 | 2.015638 | .0154203 | .0005090 | .0123564 | .5391863 | 3.626266 | .6597182 |
| #2 | 2.077955 | .0150783 | .0005336 | .0118345 | .5779478 | 3.751185 | .6530013 |
| #3 | 2.023787 | .0133719 | .0004859 | .0117275 | .5590198 | 3.772581 | .6539825 |

Reviewed By:jaswal
On:9/12/2025 10:24:55 PM
Inst Id :P4
LB :LB137144

Sample Name: Q3054-05LX5 Acquired: 9/10/2025 15:56:02 Type: Unk
Method: 6010-200.7 NEW(v160) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | S_1820 | Li6707 | Sr4077 |
|---|---|---|---|
| Units | ppm | ppm | ppm |
| Avg | .0959626 | .0211483 | -.024294 |
| Stddev | .0013237 | .0022312 | .000353 |
| %RSD | 1.379338 | 10.55008 | 1.454062 |
| #1 | .0972072 | .0189479 | -.024695 |
| #2 | .0945720 | .0210881 | -.024154 |
| #3 | .0961084 | .0234090 | -.024031 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | 6489.881 | 112036.9 | 11155.25 | 5150.838 | 7492.166 |
| Stddev | 4.301 | 257.5 | 114.43 | 24.387 | 5.126 |
| %RSD | .0662669 | .2298172 | 1.025776 | .4734613 | .0684170 |
| #1 | 6484.935 | 111774.6 | 11235.53 | 5122.700 | 7497.847 |
| #2 | 6492.734 | 112289.3 | 11206.00 | 5163.950 | 7490.764 |
| #3 | 6491.976 | 112047.0 | 11024.23 | 5165.865 | 7487.888 |

Sample Name: Q3054-05MS Acquired: 9/10/2025 16:00:13 Type: Unk
Method: 6010-200.7 NEW(v160) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.6982574** | **1.847736** | **1.081742** | **1.603877** | **.3379212** | **150.0020** |
| Stddev | .0035243 | .035941 | .000200 | .007515 | .0010396 | .2097 |
| %RSD | .5047227 | 1.945148 | .0184622 | .4685804 | .3076478 | .1398209 |
| #1 | .7009598 | 1.879071 | 1.081768 | 1.610216 | .3391203 | 149.8065 |
| #2 | .6995412 | 1.855634 | 1.081531 | 1.605839 | .3373724 | 150.2236 |
| #3 | .6942712 | 1.808502 | 1.081928 | 1.595575 | .3372711 | 149.9759 |

| Elem | Ba4934 | Be2348 | Cd2265 | Ca3736 | Cr2677 | Co2286 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.6654640** | **.1750188** | **.1932841** | **29.02689** | **.5075505** | **.2929533** |
| Stddev | .0005608 | .0003716 | .0005470 | .00781 | .0024293 | .0005021 |
| %RSD | .0842717 | .2123156 | .2830019 | .0269205 | .4786297 | .1714056 |
| #1 | .6648322 | .1754230 | .1939072 | 29.02242 | .5100277 | .2934301 |
| #2 | .6656572 | .1746920 | .1930619 | 29.02234 | .5074516 | .2930007 |
| #3 | .6659027 | .1749414 | .1928831 | 29.03592 | .5051722 | .2924292 |

| Elem | Cu2247 | Fe2404 | Mn2576 | Mg2790 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.3902879** | **235.4688** | **6.621793** | **27.02990** | **.6428919** | **.0670277** |
| Stddev | .0011525 | .7570 | .019126 | .06072 | .0008760 | .0003467 |
| %RSD | .2952823 | .3214855 | .2888410 | .2246509 | .1362659 | .5171980 |
| #1 | .3913078 | 236.2155 | 6.643235 | 27.05869 | .6438850 | .0673055 |
| #2 | .3905181 | 235.4889 | 6.615653 | 27.07088 | .6422286 | .0671384 |
| #3 | .3890377 | 234.7019 | 6.606490 | 26.96014 | .6425622 | .0666392 |

| Elem | Na5895 | V_2924 | Zn2138 | K_7664 | B_2496 | Mo2020 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **12.20528** | **.5278177** | **.5017263** | **18.62180** | **.3491154** | **.3405957** |
| Stddev | .05395 | .0021284 | .0025698 | .04966 | .0039127 | .0011776 |
| %RSD | .4420606 | .4032491 | .5121934 | .2666784 | 1.120742 | .3457514 |
| #1 | 12.24395 | .5261488 | .5039911 | 18.59522 | .3532668 | .3416469 |
| #2 | 12.22824 | .5270896 | .4989335 | 18.67909 | .3485835 | .3408171 |
| #3 | 12.14364 | .5302146 | .5022543 | 18.59109 | .3454958 | .3393231 |

Reviewed By:jaswal
On:9/12/2025 10:24:55 PM
Inst Id :P4
LB :LB137144

Sample Name: Q3054-05MS Acquired: 9/10/2025 16:00:13 Type: Unk
Method: 6010-200.7 NEW(v160) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Sn1899 | Ti3361 | Si2881 | P_1774 | S_1820 | Li6707 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | .7077727 | 3.031743 | F 28.31860 | 9.532750 | .6527659 | .2706557 |
| Stddev | .0018283 | .013270 | .14608 | .033888 | .0071668 | .0002573 |
| %RSD | .2583166 | .4376892 | .5158473 | .3554909 | 1.097905 | .0950762 |
| #1 | .7098683 | 3.045910 | 28.24983 | 9.571761 | .6593329 | .2706398 |
| #2 | .7065034 | 3.029712 | 28.48637 | 9.510604 | .6451214 | .2704067 |
| #3 | .7069465 | 3.019605 | 28.21959 | 9.515884 | .6538433 | .2709206 |

| Elem | Sr4077 |
|---|---|
| Units | ppm |
| Avg | .0507704 |
| Stddev | .0006049 |
| %RSD | 1.191508 |
| #1 | .0500977 |
| #2 | .0509438 |
| #3 | .0512697 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | 7042.251 | 121942.6 | 12927.83 | 5618.087 | 6901.774 |
| Stddev | 10.644 | 631.5 | 47.00 | 26.622 | 16.273 |
| %RSD | .1511468 | .5178774 | .3635602 | .4738539 | .2357813 |
| #1 | 7030.023 | 121490.3 | 12904.07 | 5591.627 | 6883.116 |
| #2 | 7047.293 | 121673.4 | 12897.46 | 5644.867 | 6913.031 |
| #3 | 7049.439 | 122664.1 | 12981.97 | 5617.768 | 6909.176 |

Sample Name: Q3054-05MSD Acquired: 9/10/2025 16:04:10 Type: Unk
Method: 6010-200.7 NEW(v160) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.7076190** | **1.938735** | **1.080077** | **1.625287** | **.3551245** | **141.1780** |
| Stddev | .0018382 | .031601 | .001160 | .002101 | .0011384 | .1444 |
| %RSD | .2597735 | 1.629978 | .1074016 | .1292986 | .3205707 | .1023005 |
| #1 | .7086421 | 1.974144 | 1.079692 | 1.627101 | .3545455 | 141.3323 |
| #2 | .7054968 | 1.913397 | 1.081381 | 1.625776 | .3543919 | 141.0461 |
| #3 | .7087180 | 1.928663 | 1.079159 | 1.622984 | .3564360 | 141.1554 |

| Elem | Ba4934 | Be2348 | Cd2265 | Ca3736 | Cr2677 | Co2286 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.6365828** | **.1812077** | **.1936421** | **30.90545** | **.5149339** | **.2848700** |
| Stddev | .0023967 | .0013320 | .0003386 | .04051 | .0030319 | .0003832 |
| %RSD | .3764956 | .7350599 | .1748439 | .1310912 | .5887984 | .1345122 |
| #1 | .6392492 | .1826434 | .1939941 | 30.88794 | .5161469 | .2850544 |
| #2 | .6346078 | .1800121 | .1933188 | 30.87663 | .5171715 | .2844295 |
| #3 | .6358914 | .1809677 | .1936134 | 30.95177 | .5114832 | .2851263 |

| Elem | Cu2247 | Fe2404 | Mn2576 | Mg2790 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.3814612** | **213.3495** | **6.430160** | **24.56941** | **.6252311** | **.0678825** |
| Stddev | .0019548 | 1.2696 | .017147 | .04104 | .0002894 | .0003503 |
| %RSD | .5124472 | .5950595 | .2666624 | .1670473 | .0462896 | .5159744 |
| #1 | .3833942 | 212.5402 | 6.449394 | 24.61475 | .6253019 | .0681881 |
| #2 | .3794853 | 214.8127 | 6.416475 | 24.55866 | .6249128 | .0679591 |
| #3 | .3815040 | 212.6955 | 6.424610 | 24.53481 | .6254785 | .0675003 |

| Elem | Na5895 | V_2924 | Zn2138 | K_7664 | B_2496 | Mo2020 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **11.97447** | **.5056312** | **.4652119** | **18.45561** | **.3347506** | **.3518320** |
| Stddev | .09315 | .0015677 | .0018369 | .12261 | .0051676 | .0009039 |
| %RSD | .7779310 | .3100490 | .3948435 | .6643644 | 1.543715 | .2569227 |
| #1 | 11.91693 | .5066058 | .4670172 | 18.38564 | .3287836 | .3524253 |
| #2 | 12.08194 | .5064650 | .4633450 | 18.59718 | .3377506 | .3507917 |
| #3 | 11.92454 | .5038228 | .4652737 | 18.38400 | .3377176 | .3522791 |

Sample Name: Q3054-05MSD Acquired: 9/10/2025 16:04:10 Type: Unk
Method: 6010-200.7 NEW(v160) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Sn1899 | Ti3361 | Si2881 | P_1774 | S_1820 | Li6707 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | .6802497 | 3.020216 | F 33.36316 | 8.983856 | .5665253 | .2613746 |
| Stddev | .0029680 | .029832 | .47272 | .032051 | .0038853 | .0020504 |
| %RSD | .4363028 | .9877304 | 1.416902 | .3567654 | .6858090 | .7844751 |
| #1 | .6836764 | 2.986183 | 33.57621 | 9.020685 | .5707897 | .2628125 |
| #2 | .6785861 | 3.032628 | 33.69186 | 8.968598 | .5656001 | .2590267 |
| #3 | .6784868 | 3.041838 | 32.82140 | 8.962284 | .5631861 | .2622846 |

| Elem | Sr4077 |
|---|---|
| Units | ppm |
| Avg | .0730813 |
| Stddev | .0017775 |
| %RSD | 2.432188 |
| #1 | .0744514 |
| #2 | .0710728 |
| #3 | .0737196 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | 6993.943 | 119295.2 | 12437.88 | 5456.184 | 6977.750 |
| Stddev | 15.518 | 763.7 | 85.75 | 24.175 | 14.086 |
| %RSD | .2218781 | .6401599 | .6894386 | .4430724 | .2018654 |
| #1 | 6978.299 | 119093.2 | 12341.61 | 5444.900 | 6962.646 |
| #2 | 7009.332 | 118652.9 | 12465.97 | 5439.715 | 6990.528 |
| #3 | 6994.197 | 120139.6 | 12506.07 | 5483.938 | 6980.074 |

Sample Name: Q3054-05A Acquired: 9/10/2025 16:08:06 Type: Unk
Method: 6010-200.7 NEW(v160) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.8258648** | **2.296741** | **1.238482** | **1.956520** | **.6562264** | **120.6949** |
| Stddev | .0047693 | .003533 | .005221 | .014194 | .0055984 | .3961 |
| %RSD | .5774867 | .1538438 | .4215882 | .7254942 | .8531252 | .3281911 |
| #1 | .8310158 | 2.293679 | 1.244343 | 1.972408 | .6626715 | 120.6295 |
| #2 | .8249763 | 2.300607 | 1.234329 | 1.945088 | .6525700 | 121.1196 |
| #3 | .8216022 | 2.295938 | 1.236773 | 1.952065 | .6534378 | 120.3356 |

| Elem | Ba4934 | Be2348 | Cd2265 | Ca3736 | Cr2677 | Co2286 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.6290599** | **.2033468** | **.2247898** | **24.87856** | **.5253812** | **.3231576** |
| Stddev | .0024016 | .0009693 | .0015176 | .07982 | .0045634 | .0019934 |
| %RSD | .3817810 | .4766535 | .6751395 | .3208349 | .8685884 | .6168461 |
| #1 | .6262911 | .2025383 | .2265001 | 24.82248 | .5268278 | .3253923 |
| #2 | .6305780 | .2030810 | .2236038 | 24.96995 | .5290460 | .3215624 |
| #3 | .6303108 | .2044213 | .2242655 | 24.84326 | .5202698 | .3225181 |

| Elem | Cu2247 | Fe2404 | Mn2576 | Mg2790 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.4356690** | **203.7667** | **6.577576** | **25.13007** | **.6968789** | **.0758879** |
| Stddev | .0039730 | 1.9675 | .024005 | .09804 | .0041785 | .0009853 |
| %RSD | .9119288 | .9655810 | .3649536 | .3901404 | .5996030 | 1.298403 |
| #1 | .4389675 | 204.2284 | 6.549956 | 25.04304 | .7015122 | .0756949 |
| #2 | .4312585 | 205.4623 | 6.593409 | 25.23629 | .6933965 | .0769555 |
| #3 | .4367811 | 201.6093 | 6.589363 | 25.11089 | .6957280 | .0750134 |

| Elem | Na5895 | V_2924 | Zn2138 | K_7664 | B_2496 | Mo2020 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **11.54620** | **.5281031** | **.4554108** | **17.34461** | **.3848633** | **.3551994** |
| Stddev | .09977 | .0035048 | .0036530 | .18824 | .0043805 | .0019334 |
| %RSD | .8641281 | .6636500 | .8021389 | 1.085279 | 1.138196 | .5443211 |
| #1 | 11.59448 | .5240935 | .4569588 | 17.47180 | .3860164 | .3566544 |
| #2 | 11.61265 | .5305832 | .4580349 | 17.43367 | .3885519 | .3530055 |
| #3 | 11.43147 | .5296325 | .4512387 | 17.12837 | .3800216 | .3559383 |

Sample Name: Q3054-05A Acquired: 9/10/2025 16:08:06 Type: Unk
Method: 6010-200.7 NEW(v160) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Sn1899 | Ti3361 | Si2881 | P_1774 | S_1820 | Li6707 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | .7094133 | 2.683072 | F 19.80989 | 9.756915 | .4351819 | .2826234 |
| Stddev | .0059645 | .014114 | .53625 | .060135 | .0025562 | .0006833 |
| %RSD | .8407632 | .5260498 | 2.706990 | .6163298 | .5873960 | .2417747 |
| #1 | .7160675 | 2.698383 | 20.21143 | 9.824085 | .4374917 | .2818361 |
| #2 | .7045479 | 2.670580 | 20.01734 | 9.708089 | .4324355 | .2829724 |
| #3 | .7076246 | 2.680254 | 19.20090 | 9.738570 | .4356186 | .2830618 |

| Elem | Sr4077 |
|---|---|
| Units | ppm |
| Avg | .0836483 |
| Stddev | .0022692 |
| %RSD | 2.712839 |
| #1 | .0822808 |
| #2 | .0823963 |
| #3 | .0862677 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | 6849.678 | 123400.4 | 12527.56 | 5667.089 | 6898.663 |
| Stddev | 41.528 | 699.8 | 73.24 | 41.992 | 45.534 |
| %RSD | .6062805 | .5671017 | .5846269 | .7409826 | .6600425 |
| #1 | 6803.391 | 123042.5 | 12584.33 | 5671.417 | 6846.771 |
| #2 | 6883.671 | 122952.0 | 12553.47 | 5623.100 | 6931.938 |
| #3 | 6861.973 | 124206.8 | 12444.89 | 5706.749 | 6917.281 |

Sample Name: Q3068-01 Acquired: 9/10/2025 16:12:03 Type: Unk
Method: 6010-200.7 NEW(v160) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.1013072** | **-.019058** | **.9939747** | **.0013295** | **-.001400** | **245.4054** |
| Stddev | .0003208 | .003455 | .0020266 | .0014326 | .001644 | .9789 |
| %RSD | .3166955 | 18.12980 | .2038922 | 107.7569 | 117.4151 | .3988798 |
| #1 | .1014180 | -.022328 | .9916855 | .0020405 | .000337 | 245.3118 |
| #2 | .1009456 | -.019401 | .9955399 | -.000320 | -.001605 | 244.4767 |
| #3 | .1015579 | -.015443 | .9946987 | .002267 | -.002931 | 246.4277 |

| Elem | Ba4934 | Be2348 | Cd2265 | Ca3736 | Cr2677 | Co2286 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **1.482214** | **.0184838** | **.0146563** | **225.0111** | **.4303153** | **.2412217** |
| Stddev | .002297 | .0001069 | .0001206 | .1865 | .0017389 | .0002059 |
| %RSD | .1549454 | .5782696 | .8228596 | .0828714 | .4040990 | .0853502 |
| #1 | 1.484853 | .0186023 | .0147617 | 225.2140 | .4309390 | .2409880 |
| #2 | 1.481113 | .0184546 | .0145248 | 224.9721 | .4316563 | .2413764 |
| #3 | 1.480675 | .0183946 | .0146825 | 224.8472 | .4283506 | .2413006 |

| Elem | Cu2247 | Fe2404 | Mn2576 | Mg2790 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.6639995** | **378.8594** | **5.444284** | **124.8619** | **.3511391** | **.0032036** |
| Stddev | .0031250 | 1.7666 | .008944 | .1643 | .0009239 | .0000673 |
| %RSD | .4706287 | .4663028 | .1642816 | .1315678 | .2631264 | 2.100666 |
| #1 | .6636941 | 377.6383 | 5.451863 | 124.9809 | .3502787 | .0032334 |
| #2 | .6610384 | 380.8851 | 5.434419 | 124.9304 | .3521156 | .0031266 |
| #3 | .6672660 | 378.0547 | 5.446570 | 124.6745 | .3510230 | .0032509 |

| Elem | Na5895 | V_2924 | Zn2138 | K_7664 | B_2496 | Mo2020 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **7.381567** | **.7430585** | **1.728983** | **54.20175** | **.3022211** | **.0111548** |
| Stddev | .051247 | .0043543 | .001681 | .33247 | .0090419 | .0003479 |
| %RSD | .6942627 | .5860012 | .0972497 | .6133892 | 2.991819 | 3.118406 |
| #1 | 7.393436 | .7400355 | 1.727080 | 54.00295 | .2948280 | .0108111 |
| #2 | 7.425838 | .7410906 | 1.729597 | 54.58557 | .3123022 | .0111466 |
| #3 | 7.325426 | .7480495 | 1.730270 | 54.01674 | .2995330 | .0115067 |

Reviewed By:jaswal
On:9/12/2025 10:24:55 PM
Inst Id :P4
LB :LB137144

Sample Name: Q3068-01 Acquired: 9/10/2025 16:12:03 Type: Unk
Method: 6010-200.7 NEW(v160) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Sn1899 | Ti3361 | Si2881 | P_1774 | S_1820 | Li6707 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | .1073862 | F 11.98498 | 9.850070 | F 10.76428 | 9.227884 | .2497255 |
| Stddev | .0014027 | .00727 | .393646 | .05360 | .055379 | .0008148 |
| %RSD | 1.306203 | .0606415 | 3.996373 | .4979571 | .6001266 | .3262934 |
| #1 | .1087576 | 11.97685 | 9.663351 | 10.80844 | 9.239346 | .2499884 |
| #2 | .1074468 | 11.98723 | 10.30233 | 10.70464 | 9.167670 | .2503764 |
| #3 | .1059542 | 11.99085 | 9.58453 | 10.77976 | 9.276634 | .2488117 |

| Elem | Sr4077 |
|---|---|
| Units | ppm |
| Avg | .4630013 |
| Stddev | .0018728 |
| %RSD | .4045016 |
| #1 | .4648676 |
| #2 | .4611219 |
| #3 | .4630144 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | 7011.124 | 118580.2 | 13452.62 | 5470.474 | 6295.238 |
| Stddev | 2.867 | 362.0 | 85.83 | 14.017 | 9.388 |
| %RSD | .0408903 | .3052734 | .6380360 | .2562285 | .1491272 |
| #1 | 7010.750 | 118367.1 | 13358.32 | 5462.330 | 6294.878 |
| #2 | 7008.463 | 118375.4 | 13526.18 | 5462.432 | 6286.034 |
| #3 | 7014.160 | 118998.2 | 13473.37 | 5486.659 | 6304.800 |

Sample Name: CCV05 Acquired: 9/10/2025 16:16:11 Type: Unk
Method: 6010-200.7 NEW(v160) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: CCV05 Custom ID2: Custom ID3:
Comment:

| Elem | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ba4934 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **4.895397** | **5.007609** | **4.815998** | **4.933451** | **4.867332** | **9.773686** | **9.469342** |
| Stddev | .012915 | .078290 | .013631 | .011680 | .012863 | .025419 | .062365 |
| %RSD | .2638283 | 1.563414 | .2830374 | .2367517 | .2642775 | .2600770 | .6586036 |
| #1 | 4.907594 | 5.096653 | 4.814765 | 4.940847 | 4.880155 | 9.800639 | 9.404556 |
| #2 | 4.896732 | 4.976603 | 4.830203 | 4.939520 | 4.867414 | 9.770275 | 9.474505 |
| #3 | 4.881867 | 4.949572 | 4.803025 | 4.919985 | 4.854428 | 9.750145 | 9.528966 |

| Elem | Be2348 | Cd2265 | Ca3736 | Cr2677 | Co2286 | Cu2247 | Fe2404 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.2463640** | **2.415440** | **24.08109** | **.9983845** | **2.404163** | **1.212030** | **4.870834** |
| Stddev | .0007141 | .004770 | .01535 | .0046348 | .003857 | .001507 | .012052 |
| %RSD | .2898365 | .1974632 | .0637299 | .4642334 | .1604339 | .1242979 | .2474347 |
| #1 | .2466443 | 2.416091 | 24.08951 | .9945614 | 2.404460 | 1.213104 | 4.859128 |
| #2 | .2455523 | 2.419850 | 24.06338 | 1.003539 | 2.407863 | 1.212678 | 4.883205 |
| #3 | .2468953 | 2.410378 | 24.09039 | .997053 | 2.400166 | 1.210308 | 4.870167 |

| Elem | Mn2576 | Mg2790 | Ni2316 | Ag3280 | Na5895 | V_2924 | Zn2138 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.377578** | **24.33599** | **2.397604** | **1.242155** | **23.25411** | **2.423407** | **2.503165** |
| Stddev | .006991 | .03071 | .003493 | .000901 | .04903 | .005716 | .008282 |
| %RSD | .2940312 | .1262061 | .1457016 | .0725632 | .2108631 | .2358493 | .3308613 |
| #1 | 2.385025 | 24.37118 | 2.396873 | 1.241193 | 23.19796 | 2.430005 | 2.499685 |
| #2 | 2.371156 | 24.32220 | 2.401405 | 1.242979 | 23.28848 | 2.420198 | 2.512619 |
| #3 | 2.376552 | 24.31459 | 2.394534 | 1.242294 | 23.27589 | 2.420016 | 2.497190 |

| Elem | K_7664 | B_2496 | Mo2020 | Sn1899 | Ti3361 | Si2881 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **23.98575** | **4.865278** | **4.932490** | **4.954081** | **4.822413** | **4.975604** | **4.940090** |
| Stddev | .07544 | .019122 | .013360 | .012774 | .007776 | .030867 | .011120 |
| %RSD | .3145308 | .3930347 | .2708659 | .2578503 | .1612382 | .6203755 | .2250891 |
| #1 | 23.90088 | 4.868978 | 4.940944 | 4.956612 | 4.831305 | 4.945315 | 4.949813 |
| #2 | 24.04518 | 4.844576 | 4.939439 | 4.965400 | 4.816890 | 5.007019 | 4.927966 |
| #3 | 24.01120 | 4.882280 | 4.917087 | 4.940230 | 4.819043 | 4.974476 | 4.942490 |

Sample Name: CCV05 Acquired: 9/10/2025 16:16:11 Type: Unk
Method: 6010-200.7 NEW(v160) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: CCV05 Custom ID2: Custom ID3:
Comment:

| Elem | S_1820 | Li6707 | Sr4077 |
|---|---|---|---|
| Units | ppm | ppm | ppm |
| Avg | **4.877009** | **4.602951** | **4.852675** |
| Stddev | .014783 | .010776 | .018463 |
| %RSD | .3031094 | .2341171 | .3804749 |
| #1 | 4.893105 | 4.615392 | 4.835098 |
| #2 | 4.873883 | 4.596523 | 4.871912 |
| #3 | 4.864039 | 4.596938 | 4.851014 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **6154.823** | **104843.5** | **11015.48** | **4842.023** | **7054.382** |
| Stddev | 14.327 | 323.8 | 39.49 | 21.493 | 19.995 |
| %RSD | .2327745 | .3088778 | .3585270 | .4438848 | .2834442 |
| #1 | 6167.013 | 105200.1 | 10995.61 | 4848.624 | 7074.897 |
| #2 | 6139.042 | 104567.8 | 11060.97 | 4818.003 | 7034.950 |
| #3 | 6158.412 | 104762.5 | 10989.88 | 4859.441 | 7053.299 |

Sample Name: CCB05 Acquired: 9/10/2025 16:20:26 Type: Unk
Method: 6010-200.7 NEW(v160) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: CCB05 Custom ID2: Custom ID3:
Comment:

| Elem | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ba4934 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.002755** | **.0064850** | **.0014200** | **-.000218** | **.0014691** | **.0086317** | **.0036461** |
| Stddev | .001398 | .0008800 | .0009959 | .001478 | .0009739 | .0133335 | .0008989 |
| %RSD | 50.74744 | 13.56930 | 70.13731 | 678.4379 | 66.29325 | 154.4710 | 24.65296 |
| #1 | -.003495 | .0054720 | .0011630 | .001344 | .0004622 | .0177653 | .0036868 |
| #2 | -.001143 | .0069234 | .0005777 | -.001595 | .0024064 | -.006669 | .0027276 |
| #3 | -.003628 | .0070598 | .0025192 | -.000403 | .0015388 | .014799 | .0045240 |

| Elem | Be2348 | Cd2265 | Ca3736 | Cr2677 | Co2286 | Cu2247 | Fe2404 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0000150** | **.0001072** | **-.005306** | **.0007145** | **.0000262** | **-.000087** | **.0064811** |
| Stddev | .0000741 | .0000459 | .002941 | .0002627 | .0000564 | .000138 | .0017039 |
| %RSD | 492.9797 | 42.78488 | 55.43373 | 36.77096 | 215.2450 | 158.8246 | 26.28996 |
| #1 | .0000721 | .0000549 | -.008354 | .0008370 | .0000461 | .000050 | .0082886 |
| #2 | .0000416 | .0001404 | -.002484 | .0008936 | -.000037 | -.000085 | .0049044 |
| #3 | -.000069 | .0001264 | -.005082 | .0004129 | .000070 | -.000227 | .0062502 |

| Elem | Mn2576 | Mg2790 | Ni2316 | Ag3280 | Na5895 | V_2924 | Zn2138 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0003053** | **.0021767** | **.0004303** | **-.000730** | **-.244497** | **-.001051** | **.0001734** |
| Stddev | .0001622 | .0071347 | .0003707 | .000369 | .013222 | .000841 | .0001537 |
| %RSD | 53.11029 | 327.7741 | 86.15494 | 50.55794 | 5.408042 | 80.03520 | 88.66095 |
| #1 | .0001635 | .0081181 | .0005042 | -.000653 | -.253520 | -.001418 | .0002958 |
| #2 | .0004821 | -.005737 | .0000282 | -.001131 | -.250652 | -.001647 | .0002234 |
| #3 | .0002703 | .004149 | .0007584 | -.000405 | -.229319 | -.000089 | .0000009 |

| Elem | K_7664 | B_2496 | Mo2020 | Sn1899 | Ti3361 | Si2881 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.459319** | **.0027378** | **.0004907** | **-.015539** | **.0005200** | **.0139343** | **.0009293** |
| Stddev | .049519 | .0009377 | .0000290 | .000214 | .0013396 | .0041518 | .0002862 |
| %RSD | 10.78104 | 34.25139 | 5.913099 | 1.379820 | 257.5923 | 29.79540 | 30.79766 |
| #1 | -.457483 | .0020623 | .0005050 | -.015428 | .0003161 | .0099437 | .0012303 |
| #2 | -.509731 | .0038084 | .0005097 | -.015786 | -.000706 | .0182304 | .0008967 |
| #3 | -.410743 | .0023426 | .0004573 | -.015403 | .001950 | .0136289 | .0006607 |

Reviewed By:jaswal
On:9/12/2025 10:24:55 PM
Inst Id :P4
LB :LB137144

Sample Name: CCB05 Acquired: 9/10/2025 16:20:26 Type: Unk
Method: 6010-200.7 NEW(v160) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: CCB05 Custom ID2: Custom ID3:
Comment:

| Elem | S_1820 | Li6707 | Sr4077 |
|---|---|---|---|
| Units | ppm | ppm | ppm |
| Avg | **-.002085** | **-.003084** | **.0003052** |
| Stddev | .001317 | .001813 | .0000822 |
| %RSD | 63.13974 | 58.77227 | 26.93817 |
| #1 | -.000575 | -.004364 | .0003680 |
| #2 | -.002689 | -.001010 | .0002121 |
| #3 | -.002992 | -.003879 | .0003353 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **6126.588** | **104434.6** | **10699.30** | **4844.480** | **7400.738** |
| Stddev | 46.315 | 393.4 | 413.60 | 14.000 | 50.677 |
| %RSD | .7559644 | .3766723 | 3.865644 | .2889929 | .6847518 |
| #1 | 6082.263 | 104862.9 | 11145.53 | 4841.746 | 7350.496 |
| #2 | 6122.836 | 104089.4 | 10328.81 | 4832.049 | 7399.881 |
| #3 | 6174.665 | 104351.7 | 10623.57 | 4859.646 | 7451.838 |

Sample Name: Q3054-01 Acquired: 9/10/2025 16:24:46 Type: Unk
Method: 6010-200.7 NEW(v160) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0615765** | **-.011675** | **.2364429** | **.0005169** | **-.008988** | **132.3182** |
| Stddev | .0016849 | .000758 | .0032905 | .0016017 | .001483 | .3663 |
| %RSD | 2.736349 | 6.492120 | 1.391657 | 309.8942 | 16.50007 | .2768108 |
| #1 | .0599992 | -.010928 | .2327034 | .0023662 | -.010235 | 132.0100 |
| #2 | .0613789 | -.012444 | .2377300 | -.000388 | -.009379 | 132.2215 |
| #3 | .0633516 | -.011654 | .2388952 | -.000428 | -.007348 | 132.7231 |

| Elem | Ba4934 | Be2348 | Cd2265 | Ca3736 | Cr2677 | Co2286 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.6492865** | **.0097391** | **.0027600** | **11.49619** | **.1653264** | **.0909953** |
| Stddev | .0047836 | .0001996 | .0003820 | .03482 | .0027869 | .0016199 |
| %RSD | .7367451 | 2.049876 | 13.84035 | .3029207 | 1.685688 | 1.780215 |
| #1 | .6439361 | .0098956 | .0025888 | 11.47388 | .1672614 | .0894067 |
| #2 | .6507733 | .0098074 | .0024936 | 11.47837 | .1665856 | .0909345 |
| #3 | .6531502 | .0095143 | .0031977 | 11.53632 | .1621321 | .0926448 |

| Elem | Cu2247 | Fe2404 | Mn2576 | Mg2790 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.1500898** | **218.0206** | **4.934252** | **21.85418** | **.1616599** | **.0006728** |
| Stddev | .0028364 | 1.2704 | .027310 | .09670 | .0023672 | .0007138 |
| %RSD | 1.889821 | .5826890 | .5534772 | .4424938 | 1.464298 | 106.1044 |
| #1 | .1482210 | 217.6824 | 4.906117 | 21.74391 | .1596379 | -.000013 |
| #2 | .1486948 | 219.4259 | 4.935983 | 21.92455 | .1610781 | .000619 |
| #3 | .1533536 | 216.9536 | 4.960655 | 21.89407 | .1642637 | .001412 |

| Elem | Na5895 | V_2924 | Zn2138 | K_7664 | B_2496 | Mo2020 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **13.54779** | **.2891386** | **.4395668** | **7.887577** | **.1385984** | **.0028206** |
| Stddev | .10777 | .0036393 | .0047893 | .046546 | .0057850 | .0001560 |
| %RSD | .7954724 | 1.258658 | 1.089548 | .5901183 | 4.173963 | 5.531910 |
| #1 | 13.52148 | .2849391 | .4437871 | 7.857152 | .1343557 | .0026965 |
| #2 | 13.66628 | .2911061 | .4405516 | 7.941160 | .1451881 | .0029958 |
| #3 | 13.45562 | .2913706 | .4343616 | 7.864420 | .1362513 | .0027695 |

Sample Name: Q3054-01 Acquired: 9/10/2025 16:24:46 Type: Unk
Method: 6010-200.7 NEW(v160) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Sn1899 | Ti3361 | Si2881 | P_1774 | S_1820 | Li6707 |
|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | .0682108 | 2.921609 | F 16.00877 | 6.749025 | .8655190 | .1139280 |
| Stddev | .0009263 | .021436 | .10829 | .118752 | .0186748 | .0012362 |
| %RSD | 1.357947 | .7337148 | .6764263 | 1.759542 | 2.157637 | 1.085071 |
| #1 | .0683153 | 2.897203 | 15.93585 | 6.627685 | .8496691 | .1152765 |
| #2 | .0672368 | 2.930239 | 16.13320 | 6.754384 | .8607817 | .1128483 |
| #3 | .0690804 | 2.937386 | 15.95727 | 6.865007 | .8861061 | .1136592 |

| Elem | Sr4077 |
|---|---|
| Units | ppm |
| Avg | -.121723 |
| Stddev | .001695 |
| %RSD | 1.392837 |
| #1 | -.121719 |
| #2 | -.123421 |
| #3 | -.120030 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | 6798.023 | 114460.3 | 12118.70 | 5286.485 | 6791.288 |
| Stddev | 75.799 | 1409.5 | 44.95 | 29.099 | 87.890 |
| %RSD | 1.115011 | 1.231429 | .3708806 | .5504328 | 1.294162 |
| #1 | 6864.857 | 113980.7 | 12125.61 | 5284.333 | 6874.814 |
| #2 | 6813.549 | 113353.1 | 12070.70 | 5258.523 | 6799.449 |
| #3 | 6715.664 | 116047.0 | 12159.79 | 5316.600 | 6699.603 |

Sample Name: CCV06 Acquired: 9/10/2025 16:43:03 Type: Unk
Method: 6010-200.7 NEW(v160) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: CCV06 Custom ID2: Custom ID3:
Comment:

| Elem | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ba4934 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **4.944477** | **5.399308** | **4.864799** | **4.989730** | **4.925965** | **9.937986** | **9.588038** |
| Stddev | .013946 | .038217 | .008711 | .023042 | .007743 | .026632 | .094282 |
| %RSD | .2820437 | .7078068 | .1790702 | .4617904 | .1571969 | .2679820 | .9833277 |
| #1 | 4.931980 | 5.431525 | 4.855418 | 4.969992 | 4.917047 | 9.913719 | 9.483430 |
| #2 | 4.959520 | 5.409317 | 4.866345 | 5.015050 | 4.930984 | 9.966478 | 9.614226 |
| #3 | 4.941931 | 5.357083 | 4.872634 | 4.984146 | 4.929863 | 9.933760 | 9.666457 |

| Elem | Be2348 | Cd2265 | Ca3736 | Cr2677 | Co2286 | Cu2247 | Fe2404 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.2532064** | **2.437456** | **24.42820** | **1.016858** | **2.433337** | **1.222961** | **4.896237** |
| Stddev | .0036562 | .004165 | .07328 | .002814 | .004439 | .003219 | .072501 |
| %RSD | 1.443947 | .1708862 | .2999972 | .2767214 | .1824399 | .2631758 | 1.480749 |
| #1 | .2499404 | 2.432680 | 24.36684 | 1.016095 | 2.428250 | 1.219306 | 4.924525 |
| #2 | .2571562 | 2.439352 | 24.50934 | 1.014504 | 2.435332 | 1.224202 | 4.813856 |
| #3 | .2525226 | 2.440336 | 24.40841 | 1.019974 | 2.436429 | 1.225374 | 4.950330 |

| Elem | Mn2576 | Mg2790 | Ni2316 | Ag3280 | Na5895 | V_2924 | Zn2138 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.414295** | **24.84599** | **2.420652** | **1.261364** | **23.38391** | **2.462986** | **2.551161** |
| Stddev | .011224 | .19756 | .005491 | .001358 | .35521 | .008463 | .005484 |
| %RSD | .4649016 | .7951547 | .2268572 | .1076620 | 1.519023 | .3435943 | .2149696 |
| #1 | 2.401994 | 24.66502 | 2.414444 | 1.262316 | 23.64050 | 2.457230 | 2.555143 |
| #2 | 2.416910 | 25.05676 | 2.422634 | 1.259809 | 22.97850 | 2.459026 | 2.544905 |
| #3 | 2.423980 | 24.81617 | 2.424877 | 1.261966 | 23.53272 | 2.472703 | 2.553434 |

| Elem | K_7664 | B_2496 | Mo2020 | Sn1899 | Ti3361 | Si2881 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **24.09381** | **4.991275** | **5.030176** | **4.974852** | **4.886186** | **5.022105** | **5.048807** |
| Stddev | .28191 | .067538 | .007000 | .001600 | .003655 | .048416 | .012598 |
| %RSD | 1.170071 | 1.353129 | .1391613 | .0321663 | .0748083 | .9640628 | .2495276 |
| #1 | 24.30740 | 4.935267 | 5.025435 | 4.973651 | 4.882162 | 5.057164 | 5.053021 |
| #2 | 23.77427 | 5.066277 | 5.038216 | 4.976669 | 4.889300 | 4.966862 | 5.058758 |
| #3 | 24.19977 | 4.972282 | 5.026876 | 4.974237 | 4.887095 | 5.042289 | 5.034642 |

Sample Name: CCV06 Acquired: 9/10/2025 16:43:03 Type: Unk
Method: 6010-200.7 NEW(v160) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: CCV06 Custom ID2: Custom ID3:
Comment:

| Elem | S_1820 | Li6707 | Sr4077 |
|---|---|---|---|
| Units | ppm | ppm | ppm |
| Avg | **4.949577** | **4.675299** | **4.922499** |
| Stddev | .019078 | .003047 | .038990 |
| %RSD | .3854477 | .0651773 | .7920727 |
| #1 | 4.932400 | 4.672139 | 4.892677 |
| #2 | 4.970111 | 4.678220 | 4.966620 |
| #3 | 4.946221 | 4.675538 | 4.908201 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **6132.941** | **102063.1** | **10626.18** | **4721.974** | **7048.752** |
| Stddev | 7.535 | 90.5 | 157.16 | 4.696 | 4.586 |
| %RSD | .1228643 | .0886636 | 1.479010 | .0994600 | .0650549 |
| #1 | 6138.601 | 102144.1 | 10758.73 | 4721.300 | 7054.041 |
| #2 | 6124.388 | 102079.9 | 10452.56 | 4726.971 | 7046.321 |
| #3 | 6135.833 | 101965.4 | 10667.24 | 4717.650 | 7045.894 |

Sample Name: CCB06 Acquired: 9/10/2025 16:48:48 Type: Unk
Method: 6010-200.7 NEW(v160) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: CCB06 Custom ID2: Custom ID3:
Comment:

| Elem | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ba4934 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.001136** | **-.001868** | **.0001818** | **-.001767** | **.0008351** | **.0113960** | **.0050249** |
| Stddev | .000302 | .002438 | .0002387 | .000784 | .0003457 | .0178363 | .0008306 |
| %RSD | 26.55953 | 130.4833 | 131.2753 | 44.39381 | 41.38978 | 156.5136 | 16.52930 |
| #1 | -.001044 | .000943 | .0001631 | -.002397 | .0004437 | -.006883 | .0041284 |
| #2 | -.000891 | -.003157 | .0004294 | -.002015 | .0009630 | .028753 | .0051779 |
| #3 | -.001473 | -.003392 | -.000047 | -.000888 | .0010986 | .012318 | .0057683 |

| Elem | Be2348 | Cd2265 | Ca3736 | Cr2677 | Co2286 | Cu2247 | Fe2404 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.000002** | **.0000500** | **-.005495** | **.0002529** | **-.000127** | **.0001142** | **.0008921** |
| Stddev | .000045 | .0000901 | .006894 | .0002318 | .000093 | .0003036 | .0028033 |
| %RSD | 2289.867 | 180.2277 | 125.4510 | 91.63697 | 72.97858 | 265.8570 | 314.2449 |
| #1 | -.000049 | .0000783 | .001169 | .0001691 | -.000228 | .0003423 | -.002343 |
| #2 | .000042 | .0001225 | -.012598 | .0000747 | -.000044 | -.000230 | .002614 |
| #3 | .000001 | -.000051 | -.005057 | .0005149 | -.000111 | .000231 | .002405 |

| Elem | Mn2576 | Mg2790 | Ni2316 | Ag3280 | Na5895 | V_2924 | Zn2138 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.000092** | **.0128834** | **.0003214** | **-.000775** | **-.280957** | **-.001691** | **.0000184** |
| Stddev | .000122 | .0149136 | .0002702 | .000510 | .013884 | .001919 | .0000771 |
| %RSD | 132.8114 | 115.7579 | 84.07411 | 65.80038 | 4.941782 | 113.5177 | 419.1006 |
| #1 | -.000198 | .0017795 | .0001148 | -.000490 | -.269943 | -.001816 | .0000967 |
| #2 | -.000120 | .0298346 | .0006271 | -.001364 | -.296553 | .000288 | .0000158 |
| #3 | .000042 | .0070362 | .0002221 | -.000472 | -.276375 | -.003544 | -.000057 |

| Elem | K_7664 | B_2496 | Mo2020 | Sn1899 | Ti3361 | Si2881 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.459787** | **.0018858** | **.0003213** | **-.015478** | **.0011515** | **.0037272** | **.0018165** |
| Stddev | .007412 | .0001260 | .0001212 | .000273 | .0014664 | .0055553 | .0011168 |
| %RSD | 1.612059 | 6.680950 | 37.72263 | 1.762314 | 127.3485 | 149.0486 | 61.47936 |
| #1 | -.461220 | .0017404 | .0002768 | -.015202 | .0018930 | -.002608 | .0008003 |
| #2 | -.451763 | .0019542 | .0004584 | -.015747 | .0020990 | .007767 | .0030121 |
| #3 | -.466377 | .0019628 | .0002286 | -.015484 | -.000538 | .006023 | .0016371 |

Sample Name: CCB06 Acquired: 9/10/2025 16:48:48 Type: Unk
Method: 6010-200.7 NEW(v160) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: CCB06 Custom ID2: Custom ID3:
Comment:

| Elem | S_1820 | Li6707 | Sr4077 |
|---|---|---|---|
| Units | ppm | ppm | ppm |
| Avg | **-.004641** | **-.004865** | **.0000763** |
| Stddev | .002497 | .002209 | .0000865 |
| %RSD | 53.81068 | 45.40233 | 113.2349 |
| #1 | -.001768 | -.007191 | .0000493 |
| #2 | -.005856 | -.002797 | .0000066 |
| #3 | -.006298 | -.004606 | .0001731 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **6204.176** | **108030.7** | **10544.31** | **4873.987** | **7546.393** |
| Stddev | 56.285 | 842.1 | 59.48 | 49.869 | 69.153 |
| %RSD | .9072185 | .7794958 | .5640719 | 1.023158 | .9163673 |
| #1 | 6197.827 | 107130.2 | 10597.46 | 4819.067 | 7539.004 |
| #2 | 6263.367 | 108163.3 | 10480.06 | 4886.457 | 7618.943 |
| #3 | 6151.334 | 108798.7 | 10555.40 | 4916.437 | 7481.231 |

Alliance TECHNICAL GROUP

**Soil/Sludge Metals Preparation Sheet**

PB169634

**SOP ID :** M3050B-Digestion-20

**SDG No :** N/A

**Matrix :** SOIL

**Pippete ID:** ICP A

**Balance ID :** M SC-2

**Filter paper ID :** N/A

**pH Strip ID :** N/A

**Hood ID :** #3

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

**Start Digest Date:** 09/10/2025 **Time :** 14:10 **Temp :** 96 °C

**End Digest Date:** 09/10/2025 **Time :** ~~16:15~~ 15:10 **Temp :** 96 °C

SJ 09/16/2025

**Digestion tube ID:** M6054

**Block thermometer ID:** MET-DIG. #2

**Dig Technician Signature:** SJ

**Supervisor Signature:**

**Temp :** 1. 96°C 2. N/A

| Standared Name | MLS USED | STD REF. # FROM LOG |
|---|---|---|
| LFS-1 | 1.00 | M6180 |
| LFS-2 | 1.00 | M6181 |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |

| Chemical Used | ML/SAMPLE USED | Lot Number |
|---|---|---|
| Conc. HNO3 | 5.00 | M6158 |
| 1:1 HNO3 | 10.00 | MP86978 |
| 30% H2O2 | 3.00 | M6170 |
| Conc. HCL | 10.00 | M6151 |
| PTFE Boiling Stones | N/A | M5581 |
| 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#2 CELL#50 96C

| Date / Time | Prepped Sample Relinquished By/Location | Received By/Location |
|---|---|---|
| 09/20/25 ~~17:15~~ 15:15 | SJ met dig | |
| | Preparation Group | Analysis Group |

Alliance TECHNICAL GROUP

**Soil/Sludge Metals Preparation Sheet**

**PB169634**

| Lab Sample ID | Client Sample ID | pH | Initial Weight (g) | Final Vol (ml) | Color Before | Color After | Texture | Artifact | Comment | Prep Pos |
|---|---|---|---|---|---|---|---|---|---|---|
| PB169634BL | PBS634 | N/A | 2.00 | 100 | Colorless | Colorless | Fine | No | N/A | 1 |
| PB169634BS | LCS634 | N/A | 2.00 | 100 | Colorless | Colorless | Fine | No | M6180,M6181 | 2 |
| Q3054-01 | MH-385 | N/A | 2.18 | 100 | Brown | Yellow | Medium | No | N/A | 3 |
| Q3054-05 | MH-384 | N/A | 2.30 | 100 | Brown | Yellow | Medium | No | N/A | 4 |
| Q3054-05MS | MH-384MS | N/A | 2.23 | 100 | Brown | Yellow | Medium | No | M6180,M6181 | 6 |
| Q3054-05MSD | MH-384MSD | N/A | 2.18 | 100 | Brown | Yellow | Medium | No | M6180,M6181 | 7 |
| Q3054-05DUP | MH-384DUP | N/A | 2.21 | 100 | Brown | Yellow | Medium | No | N/A | 5 |
| Q3055-01 | OR-03-090925 | N/A | 2.22 | 100 | Brown | Yellow | Medium | No | N/A | 8 |
| Q3056-01 | OK-02-090925 | N/A | 2.18 | 100 | Brown | Yellow | Medium | No | N/A | 9 |
| Q3059-01 | TR-06-09092025 | N/A | 2.40 | 100 | Brown | Yellow | Medium | No | N/A | 10 |
| Q3068-01 | AMBRIC-TECH-9-9 | N/A | 2.14 | 100 | Brown | Yellow | Medium | No | N/A | 11 |

# WORKLIST(Hardcopy Internal Chain)

Revised

**WorkList Name :** PB169634 **WorkList ID :** 191779 **Department :** Digestion **Date :** 09-10-2025 09:43:28



| Sample | Customer Sample | Matrix | Test | Preservative | Customer | Raw Sample Storage Location | Collect Date | Method |
|---|---|---|---|---|---|---|---|---|
| Q3054-01 | MH-385 | Solid | Metals ICP-TAL | Cool 4 deg C | PSEG03 | D31 | 09/08/2025 | 6010D |
| Q3054-05 | MH-384 | Solid | Metals ICP-TAL | Cool 4 deg C | PSEG03 | D31 | 09/09/2025 | 6010D |
| Q3055-01 | OR-03-090925 | Solid | Metals ICP-TAL | Cool 4 deg C | PSEG05 | D31 | 09/09/2025 | 6010D |
| Q3056-01 | OK-02-090925 | Solid | Metals ICP-TAL | Cool 4 deg C | PSEG05 | D21 | 09/09/2025 | 6010D |
| Q3059-01 | TR-06-09092025 | Solid | Metals ICP-TAL | Cool 4 deg C | PSEG05 | D31 | 09/09/2025 | 6010D |
| Q3068-01 | AMBRIC-TECH-9-9 | Solid | Metals Group4 | Cool 4 deg C | AMBR01 | D31 | 09/09/2025 | 6010D |

**Date/Time** 09/10/25 10:05
**Raw Sample Received by:** SKG mctdlo
**Raw Sample Relinquished by:** Cp cm)



**Date/Time** 09/10/25 11:05
**Raw Sample Received by:** Cp cm)
**Raw Sample Relinquished by:** SKG mctdlo

Q3068-METALS

# PERCENT SOLID

**Supervisor:** Iwona
**Analyst:** JIGNESH
**Date:** 9/11/2025

**OVENTEMP IN Celsius(°C):** 107
**Time IN:** 17:35
**In Date:** 09/10/2025
**Weight Check 1.0g:** 1.00
**Weight Check 10g:** 10.00
**OvenID:** M OVEN#1

**OVENTEMP OUT Celsius(°C):** 104
**Time OUT:** 08:37
**Out Date:** 09/11/2025
**Weight Check 1.0g:** 1.00
**Weight Check 10g:** 10.00
**BalanceID:** M SC-4
**Thermometer ID:** % SOLID-OVEN

**QC:** LB137131

| Lab ID | Client SampleID | Dish # | Dish Wt(g) (A) | Sample Wt(g) | Dish + Sample Wt(g) (B) | Dish+Dry Sample Wt(g) (C) | % Solid | Comments |
|---|---|---|---|---|---|---|---|---|
| Q3064-01 | 905-A | 1 | 1.00 | 1.00 | 2.00 | 2.00 | 100.0 | WIPE SAMPLE |
| Q3064-02 | 905-B-FRONT | 2 | 1.00 | 1.00 | 2.00 | 2.00 | 100.0 | WIPE SAMPLE |
| Q3064-03 | 905-B-BACK | 3 | 1.00 | 1.00 | 2.00 | 2.00 | 100.0 | WIPE SAMPLE |
| Q3065-01 | VNJ-204 | 4 | 1.18 | 10.85 | 12.03 | 10.24 | 83.5 | |
| Q3065-02 | VNJ-204-E2 | 5 | 1.16 | 10.61 | 11.77 | 10.15 | 84.7 | |
| Q3066-01 | 354 | 6 | 1.13 | 10.53 | 11.66 | 11.18 | 95.4 | |
| Q3066-02 | 354-EPH-2 | 7 | 1.14 | 10.16 | 11.3 | 10.8 | 95.1 | |
| Q3066-03 | VNJ-242 | 8 | 1.13 | 10.84 | 11.97 | 11.05 | 91.5 | |
| Q3066-04 | VNJ-242-EPH-2 | 9 | 1.16 | 10.56 | 11.72 | 10.71 | 90.4 | |
| Q3068-01 | AMBRIC-TECH-9-9 | 10 | 1.18 | 10.42 | 11.6 | 10.45 | 89.0 | |
| Q3072-01 | 30-GARFIELD-PL-COMP | 11 | 1.14 | 10.30 | 11.44 | 10.62 | 92.0 | |
| Q3072-01D | 30-GARFIELD-PL-COMPDUP | 12 | 1.16 | 10.30 | 11.46 | 10.65 | 92.1 | |
| Q3073-01 | BEL-25-0022 | 13 | 1.00 | 1.00 | 2.00 | 2.00 | 100.0 | oil sample |
| Q3073-02 | BEL-25-0023 | 14 | 1.00 | 1.00 | 2.00 | 2.00 | 100.0 | oily-debris |
| Q3074-01 | MOO-25-0141 | 15 | 1.00 | 1.00 | 2.00 | 2.00 | 100.0 | oily-debris |
| Q3075-01 | MOO-25-0254 | 16 | 1.12 | 10.76 | 11.88 | 9.93 | 81.9 | |
| Q3075-02 | MOO-25-0254-0256 | 17 | 1.19 | 10.70 | 11.89 | 9.77 | 80.2 | |
| Q3075-04 | MOO-25-0258 | 18 | 1.00 | 1.00 | 2.00 | 2.00 | 100.0 | debris |
| Q3075-06 | MOO-25-0259 | 19 | 1.00 | 1.00 | 2.00 | 2.00 | 100.0 | debris |
| Q3075-08 | MOO-25-0260 | 20 | 1.13 | 10.83 | 11.96 | 11.56 | 96.3 | |
| Q3075-09 | MOO-25-0260 | 21 | 1.13 | 10.83 | 11.96 | 11.56 | 96.3 | |
| Q3075-10 | MOO-25-02563 | 22 | 1.14 | 10.51 | 11.65 | 10.36 | 87.7 | |
| Q3075-11 | MOO-25-02561-0263 | 23 | 1.15 | 10.35 | 11.5 | 10.22 | 87.6 | |
| Q3076-01 | L18A | 24 | 1.00 | 1.00 | 2.00 | 2.00 | 100.0 | PILC |
| Q3076-02 | L18B | 25 | 1.00 | 1.00 | 2.00 | 2.00 | 100.0 | PILC |
| Q3076-03 | L19A | 26 | 1.00 | 1.00 | 2.00 | 2.00 | 100.0 | PILC |
| Q3076-04 | L20A | 27 | 1.00 | 1.00 | 2.00 | 2.00 | 100.0 | PILC |
| Q3076-05 | L20B | 28 | 1.00 | 1.00 | 2.00 | 2.00 | 100.0 | PILC |

Alliance TECHNICAL GROUP

# PERCENT SOLID

**Supervisor:** Iwona
**Analyst:** JIGNESH
**Date:** 9/11/2025

**OVENTEMP IN Celsius(°C):** 107
**Time IN:** 17:35
**In Date:** 09/10/2025
**Weight Check 1.0g:** 1.00
**Weight Check 10g:** 10.00
**OvenID:** M OVEN#1

**OVENTEMP OUT Celsius(°C):** 104
**Time OUT:** 08:37
**Out Date:** 09/11/2025
**Weight Check 1.0g:** 1.00
**Weight Check 10g:** 10.00
**BalanceID:** M SC-4
**Thermometer ID:** % SOLID-OVEN

**QC:** LB137131

| Lab ID | Client SampleID | Dish # | Dish Wt(g) (A) | Sample Wt(g) | Dish + Sample Wt(g) (B) | Dish+Dry Sample Wt(g) (C) | % Solid | Comments |
|---|---|---|---|---|---|---|---|---|
| Q3076-06 | L21A | 29 | 1.00 | 1.00 | 2.00 | 2.00 | 100.0 | PILC |
| Q3076-07 | L21B | 30 | 1.00 | 1.00 | 2.00 | 2.00 | 100.0 | PILC |
| Q3076-08 | L22A | 31 | 1.00 | 1.00 | 2.00 | 2.00 | 100.0 | PILC |
| Q3076-09 | L22B | 32 | 1.00 | 1.00 | 2.00 | 2.00 | 100.0 | PILC |
| Q3076-10 | 245F75-1-1 | 33 | 1.00 | 1.00 | 2.00 | 2.00 | 100.0 | PILC |
| Q3076-11 | 245F75-1-2 | 34 | 1.00 | 1.00 | 2.00 | 2.00 | 100.0 | PILC |
| Q3076-12 | JEB978E-1-1 | 35 | 1.00 | 1.00 | 2.00 | 2.00 | 100.0 | PILC |
| Q3076-13 | JEB978E-1-2 | 36 | 1.00 | 1.00 | 2.00 | 2.00 | 100.0 | PILC |
| Q3076-14 | JEB978E-2-1 | 37 | 1.00 | 1.00 | 2.00 | 2.00 | 100.0 | PILC |
| Q3076-15 | JEB978E-2-2 | 38 | 1.00 | 1.00 | 2.00 | 2.00 | 100.0 | PILC |
| Q3077-01 | LAW-25-0137 | 39 | 1.00 | 1.00 | 2.00 | 2.00 | 100.0 | debris |
| Q3077-02 | LAW-25-0137 | 40 | 1.16 | 10.46 | 11.62 | 10.2 | 86.4 | |
| Q3077-03 | LAW-25-0139 | 41 | 1.16 | 10.46 | 11.62 | 10.2 | 86.4 | |

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

# WORKLIST(Hardcopy Internal Chain)

UB 137131

**WorkList Name :** %1-091025 **WorkList ID :** 191784 **Department :** Wet-Chemistry **Date :** 09-10-2025 10:40:17

| Sample | Customer Sample | Matrix | Test | Preservative | Customer | Raw Sample Storage Location | Collect Date | Method |
|---|---|---|---|---|---|---|---|---|
| Q3064-01 | 905-A | Solid | Percent Solids | Cool 4 deg C | PSEG03 | D31 | 09/10/2025 | Chemtech -SO |
| Q3064-02 | 905-B-FRONT | Solid | Percent Solids | Cool 4 deg C | PSEG03 | D31 | 09/10/2025 | Chemtech -SO |
| Q3064-03 | 905-B-BACK | Solid | Percent Solids | Cool 4 deg C | PSEG03 | D31 | 09/10/2025 | Chemtech -SO |
| Q3065-01 | VNJ-204 | Solid | Percent Solids | Cool 4 deg C | PSEG03 | D31 | 09/10/2025 | Chemtech -SO |
| Q3065-02 | VNJ-204-E2 | Solid | Percent Solids | Cool 4 deg C | PSEG03 | D31 | 09/10/2025 | Chemtech -SO |
| Q3066-01 | 354 | Solid | Percent Solids | Cool 4 deg C | PSEG03 | D31 | 09/10/2025 | Chemtech -SO |
| Q3066-02 | 354-EPH-2 | Solid | Percent Solids | Cool 4 deg C | PSEG03 | D31 | 09/10/2025 | Chemtech -SO |
| Q3066-03 | VNJ-242 | Solid | Percent Solids | Cool 4 deg C | PSEG03 | D31 | 09/10/2025 | Chemtech -SO |
| Q3066-04 | VNJ-242-EPH-2 | Solid | Percent Solids | Cool 4 deg C | PSEG03 | D31 | 09/10/2025 | Chemtech -SO |
| Q3068-01 | AMBRIC-TECH-9-9 | Solid | Percent Solids | Cool 4 deg C | AMBR01 | D31 | 09/09/2025 | Chemtech -SO |
| Q3072-01 | 30-GARFIELD-PL-COMP | Solid | Percent Solids | Cool 4 deg C | PSEG03 | D21 | 09/10/2025 | Chemtech -SO |
| Q3073-01 | BEL-25-0022 | Solid | Percent Solids | Cool 4 deg C | PSEG03 | D31 | 09/10/2025 | Chemtech -SO |
| Q3073-02 | BEL-25-0023 | Solid | Percent Solids | Cool 4 deg C | PSEG03 | D31 | 09/10/2025 | Chemtech -SO |
| Q3074-01 | MOO-25-0141 | Solid | Percent Solids | Cool 4 deg C | PSEG03 | D31 | 09/10/2025 | Chemtech -SO |
| Q3075-01 | MOO-25-0254 | Solid | Percent Solids | Cool 4 deg C | PSEG03 | D31 | 09/10/2025 | Chemtech -SO |
| Q3075-02 | MOO-25-0254-0256 | Solid | Percent Solids | Cool 4 deg C | PSEG03 | D31 | 09/10/2025 | Chemtech -SO |
| Q3075-04 | MOO-25-0258 | Solid | Percent Solids | Cool 4 deg C | PSEG03 | D31 | 09/10/2025 | Chemtech -SO |
| Q3075-06 | MOO-25-0259 | Solid | Percent Solids | Cool 4 deg C | PSEG03 | D31 | 09/10/2025 | Chemtech -SO |
| Q3075-08 | MOO-25-0260 | Solid | Percent Solids | Cool 4 deg C | PSEG03 | D31 | 09/10/2025 | Chemtech -SO |
| Q3075-09 | MOO-25-0260 | Solid | Percent Solids | Cool 4 deg C | PSEG03 | D31 | 09/10/2025 | Chemtech -SO |
| Q3075-10 | MOO-25-02563 | Solid | Percent Solids | Cool 4 deg C | PSEG03 | D31 | 09/10/2025 | Chemtech -SO |

**Date/Time** 09-10-25 16:10

**Raw Sample Received by:** [signature]

**Raw Sample Relinquished by:** [signature]

**Date/Time** 09-10-25 17:40

**Raw Sample Received by:** [signature]

**Raw Sample Relinquished by:** [signature]

# WORKLIST(Hardcopy Internal Chain)

VB 137131

**WorkList Name :** %1-091025 **WorkList ID :** 191784 **Department :** Wet-Chemistry **Date :** 09-10-2025 10:40:17

| Sample | Customer Sample | Matrix | Test | Preservative | Customer | Raw Sample Storage Location | Collect Date | Method |
|---|---|---|---|---|---|---|---|---|
| Q3075-11 | MOO-25-02561-0263 | Solid | Percent Solids | Cool 4 deg C | PSEG03 | D31 | 09/10/2025 | Chemtech -SO |
| Q3076-01 | L18A | Solid | Percent Solids | Cool 4 deg C | PSEG03 | D31 | 09/10/2025 | Chemtech -SO |
| Q3076-02 | L18B | Solid | Percent Solids | Cool 4 deg C | PSEG03 | D31 | 09/10/2025 | Chemtech -SO |
| Q3076-03 | L19A | Solid | Percent Solids | Cool 4 deg C | PSEG03 | D31 | 09/10/2025 | Chemtech -SO |
| Q3076-04 | L20A | Solid | Percent Solids | Cool 4 deg C | PSEG03 | D31 | 09/10/2025 | Chemtech -SO |
| Q3076-05 | L20B | Solid | Percent Solids | Cool 4 deg C | PSEG03 | D31 | 09/10/2025 | Chemtech -SO |
| Q3076-06 | L21A | Solid | Percent Solids | Cool 4 deg C | PSEG03 | D31 | 09/10/2025 | Chemtech -SO |
| Q3076-07 | L21B | Solid | Percent Solids | Cool 4 deg C | PSEG03 | D31 | 09/10/2025 | Chemtech -SO |
| Q3076-08 | L22A | Solid | Percent Solids | Cool 4 deg C | PSEG03 | D31 | 09/10/2025 | Chemtech -SO |
| Q3076-09 | L22B | Solid | Percent Solids | Cool 4 deg C | PSEG03 | D31 | 09/10/2025 | Chemtech -SO |
| Q3076-10 | 245F75-1-1 | Solid | Percent Solids | Cool 4 deg C | PSEG03 | D31 | 09/10/2025 | Chemtech -SO |
| Q3076-11 | 245F75-1-2 | Solid | Percent Solids | Cool 4 deg C | PSEG03 | D31 | 09/10/2025 | Chemtech -SO |
| Q3076-12 | JEB978E-1-1 | Solid | Percent Solids | Cool 4 deg C | PSEG03 | D31 | 09/10/2025 | Chemtech -SO |
| Q3076-13 | JEB978E-1-2 | Solid | Percent Solids | Cool 4 deg C | PSEG03 | D31 | 09/10/2025 | Chemtech -SO |
| Q3076-14 | JEB978E-2-1 | Solid | Percent Solids | Cool 4 deg C | PSEG03 | D31 | 09/10/2025 | Chemtech -SO |
| Q3076-15 | JEB978E-2-2 | Solid | Percent Solids | Cool 4 deg C | PSEG03 | D31 | 09/10/2025 | Chemtech -SO |
| Q3077-01 | LAW-25-0137 | Solid | Percent Solids | Cool 4 deg C | PSEG03 | D31 | 09/10/2025 | Chemtech -SO |
| Q3077-02 | LAW-25-0137 | Solid | Percent Solids | Cool 4 deg C | PSEG03 | D31 | 09/10/2025 | Chemtech -SO |
| Q3077-03 | LAW-25-0139 | Solid | Percent Solids | Cool 4 deg C | PSEG03 | D31 | 09/10/2025 | Chemtech -SO |

**Date/Time** 09-10-25 15:10

**Raw Sample Received by:** JB (WC)

**Raw Sample Relinquished by:** SR

**Date/Time** 09.10.25 17:40

**Raw Sample Received by:** SR

**Raw Sample Relinquished by:** JB (WC)

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Fax : 908 789 8922

**Instrument ID:** P4

## Daily Analysis Runlog For Sequence/QCBatch ID # LB137144

| | | | |
|---|---|---|---|
| Review By | Janvi | Review On | 9/11/2025 12:28:20 PM |
| Supervise By | jaswal | Supervise On | 9/12/2025 10:24:55 PM |

| STD. NAME | STD REF.# |
|---|---|
| ICAL Standard | MP87031,MP87038,MP87035,MP87034,MP87033,MP87032 |
| ICV Standard | MP87047,MP87038 |
| CCV Standard | MP87042 |
| ICSA Standard | MP87040,MP87048 |
| CRI Standard | MP87038 |
| LCS Standard | |
| Chk Standard | MP87043,MP87044,MP87045,MP87046,MP87049 |

| Sr# | SampleId | ClientID | QcType | Date | Comment | Operator | Status |
|---|---|---|---|---|---|---|---|
| 1 | S0 | S0 | CAL1 | 09/10/25 11:06 | | Jaswal | OK |
| 2 | S1 | S1 | CAL2 | 09/10/25 11:10 | | Jaswal | OK |
| 3 | S2 | S2 | CAL3 | 09/10/25 11:14 | | Jaswal | OK |
| 4 | S3 | S3 | CAL4 | 09/10/25 11:19 | | Jaswal | OK |
| 5 | S4 | S4 | CAL5 | 09/10/25 11:23 | | Jaswal | OK |
| 6 | S5 | S5 | CAL6 | 09/10/25 11:27 | | Jaswal | OK |
| 7 | ICV01 | ICV01 | ICV | 09/10/25 11:31 | | Jaswal | OK |
| 8 | LLICV01 | LLICV01 | LLICV | 09/10/25 11:39 | | Jaswal | OK |
| 9 | ICB01 | ICB01 | ICB | 09/10/25 11:43 | | Jaswal | OK |
| 10 | CRI01 | CRI01 | CRDL | 09/10/25 11:48 | | Jaswal | OK |
| 11 | ICSA01 | ICSA01 | ICSA | 09/10/25 11:52 | | Jaswal | OK |
| 12 | ICSAB01 | ICSAB01 | ICSAB | 09/10/25 11:56 | | Jaswal | OK |
| 13 | ICSADL | ICSADL | ICSA | 09/10/25 12:00 | | Jaswal | OK |
| 14 | ICSABDL | ICSABDL | ICSAB | 09/10/25 12:04 | | Jaswal | OK |
| 15 | CCV01 | CCV01 | CCV | 09/10/25 12:09 | | Jaswal | OK |
| 16 | CCB01 | CCB01 | CCB | 09/10/25 12:13 | | Jaswal | OK |
| 17 | LR-1 | LR-1 | HIGH STD | 09/10/25 12:17 | | Jaswal | OK |
| 18 | LR-2 | LR-2 | HIGH STD | 09/10/25 12:22 | | Jaswal | OK |

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**Instrument ID:** P4

## Daily Analysis Runlog For Sequence/QCBatch ID # LB137144

| | | | |
|---|---|---|---|
| Review By | Janvi | Review On | 9/11/2025 12:28:20 PM |
| Supervise By | jaswal | Supervise On | 9/12/2025 10:24:55 PM |

| STD. NAME | STD REF.# |
|---|---|
| ICAL Standard | MP87031,MP87038,MP87035,MP87034,MP87033,MP87032 |
| ICV Standard | MP87047,MP87038 |
| CCV Standard | MP87042 |
| ICSA Standard | MP87040,MP87048 |
| CRI Standard | MP87038 |
| LCS Standard | |
| Chk Standard | MP87043,MP87044,MP87045,MP87046,MP87049 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 19 | PB169620BS | PB169620BS | LCS | 09/10/25 12:35 | | Jaswal | OK |
| 20 | PB169596BL | PB169596BL | MB | 09/10/25 12:39 | | Jaswal | OK |
| 21 | PB169596BS | PB169596BS | LCS | 09/10/25 12:43 | | Jaswal | OK |
| 22 | PB169620BL | PB169620BL | MB | 09/10/25 12:52 | | Jaswal | OK |
| 23 | Q3046-01 | IRV-CONCRETE | SAM | 09/10/25 12:57 | | Jaswal | OK |
| 24 | LR-3 | LR-3 | HIGH STD | 09/10/25 13:01 | | Jaswal | OK |
| 25 | Q3048-01 | VNJ-258 | SAM | 09/10/25 13:06 | | Jaswal | OK |
| 26 | Q3048-01DUP | VNJ-258DUP | DUP | 09/10/25 13:10 | | Jaswal | OK |
| 27 | CCV02 | CCV02 | CCV | 09/10/25 13:14 | | Jaswal | OK |
| 28 | CCB02 | CCB02 | CCB | 09/10/25 13:18 | | Jaswal | OK |
| 29 | Q3048-01L | VNJ-258L | SD | 09/10/25 13:22 | | Jaswal | OK |
| 30 | Q3048-01MS | VNJ-258MS | MS | 09/10/25 13:26 | | Jaswal | OK |
| 31 | Q3048-01MSD | VNJ-258MSD | MSD | 09/10/25 13:30 | | Jaswal | OK |
| 32 | Q3048-01A | VNJ-258A | PS | 09/10/25 13:34 | 0.1 ML OF EACH OF M6008 AND M6017 IN 10ML OF SAMPLE. | Jaswal | OK |
| 33 | Q3033-01 | BUR-25-0077 | SAM | 09/10/25 13:38 | | Jaswal | OK |
| 34 | Q3036-03DL | EGR-2DL | SAM | 09/10/25 13:42 | Straight 5x Dilution for all elements | Jaswal | OK |
| 35 | Q3045-02 | DNAPL | SAM | 09/10/25 13:47 | Na high | Jaswal | Dilution |
| 36 | Q3045-02DUP | DNAPLDUP | DUP | 09/10/25 13:51 | Na high | Jaswal | Dilution |
| 37 | Q3045-02L | DNAPLL | SD | 09/10/25 13:55 | | Jaswal | OK |

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**Instrument ID:** P4

## Daily Analysis Runlog For Sequence/QCBatch ID # LB137144

| | | | |
|---|---|---|---|
| Review By | Janvi | Review On | 9/11/2025 12:28:20 PM |
| Supervise By | jaswal | Supervise On | 9/12/2025 10:24:55 PM |

| STD. NAME | STD REF.# |
|---|---|
| ICAL Standard | MP87031,MP87038,MP87035,MP87034,MP87033,MP87032 |
| ICV Standard | MP87047,MP87038 |
| CCV Standard | MP87042 |
| ICSA Standard | MP87040,MP87048 |
| CRI Standard | MP87038 |
| LCS Standard | |
| Chk Standard | MP87043,MP87044,MP87045,MP87046,MP87049 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 38 | Q3045-02MS | DNAPLMS | MS | 09/10/25 14:00 | Na high | Jaswal | Dilution |
| 39 | CCV03 | CCV03 | CCV | 09/10/25 14:04 | | Jaswal | OK |
| 40 | CCB03 | CCB03 | CCB | 09/10/25 14:25 | | Jaswal | OK |
| 41 | Q3045-02MSD | DNAPLMSD | MSD | 09/10/25 14:29 | Na high | Jaswal | Dilution |
| 42 | Q3045-02A | DNAPLA | PS | 09/10/25 14:33 | 0.1 ML OF EACH OF M6008 AND M6017 IN 10ML OF SAMPLE. | Jaswal | OK |
| 43 | Q3045-02DL | DNAPLDL | SAM | 09/10/25 14:41 | 5x for Na | Jaswal | Confirms |
| 44 | Q3045-02DUPDL | DNAPLDUPDL | DUP | 09/10/25 14:46 | 5x for Na | Jaswal | Confirms |
| 45 | Q3045-02LDL | DNAPLLDL | SD | 09/10/25 14:50 | NOT REQUIRED | Jaswal | Not Ok |
| 46 | Q3045-02MSDL | DNAPLMSDL | MS | 09/10/25 14:54 | 5x for Na | Jaswal | Confirms |
| 47 | Q3045-02MSDDL | DNAPLMSDDL | MSD | 09/10/25 14:59 | 5x for Na | Jaswal | Confirms |
| 48 | Q3045-02ADL | DNAPLADL | PS | 09/10/25 15:03 | NOT REQUIRED | Jaswal | Not Ok |
| 49 | PB169634BS | PB169634BS | LCS | 09/10/25 15:17 | | Jaswal | OK |
| 50 | PB169634BL | PB169634BL | MB | 09/10/25 15:23 | | Jaswal | OK |
| 51 | CCV04 | CCV04 | CCV | 09/10/25 15:27 | | Jaswal | OK |
| 52 | CCB04 | CCB04 | CCB | 09/10/25 15:31 | | Jaswal | OK |
| 53 | Q3055-01 | OR-03-090925 | SAM | 09/10/25 15:35 | | Jaswal | OK |
| 54 | Q3056-01 | OK-02-090925 | SAM | 09/10/25 15:39 | | Jaswal | OK |
| 55 | Q3059-01 | TR-06-09092025 | SAM | 09/10/25 15:43 | | Jaswal | OK |
| 56 | Q3054-05 | MH-384 | SAM | 09/10/25 15:47 | | Jaswal | OK |

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**Instrument ID:** P4

## Daily Analysis Runlog For Sequence/QCBatch ID # LB137144

| | | | |
|---|---|---|---|
| Review By | Janvi | Review On | 9/11/2025 12:28:20 PM |
| Supervise By | jaswal | Supervise On | 9/12/2025 10:24:55 PM |

| STD. NAME | STD REF.# |
|---|---|
| ICAL Standard | MP87031,MP87038,MP87035,MP87034,MP87033,MP87032 |
| ICV Standard | MP87047,MP87038 |
| CCV Standard | MP87042 |
| ICSA Standard | MP87040,MP87048 |
| CRI Standard | MP87038 |
| LCS Standard | |
| Chk Standard | MP87043,MP87044,MP87045,MP87046,MP87049 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 57 | Q3054-05DUP | MH-384DUP | DUP | 09/10/25 15:51 | | Jaswal | OK |
| 58 | Q3054-05L | MH-384L | SD | 09/10/25 15:56 | | Jaswal | OK |
| 59 | Q3054-05MS | MH-384MS | MS | 09/10/25 16:00 | | Jaswal | OK |
| 60 | Q3054-05MSD | MH-384MSD | MSD | 09/10/25 16:04 | | Jaswal | OK |
| 61 | Q3054-05A | MH-384A | PS | 09/10/25 16:08 | 0.1 ML OF EACH OF M6008 AND M6017 IN 10ML OF SAMPLE. | Jaswal | OK |
| 62 | Q3068-01 | AMBRIC-TECH-9-9 | SAM | 09/10/25 16:12 | | Jaswal | OK |
| 63 | CCV05 | CCV05 | CCV | 09/10/25 16:16 | | Jaswal | OK |
| 64 | CCB05 | CCB05 | CCB | 09/10/25 16:20 | | Jaswal | OK |
| 65 | Q3054-01 | MH-385 | SAM | 09/10/25 16:24 | | Jaswal | OK |
| 66 | CCV06 | CCV06 | CCV | 09/10/25 16:43 | | Jaswal | OK |
| 67 | CCB06 | CCB06 | CCB | 09/10/25 16:48 | | Jaswal | OK |

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# Prep Standard - Chemical Standard Summary

**Order ID :** Q3068

**Test :** Metals Group4

**Prepbatch ID :** PB169634,

**Sequence ID/Qc Batch ID:** LB137144,LB137144,

**Standard ID :**
MP86978,MP87031,MP87032,MP87033,MP87034,MP87035,MP87036,MP87038,MP87040,MP87042,MP87043,MP87044,MP87045,MP87046,MP87047,MP87048,MP87049,

**Chemical ID :**
M5467,M5581,M5658,M5748,M5751,M5798,M5799,M5800,M5801,M5814,M5820,M5962,M5969,M5971,M5979,M5985,M5998,M6021,M6023,M6026,M6027,M6028,M6030,M6032,M6058,M6076,M6077,M6128,M6137,M6138,M6140,M6142,M6144,M6145,M6151,M6158,M6159,M6160,M6162,M6163,M6164,M6165,M6170,M6171,M6174,M6176,M6177,M6178,M6179,M6180,M6181,M6182,M6184,M6187,W3112,

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# Metals STANDARD PREPARATION LOG

| Recipe ID | NAME | NO. | Prep Date | Expiration Date | Prepared By | ScaleID | PipetteID | Supervised By |
|---|---|---|---|---|---|---|---|---|
| 169 | 1:1HNO3 | MP86978 | 08/28/2025 | 11/27/2025 | Sagar Kanani | None | None | Sarabjit Jaswal 08/28/2025 |

**FROM** 1250.00000ml of M6162 + 1250.00000ml of W3112 = Final Quantity: 2500.000 ml

| Recipe ID | NAME | NO. | Prep Date | Expiration Date | Prepared By | ScaleID | PipetteID | Supervised By |
|---|---|---|---|---|---|---|---|---|
| 902 | ICP AES CAL BLK ( SO/ICB/CCB) | MP87031 | 09/02/2025 | 10/03/2025 | Sarabjit Jaswal | None | None | Janvi Patel 09/04/2025 |

**FROM** 125.00000ml of M6151 + 2350.00000ml of W3112 + 25.00000ml of M6187 = Final Quantity: 2500.000 ml

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# Metals STANDARD PREPARATION LOG

| Recipe ID | NAME | NO. | Prep Date | Expiration Date | Prepared By | ScaleID | PipetteID | Supervised By |
|---|---|---|---|---|---|---|---|---|
| 907 | ICP AES STD S ( S5 ) | MP87032 | 09/02/2025 | 10/03/2025 | Sarabjit Jaswal | None | None | Janvi Patel 09/04/2025 |

**FROM** 5.00000ml of M5467 + 5.00000ml of M5820 + 5.00000ml of M5969 + 5.00000ml of M5971 + 5.00000ml of M5998 + 5.00000ml of M6077 + 5.00000ml of M6160 + 5.00000ml of M6174 + 5.00000ml of M6176 + 455.00000ml of MP87031 = Final Quantity: 500.000 ml

| Recipe ID | NAME | NO. | Prep Date | Expiration Date | Prepared By | ScaleID | PipetteID | Supervised By |
|---|---|---|---|---|---|---|---|---|
| 910 | ICP AES STD S4 | MP87033 | 09/02/2025 | 10/03/2025 | Sarabjit Jaswal | None | None | Janvi Patel 09/04/2025 |

**FROM** 50.00000ml of MP87031 + 50.00000ml of MP87032 = Final Quantity: 100.000 ml

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# Metals STANDARD PREPARATION LOG

| Recipe ID | NAME | NO. | Prep Date | Expiration Date | Prepared By | ScaleID | PipetteID | Supervised By |
|---|---|---|---|---|---|---|---|---|
| 909 | ICP AES STD S3 | MP87034 | 09/02/2025 | 10/03/2025 | Sarabjit Jaswal | None | METALS_PIPETTE_3 (A) | Janvi Patel 09/04/2025 |

**FROM** 25.00000ml of MP87032 + 75.00000ml of MP87031 = Final Quantity: 100.000 ml

| Recipe ID | NAME | NO. | Prep Date | Expiration Date | Prepared By | ScaleID | PipetteID | Supervised By |
|---|---|---|---|---|---|---|---|---|
| 3913 | ICP AES STD S2 | MP87035 | 09/02/2025 | 10/03/2025 | Sarabjit Jaswal | None | METALS_PIPETTE_3 (A) | Janvi Patel 09/04/2025 |

**FROM** 16.00000ml of MP87032 + 184.00000ml of MP87031 = Final Quantity: 200.000 ml

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# Metals STANDARD PREPARATION LOG

| Recipe ID | NAME | NO. | Prep Date | Expiration Date | Prepared By | ScaleID | PipetteID | Supervised By |
|---|---|---|---|---|---|---|---|---|
| 2950 | ICP AES S1/CRI STOCK STD | MP87036 | 09/02/2025 | 10/03/2025 | Sarabjit Jaswal | None | None | Janvi Patel 09/04/2025 |

**FROM** 0.03000ml of M5798 + 0.03000ml of M6028 + 0.04000ml of M6137 + 0.05000ml of M5658 + 0.05000ml of M6030 + 0.05000ml of M6140 + 0.05000ml of M6159 + 0.06000ml of M6177 + 0.10000ml of M5751 + 0.10000ml of M5801 + 0.10000ml of M5820 + 0.10000ml of M5962 + 0.10000ml of M5971 + 0.10000ml of M6128 + 0.10000ml of M6176 + 0.15000ml of M5800 + 0.20000ml of M5799 + 0.20000ml of M6021 + 0.20000ml of M6023 + 0.20000ml of M6027 + 0.20000ml of M6145 + 0.25000ml of M5467 + 0.25000ml of M6160 + 0.50000ml of M5814 + 0.50000ml of M6032 + 1.00000ml of M5979 + 1.00000ml of M6138 + 1.00000ml of M6142 + 1.00000ml of M6144 + 1.00000ml of M6171 + 1.00000ml of M6178 + 2.00000ml of M5969 + 88.29000ml of MP87031 = Final Quantity: 100.000 ml

| Recipe ID | NAME | NO. | Prep Date | Expiration Date | Prepared By | ScaleID | PipetteID | Supervised By |
|---|---|---|---|---|---|---|---|---|
| 2951 | ICP AES S1/CRI WORK STD | MP87038 | 09/02/2025 | 10/03/2025 | Sarabjit Jaswal | None | METALS_PIPETTE_3 (A) | Janvi Patel 09/04/2025 |

**FROM** 2.00000ml of MP87036 + 98.00000ml of MP87031 = Final Quantity: 100.000 ml

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# Metals STANDARD PREPARATION LOG

| Recipe ID | NAME | NO. | Prep Date | Expiration Date | Prepared By | ScaleID | PipetteID | Supervised By |
|---|---|---|---|---|---|---|---|---|
| 904 | ICP AES ICSA SOLN | MP87040 | 09/02/2025 | 10/03/2025 | Sarabjit Jaswal | None | METALS_PIPETTE_3 (A) | Janvi Patel 09/04/2025 |

**FROM** 25.00000ml of M6182 + 225.00000ml of MP87031 = Final Quantity: 250.000 ml

| Recipe ID | NAME | NO. | Prep Date | Expiration Date | Prepared By | ScaleID | PipetteID | Supervised By |
|---|---|---|---|---|---|---|---|---|
| 911 | ICP AES CCV SOLN | MP87042 | 09/02/2025 | 10/03/2025 | Sarabjit Jaswal | None | None | Janvi Patel 09/04/2025 |

**FROM** 50.00000ml of MP87031 + 50.00000ml of MP87032 = Final Quantity: 100.000 ml

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# Metals STANDARD PREPARATION LOG

| Recipe ID | NAME | NO. | Prep Date | Expiration Date | Prepared By | ScaleID | PipetteID | Supervised By |
|---|---|---|---|---|---|---|---|---|
| 919 | ICP AES INTERNAL STD | MP87043 | 09/02/2025 | 10/03/2025 | Sarabjit Jaswal | None | None | Janvi Patel 09/04/2025 |

**FROM** 1.00000ml of M6179 + 10.00000ml of M5985 + 1969.00000ml of W3112 + 20.00000ml of M6187 = Final Quantity: 2000.000 ml

| Recipe ID | NAME | NO. | Prep Date | Expiration Date | Prepared By | ScaleID | PipetteID | Supervised By |
|---|---|---|---|---|---|---|---|---|
| 903 | ICP AES RINSE SOLN | MP87044 | 09/02/2025 | 10/03/2025 | Sarabjit Jaswal | None | None | Janvi Patel 09/04/2025 |

**FROM** 200.00000ml of M6187 + 9800.00000ml of W3112 = Final Quantity: 10000.000 ml

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# Metals STANDARD PREPARATION LOG

| Recipe ID | NAME | NO. | Prep Date | Expiration Date | Prepared By | ScaleID | PipetteID | Supervised By |
|---|---|---|---|---|---|---|---|---|
| 4225 | LR-1 | MP87045 | 09/02/2025 | 10/03/2025 | Sarabjit Jaswal | None | METALS_PIPETTE_3 (A) | Janvi Patel 09/04/2025 |

**FROM** 11.50000ml of M6138 + 11.50000ml of M6144 + 11.50000ml of M6171 + 15.50000ml of MP87031 = Final Quantity: 50.000 ml

| Recipe ID | NAME | NO. | Prep Date | Expiration Date | Prepared By | ScaleID | PipetteID | Supervised By |
|---|---|---|---|---|---|---|---|---|
| 4226 | LR-2 | MP87046 | 09/02/2025 | 10/03/2025 | Sarabjit Jaswal | None | METALS_PIPETTE_3 (A) | Janvi Patel 09/04/2025 |

**FROM** 13.50000ml of M6140 + 9.00000ml of M6142 + 9.50000ml of M6159 + 18.00000ml of MP87031 = Final Quantity: 50.000 ml

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# Metals STANDARD PREPARATION LOG

| Recipe ID | NAME | NO. | Prep Date | Expiration Date | Prepared By | ScaleID | PipetteID | Supervised By |
|---|---|---|---|---|---|---|---|---|
| 4163 | NEW ICV-060925 | MP87047 | 09/02/2025 | 10/03/2025 | Janvi Patel | None | METALS_PIPETTE_1 (ICP A) | Sarabjit Jaswal 09/04/2025 |

**FROM** 0.20000ml of M6058 + 0.40000ml of M6163 + 0.40000ml of M6164 + 0.40000ml of M6165 + 48.60000ml of MP87031 = Final Quantity: 50.000 ml

| Recipe ID | NAME | NO. | Prep Date | Expiration Date | Prepared By | ScaleID | PipetteID | Supervised By |
|---|---|---|---|---|---|---|---|---|
| 3494 | ICP AES ICSAB SOLN-1 | MP87048 | 09/02/2025 | 10/03/2025 | Janvi Patel | None | METALS_PIPETTE_1 (ICP A) | Sarabjit Jaswal 09/04/2025 |

**FROM** 0.05000ml of M6076 + 5.00000ml of M6182 + 5.00000ml of M6184 + 39.95000ml of MP87031 = Final Quantity: 100.000 ml

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# Metals STANDARD PREPARATION LOG

| Recipe ID | NAME | NO. | Prep Date | Expiration Date | Prepared By | ScaleID | PipetteID | Supervised By |
|---|---|---|---|---|---|---|---|---|
| 4227 | LR-3 | MP87049 | 09/02/2025 | 10/03/2025 | Sarabjit Jaswal | None | None | Janvi Patel<br>09/04/2025 |

**FROM** 1.15000ml of M6026 + 1.25000ml of M5658 + 1.25000ml of M5748 + 1.50000ml of M6145 + 2.50000ml of M5751 + 2.50000ml of M6128 + 39.85000ml of MP87031 = Final Quantity: 50.000 ml

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# CHEMICAL RECEIPT LOG BOOK

| Supplier | ItemCode / ItemName | Lot # | Expiration Date | Date Opened / Opened By | Received Date / Received By | Chemtech Lot # |
|---|---|---|---|---|---|---|
| Absolute Standards, Inc. | 57058 / Cerium, 1000PPM, 100ML | 020623 | 02/06/2026 | 03/06/2023 / bin | 03/01/2023 / bin | M5467 |

| Supplier | ItemCode / ItemName | Lot # | Expiration Date | Date Opened / Opened By | Received Date / Received By | Chemtech Lot # |
|---|---|---|---|---|---|---|
| PCI Scientific Supply, Inc. | 26397-103 / PTFE BOILING STONES | W126678 | 03/20/2026 | 03/20/2025 / Jaswal | 06/12/2023 / jaswal | M5581 |

| 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. | / Nickel (Ni) 1000PPM | 091223 | 09/12/2026 | 01/02/2024 / bin | 12/20/2023 / jaswal | M5748 |

| Supplier | ItemCode / ItemName | Lot # | Expiration Date | Date Opened / Opened By | Received Date / Received By | Chemtech Lot # |
|---|---|---|---|---|---|---|
| Absolute Standards, Inc. | 58029 / Cu, 1000 PPM, 500 ml | 071723 | 07/17/2026 | 10/01/2024 / Jaswal | 08/25/2023 / jaswal | M5751 |

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

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# CHEMICAL RECEIPT LOG BOOK

| Supplier | ItemCode / ItemName | Lot # | Expiration Date | Date Opened / Opened By | Received Date / Received By | Chemtech Lot # |
|---|---|---|---|---|---|---|
| Absolute Standards, Inc. | 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. | 57005 / B, 1000 PPM, 125 ml | 071123 | 07/11/2026 | 03/26/2024 / Sohil | 01/03/2024 / jaswal | M5814 |

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

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

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# CHEMICAL RECEIPT LOG BOOK

| Supplier | ItemCode / ItemName | Lot # | Expiration Date | Date Opened / Opened By | Received Date / Received By | Chemtech Lot # |
|---|---|---|---|---|---|---|
| Absolute Standards, Inc. | 57016 / S, 1000 PPM, 125 ml | 122923 | 03/31/2026 | 03/31/2025 / kareem | 06/11/2024 / Jaswal | M5969 |

| Supplier | ItemCode / ItemName | Lot # | Expiration Date | Date Opened / Opened By | Received Date / Received By | Chemtech Lot # |
|---|---|---|---|---|---|---|
| Absolute Standards, Inc. | 57003 / Li, 1000 PPM, 125 ml | 061224 | 06/21/2027 | 06/06/2025 / Janvi | 07/01/2024 / Jaswal | M5971 |

| 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 | 08/05/2026 | 08/06/2025 / Janvi | 02/22/2024 / Jaswal | M5979 |

| Supplier | ItemCode / ItemName | Lot # | Expiration Date | Date Opened / Opened By | Received Date / Received By | Chemtech Lot # |
|---|---|---|---|---|---|---|
| Inorganic Ventures | CGIN10-5 / INDIUM 1 x 500 ml | U2-IN729349 | 02/21/2028 | 10/08/2024 / Jaswal | 06/14/2024 / Jaswal | M5985 |

| Supplier | ItemCode / ItemName | Lot # | Expiration Date | Date Opened / Opened By | Received Date / Received By | Chemtech Lot # |
|---|---|---|---|---|---|---|
| Inorganic Ventures | CLPP-CAL-3 / CLP CAL SOLUTION #3, 125mL | T2-MEB727800 | 07/30/2026 | 07/30/2025 / Janvi | 02/22/2024 / kareem | M5998 |

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

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# CHEMICAL RECEIPT LOG BOOK

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

| Supplier | ItemCode / ItemName | Lot # | Expiration Date | Date Opened / Opened By | Received Date / Received By | Chemtech Lot # |
|---|---|---|---|---|---|---|
| Absolute Standards, Inc. | 57182 / Pb, 10000 PPM, 125 ml | 110923 | 11/09/2026 | 12/05/2024 / janvi | 08/05/2024 / Jaswal | M6026 |

| 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 | 062024 | 06/20/2027 | 06/04/2025 / Janvi | 08/05/2024 / Jaswal | M6027 |

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

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

| Supplier | ItemCode / ItemName | Lot # | Expiration Date | Date Opened / Opened By | Received Date / Received By | Chemtech Lot # |
|---|---|---|---|---|---|---|
| Absolute Standards, Inc. | 57056 / Ba, 1000 PPM, 125 ml | 010924 | 01/09/2027 | 01/14/2025 / Jaswal | 08/05/2024 / Jaswal | M6032 |

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# CHEMICAL RECEIPT LOG BOOK

| Supplier | ItemCode / ItemName | Lot # | Expiration Date | Date Opened / Opened By | Received Date / Received By | Chemtech Lot # |
|---|---|---|---|---|---|---|
| Inorganic Ventures | CHEM-QC-4 / CHEM-QC-4, Second Source, 1000 ug/ml, B, Mo, Si, Sn, Ti | V2-MEB746173 | 01/29/2026 | 01/29/2025 / JANVI | 08/22/2024 / Jaswal | M6058 |

| Supplier | ItemCode / ItemName | Lot # | Expiration Date | Date Opened / Opened By | Received Date / Received By | Chemtech Lot # |
|---|---|---|---|---|---|---|
| Inorganic Ventures | Z9651Q / CHEM-CLP-4/.25L | V2-MEB746762 | 01/01/2026 | 01/01/2025 / kareem | 09/19/2024 / kareem | M6076 |

| Supplier | ItemCode / ItemName | Lot # | Expiration Date | Date Opened / Opened By | Received Date / Received By | Chemtech Lot # |
|---|---|---|---|---|---|---|
| Inorganic Ventures | Z9651Q / CHEM-CLP-4/.25L | V2-MEB746762 | 09/06/2029 | 01/23/2025 / kareem | 09/19/2024 / kareem | M6077 |

| Supplier | ItemCode / ItemName | Lot # | Expiration Date | Date Opened / Opened By | Received Date / Received By | Chemtech Lot # |
|---|---|---|---|---|---|---|
| Absolute Standards, Inc. | 58025 / Mn, 1000 PPM, 500 ml | 101124 | 10/11/2027 | 01/13/2025 / kareem | 01/13/2025 / kareem | M6128 |

| Supplier | ItemCode / ItemName | Lot # | Expiration Date | Date Opened / Opened By | Received Date / Received By | Chemtech Lot # |
|---|---|---|---|---|---|---|
| Inorganic Ventures | CGSI1-1 / SILICON 125mL 1000ug/mL | V2-SI744713 | 07/10/2029 | 01/14/2025 / Jaswal | 10/03/2024 / Jaswal | M6137 |

| Supplier | ItemCode / ItemName | Lot # | Expiration Date | Date Opened / Opened By | Received Date / Received By | Chemtech Lot # |
|---|---|---|---|---|---|---|
| Absolute Standards, Inc. | 58120 / Ca, 10000 PPM, 500 ml | 121824 | 12/18/2027 | 04/17/2025 / Janvi | 01/13/2025 / Jaswal | M6138 |

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# CHEMICAL RECEIPT LOG BOOK

| Supplier | ItemCode / ItemName | Lot # | Expiration Date | Date Opened / Opened By | Received Date / Received By | Chemtech Lot # |
|---|---|---|---|---|---|---|
| Absolute Standards, Inc. | 58126 / Fe, 10000 PPM, 500 ml | 011025 | 01/10/2028 | 06/25/2025 / Janvi | 01/13/2025 / Jaswal | M6140 |

| 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 | 103024 | 10/30/2027 | 05/06/2025 / JANVI | 01/13/2025 / Jaswal | M6142 |

| 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 | 072424 | 07/24/2027 | 01/23/2025 / kareem | 01/13/2025 / Jaswal | M6144 |

| 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 | 121724 | 12/17/2027 | 02/04/2025 / Jaswal | 01/13/2025 / Jaswal | M6145 |

| Supplier | ItemCode / ItemName | Lot # | Expiration Date | Date Opened / Opened By | Received Date / Received By | Chemtech Lot # |
|---|---|---|---|---|---|---|
| Seidler Chemical | BA-9530-33 / Hydrochloric Acid, Instra-Analyzed (cs/6x2.5L) | 22G2862015 | 02/17/2026 | 02/18/2025 / Sagar | 01/15/2025 / Sagar | M6151 |

| Supplier | ItemCode / ItemName | Lot # | Expiration Date | Date Opened / Opened By | Received Date / Received By | Chemtech Lot # |
|---|---|---|---|---|---|---|
| Seidler Chemical | BA-9598-34 / Nitric Acid, Instra-Analyzed (cs/4x2.5L) | 24D1062002 | 10/09/2025 | 03/10/2025 / Eman | 02/02/2025 / Sagar | M6158 |

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# CHEMICAL RECEIPT LOG BOOK

| Supplier | ItemCode / ItemName | Lot # | Expiration Date | Date Opened / Opened By | Received Date / Received By | Chemtech Lot # |
|---|---|---|---|---|---|---|
| Absolute Standards, Inc. | 58113 / Al, 10000 PPM, 500 ml | 011325 | 03/18/2026 | 03/18/2025 / kareem | 02/09/2025 / kareem | M6159 |

| Supplier | ItemCode / ItemName | Lot # | Expiration Date | Date Opened / Opened By | Received Date / Received By | Chemtech Lot # |
|---|---|---|---|---|---|---|
| Absolute Standards, Inc. | 57051 / Sb, 1000 PPM, 125 ml | 071724 | 07/17/2027 | 03/24/2025 / kareem | 10/18/2024 / kareem | M6160 |

| Supplier | ItemCode / ItemName | Lot # | Expiration Date | Date Opened / Opened By | Received Date / Received By | Chemtech Lot # |
|---|---|---|---|---|---|---|
| Seidler Chemical | BA-9598-34 / Nitric Acid, Instra-Analyzed (cs/4x2.5L) | 24H0162012 | 11/27/2025 | 05/27/2025 / Sagar | 04/27/2025 / Sagar | M6162 |

| Supplier | ItemCode / ItemName | Lot # | Expiration Date | Date Opened / Opened By | Received Date / Received By | Chemtech Lot # |
|---|---|---|---|---|---|---|
| Inorganic Ventures | QCP-CICV-1-125ML / EPA CLP ICP Verification Standard1 | V2-MEB744107 | 06/08/2026 | 06/09/2025 / jaswal | 06/06/2025 / jaswal | M6163 |

| Supplier | ItemCode / ItemName | Lot # | Expiration Date | Date Opened / Opened By | Received Date / Received By | Chemtech Lot # |
|---|---|---|---|---|---|---|
| Inorganic Ventures | QCP-CICV-2-125ML / EPA CLP ICP Verification Standard2 | U2-MEB733713 | 06/08/2026 | 06/09/2025 / jaswal | 06/09/2025 / jaswal | M6164 |

| Supplier | ItemCode / ItemName | Lot # | Expiration Date | Date Opened / Opened By | Received Date / Received By | Chemtech Lot # |
|---|---|---|---|---|---|---|
| Inorganic Ventures | QCP-CICV-3-125ML / EPA CLP ICP Verification Standard3 | V2-MEB749572 | 06/08/2026 | 06/09/2025 / jaswal | 06/09/2025 / jaswal | M6165 |

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# CHEMICAL RECEIPT LOG BOOK

| Supplier | ItemCode / ItemName | Lot # | Expiration Date | Date Opened / Opened By | Received Date / Received By | Chemtech Lot # |
|---|---|---|---|---|---|---|
| Seidler Chemical | BA-2186-03 / Hydrogen Peroxide (cs/4x4L) | 24D1961001 | 10/16/2025 | 06/25/2025 / Sagar | 05/20/2025 / Sagar | M6170 |

| 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 | 011525 | 01/15/2028 | 07/15/2025 / Janvi | 02/13/2025 / Janvi | M6171 |

| Supplier | ItemCode / ItemName | Lot # | Expiration Date | Date Opened / Opened By | Received Date / Received By | Chemtech Lot # |
|---|---|---|---|---|---|---|
| Inorganic Ventures | CLPP-CAL-1 / CLP CAL SOLUTION #1, 125mL | V2-MEB742428 | 07/31/2026 | 07/31/2025 / Janvi | 05/05/2025 / Janvi | M6174 |

| 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 | 092724 | 09/27/2027 | 08/06/2025 / Janvi | 08/06/2025 / Janvi | M6176 |

| Supplier | ItemCode / ItemName | Lot # | Expiration Date | Date Opened / Opened By | Received Date / Received By | Chemtech Lot # |
|---|---|---|---|---|---|---|
| Absolute Standards, Inc. | / Lead (Pb) 1000PPM | 031525 | 03/15/2028 | 08/06/2025 / Janvi | 08/06/2025 / Janvi | M6177 |

| 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 | 080528 | 08/05/2028 | 08/06/2025 / Janvi | 08/06/2025 / Janvi | M6178 |

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# CHEMICAL RECEIPT LOG BOOK

| Supplier | ItemCode / ItemName | Lot # | Expiration Date | Date Opened / Opened By | Received Date / Received By | Chemtech Lot # |
|---|---|---|---|---|---|---|
| Inorganic Ventures | CGY10-1 / YTTRIUM 125mL 10,000ug/mL | V2-Y740548 | 08/05/2026 | 08/06/2025 / Janvi | 06/02/2024 / Janvi | M6179 |

| Supplier | ItemCode / ItemName | Lot # | Expiration Date | Date Opened / Opened By | Received Date / Received By | Chemtech Lot # |
|---|---|---|---|---|---|---|
| Inorganic Ventures | WW-LFS-1 / Laboratory Fortified Stock Solution 1, 125 ml | W2-MEB752149 | 02/05/2026 | 08/06/2025 / Janvi | 07/22/2025 / Janvi | M6180 |

| Supplier | ItemCode / ItemName | Lot # | Expiration Date | Date Opened / Opened By | Received Date / Received By | Chemtech Lot # |
|---|---|---|---|---|---|---|
| Inorganic Ventures | WW-LFS-2 / Laboratory Fortified Stock Solution 2, 125 ml | V2-MEB7433480 | 02/05/2026 | 08/06/2025 / Janvi | 07/22/2025 / Janvi | M6181 |

| Supplier | ItemCode / ItemName | Lot # | Expiration Date | Date Opened / Opened By | Received Date / Received By | Chemtech Lot # |
|---|---|---|---|---|---|---|
| EPA | PART A / ICSA ( ICP ) STOCK SOLN | ICSA-1211 | 02/05/2026 | 08/06/2025 / Janvi | 03/06/2024 / Janvi | M6182 |

| Supplier | ItemCode / ItemName | Lot # | Expiration Date | Date Opened / Opened By | Received Date / Received By | Chemtech Lot # |
|---|---|---|---|---|---|---|
| EPA | PART B / ICSAB ( ICP ) STOCK SOLN | ICSB-0710 | 02/05/2026 | 08/06/2025 / Janvi | 03/06/2024 / Janvi | M6184 |

| 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) | 24H0162012 | 01/28/2026 | 08/29/2025 / Sagar | 08/08/2025 / Sagar | M6187 |

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# CHEMICAL RECEIPT LOG BOOK

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

**Absolute Standards, Inc.**
800-368-1131
www.absolutestandards.com

***Certified Reference Material CRM***

M6032

R: 8/5/24

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

Revised



CERTIFIED WEIGHT REPORT:

| | | | | | |
|---|---|---|---|---|---|
| **Part Number:** | **57056** | | **Lot #** | | |
| **Lot Number:** | **010924** | **Solvent:** | 24002546 | Nitric Acid | |
| **Description:** | **Barium (Ba)** | | | | |
| | | 2% | 40.0 (mL) | Nitric Acid | |
| **Expiration Date:** | 010927 | | | | |
| **Recommended Storage:** | Ambient (20 °C) | | | | |
| **Nominal Concentration (µg/mL):** | **1000** | | | | |
| **NIST Test Number:** | 6UTB | 5E-05 | Balance Uncertainty | | |
| **Weight shown below was diluted to (mL):** | 2000.02 | 0.058 | Flask Uncertainty | | |

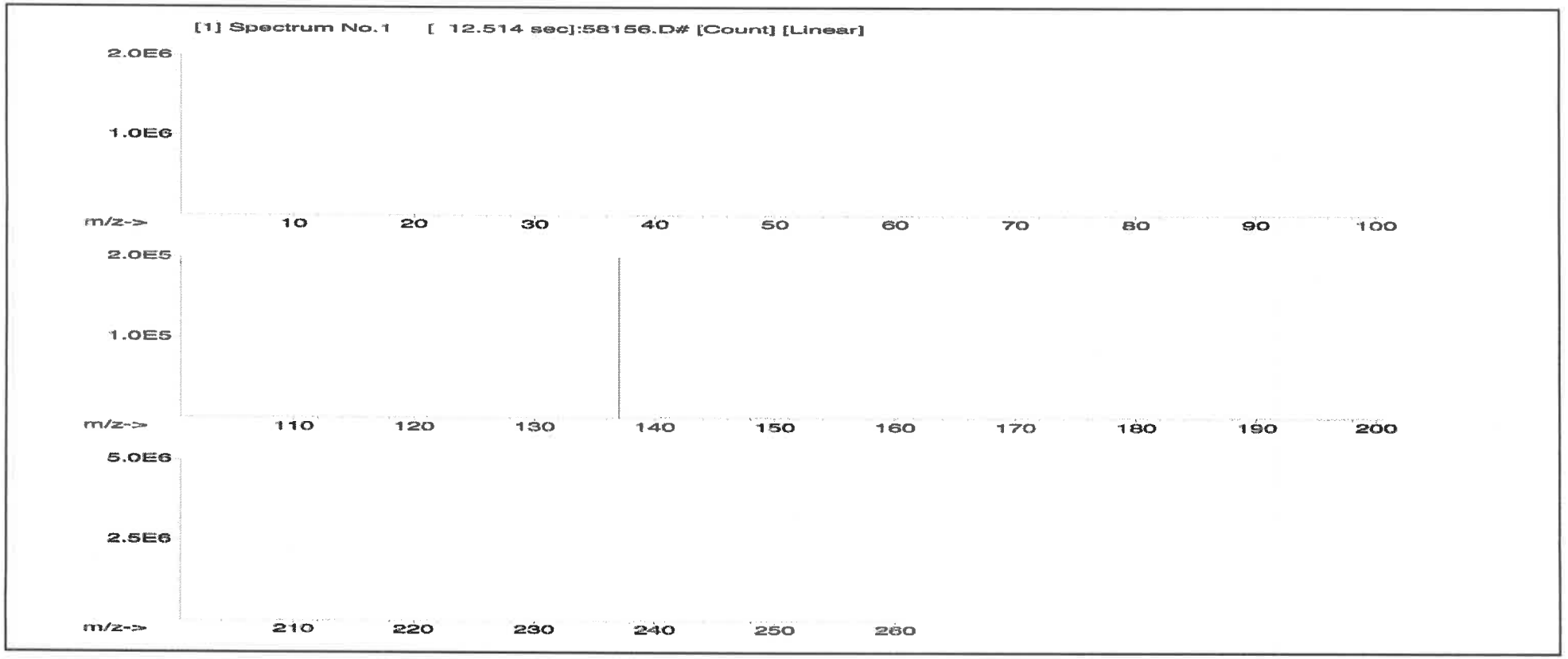
Giovanni Esposito

| | | |
|---|---|---|
| Formulated By: | Giovanni Esposito | 010924 |

Pedro Rentas

| | | |
|---|---|---|
| Reviewed By: | Pedro L. Rentas | 010924 |

| Compound | RM# | Lot Number | Nominal Conc. (µg/mL) | Purity (%) | Uncertainty Purity (%) | Assay (%) | Target Weight (g) | Actual Weight (g) | Actual Conc. (µg/mL) | Expanded Uncertainty +/- (µg/mL) | SDS Information (Solvent Safety Info. On Attached pg.) CAS# | OSHA PEL (TWA) | LD50 | NIST SRM |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1. Barium nitrate (Ba) | IN023 | BAD022019A1 | 1000 | 99.999 | 0.10 | 52.3 | 3.82417 | 3.82441 | **1000.1** | **2.0** | 10022-31-8 | 0.5 mg/m3 | orl-rat 355 mg/kg | 3104a |



**Absolute Standards, Inc.**
800-368-1131
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*Certified Reference Material CRM*

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

(T) = Target analyte

**Physical Characterization:**

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

Certified by:

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

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M6028

R: 8/5/24

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## CERTIFIED WEIGHT REPORT:

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

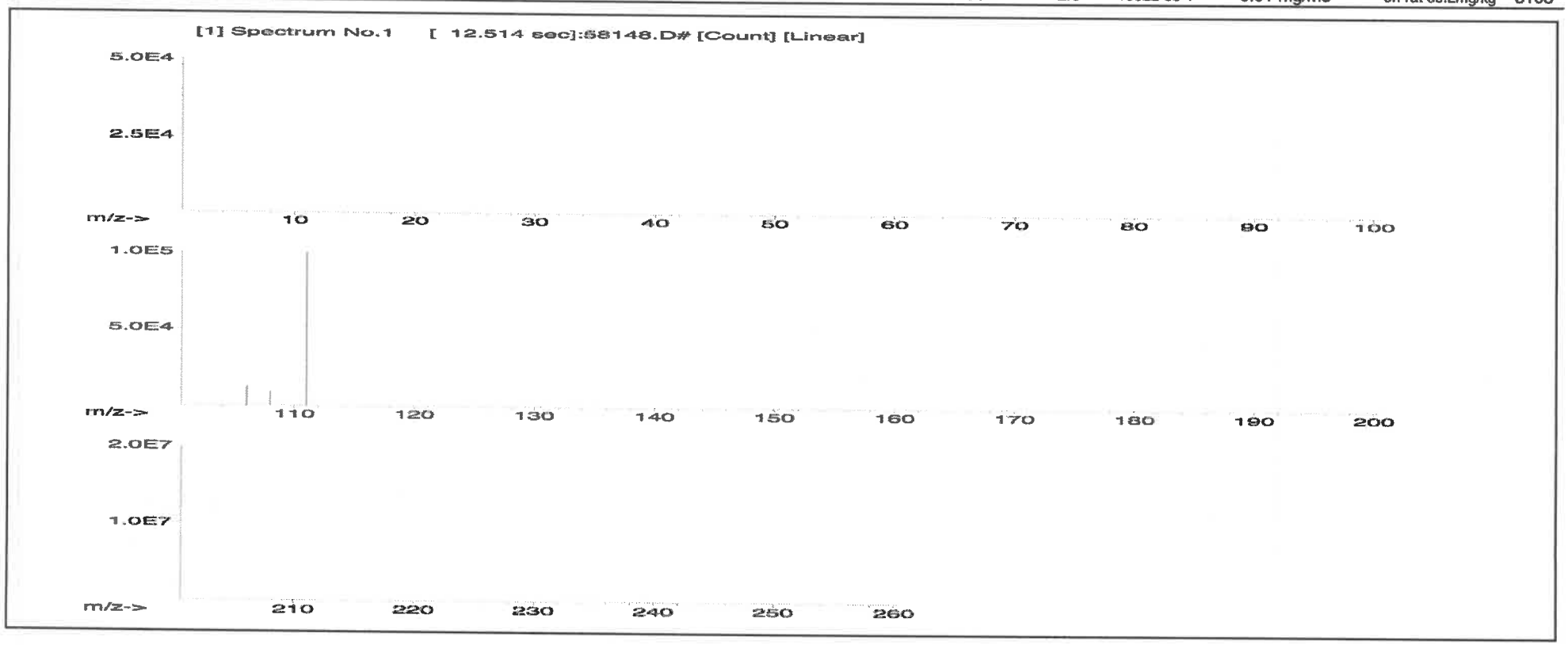
**Expiration Date:** 070127
**Recommended Storage:** Ambient (20 °C)
**Nominal Concentration (µg/mL):** 1000
**NIST Test Number:** 6UTB

| | | Lot # | |
|---|---|---|---|
| **Solvent:** | 24002546 | Nitric Acid | |
| 2% | 40.0 (mL) | Nitric Acid | |

5E-05 Balance Uncertainty
**Weight shown below was diluted to (mL):** 2000.07 0.100 Flask Uncertainty

| | | |
|---|---|---|
| Aleah O'Brady | | |
| Formulated By: | Aleah O'Brady | 070124 |
| Pedro Rentas | | |
| Reviewed By: | Pedro L. Rentas | 070124 |

| Compound | RM# | Lot Number | Nominal Conc. (µg/mL) | Purity (%) | Uncertainty Purity (%) | Assay (%) | Target Weight (g) | Actual Weight (g) | Actual Conc. (µg/mL) | Expanded Uncertainty +/- (µg/mL) | SDS Information (Solvent Safety Info. On Attached pg.) CAS# | OSHA PEL (TWA) | LD50 | NIST SRM |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1. Cadmium nitrate tetrahydrate (Cd) | IN024 | CDM092021A1 | 1000 | 99.999 | 0.10 | 36.5 | 5.4797 | 5.4804 | **1000.1** | **2.0** | 10022-68-1 | 0.01 mg/m3 | orl-rat 60.2mg/kg | 3108 |



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

(T) = Target analyte

**Physical Characterization:**

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

Certified by:

* The certified value is the concentration calculated from gravimetric and volumetric measurements unless otherwise stated.
* Purified acids, 18.2 megohm deionized water, calibrated Class A glassware and the highest purity raw materials are used in the preparation of all standards.
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* Standards are certifed (+/-) 0.5% of the stated value, unless otherwise stated.
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M6026

R: 8/15/24

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CERTIFIED WEIGHT REPORT:

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

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

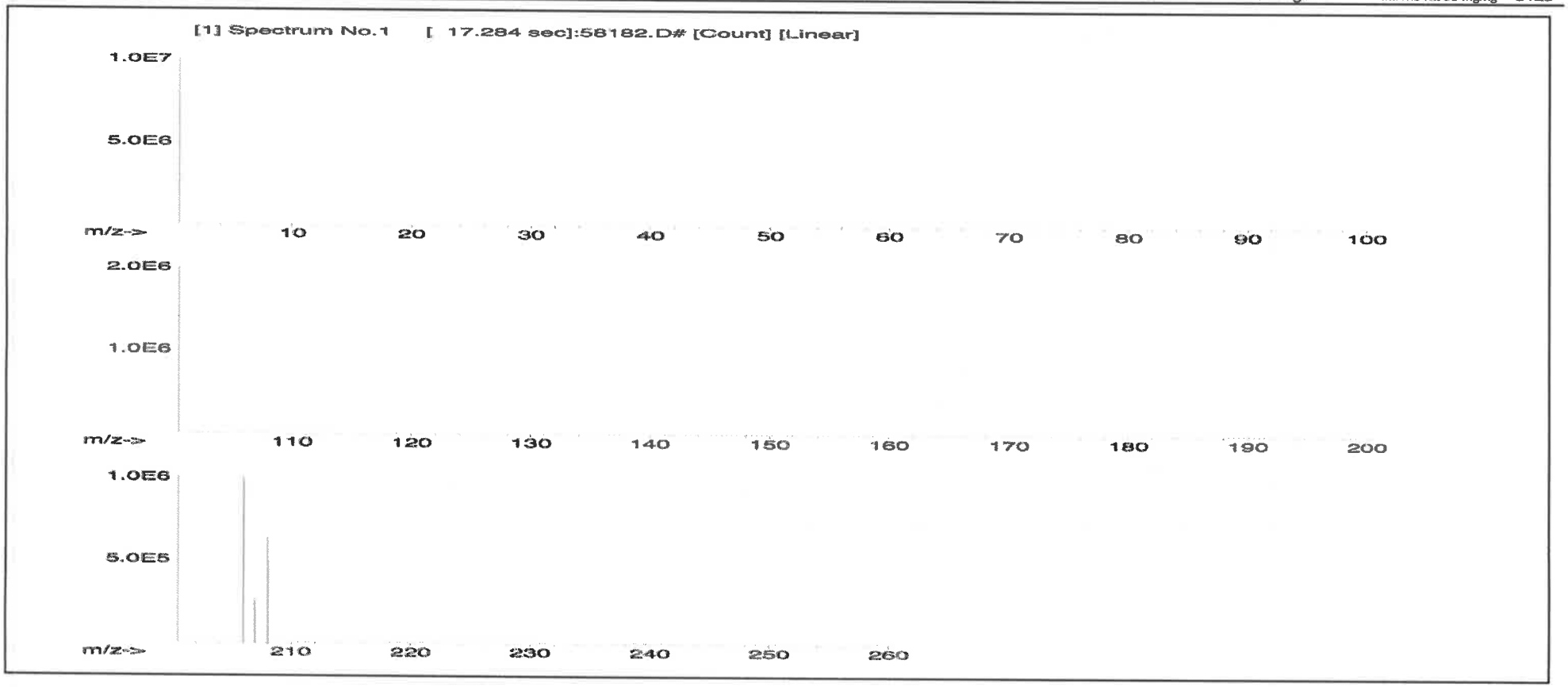
**Weight shown below was diluted to (mL):** 2000.02 0.058 Flask Uncertainty

| | Lot # | | |
|---|---|---|---|
| **Solvent:** | 24002546 | Nitric Acid | |
| 2% | 40.0 (mL) | Nitric Acid | |

5E-05 Balance Uncertainty

| | | |
|---|---|---|
| Formulated By: | Lawence Barry | 110923 |
| Reviewed By: | Pedro L. Rentas | 110923 |

| Compound | RM# | Lot Number | Nominal Conc. (µg/mL) | Purity (%) | Uncertainty Purity (%) | Assay (%) | Target Weight (g) | Actual Weight (g) | Actual Conc. (µg/mL) | Expanded Uncertainty +/- (µg/mL) | SDS Information (Solvent Safety Info. On Attached pg.) CAS# | OSHA PEL (TWA) | LD50 | NIST SRM |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1. Lead(II) nitrate (Pb) | IN029 | PBD122016A1 | 10000 | 99.999 | 0.10 | 62.5 | 32.0006 | 32.0040 | **10001.1** | **20.0** | 10099-74-8 | 0.05 mg/m3 | intrvns-rat 93 mg/kg | 3128 |



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

(T)= Target analyte

**Physical Characterization:**

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.
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M5467 R: 03/01/23 (LA)

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CERTIFIED WEIGHT REPORT:

**Part Number:** 57058
**Lot Number:** 020623
**Description:** Cerium (Ce)

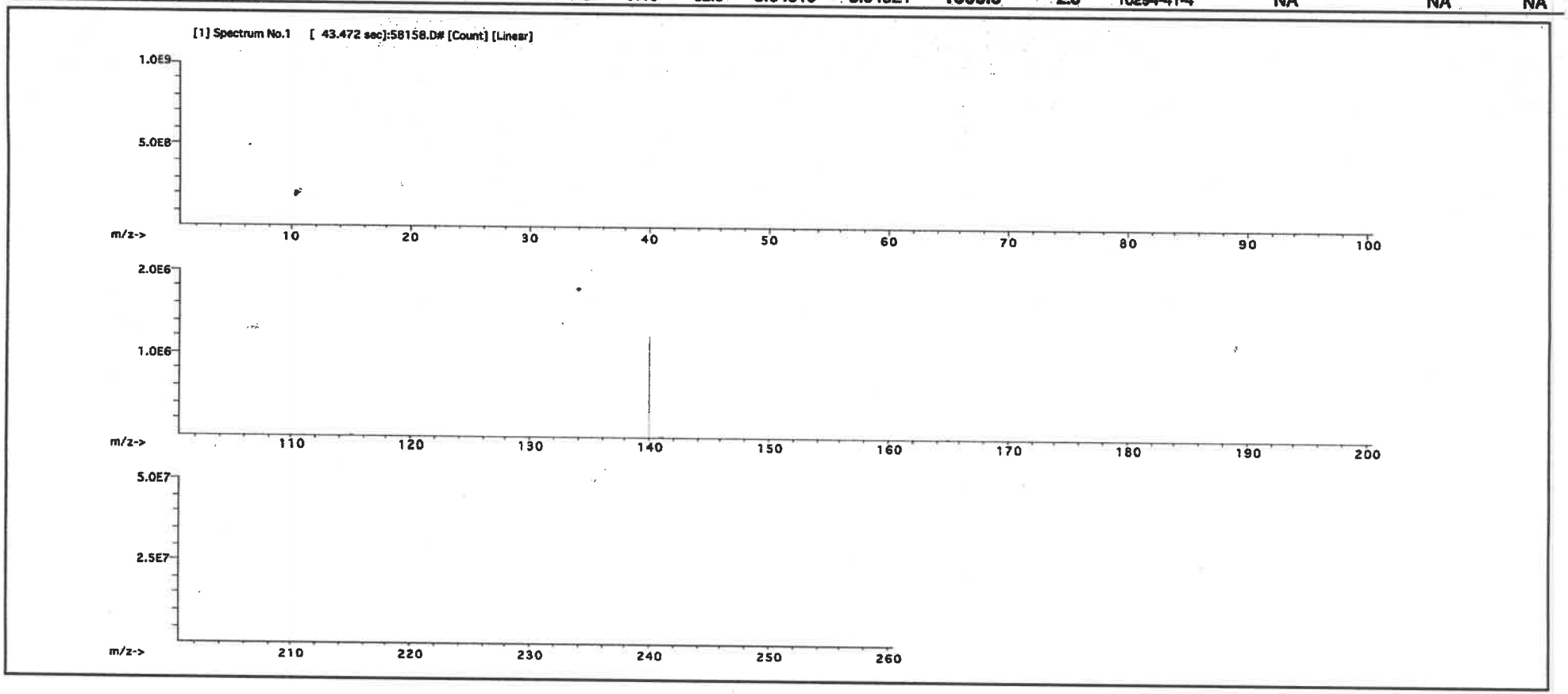
**Expiration Date:** 020626
**Recommended Storage:** Ambient (20 °C)
**Nominal Concentration (µg/mL):** 1000
**NIST Test Number:** 6UTB
**Weight shown below was diluted to (mL):** 1000.12

| | Lot # | | |
|---|---|---|---|
| **Solvent:** | 21110221 | Nitric Acid | |
| 2% | 20.0 (mL) | Nitric Acid | |

5E-05 Balance Uncertainty
0.058 Flask Uncertainty

| | | |
|---|---|---|
| Formulated By: | Lawrence Barry | 020623 |
| Reviewed By: | Pedro L. Rentas | 020623 |

| Compound | RM# | Lot Number | Nominal Conc. (µg/mL) | Purity (%) | Uncertainty Purity (%) | Assay (%) | Target Weight (g) | Actual Weight (g) | Actual Conc. (µg/mL) | Expanded Uncertainty +/- (µg/mL) | SDS Information (Solvent Safety Info. On Attached pg.) CAS# | OSHA PEL (TWA) | LD50 | NIST SRM |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1. Cerium nitrate hexahydrate (Ce) | IN146 | Z512CEB1 | 1000 | 99.999 | 0.10 | 32.8 | 3.04919 | 3.04921 | 1000.0 | 2.0 | 10294-41-4 | NA | NA | NA |



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

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

(T)= Target analyte

**Physical Characterization:**

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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).

JENSEN INERT PRODUCTS

# MATERIAL CERTIFICATE OF COMPLIANCE

DATE: JUNE 12, 2023

| | |
|---|---|
| **CUSTOMER:** | PCI SCIENTIFIC SUPPLY, INC |
| **PURCHASE ORDER NO.** | 6054931 |
| **CATALOG NO.** | BOI5021-450L |
| **PRODUCT DESCRIPTION:** | BOILING STONES, TFE, 454GMS |
| **QUANTITY:** | 10 EACH |
| **LOT NO.** | W126678 |
| **SPECIFICATION (S):** | Made from Virgin PTFE Resin |

We certify that we have complied with the terms and conditions of the above Purchase Order and the Part Specifications in the manufacturing of the above product.

Laura Valencia

**Laura Valencia**
**Quality Assurance Inspector**

F:U:J:CF:PCISCI:COC-55114-BOI5021-061223

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Email: jensen@jenseninert.com Visit our Web Site at www.jenseninert.com

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M5658 R ! 8/25/23

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Revised

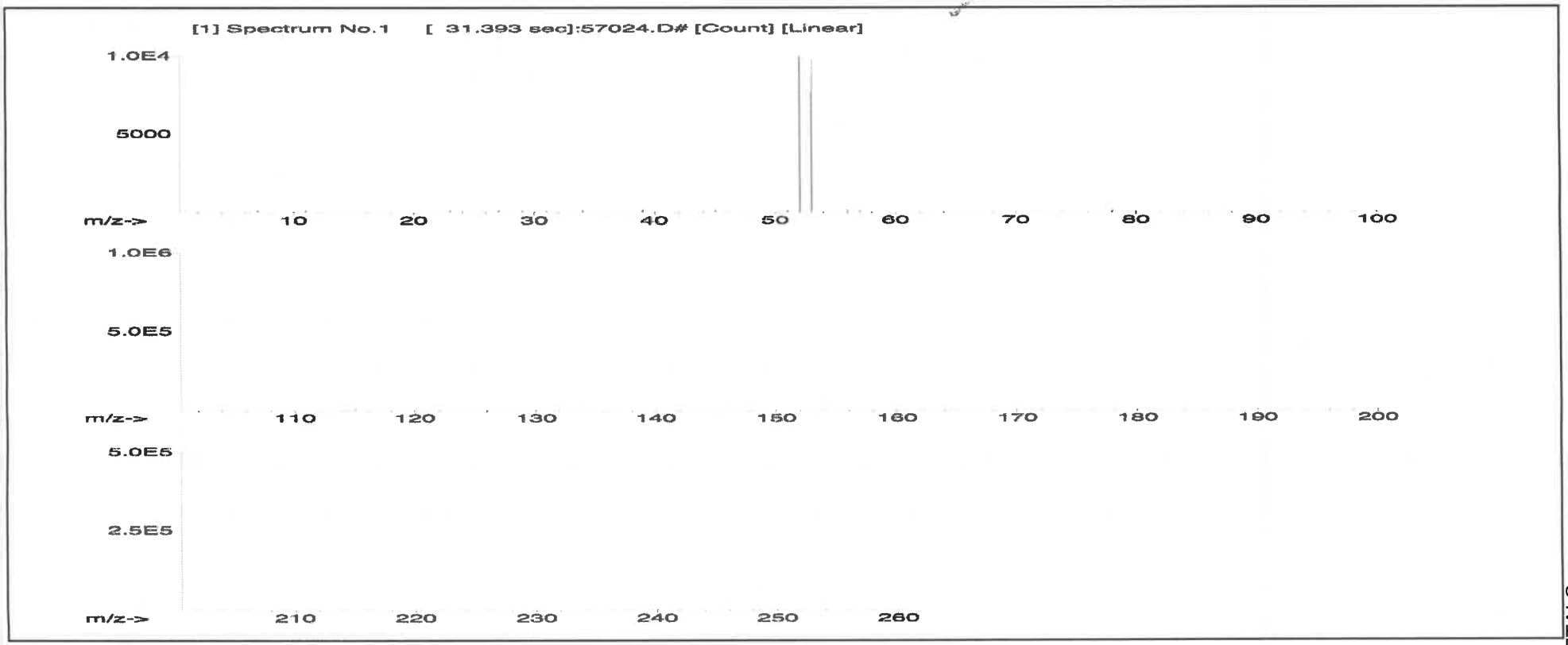


CERTIFIED WEIGHT REPORT:

| | | Lot # | Solvent: | |
|---|---|---|---|---|
| **Part Number:** | **58024** | 21110221 | Nitric Acid | |
| **Lot Number:** | **060523** | | | |
| **Description:** | **Chromium (Cr)** | | | |
| | | 2.0% | 40.0 (mL) | Nitric Acid |
| **Expiration Date:** | 060526 | | | |
| **Recommended Storage:** | Ambient (20 °C) | | | |
| **Nominal Concentration (µg/mL):** | **1000** | | | |
| **NIST Test Number:** | 6UTB | 5E-05 | Balance Uncertainty | |
| **Volume shown below was diluted to (mL):** | 2000.02 | 0.058 | Flask Uncertainty | |

| | | |
|---|---|---|
| Formulated By: | Lawrence Barry | 060523 |
| Reviewed By: | Pedro L. Rentas | 060523 |

| Compound | Part Number | Lot Number | Dilution Factor | Initial Vol. (mL) | Uncertainty Pipette (mL) | Nominal Conc. (µg/mL) | Initial Conc. (µg/mL) | Final Conc. (µg/mL) | Expanded Uncertainty +/- (µg/mL) | SDS Information (Solvent Safety Info. On Attached pg.) CAS# | OSHA PEL (TWA) | LD50 | NIST SRM |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1. Chromium(III) nitrate nonahydrate (Cr) | 58124 | 071122 | 0.1000 | 200.0 | 0.084 | 1000 | 10000.1 | **1000.0** | **2.2** | 7789-02-8 | 0.5 mg(Cr)/m3 | orl-rat 3250 mg/kg | 3112a |



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

(T)= Target analyte

**Physical Characterization:**

**Certified by:**

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

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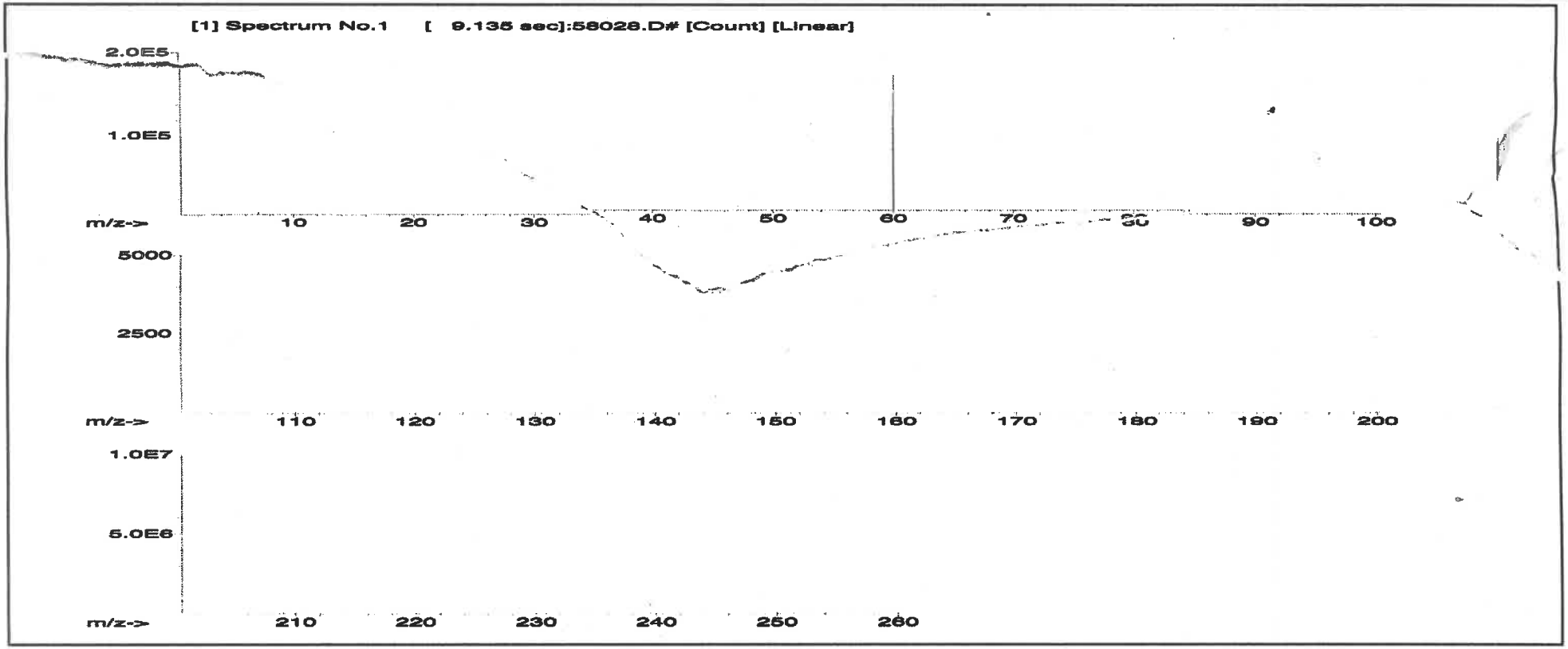


**CERTIFIED WEIGHT REPORT:**

| | | Lot # | Solvent: | |
|---|---|---|---|---|
| **Part Number:** | **57028** | 24002546 | Nitric Acid | |
| **Lot Number:** | **091223** | | | |
| **Description:** | **Nickel (Ni)** | | | |
| | | 2.0% | 40.0 (mL) | Nitric Acid |
| **Expiration Date:** | 091226 | | | |
| **Recommended Storage:** | Ambient (20 °C) | | | |
| **Nominal Concentration (µg/mL):** | **1000** | | | |
| **NIST Test Number:** | 6UTB | 5E-05 | Balance Uncertainty | |
| **Volume shown below was diluted to (mL):** | 2000.02 | 0.058 | Flask Uncertainty | |

| | | |
|---|---|---|
| Formulated By: | Lawrence Barry | 091223 |
| Reviewed By: | Pedro L. Rentas | 091223 |

| Compound | Part Number | Lot Number | Dilution Factor | Initial Vol. (mL) | Uncertainty Pipette (mL) | Nominal Conc. (µg/mL) | Initial Conc. (µg/mL) | Final Conc. (µg/mL) | Expanded Uncertainty +/- (µg/mL) | SDS Information (Solvent Safety Info. On Attached pg.) CAS# | OSHA PEL (TWA) | LD50 | NIST SRM |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1. Nickel(II) nitrate hexahydrate (Ni) | 58128 | 062023 | 0.1000 | 200.0 | 0.084 | 1000 | 10000.4 | **1000.0** | 2.2 | 13478-00-7 | 1 mg/m3 | orl-rat 1620 mg/kg | 3136 |



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

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

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

(T) = Target analyte

**Physical Characterization:**

**Certified by:**

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

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

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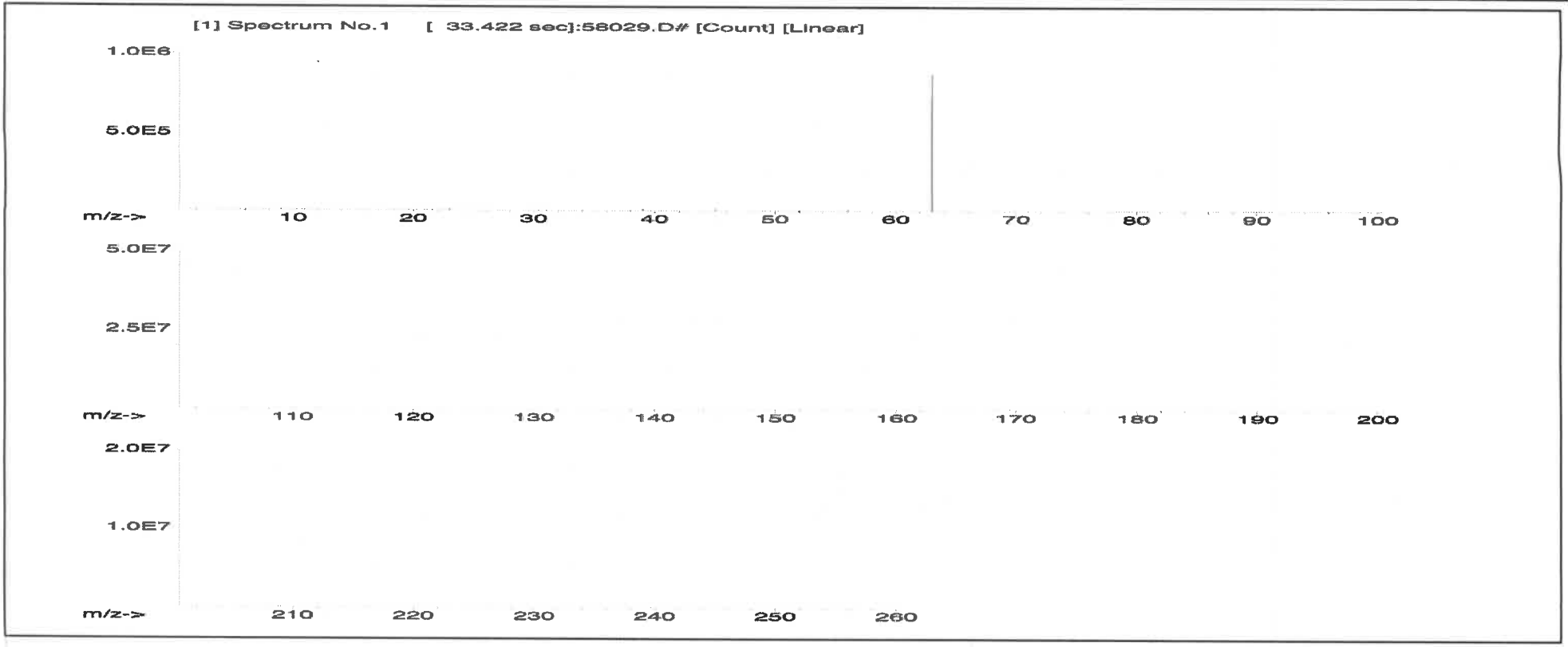


CERTIFIED WEIGHT REPORT:

| | | | | | | |
|---|---|---|---|---|---|---|
| **Part Number:** | **58029** | | | **Lot #** | **Solvent:** | |
| **Lot Number:** | **071723** | | | 21110221 | Nitric Acid | |
| **Description:** | **Copper (Cu)** | | | | | |
| | | | | 2.0% | 40.0 (mL) | Nitric Acid |
| **Expiration Date:** | 071726 | | | | | |
| **Recommended Storage:** | Ambient (20 °C) | | | | | |
| **Nominal Concentration (µg/mL):** | **1000** | | | | | |
| **NIST Test Number:** | 6UTB | 5E-05 | Balance Uncertainty | | | |
| **Volume shown below was diluted to (mL):** | 2000.02 | 0.058 | Flask Uncertainty | | | |

| | |
|---|---|
| Formulated By: | Benson Chan 071723 |
| Reviewed By: | Pedro L. Rentas 071723 |

| Compound | Part Number | Lot Number | Dilution Factor | Initial Vol. (mL) | Uncertainty Pipette (mL) | Nominal Conc. (µg/mL) | Initial Conc. (µg/mL) | Final Conc. (µg/mL) | Expanded Uncertainty +/- (µg/mL) | SDS Information (Solvent Safety Info. On Attached pg.) CAS# | OSHA PEL (TWA) | LD50 | NIST SRM |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1. Copper(II) nitrate trihydrate (Cu) | 58129 | 022723 | 0.1000 | 200.0 | 0.084 | 1000 | 10000.5 | **1000.0** | **2.2** | 10031-43-3 | 1 mg/m3 | orl-rat 794 mg/kg | 3114 |



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

(T) = Target analyte

**Physical Characterization:**

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

**Certified by:**

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

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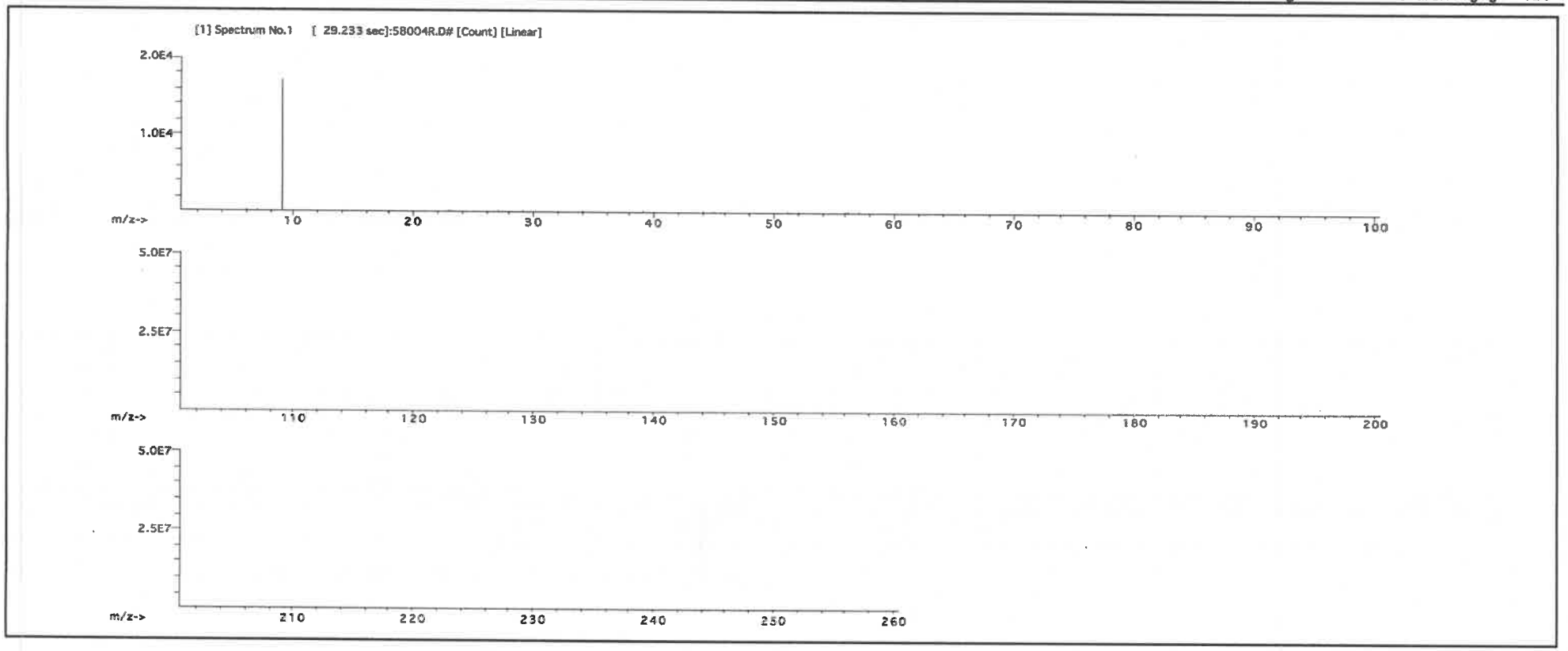
Revised

CERTIFIED WEIGHT REPORT:

| | | Lot # | Solvent: | | |
|---|---|---|---|---|---|
| **Part Number:** | **57004** | | | | |
| **Lot Number:** | **102523** | 24002546 | Nitric Acid | | |
| **Description:** | **Beryllium (Be)** | | | | |
| | | 2.0% | 40.0 (mL) | Nitric Acid | |
| **Expiration Date:** | 102526 | | | | |
| **Recommended Storage:** | Ambient (20 °C) | | | | |
| **Nominal Concentration (µg/mL):** | **1000** | | | | |
| **NIST Test Number:** | 6UTB | 5E-05 | Balance Uncertainty | | |
| **Volume shown below was diluted to (mL):** | 2000.02 | 0.058 | Flask Uncertainty | | |

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

| Compound | Part Number | Lot Number | Dilution Factor | Initial Vol. (mL) | Uncertainty Pipette (mL) | Nominal Conc. (µg/mL) | Initial Conc. (µg/mL) | Final Conc. (µg/mL) | Expanded Uncertainty +/- (µg/mL) | SDS Information (Solvent Safety Info. On Attached pg.) CAS# | OSHA PEL (TWA) | LD50 | NIST SRM |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1. Beryllium nitrate (Be) | 58104 | 091423 | 0.1000 | 200.0 | 0.084 | 1000 | 10001.5 | **1000.0** | **2.2** | 13597-99-4 | 0.2ug/m3 | intrvns-rat 3.16mg/kg | NA |



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

(T) = Target analyte

**Physical Characterization:**

**Certified by:**

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

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CERTIFIED WEIGHT REPORT:

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

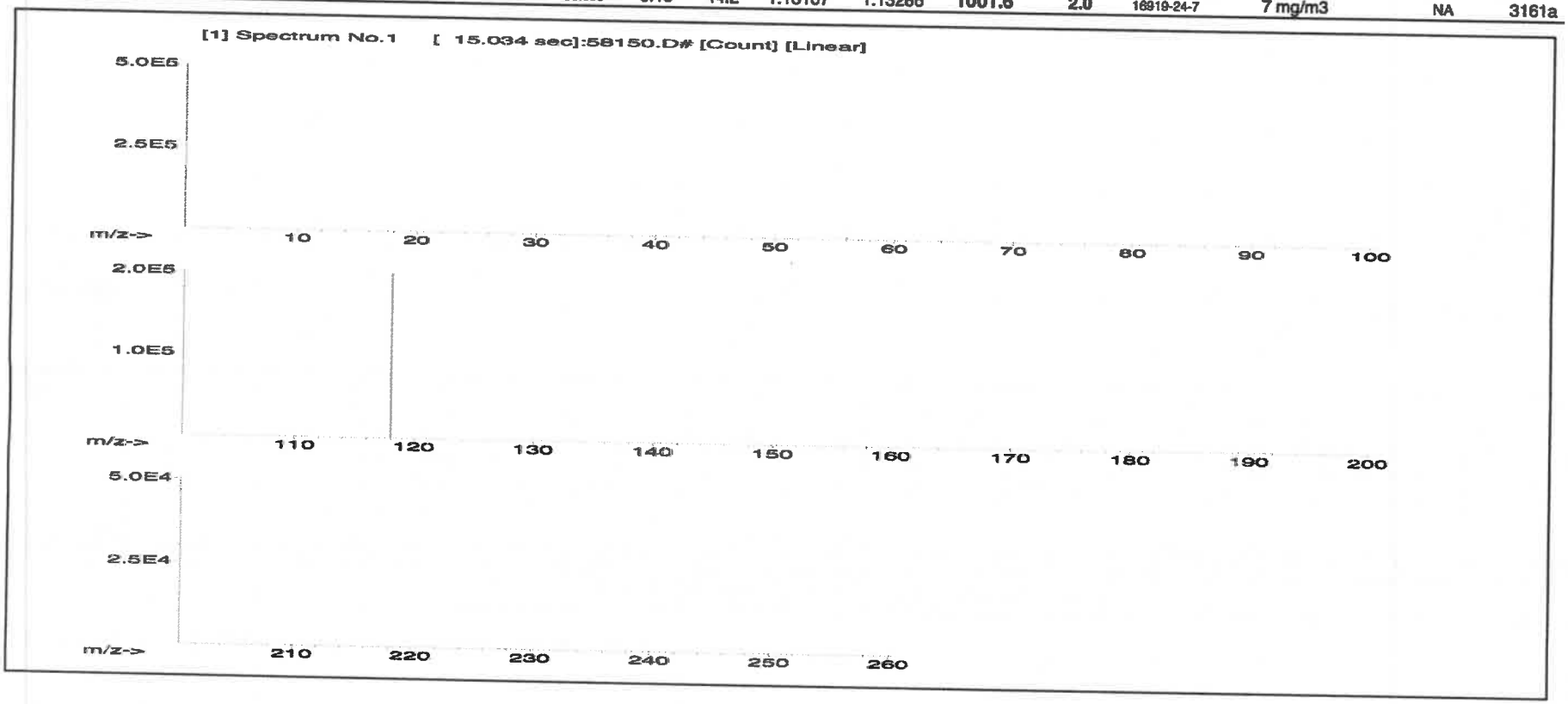
**Expiration Date:** 071126
**Recommended Storage:** Ambient (20 °C)
**Nominal Concentration (µg/mL):** 1000
**NIST Test Number:** 6UTB
**Weight shown below was diluted to (mL):** 499.93

| | Lot # | |
|---|---|---|
| **Solvents:** | 21110221 | Nitric Acid |
| | 22D0562008 | Hydrochloric acid |
| 2% | 10.0 | Nitric Acid |
| 6% | 30.0 | Hydrochloric acid |
| | (mL) | |

5E-05 Balance Uncertainty
0.058 Flask Uncertainty

| | | |
|---|---|---|
| Formulated By: | Benson Chan | 071123 |
| Reviewed By: | Pedro L. Rentas | 071123 |

| Compound | RM# | Lot Number | Nominal Conc. (µg/mL) | Purity (%) | Uncertainty Purity (%) | Assay (%) | Target Weight (g) | Actual Weight (g) | Actual Conc. (µg/mL) | Expanded Uncertainty +/- (µg/mL) | SDS Information (Solvent Safety Info. On Attached pg.) CAS# | OSHA PEL (TWA) | LD50 | NIST SRM |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1. Ammonium hexafluorostannate(IV) (Sn) | IN010 | SND042023A1 | 1000 | 99.999 | 0.10 | 44.2 | 1.13107 | 1.13286 | **1001.6** | **2.0** | 16919-24-7 | 7 mg/m3 | NA | 3161a |






Revised
261 of 389
Q3068-METALS

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

(T) = Target analyte

**Physical Characterization:**

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Certified by:

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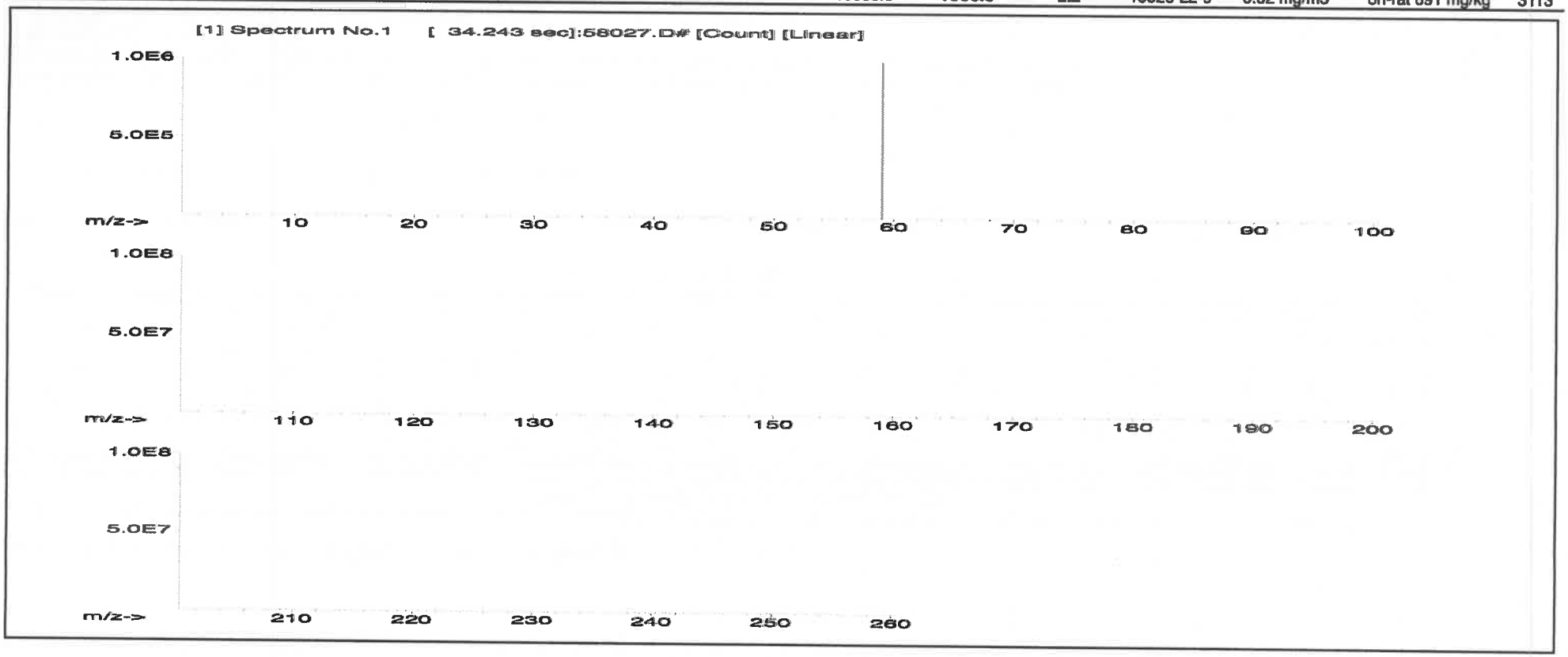
CERTIFIED WEIGHT REPORT:

| | | Lot # | Solvent: | | |
|---|---|---|---|---|---|
| **Part Number:** | **57027** | 24002546 | Nitric Acid | | |
| **Lot Number:** | **091923** | | | | |
| **Description:** | **Cobalt (Co)** | 2.0% | 40.0 (mL) | Nitric Acid | |
| **Expiration Date:** | 091926 | | | | |
| **Recommended Storage:** | Ambient (20 °C) | | | | |
| **Nominal Concentration (µg/mL):** | **1000** | | | | |
| **NIST Test Number:** | 6UTB | 5E-05 | Balance Uncertainty | | |
| **Volume shown below was diluted to (mL):** | 2000.02 | 0.058 | Flask Uncertainty | | |

Formulated By: Lawrence Barry 091923

Reviewed By: Pedro L. Rentas 091923

| Compound | Part Number | Lot Number | Dilution Factor | Initial Vol. (mL) | Uncertainty Pipette (mL) | Nominal Conc. (µg/mL) | Initial Conc. (µg/mL) | Final Conc. (µg/mL) | Expanded Uncertainty +/- (µg/mL) | SDS Information (Solvent Safety Info. On Attached pg.) CAS# | OSHA PEL (TWA) | LD50 | NIST SRM |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1. Cobalt(II) nitrate hexahydrate (Co) | 58127 | 050923 | 0.1000 | 200.0 | 0.084 | 1000 | 10000.0 | **1000.0** | **2.2** | 10026-22-9 | 0.02 mg/m3 | orl-rat 691 mg/kg | 3113 |



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

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

(T)= Target analyte

**Physical Characterization:**

**Certified by:**

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

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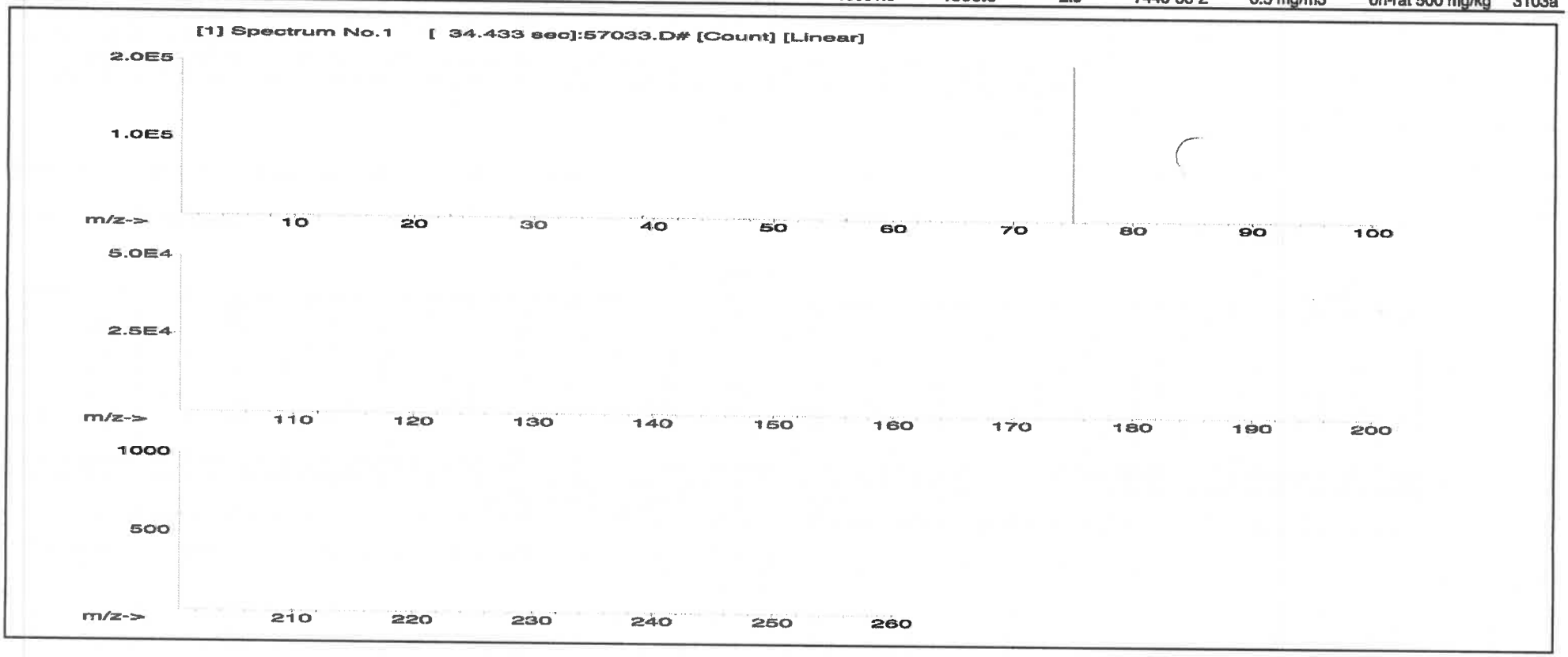


CERTIFIED **WEIGHT** REPORT:

| | | Lot # | Solvent: | | |
|---|---|---|---|---|---|
| **Part Number:** | **57033** | 24002546 | Nitric Acid | | |
| **Lot Number:** | **111323** | | | | |
| **Description:** | **Arsenic (As)** | 2.0% | 80.0 (mL) | Nitric Acid | |
| **Expiration Date:** | 111326 | | | | |
| **Recommended Storage:** | Ambient (20 °C) | | | | |
| **Nominal Concentration (µg/mL):** | **1000** | | | | |
| **NIST Test Number:** | 6UTB | 5E-05 | Balance Uncertainty | | |
| **Volume shown below was diluted to (mL):** | 4000.0 | 0.06 | Flask Uncertainty | | |

| | | |
|---|---|---|
| Formulated By: | Lawrence Barry | 111323 |
| Reviewed By: | Pedro L. Rentas | 111323 |

| Compound | Part Number | Lot Number | Dilution Factor | Initial Vol. (mL) | Uncertainty Pipette (mL) | Nominal Conc. (µg/mL) | Initial Conc. (µg/mL) | Final Conc. (µg/mL) | Expanded Uncertainty +/- (µg/mL) | SDS Information (Solvent Safety Info. On Attached pg.) CAS# | OSHA PEL (TWA) | LD50 | NIST SRM |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1. Arsenic (As) | 58133 | 020522 | 0.1000 | 400.0 | 0.084 | 1000 | 10001.0 | **1000.0** | **2.0** | 7440-38-2 | 0.5 mg/m3 | orl-rat 500 mg/kg | 3103a |



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

(T) = Target analyte

**Physical Characterization:**

**Certified by:**

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

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

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A: 02/09/24 M.5814

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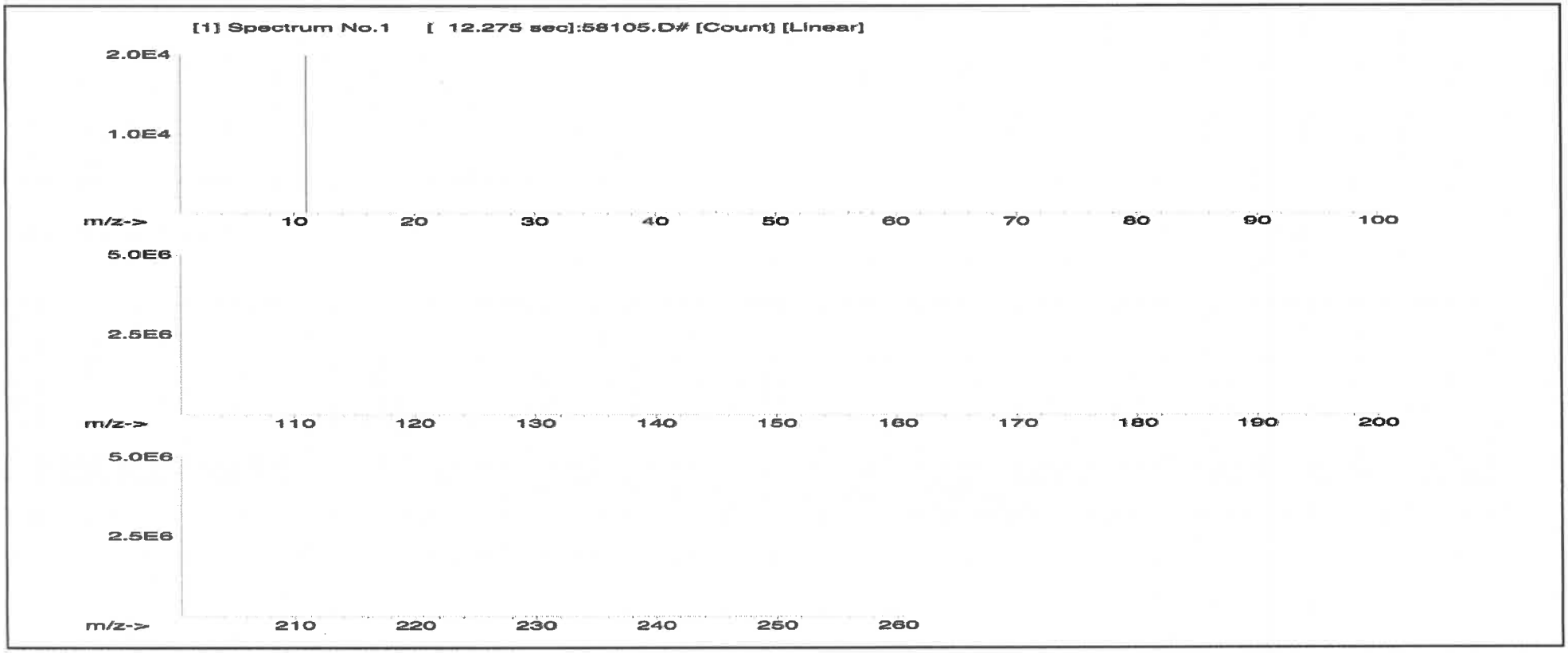


**CERTIFIED WEIGHT REPORT:**

| | | | | | |
|---|---|---|---|---|---|
| **Part Number:** | **57005** | | **Lot #** | | |
| **Lot Number:** | **071123** | **Solvent:** | MKBQ8597V | Ammonium hydroxide | |
| **Description:** | **Boron (B)** | | | | |
| | | 2.0% | 40.0 (mL) | Ammonium hydroxide | |
| **Expiration Date:** | 071126 | | | | |
| **Recommended Storage:** | Ambient (20 °C) | | | | |
| **Nominal Concentration (µg/mL):** | **1000** | | | | |
| **NIST Test Number:** | 6UTB | 5E-05 | Balance Uncertainty | | |
| **Weight shown below was diluted to (mL):** | 1999.48 | 0.058 | Flask Uncertainty | | |

| | | |
|---|---|---|
| Formulated By: | Benson Chan | 071123 |
| Reviewed By: | Pedro L. Rentas | 071123 |

| Compound | RM# | Lot Number | Nominal Conc. (µg/mL) | Purity (%) | Uncertainty Purity (%) | Assay (%) | Target Weight (g) | Actual Weight (g) | Actual Conc. (µg/mL) | Expanded Uncertainty +/- (µg/mL) | SDS Information (Solvent Safety Info. On Attached pg.) CAS# | OSHA PEL (TWA) | LD50 | NIST SRM |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1. Boric acid (B) | IN018 | BV092016A1 | 1000 | 99.9999 | 0.10 | 17.3 | 11.55772 | 11.56201 | **1000.4** | **2.0** | 10043-35-3 | 2 mg/m3 | orl-rat 2660 mg/kg | 3107 |



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

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

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

(T) = Target analyte

**Physical Characterization:**

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

Certified by:

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

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R: 02/09/24 M5820

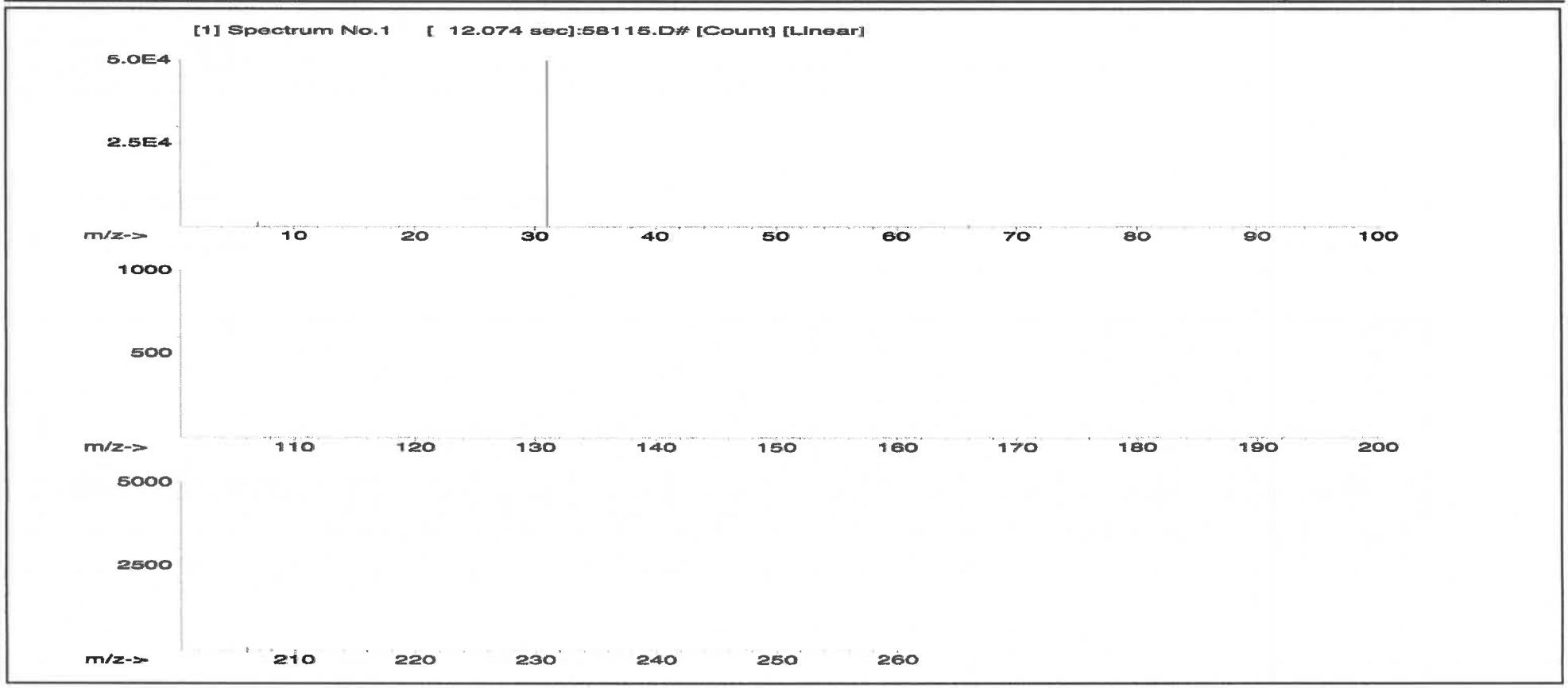


CERTIFIED WEIGHT REPORT:

| | | | | | |
|---|---|---|---|---|---|
| **Part Number:** | **57015** | | **Lot #** | | |
| **Lot Number:** | **091123** | **Solvent:** | 24002546 | Nitric Acid | |
| **Description:** | **Phosphorous (P)** | | | | |
| | | 2% | 40.0 (mL) | Nitric Acid | |
| **Expiration Date:** | 091126 | | | | |
| **Recommended Storage:** | Ambient (20 °C) | | | | |
| **Nominal Concentration (µg/mL):** | **1000** | | | | |
| **NIST Test Number:** | 6UTB | 5E-05 | Balance Uncertainty | | |
| **Weight shown below was diluted to (mL):** | 2000.02 | 0.058 | Flask Uncertainty | | |

| | |
|---|---|
| Formulated By: | Lawrence Barry 091123 |
| Reviewed By: | Pedro L. Rentas 091123 |

| Compound | RM# | Lot Number | Nominal Conc. (µg/mL) | Purity (%) | Uncertainty Purity (%) | Assay (%) | Target Weight (g) | Actual Weight (g) | Actual Conc. (µg/mL) | Expanded Uncertainty +/- (µg/mL) | SDS Information (Solvent Safety Info. On Attached pg.) CAS# | OSHA PEL (TWA) | LD50 | NIST SRM |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1. Ammonium dihydrogen phosphate (P) | IN008 | PV082019A1 | 1000 | 99.999 | 0.10 | 27.5 | 7.2729 | 7.2730 | **1000.0** | **2.0** | 7722-76-1 | 5 mg/m3 | orl-rat >2000mg/k | 3186 |



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

(T) = Target analyte

**Physical Characterization:**

**Certified by:**

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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M5962 R! 06/14/24.

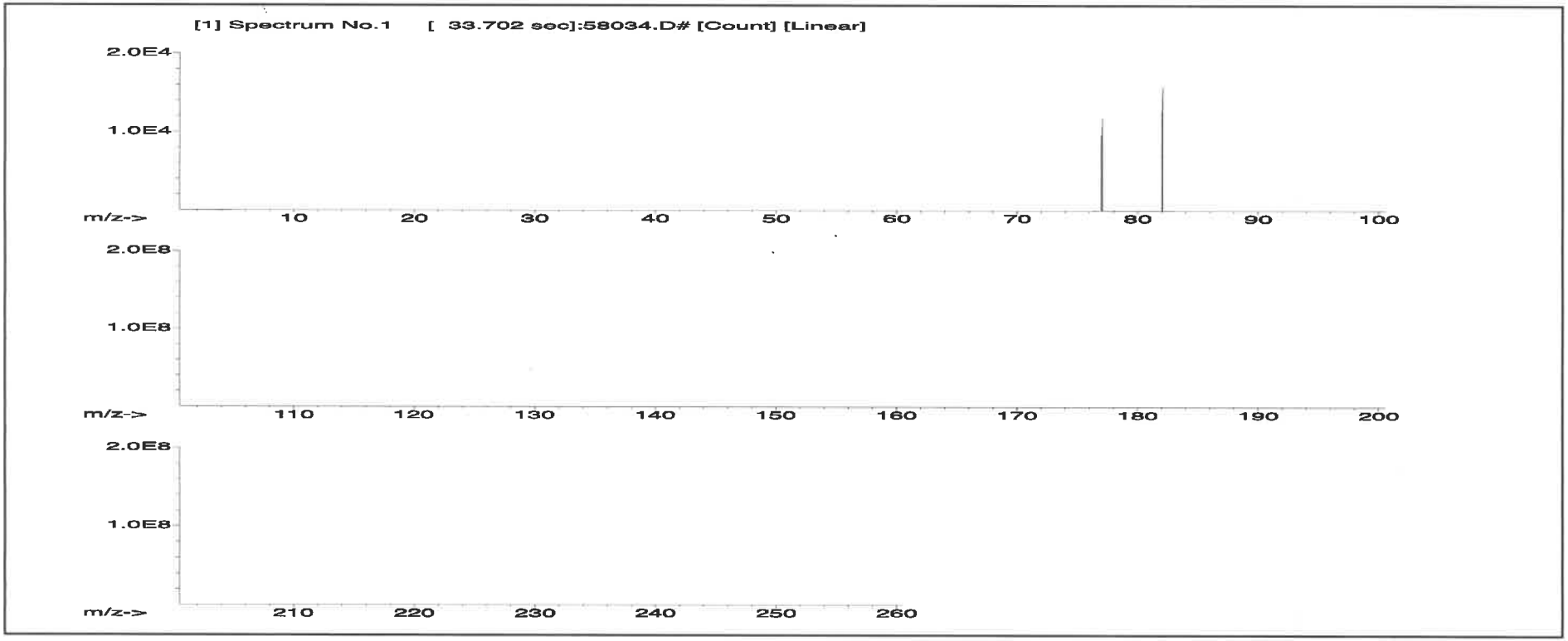
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CERTIFIED WEIGHT REPORT:

| | | Lot # | Solvent: | |
|---|---|---|---|---|
| **Part Number:** | **57034** | 24002546 | Nitric Acid | |
| **Lot Number:** | **060624** | | | |
| **Description:** | **Selenium (Se)** | | | |
| | | 2.0% | 40.0 (mL) | Nitric Acid |
| **Expiration Date:** | 060627 | | | |
| **Recommended Storage:** | Ambient (20 °C) | | | |
| **Nominal Concentration (µg/mL):** | **1000** | | | |
| **NIST Test Number:** | 6UTB | 5E-05 | Balance Uncertainty | |
| **Volume shown below was diluted to (mL):** | 2000.07 | 0.100 | Flask Uncertainty | |

| Formulated By: | Benson Chan | 060624 |
|---|---|---|
| Reviewed By: | Pedro L. Rentas | 060624 |

| Compound | Part Number | Lot Number | Dilution Factor | Initial Vol. (mL) | Uncertainty Pipette (mL) | Nominal Conc. (µg/mL) | Initial Conc. (µg/mL) | Final Conc. (µg/mL) | Expanded Uncertainty +/- (µg/mL) | SDS Information (Solvent Safety Info. On Attached pg.) CAS# | OSHA PEL (TWA) | LD50 | NIST SRM |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1. Selenium (Se) | 58134 | 071223 | 0.1000 | 200.0 | 0.084 | 1000 | 10002.5 | **1000.0** | **2.2** | 7782-49-2 | 0.2 mg/m3 | orl-rat 6700 mg/kg | 3149 |






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271 of 389
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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 | Pr | <0.02 | Se | T | Tb | <0.02 | W | <0.02 |
| Sb | <0.02 | Ca | <0.2 | Er | <0.02 | Ho | <0.02 | Lu | <0.02 | Nb | <0.02 | Re | <0.02 | Si | <0.02 | Te | <0.02 | U | <0.02 |
| As | <0.2 | Ce | <0.02 | Eu | <0.02 | In | <0.02 | Mg | <0.01 | Os | <0.02 | Rh | <0.02 | Ag | <0.02 | Tl | <0.02 | V | <0.02 |
| Ba | <0.02 | Cs | <0.02 | Gd | <0.02 | Ir | <0.02 | Mn | <0.02 | Pd | <0.02 | Rb | <0.02 | Na | <0.2 | Th | <0.02 | Yb | <0.02 |
| Be | <0.01 | Cr | <0.02 | Ga | <0.02 | Fe | <0.2 | Hg | <0.2 | P | <0.02 | Ru | <0.02 | Sr | <0.02 | Tm | <0.02 | Y | <0.02 |
| Bi | <0.02 | Co | <0.02 | Ge | <0.02 | La | <0.02 | Mo | <0.02 | Pt | <0.02 | Sm | <0.02 | S | <0.02 | Sn | <0.02 | Zn | <0.02 |
| B | <0.02 | Cu | <0.02 | Au | <0.02 | Pb | <0.02 | Nd | <0.02 | K | <0.2 | Sc | <0.02 | Ta | <0.02 | Ti | <0.02 | Zr | <0.02 |

(T) = Target analyte

**Physical Characterization:**

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

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M5969 R: 06/11/24

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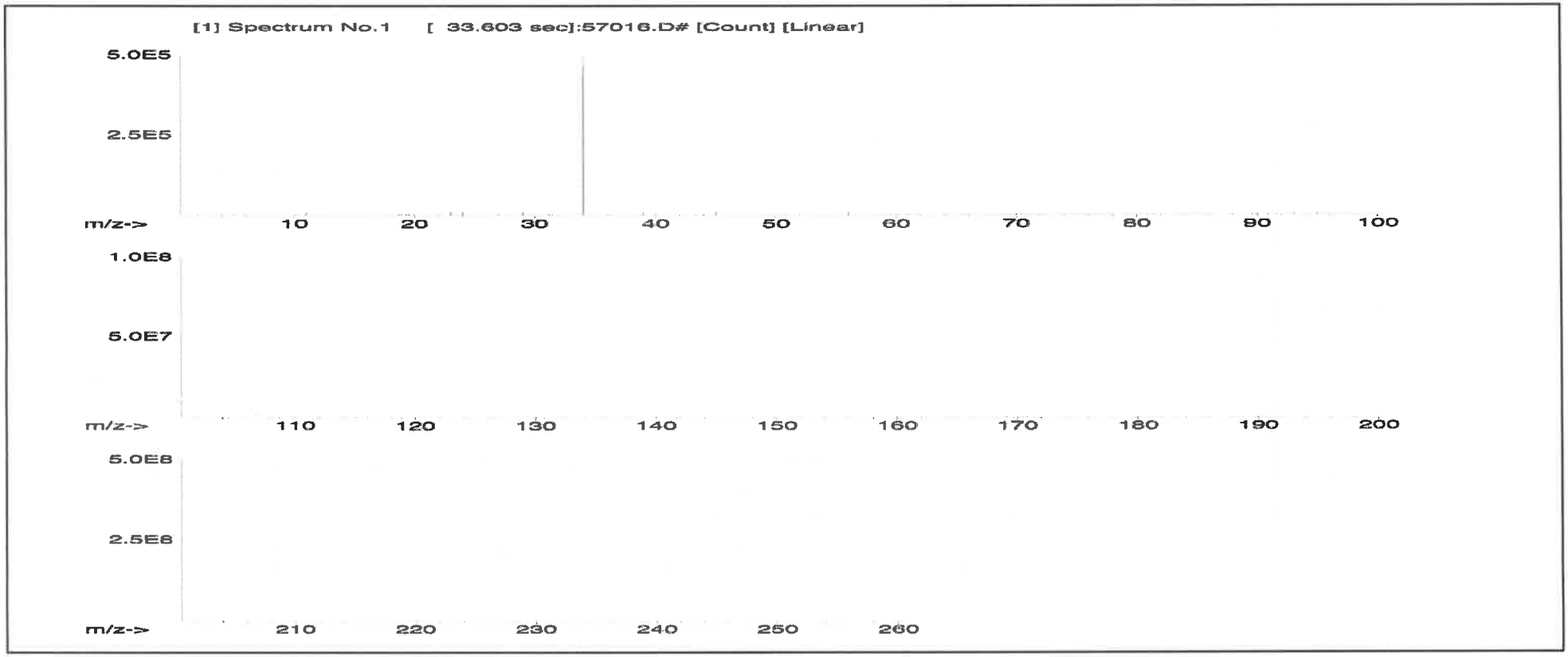


CERTIFIED WEIGHT REPORT:

| | | | | | |
|---|---|---|---|---|---|
| **Part Number:** | **57016** | | **Solvent:** | **Lot #** 122923 | ASTM Type 1 Water |
| **Lot Number:** | **122923** | | | | |
| **Description:** | **Sulfur (S)** | | | | |
| **Expiration Date:** | 122926 | | | | |
| **Recommended Storage:** | Ambient (20 °C) | | | | |
| **Nominal Concentration (µg/mL):** | **1000** | | | | |
| **NIST Test Number:** | 6UTB | 5E-05 | Balance Uncertainty | | |
| **Weight shown below was diluted to (mL):** | 4000.0 | 0.06 | Flask Uncertainty | | |

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

| Compound | RM# | Lot Number | Nominal Conc. (µg/mL) | Purity (%) | Uncertainty Purity (%) | Assay (%) | Target Weight (g) | Actual Weight (g) | Actual Conc. (µg/mL) | Expanded Uncertainty +/- (µg/mL) | SDS Information (Solvent Safety Info. On Attached pg.) CAS# | OSHA PEL (TWA) | LD50 | NIST SRM |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1. Ammonium sulfate (S) | IN117 | SLBR7225V | 1000 | 99.9 | 0.10 | 24.3 | 16.4979 | 16.4980 | **1000.0** | **2.0** | 7783-20-2 | NA | orl-rat 4250mg/kg | 3181 |



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M5970, M5971 R: 7/01/24

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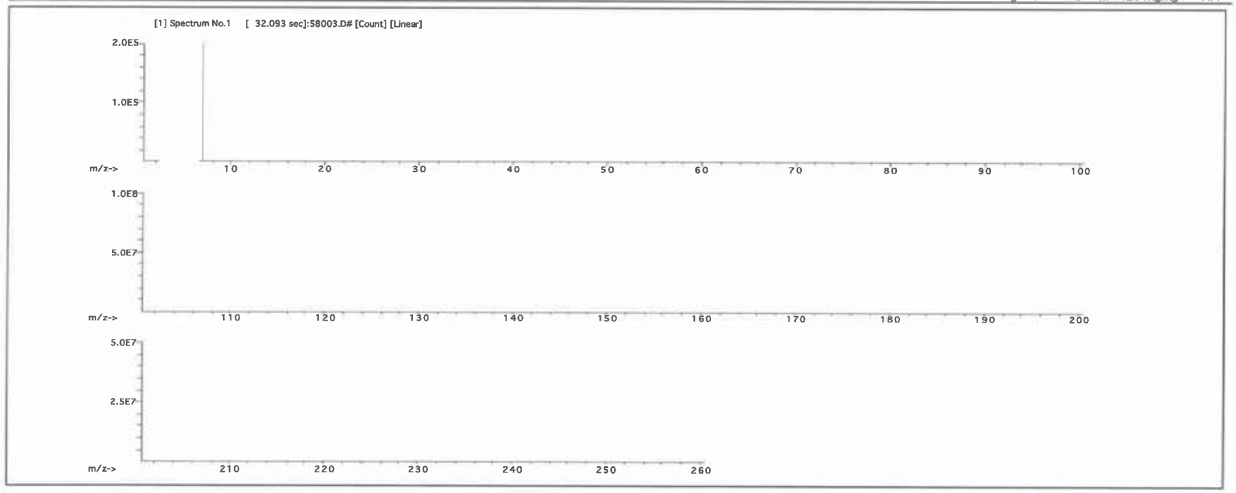
CERTIFIED WEIGHT REPORT:

| | | Lot # | Solvent: |
|---|---|---|---|
| **Part Number:** | **57003** | 24002546 | Nitric Acid |
| **Lot Number:** | **062124** | | |
| **Description:** | **Lithium (Li)** | | |
| | | 2.0% | 5.0 (mL) Nitric Acid |
| **Expiration Date:** | 062127 | | |
| **Recommended Storage:** | Ambient (20 °C) | | |
| **Nominal Concentration (µg/mL):** | **1000** | | |
| **NIST Test Number:** | 6UTB | 5E-05 Balance Uncertainty | |
| **Volume shown below was diluted to (mL):** | 250.11 | 0.016 Flask Uncertainty | |

Giovanni Esposito
Formulated By: Giovanni Esposito 062124

Pedro Rentas
Reviewed By: Pedro L. Rentas 062124

| Compound | Part Number | Lot Number | Dilution Factor | Initial Vol. (mL) | Uncertainty Pipette (mL) | Nominal Conc. (µg/mL) | Initial Conc. (µg/mL) | Final Conc. (µg/mL) | Expanded Uncertainty +/- (µg/mL) | SDS Information (Solvent Safety Info. On Attached pg.) CAS# | OSHA PEL (TWA) | LD50 | NIST SRM |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1. Lithium nitrate (Li) | 58103 | 070622 | 0.1000 | 25.0 | 0.004 | 1000 | 10000.4 | **1000.0** | **2.0** | 7790-69-4 | 5 mg/m3 | orl-rat 1426 mg/kg | NA |



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

(T) = Target analyte

**Physical Characterization:**

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

**Certified by:**

* The certified value is the concentration calculated from gravimetric and volumetric measurements unless otherwise stated.
* Purified acids, 18.2 megohm deionized water, calibrated Class A glassware and the highest purity raw materials are used in the preparation of all standards.
* All standard containers are meticulously cleaned prior to use.
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MS978, MS979

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R: 2/22/24

## 1.0 ACCREDITATION / REGISTRATION

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

ACCREDITED Testing Laboratory Certificate 865.01

ACCREDITED Reference Material Producer Certificate 865.02

## 2.0 PRODUCT DESCRIPTION

| | |
|---|---|
| Product Code: | Single Analyte Custom Grade Solution |
| Catalog Number: | CGT11 |
| Lot Number: | T2-TI719972 |
| Matrix: | 2% (v/v) HNO3<br>tr. HF |
| Value / Analyte(s): | 1 000 µg/mL ea:<br>Titanium |
| Starting Material: | TI Metal |
| Starting Material Lot#: | 2094 |
| Starting Material Purity: | 99.9975% |

## 3.0 CERTIFIED VALUES AND UNCERTAINTIES

**Certified Value:** 1002 ± 5 µg/mL

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

### Assay Information:

**Assay Method #1** **1002 ± 4 µg/mL**

ICP Assay NIST SRM 3162a Lot Number: 130925

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

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

### Characterization of CRM/RM by Two or More Methods

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

$$X_{CRM/RM} = \Sigma(w_i)\,(x_i)$$

$x_i$ = mean of Assay Method $i$ with standard uncertainty $u_{Char\,i}$

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

$$w_i = (1/u_{Char\,i})^2 \,/\, (\Sigma(1/u_{Char\,i})^2)$$

CRM/RM Expanded Uncertainty ($\pm$) = $U_{CRM/RM} = k\,(u^2_{Char} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

$k$ = coverage factor = 2

$u_{Char} = [\Sigma(w_i)^2\,(u_{Char\,i})^2]^{½}$ where $u_{Char\,i}$ are the errors from each characterization method

$u_{bb}$ = bottle to bottle homogeneity standard uncertainty

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

$u_{ts}$ = transport stability standard uncertainty

### Characterization of CRM/RM by One Method

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

$$X_{CRM/RM} = (\Sigma x_a)\,(n_{Char\,a})$$

$X_a$ = mean of Assay Method A with $n_{Char\,a}$ = the standard uncertainty of characterization Method A

CRM/RM Expanded Uncertainty ($\pm$) = $U_{CRM/RM} = k\,(u^2_{Char\,a} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

$k$ = coverage factor = 2

$u_{Char\,a}$ = the errors from characterization

$u_{bb}$ = bottle to bottle homogeneity standard uncertainty

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

$u_{ts}$ = transport stability standard uncertainty

## 4.0 TRACEABILITY TO NIST

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

### 4.1 Thermometer Calibration

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

### 4.2 Balance Calibration

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

### 4.3 Glassware Calibration

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

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

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

| | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| M | Ag | < | 0.000536 | M | Eu | < | 0.000268 | O | Na | < | 0.032670 | M | Se | | 0.001204 | O | Zn | < | 0.003267 |
| O | Al | | 0.000872 | O | Fe | | 0.003225 | O | Nb | < | 0.043560 | O | Si | | 0.004735 | O | Zr | < | 0.043560 |
| M | As | < | 0.008586 | M | Ga | < | 0.000268 | M | Nd | < | 0.000268 | M | Sm | < | 0.000268 | | | | |
| M | Au | < | 0.004577 | M | Gd | < | 0.000268 | O | Ni | < | 0.010890 | M | Sn | | 0.000096 | | | | |
| O | B | < | 0.008929 | M | Ge | < | 0.002146 | M | Os | < | 0.000269 | O | Sr | | 0.000096 | | | | |
| M | Ba | < | 0.002683 | M | Hf | | 0.002161 | O | P | < | 0.054450 | M | Ta | | 0.010560 | | | | |
| M | Be | < | 0.005366 | M | Hg | < | 0.003231 | M | Pb | < | 0.001073 | M | Tb | < | 0.000268 | | | | |
| M | Bi | < | 0.001609 | M | Ho | < | 0.000268 | M | Pd | < | 0.000268 | M | Te | < | 0.001341 | | | | |
| O | Ca | | 0.000676 | M | In | < | 0.002683 | M | Pr | < | 0.000268 | M | Th | < | 0.053663 | | | | |
| M | Cd | < | 0.000268 | M | Ir | < | 0.000269 | M | Pt | < | 0.000536 | s | Ti | < | | | | | |
| M | Ce | < | 0.000268 | M | K | | 0.001172 | M | Rb | < | 0.000268 | M | Tl | < | 0.000268 | | | | |
| M | Co | < | 0.004293 | M | La | < | 0.000268 | M | Re | < | 0.000268 | M | Tm | < | 0.000268 | | | | |
| M | Cr | | 0.000752 | O | Li | < | 0.027225 | M | Rh | < | 0.000268 | M | U | < | 0.000268 | | | | |
| M | Cs | < | 0.000268 | M | Lu | < | 0.000268 | M | Ru | < | 0.000269 | M | V | < | 0.019855 | | | | |
| O | Cu | < | 0.010890 | O | Mg | < | 0.005445 | i | S | < | | M | W | | 0.000473 | | | | |
| M | Dy | < | 0.000268 | O | Mn | < | 0.003267 | M | Sb | < | 0.006976 | M | Y | < | 0.002146 | | | | |
| M | Er | < | 0.000268 | M | Mo | | 0.000774 | O | Sc | < | 0.004900 | M | Yb | < | 0.000536 | | | | |

M - Checked by ICP-MS O - Checked by ICP-OES i - Spectral Interference
n - Not Checked For s - Solution Standard Element

## 6.0 INTENDED USE

- For the calibration of analytical instruments and validation of analytical methods as appropriate.

## 7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

### 7.1 Storage and Handling Recommendations

- Store between approximately 4° - 30° C while in sealed TCT bag.

- While stored in the sealed TCT bag, transpiration of this CRM/RM is negligible. After opening the sealed TCT bag transpiration of the CRM/RM will occur, resulting in a gradual increase in the analyte concentration(s). It is the responsibility of the user to account for this effect. When the bottle is weighed both before and after being placed in storage, the mass difference observed will be a measure of transpiration mass loss.

- After opening the sealed TCT bag, keep cap tightly sealed when not in use and store between 4° - 24° C to minimize the effects of transpiration. Use at 20° ± 4° C to minimize volumetric dilution error when using the reported density. Do not pipette from the container. Do not return removed aliquots to container.

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

**Atomic Weight; Valence; Coordination Number; Chemical Form In Solution -** 47.87 +4 6 Ti(F)6-2

**Chemical Compatibility -** Soluble in concentrated HCl, HF, H3PO4 H2SO4 and HNO3. Avoid neutral to basic media. Unstable at ppm levels with metals that would pull F- away (i.e. Do not mix with Alkaline or Rare Earths or high levels of transition elements unless they are fluorinated). Stable with most inorganic anions with a tendency to hydrolyze forming the hydrated oxide in all dilute acids except HF.

**Stability -** 2-100 ppb levels stable (Alone or mixed with all other metals) as the Ti(F)6-2 for months in 1% HNO3 / LDPE container. 1-10,000 ppm single element solutions as the Ti(F)6-2 for months in 1% 2-5% HNO3 / trace HF in an LDPE container.

**Ti Containing Samples (Preparation and Solution) -** Metal (Soluble in H2O / HF caution -powder reacts violently); Oxide - low temperature history anatase or rutile (Dissolved by heating in 1:1:1 H2O / HF / H2SO4); Oxide - high temperature history (~800EC) brookite (fuse in Pt0 with K2S2O7); Ores ( fuse in Pt0 with KF + K2SO7 - no KF if silica not present); Organic Matrices (Dry ash at 450EC in Pt0 and dissolve by heating with 1:1:1 H2O / HF / H2SO4 or fuse ash with pyrosulfate if oxide is as plastic pigment and likely in brookite crystalline form).

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

| Technique/Line | Estimated D.L. | Order | Interferences (underlined indicates severe) |
|---|---|---|---|
| ICP-MS 48 amu | 14 ppt | N/A | 32S16O, 32S14N, 14N16O18O, 14N17N2, 36Ar12C, 48Ca, [96X=2 (where X = Zr, Mo, Ru)] |
| ICP-OES 323.452 nm | 0.0054 / 0.00092 µg/mL | 1 | Ce, Ar, Ni |
| ICP-OES 334.941 nm | 0.0038 / 0.000028 µg/mL | 1 | Nb, Ta, Cr, U |
| ICP-OES 336.121 nm | 0.0053 / 0.000034 µg/mL | 1 | W, Mo, Co |

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

## 8.0 HAZARDOUS INFORMATION

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

## 9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

## 10.0 QUALITY STANDARD DOCUMENTATION

**10.1 ISO 9001 Quality Management System Registration**

- QSR Certificate Number QSR-1034

**10.2 ISO/IEC 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"**

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

**10.3 ISO 17034 "General Requirements for the Competence of Reference Material Producers"**

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

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## 11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

**11.1 Certification Issue Date**

June 17, 2022

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is stored and handled in accordance with instructions given in Sec 7.1. This certification is nullified if instructions in Sec 7.1 are not followed or if the CRM/RM is damaged, contaminated, or otherwise modified.

**11.2 Lot Expiration Date**

**- June 17, 2027**

- The date after which this CRM/RM should not be used.

- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on property 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 Kozlkowski
Manager, Quality Control

**Certifying Officer:**

Paul Gaines
Chairman / Senior Technical Director

INORGANIC VENTURES™
Refine your results. Redefine your industry.

# Certificate of Analysis

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MS985
R: 6/14/24

## 1.0 ACCREDITATION / REGISTRATION

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

ACCREDITED Testing Laboratory Certificate 863.01
ACCREDITED Reference Material Producer Certificate 863.02

## 2.0 PRODUCT DESCRIPTION

| | |
|---|---|
| Product Code: | Single Analyte Custom Grade Solution |
| Catalog Number: | CGIN10 |
| Lot Number: | U2-IN729349 |
| Matrix: | 5% (v/v) HNO3 |
| Value / Analyte(s): | 10 000 µg/mL ea: Indium |
| Starting Material: | Indium Metal |
| Starting Material Lot#: | 2511 |
| Starting Material Purity: | 99.9995% |

## 3.0 CERTIFIED VALUES AND UNCERTAINTIES

**Certified Value:** 10022 ± 30 µg/mL

**Density:** 1.044 g/mL (measured at 20 ± 4 °C)

**Assay Information:**

| | |
|---|---|
| **Assay Method #1** | **10021 ± 56 µg/mL**<br>ICP Assay NIST SRM 3124a Lot Number: 110516 |
| **Assay Method #2** | **10035 ± 25 µg/mL**<br>EDTA NIST SRM 928 Lot Number: 928 |
| **Assay Method #3** | **10001 ± 33 µg/mL**<br>Calculated NIST SRM Lot Number: See Sec. 4.2 |

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

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

### Characterization of CRM/RM by Two or More Methods

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

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

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

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

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

**CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\ (u^2_{char} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$**

k = coverage factor = 2

$u_{char} = [\Sigma((w_i)^2\ (u_{char\ i})^2)]^{½}$ where $u_{char\ i}$ are the errors from each characterization method

$u_{bb}$ = bottle to bottle homogeneity standard uncertainty

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

$u_{ts}$ = transport stability standard uncertainty

### Characterization of CRM/RM by One Method

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

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

$X_a$ = mean of Assay Method A with

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

**CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\ (u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$**

k = coverage factor = 2

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

$u_{bb}$ = bottle to bottle homogeneity standard uncertainty

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

$u_{ts}$ = transport stability standard uncertainty

## 4.0 TRACEABILITY TO NIST

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

### 4.1 Thermometer Calibration

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

### 4.2 Balance Calibration

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

### 4.3 Glassware Calibration

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

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

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

| | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| M | Ag | < | 0.000760 | M | Eu | < | 0.000760 | O | Na | | 0.012771 | M | Se | < | 0.023000 | M | Zn | < | 0.006100 |
| M | Al | | 0.003385 | O | Fe | | 0.004462 | M | Nb | < | 0.000760 | O | Si | | 0.024619 | M | Zr | < | 0.000760 |
| M | As | < | 0.004600 | M | Ga | < | 0.000760 | M | Nd | < | 0.000760 | M | Sm | < | 0.000760 | | | | |
| M | Au | < | 0.002300 | M | Gd | < | 0.000760 | O | Ni | < | 0.005100 | M | Sn | < | 0.000760 | | | | |
| O | B | | 0.003692 | M | Ge | < | 0.001600 | M | Os | < | 0.000760 | O | Sr | < | 0.000610 | | | | |
| M | Ba | < | 0.001600 | M | Hf | < | 0.000760 | n | P | < | | M | Ta | < | 0.000760 | | | | |
| O | Be | < | 0.000130 | M | Hg | < | 0.003100 | M | Pb | | 0.001400 | M | Tb | < | 0.000760 | | | | |
| M | Bi | < | 0.000760 | M | Ho | < | 0.000760 | M | Pd | < | 0.001600 | M | Te | < | 0.000760 | | | | |
| O | Ca | | 0.004616 | s | In | < | | M | Pr | < | 0.000760 | M | Th | < | 0.000760 | | | | |
| M | Cd | < | 0.000760 | M | Ir | < | 0.000760 | M | Pt | < | 0.000760 | O | Ti | < | 0.001100 | | | | |
| M | Ce | < | 0.000760 | O | K | | 0.007078 | M | Rb | < | 0.000760 | M | Tl | < | 0.000760 | | | | |
| M | Co | < | 0.000760 | M | La | < | 0.000760 | M | Re | < | 0.000760 | M | Tm | < | 0.000760 | | | | |
| O | Cr | < | 0.001300 | O | Li | < | 0.000130 | M | Rh | < | 0.000760 | M | U | < | 0.000760 | | | | |
| M | Cs | < | 0.000760 | M | Lu | < | 0.000760 | M | Ru | < | 0.000760 | M | V | < | 0.001600 | | | | |
| M | Cu | < | 0.003800 | O | Mg | | 0.000707 | n | S | < | | M | W | < | 0.001600 | | | | |
| M | Dy | < | 0.000760 | O | Mn | | 0.000149 | M | Sb | < | 0.000760 | M | Y | < | 0.000760 | | | | |
| M | Er | < | 0.000760 | M | Mo | < | 0.002300 | M | Sc | < | 0.000760 | M | Yb | < | 0.000760 | | | | |

M - Checked by ICP-MS  O - Checked by ICP-OES  i - Spectral Interference
n - Not Checked For  s - Solution Standard Element

## 6.0 INTENDED USE

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

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

## 7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

### 7.1 Storage and Handling Recommendations

- Store between approximately 4° - 30° C while in sealed TCT bag.

- While stored in the sealed TCT bag, transpiration of this CRM/RM is negligible. After opening the sealed TCT bag transpiration of the CRM/RM will occur, resulting in a gradual increase in the analyte concentration(s). It is the responsibility of the user to account for this effect. When the bottle is weighed both before and after being placed in storage, the mass difference observed will be a measure of transpiration mass loss.

- After opening the sealed TCT bag, keep cap tightly sealed when not in use and store between 4° - 24° C to minimize the effects of transpiration. Use at 20° ± 4° C to minimize volumetric dilution error when using the reported density. Do not pipette from the container. Do not return removed aliquots to container.

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

**Atomic Weight; Valence; Coordination Number; Chemical Form in Solution -** 114.82 +3 6 In(H2O)6+3

**Chemical Compatibility -**Soluble in HCl, HNO3, and H2SO4. Avoid neutral and basic media. Stable with most metals and inorganic anions. The oxalate, sulfide, carbonate, hydroxide and phosphate are insoluble in water.

**Stability -** 2-100 ppb levels stable for months in 1% HNO3 / LDPE container. 1-10,000 ppm solutions chemically stable for years in 2-5% HNO3 / LDPE container.

**In Containing Samples (Preparation and Solution) -**Metal (Best dissolved in HCl / HNO3 ); Oxide (Soluble in mineral acids); Ores (Carbonate fusion in Pt0 followed by HCl dissolution); Organic Matrices (Sulfuric/peroxide digestion or dry ash and dissolution in dilute HCl).

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

| **Technique/Line** | **Estimated D.L.** | **Order** | **Interferences** (underlined indicates severe) |
|---|---|---|---|
| ICP-MS 115 amu | 1 ppt | n/a | 115Sn, 99Ru16O |
| ICP-OES 158.583 nm | 0.05 / 0.002 µg/mL | 1 | |
| ICP-OES 230.606 nm | 0.1 / 0.03 µg/mL | 1 | Ni, Os |
| ICP-OES 325.609 nm | 0.2 / 0.05 µg/mL | 1 | Mn, Mo, Th |

## 8.0 HAZARDOUS INFORMATION

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

## 9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

## 10.0 QUALITY STANDARD DOCUMENTATION

### 10.1 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

### 10.2 ISO/IEC 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

**10.3 ISO 17034 "General Requirements for the Competence of Reference Material Producers"**

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

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## 11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

**11.1 Certification Issue Date**

February 21, 2023

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is stored and handled in accordance with instructions given in Sec 7.1. This certification is nullified if instructions in Sec 7.1 are not followed or if the CRM/RM is damaged, contaminated, or otherwise modified.

**11.2 Lot Expiration Date**

**- February 21, 2028**

- The date after which this CRM/RM should not be used.

- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

**11.3 Period of Validity**

- Sealed TCT Bag Open Date: _____

- This CRM/RM should not be used longer than one year (or six months in the case of a 30 mL bottle) from the date of opening the aluminized bag or after the date given in Sec. 11.2, whichever comes first. This is contingent upon the CRM/RM being stored and handled in accordance with the instructions given in Sec. 7.1.

## 12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

**Certificate Approved By:**

Thomas Kozikowski
Manager, Quality Control



**Certifying Officer:**

Paul Gaines
Chairman / Senior Technical Director



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# Certificate of Analysis

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R: 2/22/24
MS-997

## 1.0 ACCREDITATION / REGISTRATION

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

ACCREDITED Testing Laboratory Certificate 883.01
ACCREDITED Reference Material Producer Certificate 883.02

## 2.0 PRODUCT DESCRIPTION

| | |
|---|---|
| Product Code: | Multi Analyte Custom Grade Solution |
| Catalog Number: | CLPP-CAL-3 |
| Lot Number: | T2-MEB727800 |
| Matrix: | 7% (v/v) HNO3 |
| Value / Analyte(s): | 1 000 µg/mL ea:<br>Arsenic, Lead,<br>Selenium, Thallium,<br>500 µg/mL ea:<br>Cadmium |

## 3.0 CERTIFIED VALUES AND UNCERTAINTIES

| ANALYTE | CERTIFIED VALUE | ANALYTE | CERTIFIED VALUE |
|---|---|---|---|
| Arsenic, As | 1 000 ± 7 µg/mL | Cadmium, Cd | 500.0 ± 2.2 µg/mL |
| Lead, Pb | 1 000 ± 4 µg/mL | Selenium, Se | 1 000 ± 6 µg/mL |
| Thallium, Tl | 1 000 ± 7 µg/mL | | |

**Density:** 1.042 g/mL (measured at 20 ± 4 °C)

**Assay Information:**

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

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

### Characterization of CRM/RM by Two or More Methods

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

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

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

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

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

**CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{1/2}$**

k = coverage factor = 2

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

$u_{bb}$ = bottle to bottle homogeneity standard uncertainty

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

$u_{ts}$ = transport stability standard uncertainty

### Characterization of CRM/RM by One Method

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

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

$X_a$ = mean of Assay Method A with

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

**CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{1/2}$**

k = coverage factor = 2

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

$u_{bb}$ = bottle to bottle homogeneity standard uncertainty

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

$u_{ts}$ = transport stability standard uncertainty

## 4.0 TRACEABILITY TO NIST

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

### 4.1 Thermometer Calibration

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

### 4.2 Balance Calibration

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

### 4.3 Glassware Calibration

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

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

N/A

## 6.0 INTENDED USE

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

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

## 7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

### 7.1 Storage and Handling Recommendations

- Store between approximately 4° - 30° C while in sealed TCT bag.

- While stored in the sealed TCT bag, transpiration of this CRM/RM is negligible. After opening the sealed TCT bag transpiration of the CRM/RM will occur, resulting in a gradual increase in the analyte concentration(s). It is the responsibility of the user to account for this effect. When the bottle is weighed both before and after being placed in storage, the mass difference observed will be a measure of transpiration mass loss.

- After opening the sealed TCT bag, keep cap tightly sealed when not in use and store between 4° - 24° C to minimize the effects of transpiration. Use at 20° ± 4° C to minimize volumetric dilution error when using the reported density. Do not pipette from the container. Do not return removed aliquots to container.

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

## 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

December 21, 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

**- December 21, 2027**

- The date after which this CRM/RM should not be used.

- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

**11.3 Period of Validity**

- Sealed TCT Bag Open Date: _____

- This CRM/RM should not be used longer than one year (or six months in the case of a 30 mL bottle) from the date of opening the aluminized bag or after the date given in Sec. 11.2, whichever comes first. This is contingent upon the CRM/RM being stored and handled in accordance with the instructions given in Sec. 7.1.

## 12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

**Certificate Approved By:**

Thomas Kozikowski
Manager, Quality Control



**Certifying Officer:**

Paul Gaines
Chairman / Senior Technical Director



INORGANIC VENTURES
Refine your results. Redefine your industry.

# Certificate of Analysis

R! 08/22/24 M6058, M6059

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## 1.0 ACCREDITATION / REGISTRATION

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

ACCREDITED Testing Laboratory Certificate 883.01
ACCREDITED Reference Material Producer Certificate 883.02

## 2.0 PRODUCT DESCRIPTION

| | |
|---|---|
| Product Code: | Multi Analyte Custom Grade Solution |
| Catalog Number: | CHEM-CLP-4 |
| Lot Number: | V2-MEB746172 |
| Matrix: | 3% (v/v) HNO3<br>3% (v/v) HF |
| Value / Analyte(s): | 1 000 µg/mL ea:<br>Boron, Molybdenum,<br>Silicon, Tin,<br>Titanium |

## 3.0 CERTIFIED VALUES AND UNCERTAINTIES

| ANALYTE | CERTIFIED VALUE | ANALYTE | CERTIFIED VALUE |
|---|---|---|---|
| Boron, B | 1 000 ± 5 µg/mL | Molybdenum, Mo | 1 000 ± 5 µg/mL |
| Silicon, Si | 1 000 ± 7 µg/mL | Tin, Sn | 1 000 ± 5 µg/mL |
| Titanium, Ti | 1 000 ± 6 µg/mL | | |

**Density:** 1.032 g/mL (measured at 20 ± 4 °C)

**Assay Information:**

| ANALYTE | METHOD | NIST SRM# | SRM LOT# |
|---|---|---|---|
| B | ICP Assay | 3107 | 190605 |
| B | Calculated | | See Sec. 4.2 |
| Mo | ICP Assay | traceable to 3134 | U2-MO739068 |
| Si | ICP Assay | Traceable to 3150 | S2-SI702546 |
| Sn | ICP Assay | 3161a | 140917 |
| Ti | ICP Assay | traceable to 3162a | T2-TI725816 |

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

### Characterization of CRM/RM by Two or More Methods

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

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

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

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

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

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{1/2}$

k = coverage factor = 2

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

$u_{bb}$ = bottle to bottle homogeneity standard uncertainty

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

$u_{ts}$ = transport stability standard uncertainty

### Characterization of CRM/RM by One Method

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

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

$X_a$ = mean of Assay Method A with

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

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{1/2}$

k = coverage factor = 2

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

$u_{bb}$ = bottle to bottle homogeneity standard uncertainty

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

$u_{ts}$ = transport stability standard uncertainty

## 4.0 TRACEABILITY TO NIST

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

### 4.1 Thermometer Calibration

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

### 4.2 Balance Calibration

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

### 4.3 Glassware Calibration

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

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

N/A

## 6.0 INTENDED USE

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

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

## 7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

### 7.1 Storage and Handling Recommendations

- Store between approximately 4° - 30° C while in sealed TCT bag.

- While stored in the sealed TCT bag, transpiration of this CRM/RM is negligible. After opening the sealed TCT bag transpiration of the CRM/RM will occur, resulting in a gradual increase in the analyte concentration(s). It is the responsibility of the user to account for this effect. When the bottle is weighed both before and after being placed in storage, the mass difference observed will be a measure of transpiration mass loss.

- After opening the sealed TCT bag, keep cap tightly sealed when not in use and store between 4° - 24° C to minimize the effects of transpiration. Use at 20° ± 4° C to minimize volumetric dilution error when using the reported density. Do not pipette from the container. Do not return removed aliquots to container.

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

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

## 8.0 HAZARDOUS INFORMATION

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

## 9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

## 10.0 QUALITY STANDARD DOCUMENTATION

### 10.1 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

### 10.2 ISO/IEC 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

### 10.3 ISO 17034 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

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## 11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

### 11.1 Certification Issue Date

August 12, 2024

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is stored and handled in accordance with instructions given in Sec 7.1. This certification is nullified if instructions in Sec 7.1 are not followed or if the CRM/RM is damaged, contaminated, or otherwise modified.

### 11.2 Lot Expiration Date

**- August 12, 2029**

- The date after which this CRM/RM should not be used.

- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

**11.3 Period of Validity**

- Sealed TCT Bag Open Date: _____

- This CRM/RM should not be used longer than one year (or six months in the case of a 30 mL bottle) from the date of opening the aluminized bag or after the date given in Sec. 11.2, whichever comes first. This is contingent upon the CRM/RM being stored and handled in accordance with the instructions given in Sec. 7.1.

## 12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

**Certificate Approved By:**

Joseph Burns
Custom VS Manager



**Certifying Officer:**

Paul Gaines
Chairman / Senior Technical Director



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# Certificate of Analysis

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EXP.: 9/6/2029

## 1.0 ACCREDITATION / REGISTRATION

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

ACCREDITED Testing Laboratory Certificate 883.01
ACCREDITED Reference Material Producer Certificate 883.02

## 2.0 PRODUCT DESCRIPTION

| | |
|---|---|
| Product Code: | Multi Analyte Custom Grade Solution |
| Catalog Number: | CHEM-CLP-4 |
| Lot Number: | V2-MEB746762 |
| Matrix: | 3% (v/v) HNO3<br>3% (v/v) HF |
| Value / Analyte(s): | 1 000 µg/mL ea:<br>Boron, Molybdenum,<br>Silicon, Tin,<br>Titanium |

## 3.0 CERTIFIED VALUES AND UNCERTAINTIES

| ANALYTE | CERTIFIED VALUE | ANALYTE | CERTIFIED VALUE |
|---|---|---|---|
| Boron, B | 1 000 ± 5 µg/mL | Molybdenum, Mo | 1 000 ± 5 µg/mL |
| Silicon, Si | 1 000 ± 7 µg/mL | Tin, Sn | 1 000 ± 5 µg/mL |
| Titanium, Ti | 1 000 ± 6 µg/mL | | |

**Density:** 1.033 g/mL (measured at 20 ± 4 °C)

**Assay Information:**

| ANALYTE | METHOD | NIST SRM# | SRM LOT# |
|---|---|---|---|
| B | ICP Assay | 3107 | 190605 |
| B | Calculated | | See Sec. 4.2 |
| Mo | ICP Assay | traceable to 3134 | U2-MO739068 |
| Si | ICP Assay | Traceable to 3150 | S2-SI702546 |
| Sn | ICP Assay | 3161a | 140917 |
| Ti | ICP Assay | traceable to 3162a | T2-TI725816 |

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

### Characterization of CRM/RM by Two or More Methods

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

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

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

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

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

**CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$**

k = coverage factor = 2

$u_{char} = [\Sigma((w_i)^2\,(u_{char\ i})^2)]^{½}$ where $u_{char\ i}$ are the errors from each characterization method

$u_{bb}$ = bottle to bottle homogeneity standard uncertainty

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

$u_{ts}$ = transport stability standard uncertainty

### Characterization of CRM/RM by One Method

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

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

$X_a$ = mean of Assay Method A with

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

**CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$**

k = coverage factor = 2

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

$u_{bb}$ = bottle to bottle homogeneity standard uncertainty

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

$u_{ts}$ = transport stability standard uncertainty

## 4.0 TRACEABILITY TO NIST

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

### 4.1 Thermometer Calibration

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

### 4.2 Balance Calibration

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

### 4.3 Glassware Calibration

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

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

N/A

## 6.0 INTENDED USE

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

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

## 7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

### 7.1 Storage and Handling Recommendations

- Store between approximately 4° - 30° C while in sealed TCT bag.

- While stored in the sealed TCT bag, transpiration of this CRM/RM is negligible. After opening the sealed TCT bag transpiration of the CRM/RM will occur, resulting in a gradual increase in the analyte concentration(s). It is the responsibility of the user to account for this effect. When the bottle is weighed both before and after being placed in storage, the mass difference observed will be a measure of transpiration mass loss.

- After opening the sealed TCT bag, keep cap tightly sealed when not in use and store between 4° - 24° C to minimize the effects of transpiration. Use at 20° ± 4° C to minimize volumetric dilution error when using the reported density. Do not pipette from the container. Do not return removed aliquots to container.

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

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

## 8.0 HAZARDOUS INFORMATION

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

## 9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

## 10.0 QUALITY STANDARD DOCUMENTATION

### 10.1 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

### 10.2 ISO/IEC 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

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## 11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

### 11.1 Certification Issue Date

September 06, 2024

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is stored and handled in accordance with instructions given in Sec 7.1. This certification is nullified if instructions in Sec 7.1 are not followed or if the CRM/RM is damaged, contaminated, or otherwise modified.

### 11.2 Lot Expiration Date

**- September 06, 2029**

- The date after which this CRM/RM should not be used.

- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

**11.3 Period of Validity**

- Sealed TCT Bag Open Date: _____

- This CRM/RM should not be used longer than one year (or six months in the case of a 30 mL bottle) from the date of opening the aluminized bag or after the date given in Sec. 11.2, whichever comes first. This is contingent upon the CRM/RM being stored and handled in accordance with the instructions given in Sec. 7.1.

## 12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

**Certificate Approved By:**

Joseph Burns
Custom VS Manager



**Certifying Officer:**

Paul Gaines
Chairman / Senior Technical Director



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# Certificate of Analysis

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EXP.: 9/6/2029

## 1.0 ACCREDITATION / REGISTRATION

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ACCREDITED Testing Laboratory Certificate 883.01
ACCREDITED Reference Material Producer Certificate 883.02

## 2.0 PRODUCT DESCRIPTION

| | |
|---|---|
| Product Code: | Multi Analyte Custom Grade Solution |
| Catalog Number: | CHEM-CLP-4 |
| Lot Number: | V2-MEB746762 |
| Matrix: | 3% (v/v) HNO3<br>3% (v/v) HF |
| Value / Analyte(s): | 1 000 µg/mL ea:<br>Boron, Molybdenum,<br>Silicon, Tin,<br>Titanium |

## 3.0 CERTIFIED VALUES AND UNCERTAINTIES

| ANALYTE | CERTIFIED VALUE | ANALYTE | CERTIFIED VALUE |
|---|---|---|---|
| Boron, B | 1 000 ± 5 µg/mL | Molybdenum, Mo | 1 000 ± 5 µg/mL |
| Silicon, Si | 1 000 ± 7 µg/mL | Tin, Sn | 1 000 ± 5 µg/mL |
| Titanium, Ti | 1 000 ± 6 µg/mL | | |

**Density:** 1.033 g/mL (measured at 20 ± 4 °C)

**Assay Information:**

| ANALYTE | METHOD | NIST SRM# | SRM LOT# |
|---|---|---|---|
| B | ICP Assay | 3107 | 190605 |
| B | Calculated | | See Sec. 4.2 |
| Mo | ICP Assay | traceable to 3134 | U2-MO739068 |
| Si | ICP Assay | Traceable to 3150 | S2-SI702546 |
| Sn | ICP Assay | 3161a | 140917 |
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**CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$**

k = coverage factor = 2

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

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k = coverage factor = 2

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

$u_{bb}$ = bottle to bottle homogeneity standard uncertainty

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## 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.

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### 4.2 Balance Calibration

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

### 4.3 Glassware Calibration

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

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

N/A

## 6.0 INTENDED USE

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

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

## 7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

### 7.1 Storage and Handling Recommendations

- Store between approximately 4° - 30° C while in sealed TCT bag.

- While stored in the sealed TCT bag, transpiration of this CRM/RM is negligible. After opening the sealed TCT bag transpiration of the CRM/RM will occur, resulting in a gradual increase in the analyte concentration(s). It is the responsibility of the user to account for this effect. When the bottle is weighed both before and after being placed in storage, the mass difference observed will be a measure of transpiration mass loss.

- After opening the sealed TCT bag, keep cap tightly sealed when not in use and store between 4° - 24° C to minimize the effects of transpiration. Use at 20° ± 4° C to minimize volumetric dilution error when using the reported density. Do not pipette from the container. Do not return removed aliquots to container.

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

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

## 8.0 HAZARDOUS INFORMATION

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

## 9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

## 10.0 QUALITY STANDARD DOCUMENTATION

### 10.1 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

### 10.2 ISO/IEC 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

### 10.3 ISO 17034 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

Inorganic Ventures, 300 Technology Drive, Christiansburg, Va. 24073, USA; Telephone: 800.669.6799; 540.585.3030, Fax: 540.585.3012; inorganicventures.com; info@inorganicventures.com

## 11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

### 11.1 Certification Issue Date

September 06, 2024

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is stored and handled in accordance with instructions given in Sec 7.1. This certification is nullified if instructions in Sec 7.1 are not followed or if the CRM/RM is damaged, contaminated, or otherwise modified.

### 11.2 Lot Expiration Date

**- September 06, 2029**

- The date after which this CRM/RM should not be used.

- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

**11.3 Period of Validity**

- Sealed TCT Bag Open Date: _____

- This CRM/RM should not be used longer than one year (or six months in the case of a 30 mL bottle) from the date of opening the aluminized bag or after the date given in Sec. 11.2, whichever comes first. This is contingent upon the CRM/RM being stored and handled in accordance with the instructions given in Sec. 7.1.

## 12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

**Certificate Approved By:**

Joseph Burns
Custom VS Manager



**Certifying Officer:**

Paul Gaines
Chairman / Senior Technical Director



**Absolute Standards, Inc.**
800-368-1131
www.absolutestandards.com

***Certified Reference Material CRM***

ANAB ISO 17034 Accredited
AR-1539 Certificate Number
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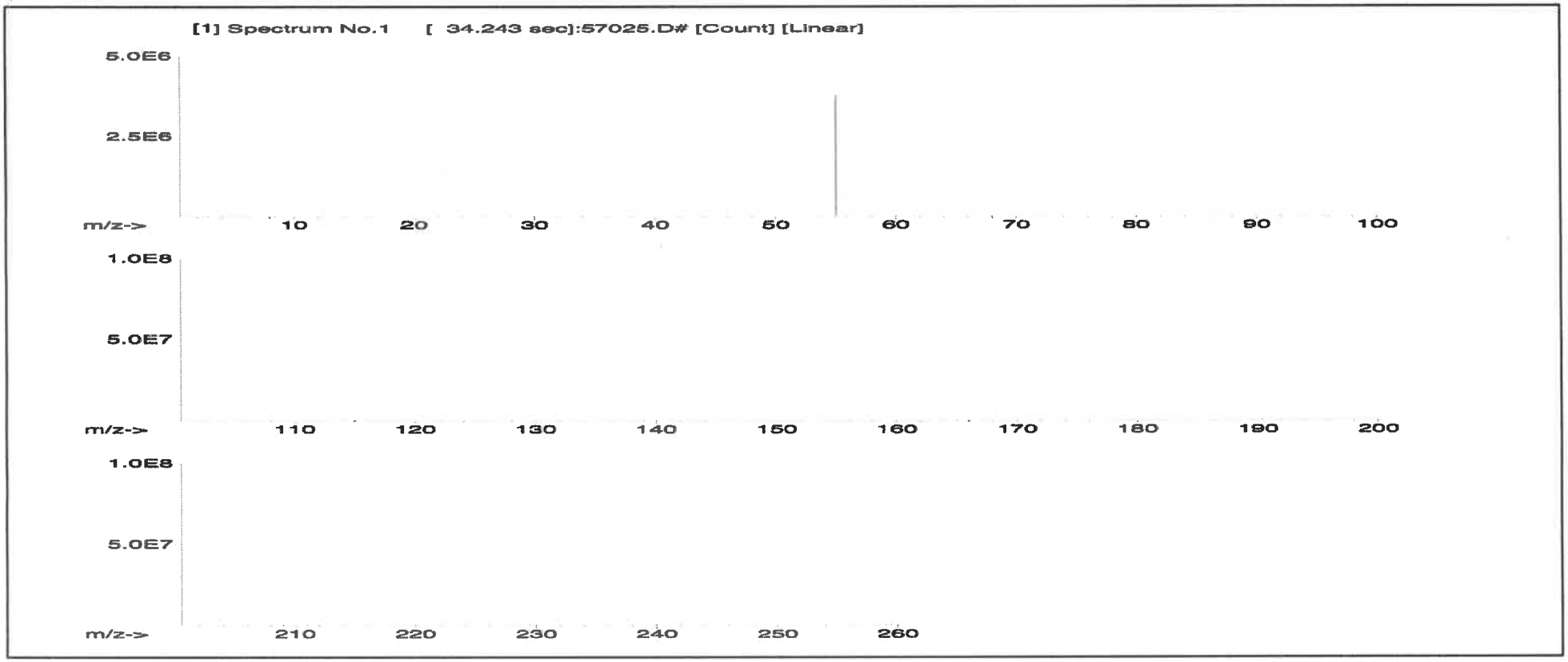
## CERTIFIED WEIGHT REPORT:

R->1/13/25
M6128

| | | | | | |
|---|---|---|---|---|---|
| **Part Number:** | **58025** | | **Solvent:** | **Lot #** 24002546 | Nitric Acid |
| **Lot Number:** | **101124** | | | | |
| **Description:** | **Manganese (Mn)** | | 2% | 80.0 (mL) | Nitric Acid |
| **Expiration Date:** | 101127 | | | | |
| **Recommended Storage:** | Ambient (20 °C) | | | | |
| **Nominal Concentration (µg/mL):** | **1000** | | | | |
| **NIST Test Number:** | 6UTB | 5E-05 | Balance Uncertainty | | |
| **Weight shown below was diluted to (mL):** | 4000.2 | 0.10 | Flask Uncertainty | | |

| | | |
|---|---|---|
| Giovanni Esposito | | |
| Formulated By: | Giovanni Esposito | 101124 |
| Pedro Rentas | | |
| Reviewed By: | Pedro L. Rentas | 101124 |

| Compound | RM# | Lot Number | Nominal Conc. (µg/mL) | Purity (%) | Uncertainty Purity (%) | Assay (%) | Target Weight (g) | Actual Weight (g) | **Actual Conc. (µg/mL)** | Expanded Uncertainty +/- (µg/mL) | **SDS Information** (Solvent Safety Info. On Attached pg.) CAS# | OSHA PEL (TWA) | LD50 | NIST SRM |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1. Manganese(II) nitrate hydrate (Mn) | IN031 | MNM092020A1 | 1000 | 99.999 | 0.10 | 20.8 | 19.2322 | 19.2344 | **1000.1** | **2.0** | 15710-66-4 | 5 mg/m3 | orl-rat >300mg/kg | 3132 |



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Revised



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

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

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

(T) = Target analyte

## Physical Characterization:

**Certified by:**

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

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

INORGANIC VENTURES
Refine your results. Redefine your industry.

# Certificate of Analysis

300 Technology Drive
Christiansburg, VA 24073 USA
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F: 540-585-3012
info@inorganicventures.com

M6137
R→10/3/24

## 1.0 ACCREDITATION / REGISTRATION

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

ACCREDITED Testing Laboratory Certificate 883.01
ACCREDITED Reference Material Producer Certificate 883.02

## 2.0 PRODUCT DESCRIPTION

| | |
|---|---|
| Product Code: | Single Analyte Custom Grade Solution |
| Catalog Number: | CGSI1 |
| Lot Number: | V2-SI744713 |
| Matrix: | tr. HNO3<br>tr. HF |
| Value / Analyte(s): | 1 000 µg/mL ea:<br>Silicon |
| Starting Material: | Silica |
| Starting Material Lot#: | 1771 |
| Starting Material Purity: | 99.9981% |

## 3.0 CERTIFIED VALUES AND UNCERTAINTIES

**Certified Value:** 999 ± 6 µg/mL

**Density:** 1.003 g/mL (measured at 20 ± 4 °C)

**Assay Information:**

**Assay Method #1** **999 ± 5 µg/mL**
ICP Assay NIST SRM Traceable to 3150 Lot Number: S2-SI702546

**Assay Method #2** **1000 ± 7 µg/mL**
Calculated NIST SRM Lot Number: See Sec. 4.2

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

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

### Characterization of CRM/RM by Two or More Methods

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

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

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

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

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

**CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$**

k = coverage factor = 2

$u_{char} = [\Sigma((w_i)^2 (u_{char\ i})^2)]^{½}$ where $u_{char\ i}$ are the errors from each characterization method

$u_{bb}$ = bottle to bottle homogeneity standard uncertainty

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

$u_{ts}$ = transport stability standard uncertainty

### Characterization of CRM/RM by One Method

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

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

$X_a$ = mean of Assay Method A with

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

**CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$**

k = coverage factor = 2

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

$u_{bb}$ = bottle to bottle homogeneity standard uncertainty

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

$u_{ts}$ = transport stability standard uncertainty

## 4.0 TRACEABILITY TO NIST

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

### 4.1 Thermometer Calibration

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

### 4.2 Balance Calibration

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

### 4.3 Glassware Calibration

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

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

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

| | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| M | Ag | < | 0.000310 | M | Eu | < | 0.000310 | O | Na | | 0.001656 | M | Se | < | 0.022000 | M | Zn | < | 0.002500 |
| M | Al | | 0.010787 | M | Fe | < | 0.027000 | M | Nb | < | 0.001300 | s | Si | < | | O | Zr | < | 0.001900 |
| M | As | < | 0.001900 | M | Ga | < | 0.001300 | M | Nd | < | 0.000310 | M | Sm | < | 0.000310 | | | | |
| M | Au | < | 0.000910 | M | Gd | < | 0.000310 | M | Ni | < | 0.005500 | M | Sn | | 0.000096 | | | | |
| M | B | | 0.016180 | M | Ge | < | 0.001900 | M | Os | < | 0.000610 | O | Sr | | 0.000092 | | | | |
| M | Ba | | 0.000096 | M | Hf | | 0.000423 | i | P | < | | M | Ta | | 0.002542 | | | | |
| O | Be | < | 0.000570 | M | Hg | < | 0.000610 | M | Pb | < | 0.000310 | M | Tb | < | 0.000310 | | | | |
| M | Bi | < | 0.000310 | M | Ho | < | 0.000610 | M | Pd | < | 0.000610 | M | Te | < | 0.000910 | | | | |
| O | Ca | | 0.011557 | M | In | < | 0.000310 | M | Pr | < | 0.000310 | M | Th | < | 0.001900 | | | | |
| M | Cd | < | 0.000310 | M | Ir | < | 0.000310 | M | Pt | < | 0.000310 | M | Ti | | 0.001078 | | | | |
| M | Ce | < | 0.000610 | O | K | | 0.000577 | M | Rb | < | 0.009100 | M | Tl | < | 0.000310 | | | | |
| M | Co | < | 0.001600 | M | La | < | 0.000310 | M | Re | < | 0.000310 | M | Tm | < | 0.000310 | | | | |
| M | Cr | < | 0.010000 | O | Li | < | 0.000460 | M | Rh | < | 0.000310 | M | U | < | 0.000310 | | | | |
| M | Cs | < | 0.000310 | M | Lu | < | 0.000310 | M | Ru | < | 0.000310 | O | V | < | 0.001300 | | | | |
| M | Cu | < | 0.002500 | O | Mg | | 0.001348 | O | S | < | 0.570000 | M | W | < | 0.001900 | | | | |
| M | Dy | < | 0.000310 | M | Mn | < | 0.002500 | M | Sb | < | 0.000310 | M | Y | < | 0.000310 | | | | |
| M | Er | < | 0.000310 | M | Mo | < | 0.000310 | O | Sc | < | 0.000590 | M | Yb | < | 0.000310 | | | | |

M - Checked by ICP-MS  O - Checked by ICP-OES  i - Spectral Interference
n - Not Checked For  s - Solution Standard Element

## 6.0 INTENDED USE

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

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

## 7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

### 7.1 Storage and Handling Recommendations

- Store between approximately 4° - 30° C while in sealed TCT bag.

- While stored in the sealed TCT bag, transpiration of this CRM/RM is negligible. After opening the sealed TCT bag transpiration of the CRM/RM will occur, resulting in a gradual increase in the analyte concentration(s). It is the responsibility of the user to account for this effect. When the bottle is weighed both before and after being placed in storage, the mass difference observed will be a measure of transpiration mass loss.

- After opening the sealed TCT bag, keep cap tightly sealed when not in use and store between 4° - 24° C to minimize the effects of transpiration. Use at 20° ± 4° C to minimize volumetric dilution error when using the reported density. Do not pipette from the container. Do not return removed aliquots to container.

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

**Atomic Weight; Valence; Coordination Number; Chemical Form in Solution** - 28.09 +4 6 Si(OH)x(F)y2-

**Chemical Compatibility** -Soluble in HCl, HF, H3PO4 H2SO4 and HNO3 as the Si(OH)x(F)y2-. Avoid neutral to basic media. Unstable at ppm levels with metals that would pull F- away ( i.e. Do not mix with Alkaline or Rare Earths, or high levels of transition elements unless they are fluorinated. Stable with most inorganic anions with a tendency to hydrolyze forming silicic acid (silicic acid is soluble up to ∼100 ppm in water) in all dilute acids except HF.

**Stability** - 2-100 ppb levels - stability unknown - (alone or mixed with all other metals) as the Si(OH)x(F)y2-. 1-10,000 ppm single element solutions as the Si(OH)x(F)y2- chemically stable for years in 2-5 % HNO3 / trace HF in a LDPE container.

**Si Containing Samples (Preparation and Solution)** -Metal (Soluble in 1:1:1 H2O / HF / HNO3); Oxide - SiO2, amorphic (dissolve by heating in 1:1:1 H2O / HF / HNO3); Oxide - quartz (fuse in Pt0 with Na2CO3); Geological Samples(fuse in Pt0with Na2CO3 followed by HCl solution of the fuseate); Organic Matrices containing silicates and non volatile silicon compounds (dry ash at 4500C in Pt0 and dissolve by gently warming with 1:1:1 H2O / HF / H2SO4 or fuse / ash with Na2CO3 and dissolve fuseate with HCl / H2O ); Silicone Oils - dimethyl silicones depolymerize to form volatile monomer units when heated (Measure directly in alcoholic KOH / xylene mixture where sample is treated first with the KOH at 60-1000C to "unzip" the Si- O-Si polymeric structure or digest with conc. H2SO4 / H2O2 followed by cooling and dissolution of the dehydrated silica with HF.) Note that the direct analysis of silicone oils in an organic solvent will result in false high results due to high vapor pressure of volatile monomer units like hexamethylcyclotrisiloxane. The KOH forms the K2+Si(CH3)2O= salt which is not volatile at room temperature.

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

| **Technique/Line** | **Estimated D.L.** | **Order** | **Interferences** (underlined indicates severe) |
|---|---|---|---|
| ICP-MS 28 amu | 4000 - 8000 ppt | N/A | N2, 12C16O |
| ICP-OES 212.412 nm | 0.02/0.01 µg/mL | 1 | Hf, Os, Mo, Ta |
| ICP-OES 251.611 nm | 0.012/0.003 µg/mL | 1 | Ta, U, Zn, Th |
| ICP-OES 288.158 nm | 0.03/0.004 µg/mL | 1 | Ta, Ce, Cr, Cd, Th |

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

## 8.0 HAZARDOUS INFORMATION

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

## 9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

## 10.0 QUALITY STANDARD DOCUMENTATION

### 10.1 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

### 10.2 ISO/IEC 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

### 10.3 ISO 17034 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

Inorganic Ventures, 300 Technology Drive, Christiansburg, Va. 24073, USA; Telephone: 800.669.6799; 540.585.3030, Fax: 540.585.3012; inorganicventures.com; info@inorganicventures.com

## 11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

### 11.1 Certification Issue Date

July 10, 2024

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is stored and handled in accordance with instructions given in Sec 7.1. This certification is nullified if instructions in Sec 7.1 are not followed or if the CRM/RM is damaged, contaminated, or otherwise modified.

### 11.2 Lot Expiration Date

- **July 10, 2029**

- The date after which this CRM/RM should not be used.

- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

### 11.3 Period of Validity

- Sealed TCT Bag Open Date: _____

- This CRM/RM should not be used longer than one year (or six months in the case of a 30 mL bottle) from the date of opening the aluminized bag or after the date given in Sec. 11.2, whichever comes first. This is contingent upon the CRM/RM being stored and handled in accordance with the instructions given in Sec. 7.1.

## 12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

**Certificate Prepared By:**

Uyen Truong
Custom Processing Supervisor

**Certificate Approved By:**

Muzzammil Khan
Stock Laboratory Supervisor

**Certifying Officer:**

Paul Gaines
Chairman / Senior Technical Director

**Absolute Standards, Inc.**
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www.absolutestandards.com

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https://Absolutestandards.com

M6138
R->1/13/25

CERTIFIED WEIGHT REPORT:

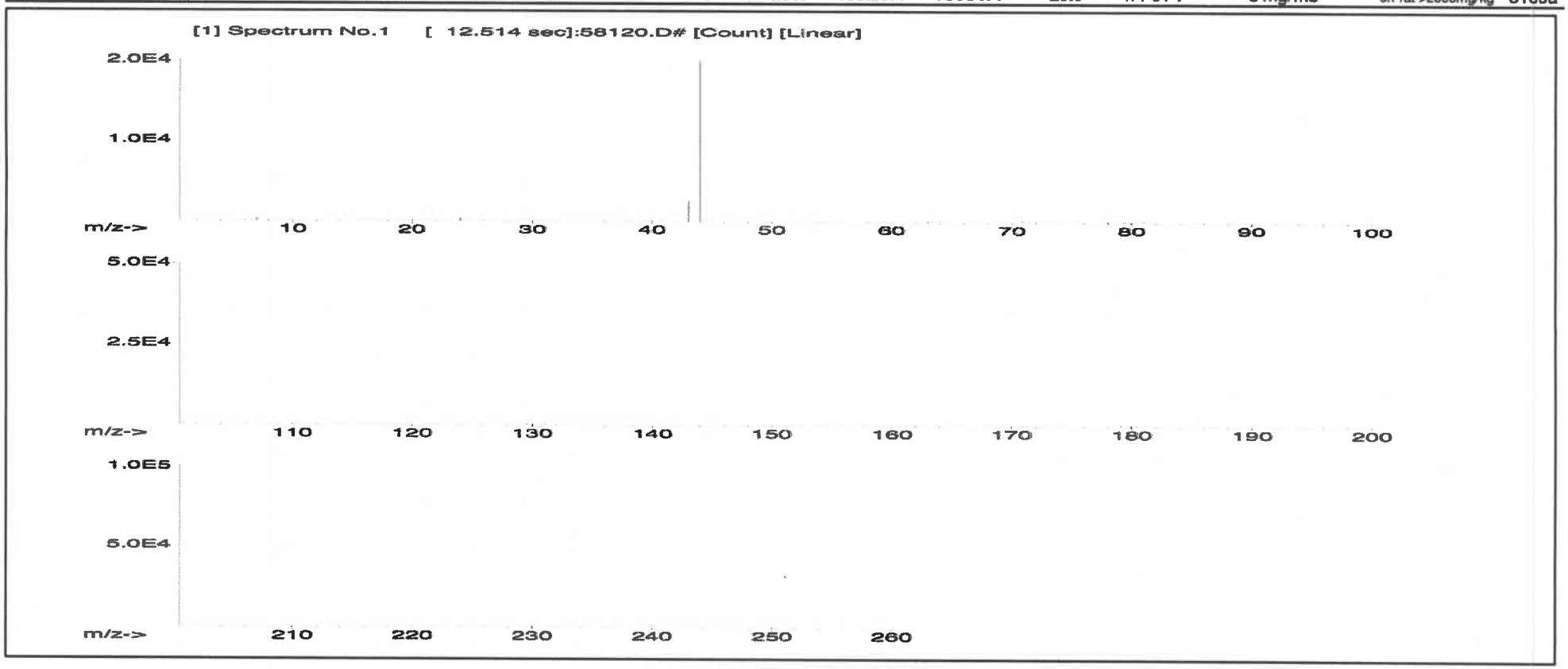
**Part Number:** 58120
**Lot Number:** 121824
**Description:** Calcium (Ca)
**Expiration Date:** 121827
**Recommended Storage:** Ambient (20 °C)
**Nominal Concentration (µg/mL):** 10000
**NIST Test Number:** 6UTB
**Weight shown below was diluted to (mL):** 4000.1

| | Lot # | | | |
|---|---|---|---|---|
| **Solvent:** | 24012496 | Nitric Acid | | |
| 2% | 80.0 (mL) | Nitric Acid | | |
| | | | 5E-05 | Balance Uncertainty |
| | | | 0.15 | Flask Uncertainty |

Giovanni Esposito

| | | |
|---|---|---|
| Formulated By: | Giovanni Esposito | 121824 |
| Reviewed By: | Pedro L. Rentas | 121824 |

| Compound | RM# | Lot Number | Nominal Conc. (µg/mL) | Purity (%) | Uncertainty Purity (%) | Assay (%) | Target Weight (g) | Actual Weight (g) | Actual Conc. (µg/mL) | Expanded Uncertainty +/- (µg/mL) | SDS Information (Solvent Safety Info. On Attached pg.) CAS# | OSHA PEL (TWA) | LD50 | NIST SRM |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1. Calcium carbonate (Ca) | IN014 | CAD03203B3 | 10000 | 99.999 | 0.10 | 39.9 | 100.2537 | 100.2677 | **10001.4** | **20.0** | 471-34-1 | 5 mg/m3 | orl-rat >2000mg/kg | 3109a |



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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 | Pr | <0.02 | Se | <0.2 | Tb | <0.02 | W | <0.02 |
| Sb | <0.02 | Ca | T | Er | <0.02 | Ho | <0.02 | Lu | <0.02 | Nb | <0.02 | Re | <0.02 | Si | <0.02 | Te | <0.02 | U | <0.02 |
| As | <0.2 | Ce | <0.02 | Eu | <0.02 | In | <0.02 | Mg | <0.01 | Os | <0.02 | Rh | <0.02 | Ag | <0.02 | Tl | <0.02 | V | <0.02 |
| Ba | <0.02 | Cs | <0.02 | Gd | <0.02 | Ir | <0.02 | Mn | <0.02 | Pd | <0.02 | Rb | <0.02 | Na | <0.2 | Th | <0.02 | Yb | <0.02 |
| Be | <0.01 | Cr | <0.02 | Ga | <0.02 | Fe | 30 | Hg | <0.2 | P | <0.02 | Ru | <0.02 | Sr | <0.02 | Tm | <0.02 | Y | <0.02 |
| Bi | <0.02 | Co | <0.02 | Ge | <0.02 | La | <0.02 | Mo | <0.02 | Pt | <0.02 | Sm | <0.02 | S | <0.02 | Sn | <0.02 | Zn | <0.02 |
| B | <0.02 | Cu | <0.02 | Au | <0.02 | Pb | <0.02 | Nd | <0.02 | K | <0.2 | Sc | <0.02 | Ta | <0.02 | Ti | <0.02 | Zr | <0.02 |

(T) = Target analyte

## Physical Characterization:

**Certified by:**

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

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

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CERTIFIED WEIGHT REPORT:

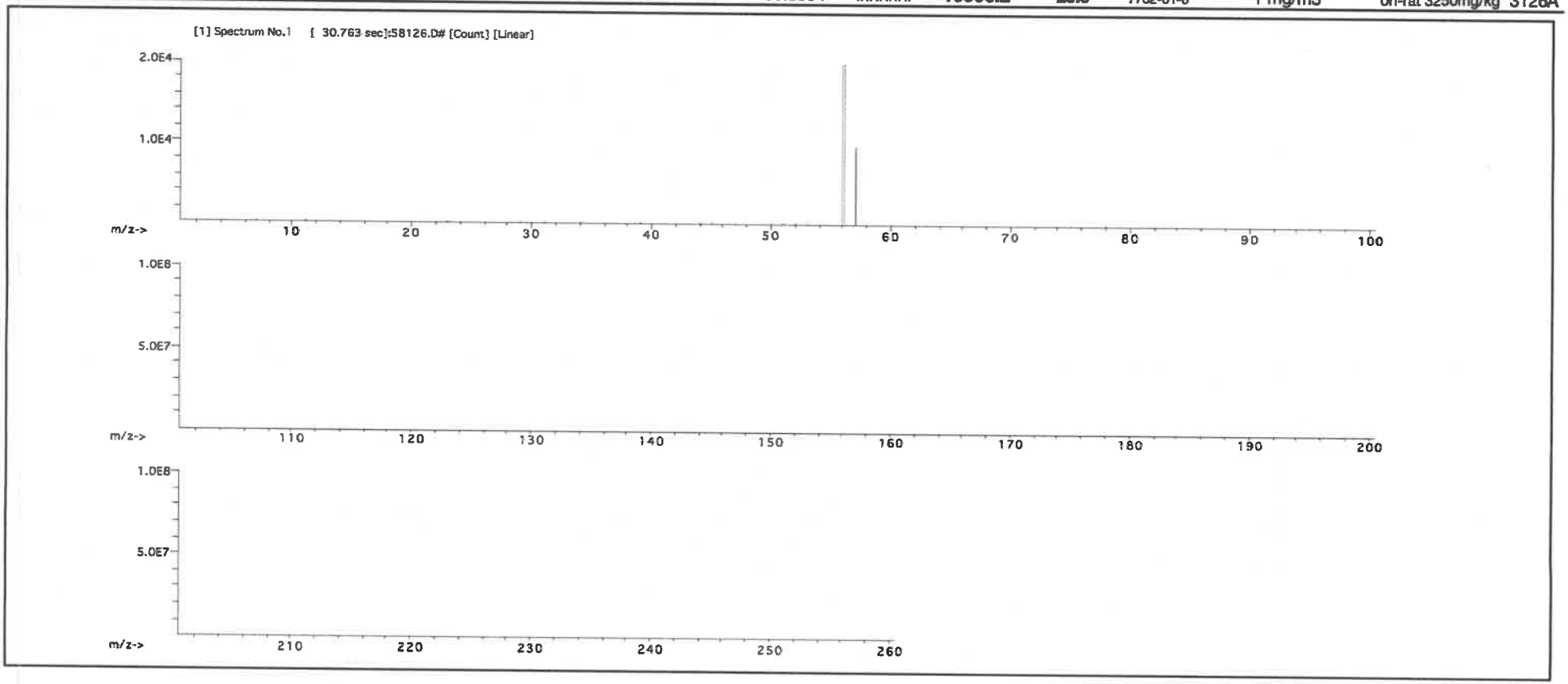
**Part Number:** 58126 R->1|B|2S
**Lot Number:** 011025
**Description:** Iron (Fe) M6140
**Expiration Date:** 011028
**Recommended Storage:** Ambient (20 °C)
**Nominal Concentration (µg/mL):** 10000
**NIST Test Number:** 6UTB
**Weight shown below was diluted to (mL):** 2000.07

| | Lot # | | |
|---|---|---|---|
| **Solvent:** | 24012496 | Nitric Acid | |
| 2% | 40.0 (mL) | Nitric Acid | |

5E-05 Balance Uncertainty
0.100 Flask Uncertainty

| | | |
|---|---|---|
| Formulated By: | Benson Chan | 011025 |
| Reviewed By: | Pedro L. Rentas | 011025 |

| Compound | RM# | Lot Number | Nominal Conc. (µg/mL) | Purity (%) | Uncertainty Purity (%) | Assay (%) | Target Weight (g) | Actual Weight (g) | Actual Conc. (µg/mL) | Expanded Uncertainty +/- (µg/mL) | SDS Information (Solvent Safety Info. On Attached pg.) CAS# | OSHA PEL (TWA) | LD50 | NIST SRM |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1. Iron(III) nitrate nonahydrate (Fe) | IN028 | FED082023A1 | 10000 | 99.999 | 0.10 | 13.0 | 153.8534 | ###### | **10000.2** | **20.0** | 7782-61-8 | 1 mg/m3 | orl-rat 3250mg/kg | 3126A |



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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 | 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 | T | Hg | <0.2 | P | <0.02 | Ru | <0.02 | Sr | <0.02 | Tm | <0.02 | Y | <0.02 |
| Bi | <0.02 | Co | <0.02 | Ge | <0.02 | La | <0.02 | Mo | <0.02 | Pt | <0.02 | Sm | <0.02 | S | <0.02 | Sn | <0.02 | Zn | <0.02 |
| B | <0.02 | Cu | <0.02 | Au | <0.02 | Pb | <0.02 | Nd | <0.02 | K | <0.2 | Sc | <0.02 | Ta | <0.02 | Ti | <0.02 | Zr | <0.02 |

(T)= Target analyte

## Physical Characterization:

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

Certified by:

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

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CERTIFIED WEIGHT REPORT:

R-> 1/13/25

**Part Number:** 57119
**Lot Number:** 103024
**Description:** Potassium (K)

M6141
M6142
M6143

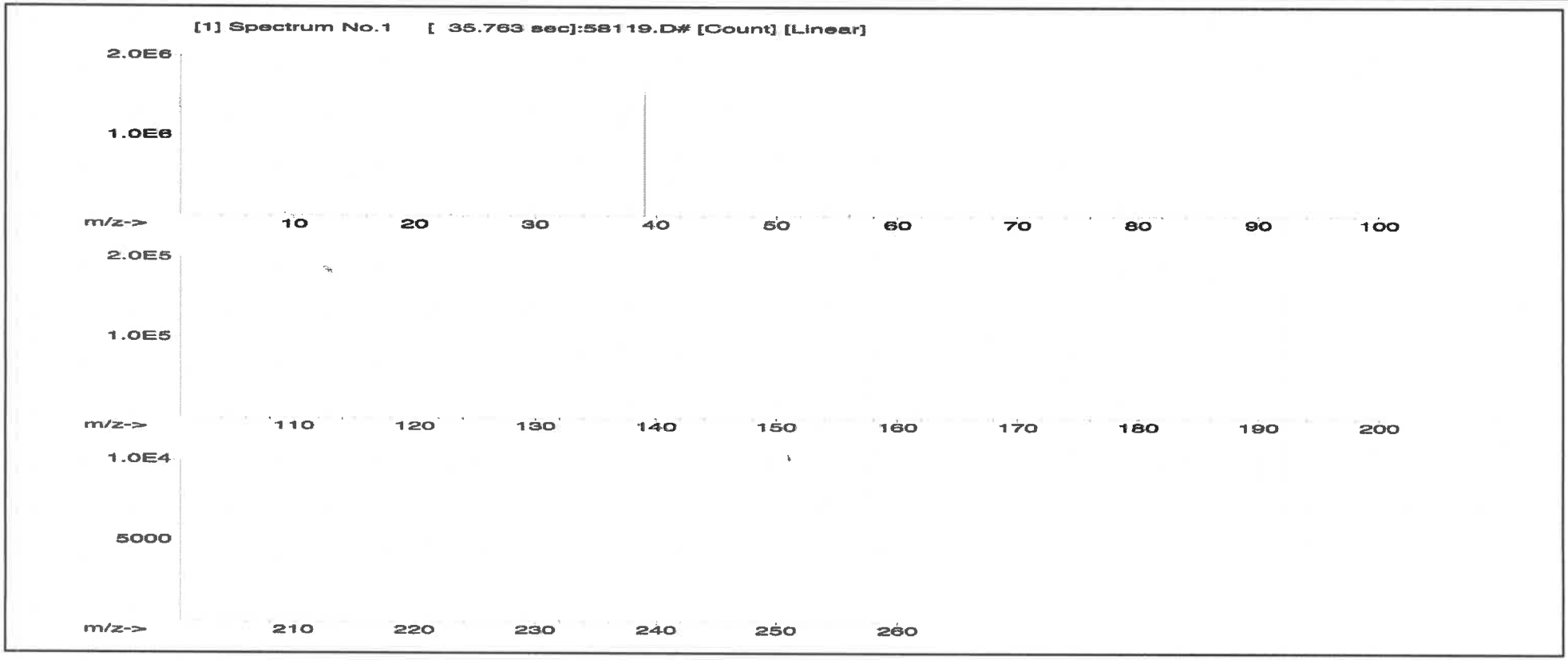
**Expiration Date:** 103027
**Recommended Storage:** Ambient (20 °C)
**Nominal Concentration (µg/mL):** 10000
**NIST Test Number:** 6UTB

| | | | | Lot # | |
|---|---|---|---|---|---|
| **Solvent:** | | | 24002546 | Nitric Acid |
| | 2% | | 80.0 (mL) | Nitric Acid |
| | | 5E-05 | Balance Uncertainty | |
| **Weight shown below was diluted to (mL):** | 4000.1 | 0.15 | Flask Uncertainty | |

Giovanni Esposito

| | | |
|---|---|---|
| Formulated By: | Giovanni Esposito | 103024 |
| Reviewed By: | Pedro L. Rentas | 103024 |

| Compound | RM# | Lot Number | Nominal Conc. (µg/mL) | Purity (%) | Uncertainty Purity (%) | Assay (%) | Target Weight (g) | Actual Weight (g) | Actual Conc. (µg/mL) | Expanded Uncertainty +/- (µg/mL) | SDS Information (Solvent Safety Info. On Attached pg.) CAS# | OSHA PEL (TWA) | LD50 | NIST SRM |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1. Potassium nitrate (K) | IN034 | KD062022A1 | 10000 | 99.999 | 0.10 | 37.7 | 106.1040 | ###### | **10001.1** | **20.0** | 7757-79-1 | 5 mg/m3 | orl-rat 3750 mg/kg | 3141a |






Q3068-METALS

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

(T) = Target analyte

## Physical Characterization:

**Certified by:**

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

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

R->1/13/25

**Part Number:** 58111
**Lot Number:** 072424
**Description:** Sodium (Na)

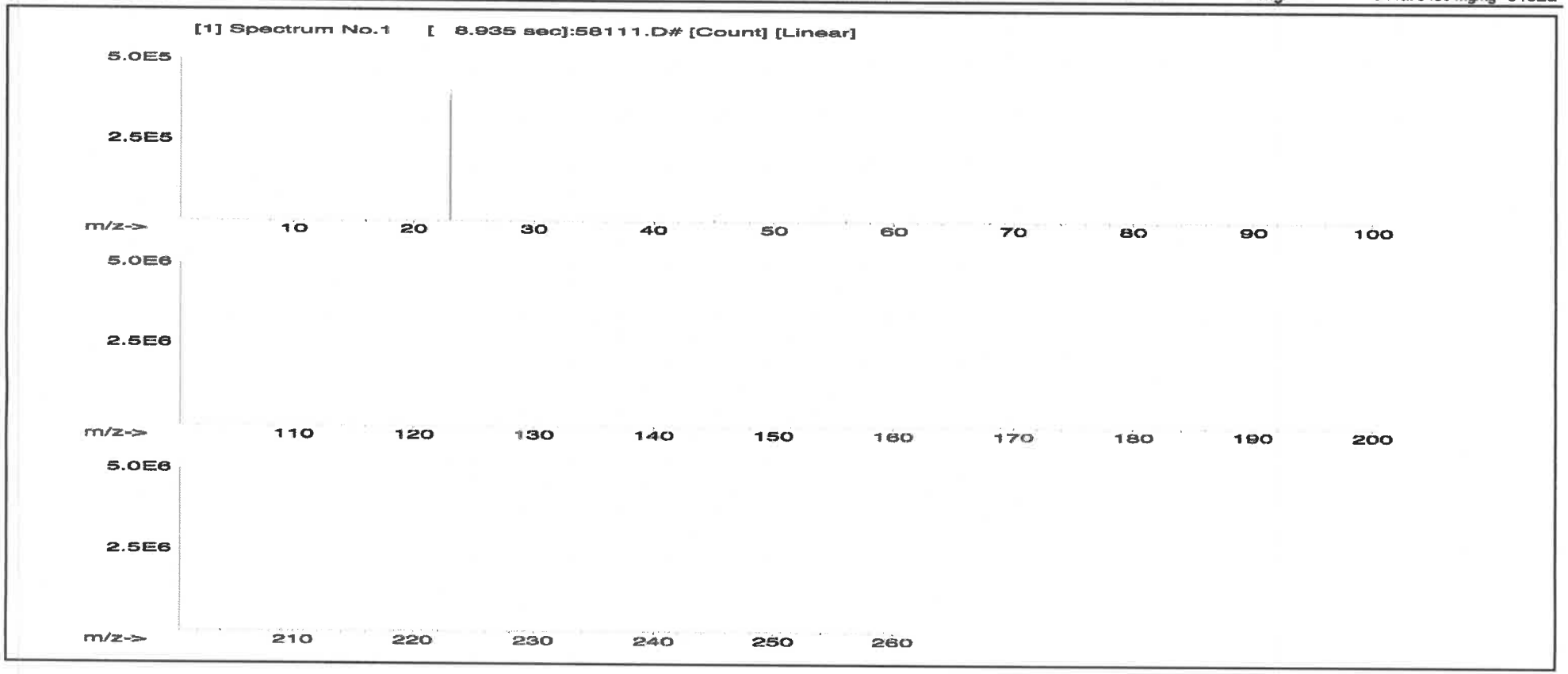
M6144

**Expiration Date:** 072427
**Recommended Storage:** Ambient (20 °C)
**Nominal Concentration (µg/mL):** 10000
**NIST Test Number:** 6UTB
**Weight shown below was diluted to (mL):** 4000.2

| | Lot # | | |
|---|---|---|---|
| **Solvent:** | 24002546 | Nitric Acid | |
| 2% | 80.0 (mL) | Nitric Acid | |
| 5E-05 | Balance Uncertainty | | |
| 0.10 | Flask Uncertainty | | |

| | | |
|---|---|---|
| Formulated By: | Benson Chan | 072424 |
| Reviewed By: | Pedro L. Rentas | 072424 |

| Compound | RM# | Lot Number | Nominal Conc. (µg/mL) | Purity (%) | Uncertainty Purity (%) | Assay (%) | Target Weight (g) | Actual Weight (g) | Actual Conc. (µg/mL) | Expanded Uncertainty +/- (µg/mL) | SDS Information (Solvent Safety Info. On Attached pg.) CAS# | OSHA PEL (TWA) | LD50 | NIST SRM |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1. Sodium nitrate (Na) | IN036 | NAV012015I1 | 10000 | 99.999 | 0.10 | 26.9 | 148.7096 | ###### | **10000.0** | **20.0** | 7631-99-4 | 5 mg/m3 | orl-rat 3430 mg/kg | 3152a |



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

(T) = Target analyte

**Physical Characterization:**

**Certified by:**

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

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## CERTIFIED WEIGHT REPORT:

**Part Number:** 58030
**Lot Number:** 121724
**Description:** Zinc (Zn)

R → 1/13/25

M6145

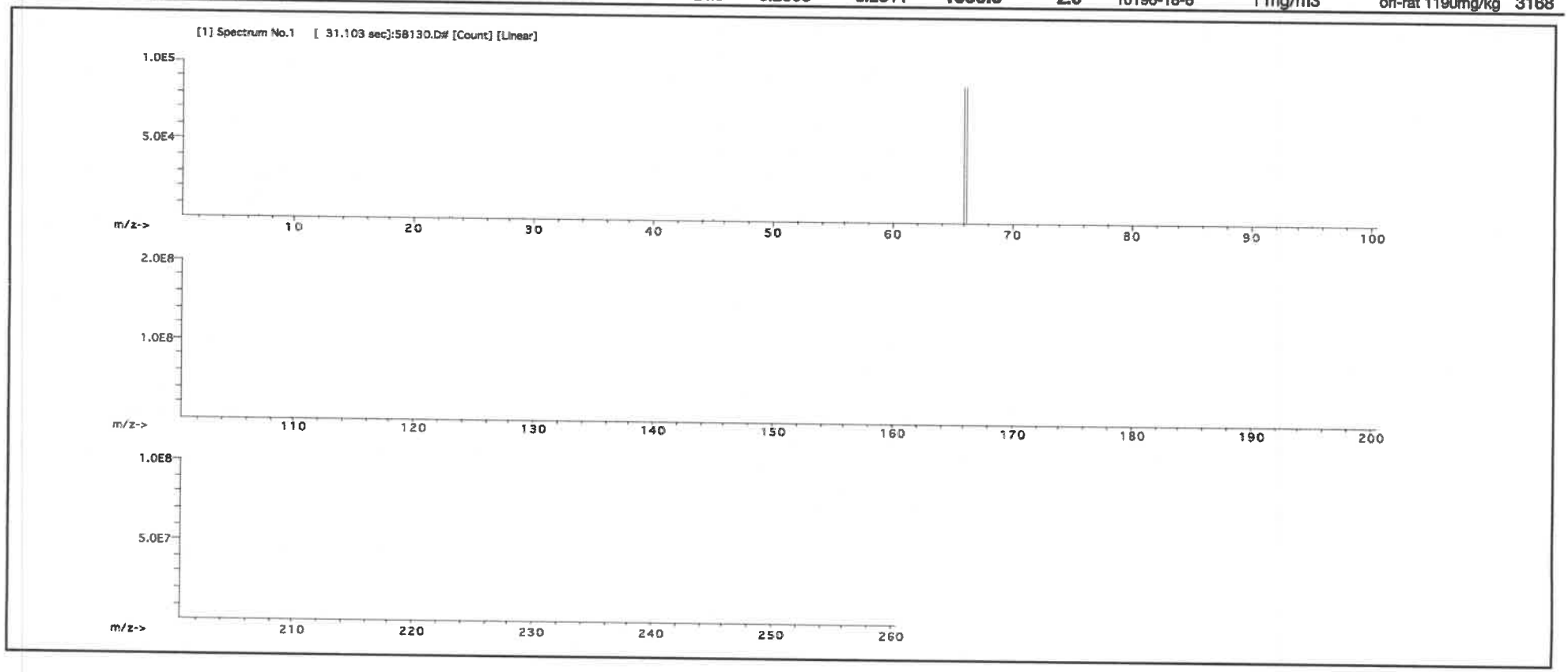
**Expiration Date:** 121727
**Recommended Storage:** Ambient (20 °C)
**Nominal Concentration (µg/mL):** 1000
**NIST Test Number:** 6UTB

| | | Lot # | |
|---|---|---|---|
| **Solvent:** | 24012496 | Nitric Acid | |
| | 2% | 40.0 (mL) | Nitric Acid |
| | 5E-05 | Balance Uncertainty | |
| **Weight shown below was diluted to (mL):** | 2000.1 | 0.10 | Flask Uncertainty |

Aleah O'Brady

| | | |
|---|---|---|
| Formulated By: | Aleah O'Brady | 121724 |
| Reviewed By: | Pedro L. Rentas | 121724 |

| Compound | RM# | Lot Number | Nominal Conc. (µg/mL) | Purity (%) | Uncertainty Purity (%) | Assay (%) | Target Weight (g) | Actual Weight (g) | Actual Conc. (µg/mL) | Expanded Uncertainty +/- (µg/mL) | SDS Information (Solvent Safety Info. On Attached pg.) CAS# | OSHA PEL (TWA) | LD50 | NIST SRM |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1. Zinc nitrate hexahydrate (Zn) | IN016 | ZNE032021A1 | 1000 | 99.999 | 0.10 | 24.3 | 8.2308 | 8.2311 | **1000.0** | **2.0** | 10196-18-6 | 1 mg/m3 | ori-rat 1190mg/kg | 3168 |



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

(T) = Target analyte

**Physical Characterization:**

Certified by:

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

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Hydrochloric Acid, 36.5–38.0%
BAKER INSTRA-ANALYZED® Reagent
For Trace Metal Analysis

avantor™ | J.T.Baker®

M6151

R→ 1/15/25

Material No.: 9530-33
Batch No.: 22G2862015
Manufactured Date: 2022-06-15
Retest Date: 2027-06-14
Revision No.: 0

# Certificate of Analysis

| Test | Specification | Result |
|---|---|---|
| ACS – Assay (as HCl) (by acid-base titrn) | 36.5 – 38.0 % | 37.9 % |
| ACS – Color (APHA) | ≤ 10 | 5 |
| ACS – Residue after Ignition | ≤ 3 ppm | < 1 ppm |
| ACS – Specific Gravity at 60°/60°F | 1.185 – 1.192 | 1.191 |
| ACS – Bromide (Br) | ≤ 0.005 % | < 0.005 % |
| ACS – Extractable Organic Substances | ≤ 5 ppm | < 1 ppm |
| ACS – Free Chlorine (as $Cl_2$) | ≤ 0.5 ppm | < 0.5 ppm |
| Phosphate ($PO_4$) | ≤ 0.05 ppm | < 0.03 ppm |
| Sulfate ($SO_4$) | ≤ 0.5 ppm | < 0.3 ppm |
| Sulfite ($SO_3$) | ≤ 0.8 ppm | 0.3 ppm |
| Ammonium ($NH_4$) | ≤ 3 ppm | < 1 ppm |
| Trace Impurities – Arsenic (As) | ≤ 0.010 ppm | < 0.003 ppm |
| Trace Impurities – Aluminum (Al) | ≤ 10.0 ppb | 1.3 ppb |
| Arsenic and Antimony (as As) | ≤ 5.0 ppb | < 3.0 ppb |
| Trace Impurities – Barium (Ba) | ≤ 1.0 ppb | 0.2 ppb |
| Trace Impurities – Beryllium (Be) | ≤ 1.0 ppb | < 0.2 ppb |
| Trace Impurities – Bismuth (Bi) | ≤ 10.0 ppb | < 1.0 ppb |
| Trace Impurities – Boron (B) | ≤ 20.0 ppb | < 5.0 ppb |
| Trace Impurities – Cadmium (Cd) | ≤ 1.0 ppb | < 0.3 ppb |
| Trace Impurities – Calcium (Ca) | ≤ 50.0 ppb | 163.0 ppb |
| Trace Impurities – Chromium (Cr) | ≤ 1.0 ppb | 0.7 ppb |
| Trace Impurities – Cobalt (Co) | ≤ 1.0 ppb | < 0.3 ppb |
| Trace Impurities – Copper (Cu) | ≤ 1.0 ppb | < 0.1 ppb |
| Trace Impurities – Gallium (Ga) | ≤ 1.0 ppb | < 0.2 ppb |
| Trace Impurities – Germanium (Ge) | ≤ 3.0 ppb | < 2.0 ppb |
| Trace Impurities – Gold (Au) | ≤ 4.0 ppb | 0.6 ppb |
| Heavy Metals (as Pb) | ≤ 100 ppb | < 50 ppb |
| Trace Impurities – Iron (Fe) | ≤ 15 ppb | 6 ppb |

>>> Continued on page 2 >>>

Hydrochloric Acid, 36.5–38.0%
BAKER INSTRA-ANALYZED® Reagent
For Trace Metal Analysis

avantor™ | J.T.Baker®

Material No.: 9530-33
Batch No.: 22G2862015

| Test | Specification | Result |
|---|---|---|
| Trace Impurities – Lead (Pb) | ≤ 1.0 ppb | < 0.5 ppb |
| Trace Impurities – Lithium (Li) | ≤ 1.0 ppb | < 0.2 ppb |
| Trace Impurities – Magnesium (Mg) | ≤ 10.0 ppb | 2.9 ppb |
| Trace Impurities – Manganese (Mn) | ≤ 1.0 ppb | < 0.4 ppb |
| Trace Impurities – Mercury (Hg) | ≤ 0.5 ppb | 0.1 ppb |
| Trace Impurities – Molybdenum (Mo) | ≤ 10.0 ppb | < 3.0 ppb |
| Trace Impurities – Nickel (Ni) | ≤ 4.0 ppb | < 0.3 ppb |
| Trace Impurities – Niobium (Nb) | ≤ 1.0 ppb | 0.8 ppb |
| Trace Impurities – Potassium (K) | ≤ 9.0 ppb | < 2.0 ppb |
| Trace Impurities – Selenium (Se), For Information Only | | < 1.0 ppb |
| Trace Impurities – Silicon (Si) | ≤ 100.0 ppb | < 10.0 ppb |
| Trace Impurities – Silver (Ag) | ≤ 1.0 ppb | 0.5 ppb |
| Trace Impurities – Sodium (Na) | ≤ 100.0 ppb | 2.3 ppb |
| Trace Impurities – Strontium (Sr) | ≤ 1.0 ppb | < 0.2 ppb |
| Trace Impurities – Tantalum (Ta) | ≤ 1.0 ppb | 1.6 ppb |
| Trace Impurities – Thallium (Tl) | ≤ 5.0 ppb | < 2.0 ppb |
| Trace Impurities – Tin (Sn) | ≤ 5.0 ppb | 4.0 ppb |
| Trace Impurities – Titanium (Ti) | ≤ 1.0 ppb | 1.5 ppb |
| Trace Impurities – Vanadium (V) | ≤ 1.0 ppb | < 0.2 ppb |
| Trace Impurities – Zinc (Zn) | ≤ 5.0 ppb | 0.8 ppb |
| Trace Impurities – Zirconium (Zr) | ≤ 1.0 ppb | 0.3 ppb |

>>> Continued on page 3 >>>

Hydrochloric Acid, 36.5–38.0%
BAKER INSTRA-ANALYZED® Reagent
For Trace Metal Analysis

avantor™ | J.T.Baker®

Material No.: 9530-33
Batch No.: 22G2862015

| Test | Specification | Result |
|---|---|---|

For Laboratory,Research,or Manufacturing Use
Product Information (not specifications):
Appearance (clear, fuming liquid)
Meets ACS Specifications
Storage Condition: Store below 25 °C.

Country of Origin: USA
Packaging Site: Phillipsburg Mfg Ctr & DC

James T Ethier

Jamie Ethier
Vice President Global Quality

Nitric Acid 69%
CMOS

avantor™ | J.T.Baker®

R-02102/2025

M-6158

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

# Certificate of Analysis

| Test | Specification | Result |
|---|---|---|
| Assay ($HNO_3$) | 69.0 - 70.0 % | 69.7 % |
| Appearance | Passes Test | Passes Test |
| Color (APHA) | ≤ 10 | 5 |
| Residue after Ignition | ≤ 2 ppm | 1 ppm |
| Chloride (Cl) | ≤ 0.08 ppm | < 0.03 ppm |
| Phosphate ($PO_4$) | ≤ 0.10 ppm | < 0.03 ppm |
| Sulfate ($SO_4$) | ≤ 0.2 ppm | < 0.2 ppm |
| Trace Impurities - Aluminum (Al) | ≤ 40.0 ppb | < 1.0 ppb |
| Arsenic and Antimony (as As) | ≤ 5.0 ppb | < 2.0 ppb |
| Trace Impurities - Barium (Ba) | ≤ 10.0 ppb | < 1.0 ppb |
| Trace Impurities - Beryllium (Be) | ≤ 10.0 ppb | < 1.0 ppb |
| Trace Impurities - Bismuth (Bi) | ≤ 20.0 ppb | < 10.0 ppb |
| Trace Impurities - Boron (B) | ≤ 10.0 ppb | < 5.0 ppb |
| Trace Impurities - Cadmium (Cd) | ≤ 50 ppb | < 1 ppb |
| Trace Impurities - Calcium (Ca) | ≤ 50.0 ppb | 2.3 ppb |
| Trace Impurities - Chromium (Cr) | ≤ 30.0 ppb | < 1.0 ppb |
| Trace Impurities - Cobalt (Co) | ≤ 10.0 ppb | < 1.0 ppb |
| Trace Impurities - Copper (Cu) | ≤ 10.0 ppb | < 1.0 ppb |
| Trace Impurities - Gallium (Ga) | ≤ 10.0 ppb | < 1.0 ppb |
| Trace Impurities - Germanium (Ge) | ≤ 20 ppb | < 10 ppb |
| Trace Impurities - Gold (Au) | ≤ 20 ppb | < 5 ppb |
| Heavy Metals (as Pb) | ≤ 100 ppb | 100 ppb |
| Trace Impurities - Iron (Fe) | ≤ 40.0 ppb | < 1.0 ppb |
| Trace Impurities - Lead (Pb) | ≤ 20.0 ppb | < 10.0 ppb |
| Trace Impurities - Lithium (Li) | ≤ 10.0 ppb | < 1.0 ppb |
| Trace Impurities - Magnesium (Mg) | ≤ 20 ppb | < 1 ppb |
| Trace Impurities - Manganese (Mn) | ≤ 10.0 ppb | < 1.0 ppb |
| Trace Impurities - Nickel (Ni) | ≤ 20.0 ppb | < 5.0 ppb |

>>> Continued on page 2 >>>

Nitric Acid 69%
CMOS

avantor™ | J.T.Baker®

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

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

>>> Continued on page 3 >>>


For questions on this Certificate of Analysis please contact Technical Services at 855.282.6867 or +1.610.

Nitric Acid 69%
CMOS

avantor™ | J.T.Baker®

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

| Test | Specification | Result |
|---|---|---|

For Microelectronic Use

Country of Origin: USA
Packaging Site: Phillipsburg Mfg Ctr & DC

Jamie Croak
Director Quality Operations, Bioscience Production

Nitric Acid 69%
CMOS

avantor™ | J.T.Baker®

m-5162

R. Date :- 04/27/2025

Material No.: 9606-03
Batch No.: 24H0162012
Manufactured Date: 2024-06-28
Retest Date: 2029-06-27
Revision No.: 0

# Certificate of Analysis

| Test | Specification | Result |
|---|---|---|
| Assay ($HNO_3$) | 69.0 – 70.0 % | 69.7 % |
| Appearance | Passes Test | Passes Test |
| Color (APHA) | ≤ 10 | 5 |
| Residue after Ignition | ≤ 2 ppm | < 1 ppm |
| Chloride (Cl) | ≤ 0.08 ppm | 0.03 ppm |
| Phosphate ($PO_4$) | ≤ 0.10 ppm | < 0.03 ppm |
| Sulfate ($SO_4$) | ≤ 0.2 ppm | < 0.2 ppm |
| Trace Impurities – Aluminum (Al) | ≤ 40.0 ppb | < 1.0 ppb |
| Arsenic and Antimony (as As) | ≤ 5.0 ppb | < 2.0 ppb |
| Trace Impurities – Barium (Ba) | ≤ 10.0 ppb | < 1.0 ppb |
| Trace Impurities – Beryllium (Be) | ≤ 10.0 ppb | < 1.0 ppb |
| Trace Impurities – Bismuth (Bi) | ≤ 20.0 ppb | < 1.0 ppb |
| Trace Impurities – Boron (B) | ≤ 10.0 ppb | 0.1 ppb |
| Trace Impurities – Cadmium (Cd) | ≤ 50 ppb | < 1 ppb |
| Trace Impurities – Calcium (Ca) | ≤ 50.0 ppb | 0.3 ppb |
| Trace Impurities – Chromium (Cr) | ≤ 30.0 ppb | 0.1 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 | < 1 ppb |
| Trace Impurities – Gold (Au) | ≤ 20 ppb | < 1 ppb |
| Heavy Metals (as Pb) | ≤ 100 ppb | < 50 ppb |
| Trace Impurities – Iron (Fe) | ≤ 40.0 ppb | < 1.0 ppb |
| Trace Impurities – Lead (Pb) | ≤ 20.0 ppb | < 1.0 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 | < 1.0 ppb |

>>> Continued on page 2 >>>

Nitric Acid 69%
CMOS

avantor™ | J.T.Baker®

Material No.: 9606-03
Batch No.: 24H0162012

| Test | Specification | Result |
|---|---|---|
| Trace Impurities - Niobium (Nb) | ≤ 50.0 ppb | < 1.0 ppb |
| Trace Impurities - Potassium (K) | ≤ 50 ppb | < 1 ppb |
| Trace Impurities - Silicon (Si) | ≤ 50 ppb | 1 ppb |
| Trace Impurities - Silver (Ag) | ≤ 20.0 ppb | < 1.0 ppb |
| Trace Impurities - Sodium (Na) | ≤ 150.0 ppb | < 1.0 ppb |
| Trace Impurities - Strontium (Sr) | ≤ 30.0 ppb | < 1.0 ppb |
| Trace Impurities - Tantalum (Ta) | ≤ 10.0 ppb | < 1.0 ppb |
| Trace Impurities - Thallium (Tl) | ≤ 10.0 ppb | < 1.0 ppb |
| Trace Impurities - Tin (Sn) | ≤ 20.0 ppb | < 1.0 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 | 13 par/ml |
| Particle Count - 1.0 µm and greater | ≤ 10 par/ml | 5 par/ml |

>>> Continued on page 3 >>>

Nitric Acid 69%
CMOS

avantor™ | J.T.Baker®

Material No.: 9606-03
Batch No.: 24H0162012

| Test | Specification | Result |
|---|---|---|

For Microelectronic Use

Country of Origin: USA
Packaging Site: Phillipsburg Mfg Ctr & DC

Jamie Croak
Director Quality Operations, Bioscience Production

INORGANIC VENTURES™
Refine your results. Redefine your industry.

# Certificate of Analysis

300 Technology Drive
Christiansburg, VA 24073 USA
inorganicventures.com

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

## 1.0 ACCREDITATION / REGISTRATION

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

ACCREDITED
Testing Laboratory
Certificate 883.01

ACCREDITED
Reference Material Producer
Certificate 883.02

## 2.0 PRODUCT DESCRIPTION

| | |
|---|---|
| Product Code: | Multi Analyte Custom Grade Solution |
| Catalog Number: | QCP-CICV-1 |
| Lot Number: | V2-MEB744107 |
| Matrix: | 7% (v/v) HNO3 |
| Value / Analyte(s): | 2 500 µg/mL ea:<br>Calcium, Potassium,<br>Magnesium, Sodium,<br>1 000 µg/mL ea:<br>Aluminum, Barium,<br>500 µg/mL ea:<br>Iron,<br>250 µg/mL ea:<br>Nickel, Vanadium,<br>Zinc, Cobalt,<br>Manganese,<br>125 µg/mL ea:<br>Silver, Copper,<br>100 µg/mL ea:<br>Chromium,<br>25 µg/mL ea:<br>Beryllium |

**Second Source**: Whenever possible, this solution was manufactured from a second set of concentrates in our manufacturing facility.

## 3.0 CERTIFIED VALUES AND UNCERTAINTIES

| ANALYTE | CERTIFIED VALUE | ANALYTE | CERTIFIED VALUE |
|---|---|---|---|
| Aluminum, Al | 1 000 ± 4 µg/mL | Barium, Ba | 1 000 ± 6 µg/mL |
| Beryllium, Be | 24.98 ± 0.12 µg/mL | Calcium, Ca | 2 500 ± 8 µg/mL |
| Chromium, Cr | 99.9 ± 0.6 µg/mL | Cobalt, Co | 250.2 ± 1.2 µg/mL |
| Copper, Cu | 125.0 ± 0.5 µg/mL | Iron, Fe | 500.0 ± 2.2 µg/mL |
| Magnesium, Mg | 2 500 ± 11 µg/mL | Manganese, Mn | 249.9 ± 1.1 µg/mL |
| Nickel, Ni | 250.0 ± 1.2 µg/mL | Potassium, K | 2 500 ± 11 µg/mL |
| Silver, Ag | 125.0 ± 0.6 µg/mL | Sodium, Na | 2 500 ± 11 µg/mL |
| Vanadium, V | 250.0 ± 1.1 µg/mL | Zinc, Zn | 249.9 ± 1.1 µg/mL |

**Density:** 1.081 g/mL (measured at 20 ± 4 ºC)

## Assay Information:

| ANALYTE | METHOD | NIST SRM# | SRM LOT# |
|---|---|---|---|
| Ag | ICP Assay | 3151 | 160729 |
| Ag | Volhard | 999c | 999c |
| Al | ICP Assay | 3101a | 140903 |
| Al | EDTA | 928 | 928 |
| Ba | ICP Assay | 3104a | 140909 |
| Ba | Gravimetric | | See Sec. 4.2 |
| Be | ICP Assay | 3105a | 090514 |
| Be | Calculated | | See Sec. 4.2 |
| Ca | ICP Assay | 3109a | 130213 |
| Ca | EDTA | 928 | 928 |
| Co | ICP Assay | 3113 | 190630 |
| Co | EDTA | 928 | 928 |
| Cr | ICP Assay | 3112a | 170630 |
| Cu | ICP Assay | 3114 | 120618 |
| Cu | EDTA | 928 | 928 |
| Fe | ICP Assay | 3126a | 140812 |
| Fe | EDTA | 928 | 928 |
| K | ICP Assay | 3141a | 140813 |
| K | Gravimetric | | See Sec. 4.2 |
| Mg | ICP Assay | 3131a | 140110 |
| Mg | EDTA | 928 | 928 |
| Mn | ICP Assay | 3132 | 050429 |
| Mn | EDTA | 928 | 928 |
| Na | ICP Assay | 3152a | 200413 |
| Na | Gravimetric | | See Sec. 4.2 |
| Ni | ICP Assay | 3136 | 120619 |
| Ni | EDTA | 928 | 928 |
| 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, $X_{CRM/RM}$, where two or more methods of characterization are used is the weighted mean of the results:**

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

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

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

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

**CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\ (u^2_{char} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$**

k = coverage factor = 2

$u_{char} = [\Sigma((w_i)^2\ (u_{char\ i})^2)]^{½}$ where $u_{char\ i}$ are the errors from each characterization method

$u_{bb}$ = bottle to bottle homogeneity standard uncertainty

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

$u_{ts}$ = transport stability standard uncertainty

### Characterization of CRM/RM by One Method

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

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

$X_a$ = mean of Assay Method A with

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

**CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\ (u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$**

k = coverage factor = 2

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

$u_{bb}$ = bottle to bottle homogeneity standard uncertainty

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

$u_{ts}$ = transport stability standard uncertainty

## 4.0 TRACEABILITY TO NIST

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

### 4.1 Thermometer Calibration

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

### 4.2 Balance Calibration

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

### 4.3 Glassware Calibration

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

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

N/A

## 6.0 INTENDED USE

**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**

**Note**: This solution contains Silver (Ag), please refer to our Sample Preparation Guide for more information (https://www.inorganicventures.com/sample-preparation-guide/samples-containing-silver)

## 8.0 HAZARDOUS INFORMATION

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

## 9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

## 10.0 QUALITY STANDARD DOCUMENTATION

### 10.1 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

### 10.2 ISO/IEC 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

### 10.3 ISO 17034 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

Inorganic Ventures, 300 Technology Drive, Christiansburg, Va. 24073, USA; Telephone: 800.669.6799; 540.585.3030, Fax: 540.585.3012; inorganicventures.com; info@inorganicventures.com

## 11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

### 11.1 Certification Issue Date

May 22, 2024

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is stored and handled in accordance with instructions given in Sec 7.1. This certification is nullified if instructions in Sec 7.1 are not followed or if the CRM/RM is damaged, contaminated, or otherwise modified.

### 11.2 Lot Expiration Date

- **May 22, 2029**

- The date after which this CRM/RM should not be used.

- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

**11.3 Period of Validity**

- Sealed TCT Bag Open Date: _____

- This CRM/RM should not be used longer than one year (or six months in the case of a 30 mL bottle) from the date of opening the aluminized bag or after the date given in Sec. 11.2, whichever comes first. This is contingent upon the CRM/RM being stored and handled in accordance with the instructions given in Sec. 7.1.

## 12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

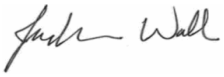
**Certificate Prepared By:**

Justin Dirico
Stock Processing Supervisor



**Certificate Approved By:**

Jodie Wall
Stock VSM Coordinator



**Certifying Officer:**

Paul Gaines
Chairman / Senior Technical Director



INORGANIC VENTURES™
Refine your results. Redefine your industry.

# Certificate of Analysis

300 Technology Drive
Christiansburg, VA 24073 USA
inorganicventures.com

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

## 1.0 ACCREDITATION / REGISTRATION

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

ACCREDITED Testing Laboratory Certificate 883.01
ACCREDITED Reference Material Producer Certificate 883.02

## 2.0 PRODUCT DESCRIPTION

| | |
|---|---|
| Product Code: | Multi Analyte Custom Grade Solution |
| Catalog Number: | QCP-CICV-2 |
| Lot Number: | U2-MEB733713 |
| Matrix: | 3% (w/v) Tartaric acid<br>1% (v/v) HNO3 |
| Value / Analyte(s): | 500 µg/mL ea:<br>Antimony |

**Second Source**: Whenever possible, this solution was manufactured from a second set of concentrates in our manufacturing facility.

## 3.0 CERTIFIED VALUES AND UNCERTAINTIES

| ANALYTE | CERTIFIED VALUE | ANALYTE | CERTIFIED VALUE |
|---|---|---|---|
| **Antimony, Sb** | **500.0 ± 2.8 µg/mL** | | |

**Density:** 1.017 g/mL (measured at 20 ± 4 ºC)

### Assay Information:

| ANALYTE | METHOD | NIST SRM# | SRM LOT# |
|---|---|---|---|
| Sb | ICP Assay | 3102a | 140911 |

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

### Characterization of CRM/RM by Two or More Methods

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

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

$X_i$ = mean of Assay Method i with standard uncertainty $u_{char\ i}$
$w_i$ = the weighting factors for each method calculated using the inverse square of the variance:
$w_i = (1/u_{char\ i})^2 / (\Sigma(1/(u_{char\ i})^2)$

**CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$**

k = coverage factor = 2
$u_{char} = [\Sigma((w_i)^2\,(u_{char\ i})^2)]^{½}$ where $u_{char\ i}$ are the errors from each characterization method
$u_{bb}$ = bottle to bottle homogeneity standard uncertainty
$u_{lts}$ = long term stability standard uncertainty (storage)
$u_{ts}$ = transport stability standard uncertainty

### Characterization of CRM/RM by One Method

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

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

$X_a$ = mean of Assay Method A with
$u_{char\ a}$ = the standard uncertainty of characterization Method A

**CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$**

k = coverage factor = 2
$u_{char\ a}$ = the errors from characterization
$u_{bb}$ = bottle to bottle homogeneity standard uncertainty
$u_{lts}$ = long term stability standard uncertainty (storage)
$u_{ts}$ = transport stability standard uncertainty

## 4.0 TRACEABILITY TO NIST

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

### 4.1 Thermometer Calibration

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

### 4.2 Balance Calibration

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

### 4.3 Glassware Calibration

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

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

N/A

## 6.0 INTENDED USE

**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 01, 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 01, 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

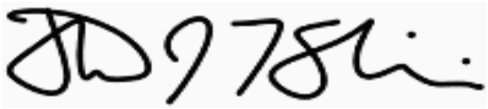
- Sealed TCT Bag Open Date: _____

- 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



# 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).

ACCREDITED Testing Laboratory Certificate 883.01
ACCREDITED Reference Material Producer Certificate 883.02

## 2.0 PRODUCT DESCRIPTION

| | |
|---|---|
| Product Code: | Multi Analyte Custom Grade Solution |
| Catalog Number: | QCP-CICV-3 |
| Lot Number: | V2-MEB749572 |
| Matrix: | 7% (v/v) HNO3 |
| Value / Analyte(s): | 500 µg/mL ea:<br>Arsenic, Lead,<br>Selenium, Thallium,<br><br>250 µg/mL ea:<br>Cadmium |

**Second Source**: Whenever possible, this solution was manufactured from a second set of concentrates in our manufacturing facility.

## 3.0 CERTIFIED VALUES AND UNCERTAINTIES

| ANALYTE | CERTIFIED VALUE | ANALYTE | CERTIFIED VALUE |
|---|---|---|---|
| **Arsenic, As** | **500.0 ± 3.1 µg/mL** | **Cadmium, Cd** | **250.1 ± 1.1 µg/mL** |
| **Lead, Pb** | **500.0 ± 2.3 µg/mL** | **Selenium, Se** | **500.0 ± 3.2 µg/mL** |
| **Thallium, Tl** | **500.0 ± 3.0 µg/mL** | | |

**Density:** 1.040 g/mL (measured at 20 ± 4 ºC)

### Assay Information:

| ANALYTE | METHOD | NIST SRM# | SRM LOT# |
|---|---|---|---|
| As | ICP Assay | 3103a | 100818 |
| Cd | ICP Assay | 3108 | 130116 |
| Cd | EDTA | 928 | 928 |
| Pb | ICP Assay | 3128 | 101026 |
| Pb | EDTA | 928 | 928 |
| Se | ICP Assay | 3149 | 100901 |
| Tl | ICP Assay | 3158 | 151215 |

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

### Characterization of CRM/RM by Two or More Methods

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

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

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

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

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

**CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$**

$k$ = coverage factor = 2

$u_{char} = [\Sigma((w_i)^2\,(u_{char\ i})^2)]^{½}$ where $u_{char\ i}$ are the errors from each characterization method

$u_{bb}$ = bottle to bottle homogeneity standard uncertainty

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

$u_{ts}$ = transport stability standard uncertainty

### Characterization of CRM/RM by One Method

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

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

$X_a$ = mean of Assay Method A with

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

**CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$**

$k$ = coverage factor = 2

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

$u_{bb}$ = bottle to bottle homogeneity standard uncertainty

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

$u_{ts}$ = transport stability standard uncertainty

## 4.0 TRACEABILITY TO NIST

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

### 4.1 Thermometer Calibration

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

### 4.2 Balance Calibration

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

### 4.3 Glassware Calibration

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

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

N/A

## 6.0 INTENDED USE

**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

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## 11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

### 11.1 Certification Issue Date

January 02, 2025

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is stored and handled in accordance with instructions given in Sec 7.1. This certification is nullified if instructions in Sec 7.1 are not followed or if the CRM/RM is damaged, contaminated, or otherwise modified.

### 11.2 Lot Expiration Date

- **January 02, 2030**

- 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

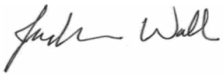
**Certificate Prepared By:**

Justin Dirico
Stock Processing Supervisor



**Certificate Approved By:**

Jodie Wall
Stock VSM Coordinator



**Certifying Officer:**

Paul Gaines
Chairman / Senior Technical Director



Hydrogen Peroxide, 30%
CMOS
(Stabilized)

M-6170

R.Date . 8-05|20|2025

avantor™ | J.T.Baker®

Material No.: 2190-03
Batch No.: 24D1961001

| Test | Specification | Result |
|---|---|---|
| Trace Impurities – Manganese (Mn) | ≤ 10.0 ppb | < 1.0 ppb |
| Trace Impurities – Molybdenum (Mo) | ≤ 10.0 ppb | < 5.0 ppb |
| Trace Impurities – Nickel (Ni) | ≤ 10.0 ppb | < 5.0 ppb |
| Trace Impurities – Niobium (Nb) | ≤ 10.0 ppb | < 1.0 ppb |
| Trace Impurities – Potassium (K) | ≤ 600.0 ppb | 176.7 ppb |
| Trace Impurities – Silicon (Si) | ≤ 100.0 ppb | < 10.0 ppb |
| Trace Impurities – Silver (Ag) | ≤ 10.0 ppb | < 1.0 ppb |
| Trace Impurities – Sodium (Na) | ≤ 100.0 ppb | < 5.0 ppb |
| Trace Impurities – Strontium (Sr) | ≤ 10.0 ppb | < 1.0 ppb |
| Trace Impurities – Tantalum (Ta) | ≤ 10.0 ppb | < 5.0 ppb |
| Trace Impurities – Thallium (Tl) | ≤ 50.0 ppb | < 5.0 ppb |
| Trace Impurities – Tin (Sn) | 190.0 – 500.0 ppb | 272.3 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) | ≤ 50 ppb | < 1 ppb |
| Trace Impurities – Zirconium (Zr) | ≤ 10.0 ppb | < 1.0 ppb |
| Particle Count – 0.2 µm and greater | ≤ 1175 par/ml | 202 par/ml |
| Particle Count – 0.5 µm and greater | ≤ 100 par/ml | 33 par/ml |

>>> Continued on page 3 >>>

Hydrogen Peroxide, 30%
CMOS
(Stabilized)

avantor™ | J.T.Baker®

Material No.: 2190-03
Batch No.: 24D1961001

| Test | Specification | Result |
|---|---|---|

For Microelectronic Use

Country of Origin: USA
Packaging Site: Paris Mfg Ctr & DC

Michelle Bales
Sr. Manager, Quality Assurance

Hydrogen Peroxide, 30%
CMOS
(Stabilized)

avantor™ | J.T.Baker®

Material No.: 2190-03
Batch No.: 24D1961001
Manufactured Date: 2024-04-17
Expiration Date: 2025-10-16
Revision No.: 0

# Certificate of Analysis

| Test | Specification | Result |
|---|---|---|
| Assay ($H_2O_2$) | 30.0 - 32.0 % | 31.6 % |
| Color (APHA) | ≤ 10 | < 5 |
| Free Acid (µeq/g) | ≤ 0.2 | 0.1 |
| Residue after Evaporation | ≤ 10 ppm | 2 ppm |
| Ammonium ($NH_4$) | ≤ 3 ppm | < 3 ppm |
| Chloride (Cl) | ≤ 0.2 ppm | < 0.2 ppm |
| Nitrate ($NO_3$) | ≤ 2 ppm | < 2 ppm |
| Phosphate ($PO_4$) | ≤ 1 ppm | 1 ppm |
| Sulfate ($SO_4$) | ≤ 3 ppm | < 3 ppm |
| Trace Impurities - Aluminum (Al) | ≤ 70.0 ppb | < 5.0 ppb |
| Arsenic and Antimony (as As) | ≤ 10.0 ppb | < 10.0 ppb |
| Trace Impurities - Barium (Ba) | ≤ 20.0 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) | ≤ 10.0 ppb | < 1.0 ppb |
| Trace Impurities - Calcium (Ca) | ≤ 50.0 ppb | < 1.0 ppb |
| Trace Impurities - Chromium (Cr) | ≤ 20.0 ppb | 1.5 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) | ≤ 20.0 ppb | < 1.0 ppb |
| Trace Impurities - Germanium (Ge) | ≤ 10.0 ppb | < 10.0 ppb |
| Trace Impurities - Gold (Au) | ≤ 10.0 ppb | < 5.0 ppb |
| Heavy Metals (as Pb) | ≤ 500.0 ppb | < 250.0 ppb |
| Trace Impurities - Iron (Fe) | ≤ 50.0 ppb | 4.6 ppb |
| Trace Impurities - Lead (Pb) | ≤ 10.0 ppb | < 10.0 ppb |
| Trace Impurities - Lithium (Li) | ≤ 10.0 ppb | < 1.0 ppb |
| Trace Impurities - Magnesium (Mg) | ≤ 10.0 ppb | < 1.0 ppb |

>>> Continued on page 2 >>>

R -> 013125

**Absolute Standards, Inc.**
800-368-1131
www.absolutestandards.com

***Certified Reference Material CRM***

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

CERTIFIED WEIGHT REPORT:

M 6171

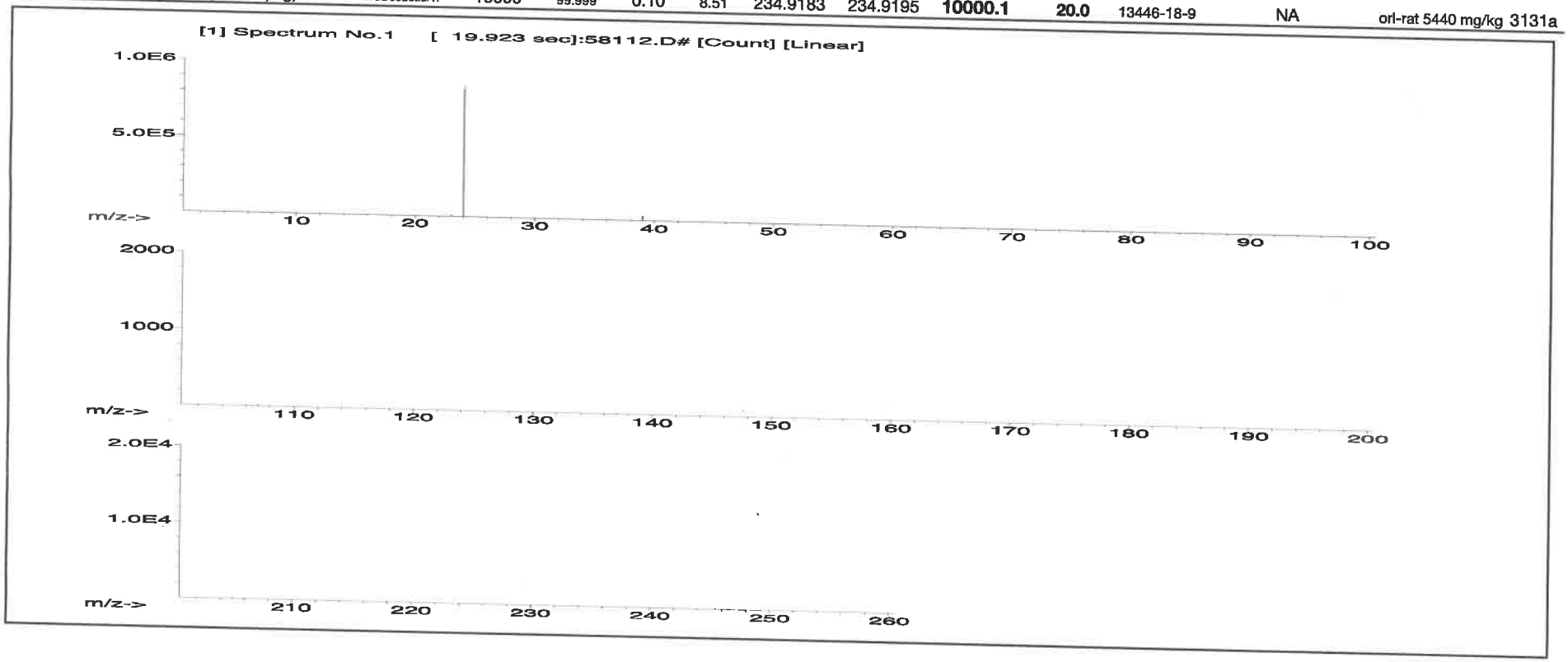
**Part Number:** 58112
**Lot Number:** 011525
**Description:** Magnesium (Mg)

**Expiration Date:** 011528
**Recommended Storage:** Ambient (20 °C)
**Nominal Concentration (µg/mL):** 10000
**NIST Test Number:** 6UTB
**Weight shown below was diluted to (mL):** 2000.07

| | Lot # | | |
|---|---|---|---|
| **Solvent:** | 24012496 | Nitric Acid | |
| | 2% | 40.0 (mL) | Nitric Acid |
| | 5E-05 | Balance Uncertainty | |
| | 0.100 | Flask Uncertainty | |

| | | |
|---|---|---|
| Formulated By: | Benson Chan | 011525 |
| Reviewed By: | Pedro L. Rentas | 011525 |

| Compound | RM# | Lot Number | Nominal Conc. (µg/mL) | Purity (%) | Uncertainty Purity (%) | Assay (%) | Target Weight (g) | Actual Weight (g) | **Actual Conc. (µg/mL)** | Expanded Uncertainty +/- (µg/mL) | SDS Information (Solvent Safety Info. On Attached pg.) CAS# | OSHA PEL (TWA) | LD50 | NIST SRM |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1. Magnesium nitrate hexahydrate (Mg) | IN030 | MGD052023A1 | 10000 | 99.999 | 0.10 | 8.51 | 234.9183 | 234.9195 | **10000.1** | **20.0** | 13446-18-9 | NA | orl-rat 5440 mg/kg | 3131a |






Revised
340 of 389
Q3068-METALS

**Absolute Standards, Inc.**
800-368-1131
www.absolutestandards.com

***Certified Reference Material CRM***

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



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

INORGANIC VENTURES
Refine your results. Redefine your industry.

# Certificate of Analysis

300 Technology Drive
Christiansburg, VA 24073 USA
inorganicventures.com

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

M6174
R->5/5/24

## 1.0 ACCREDITATION / REGISTRATION

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

ACCREDITED Testing Laboratory Certificate 883.01
ACCREDITED Reference Material Producer Certificate 883.02

## 2.0 PRODUCT DESCRIPTION

| | |
|---|---|
| Product Code: | Multi Analyte Custom Grade Solution |
| Catalog Number: | CLPP-CAL-1 |
| Lot Number: | V2-MEB742428 |
| Matrix: | 5% (v/v) HNO3 |
| Value / Analyte(s): | 5 000 µg/mL ea: |
| | Calcium, Potassium, |
| | Magnesium, Sodium, |
| | 2 000 µg/mL ea: |
| | Aluminum, Barium, |
| | 1 000 µg/mL ea: |
| | Iron, |
| | 500 µg/mL ea: |
| | Nickel, Vanadium, |
| | Zinc, Cobalt, |
| | Manganese, |
| | 250 µg/mL ea: |
| | Silver, Copper, |
| | 200 µg/mL ea: |
| | Chromium, |
| | 50 µg/mL ea: |
| | Beryllium |

## 3.0 CERTIFIED VALUES AND UNCERTAINTIES

| ANALYTE | CERTIFIED VALUE | ANALYTE | CERTIFIED VALUE |
|---|---|---|---|
| Aluminum, Al | 2 000 ± 7 µg/mL | Barium, Ba | 2 000 ± 9 µg/mL |
| Beryllium, Be | 50.03 ± 0.30 µg/mL | Calcium, Ca | 5 000 ± 16 µg/mL |
| Chromium, Cr | 200.0 ± 1.1 µg/mL | Cobalt, Co | 500.0 ± 2.3 µg/mL |
| Copper, Cu | 250.0 ± 1.1 µg/mL | Iron, Fe | 1 000 ± 4 µg/mL |
| Magnesium, Mg | 5 000 ± 22 µg/mL | Manganese, Mn | 499.9 ± 2.2 µg/mL |
| Nickel, Ni | 500.1 ± 2.3 µg/mL | Potassium, K | 5 000 ± 22 µg/mL |
| Silver, Ag | 250.0 ± 1.1 µg/mL | Sodium, Na | 5 000 ± 22 µg/mL |
| Vanadium, V | 500.0 ± 2.2 µg/mL | Zinc, Zn | 500.0 ± 2.2 µg/mL |

**Density:** 1.117 g/mL (measured at 20 ± 4 °C)

**Assay Information:**

| ANALYTE | METHOD | NIST SRM# | SRM LOT# |
|---|---|---|---|
| Ag | ICP Assay | 3151 | 160729 |
| Ag | Volhard | 999c | 999c |
| Al | ICP Assay | 3101a | 140903 |
| Al | EDTA | 928 | 928 |
| Ba | ICP Assay | 3104a | 140909 |
| Ba | Gravimetric | | See Sec. 4.2 |
| Be | ICP Assay | 3105a | 090514 |
| Ca | ICP Assay | 3109a | 130213 |
| Ca | EDTA | 928 | 928 |
| Co | ICP Assay | 3113 | 190630 |
| Co | EDTA | 928 | 928 |
| Cr | ICP Assay | 3112a | 170630 |
| Cu | ICP Assay | 3114 | 120618 |
| Cu | EDTA | 928 | 928 |
| Fe | ICP Assay | 3126a | 140812 |
| Fe | EDTA | 928 | 928 |
| K | ICP Assay | 3141a | 140813 |
| K | Gravimetric | | See Sec. 4.2 |
| Mg | ICP Assay | 3131a | 140110 |
| Mg | EDTA | 928 | 928 |
| Mn | ICP Assay | 3132 | 050429 |
| Mn | EDTA | 928 | 928 |
| Na | ICP Assay | 3152a | 200413 |
| Na | Gravimetric | | See Sec. 4.2 |
| Ni | ICP Assay | 3136 | 120619 |
| Ni | EDTA | 928 | 928 |
| 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, $X_{CRM/RM}$, where two or more methods of characterization are used is the weighted mean of the results:**

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

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

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

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

**CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\ (u^2_{char} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$**

k = coverage factor = 2

$u_{char} = [\Sigma((w_i)^2\ (u_{char\ i})^2)]^{½}$ where $u_{char\ i}$ are the errors from each characterization method

$u_{bb}$ = bottle to bottle homogeneity standard uncertainty

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

$u_{ts}$ = transport stability standard uncertainty

### Characterization of CRM/RM by One Method

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

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

$X_a$ = mean of Assay Method A with

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

**CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\ (u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$**

k = coverage factor = 2

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

$u_{bb}$ = bottle to bottle homogeneity standard uncertainty

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

$u_{ts}$ = transport stability standard uncertainty

## 4.0 TRACEABILITY TO NIST

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

### 4.1 Thermometer Calibration

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

### 4.2 Balance Calibration

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

### 4.3 Glassware Calibration

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

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

N/A

## 6.0 INTENDED USE

**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**

**Note:** This solution contains Silver (Ag), please refer to our Sample Preparation Guide for more information (https://www.inorganicventures.com/sample-preparation-guide/samples-containing-silver)

## 8.0 HAZARDOUS INFORMATION

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

## 9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

## 10.0 QUALITY STANDARD DOCUMENTATION

### 10.1 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

### 10.2 ISO/IEC 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

### 10.3 ISO 17034 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

Inorganic Ventures, 300 Technology Drive, Christiansburg, Va. 24073, USA; Telephone: 800.669.6799; 540.585.3030, Fax: 540.585.3012; inorganicventures.com; info@inorganicventures.com

## 11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

### 11.1 Certification Issue Date

March 22, 2024

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is stored and handled in accordance with instructions given in Sec 7.1. This certification is nullified if instructions in Sec 7.1 are not followed or if the CRM/RM is damaged, contaminated, or otherwise modified.

### 11.2 Lot Expiration Date

**- March 22, 2029**

- The date after which this CRM/RM should not be used.

- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

**11.3 Period of Validity**

- Sealed TCT Bag Open Date: _____

- This CRM/RM should not be used longer than one year (or six months in the case of a 30 mL bottle) from the date of opening the aluminized bag or after the date given in Sec. 11.2, whichever comes first. This is contingent upon the CRM/RM being stored and handled in accordance with the instructions given in Sec. 7.1.

## 12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

**Certificate Prepared By:**

Uyen Truong
Custom Processing Supervisor



**Certificate Approved By:**

Jodie Wall
Stock VSM Coordinator



**Certifying Officer:**

Paul Gaines
Chairman / Senior Technical Director



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Revised



CERTIFIED WEIGHT REPORT:

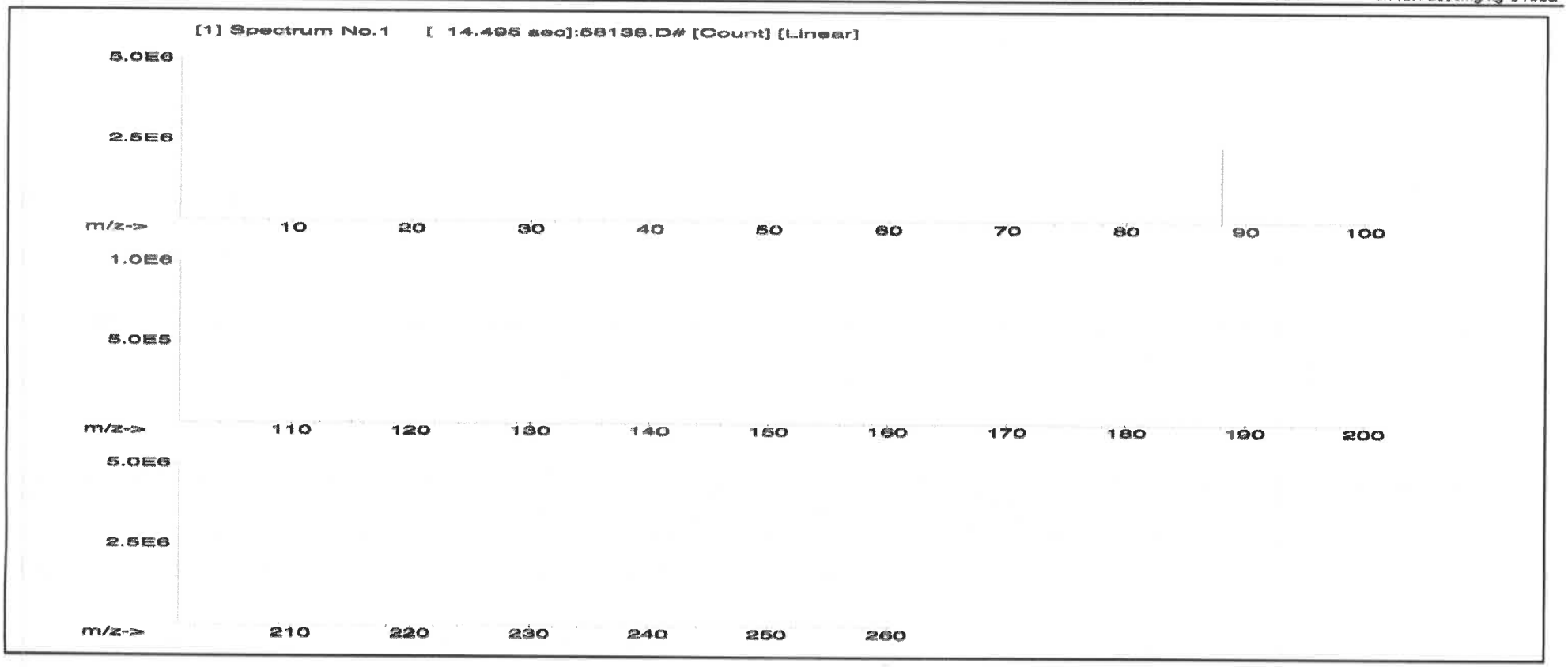
R->8/6/25

M6176

| | | | | | |
|---|---|---|---|---|---|
| **Part Number:** | **57038** | | | **Lot #** | |
| **Lot Number:** | **092724** | | **Solvent:** | 24002546 | Nitric Acid |
| **Description:** | **Strontium (Sr)** | | 2% | 40.0 (mL) | Nitric Acid |
| **Expiration Date:** | 092727 | | | | |
| **Recommended Storage:** | Ambient (20 °C) | | | | |
| **Nominal Concentration (µg/mL):** | **1000** | | | | |
| **NIST Test Number:** | 6UTB | 5E-05 | Balance Uncertainty | | |
| **Weight shown below was diluted to (mL):** | 2000.07 | 0.100 | Flask Uncertainty | | |

| | |
|---|---|
| Formulated By: | Benson Chan 092724 |
| Reviewed By: | Pedro L. Rentas 092724 |

| Compound | RM# | Lot Number | Nominal Conc. (µg/mL) | Purity (%) | Uncertainty Purity (%) | Assay (%) | Target Weight (g) | Actual Weight (g) | Actual Conc. (µg/mL) | Expanded Uncertainty +/- (µg/mL) | SDS Information (Solvent Safety Info. On Attached pg.) CAS# | OSHA PEL (TWA) | LD50 | NIST SRM |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1. Strontium nitrate (Sr) | IN017 | SRZ022018A1 | 1000 | 99.997 | 0.10 | 41.2 | 4.85470 | 4.85481 | **1000.0** | **2.0** | 10042-76-9 | NA | orl-rat >2000mg/kg | 3153a |



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

(T) = Target analyte

## Physical Characterization:

Certified by:

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

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

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Revised



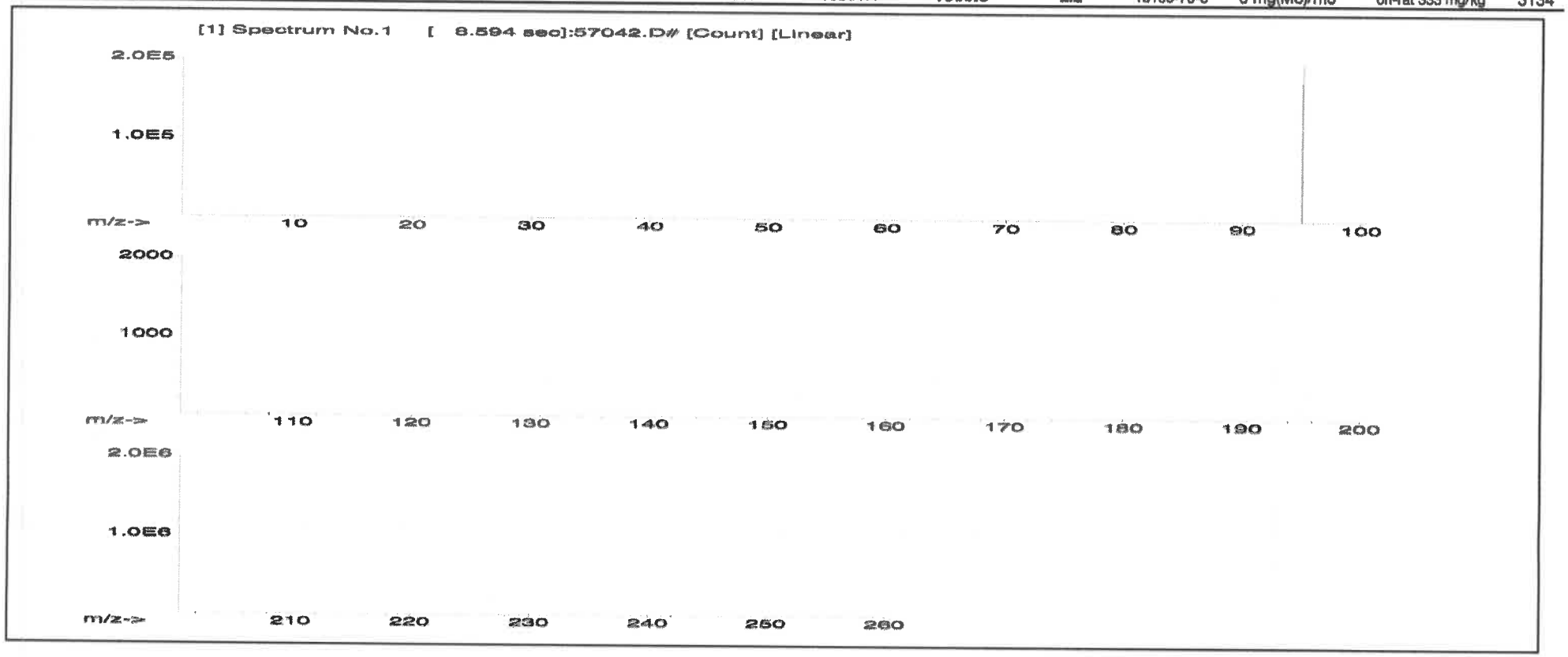
## CERTIFIED WEIGHT REPORT:

R→ 8/6/25
M6177

| | | Lot # | Solvent: | | |
|---|---|---|---|---|---|
| **Part Number:** | 57042 | MKBQ8597V | Ammonium hydroxide | | |
| **Lot Number:** | 080525 | 080525 | ASTM Type 1 Water | | |
| **Description:** | Molybdenum (Mo) | 0.5% | 10.0 (mL) | Ammonium hydroxide | |
| **Expiration Date:** | 080528 | | | | |
| **Recommended Storage:** | Ambient (15 - 30 °C) | | | | |
| **Nominal Concentration (µg/mL):** | 1000 | | | | |
| **NIST Test Number:** | 6UTB | 5E-05 | Balance Uncertainty | | |
| **Volume shown below was diluted to (mL):** | 1999.41 | 0.058 | Flask Uncertainty | | |

| | | |
|---|---|---|
| Formulated By: | Benson Chan | 080525 |
| Reviewed By: | Pedro L. Rentas | 080525 |

| Compound | Part Number | Lot Number | Dilution Factor | Initial Vol. (mL) | Uncertainty Pipette (mL) | Nominal Conc. (µg/mL) | Initial Conc. (µg/mL) | Final Conc. (µg/mL) | Expanded Uncertainty +/- (µg/mL) | SDS Information (Solvent Safety Info. On Attached pg.) CAS# | OSHA PEL (TWA) | LD50 | NIST SRM |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1. Ammonium molybdate (Mo) | 58142 | 112322 | 0.1000 | 200.0 | 0.084 | 1000 | 10001.4 | **1000.5** | **2.2** | 13106-76-8 | 5 mg(Mo)/m3 | orl-rat 333 mg/kg | 3134 |



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

(T) = Target analyte

## Physical Characterization:

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 by an ISO17025 certified organization with weights traceable through NIST to the SI kilogram (see above).
* Standards are certifed (+/-) 0.5% of the stated value, unless otherwise stated.
* All standards should be stored with caps tight and under appropriate laboratory conditions.
* Uncertainty Reference: Taylor, B.N. and Kuyat, C.E., "Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Result," NIST Technical Note 1297, U.S. Government Printing Office, Washington, D.C. (1994).
Rev 1.0, 2/25/2025

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Revised



## CERTIFIED WEIGHT REPORT:

R>8/6/28
M6178

| | | | | | |
|---|---|---|---|---|---|
| **Part Number:** | **57082** | | **Lot #** | | |
| **Lot Number:** | **031525** | **Solvent:** | 24014457 | Nitric Acid | |
| **Description:** | **Lead (Pb)** | | 2% | 40.0 (mL) | Nitric Acid |
| **Expiration Date:** | 031528 | | | | |
| **Recommended Storage:** | Ambient (20 °C) | | | | |
| **Nominal Concentration (µg/mL):** | **1000** | | | | |
| **NIST Test Number:** | 6UTB | 5E-05 | Balance Uncertainty | | |
| **Weight shown below was diluted to (mL):** | 2000.07 | 0.10 | Flask Uncertainty | | |

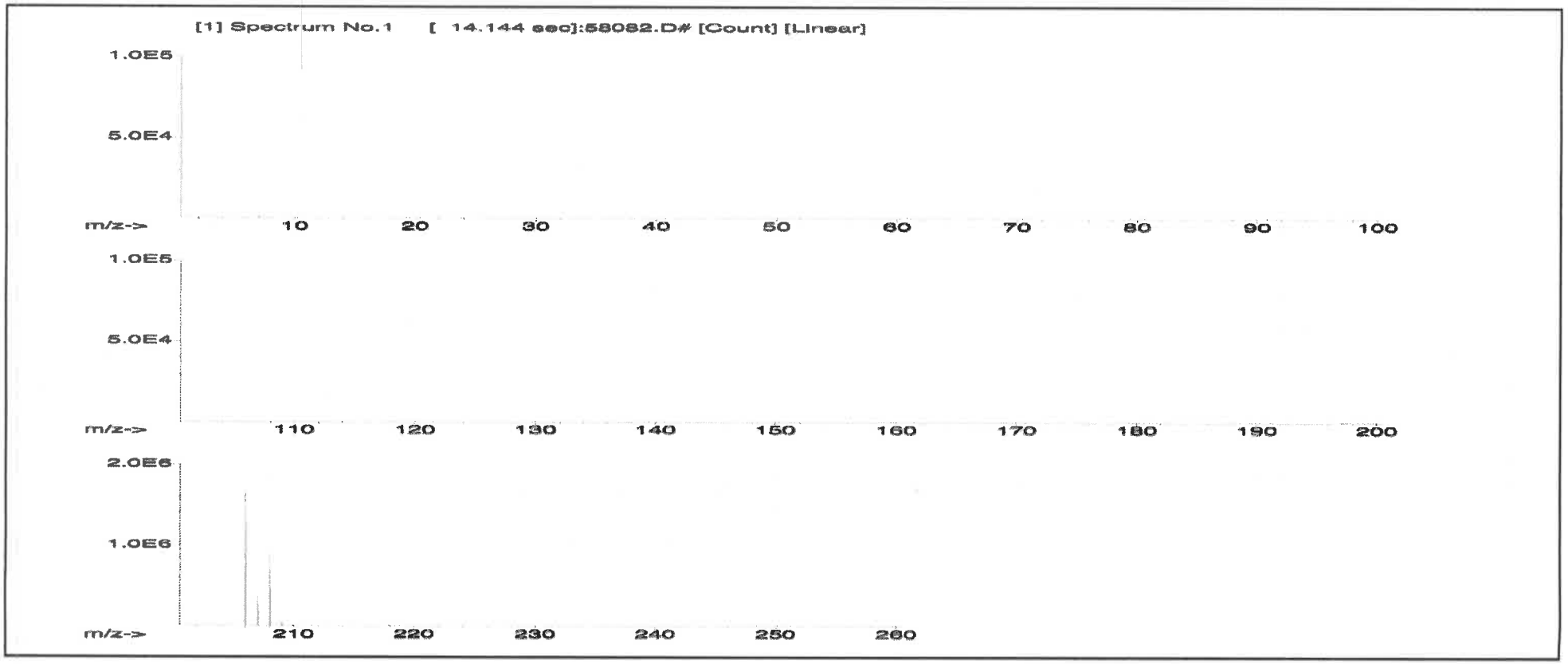
Giovanni Esposito

| | | |
|---|---|---|
| Formulated By: | Giovanni Esposito | 031525 |

Pedro Rentas

| | | |
|---|---|---|
| Reviewed By: | Pedro L. Rentas | 031525 |

| Compound | RM# | Lot Number | Nominal Conc. (µg/mL) | Purity (%) | Uncertainty Purity (%) | Assay (%) | Target Weight (g) | Actual Weight (g) | Actual Conc. (µg/mL) | Expanded Uncertainty +/- (µg/mL) | SDS Information (Solvent Safety Info. On Attached pg.) CAS# | OSHA PEL (TWA) | LD50 | NIST SRM |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1. Lead(II) nitrate (Pb) | IN029 | PBD122016A1 | 1000 | 99.999 | 0.10 | 62.5 | 3.20015 | 3.20067 | **1000.2** | **2.0** | 10099-74-8 | 0.05 mg/m3 | intrvns-rat 93 mg/kg | 3128 |



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

(T) = Target analyte

**Physical Characterization:**

Certified by:

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

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

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# Certificate of Analysis

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F: 540-585-3012
info@inorganicventures.com

M6179
R -> 6/2024

## 1.0 ACCREDITATION / REGISTRATION

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

ACCREDITED Testing Laboratory Certificate 883.01
ACCREDITED Reference Material Producer Certificate 883.02

## 2.0 PRODUCT DESCRIPTION

| | |
|---|---|
| Product Code: | Single Analyte Custom Grade Solution |
| Catalog Number: | CGY10 |
| Lot Number: | V2-Y740548 |
| Matrix: | 2% (v/v) HNO3 |
| Value / Analyte(s): | 10 000 µg/mL ea: Yttrium |
| Starting Material: | Yttrium Oxide |
| Starting Material Lot#: | 2661 and 06230520YL |
| Starting Material Purity: | 99.9984% |

## 3.0 CERTIFIED VALUES AND UNCERTAINTIES

**Certified Value:** 10000 ± 30 µg/mL

**Density:** 1.032 g/mL (measured at 20 ± 4 °C)

**Assay Information:**

| | |
|---|---|
| **Assay Method #1** | **10011 ± 25 µg/mL**<br>EDTA NIST SRM 928 Lot Number: 928 |
| **Assay Method #2** | **9997 ± 50 µg/mL**<br>ICP Assay NIST SRM 3167a Lot Number: 190730 |
| **Assay Method #3** | **9984 ± 31 µg/mL**<br>Calculated NIST SRM Lot Number: See Sec. 4.2 |

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

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

### Characterization of CRM/RM by Two or More Methods

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

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

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

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

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

**CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$**

k = coverage factor = 2

$u_{char} = [\Sigma((w_i)^2\,(u_{char\ i})^2)]^{½}$ where $u_{char\ i}$ are the errors from each characterization method

$u_{bb}$ = bottle to bottle homogeneity standard uncertainty

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

$u_{ts}$ = transport stability standard uncertainty

### Characterization of CRM/RM by One Method

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

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

$X_a$ = mean of Assay Method A with

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

**CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$**

k = coverage factor = 2

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

$u_{bb}$ = bottle to bottle homogeneity standard uncertainty

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

$u_{ts}$ = transport stability standard uncertainty

## 4.0 TRACEABILITY TO NIST

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

### 4.1 Thermometer Calibration

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

### 4.2 Balance Calibration

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

### 4.3 Glassware Calibration

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

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

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

| | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| M | Ag | < | 0.004600 | M | Eu | | 0.009037 | M | Na | | 0.086360 | M | Se | < | 0.005200 | M | Zn | | 0.030125 |
| M | Al | | 0.014862 | O | Fe | | 0.002410 | M | Nb | < | 0.000570 | O | Si | | 0.024100 | O | Zr | < | 0.002600 |
| M | As | < | 0.003500 | M | Ga | < | 0.000570 | M | Nd | | 0.000923 | M | Sm | | 0.000461 | | | | |
| M | Au | < | 0.001700 | M | Gd | < | 0.003500 | M | Ni | < | 0.005700 | M | Sn | < | 0.002300 | | | | |
| O | B | | 0.002209 | M | Ge | < | 0.005200 | M | Os | < | 0.001200 | M | Sr | < | 0.004600 | | | | |
| O | Ba | < | 0.002500 | M | Hf | < | 0.000570 | n | P | < | | M | Ta | < | 0.000570 | | | | |
| O | Be | < | 0.001400 | M | Hg | < | 0.000570 | M | Pb | | 0.005020 | M | Tb | | 0.001044 | | | | |
| M | Bi | < | 0.003500 | M | Ho | | 0.009037 | M | Pd | < | 0.005100 | M | Te | < | 0.002300 | | | | |
| O | Ca | | 0.009841 | M | In | < | 0.002300 | M | Pr | < | 0.002300 | M | Th | < | 0.000570 | | | | |
| M | Cd | < | 0.000570 | M | Ir | < | 0.000570 | M | Pt | < | 0.000570 | M | Ti | < | 0.003500 | | | | |
| M | Ce | < | 0.002300 | O | K | | 0.018677 | M | Rb | < | 0.000570 | M | Tl | < | 0.000570 | | | | |
| M | Co | < | 0.000570 | M | La | | 0.000461 | M | Re | < | 0.000570 | M | Tm | < | 0.003500 | | | | |
| M | Cr | < | 0.004000 | O | Li | < | 0.009300 | M | Rh | < | 0.008000 | M | U | < | 0.000570 | | | | |
| M | Cs | < | 0.000570 | M | Lu | | 0.000582 | M | Ru | < | 0.000570 | M | V | | 0.001265 | | | | |
| M | Cu | | 0.002610 | O | Mg | | 0.001486 | n | S | < | | M | W | < | 0.002300 | | | | |
| M | Dy | | 0.003815 | M | Mn | | 0.000582 | M | Sb | | 0.005422 | s | Y | < | | | | | |
| M | Er | | 0.003615 | M | Mo | < | 0.005700 | M | Sc | < | 0.001200 | M | Yb | | 0.001827 | | | | |

M - Checked by ICP-MS  O - Checked by ICP-OES  i - Spectral Interference
n - Not Checked For  s - Solution Standard Element

## 6.0 INTENDED USE

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

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

## 7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

### 7.1 Storage and Handling Recommendations

- Store between approximately 4° - 30° C while in sealed TCT bag.

- While stored in the sealed TCT bag, transpiration of this CRM/RM is negligible. After opening the sealed TCT bag transpiration of the CRM/RM will occur, resulting in a gradual increase in the analyte concentration(s). It is the responsibility of the user to account for this effect. When the bottle is weighed both before and after being placed in storage, the mass difference observed will be a measure of transpiration mass loss.

- After opening the sealed TCT bag, keep cap tightly sealed when not in use and store between 4° - 24° C to minimize the effects of transpiration. Use at 20° ± 4° C to minimize volumetric dilution error when using the reported density. Do not pipette from the container. Do not return removed aliquots to container.

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

**Atomic Weight; Valence; Coordination Number; Chemical Form in Solution -** 88.91 +3 6 Y(OH)(H2O)x+2

**Chemical Compatibility -**Soluble in HCl, H2SO4 and HNO3. Avoid HF, H3PO4 and neutral to basic media. Stable with most metals and inorganic anions forming an insoluble carbonate, oxide, oxalate, and fluoride. Avoid mixing with elements / solutions containing moderate amounts of fluoride.

**Stability -** 2-100 ppb levels stable for months in 1% HNO3 / LDPE container. 1-10,000 ppm solutions chemically stable for years in 2-5% HNO3 / LDPE container.

**Y Containing Samples (Preparation and Solution) -** Metal (Soluble in acids); Oxide (Dissolve by heating in H2O/ HNO3); Ores (Carbonate fusion in Pt0 followed by HCl dissolution); Organic Matrices (Dry ash and dissolve in 1:1 H2O / HCl or HNO3).

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

| **Technique/Line** | **Estimated D.L.** | **Order** | **Interferences** (underlined indicates severe) |
|---|---|---|---|
| ICP-MS 89 amu | 0.8 ppt | N/A | 73Ge16O, 178Hf+2 |
| ICP-OES 360.073 nm | 0.005 / 0.000036 µg/mL | 1 | Ce, Th |
| ICP-OES 371.030 nm | 0.004 / 0.00007 µg/mL | 1 | Ce |
| ICP-OES 377.433 nm | 0.005 / 0.0009 µg/mL | 1 | Ta, Th |

## 8.0 HAZARDOUS INFORMATION

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

## 9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

## 10.0 QUALITY STANDARD DOCUMENTATION

### 10.1 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

### 10.2 ISO/IEC 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

**10.3 ISO 17034 "General Requirements for the Competence of Reference Material Producers"**

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

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## 11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

**11.1 Certification Issue Date**

February 20, 2024

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is stored and handled in accordance with instructions given in Sec 7.1. This certification is nullified if instructions in Sec 7.1 are not followed or if the CRM/RM is damaged, contaminated, or otherwise modified.

**11.2 Lot Expiration Date**

**- February 20, 2029**

- The date after which this CRM/RM should not be used.

- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

**11.3 Period of Validity**

- Sealed TCT Bag Open Date: _____

- This CRM/RM should not be used longer than one year (or six months in the case of a 30 mL bottle) from the date of opening the aluminized bag or after the date given in Sec. 11.2, whichever comes first. This is contingent upon the CRM/RM being stored and handled in accordance with the instructions given in Sec. 7.1.

## 12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

**Certificate Prepared By:**

Uyen Truong
Custom Processing Supervisor



**Certificate Approved By:**

Muzzammil Khan
Stock Laboratory Supervisor



**Certifying Officer:**

Paul Gaines
Chairman / Senior Technical Director



INORGANIC VENTURES™
Refine your results. Redefine your industry.

# Certificate of Analysis

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Christiansburg, VA 24073 USA
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## 1.0 ACCREDITATION / REGISTRATION

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

ACCREDITED Testing Laboratory Certificate 883.01
ACCREDITED Reference Material Producer Certificate 883.02

## 2.0 PRODUCT DESCRIPTION

| | |
|---|---|
| Product Code: | Multi Analyte Custom Grade Solution |
| Catalog Number: | WW-LFS-1 |
| Lot Number: | W2-MEB752149 |
| Matrix: | 5% (v/v) HNO3 |

M6180
R-3 7/22/23

| | | |
|---|---|---|
| Value / Analyte(s): | 1 000 µg/mL ea:<br>Potassium, | |
| | 600 µg/mL ea:<br>Phosphorus, | |
| | 300 µg/mL ea:<br>Sodium, | Iron, |
| | 200 µg/mL ea:<br>Magnesium,<br>Cerium,<br>Thallium, | Aluminum,<br>Selenium, |
| | 100 µg/mL ea:<br>Lead, | Calcium, |
| | 80 µg/mL ea:<br>Arsenic, | |
| | 70 µg/mL ea:<br>Mercury, | |
| | 50 µg/mL ea:<br>Nickel, | |
| | 40 µg/mL ea:<br>Chromium, | |
| | 30 µg/mL ea:<br>Copper,<br>Vanadium, | Boron, |
| | 20 µg/mL ea:<br>Zinc,<br>Barium,<br>Cadmium,<br>Manganese, | Strontium,<br>Beryllium,<br>Cobalt,<br>Lithium, |
| | 7.5 µg/mL ea:<br>Silver | |

## 3.0 CERTIFIED VALUES AND UNCERTAINTIES

| ANALYTE | CERTIFIED VALUE | ANALYTE | CERTIFIED VALUE |
|---|---|---|---|
| Aluminum, Al | 200.2 ± 0.7 µg/mL | Arsenic, As | 80.1 ± 0.5 µg/mL |
| Barium, Ba | 20.02 ± 0.12 µg/mL | Beryllium, Be | 20.02 ± 0.11 µg/mL |
| Boron, B | 30.02 ± 0.15 µg/mL | Cadmium, Cd | 20.04 ± 0.09 µg/mL |
| Calcium, Ca | 100.1 ± 0.3 µg/mL | Cerium, Ce | 200.2 ± 1.0 µg/mL |
| Chromium, Cr | 40.02 ± 0.26 µg/mL | Cobalt, Co | 20.03 ± 0.09 µg/mL |
| Copper, Cu | 30.03 ± 0.13 µg/mL | Iron, Fe | 300.3 ± 1.3 µg/mL |
| Lead, Pb | 100.1 ± 0.5 µg/mL | Lithium, Li | 20.03 ± 0.09 µg/mL |
| Magnesium, Mg | 200.2 ± 0.9 µg/mL | Manganese, Mn | 19.99 ± 0.09 µg/mL |
| Mercury, Hg | 70.0 ± 0.3 µg/mL | Nickel, Ni | 50.05 ± 0.22 µg/mL |
| Phosphorus, P | 600.5 ± 2.9 µg/mL | Potassium, K | 1 001 ± 4 µg/mL |
| Selenium, Se | 200.2 ± 1.1 µg/mL | Silver, Ag | 7.52 ± 0.03 µg/mL |
| Sodium, Na | 300.3 ± 1.3 µg/mL | Strontium, Sr | 20.02 ± 0.10 µg/mL |
| Thallium, Tl | 200.2 ± 1.0 µg/mL | Vanadium, V | 30.02 ± 0.13 µg/mL |
| Zinc, Zn | 20.05 ± 0.09 µg/mL | | |

**Density:** 1.037 g/mL (measured at 20 ± 5 °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 |
| B | ICP Assay | 3107 | 190605 |
| B | Calculated | | See Sec. 4.2 |
| Ba | ICP Assay | 3104a | 140909 |
| Ba | Gravimetric | | See Sec. 4.2 |
| Be | ICP Assay | 3105a | 090514 |
| Ca | ICP Assay | 3109a | 130213 |
| Ca | EDTA | 928 | 928 |
| Cd | ICP Assay | 3108 | 130116 |
| Cd | EDTA | 928 | 928 |
| Ce | ICP Assay | 3110 | 160830 |
| Ce | EDTA | 928 | 928 |
| Co | ICP Assay | 3113 | 190630 |
| Co | EDTA | 928 | 928 |
| Cr | ICP Assay | 3112a | 170630 |
| Cu | ICP Assay | 3114 | 120618 |
| Cu | EDTA | 928 | 928 |
| Fe | ICP Assay | 3126a | 140812 |
| Fe | EDTA | 928 | 928 |
| Hg | ICP Assay | 3133 | 160921 |
| Hg | EDTA | 928 | 928 |
| K | ICP Assay | 3141a | 140813 |
| K | Gravimetric | | See Sec. 4.2 |
| Li | ICP Assay | 3129a | 100714 |
| Li | Gravimetric | | See Sec. 4.2 |
| Mg | ICP Assay | 3131a | 140110 |
| Mg | EDTA | 928 | 928 |
| Mn | ICP Assay | 3132 | 050429 |
| Mn | EDTA | 928 | 928 |
| Na | ICP Assay | 3152a | 200413 |
| Na | Gravimetric | | See Sec. 4.2 |
| Ni | ICP Assay | 3136 | 120619 |
| Ni | EDTA | 928 | 928 |
| P | ICP Assay | 3139a | 060717 |
| P | Acidimetric | 84L | 84L |
| Pb | ICP Assay | 3128 | 101026 |
| Pb | EDTA | 928 | 928 |
| Se | ICP Assay | 3149 | 100901 |
| Sr | EDTA | 928 | 928 |
| Sr | ICP Assay | Traceable to 3153a | K2-SR650985 |
| Tl | ICP Assay | 3158 | 151215 |
| V | 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, $X_{CRM/RM}$, where two or more methods of characterization are used is the weighted mean of the results:**

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

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

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

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

**CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$**

k = coverage factor = 2

$u_{char} = [\Sigma((w_i)^2\,(u_{char\ i})^2)]^{½}$ where $u_{char\ i}$ are the errors from each characterization method

$u_{bb}$ = bottle to bottle homogeneity standard uncertainty

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

$u_{ts}$ = transport stability standard uncertainty

### Characterization of CRM/RM by One Method

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

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

$X_a$ = mean of Assay Method A with

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

**CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$**

k = coverage factor = 2

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

$u_{bb}$ = bottle to bottle homogeneity standard uncertainty

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

$u_{ts}$ = transport stability standard uncertainty

## 4.0 TRACEABILITY TO NIST

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

### 4.1 Thermometer Calibration

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

### 4.2 Balance Calibration

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

### 4.3 Glassware Calibration

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

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

N/A

## 6.0 INTENDED USE

**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° - 25° C to minimize the effects of transpiration. Use at 20° ± 5° C to minimize volumetric dilution error when using the reported density. Do not pipette from the container. Do not return removed aliquots to container.

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

**Note**: This solution contains Silver (Ag), please refer to our Sample Preparation Guide for more information (https://www.inorganicventures.com/sample-preparation-guide/samples-containing-silver)

## 8.0 HAZARDOUS INFORMATION

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

## 9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

## 10.0 QUALITY STANDARD DOCUMENTATION

### 10.1 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

### 10.2 ISO/IEC 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

### 10.3 ISO 17034 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

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## 11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

### 11.1 Certification Issue Date

April 08, 2025

- 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

- **April 08, 2029**

- The date after which this CRM/RM should not be used.

- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

**11.3 Period of Validity**

- Sealed TCT Bag Open Date: _____

- This CRM/RM should not be used longer than one year (or six months in the case of a 30 mL bottle) from the date of opening the aluminized bag or after the date given in Sec. 11.2, whichever comes first. This is contingent upon the CRM/RM being stored and handled in accordance with the instructions given in Sec. 7.1.

## 12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

**Certificate Prepared By:**

Justin Dirico
Stock Processing Supervisor



**Certificate Approved By:**

Jodie Wall
Stock VSM Coordinator



**Certifying Officer:**

Paul Gaines
Chairman / Senior Technical Director



INORGANIC VENTURES
Refine your results. Redefine your industry.

# Certificate of Analysis

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Christiansburg, VA 24073 USA
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F: 540-585-3012
info@inorganicventures.com

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## 1.0 ACCREDITATION / REGISTRATION

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

ACCREDITED Testing Laboratory Certificate 883.01
ACCREDITED Reference Material Producer Certificate 883.02

## 2.0 PRODUCT DESCRIPTION

| | |
|---|---|
| Product Code: | Multi Analyte Custom Grade Solution |
| Catalog Number: | WW-LFS-2 |
| Lot Number: | V2-MEB743480 |
| Matrix: | 5% (v/v) HNO3<br>tr. HF |
| Value / Analyte(s): | 200 µg/mL ea:<br>Silica,<br>80 µg/mL ea:<br>Antimony,<br>70 µg/mL ea:<br>Tin,<br>40 µg/mL ea:<br>Molybdenum,<br>20 µg/mL ea:<br>Titanium |

## 3.0 CERTIFIED VALUES AND UNCERTAINTIES

| ANALYTE | CERTIFIED VALUE | ANALYTE | CERTIFIED VALUE |
|---|---|---|---|
| Antimony, Sb | 80.1 ± 0.5 µg/mL | Molybdenum, Mo | 40.05 ± 0.22 µg/mL |
| Silica, SiO2 | 200.3 ± 1.4 µg/mL | Tin, Sn | 70.1 ± 0.4 µg/mL |
| Titanium, Ti | 20.03 ± 0.12 µg/mL | | |

**Density:** 1.025 g/mL (measured at 20 ± 4 °C)

### Assay Information:

| ANALYTE | METHOD | NIST SRM# | SRM LOT# |
|---|---|---|---|
| Mo | ICP Assay | 3134 | 130418 |
| Sb | ICP Assay | 3102a | 140911 |
| SiO2 | Calculated | | See Sec. 4.2 |
| Sn | ICP Assay | 3161a | 140917 |
| Ti | ICP Assay | traceable to 3162a | T2-TI725816 |

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

### Characterization of CRM/RM by Two or More Methods

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

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

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

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

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

**CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$**

k = coverage factor = 2

$u_{char} = [\Sigma((w_i)^2 (u_{char\ i})^2)]^{½}$ where $u_{char\ i}$ are the errors from each characterization method

$u_{bb}$ = bottle to bottle homogeneity standard uncertainty

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

$u_{ts}$ = transport stability standard uncertainty

### Characterization of CRM/RM by One Method

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

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

$X_a$ = mean of Assay Method A with

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

**CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$**

k = coverage factor = 2

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

$u_{bb}$ = bottle to bottle homogeneity standard uncertainty

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

$u_{ts}$ = transport stability standard uncertainty

## 4.0 TRACEABILITY TO NIST

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

### 4.1 Thermometer Calibration

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

### 4.2 Balance Calibration

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

### 4.3 Glassware Calibration

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

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

N/A

## 6.0 INTENDED USE

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

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

## 7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

### 7.1 Storage and Handling Recommendations

- Store between approximately 4° - 30° C while in sealed TCT bag.

- While stored in the sealed TCT bag, transpiration of this CRM/RM is negligible. After opening the sealed TCT bag transpiration of the CRM/RM will occur, resulting in a gradual increase in the analyte concentration(s). It is the responsibility of the user to account for this effect. When the bottle is weighed both before and after being placed in storage, the mass difference observed will be a measure of transpiration mass loss.

- After opening the sealed TCT bag, keep cap tightly sealed when not in use and store between 4° - 24° C to minimize the effects of transpiration. Use at 20° ± 4° C to minimize volumetric dilution error when using the reported density. Do not pipette from the container. Do not return removed aliquots to container.

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

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

## 8.0 HAZARDOUS INFORMATION

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

## 9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

## 10.0 QUALITY STANDARD DOCUMENTATION

### 10.1 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

### 10.2 ISO/IEC 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

### 10.3 ISO 17034 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

Inorganic Ventures, 300 Technology Drive, Christiansburg, Va. 24073, USA; Telephone: 800.669.6799; 540.585.3030, Fax: 540.585.3012; inorganicventures.com; info@inorganicventures.com

## 11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

### 11.1 Certification Issue Date

May 07, 2024

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is stored and handled in accordance with instructions given in Sec 7.1. This certification is nullified if instructions in Sec 7.1 are not followed or if the CRM/RM is damaged, contaminated, or otherwise modified.

### 11.2 Lot Expiration Date

**- May 07, 2029**

- The date after which this CRM/RM should not be used.

- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

**11.3 Period of Validity**

- Sealed TCT Bag Open Date: _____

- This CRM/RM should not be used longer than one year (or six months in the case of a 30 mL bottle) from the date of opening the aluminized bag or after the date given in Sec. 11.2, whichever comes first. This is contingent upon the CRM/RM being stored and handled in accordance with the instructions given in Sec. 7.1.

## 12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

**Certificate Prepared By:**

Justin Dirico
Stock Processing Supervisor



**Certificate Approved By:**

Thomas Kozikowski
Stock VS Manager



**Certifying Officer:**

Paul Gaines
Chairman / Senior Technical Director



## QATS LABORATORY INORGANIC REFERENCE MATERIAL INTERFERENCE CHECK SAMPLE SET FOR ICP-AES (ICSA WITH ICSB)

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

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

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

M6182

Contains Heavy Metals
**HAZARDOUS MATERIAL**

Safety Data Sheets
Available Upon Request

### (A) *SAMPLE DESCRIPTION*

Enclosed is a set of one (1) or more bottles of Aqueous Reference Material, each composed of metals at various concentrations and prepared with nitrate salts and oxy-acids of the respective elements in a 5% nitric acid matrix. **For the reference material source in reporting ICSA and ICSAB mixture use "USEPA". For the reference material lot number for the ICSA use "ICSA-1211" and for the ICSAB mixture use "ICSA-1211+ICSB-0710".**

***CAUTION:*** The bottle(s) should be protected from light during storage to ensure the stability of silver which is contained in the ICSB solution. The bottle(s) should be stored at room temperature. **Do not allow the solution(s) to freeze.**

### (B) *BREAKAGE OR MISSING ITEMS*

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

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

### (C) *ANALYSIS OF SAMPLES*

The interference check sample set is to be used to verify inter-element and background correction factors of inductively-coupled plasma (ICP) spectrometers. This reference material set consists of two (2) concentrated solutions. The ICSA solution contains the four (4) interferent elements: Al, Ca, Fe, and Mg. The ICSB solution contains the analytes: Ag, As, Sb, Ba, Be,



*The Quality Assurance Technical Support (QATS) contract is operated by APTIM Federal Services, LLC.*

Cd, Co, Cr, Cu, Mn, Ni, Pb, Tl, Se, V, and Zn. This instruction sheet provides the nominal values for ICP-AES Part A and Part B target analytes when diluted as directed.

Using Class "A" glassware, preparation and analysis must be performed according to the following instructions:

**ICSA-1211, Interferents:** Pipet 10 mL of the ICSA solution into a 100 mL volumetric flask and dilute to volume with 2% v/v $HNO_3$. Analyze this ICSA solution by ICP-AES.

**ICSB-0710, Analytes, mixed with ICSA-1211, Interferents:** Pipet 10 mL of the ICSA solution and 10 mL of the ICSB solution into a 100 mL volumetric flask and dilute to volume with 2% v/v $HNO_3$. Analyze this ICSAB solution by ICP-AES.

## (D) *"CERTIFIED VALUE" CONCENTRATIONS OF QATS ICP-AES ICS SOLUTION(S)*

The "Certified Value" concentrations of the elements, listed in Table 1 below, were derived from statistically pooled analysis results from the following sources, if available: QATS Laboratory, CLP laboratories, Quarterly Blind (QB)/Proficiency Testing (PT) events, CLP pre-award events, and external referee laboratories.

**Table 1. "CERTIFIED VALUES" FOR INTERFERENCE CHECK SAMPLE ICP-AES ICSA-1211, AND ICSA-1211 MIXED WITH ICSB-0710**

| Element | CRQL | Part A (µg/L) | Low Limit (µg/L) | High Limit (µg/L) | Part A +Part B (µg/L) | Low Limit (µg/L) | High Limit (µg/L) |
|---|---|---|---|---|---|---|---|
| Al | 200 | 255000 | 216000 | 294000 | 247000 | 209000 | 285000 |
| Sb | 60 | (0.0) | -60.0 | 60.0 | 618 | 525 | 711 |
| As | 10 | (0.0) | -10.0 | 10.0 | 104 | 88.4 | 120 |
| Ba | 200 | (6.0) | -194 | 206 | (537) | 337 | 737 |
| Be | 5.0 | (0.0) | -5.0 | 5.0 | 495 | 420 | 570 |
| Cd | 5.0 | (1.0) | -4.0 | 6.0 | 972 | 826 | 1120 |
| Ca | 5000 | 245000 | 208000 | 282000 | 235000 | 199000 | 271000 |
| Cr | 10 | (52.0) | 42.0 | 62.0 | 542 | 460 | 624 |
| Co | 50 | (0.0) | -50.0 | 50.0 | 476 | 404 | 548 |
| Cu | 25 | (2.0) | -23.0 | 27.0 | 511 | 434 | 588 |
| Fe | 100 | 101000 | 85600 | 116500 | 99300 | 84400 | 114500 |
| Pb | 10 | (0.0) | -10.0 | 10.0 | (49.0) | 39.0 | 59.0 |
| Mg | 5000 | 255000 | 216000 | 294000 | 248000 | 210000 | 286000 |
| Mn | 15 | (7.0) | -8.0 | 22.0 | 507 | 430 | 584 |
| Ni | 40 | (2.0) | -38.0 | 42.0 | 954 | 810 | 1100 |
| Se | 35 | (0.0) | -35.0 | 35.0 | (46.0) | 11.0 | 81.0 |
| Ag | 10 | (0.0) | -10.0 | 10.0 | 201 | 170 | 232 |
| Tl | 25 | (0.0) | -25.0 | 25.0 | (108) | 83.0 | 133 |
| V | 50 | (0.0) | -50.0 | 50.0 | 491 | 417 | 565 |
| Zn | 60 | (0.0) | -60.0 | 60.0 | 952 | 809 | 1095 |

The acceptance ranges for all analytes in parentheses in the above table were determined using the listed certified value ± 1 times the associated CLP SOW CRQL. The acceptance ranges for all other analytes were determined using the certified value ± 15 percent of the listed certified value.

## QATS LABORATORY INORGANIC REFERENCE MATERIAL INTERFERENCE CHECK SAMPLE SET FOR ICP-AES (ICSA WITH ICSB)

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

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

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

Contains Heavy Metals
**HAZARDOUS MATERIAL**

Safety Data Sheets
Available Upon Request

M6184

### (A) *SAMPLE DESCRIPTION*

Enclosed is a set of one (1) or more bottles of Aqueous Reference Material, each composed of metals at various concentrations and prepared with nitrate salts and oxy-acids of the respective elements in a 5% nitric acid matrix. **For the reference material source in reporting ICSA and ICSAB mixture use "USEPA". For the reference material lot number for the ICSA use "ICSA-1211" and for the ICSAB mixture use "ICSA-1211+ICSB-0710".**

***CAUTION:*** The bottle(s) should be protected from light during storage to ensure the stability of silver which is contained in the ICSB solution. The bottle(s) should be stored at room temperature. **Do not allow the solution(s) to freeze.**

### (B) *BREAKAGE OR MISSING ITEMS*

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

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

### (C) *ANALYSIS OF SAMPLES*

The interference check sample set is to be used to verify inter-element and background correction factors of inductively-coupled plasma (ICP) spectrometers. This reference material set consists of two (2) concentrated solutions. The ICSA solution contains the four (4) interferent elements: Al, Ca, Fe, and Mg. The ICSB solution contains the analytes: Ag, As, Sb, Ba, Be,

Cd, Co, Cr, Cu, Mn, Ni, Pb, Tl, Se, V, and Zn. This instruction sheet provides the nominal values for ICP-AES Part A and Part B target analytes when diluted as directed.

Using Class "A" glassware, preparation and analysis must be performed according to the following instructions:

**ICSA-1211, Interferents:** Pipet 10 mL of the ICSA solution into a 100 mL volumetric flask and dilute to volume with 2% v/v $HNO_3$. Analyze this ICSA solution by ICP-AES.

**ICSB-0710, Analytes, mixed with ICSA-1211, Interferents:** Pipet 10 mL of the ICSA solution and 10 mL of the ICSB solution into a 100 mL volumetric flask and dilute to volume with 2% v/v $HNO_3$. Analyze this ICSAB solution by ICP-AES.

## (D) *"CERTIFIED VALUE" CONCENTRATIONS OF QATS ICP-AES ICS SOLUTION(S)*

The "Certified Value" concentrations of the elements, listed in Table 1 below, were derived from statistically pooled analysis results from the following sources, if available: QATS Laboratory, CLP laboratories, Quarterly Blind (QB)/Proficiency Testing (PT) events, CLP pre-award events, and external referee laboratories.

**Table 1. "CERTIFIED VALUES" FOR INTERFERENCE CHECK SAMPLE ICP-AES ICSA-1211, AND ICSA-1211 MIXED WITH ICSB-0710**

| Element | CRQL | Part A (µg/L) | Low Limit (µg/L) | High Limit (µg/L) | Part A +Part B (µg/L) | Low Limit (µg/L) | High Limit (µg/L) |
|---|---|---|---|---|---|---|---|
| Al | 200 | 255000 | 216000 | 294000 | 247000 | 209000 | 285000 |
| Sb | 60 | (0.0) | -60.0 | 60.0 | 618 | 525 | 711 |
| As | 10 | (0.0) | -10.0 | 10.0 | 104 | 88.4 | 120 |
| Ba | 200 | (6.0) | -194 | 206 | (537) | 337 | 737 |
| Be | 5.0 | (0.0) | -5.0 | 5.0 | 495 | 420 | 570 |
| Cd | 5.0 | (1.0) | -4.0 | 6.0 | 972 | 826 | 1120 |
| Ca | 5000 | 245000 | 208000 | 282000 | 235000 | 199000 | 271000 |
| Cr | 10 | (52.0) | 42.0 | 62.0 | 542 | 460 | 624 |
| Co | 50 | (0.0) | -50.0 | 50.0 | 476 | 404 | 548 |
| Cu | 25 | (2.0) | -23.0 | 27.0 | 511 | 434 | 588 |
| Fe | 100 | 101000 | 85600 | 116500 | 99300 | 84400 | 114500 |
| Pb | 10 | (0.0) | -10.0 | 10.0 | (49.0) | 39.0 | 59.0 |
| Mg | 5000 | 255000 | 216000 | 294000 | 248000 | 210000 | 286000 |
| Mn | 15 | (7.0) | -8.0 | 22.0 | 507 | 430 | 584 |
| Ni | 40 | (2.0) | -38.0 | 42.0 | 954 | 810 | 1100 |
| Se | 35 | (0.0) | -35.0 | 35.0 | (46.0) | 11.0 | 81.0 |
| Ag | 10 | (0.0) | -10.0 | 10.0 | 201 | 170 | 232 |
| Tl | 25 | (0.0) | -25.0 | 25.0 | (108) | 83.0 | 133 |
| V | 50 | (0.0) | -50.0 | 50.0 | 491 | 417 | 565 |
| Zn | 60 | (0.0) | -60.0 | 60.0 | 952 | 809 | 1095 |

The acceptance ranges for all analytes in parentheses in the above table were determined using the listed certified value ± 1 times the associated CLP SOW CRQL. The acceptance ranges for all other analytes were determined using the certified value ± 15 percent of the listed certified value.

Nitric Acid 69%
CMOS

M6187
R.D :- 08/08/25

avantor™ | J.T.Baker®

Material No.: 9606-03
Batch No.: 24H0162012
Manufactured Date: 2024-06-28
Retest Date: 2029-06-27
Revision No.: 0

# Certificate of Analysis

| Test | Specification | Result |
|---|---|---|
| Assay ($HNO_3$) | 69.0 – 70.0 % | 69.7 % |
| Appearance | Passes Test | Passes Test |
| Color (APHA) | ≤ 10 | 5 |
| Residue after Ignition | ≤ 2 ppm | < 1 ppm |
| Chloride (Cl) | ≤ 0.08 ppm | 0.03 ppm |
| Phosphate ($PO_4$) | ≤ 0.10 ppm | < 0.03 ppm |
| Sulfate ($SO_4$) | ≤ 0.2 ppm | < 0.2 ppm |
| Trace Impurities – Aluminum (Al) | ≤ 40.0 ppb | < 1.0 ppb |
| Arsenic and Antimony (as As) | ≤ 5.0 ppb | < 2.0 ppb |
| Trace Impurities – Barium (Ba) | ≤ 10.0 ppb | < 1.0 ppb |
| Trace Impurities – Beryllium (Be) | ≤ 10.0 ppb | < 1.0 ppb |
| Trace Impurities – Bismuth (Bi) | ≤ 20.0 ppb | < 1.0 ppb |
| Trace Impurities – Boron (B) | ≤ 10.0 ppb | 0.1 ppb |
| Trace Impurities – Cadmium (Cd) | ≤ 50 ppb | < 1 ppb |
| Trace Impurities – Calcium (Ca) | ≤ 50.0 ppb | 0.3 ppb |
| Trace Impurities – Chromium (Cr) | ≤ 30.0 ppb | 0.1 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 | < 1 ppb |
| Trace Impurities – Gold (Au) | ≤ 20 ppb | < 1 ppb |
| Heavy Metals (as Pb) | ≤ 100 ppb | < 50 ppb |
| Trace Impurities – Iron (Fe) | ≤ 40.0 ppb | < 1.0 ppb |
| Trace Impurities – Lead (Pb) | ≤ 20.0 ppb | < 1.0 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 | < 1.0 ppb |

>>> Continued on page 2 >>>

Nitric Acid 69%
CMOS

avantor™ | J.T.Baker®

Material No.: 9606-03
Batch No.: 24H0162012

| Test | Specification | Result |
|---|---|---|
| Trace Impurities – Niobium (Nb) | ≤ 50.0 ppb | < 1.0 ppb |
| Trace Impurities – Potassium (K) | ≤ 50 ppb | < 1 ppb |
| Trace Impurities – Silicon (Si) | ≤ 50 ppb | 1 ppb |
| Trace Impurities – Silver (Ag) | ≤ 20.0 ppb | < 1.0 ppb |
| Trace Impurities – Sodium (Na) | ≤ 150.0 ppb | < 1.0 ppb |
| Trace Impurities – Strontium (Sr) | ≤ 30.0 ppb | < 1.0 ppb |
| Trace Impurities – Tantalum (Ta) | ≤ 10.0 ppb | < 1.0 ppb |
| Trace Impurities – Thallium (Tl) | ≤ 10.0 ppb | < 1.0 ppb |
| Trace Impurities – Tin (Sn) | ≤ 20.0 ppb | < 1.0 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 | 13 par/ml |
| Particle Count – 1.0 µm and greater | ≤ 10 par/ml | 5 par/ml |

>>> Continued on page 3 >>>

Nitric Acid 69%
CMOS

avantor™ | J.T.Baker®

Material No.: 9606-03
Batch No.: 24H0162012

| Test | Specification | Result |
|---|---|---|

For Microelectronic Use

Country of Origin: USA
Packaging Site: Phillipsburg Mfg Ctr & DC

Jamie Croak
Director Quality Operations, Bioscience Production

**Absolute Standards, Inc.**
800-368-1131
www.absolutestandards.com

## *Certified Reference Material CRM*

M6027

R1 8/05/24

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

Revised



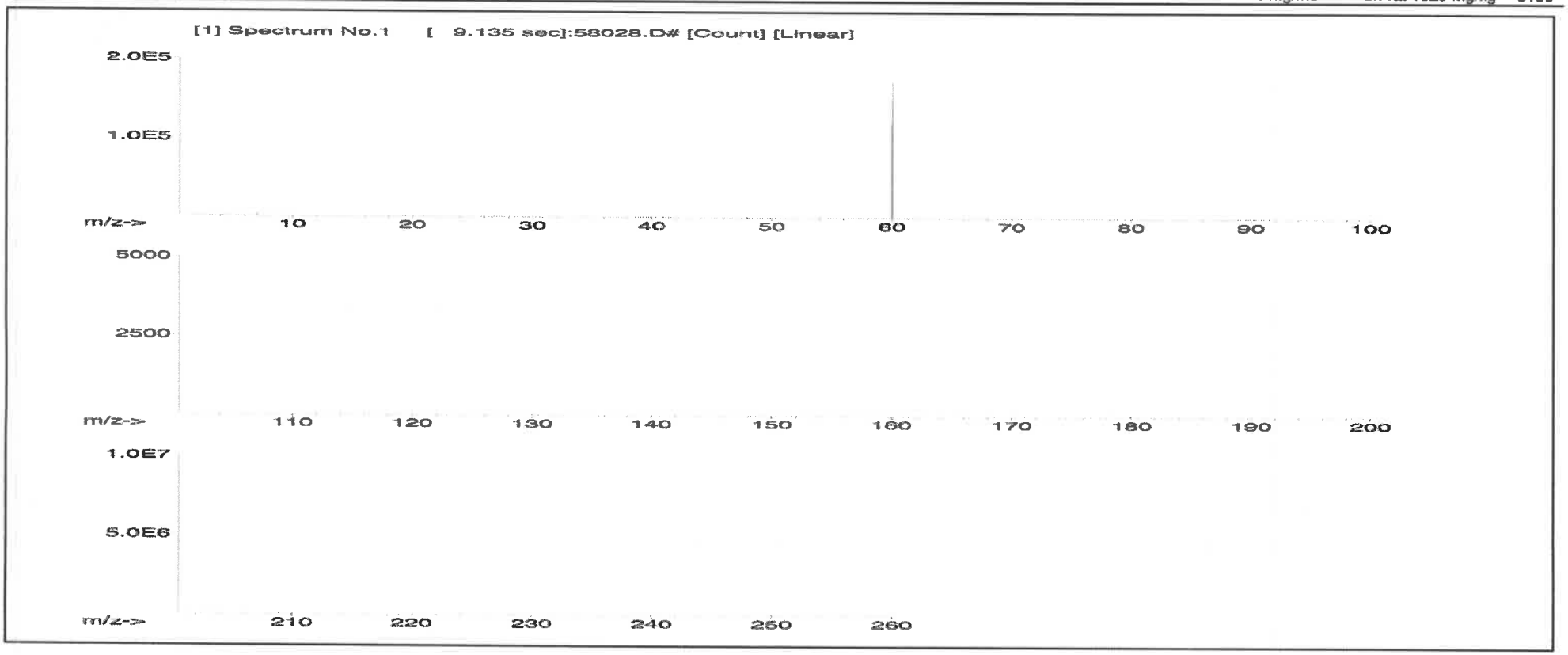
CERTIFIED WEIGHT REPORT:

| | |
|---|---|
| **Part Number:** | **57028** |
| **Lot Number:** | **062024** |
| **Description:** | **Nickel (Ni)** |
| **Expiration Date:** | 062027 |
| **Recommended Storage:** | Ambient (20 °C) |
| **Nominal Concentration (µg/mL):** | **1000** |
| **NIST Test Number:** | 6UTB |
| **Volume shown below was diluted to (mL):** | 2000.07 |

| Lot # | Solvent: | | |
|---|---|---|---|
| 24002546 | Nitric Acid | | |
| 2.0% | 40.0 (mL) | Nitric Acid | |
| | 5E-05 | Balance Uncertainty | |
| | 0.100 | Flask Uncertainty | |

| | | |
|---|---|---|
| Formulated **By:** | Benson Chan | 062024 |
| Reviewed By: | Pedro L. Rentas | 062024 |

| Compound | Part Number | Lot Number | Dilution Factor | Initial Vol. (mL) | Uncertainty Pipette (mL) | Nominal Conc. (µg/mL) | Initial Conc. (µg/mL) | Final Conc. (µg/mL) | Expanded Uncertainty +/- (µg/mL) | SDS Information (Solvent Safety Info. On Attached pg.) CAS# | OSHA PEL (TWA) | LD50 | NIST SRM |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1. Nickel(II) nitrate hexahydrate (Ni) | 58128 | 062023 | 0.1000 | 200.0 | 0.084 | 1000 | 10000.4 | **1000.0** | 2.2 | 13478-00-7 | 1 mg/m3 | orl-rat 1620 mg/kg | 3136 |



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Revised



**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 | Eu | <0.02 | In | <0.02 | Mg | <0.01 | Os | <0.02 | Rh | <0.02 | Ag | <0.02 | Tl | <0.02 | V | <0.02 |
| Ba | <0.02 | Cs | <0.02 | Gd | <0.02 | Ir | <0.02 | Mn | <0.02 | Pd | <0.02 | Rb | <0.02 | Na | <0.2 | Th | <0.02 | Yb | <0.02 |
| Be | <0.01 | Cr | <0.02 | Ga | <0.02 | Fe | <0.2 | Hg | <0.2 | P | <0.02 | Ru | <0.02 | Sr | <0.02 | Tm | <0.02 | Y | <0.02 |
| Bi | <0.02 | Co | <0.02 | Ge | <0.02 | La | <0.02 | Mo | <0.02 | Pt | <0.02 | Sm | <0.02 | S | <0.02 | Sn | <0.02 | Zn | <0.02 |
| B | <0.02 | Cu | <0.02 | Au | <0.02 | Pb | <0.02 | Nd | <0.02 | K | <0.2 | Sc | <0.02 | Ta | <0.02 | Ti | <0.02 | Zr | <0.02 |

(T) = Target analyte

**Physical Characterization:**

**Certified by:**

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

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

**Absolute Standards, Inc.**
800-368-1131
www.absolutestandards.com

***Certified Reference Material CRM***

M6030

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

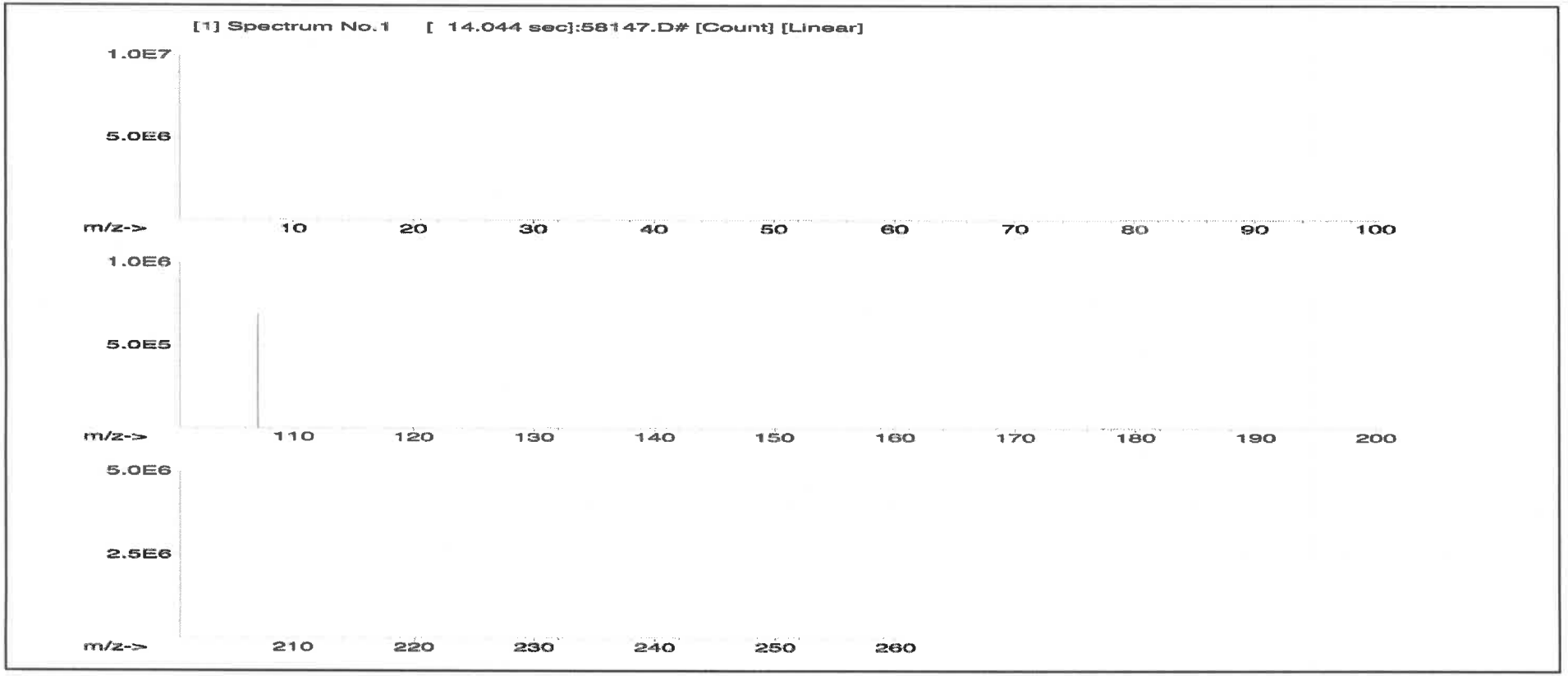
R: 8/5/24

CERTIFIED WEIGHT REPORT:

| | | | | | |
|---|---|---|---|---|---|
| **Part Number:** | **57047** | | **Solvent:** | 24002546 | Nitric Acid |
| **Lot Number:** | **122823** | | | | |
| **Description:** | **Silver (Ag)** | | 2% | 80.0 (mL) | Nitric Acid |
| **Expiration Date:** | 122826 | | | | |
| **Recommended Storage:** | Ambient (20 °C) | | | | |
| **Nominal Concentration (µg/mL):** | **1000** | | | | |
| **NIST Test Number:** | 6UTB | 5E-05 | Balance Uncertainty | | |
| **Weight shown below was diluted to (mL):** | 4000.30 | 0.058 | Flask Uncertainty | | |

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

| Compound | RM# | Lot Number | Nominal Conc. (µg/mL) | Purity (%) | Uncertainty Purity (%) | Assay (%) | Target Weight (g) | Actual Weight (g) | Actual Conc. (µg/mL) | Expanded Uncertainty +/- (µg/mL) | SDS Information (Solvent Safety Info. On Attached pg.) CAS# | OSHA PEL (TWA) | LD50 | NIST SRM |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1. Silver nitrate (Ag) | IN035 | J0612AGA1 | 1000.0 | 99.9999 | 0.10 | 63.7 | 6.27992 | 6.27998 | **1000.0** | **2.0** | 7761-88-8 | 10 ug/m3 | NA | 3151 |






Revised
377 of 389
Q3068-METALS

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*Certified Reference Material CRM*

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AR-1539 Certificate Number
https://Absolutestandards.com



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

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

(T)= Target analyte

**Physical Characterization:**

Certified by:

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

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

opened : 3/24/25

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CERTIFIED WEIGHT REPORT:

M6160

**Part Number:** 57051
**Lot Number:** 071724
**Description:** Antimony (Sb)

**Expiration Date:** 071727
**Recommended Storage:** Ambient (20 °C)
**Nominal Concentration (µg/mL):** 1000
**NIST Test Number:** 6UTB
**Volume shown below was diluted to (mL):** 2000.26 ± 0.058 Flask Uncertainty

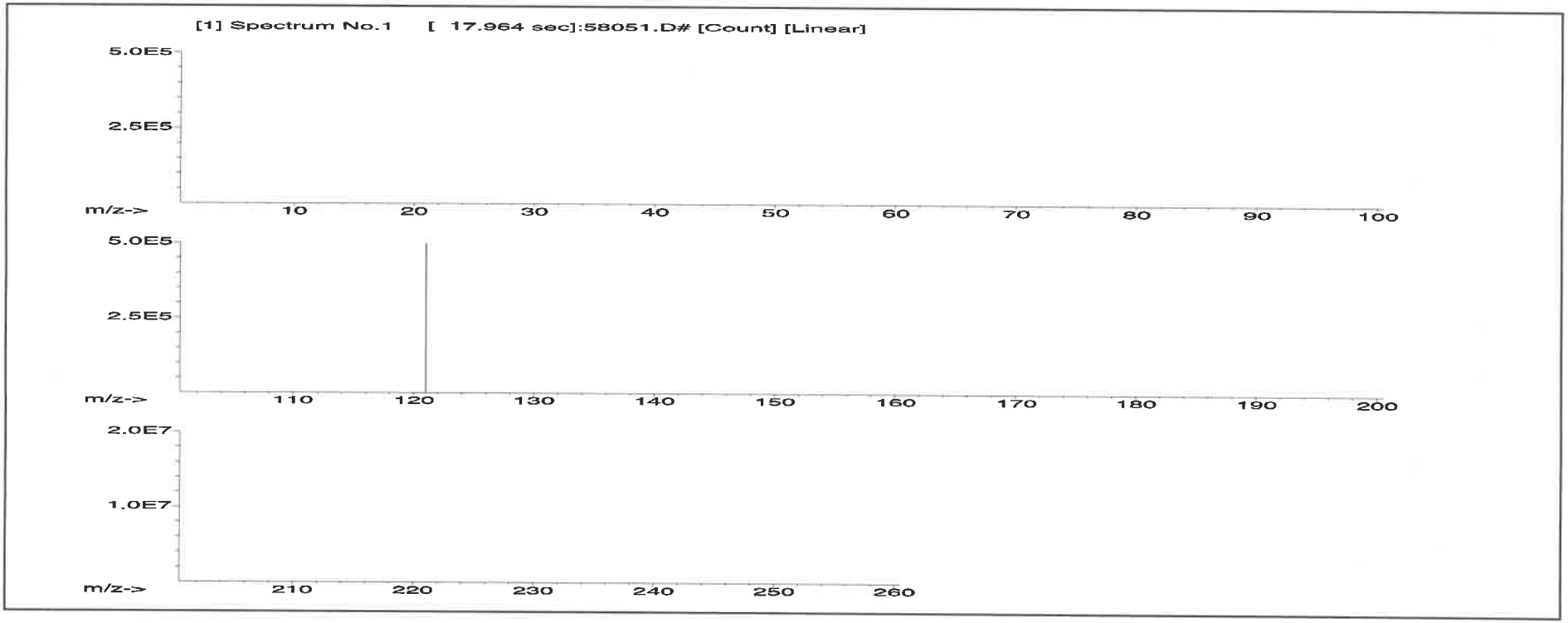
| Lot # | Solvent: | | |
|---|---|---|---|
| 24002546 | Nitric Acid | | |
| 2.0% | 40.0 (mL) | Nitric Acid | |

5E-05 Balance Uncertainty

Giovanni Esposito

| | | |
|---|---|---|
| Formulated By: | Giovanni Esposito | 071724 |
| Reviewed By: | Pedro L. Rentas | 071724 |

| Compound | Part Number | Lot Number | Dilution Factor | Initial Vol. (mL) | Uncertainty Pipette (mL) | Nominal Conc. (µg/mL) | Initial Conc. (µg/mL) | Final Conc. (µg/mL) | Expanded Uncertainty +/- (µg/mL) | SDS Information (Solvent Safety Info. On Attached pg.) CAS# | OSHA PEL (TWA) | LD50 | NIST SRM |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1. Antimony (Sb) | 58151 | 060324 | 0.1000 | 200.0 | 0.084 | 1000 | 10001.4 | **1000.0** | **2.2** | 7440-36-0 | 0.5 mg/m3 | orl-rat 7000 mg/kg | 3102a |



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

(T) = Target analyte

**Physical Characterization:**

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

**Certified by:**



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



Part # **57051** Lot # **071724**



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Revised



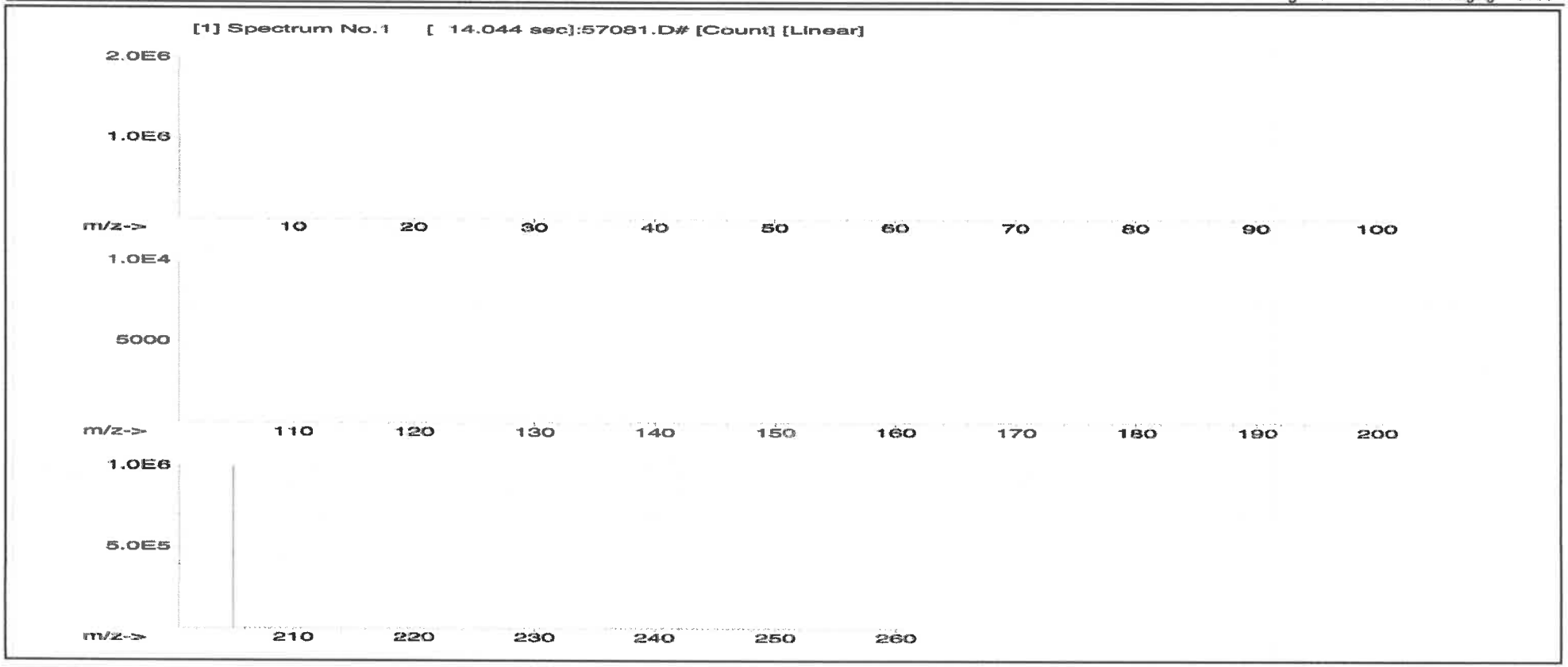
CERTIFIED WEIGHT REPORT:

| | | | | | |
|---|---|---|---|---|---|
| **Part Number:** | **57081** | | | **Lot #** | |
| **Lot Number:** | **062724** | | **Solvent:** | 24002546 | Nitric Acid |
| **Description:** | **Thallium (Tl)** | | 2% | 40.0 (mL) | Nitric Acid |
| **Expiration Date:** | 062727 | | | | |
| **Recommended Storage:** | Ambient (20 °C) | | | | |
| **Nominal Concentration (µg/mL):** | **1000** | | | | |
| **NIST Test Number:** | 6UTB | 5E-05 | Balance Uncertainty | | |
| **Weight shown below was diluted to (mL):** | 2000.1 | 0.10 | Flask Uncertainty | | |

Aleah O'Brady

| | | |
|---|---|---|
| Formulated By: | Aleah O'Brady | 062724 |
| Reviewed By: | Pedro L. Rentas | 062724 |

| Compound | RM# | Lot Number | Nominal Conc. (µg/mL) | Purity (%) | Uncertainty Purity (%) | Assay (%) | Target Weight (g) | Actual Weight (g) | Actual Conc. (µg/mL) | Expanded Uncertainty +/- (µg/mL) | SDS Information (Solvent Safety Info. On Attached pg.) CAS# | OSHA PEL (TWA) | LD50 | NIST SRM |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1. Thallium nitrate (Tl) | IN037 | BCCF4399 | 1000 | 99.999 | 0.10 | 77.0 | 2.5975 | 2.5977 | **1000.1** | **2.0** | 10102-45-1 | 0.1 mg/m3 | orl-mus 15mg/kg | 3158 |



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

(T) = Target analyte

**Physical Characterization:**

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

Certified by:

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Rc. 8/5/24

## CERTIFIED WEIGHT REPORT:

| | | Lot # | Solvent: | |
|---|---|---|---|---|
| **Part Number:** | **57023** | | | |
| **Lot Number:** | **062424** | 24002546 | Nitric Acid | |
| **Description:** | **Vanadium (V)** | | | |
| | | 2.0% | 40.0 (mL) | Nitric Acid |
| **Expiration Date:** | 062427 | | | |
| **Recommended Storage:** | Ambient (20 °C) | | | |
| **Nominal Concentration (µg/mL):** | **1000** | | | |
| **NIST Test Number:** | 6UTB | 5E-05 | Balance Uncertainty | |
| **Volume shown below was diluted to (mL):** | 2000.3 | 0.06 | Flask Uncertainty | |

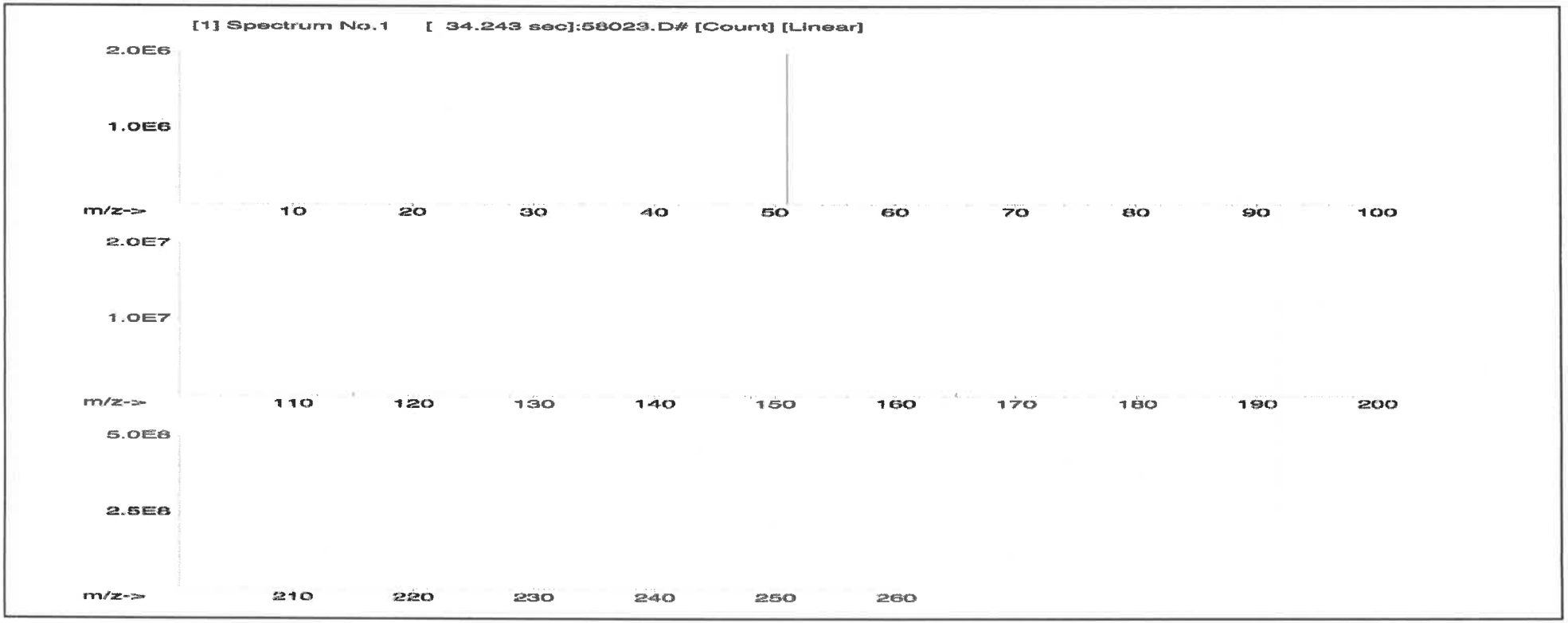
Aleah O'Brady

| Formulated By: | Aleah O'Brady | 062424 |
|---|---|---|

Pedro Rentas

| Reviewed By: | Pedro L. Rentas | 062424 |
|---|---|---|

| Compound | Part Number | Lot Number | Dilution Factor | Initial Vol. (mL) | Uncertainty Pipette (mL) | Nominal Conc. (µg/mL) | Initial Conc. (µg/mL) | Final Conc. (µg/mL) | Expanded Uncertainty +/- (µg/mL) | SDS Information (Solvent Safety Info. On Attached pg.) CAS# | OSHA PEL (TWA) | LD50 | NIST SRM |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1. Ammonium metavanadate (V) | 58123 | 021224 | 0.1000 | 200.0 | 0.084 | 1000 | 10000.3 | **1000.0** | **2.2** | 7803-55-6 | 0.05 mg/m3 | orl-rat 58.1mg/kg | 3165 |



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

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# SHIPPING DOCUMENTS

Q3068

Alliance TECHNICAL GROUP

284 Sheffield Street, Mountainside, NJ 07092
(908) 789-8900 Fax: (908) 788-9222
www.chemtech.net

# CHAIN OF CUSTODY RECORD

**Alliance Project Number:** ~~Q3068~~

**COC Number:**

## CLIENT INFORMATION

COMPANY: AMBRIC TECHNOLOGY CORP
ADDRESS: 100 PINE STREET
CITY: COLWYN STATE: PA ZIP: 19023
ATTENTION: DANIEL MULVHILL
PHONE: 215-360-6246 FAX: 215-928-8980

## PROJECT INFORMATION

PROJECT NAME: J.F. Huebner
PROJECT #: LOCATION:
PROJECT MANAGER: DANIEL MULVHILL
E-MAIL: dmm@ambrictech.com
PHONE: FAX:

## BILLING INFORMATION

BILL TO: AMBRIC TECHNOLOGY PO#
ADDRESS: 100 PINE STREET
CITY: COLWYN STATE: PA ZIP: 19023
ATTENTION: MICHELE PHONE: 215-928-8930

## DATA TURNAROUND INFORMATION

FAX: _____ DAYS*
HARD COPY: _____ DAYS*
EDD _____ DAYS*
* TO BE APPROVED BY ALLIANCE
STANDARD TURNAROUND TIME IS 10 BUSINESS DAYS

## DATA DELIVERABLE INFORMATION

- [x] RESULTS ONLY
- [x] RESULTS + QC
- [ ] New Jersey REDUCED
- [ ] New Jersey CLP
- [ ] EDD Format _____
- [ ] USEPA CLP
- [ ] New York State ASP "B"
- [ ] New York State ASP "A"
- [ ] Other _____

## ANALYSIS

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
|---|---|---|---|---|---|---|---|---|
| | | | | | | | | |

## PRESERVATIVES

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
|---|---|---|---|---|---|---|---|---|
| | | | | | | | | |

## COMMENTS

<-- Specify Preservatives
A-HCl B-HNO3
C-H2SO4 D-NaOH
E-ICE F-Other

| ALLIANCE SAMPLE ID | PROJECT SAMPLE IDENTIFICATION | SAMPLE MATRIX | SAMPLE TYPE COMP | SAMPLE TYPE GRAB | SAMPLE COLLECTION DATE | SAMPLE COLLECTION TIME | # of Bottles |
|---|---|---|---|---|---|---|---|
| 1. | | | | | | | |
| 2. | | | | | | | |
| 3. | | | | | | | |
| 4. | | | | | | | |
| 5. | | | | | | | |
| 6. | | | | | | | |
| 7. | | | | | | | |
| 8. | | | | | | | |
| 9. | | | | | | | |
| 10. | | | | | | | |

## SAMPLE CUSTODY MUST BE DOCUMENTED BELOW EACH TIME SAMPLES CHANGE PROSSESSION INCLUDING COURIER DELIVERY

| RELINQUISHED BY SAMPLER | DATE/TIME | RECEIVED BY |
|---|---|---|
| 1. | 9/10/25 9:50 | 1. |
| RELINQUISHED BY 2. | DATE/TIME | RECEIVED BY 2. |
| RELINQUISHED BY 3. | DATE/TIME | RECEIVED FOR LAB BY 3. |

**Conditions of bottles or coolers at receipt:** ☐ Compliant ☐ Non Compliant ☐ Cooler Temp 27.3
MeOH extraction requires an additional 4oz. Jar for percent solid ☐ Ice in Cooler?: NO
**Comments:**

Page _____ of _____

**SHIPPED VIA:** CLIENT: ☐ Hand Delivered ☐ Overnight
ALLIANCE: ☐ Picked Up ☐ Overnight

**Shipment Complete** ☐ YES ☐ NO

**WHITE** - ALLIANCE COPYFOR RETURN TO CLIENT **YELLOW** - ALLIANCE COPY **PINK** - SAMPLER COPY

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| Certified By | License No. |
|---|---|
| | |
| Connecticut | PH-0830 |
| | |
| DOD ELAP (ANAB) | L2219 |
| | |
| Maine | 2024021 |
| | |
| Maryland | 296 |
| | |
| New Hampshire | 255425 |
| | |
| New Jersey | 20012 |
| | |
| New York | 11376 |
| | |
| Pennsylvania | 68-00548 |
| | |
| Soil Permit | 525-24-234-08441 |
| | |
| Texas | TX-C25-00189 |
| | |
| Virginia | 460312 |