

## Cover Page

**Order ID :** Q1013

**Project ID :** Transfer Station-SPDES

**Client :** Tully Environmental, Inc

**Lab Sample Number**

Q1013-01  
Q1013-02

**Client Sample Number**

001 WILLETS PT BLVD (JAN)  
002 35TH AVE (JAN)

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: 1/15/2025

NYDOH CERTIFICATION NO - 11376

NJDEP CERTIFICATION NO - 20012



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

## **CASE NARRATIVE**

**Tully Environmental, Inc**

**Project Name: Transfer Station-SPDES**

**Project # N/A**

**Chemtech Project # Q1013**

**Test Name: Metals Group 10**

### **A. Number of Samples and Date of Receipt:**

2 Water samples were received on 01/06/2025.

### **B. Parameters:**

According to the Chain of Custody document, the following analyses were requested: Ammonia, BOD5, Metals Group 10, Oil and Grease, TSS and VOC-BTEX. This data package contains results for Metals Group 10.

### **C. Analytical Techniques:**

The analysis and digestion of Metals Group 10 was based on method 200.7.

### **D. QA/ QC Samples:**

The Holding Times were met for all analysis.

The Blank Spike met requirements for all samples.

The Duplicate analysis met criteria for all samples.

The Matrix Spike (002 35TH AVE (JAN)MS) analysis met criteria for all samples except for Iron due to Chemical Interference during Digestion Process.

The Matrix Spike Duplicate analysis met criteria for all samples.

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:**

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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\_\_\_\_\_

## DATA REPORTING QUALIFIERS- INORGANIC

For reporting results, the following “ Results Qualifiers” are used:

|           |                                                                                                                                                                                                                                                                                                                                                                               |
|-----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>J</b>  | 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).                                                                                                                                                                                  |
| <b>U</b>  | Indicates the analyte was analyzed for, but not detected.                                                                                                                                                                                                                                                                                                                     |
| <b>ND</b> | Indicates the analyte was analyzed for, but not detected                                                                                                                                                                                                                                                                                                                      |
| <b>E</b>  | Indicates the reported value is estimated because of the presence of interference                                                                                                                                                                                                                                                                                             |
| <b>M</b>  | Indicates Duplicate injection precision not met.                                                                                                                                                                                                                                                                                                                              |
| <b>N</b>  | Indicates the spiked sample recovery is not within control limits.                                                                                                                                                                                                                                                                                                            |
| <b>S</b>  | Indicates the reported value was determined by the Method of Standard Addition (MSA).                                                                                                                                                                                                                                                                                         |
| <b>*</b>  | Indicates that the duplicate analysis is not within control limits.                                                                                                                                                                                                                                                                                                           |
| <b>+</b>  | Indicates the correlation coefficient for the MSA is less than 0.995.                                                                                                                                                                                                                                                                                                         |
| <b>D</b>  | Indicates the reported value is from a secondary analysis with a dilution factor. The original analysis exceeded the calibration range.                                                                                                                                                                                                                                       |
| <b>M</b>  | 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 |
| <b>OR</b> | Indicates the analyte’s concentration exceeds the calibrated range of the instrument for that specific analysis.                                                                                                                                                                                                                                                              |
| <b>Q</b>  | Indicates the LCS did not meet the control limits requirements                                                                                                                                                                                                                                                                                                                |
| <b>H</b>  | Sample Analysis Out Of Hold Time                                                                                                                                                                                                                                                                                                                                              |

## APPENDIX A

### QA REVIEW GENERAL DOCUMENTATION

Project #: Q1013

Completed

For thorough review, the report must have the following:

#### GENERAL:

Are all original paperwork present (chain of custody, record of communication,airbill, sample management lab chronicle, login page)

✓

Check chain-of-custody for proper relinquish/return of samples

✓

Is the chain of custody signed and complete

✓

Check internal chain-of-custody for proper relinquish/return of samples /sample extracts

✓

Collect information for each project id from server. Were all requirements followed

✓

#### COVER PAGE:

Do numbers of samples correspond to the number of samples in the Chain of Custody on login page

✓

Do lab numbers and client Ids on cover page agree with the Chain of Custody

✓

#### CHAIN OF CUSTODY:

Do requested analyses on Chain of Custody agree with form I results

✓

Do requested analyses on Chain of Custody agree with the log-in page

✓

Were the correct method log-in for analysis according to the Analytical Request and Chain of Custody

✓

Were the samples received within hold time

✓

Were any problems found with the samples at arrival recorded in the Sample Management Laboratory Chronicle

✓

#### ANALYTICAL:

Was method requirement followed?

✓

Was client requirement followed?

✓

Does the case narrative summarize all QC failure?

✓

All runlogs and manual integration are reviewed for requirements

✓

All manual calculations and /or hand notations verified

✓

QA Review Signature: PRADIP PRAJAPATI

Date: 01/15/2025

## LAB CHRONICLE

|                 |                          |                   |                        |
|-----------------|--------------------------|-------------------|------------------------|
| <b>OrderID:</b> | Q1013                    | <b>OrderDate:</b> | 1/6/2025 7:50:00 AM    |
| <b>Client:</b>  | Tully Environmental, Inc | <b>Project:</b>   | Transfer Station-SPDES |
| <b>Contact:</b> | Dean Devoe               | <b>Location:</b>  | M11,VOA Ref. #3 Water  |

| LabID           | ClientID                             | Matrix       | Test            | Method | Sample Date     | Prep Date | Anal Date | Received        |
|-----------------|--------------------------------------|--------------|-----------------|--------|-----------------|-----------|-----------|-----------------|
| <b>Q1013-01</b> | <b>001 WILLETS PT BLVD<br/>(JAN)</b> | <b>Water</b> |                 |        | <b>01/03/25</b> |           |           | <b>01/06/25</b> |
|                 |                                      |              | Metals Group 10 | 200.7  |                 | 01/07/25  | 01/08/25  |                 |
| <b>Q1013-02</b> | <b>002 35TH AVE (JAN)</b>            | <b>Water</b> |                 |        | <b>01/03/25</b> |           |           | <b>01/06/25</b> |
|                 |                                      |              | Metals Group 10 | 200.7  |                 | 01/07/25  | 01/08/25  |                 |

**Hit Summary Sheet**  
**SW-846**

**SDG No.:** Q1013

**Order ID:** Q1013

**Client:** Tully Environmental, Inc

**Project ID:** Transfer Station-SPDES

| Sample ID                                    | Client ID                 | Matrix | Parameter | Concentration | C | MDL  | RDL  | Units |
|----------------------------------------------|---------------------------|--------|-----------|---------------|---|------|------|-------|
| <b>Client ID : 001 WILLETS PT BLVD (JAN)</b> |                           |        |           |               |   |      |      |       |
| Q1013-01                                     | 001 WILLETS PT BLVD (JAN) | Water  | Chromium  | 3.71          | J | 0.52 | 5.00 | ug/L  |
| Q1013-01                                     | 001 WILLETS PT BLVD (JAN) | Water  | Copper    | 12.7          |   | 1.52 | 10.0 | ug/L  |
| Q1013-01                                     | 001 WILLETS PT BLVD (JAN) | Water  | Iron      | 4950          |   | 12.4 | 50.0 | ug/L  |
| Q1013-01                                     | 001 WILLETS PT BLVD (JAN) | Water  | Lead      | 14.3          |   | 1.57 | 6.00 | ug/L  |
| <b>Client ID : 002 35TH AVE (JAN)</b>        |                           |        |           |               |   |      |      |       |
| Q1013-02                                     | 002 35TH AVE (JAN)        | Water  | Chromium  | 3.45          | J | 0.52 | 5.00 | ug/L  |
| Q1013-02                                     | 002 35TH AVE (JAN)        | Water  | Copper    | 12.4          |   | 1.52 | 10.0 | ug/L  |
| Q1013-02                                     | 002 35TH AVE (JAN)        | Water  | Iron      | 5040          |   | 12.4 | 50.0 | ug/L  |
| Q1013-02                                     | 002 35TH AVE (JAN)        | Water  | Lead      | 14.1          |   | 1.57 | 6.00 | ug/L  |



# SAMPLE DATA

## Report of Analysis

|                   |                           |                 |          |
|-------------------|---------------------------|-----------------|----------|
| Client:           | Tully Environmental, Inc  | Date Collected: | 01/03/25 |
| Project:          | Transfer Station-SPDES    | Date Received:  | 01/06/25 |
| Client Sample ID: | 001 WILLETS PT BLVD (JAN) | SDG No.:        | Q1013    |
| Lab Sample ID:    | Q1013-01                  | Matrix:         | Water    |
| Level (low/med):  | low                       | % Solid:        | 0        |

| Cas       | Parameter | Conc. | Qua. | DF | MDL  | LOQ / CRQL | Units | Prep Date      | Date Ana.      | Ana Met.  | Prep Met. |
|-----------|-----------|-------|------|----|------|------------|-------|----------------|----------------|-----------|-----------|
| 7440-38-2 | Arsenic   | 2.84  | U    | 1  | 2.84 | 10.0       | ug/L  | 01/07/25 10:15 | 01/08/25 12:17 | EPA 200.7 |           |
| 7440-43-9 | Cadmium   | 0.21  | U    | 1  | 0.21 | 3.00       | ug/L  | 01/07/25 10:15 | 01/08/25 12:17 | EPA 200.7 |           |
| 7440-47-3 | Chromium  | 3.71  | J    | 1  | 0.52 | 5.00       | ug/L  | 01/07/25 10:15 | 01/08/25 12:17 | EPA 200.7 |           |
| 7440-50-8 | Copper    | 12.7  |      | 1  | 1.52 | 10.0       | ug/L  | 01/07/25 10:15 | 01/08/25 12:17 | EPA 200.7 |           |
| 7439-89-6 | Iron      | 4950  | N    | 1  | 12.4 | 50.0       | ug/L  | 01/07/25 10:15 | 01/08/25 12:17 | EPA 200.7 |           |
| 7439-92-1 | Lead      | 14.3  |      | 1  | 1.57 | 6.00       | ug/L  | 01/07/25 10:15 | 01/08/25 12:17 | EPA 200.7 |           |
| 7782-49-2 | Selenium  | 3.07  | UN   | 1  | 3.07 | 10.0       | ug/L  | 01/07/25 10:15 | 01/08/25 12:17 | EPA 200.7 |           |

|               |                 |                 |       |            |
|---------------|-----------------|-----------------|-------|------------|
| Color Before: | Colorless       | Clarity Before: | Clear | Texture:   |
| Color After:  | Colorless       | Clarity After:  | Clear | Artifacts: |
| Comments:     | Metals Group 10 |                 |       |            |

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

## Report of Analysis

|                   |                          |                 |          |
|-------------------|--------------------------|-----------------|----------|
| Client:           | Tully Environmental, Inc | Date Collected: | 01/03/25 |
| Project:          | Transfer Station-SPDES   | Date Received:  | 01/06/25 |
| Client Sample ID: | 002 35TH AVE (JAN)       | SDG No.:        | Q1013    |
| Lab Sample ID:    | Q1013-02                 | Matrix:         | Water    |
| Level (low/med):  | low                      | % Solid:        | 0        |

| Cas       | Parameter | Conc. | Qua. | DF | MDL  | LOQ / CRQL | Units | Prep Date      | Date Ana.      | Ana Met.  | Prep Met. |
|-----------|-----------|-------|------|----|------|------------|-------|----------------|----------------|-----------|-----------|
| 7440-38-2 | Arsenic   | 2.84  | U    | 1  | 2.84 | 10.0       | ug/L  | 01/07/25 10:15 | 01/08/25 12:21 | EPA 200.7 |           |
| 7440-43-9 | Cadmium   | 0.21  | U    | 1  | 0.21 | 3.00       | ug/L  | 01/07/25 10:15 | 01/08/25 12:21 | EPA 200.7 |           |
| 7440-47-3 | Chromium  | 3.45  | J    | 1  | 0.52 | 5.00       | ug/L  | 01/07/25 10:15 | 01/08/25 12:21 | EPA 200.7 |           |
| 7440-50-8 | Copper    | 12.4  |      | 1  | 1.52 | 10.0       | ug/L  | 01/07/25 10:15 | 01/08/25 12:21 | EPA 200.7 |           |
| 7439-89-6 | Iron      | 5040  | N    | 1  | 12.4 | 50.0       | ug/L  | 01/07/25 10:15 | 01/08/25 12:21 | EPA 200.7 |           |
| 7439-92-1 | Lead      | 14.1  |      | 1  | 1.57 | 6.00       | ug/L  | 01/07/25 10:15 | 01/08/25 12:21 | EPA 200.7 |           |
| 7782-49-2 | Selenium  | 3.07  | UN   | 1  | 3.07 | 10.0       | ug/L  | 01/07/25 10:15 | 01/08/25 12:21 | EPA 200.7 |           |

|               |                 |                 |       |            |
|---------------|-----------------|-----------------|-------|------------|
| Color Before: | Colorless       | Clarity Before: | Clear | Texture:   |
| Color After:  | Colorless       | Clarity After:  | Clear | Artifacts: |
| Comments:     | Metals Group 10 |                 |       |            |

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.  
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 OR = Over Range  
 N =Spiked sample recovery not within control limits



# METAL CALIBRATION DATA





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|                                       |                                 |                  |              |                                                            |
|---------------------------------------|---------------------------------|------------------|--------------|------------------------------------------------------------|
| <b>Client:</b>                        | <u>Tully Environmental, Inc</u> | <b>SDG No.:</b>  | <u>Q1013</u> |                                                            |
| <b>Contract:</b>                      | <u>TULL01</u>                   | <b>Lab Code:</b> | <u>CHEM</u>  | <b>Case No.:</b> <u>Q1013</u> <b>SAS No.:</b> <u>Q1013</u> |
| <b>Initial Calibration Source:</b>    | <u>EPA</u>                      |                  |              |                                                            |
| <b>Continuing Calibration Source:</b> | Inorganic Ventures              |                  |              |                                                            |

| Sample ID | Analyte  | Result | True Value | %        | Acceptance  | M | Analysis Date | Analysis Time | Run Number |
|-----------|----------|--------|------------|----------|-------------|---|---------------|---------------|------------|
|           |          | ug/L   |            | Recovery | Window (%R) |   |               |               |            |
| LLICV01   | Arsenic  | 19.3   | 20.0       | 96       | 80 - 120    | P | 01/08/2025    | 11:30         | LB134201   |
|           | Cadmium  | 5.76   | 6.0        | 96       | 80 - 120    | P | 01/08/2025    | 11:30         | LB134201   |
|           | Chromium | 9.68   | 10.0       | 97       | 80 - 120    | P | 01/08/2025    | 11:30         | LB134201   |
|           | Copper   | 21.3   | 20.0       | 106      | 80 - 120    | P | 01/08/2025    | 11:30         | LB134201   |
|           | Iron     | 93.8   | 100        | 94       | 80 - 120    | P | 01/08/2025    | 11:30         | LB134201   |
|           | Lead     | 10.6   | 12.0       | 89       | 80 - 120    | P | 01/08/2025    | 11:30         | LB134201   |
|           | Selenium | 18.6   | 20.0       | 93       | 80 - 120    | P | 01/08/2025    | 11:30         | LB134201   |

**Metals**

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**INITIAL AND CONTINUING CALIBRATION VERIFICATION**

**Client:** Tully Environmental, Inc **SDG No.:** Q1013  
**Contract:** TULL01 **Lab Code:** CHEM **Case No.:** Q1013 **SAS No.:** Q1013  
**Initial Calibration Source:** EPA  
**Continuing Calibration Source:** Inorganic Ventures

| Sample ID | Analyte  | Result<br>ug/L | True Value | %<br>Recovery | Acceptance<br>Window (%R) | M | Analysis<br>Date | Analysis<br>Time | Run<br>Number |
|-----------|----------|----------------|------------|---------------|---------------------------|---|------------------|------------------|---------------|
| CCV01     | Arsenic  | 4700           | 5000       | 94            | 90 - 110                  | P | 01/08/2025       | 12:00            | LB134201      |
|           | Cadmium  | 2370           | 2500       | 95            | 90 - 110                  | P | 01/08/2025       | 12:00            | LB134201      |
|           | Chromium | 999            | 1000       | 100           | 90 - 110                  | P | 01/08/2025       | 12:00            | LB134201      |
|           | Copper   | 1200           | 1250       | 96            | 90 - 110                  | P | 01/08/2025       | 12:00            | LB134201      |
|           | Iron     | 4760           | 5000       | 95            | 90 - 110                  | P | 01/08/2025       | 12:00            | LB134201      |
|           | Lead     | 4760           | 5000       | 95            | 90 - 110                  | P | 01/08/2025       | 12:00            | LB134201      |
|           | Selenium | 4700           | 5000       | 94            | 90 - 110                  | P | 01/08/2025       | 12:00            | LB134201      |
| CCV02     | Arsenic  | 4970           | 5000       | 99            | 90 - 110                  | P | 01/08/2025       | 12:46            | LB134201      |
|           | Cadmium  | 2440           | 2500       | 98            | 90 - 110                  | P | 01/08/2025       | 12:46            | LB134201      |
|           | Chromium | 990            | 1000       | 99            | 90 - 110                  | P | 01/08/2025       | 12:46            | LB134201      |
|           | Copper   | 1250           | 1250       | 100           | 90 - 110                  | P | 01/08/2025       | 12:46            | LB134201      |
|           | Iron     | 4660           | 5000       | 93            | 90 - 110                  | P | 01/08/2025       | 12:46            | LB134201      |
|           | Lead     | 4860           | 5000       | 97            | 90 - 110                  | P | 01/08/2025       | 12:46            | LB134201      |
|           | Selenium | 5010           | 5000       | 100           | 90 - 110                  | P | 01/08/2025       | 12:46            | LB134201      |
| CCV03     | Arsenic  | 4870           | 5000       | 97            | 90 - 110                  | P | 01/08/2025       | 13:36            | LB134201      |
|           | Cadmium  | 2410           | 2500       | 96            | 90 - 110                  | P | 01/08/2025       | 13:36            | LB134201      |
|           | Chromium | 1030           | 1000       | 103           | 90 - 110                  | P | 01/08/2025       | 13:36            | LB134201      |
|           | Copper   | 1230           | 1250       | 99            | 90 - 110                  | P | 01/08/2025       | 13:36            | LB134201      |
|           | Iron     | 4930           | 5000       | 99            | 90 - 110                  | P | 01/08/2025       | 13:36            | LB134201      |
|           | Lead     | 4830           | 5000       | 97            | 90 - 110                  | P | 01/08/2025       | 13:36            | LB134201      |
|           | Selenium | 4900           | 5000       | 98            | 90 - 110                  | P | 01/08/2025       | 13:36            | LB134201      |
| CCV04     | Arsenic  | 5070           | 5000       | 101           | 90 - 110                  | P | 01/08/2025       | 14:04            | LB134201      |
|           | Cadmium  | 2410           | 2500       | 96            | 90 - 110                  | P | 01/08/2025       | 14:04            | LB134201      |
|           | Chromium | 978            | 1000       | 98            | 90 - 110                  | P | 01/08/2025       | 14:04            | LB134201      |
|           | Copper   | 1280           | 1250       | 102           | 90 - 110                  | P | 01/08/2025       | 14:04            | LB134201      |
|           | Iron     | 4940           | 5000       | 99            | 90 - 110                  | P | 01/08/2025       | 14:04            | LB134201      |
|           | Lead     | 4830           | 5000       | 96            | 90 - 110                  | P | 01/08/2025       | 14:04            | LB134201      |
|           | Selenium | 5180           | 5000       | 104           | 90 - 110                  | P | 01/08/2025       | 14:04            | LB134201      |



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

**Metals**

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**CRDL STANDARD FOR AA & ICP**

**Client:** Tully Environmental, Inc **SDG No.:** Q1013  
**Contract:** TULL01 **Lab Code:** CHEM **Case No.:** Q1013 **SAS No.:** Q1013  
**Initial Calibration Source:** \_\_\_\_\_  
**Continuing Calibration Source:** \_\_\_\_\_

| Sample ID | Analyte  | Result<br>ug/L | True Value<br>ug/L | %<br>Recovery | Acceptance<br>Window (%R) | M | Analysis<br>Date | Analysis<br>Time | Run<br>Number |
|-----------|----------|----------------|--------------------|---------------|---------------------------|---|------------------|------------------|---------------|
| CRI01     | Arsenic  | 18.5           | 20.0               | 92            | 40 - 160                  | P | 01/08/2025       | 11:38            | LB134201      |
|           | Cadmium  | 5.74           | 6.0                | 96            | 40 - 160                  | P | 01/08/2025       | 11:38            | LB134201      |
|           | Chromium | 9.96           | 10.0               | 100           | 40 - 160                  | P | 01/08/2025       | 11:38            | LB134201      |
|           | Copper   | 21.1           | 20.0               | 106           | 40 - 160                  | P | 01/08/2025       | 11:38            | LB134201      |
|           | Iron     | 94.4           | 100                | 94            | 40 - 160                  | P | 01/08/2025       | 11:38            | LB134201      |
|           | Lead     | 10.6           | 12.0               | 88            | 40 - 160                  | P | 01/08/2025       | 11:38            | LB134201      |
|           | Selenium | 18.0           | 20.0               | 90            | 40 - 160                  | P | 01/08/2025       | 11:38            | LB134201      |



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

## Metals

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### INITIAL AND CONTINUING CALIBRATION BLANK SUMMARY

Client: Tully Environmental, Inc

SDG No.: Q1013

Contract: TULL01 Lab Code: CHEM

Case No.: Q1013

SAS No.: Q1013

| Sample ID | Analyte  | Result<br>ug/L | Acceptance<br>Limit | Conc<br>Qual | CRQL | M | Analysis<br>Date | Analysis<br>Time | Run<br>Number |
|-----------|----------|----------------|---------------------|--------------|------|---|------------------|------------------|---------------|
| ICB01     | Arsenic  | 20.0           | +/-20.0             | U            | 20.0 | P | 01/08/2025       | 11:34            | LB134201      |
|           | Cadmium  | 6.00           | +/-6.00             | U            | 6.00 | P | 01/08/2025       | 11:34            | LB134201      |
|           | Chromium | 10.0           | +/-10.0             | U            | 10.0 | P | 01/08/2025       | 11:34            | LB134201      |
|           | Copper   | 20.0           | +/-20.0             | U            | 20.0 | P | 01/08/2025       | 11:34            | LB134201      |
|           | Iron     | 100            | +/-100              | U            | 100  | P | 01/08/2025       | 11:34            | LB134201      |
|           | Lead     | 12.0           | +/-12.0             | U            | 12.0 | P | 01/08/2025       | 11:34            | LB134201      |
|           | Selenium | 20.0           | +/-20.0             | U            | 20.0 | P | 01/08/2025       | 11:34            | LB134201      |

**Metals**

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**INITIAL AND CONTINUING CALIBRATION BLANK SUMMARY**

| <b>Client:</b> <u>Tully Environmental, Inc</u> |                              | <b>SDG No.:</b> <u>Q1013</u>  |                              |              |      |   |                  |                  |               |
|------------------------------------------------|------------------------------|-------------------------------|------------------------------|--------------|------|---|------------------|------------------|---------------|
| <b>Contract:</b> <u>TULL01</u>                 | <b>Lab Code:</b> <u>CHEM</u> | <b>Case No.:</b> <u>Q1013</u> | <b>SAS No.:</b> <u>Q1013</u> |              |      |   |                  |                  |               |
| Sample ID                                      | Analyte                      | Result<br>ug/L                | Acceptance<br>Limit          | Conc<br>Qual | CRQL | M | Analysis<br>Date | Analysis<br>Time | Run<br>Number |
| <b>CCB01</b>                                   | Arsenic                      | 20.0                          | +/-20.0                      | U            | 20.0 | P | 01/08/2025       | 12:04            | LB134201      |
|                                                | Cadmium                      | 6.00                          | +/-6.00                      | U            | 6.00 | P | 01/08/2025       | 12:04            | LB134201      |
|                                                | Chromium                     | 10.0                          | +/-10.0                      | U            | 10.0 | P | 01/08/2025       | 12:04            | LB134201      |
|                                                | Copper                       | 20.0                          | +/-20.0                      | U            | 20.0 | P | 01/08/2025       | 12:04            | LB134201      |
|                                                | Iron                         | 100                           | +/-100                       | U            | 100  | P | 01/08/2025       | 12:04            | LB134201      |
|                                                | Lead                         | 12.0                          | +/-12.0                      | U            | 12.0 | P | 01/08/2025       | 12:04            | LB134201      |
|                                                | Selenium                     | 20.0                          | +/-20.0                      | U            | 20.0 | P | 01/08/2025       | 12:04            | LB134201      |
| <b>CCB02</b>                                   | Arsenic                      | 20.0                          | +/-20.0                      | U            | 20.0 | P | 01/08/2025       | 12:50            | LB134201      |
|                                                | Cadmium                      | 6.00                          | +/-6.00                      | U            | 6.00 | P | 01/08/2025       | 12:50            | LB134201      |
|                                                | Chromium                     | 10.0                          | +/-10.0                      | U            | 10.0 | P | 01/08/2025       | 12:50            | LB134201      |
|                                                | Copper                       | 20.0                          | +/-20.0                      | U            | 20.0 | P | 01/08/2025       | 12:50            | LB134201      |
|                                                | Iron                         | 100                           | +/-100                       | U            | 100  | P | 01/08/2025       | 12:50            | LB134201      |
|                                                | Lead                         | 12.0                          | +/-12.0                      | U            | 12.0 | P | 01/08/2025       | 12:50            | LB134201      |
|                                                | Selenium                     | 20.0                          | +/-20.0                      | U            | 20.0 | P | 01/08/2025       | 12:50            | LB134201      |
| <b>CCB03</b>                                   | Arsenic                      | 20.0                          | +/-20.0                      | U            | 20.0 | P | 01/08/2025       | 13:40            | LB134201      |
|                                                | Cadmium                      | 6.00                          | +/-6.00                      | U            | 6.00 | P | 01/08/2025       | 13:40            | LB134201      |
|                                                | Chromium                     | 10.0                          | +/-10.0                      | U            | 10.0 | P | 01/08/2025       | 13:40            | LB134201      |
|                                                | Copper                       | 20.0                          | +/-20.0                      | U            | 20.0 | P | 01/08/2025       | 13:40            | LB134201      |
|                                                | Iron                         | 100                           | +/-100                       | U            | 100  | P | 01/08/2025       | 13:40            | LB134201      |
|                                                | Lead                         | 12.0                          | +/-12.0                      | U            | 12.0 | P | 01/08/2025       | 13:40            | LB134201      |
|                                                | Selenium                     | 20.0                          | +/-20.0                      | U            | 20.0 | P | 01/08/2025       | 13:40            | LB134201      |
| <b>CCB04</b>                                   | Arsenic                      | 20.0                          | +/-20.0                      | U            | 20.0 | P | 01/08/2025       | 14:08            | LB134201      |
|                                                | Cadmium                      | 6.00                          | +/-6.00                      | U            | 6.00 | P | 01/08/2025       | 14:08            | LB134201      |
|                                                | Chromium                     | 10.0                          | +/-10.0                      | U            | 10.0 | P | 01/08/2025       | 14:08            | LB134201      |
|                                                | Copper                       | 20.0                          | +/-20.0                      | U            | 20.0 | P | 01/08/2025       | 14:08            | LB134201      |
|                                                | Iron                         | 100                           | +/-100                       | U            | 100  | P | 01/08/2025       | 14:08            | LB134201      |
|                                                | Lead                         | 12.0                          | +/-12.0                      | U            | 12.0 | P | 01/08/2025       | 14:08            | LB134201      |
|                                                | Selenium                     | 20.0                          | +/-20.0                      | U            | 20.0 | P | 01/08/2025       | 14:08            | LB134201      |

**Metals**  
**- 3b -**  
**PREPARATION BLANK SUMMARY**

**Client:** Tully Environmental, Inc

**SDG No.:** Q1013

**Instrument:** P4

| Sample ID         | Analyte      | Result<br>(ug/L) | Acceptance<br>Limit | Conc<br>Qual         | CRQL<br>ug/L    | M | Analysis<br>Date  | Analysis<br>Time  | Run      |
|-------------------|--------------|------------------|---------------------|----------------------|-----------------|---|-------------------|-------------------|----------|
| <b>PB165970BL</b> | <b>WATER</b> |                  |                     | <b>Batch Number:</b> | <b>PB165970</b> |   | <b>Prep Date:</b> | <b>01/07/2025</b> |          |
|                   | Arsenic      | 10.0             | <10.0               | U                    | 10.0            | P | 01/08/2025        | 12:08             | LB134201 |
|                   | Cadmium      | 3.00             | <3.00               | U                    | 3.00            | P | 01/08/2025        | 12:08             | LB134201 |
|                   | Chromium     | 5.00             | <5.00               | U                    | 5.00            | P | 01/08/2025        | 12:08             | LB134201 |
|                   | Copper       | 10.0             | <10.0               | U                    | 10.0            | P | 01/08/2025        | 12:08             | LB134201 |
|                   | Iron         | 50.0             | <50.0               | U                    | 50.0            | P | 01/08/2025        | 12:08             | LB134201 |
|                   | Lead         | 6.00             | <6.00               | U                    | 6.00            | P | 01/08/2025        | 12:08             | LB134201 |
|                   | Selenium     | 10.0             | <10.0               | U                    | 10.0            | P | 01/08/2025        | 12:08             | LB134201 |

**Metals**  
**- 4 -**  
**INTERFERENCE CHECK SAMPLE**

**Client:** Tully Environmental, Inc **SDG No.:** Q1013  
**Contract:** TULL01 **Lab Code:** CHEM **Case No.:** Q1013 **SAS No.:** Q1013  
**ICS Source:** EPA **Instrument ID:** P4

| Sample ID      | Analyte  | Result<br>ug/L | True Value<br>ug/L | %<br>Recovery | Low<br>Limit<br>(ug/L) | High<br>Limit<br>(ug/L) | Analysis<br>Date | Analysis<br>Time | Run<br>Number |
|----------------|----------|----------------|--------------------|---------------|------------------------|-------------------------|------------------|------------------|---------------|
| <b>ICSA01</b>  | Arsenic  | 2.49           |                    |               | -20                    | 20                      | 01/08/2025       | 11:43            | LB134201      |
|                | Cadmium  | 0.11           | 1.0                | 10            | -5                     | 7                       | 01/08/2025       | 11:43            | LB134201      |
|                | Chromium | 59.7           | 52.0               | 115           | 42                     | 62                      | 01/08/2025       | 11:43            | LB134201      |
|                | Copper   | 18.5           | 2.0                | 925           | -18                    | 22                      | 01/08/2025       | 11:43            | LB134201      |
|                | Iron     | 102000         | 101000             | 101           | 85600                  | 116500                  | 01/08/2025       | 11:43            | LB134201      |
|                | Lead     | 7.08           |                    |               | -12                    | 12                      | 01/08/2025       | 11:43            | LB134201      |
|                | Selenium | -18.6          |                    |               | -20                    | 20                      | 01/08/2025       | 11:43            | LB134201      |
| <b>ICSAB01</b> | Arsenic  | 106            | 104                | 102           | 88.4                   | 120                     | 01/08/2025       | 11:47            | LB134201      |
|                | Cadmium  | 978            | 972                | 101           | 826                    | 1120                    | 01/08/2025       | 11:47            | LB134201      |
|                | Chromium | 583            | 542                | 108           | 460                    | 624                     | 01/08/2025       | 11:47            | LB134201      |
|                | Copper   | 492            | 511                | 96            | 434                    | 588                     | 01/08/2025       | 11:47            | LB134201      |
|                | Iron     | 99700          | 99300              | 100           | 84400                  | 114500                  | 01/08/2025       | 11:47            | LB134201      |
|                | Lead     | 55.6           | 49.0               | 114           | 37                     | 61                      | 01/08/2025       | 11:47            | LB134201      |
|                | Selenium | 26.4           | 46.0               | 57            | 26                     | 66                      | 01/08/2025       | 11:47            | LB134201      |
| <b>ICSA</b>    | Arsenic  | -72.6          |                    |               | -20                    | 20                      | 01/08/2025       | 11:51            | LB134201      |
|                | Cadmium  | -5.84          | 1.0                | 584           | -5                     | 7                       | 01/08/2025       | 11:51            | LB134201      |
|                | Chromium | 56.7           | 52.0               | 109           | 42                     | 62                      | 01/08/2025       | 11:51            | LB134201      |
|                | Copper   | 12.3           | 2.0                | 615           | -18                    | 22                      | 01/08/2025       | 11:51            | LB134201      |
|                | Iron     | 99300          | 101000             | 98            | 85600                  | 116500                  | 01/08/2025       | 11:51            | LB134201      |
|                | Lead     | -12.6          |                    |               | -12                    | 12                      | 01/08/2025       | 11:51            | LB134201      |
|                | Selenium | -52.9          |                    |               | -20                    | 20                      | 01/08/2025       | 11:51            | LB134201      |
| <b>ICSAB</b>   | Arsenic  | 66.3           | 104                | 64            | 88.4                   | 120                     | 01/08/2025       | 11:55            | LB134201      |
|                | Cadmium  | 1030           | 972                | 106           | 826                    | 1120                    | 01/08/2025       | 11:55            | LB134201      |
|                | Chromium | 611            | 542                | 113           | 460                    | 624                     | 01/08/2025       | 11:55            | LB134201      |
|                | Copper   | 522            | 511                | 102           | 434                    | 588                     | 01/08/2025       | 11:55            | LB134201      |
|                | Iron     | 100000         | 99300              | 101           | 84400                  | 114500                  | 01/08/2025       | 11:55            | LB134201      |
|                | Lead     | 36.6           | 49.0               | 75            | 37                     | 61                      | 01/08/2025       | 11:55            | LB134201      |
|                | Selenium | 18.1           | 46.0               | 39            | 26                     | 66                      | 01/08/2025       | 11:55            | LB134201      |



# METAL

## QC

### DATA

**metals**  
**- 5a -**  
**MATRIX SPIKE SUMMARY**

**client:** Tully Environmental, Inc      **level:** low      **sdg no.:** Q1013  
**contract:** TULL01      **lab code:** CHEM      **case no.:** Q1013      **sas no.:** Q1013  
**matrix:** Water      **sample id:** Q1013-02      **client id:** 002 35TH AVE (JAN)MS  
**Percent Solids for Sample:** NA      **Spiked ID:** Q1013-02MS      **Percent Solids for Spike Sample:** NA

| Analyte  | Units | Acceptance<br>Limit %R | Spiked<br>Result | C | Sample<br>Result | C | Spike<br>Added | %<br>Recovery | Qual | M |
|----------|-------|------------------------|------------------|---|------------------|---|----------------|---------------|------|---|
| Arsenic  | ug/L  | 75 - 125               | 392              |   | 10.0             | U | 400            | 98            |      | P |
| Cadmium  | ug/L  | 75 - 125               | 91.2             |   | 3.00             | U | 100            | 91            |      | P |
| Chromium | ug/L  | 75 - 125               | 187              |   | 3.45             | J | 200            | 92            |      | P |
| Copper   | ug/L  | 75 - 125               | 148              |   | 12.4             |   | 150            | 91            |      | P |
| Iron     | ug/L  | 75 - 125               | 6050             |   | 5040             |   | 1500           | 67            | N    | P |
| Lead     | ug/L  | 75 - 125               | 472              |   | 14.1             |   | 500            | 92            |      | P |
| Selenium | ug/L  | 75 - 125               | 401              |   | 10.0             | U | 1000           | 40            | N    | P |

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

**client:** Tully Environmental, Inc      **level:** low      **sdg no.:** Q1013  
**contract:** TULL01      **lab code:** CHEM      **case no.:** Q1013      **sas no.:** Q1013  
**matrix:** Water      **sample id:** Q1013-02      **client id:** 002 35TH AVE (JAN)MSD  
**Percent Solids for Sample:** NA      **Spiked ID:** Q1013-02MSD      **Percent Solids for Spike Sample:** NA

| Analyte  | Units | Acceptance<br>Limit %R | MSD<br>Result | C | Sample<br>Result | C | Spike<br>Added | %<br>Recovery | Qual | M |
|----------|-------|------------------------|---------------|---|------------------|---|----------------|---------------|------|---|
| Arsenic  | ug/L  | 75 - 125               | 393           |   | 10.0             | U | 400            | 98            |      | P |
| Cadmium  | ug/L  | 75 - 125               | 91.1          |   | 3.00             | U | 100            | 91            |      | P |
| Chromium | ug/L  | 75 - 125               | 195           |   | 3.45             | J | 200            | 96            |      | P |
| Copper   | ug/L  | 75 - 125               | 149           |   | 12.4             |   | 150            | 91            |      | P |
| Iron     | ug/L  | 75 - 125               | 6310          |   | 5040             |   | 1500           | 84            |      | P |
| Lead     | ug/L  | 75 - 125               | 469           |   | 14.1             |   | 500            | 91            |      | P |
| Selenium | ug/L  | 75 - 125               | 404           |   | 10.0             | U | 1000           | 40            | N    | P |

**Metals**  
**- 5b -**  
**POST DIGEST SPIKE SUMMARY**

**Client:** Tully Environmental, Inc **SDG No.:** Q1013  
**Contract:** TULL01 **Lab Code:** CHEM **Case No.:** Q1013 **SAS No.:** Q1013  
**Matrix:** Water **Level:** LOW **Client ID:** 002 35TH AVE (JAN)A  
**Sample ID:** Q1013-02 **Spiked ID:** Q1013-02A

| Analyte  | Units | Acceptance<br>Limit %R | Spiked<br>Result | C | Sample<br>Result | C | Spike<br>Added | %<br>Recovery | Qual | M |
|----------|-------|------------------------|------------------|---|------------------|---|----------------|---------------|------|---|
| Iron     | ug/L  | 85 - 115               | 6240             |   | 5040             |   | 1500           | 80            |      | P |
| Selenium | ug/L  | 85 - 115               | 426              |   | 10.0             | U | 1000           | 43            |      | P |

**Metals**

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**DUPLICATE SAMPLE SUMMARY**

**Client:** Tully Environmental, Inc **Level:** LOW **SDG No.:** Q1013  
**Contract:** TULL01 **Lab Code:** CHEM **Case No.:** Q1013 **SAS No.:** Q1013  
**Matrix:** Water **Sample ID:** Q1013-02 **Client ID:** 002 35TH AVE (JAN)DUP  
**Percent Solids for Sample:** NA **Duplicate ID** Q1013-02DUP **Percent Solids for Spike Sample:** NA

| Analyte  | Units | Acceptance Limit | Sample Result | C | Duplicate Result | C | RPD | Qual | M |
|----------|-------|------------------|---------------|---|------------------|---|-----|------|---|
| Arsenic  | ug/L  | 20               | 10.0          | U | 10.0             | U |     |      | P |
| Cadmium  | ug/L  | 20               | 3.00          | U | 3.00             | U |     |      | P |
| Chromium | ug/L  | 20               | 3.45          | J | 4.02             | J | 15  |      | P |
| Copper   | ug/L  | 20               | 12.4          |   | 12.2             |   | 2   |      | P |
| Iron     | ug/L  | 20               | 5040          |   | 5130             |   | 2   |      | P |
| Lead     | ug/L  | 20               | 14.1          |   | 14.4             |   | 2   |      | P |
| Selenium | ug/L  | 20               | 10.0          | U | 10.0             | U |     |      | P |

# Metals

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## DUPLICATE SAMPLE SUMMARY

**Client:** Tully Environmental, Inc **Level:** LOW **SDG No.:** Q1013  
**Contract:** TULL01 **Lab Code:** CHEM **Case No.:** Q1013 **SAS No.:** Q1013  
**Matrix:** Water **Sample ID:** Q1013-02MS **Client ID:** 002 35TH AVE (JAN)MSD  
**Percent Solids for Sample:** NA **Duplicate ID** Q1013-02MSD **Percent Solids for Spike Sample:** NA

| Analyte  | Units | Acceptance Limit | Sample Result | C | Duplicate Result | C | RPD | Qual | M |
|----------|-------|------------------|---------------|---|------------------|---|-----|------|---|
| Arsenic  | ug/L  | 20               | 392           |   | 393              |   | 0   |      | P |
| Cadmium  | ug/L  | 20               | 91.2          |   | 91.1             |   | 0   |      | P |
| Chromium | ug/L  | 20               | 187           |   | 195              |   | 4   |      | P |
| Copper   | ug/L  | 20               | 148           |   | 149              |   | 1   |      | P |
| Iron     | ug/L  | 20               | 6050          |   | 6310             |   | 4   |      | P |
| Lead     | ug/L  | 20               | 472           |   | 469              |   | 1   |      | P |
| Selenium | ug/L  | 20               | 401           |   | 404              |   | 1   |      | P |

**Metals**

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**LABORATORY CONTROL SAMPLE SUMMARY**

**Client:** Tully Environmental, Inc **SDG No.:** Q1013  
**Contract:** TULL01 **Lab Code:** CHEM **Case No.:** Q1013 **SAS No.:** Q1013

| Analyte    | Units | True Value | Result | C | %<br>Recovery | Acceptance<br>Limits | M |
|------------|-------|------------|--------|---|---------------|----------------------|---|
| PB165970BS |       |            |        |   |               |                      |   |
| Arsenic    | ug/L  | 400        | 387    |   | 97            | 85 - 115             | P |
| Cadmium    | ug/L  | 100        | 97.6   |   | 98            | 85 - 115             | P |
| Chromium   | ug/L  | 200        | 203    |   | 102           | 85 - 115             | P |
| Copper     | ug/L  | 150        | 148    |   | 99            | 85 - 115             | P |
| Iron       | ug/L  | 1500       | 1380   |   | 92            | 85 - 115             | P |
| Lead       | ug/L  | 500        | 481    |   | 96            | 85 - 115             | P |
| Selenium   | ug/L  | 1000       | 939    |   | 94            | 85 - 115             | P |

**Metals**  
**-9 -**  
**ICP SERIAL DILUTIONS**

**SAMPLE NO.**

002 35TH AVE (JAN)L

**Lab Name:** Chemtech Consulting Group

**Contract:** TULL01

**Lab Code:** CHEM **Lb No.:** lb134201 **Lab Sample ID :** Q1013-02L **SDG No.:** Q1013

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

**Concentration Units:** ug/L

| Analyte  | Initial Sample Result (I) |   | Serial Dilution Result (S) |   | % Difference | Q | M |
|----------|---------------------------|---|----------------------------|---|--------------|---|---|
|          |                           | C |                            | C |              |   |   |
| Arsenic  | 10.0                      | U | 50.0                       | U |              |   | P |
| Cadmium  | 3.00                      | U | 15.0                       | U |              |   | P |
| Chromium | 3.45                      | J | 3.73                       | J | 8            |   | P |
| Copper   | 12.4                      |   | 11.9                       | J | 4            |   | P |
| Iron     | 5040                      |   | 4970                       |   | 2            |   | P |
| Lead     | 14.1                      |   | 10.5                       | J | 25           |   | P |
| Selenium | 10.0                      | U | 50.0                       | U |              |   | P |



# METAL PREPARATION & INSTRUMENT DATA

**Metals**

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**ICP INTERELEMENT CORRECTION FACTORS**

**Client:** Tully Environmental, Inc

**SDG No.:** Q1013

**Contract:** TULL01

**Lab Code:** CHEM

**Case No.:** Q1013

**SAS No.:** Q1013

**Instrument ID:** \_\_\_\_\_

**Date:** \_\_\_\_\_

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

| Analyte  | Wave-<br>Length<br>(nm) | ICP Interelement Correction Factors For: |           |            |           |           |
|----------|-------------------------|------------------------------------------|-----------|------------|-----------|-----------|
|          |                         | Al                                       | Ca        | Fe         | Mg        | Ag        |
| Arsenic  | 193.759                 | 0.0000000                                | 0.0000000 | -0.0000440 | 0.0000000 | 0.0000000 |
| Cadmium  | 226.502                 | 0.0000000                                | 0.0000000 | 0.0000930  | 0.0000000 | 0.0000000 |
| Chromium | 267.716                 | 0.0000000                                | 0.0000000 | 0.0000000  | 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 |
| Lead     | 220.353                 | -0.0000920                               | 0.0000000 | 0.0000380  | 0.0000000 | 0.0000000 |
| Selenium | 196.090                 | 0.0000000                                | 0.0000000 | -0.0001440 | 0.0000000 | 0.0000000 |

**Metals**

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**ICP INTERELEMENT CORRECTION FACTORS**

**Client:** Tully Environmental, Inc

**SDG No.:** Q1013

**Contract:** TULL01

**Lab Code:** CHEM

**Case No.:** Q1013

**SAS No.:** Q1013

**Instrument ID:** \_\_\_\_\_

**Date:** \_\_\_\_\_

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

| Analyte  | Wave-<br>Length<br>(nm) | ICP Interelement Correction Factors For: |           |           |           |            |
|----------|-------------------------|------------------------------------------|-----------|-----------|-----------|------------|
|          |                         | As                                       | Ba        | Be        | Cd        | Co         |
| Arsenic  | 193.759                 | 0.0000000                                | 0.0000000 | 0.0000000 | 0.0000000 | 0.0000000  |
| Cadmium  | 226.502                 | 0.0000000                                | 0.0000000 | 0.0000000 | 0.0000000 | 0.0002870  |
| Chromium | 267.716                 | 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 |
| Lead     | 220.353                 | 0.0000000                                | 0.0003170 | 0.0000000 | 0.0000000 | 0.0000000  |
| Selenium | 196.090                 | 0.0000000                                | 0.0000000 | 0.0000000 | 0.0000000 | -0.0003570 |

**Metals**

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**ICP INTERELEMENT CORRECTION FACTORS**

**Client:** Tully Environmental, Inc

**SDG No.:** Q1013

**Contract:** TULL01

**Lab Code:** CHEM

**Case No.:** Q1013

**SAS No.:** Q1013

**Instrument ID:** \_\_\_\_\_

**Date:** \_\_\_\_\_

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

| Analyte  | Wave-<br>Length<br>(nm) | ICP Interelement Correction Factors For: |           |           |           |            |
|----------|-------------------------|------------------------------------------|-----------|-----------|-----------|------------|
|          |                         | Cr                                       | Cu        | K         | Mn        | Mo         |
| Arsenic  | 193.759                 | -0.0029000                               | 0.0000000 | 0.0000000 | 0.0000000 | 0.0004900  |
| Cadmium  | 226.502                 | 0.0000000                                | 0.0000000 | 0.0000000 | 0.0000000 | 0.0000000  |
| Chromium | 267.716                 | 0.0000000                                | 0.0000000 | 0.0000070 | 0.0002200 | 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 |
| Lead     | 220.353                 | 0.0000000                                | 0.0000000 | 0.0000000 | 0.0001400 | -0.0008600 |
| Selenium | 196.090                 | 0.0000000                                | 0.0000000 | 0.0000000 | 0.0007460 | 0.0000000  |

**Metals**

- 11 -

**ICP INTERELEMENT CORRECTION FACTORS**

**Client:** Tully Environmental, Inc

**SDG No.:** Q1013

**Contract:** TULL01

**Lab Code:** CHEM

**Case No.:** Q1013

**SAS No.:** Q1013

**Instrument ID:** \_\_\_\_\_

**Date:** \_\_\_\_\_

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

| Analyte  | Wave-<br>Length<br>(nm) | ICP Interelement Correction Factors For: |            |           |           |           |
|----------|-------------------------|------------------------------------------|------------|-----------|-----------|-----------|
|          |                         | Na                                       | Ni         | Pb        | Sb        | Se        |
| Arsenic  | 193.759                 | 0.0000000                                | 0.0000000  | 0.0000000 | 0.0000000 | 0.0000000 |
| Cadmium  | 226.502                 | 0.0000000                                | 0.0000000  | 0.0000000 | 0.0000000 | 0.0000000 |
| Chromium | 267.716                 | 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 |
| Lead     | 220.353                 | 0.0000000                                | 0.0006580  | 0.0000000 | 0.0000000 | 0.0001290 |
| Selenium | 196.090                 | 0.0000000                                | 0.0000000  | 0.0003330 | 0.0000000 | 0.0000000 |

**Metals**

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**ICP INTERELEMENT CORRECTION FACTORS**

**Client:** Tully Environmental, Inc

**SDG No.:** Q1013

**Contract:** TULL01

**Lab Code:** CHEM

**Case No.:** Q1013

**SAS No.:** Q1013

**Instrument ID:** \_\_\_\_\_

**Date:** \_\_\_\_\_

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

| Analyte  | Wave-<br>Length<br>(nm) | ICP Interelement Correction Factors For: |            |           |           |           |
|----------|-------------------------|------------------------------------------|------------|-----------|-----------|-----------|
|          |                         | Sn                                       | Ti         | Tl        | V         | Zn        |
| Arsenic  | 193.759                 | 0.0000000                                | 0.0000000  | 0.0000000 | 0.0000000 | 0.0000000 |
| Cadmium  | 226.502                 | 0.0000000                                | 0.0000630  | 0.0001280 | 0.0000000 | 0.0000000 |
| Chromium | 267.716                 | 0.0000000                                | 0.0000000  | 0.0000000 | 0.0001110 | 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 |
| Lead     | 220.353                 | 0.0000000                                | -0.0003610 | 0.0000000 | 0.0000000 | 0.0000000 |
| Selenium | 196.090                 | 0.0000000                                | 0.0000000  | 0.0000000 | 0.0000000 | 0.0000000 |



# METAL PREPARATION & ANALYICAL SUMMARY

**Metals**

**- 13 -**

**SAMPLE PREPARATION SUMMARY**

**Client:** Tully Environmental, Inc **SDG No.:** Q1013  
**Contract:** TULL01 **Lab Code:** CHEM **Method:**   
**Case No.:** Q1013 **SAS No.:** Q1013

| Sample ID                     | Client ID                 | Sample Type | Matrix | Prep Date  | Initial Sample Size(mL) | Final Sample Volume (mL) | Percent Solids |
|-------------------------------|---------------------------|-------------|--------|------------|-------------------------|--------------------------|----------------|
| <b>Batch Number: PB165970</b> |                           |             |        |            |                         |                          |                |
| PB165970BL                    | PB165970BL                | MB          | WATER  | 01/07/2025 | 50.0                    | 25.0                     |                |
| PB165970BS                    | PB165970BS                | LCS         | WATER  | 01/07/2025 | 50.0                    | 25.0                     |                |
| Q1013-01                      | 001 WILLETS PT BLVD (JAN) | SAM         | WATER  | 01/07/2025 | 50.0                    | 25.0                     |                |
| Q1013-02                      | 002 35TH AVE (JAN)        | SAM         | WATER  | 01/07/2025 | 50.0                    | 25.0                     |                |
| Q1013-02DUP                   | 002 35TH AVE (JAN)DUP     | DUP         | WATER  | 01/07/2025 | 50.0                    | 25.0                     |                |
| Q1013-02MS                    | 002 35TH AVE (JAN)MS      | MS          | WATER  | 01/07/2025 | 50.0                    | 25.0                     |                |
| Q1013-02MSD                   | 002 35TH AVE (JAN)MSD     | MSD         | WATER  | 01/07/2025 | 50.0                    | 25.0                     |                |

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

**Client:** Tully Environmental, Inc **Contract:** TULL01

**Lab code:** CHEM **Case no.:** Q1013 **Sas no.:** Q1013 **Sdg no.:** Q1013

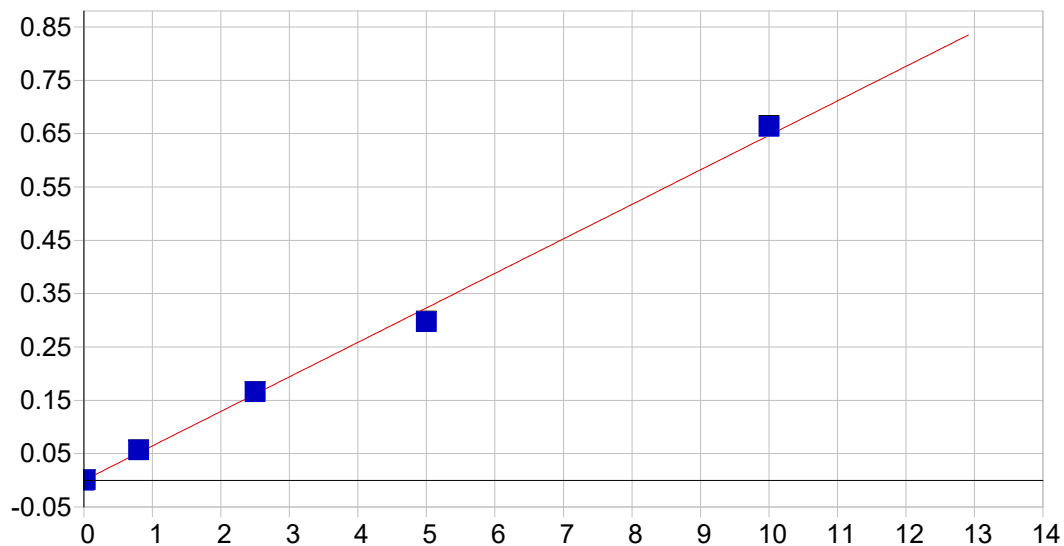
**Instrument id number:**                      **Method:**                      **Run number:** LB134201

**Start date:** 01/08/2025 **End date:** 01/08/2025

| Lab sample id. | Client Sample Id          | d/f | Time | Parameter list       |
|----------------|---------------------------|-----|------|----------------------|
| S0             | S0                        | 1   | 1053 | As,Cd,Cr,Cu,Fe,Pb,Se |
| S1             | S1                        | 1   | 1057 | As,Cd,Cr,Cu,Fe,Pb,Se |
| S2             | S2                        | 1   | 1102 | As,Cd,Cr,Cu,Fe,Pb,Se |
| S3             | S3                        | 1   | 1106 | As,Cd,Cr,Cu,Fe,Pb,Se |
| S4             | S4                        | 1   | 1110 | As,Cd,Cr,Cu,Fe,Pb,Se |
| S5             | S5                        | 1   | 1115 | As,Cd,Cr,Cu,Fe,Pb,Se |
| ICV01          | ICV01                     | 1   | 1119 | As,Cd,Cr,Cu,Fe,Pb,Se |
| LLICV01        | LLICV01                   | 1   | 1130 | As,Cd,Cr,Cu,Fe,Pb,Se |
| ICB01          | ICB01                     | 1   | 1134 | As,Cd,Cr,Cu,Fe,Pb,Se |
| CRI01          | CRI01                     | 1   | 1138 | As,Cd,Cr,Cu,Fe,Pb,Se |
| ICSA01         | ICSA01                    | 1   | 1143 | As,Cd,Cr,Cu,Fe,Pb,Se |
| ICSAB01        | ICSAB01                   | 1   | 1147 | As,Cd,Cr,Cu,Fe,Pb,Se |
| ICSA           | ICSA                      | 20  | 1151 | As,Cd,Cr,Cu,Fe,Pb,Se |
| ICSAB          | ICSAB                     | 20  | 1155 | As,Cd,Cr,Cu,Fe,Pb,Se |
| CCV01          | CCV01                     | 1   | 1200 | As,Cd,Cr,Cu,Fe,Pb,Se |
| CCB01          | CCB01                     | 1   | 1204 | As,Cd,Cr,Cu,Fe,Pb,Se |
| PB165970BL     | PB165970BL                | 1   | 1208 | As,Cd,Cr,Cu,Fe,Pb,Se |
| PB165970BS     | PB165970BS                | 1   | 1213 | As,Cd,Cr,Cu,Fe,Pb,Se |
| Q1013-01       | 001 WILLETS PT BLVD (JAN) | 1   | 1217 | As,Cd,Cr,Cu,Fe,Pb,Se |
| Q1013-02       | 002 35TH AVE (JAN)        | 1   | 1221 | As,Cd,Cr,Cu,Fe,Pb,Se |
| Q1013-02DUP    | 002 35TH AVE (JAN)DUP     | 1   | 1225 | As,Cd,Cr,Cu,Fe,Pb,Se |
| Q1013-02L      | 002 35TH AVE (JAN)L       | 5   | 1230 | As,Cd,Cr,Cu,Fe,Pb,Se |
| Q1013-02MS     | 002 35TH AVE (JAN)MS      | 1   | 1234 | As,Cd,Cr,Cu,Fe,Pb,Se |
| Q1013-02MSD    | 002 35TH AVE (JAN)MSD     | 1   | 1238 | As,Cd,Cr,Cu,Fe,Pb,Se |
| Q1013-02A      | 002 35TH AVE (JAN)A       | 1   | 1242 | Fe,Se                |
| CCV02          | CCV02                     | 1   | 1246 | As,Cd,Cr,Cu,Fe,Pb,Se |
| CCB02          | CCB02                     | 1   | 1250 | As,Cd,Cr,Cu,Fe,Pb,Se |
| CCV03          | CCV03                     | 1   | 1336 | As,Cd,Cr,Cu,Fe,Pb,Se |
| CCB03          | CCB03                     | 1   | 1340 | As,Cd,Cr,Cu,Fe,Pb,Se |
| CCV04          | CCV04                     | 1   | 1404 | As,Cd,Cr,Cu,Fe,Pb,Se |
| CCB04          | CCB04                     | 1   | 1408 | As,Cd,Cr,Cu,Fe,Pb,Se |



# METAL RAW DATA

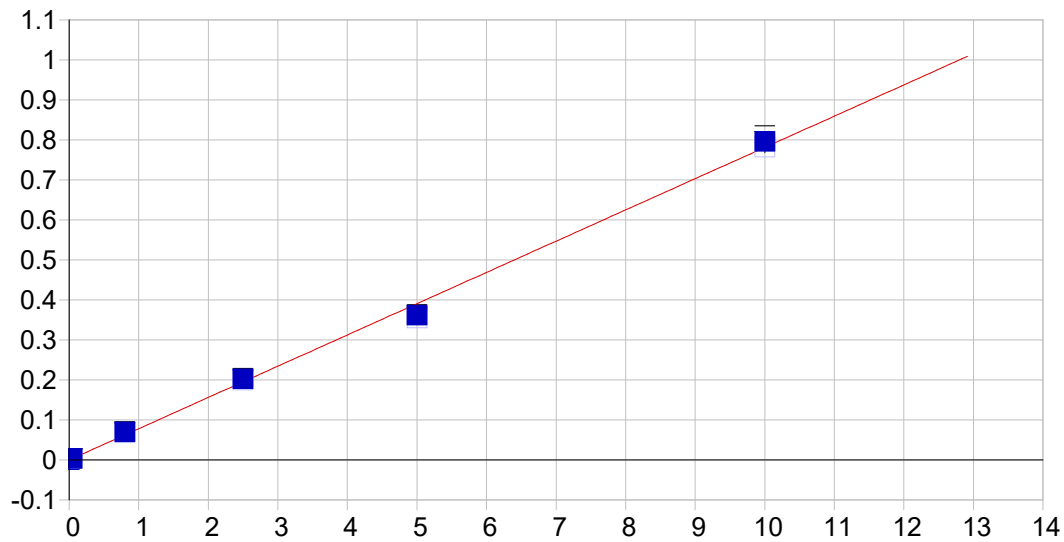


As 189.042 {479}

Date of Fit: 1/8/2025 14:07:52 Type of Fit: Linear Weighting: 1/Conc

A0 (Offset): -0.000060 Re-Slope: 1.000000  
A1 (Gain): 0.064682 Y-int: 0.000000  
A2 (Curvature): 0.000000  
n (Exponent): 1.000000  
Correlation: 0.998681 Status: OK.  
Std Error of Est: 0.000078  
Predicted MDL: 0.002560  
Predicted MQL: 0.008533

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR   | Std Dev | Emphasis |
|-----------|--------------|-------------|------------|---------|---------|---------|----------|
| S0        | .00000       | -.00000     | -.000      | .000    | -.00006 | .000    | 1        |
| S1        | .02000       | .02078      | .001       | 3.91    | .00128  | .000    | 1        |
| S3        | 2.5000       | 2.5650      | .065       | 2.60    | .16568  | .000    | 1        |
| S4        | 5.0000       | 4.5993      | -.401      | -8.01   | .29708  | .001    | 1        |
| S5        | 10.000       | 10.255      | .255       | 2.55    | .66255  | .002    | 1        |
| S2        | .80000       | .87994      | .080       | 9.99    | .05680  | .000    | 1        |

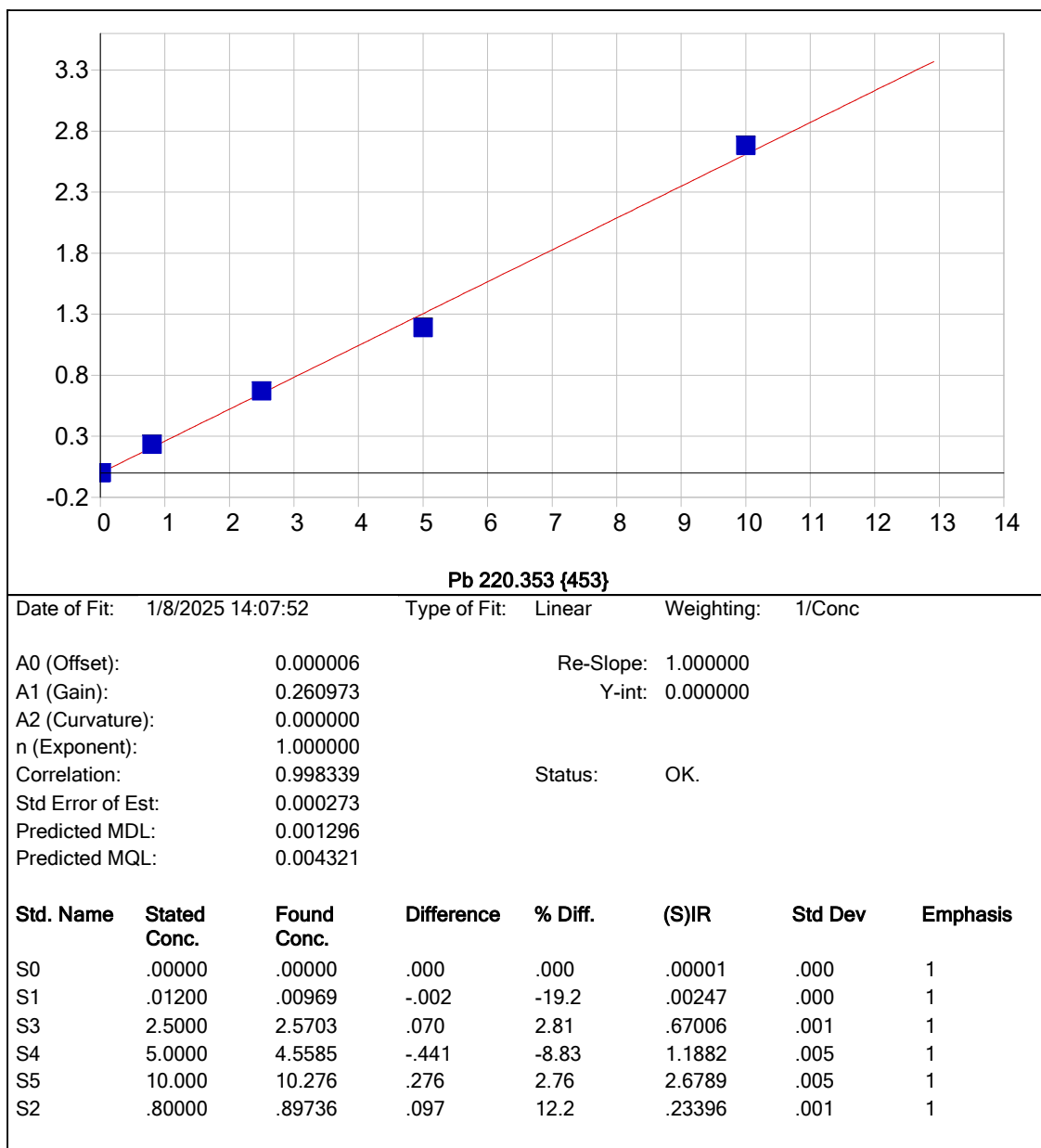


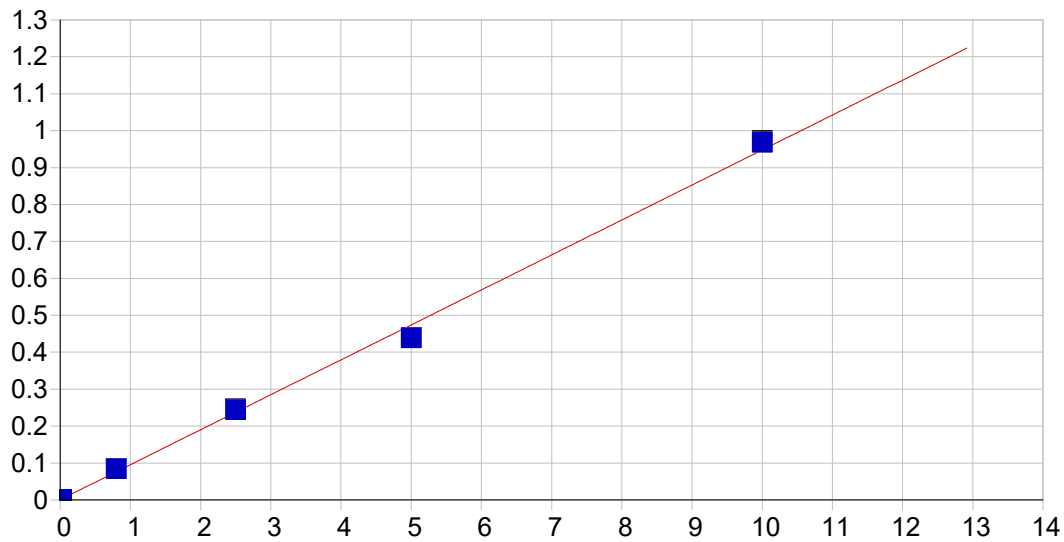
TI 190.856 {477}

Date of Fit: 1/8/2025 14:07:52 Type of Fit: Linear Weighting: 1/Conc

A0 (Offset): -0.000057 Re-Slope: 1.000000  
A1 (Gain): 0.078128 Y-int: 0.000000  
A2 (Curvature): 0.000000  
n (Exponent): 1.000000  
Correlation: 0.998702 Status: OK.  
Std Error of Est: 0.000130  
Predicted MDL: 0.002065  
Predicted MQL: 0.006883

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR   | Std Dev | Emphasis |
|-----------|--------------|-------------|------------|---------|---------|---------|----------|
| S0        | .00000       | -.00000     | -.000      | .000    | -.00006 | .000    | 1        |
| S1        | .04000       | .03859      | -.001      | -3.53   | .00276  | .000    | 1        |
| S3        | 2.5000       | 2.5929      | .093       | 3.72    | .19892  | .001    | 1        |
| S4        | 5.0000       | 4.6244      | -.376      | -7.51   | .35404  | .002    | 1        |
| S5        | 10.000       | 10.192      | .192       | 1.92    | .78185  | .014    | 1        |
| S2        | .80000       | .89183      | .092       | 11.5    | .06847  | .001    | 1        |



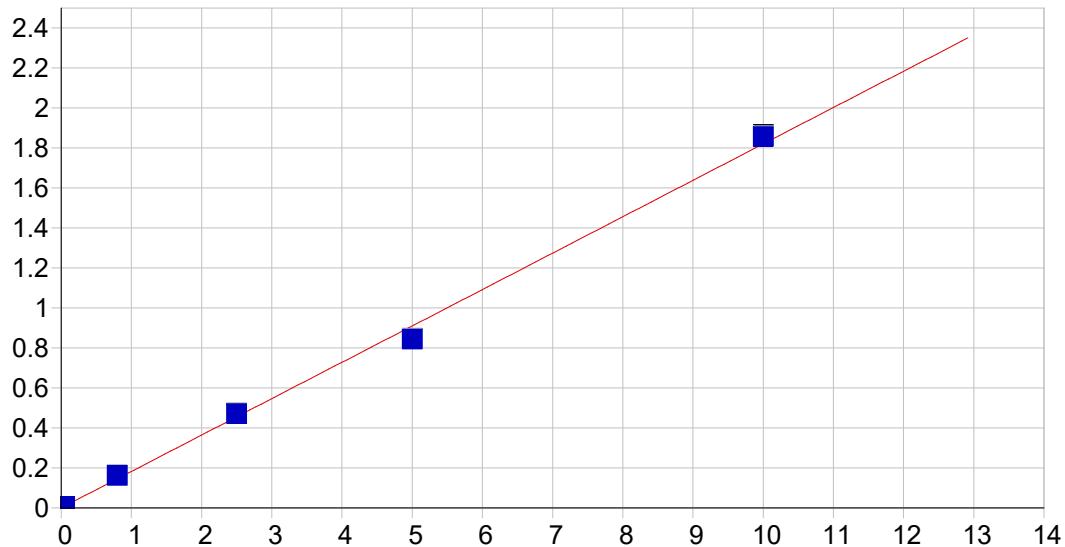


Se 196.090 {472}

Date of Fit: 1/8/2025 14:07:52 Type of Fit: Linear Weighting: 1/Conc

A0 (Offset): 0.000573 Re-Slope: 1.000000  
A1 (Gain): 0.094695 Y-int: 0.000000  
A2 (Curvature): 0.000000  
n (Exponent): 1.000000  
Correlation: 0.998833 Status: OK.  
Std Error of Est: 0.000107  
Predicted MDL: 0.002372  
Predicted MQL: 0.007908

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR  | Std Dev | Emphasis |
|-----------|--------------|-------------|------------|---------|--------|---------|----------|
| S0        | .00000       | .00000      | .000       | .000    | .00057 | .000    | 1        |
| S1        | .02000       | .01790      | -.002      | -10.5   | .00227 | .000    | 1        |
| S3        | 2.5000       | 2.5769      | .077       | 3.08    | .24453 | .001    | 1        |
| S4        | 5.0000       | 4.6286      | -.371      | -7.43   | .43875 | .001    | 1        |
| S5        | 10.000       | 10.217      | .217       | 2.17    | .96783 | .004    | 1        |
| S2        | .80000       | .87956      | .080       | 9.95    | .08384 | .001    | 1        |

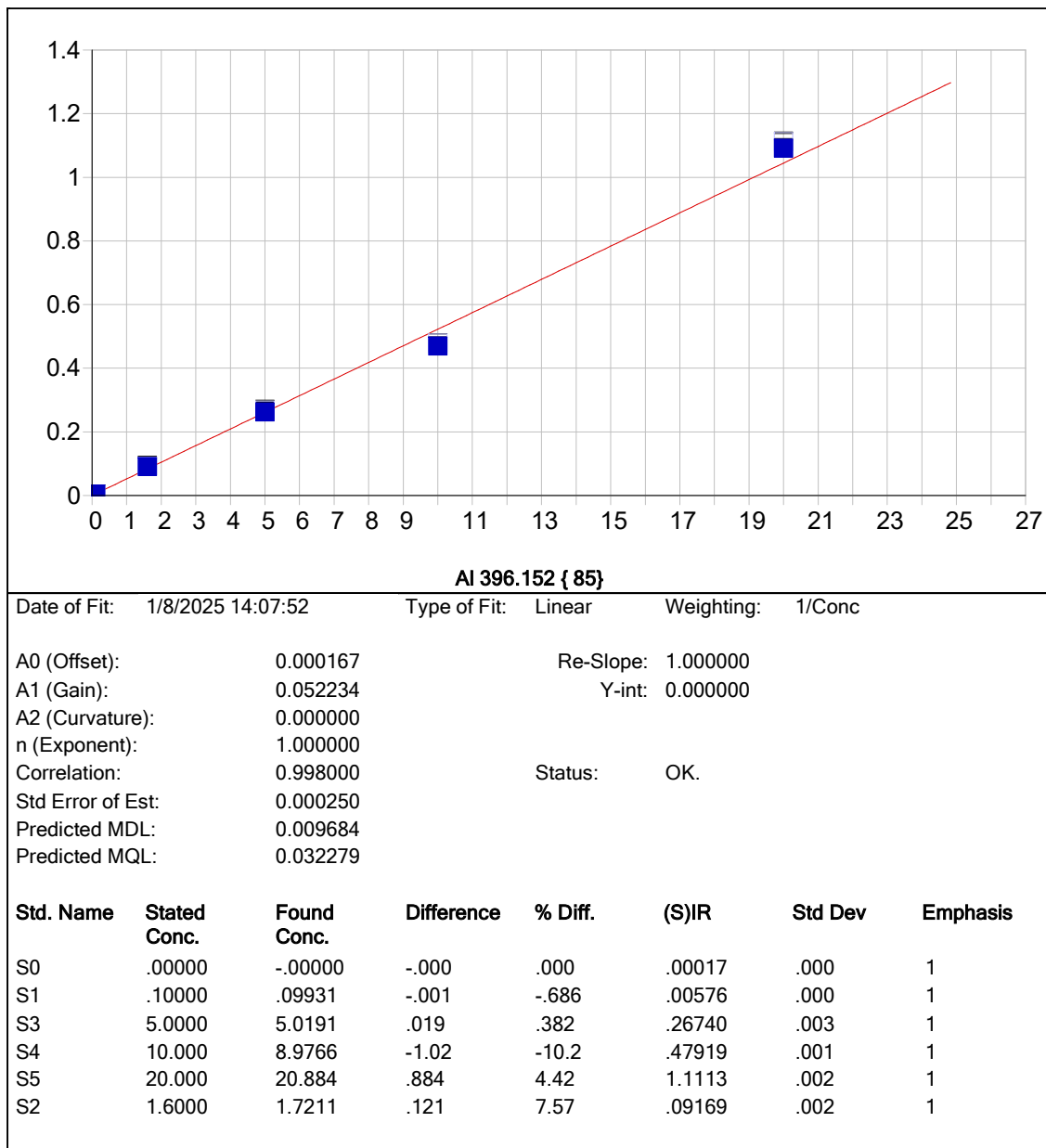


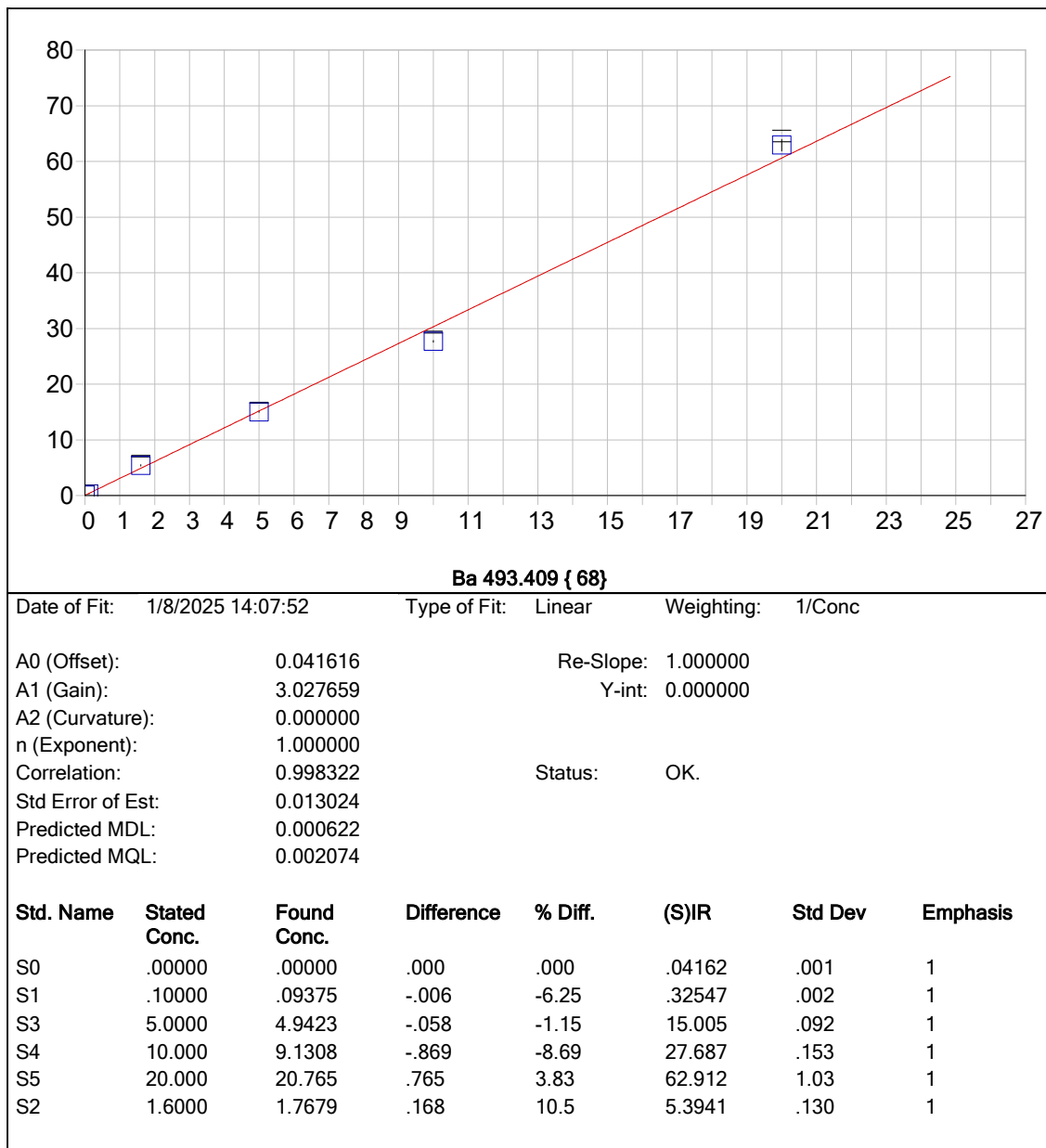
**Sb 206.833 {463}**

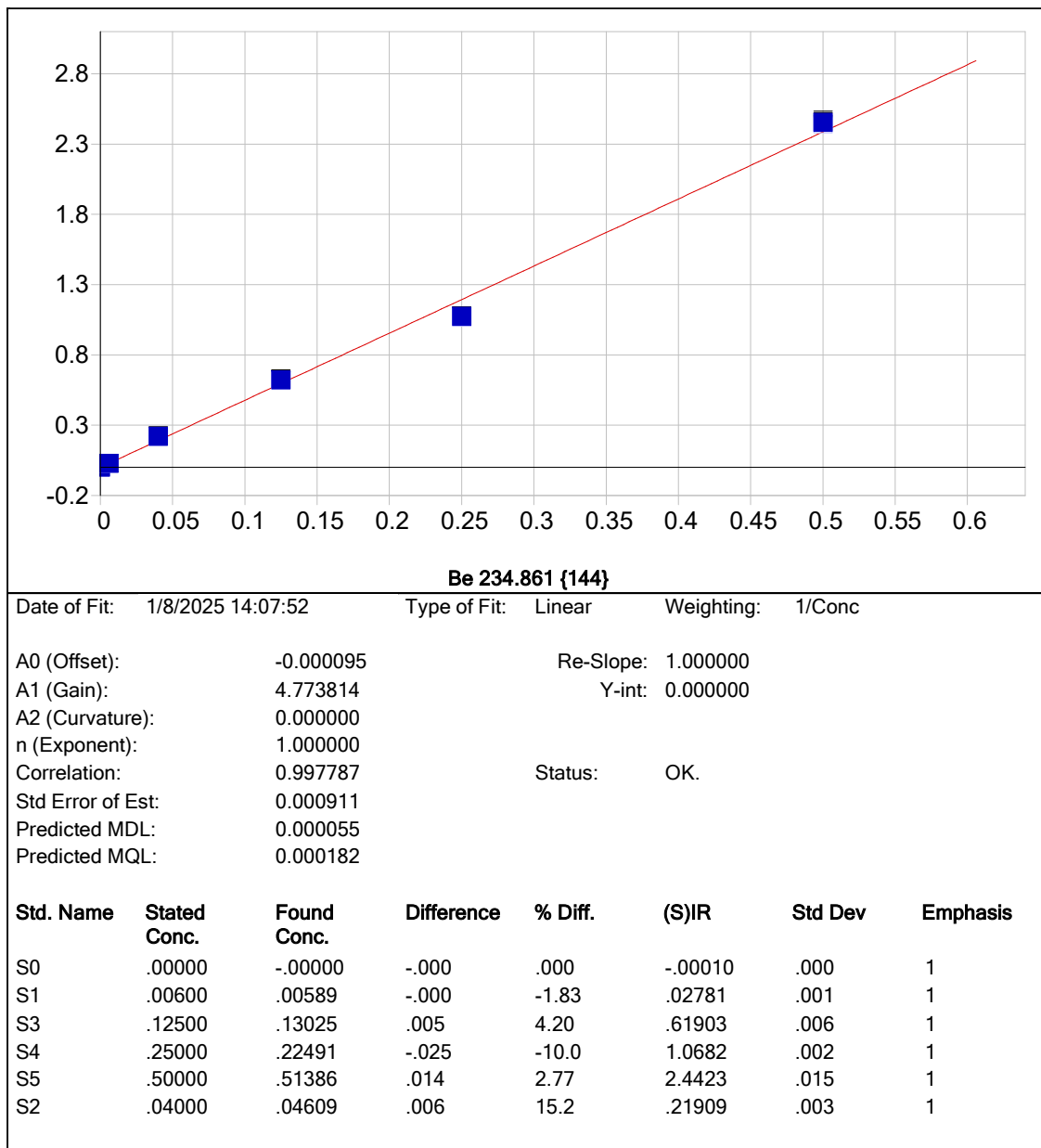
Date of Fit: 1/8/2025 14:07:52 Type of Fit: Linear Weighting: 1/Conc

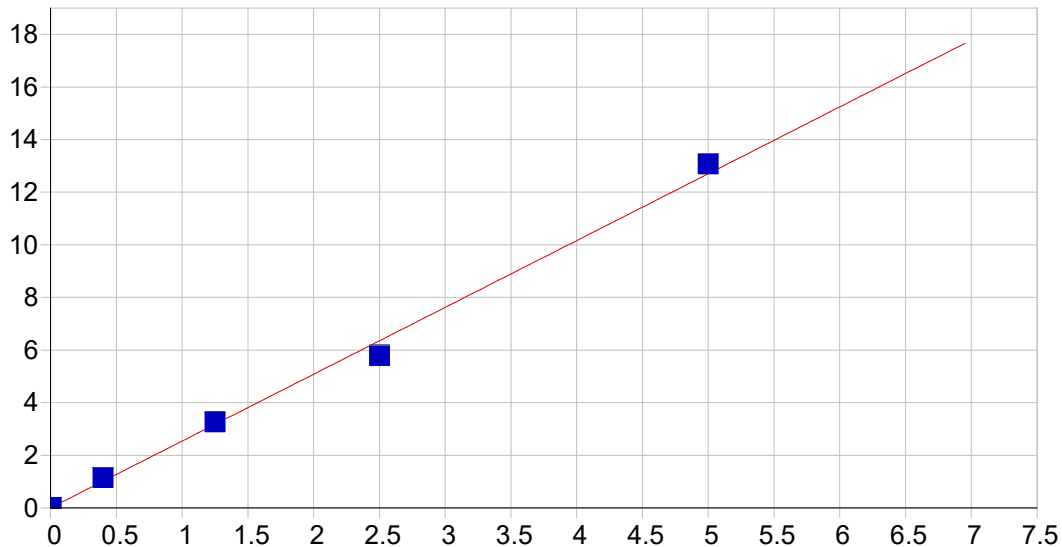
A0 (Offset): 0.000286 Re-Slope: 1.000000  
A1 (Gain): 0.181999 Y-int: 0.000000  
A2 (Curvature): 0.000000  
n (Exponent): 1.000000  
Correlation: 0.998816 Status: OK.  
Std Error of Est: 0.000330  
Predicted MDL: 0.001492  
Predicted MQL: 0.004973

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR  | Std Dev | Emphasis |
|-----------|--------------|-------------|------------|---------|--------|---------|----------|
| S0        | .00000       | -.00000     | -.000      | .000    | .00029 | .000    | 1        |
| S1        | .05000       | .04853      | -.001      | -2.93   | .00914 | .000    | 1        |
| S3        | 2.5000       | 2.5812      | .081       | 3.25    | .47130 | .002    | 1        |
| S4        | 5.0000       | 4.6332      | -.367      | -7.34   | .84599 | .002    | 1        |
| S5        | 10.000       | 10.196      | .196       | 1.96    | 1.8609 | .006    | 1        |
| S2        | .80000       | .89082      | .091       | 11.4    | .16281 | .001    | 1        |







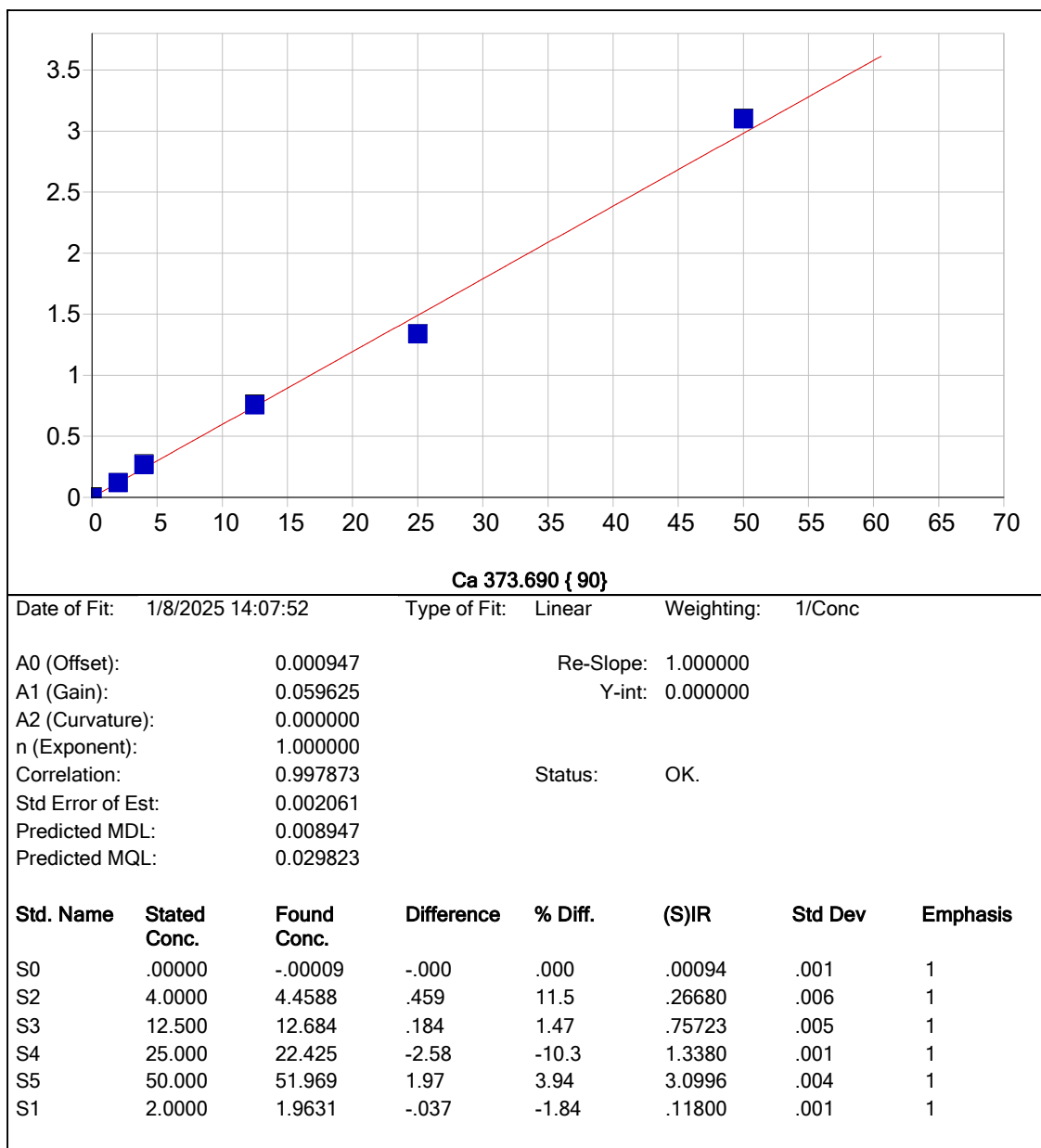


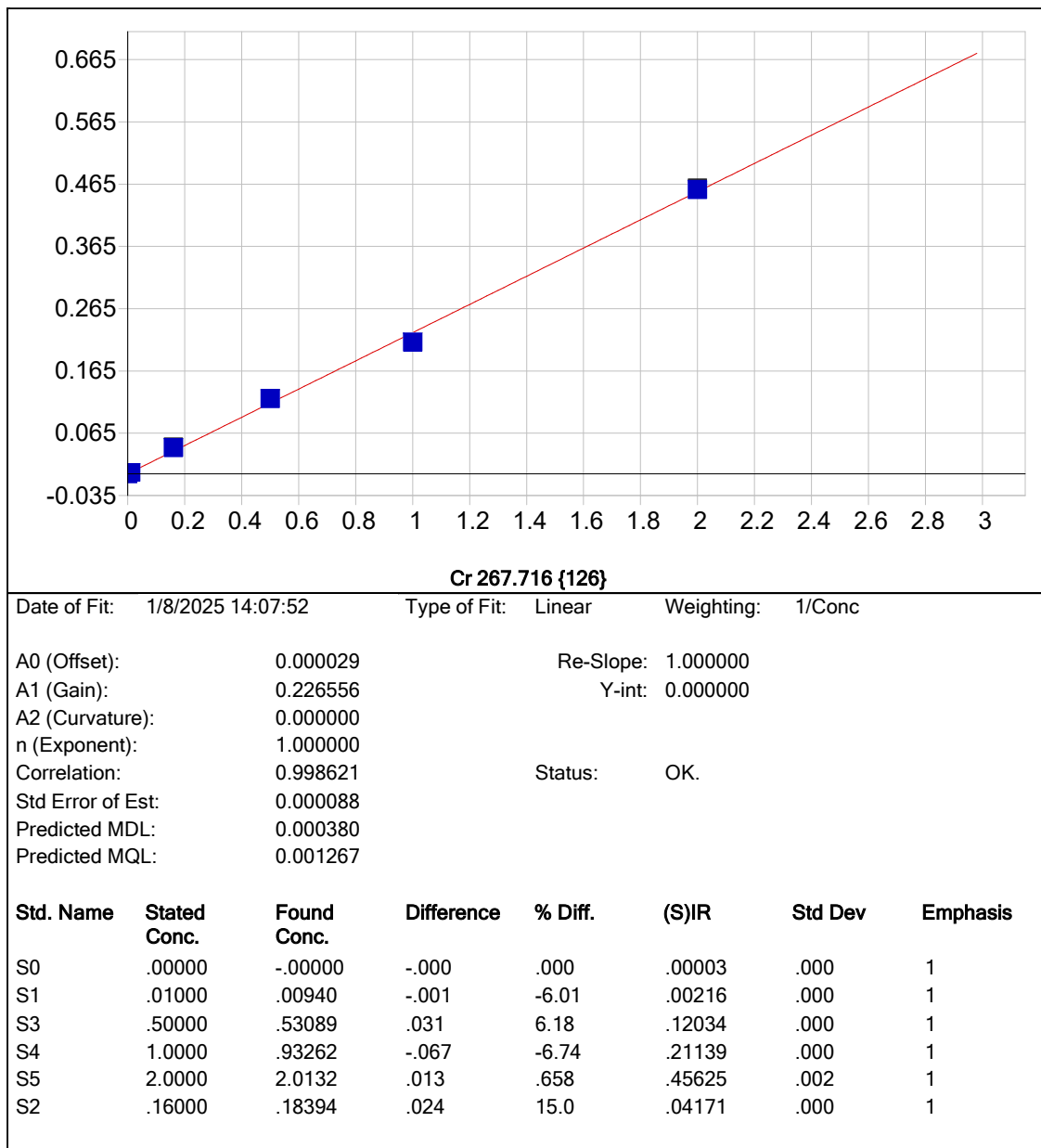
**Cd 226.502 {449}**

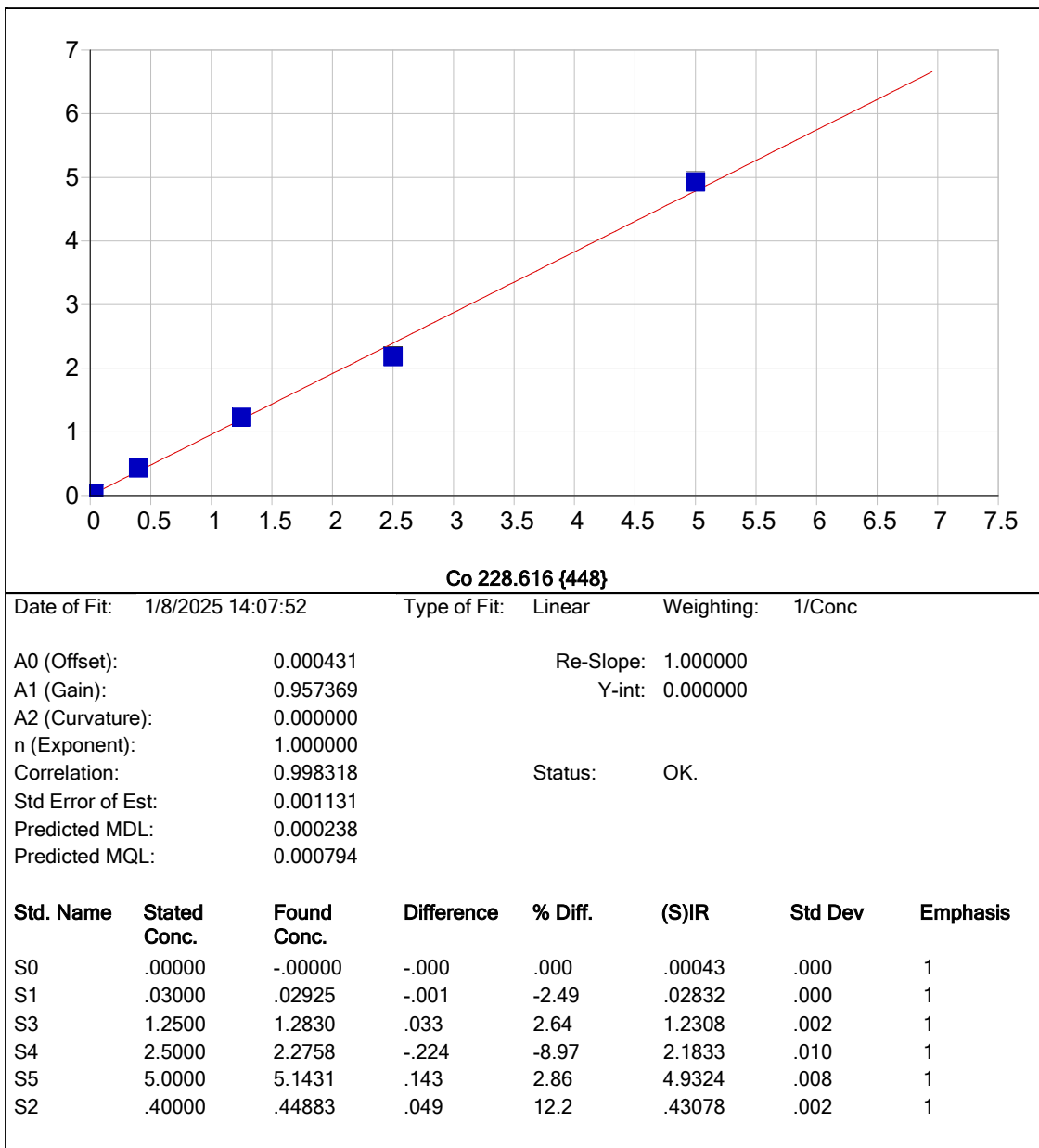
Date of Fit: 1/8/2025 14:07:52 Type of Fit: Linear Weighting: 1/Conc

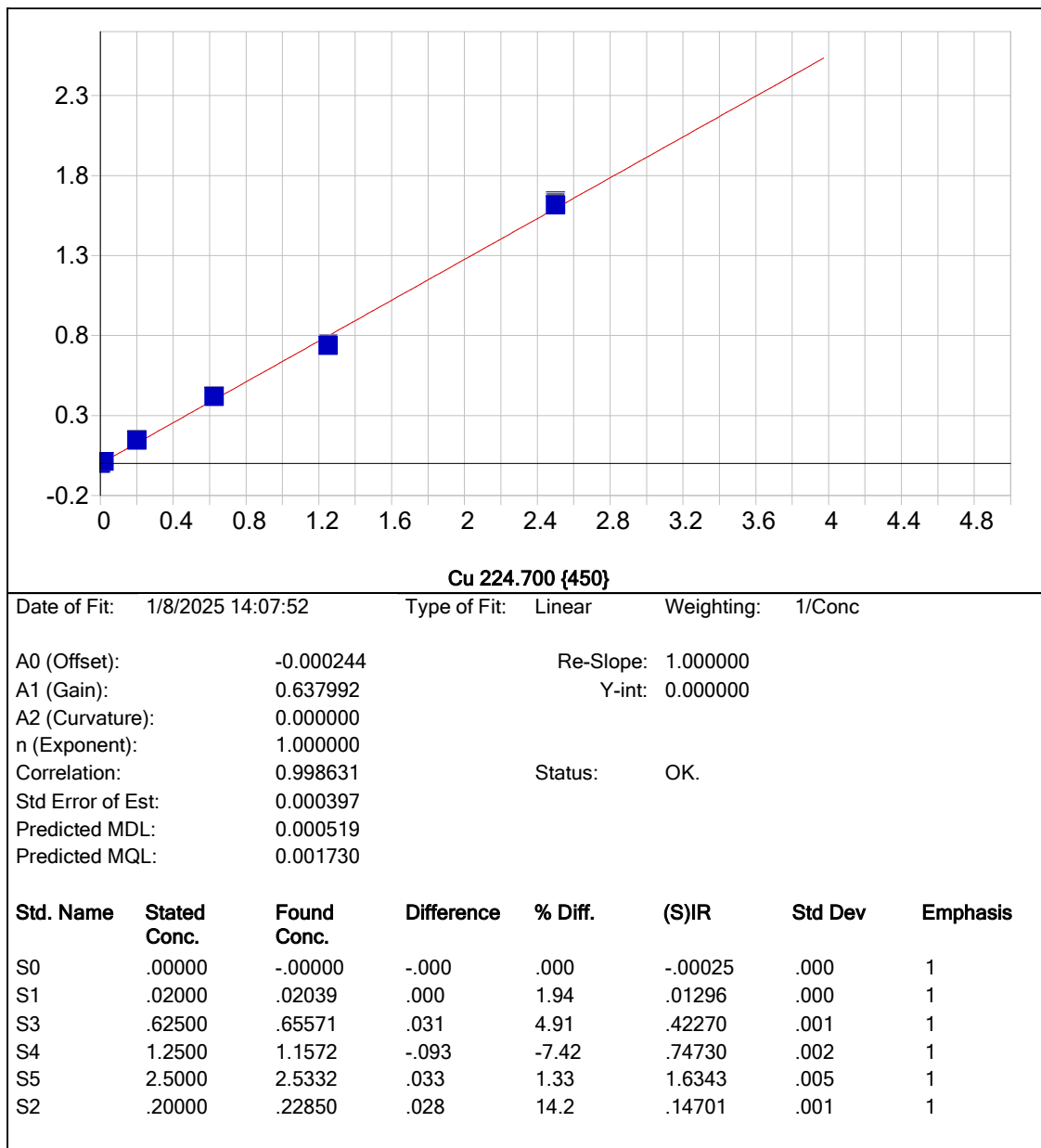
A0 (Offset): 0.000670 Re-Slope: 1.000000  
A1 (Gain): 2.540374 Y-int: 0.000000  
A2 (Curvature): 0.000000  
n (Exponent): 1.000000  
Correlation: 0.998309 Status: OK.  
Std Error of Est: 0.001343  
Predicted MDL: 0.000101  
Predicted MQL: 0.000337

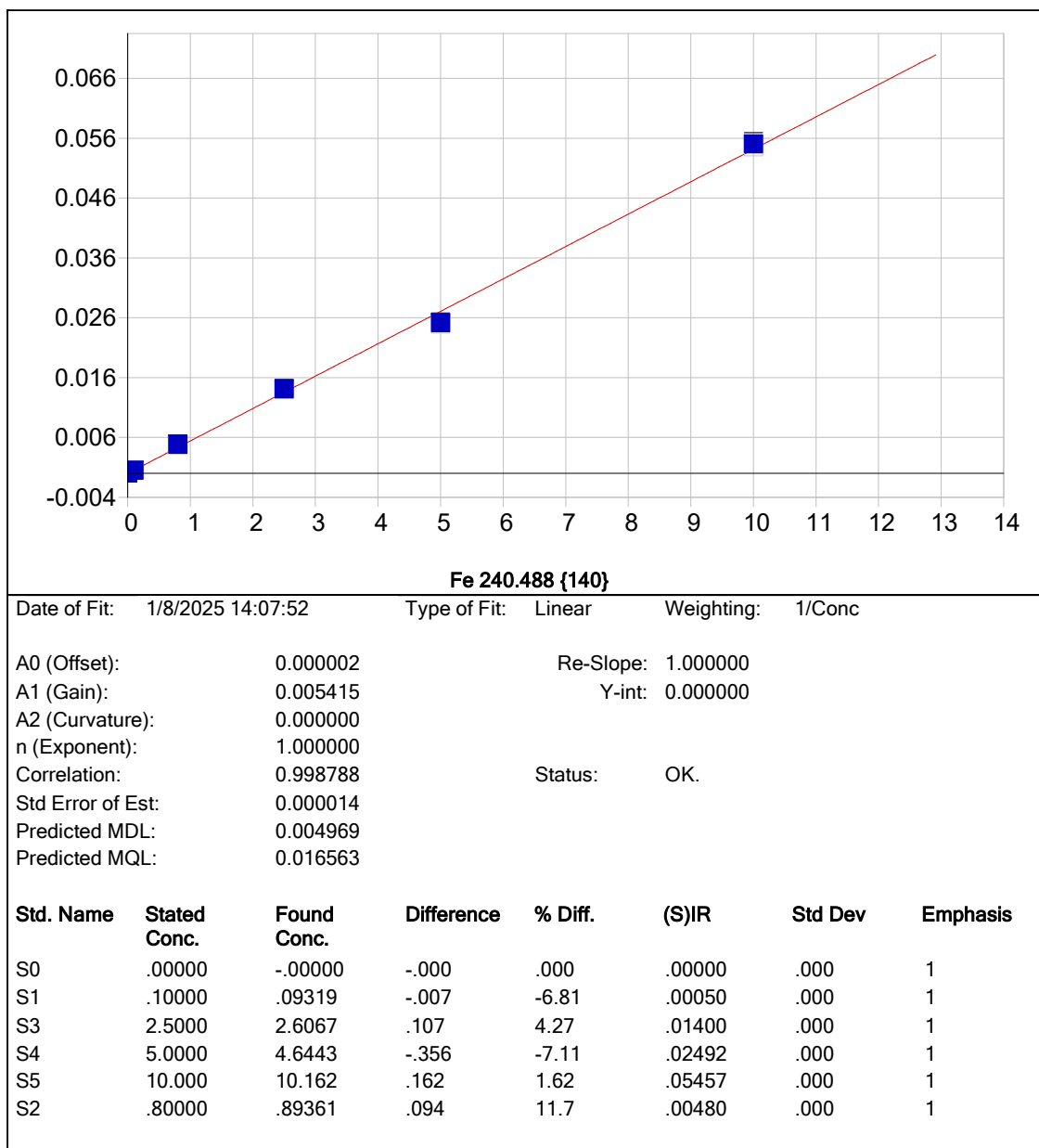
| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR  | Std Dev | Emphasis |
|-----------|--------------|-------------|------------|---------|--------|---------|----------|
| S0        | .00000       | -.00000     | -.000      | .000    | .00067 | .000    | 1        |
| S1        | .00600       | .00578      | -.000      | -3.61   | .01543 | .000    | 1        |
| S3        | 1.2500       | 1.2825      | .033       | 2.60    | 3.2613 | .006    | 1        |
| S4        | 2.5000       | 2.2765      | -.224      | -8.94   | 5.7887 | .024    | 1        |
| S5        | 5.0000       | 5.1412      | .141       | 2.82    | 13.071 | .021    | 1        |
| S2        | .40000       | .45003      | .050       | 12.5    | 1.1447 | .003    | 1        |

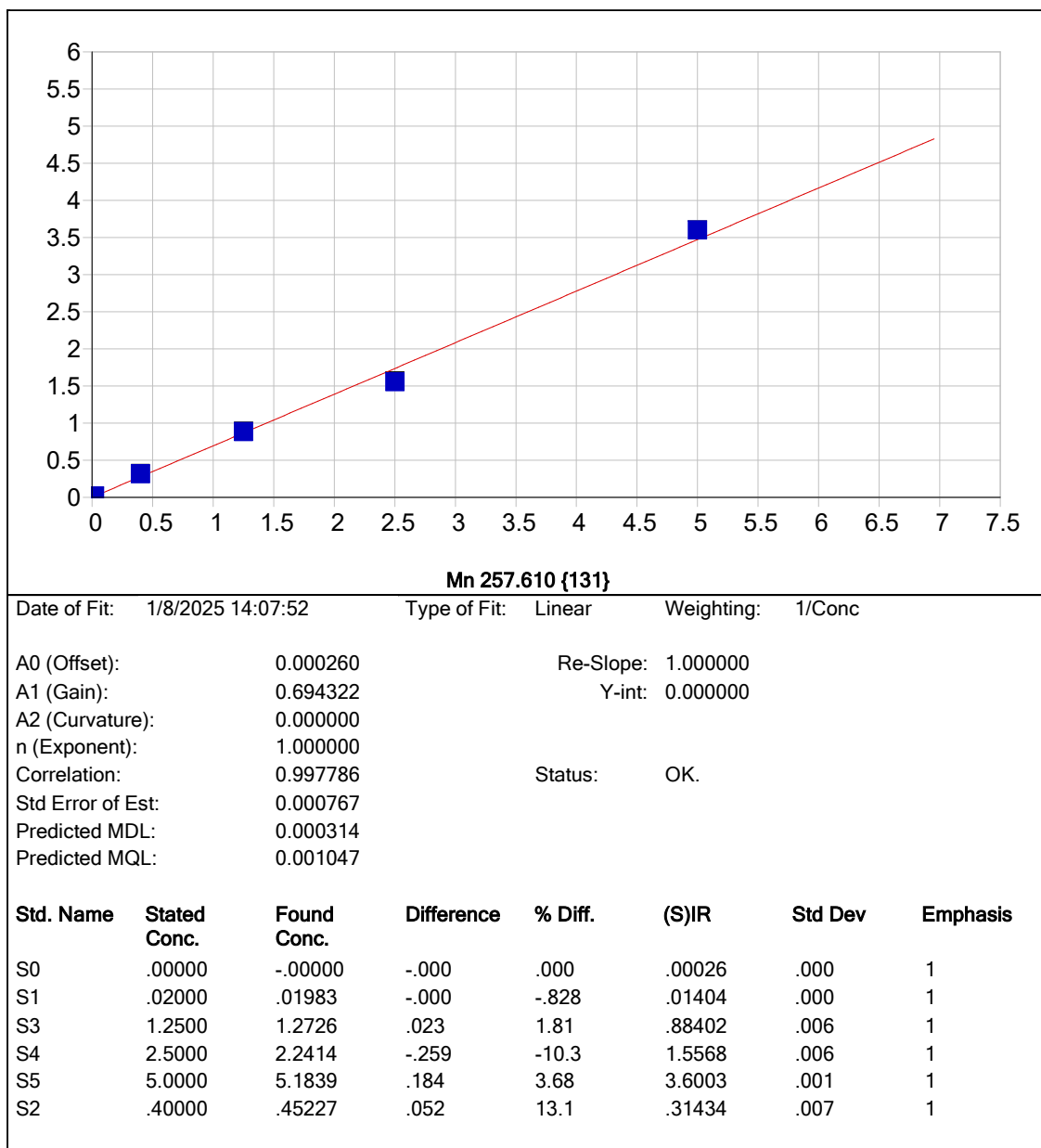


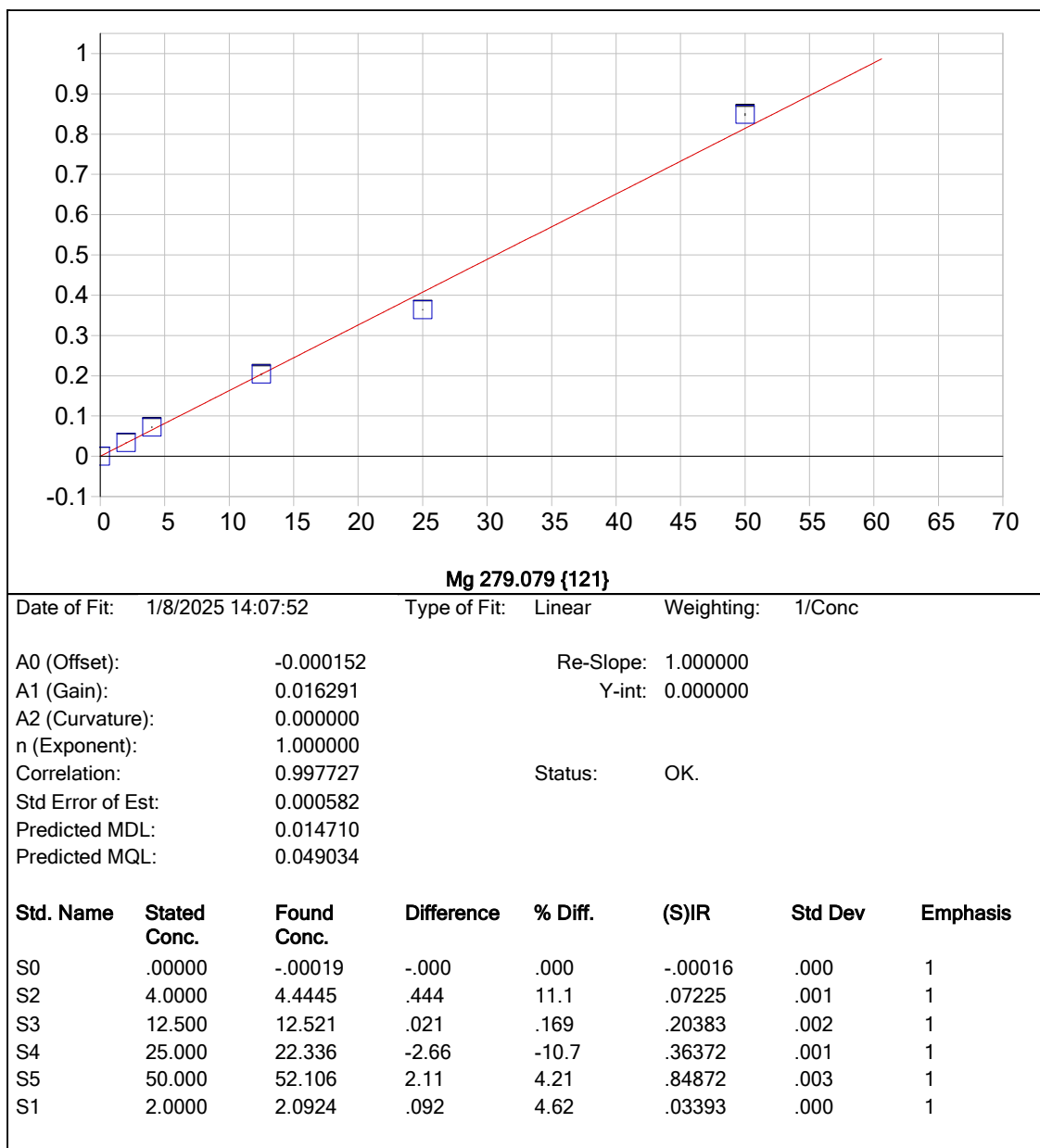


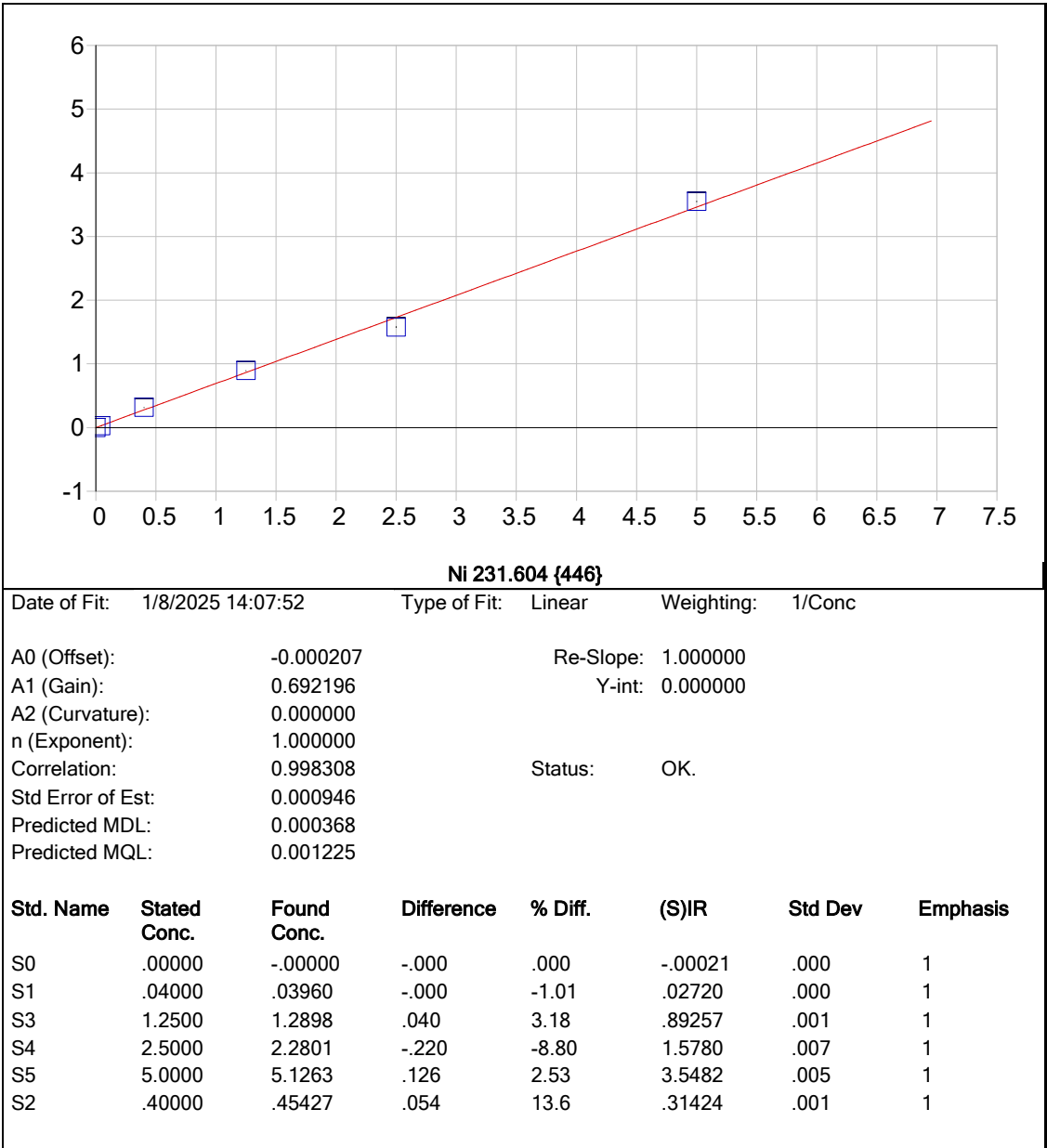


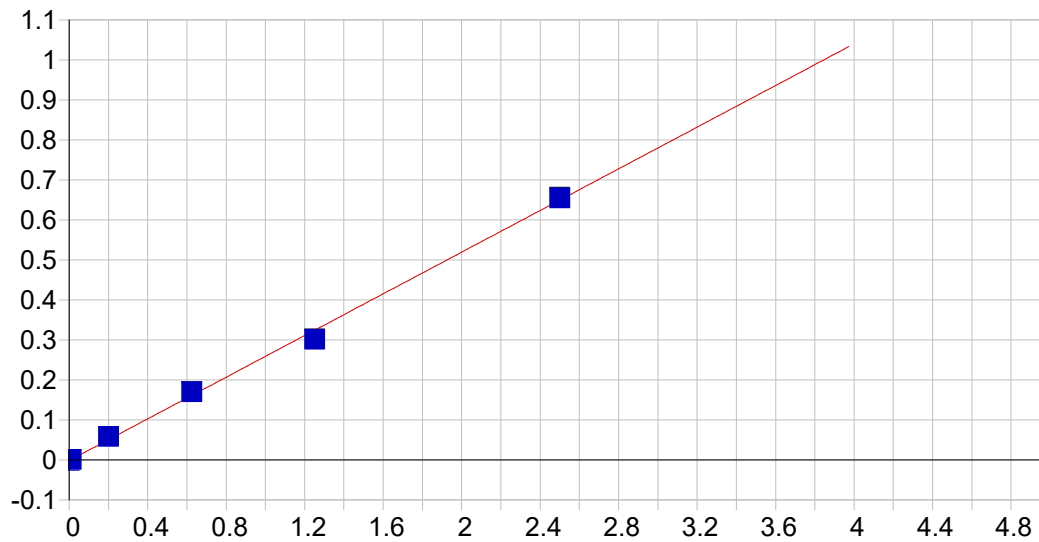










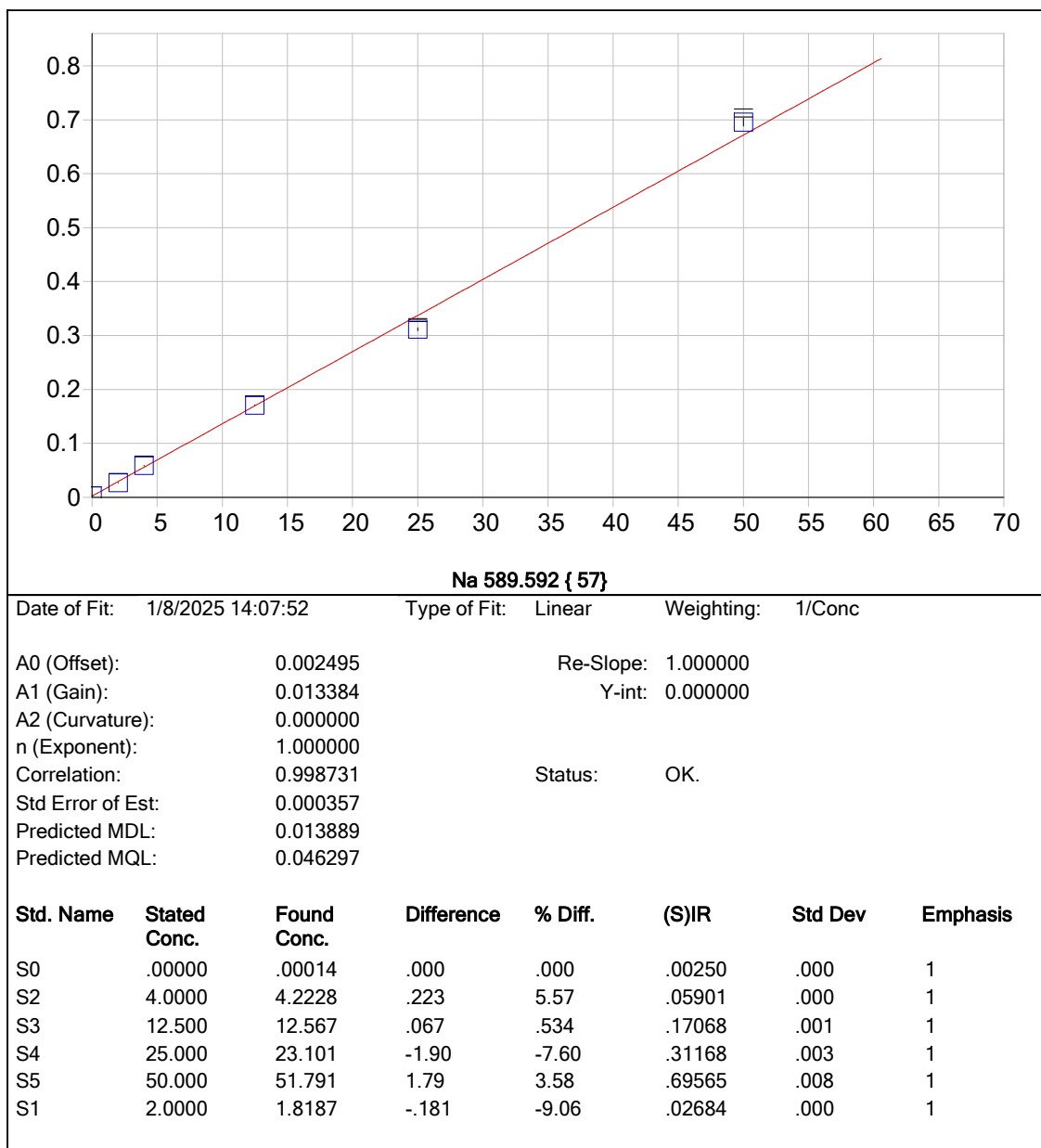


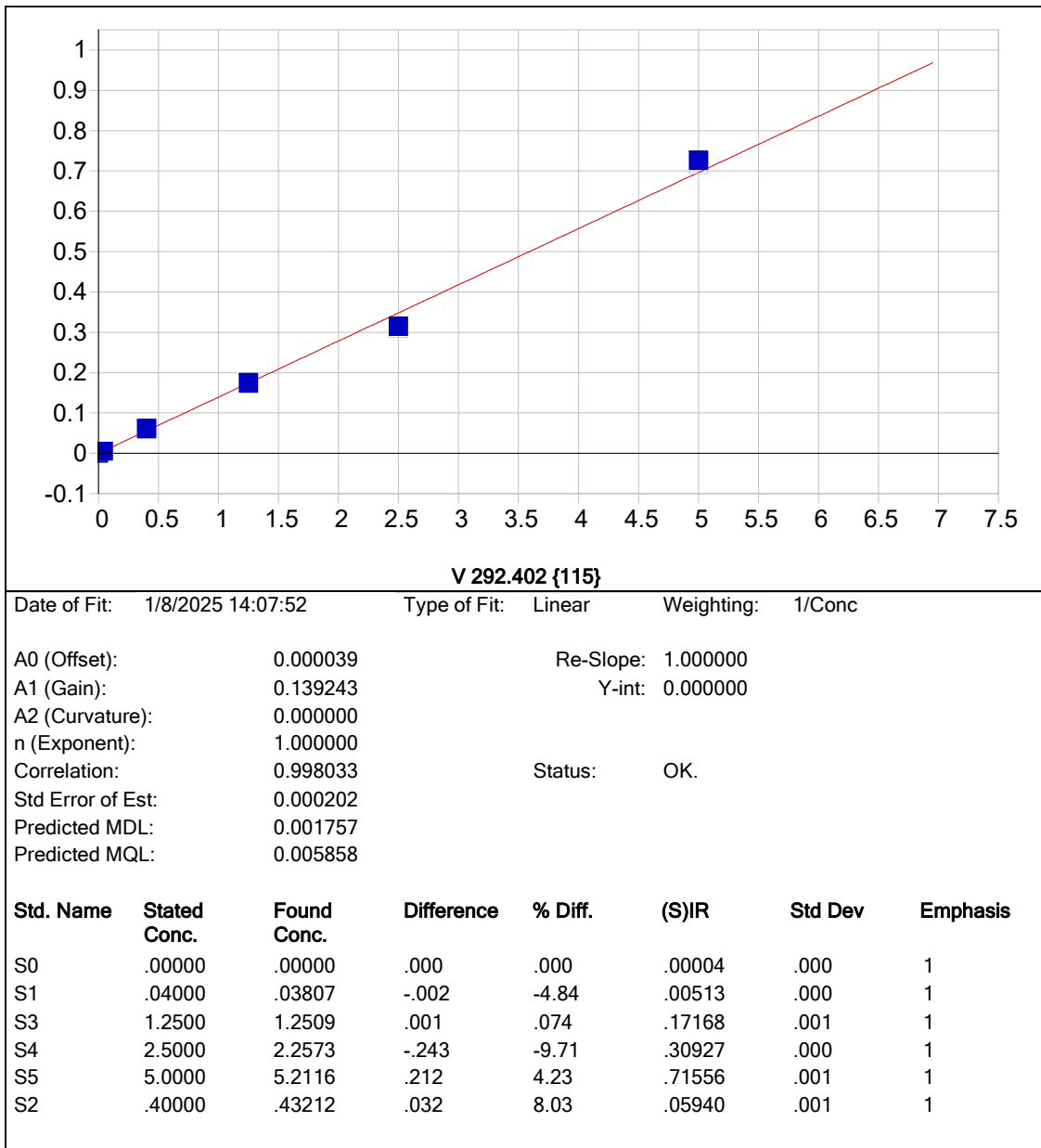
Ag 328.068 {103}

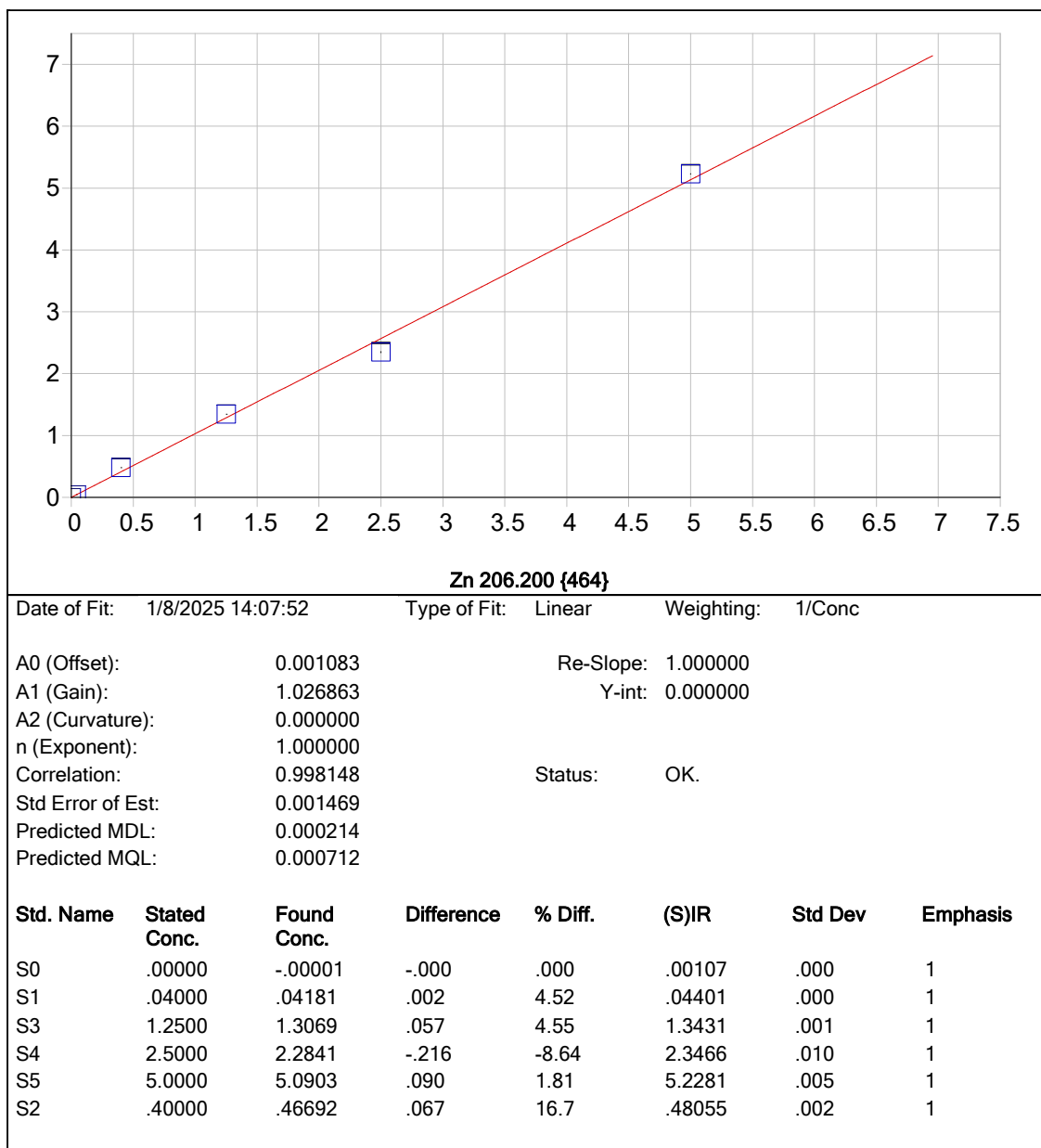
Date of Fit: 1/8/2025 14:07:52 Type of Fit: Linear Weighting: 1/Conc

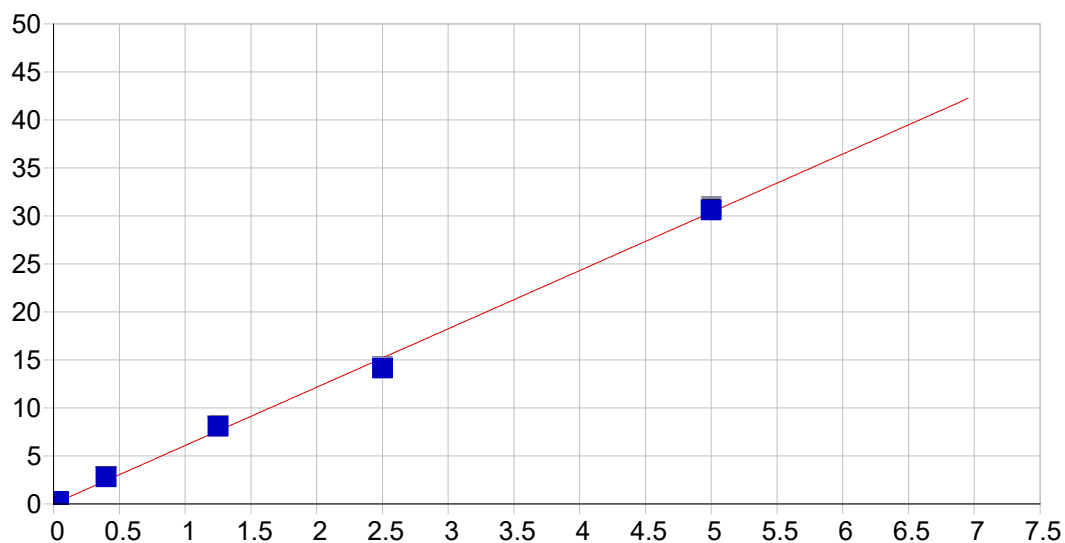
A0 (Offset): -0.001577 Re-Slope: 1.000000  
A1 (Gain): 0.260452 Y-int: 0.000000  
A2 (Curvature): 0.000000  
n (Exponent): 1.000000  
Correlation: 0.998580 Status: OK.  
Std Error of Est: 0.000115  
Predicted MDL: 0.000432  
Predicted MQL: 0.001439

| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR   | Std Dev | Emphasis |
|-----------|--------------|-------------|------------|---------|---------|---------|----------|
| S0        | .00000       | -.00000     | -.000      | .000    | -.00158 | .000    | 1        |
| S1        | .01000       | .01013      | .000       | 1.26    | .00104  | .000    | 1        |
| S3        | .62500       | .66075      | .036       | 5.72    | .16987  | .000    | 1        |
| S4        | 1.2500       | 1.1625      | -.087      | -7.00   | .29991  | .001    | 1        |
| S5        | 2.5000       | 2.5213      | .021       | .852    | .65251  | .001    | 1        |
| S2        | .20000       | .23032      | .030       | 15.2    | .05820  | .000    | 1        |







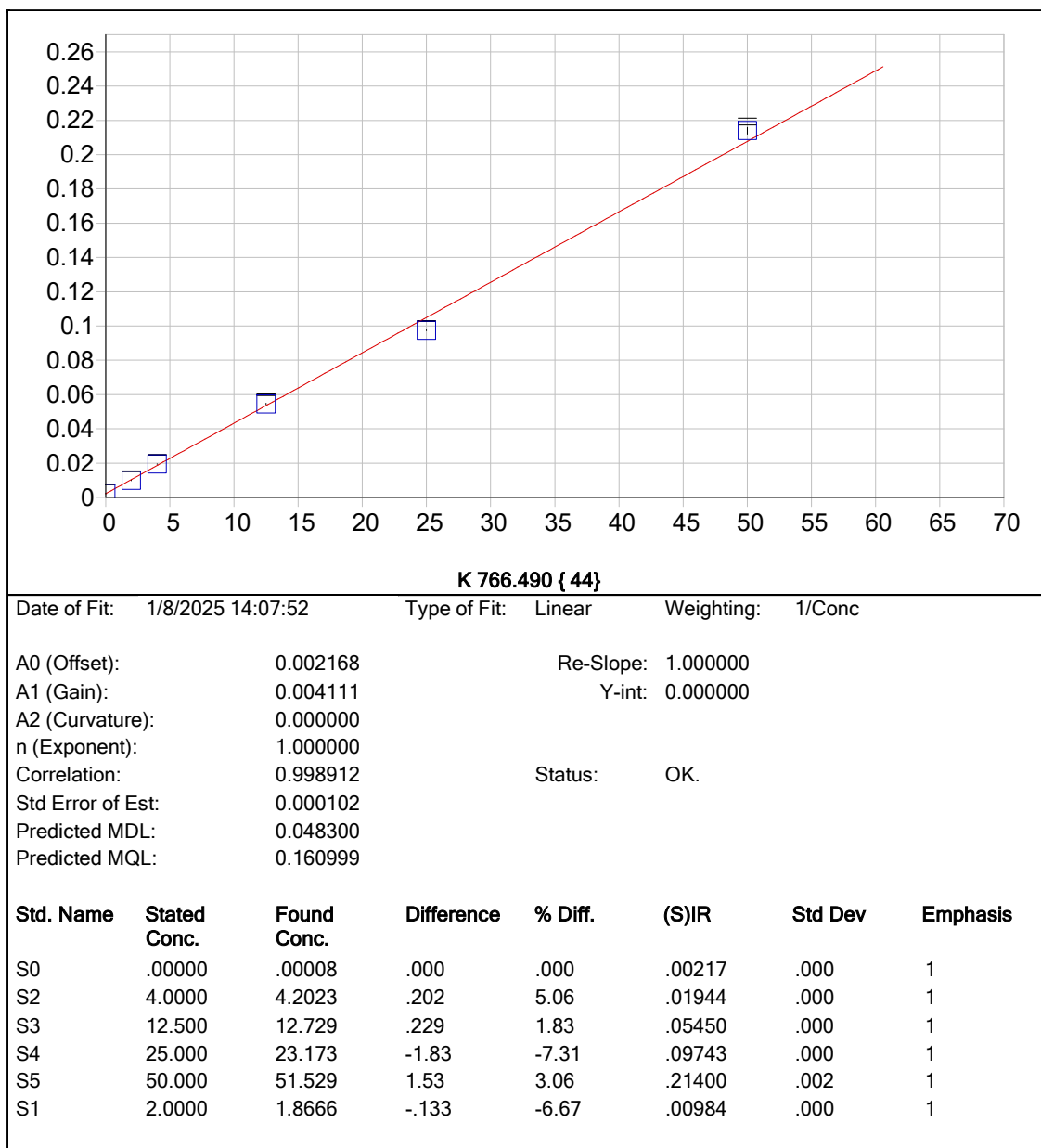


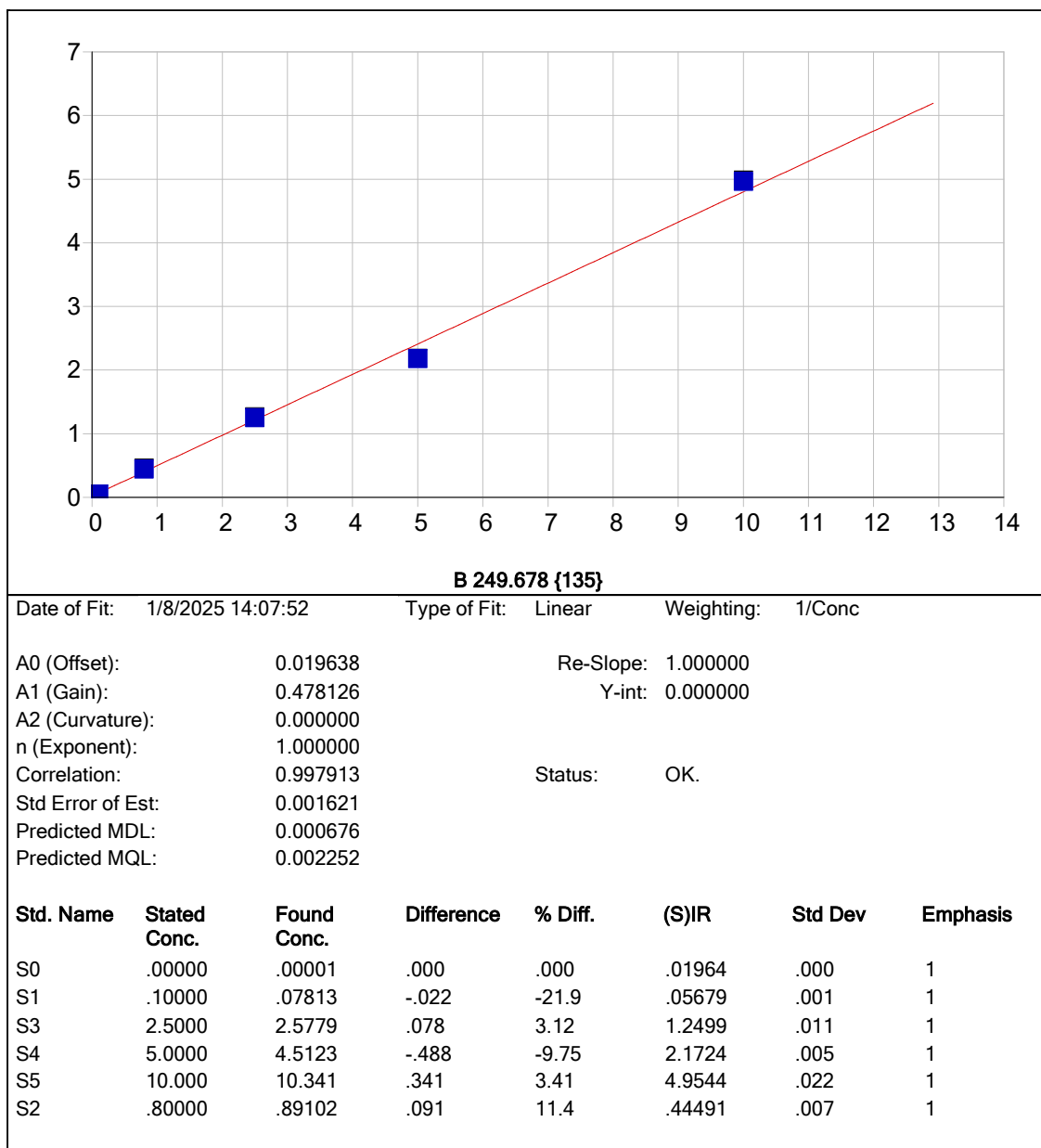
**Zn 213.856 {158}**

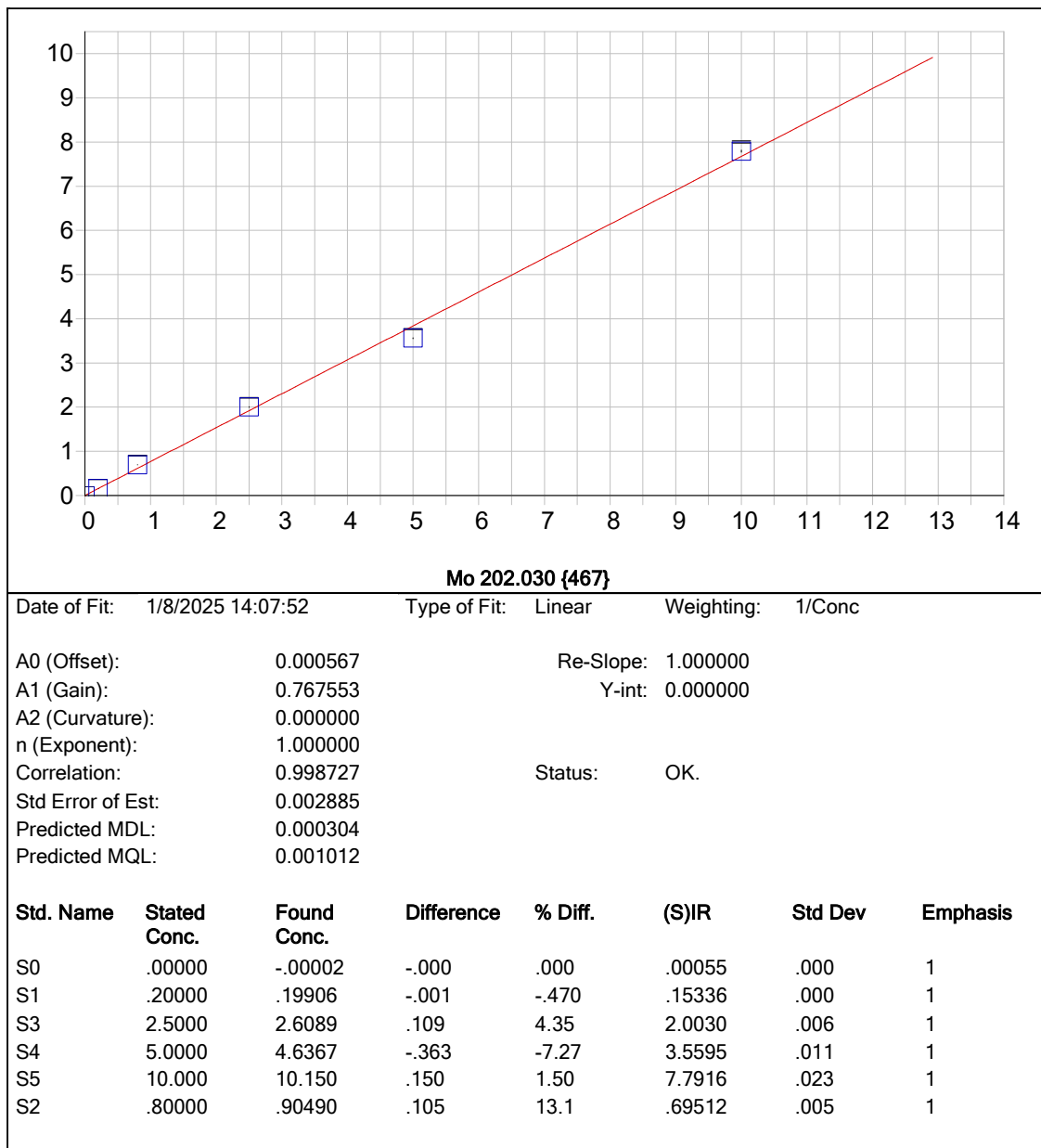
Date of Fit: 1/8/2025 14:07:52 Type of Fit: Linear Weighting: 1/Conc

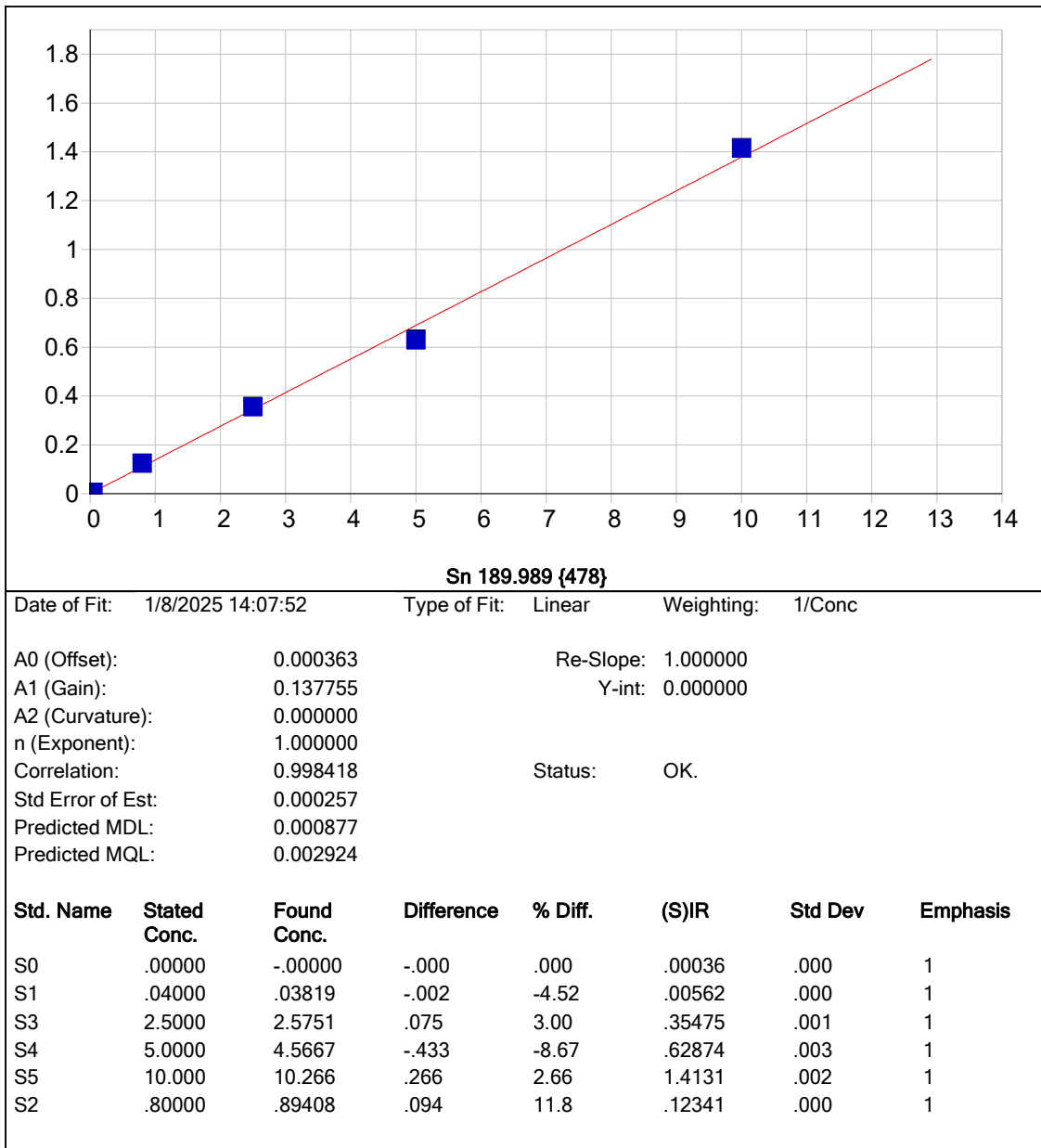
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A1 (Gain): 6.075244 Y-int: 0.000000  
A2 (Curvature): 0.000000  
n (Exponent): 1.000000  
Correlation: 0.998608 Status: OK.  
Std Error of Est: 0.007583  
Predicted MDL: 0.000194  
Predicted MQL: 0.000646

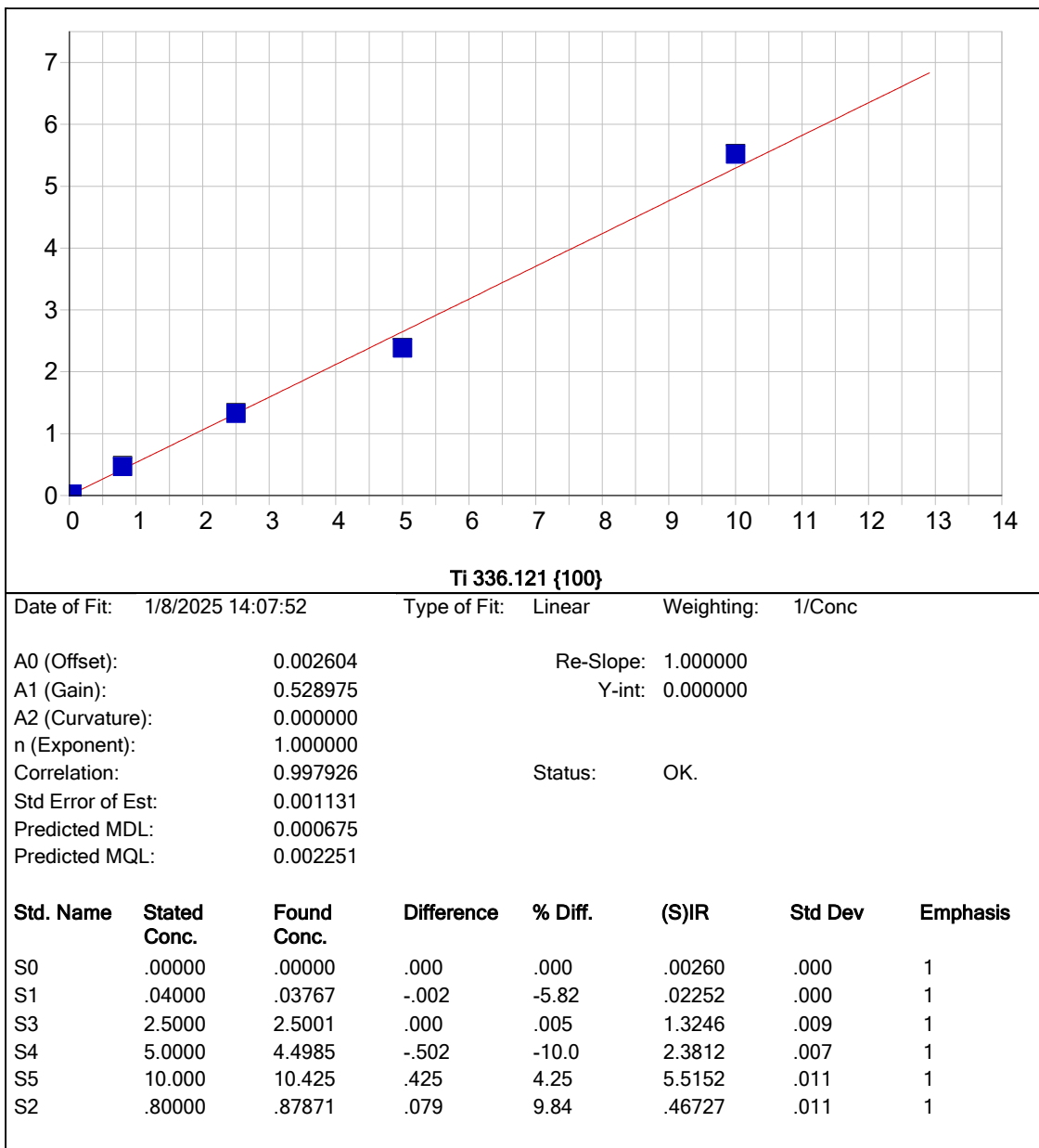
| Std. Name | Stated Conc. | Found Conc. | Difference | % Diff. | (S)IR  | Std Dev | Emphasis |
|-----------|--------------|-------------|------------|---------|--------|---------|----------|
| S0        | .00000       | -.00001     | -.000      | .000    | .00705 | .001    | 1        |
| S1        | .04000       | .04009      | .000       | .215    | .25232 | .003    | 1        |
| S3        | 1.2500       | 1.3282      | .078       | 6.25    | 8.1289 | .043    | 1        |
| S4        | 2.5000       | 2.3260      | -.174      | -6.96   | 14.244 | .024    | 1        |
| S5        | 5.0000       | 5.0366      | .037       | .732    | 30.817 | .117    | 1        |
| S2        | .40000       | .45910      | .059       | 14.8    | 2.8131 | .012    | 1        |

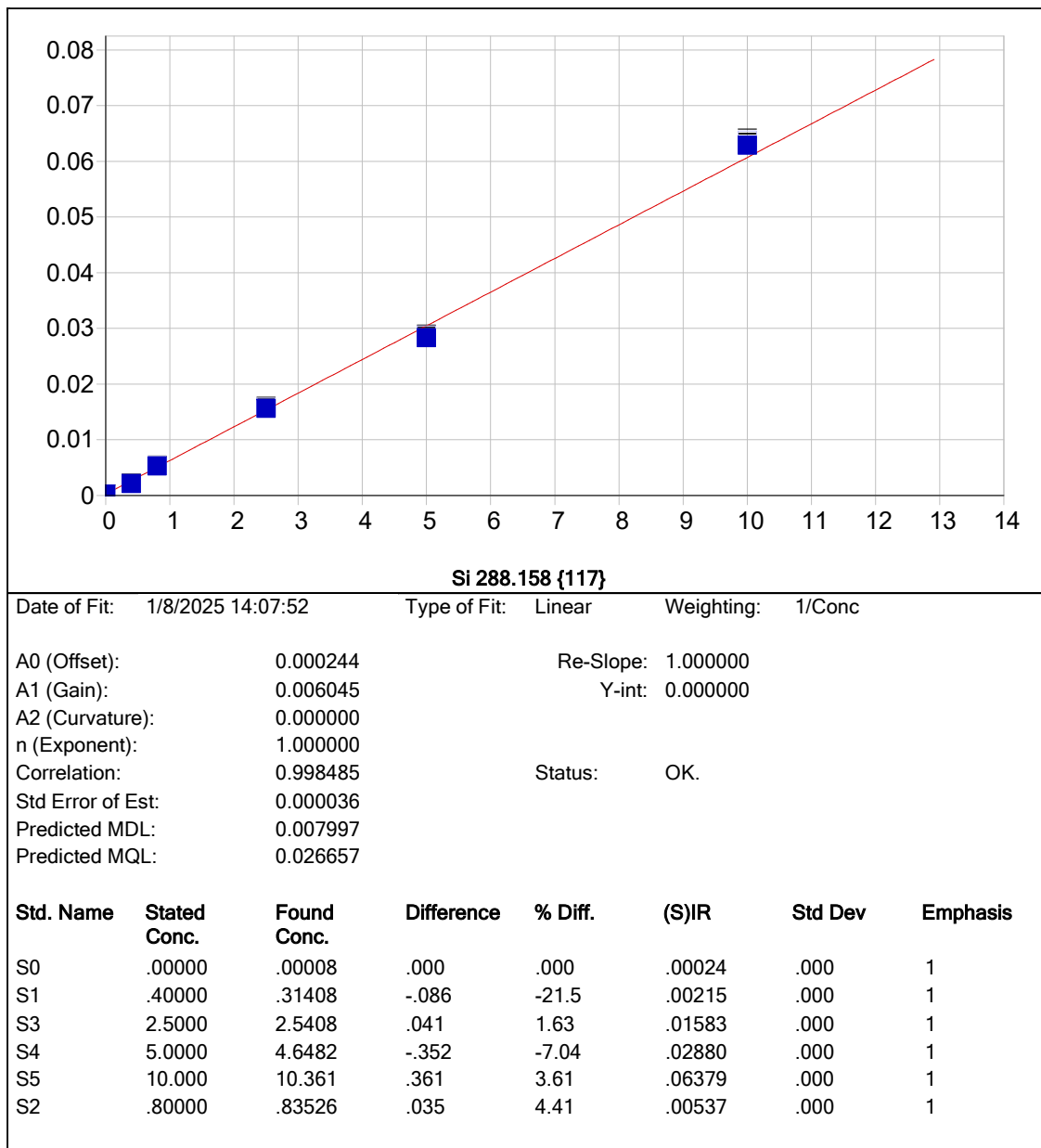


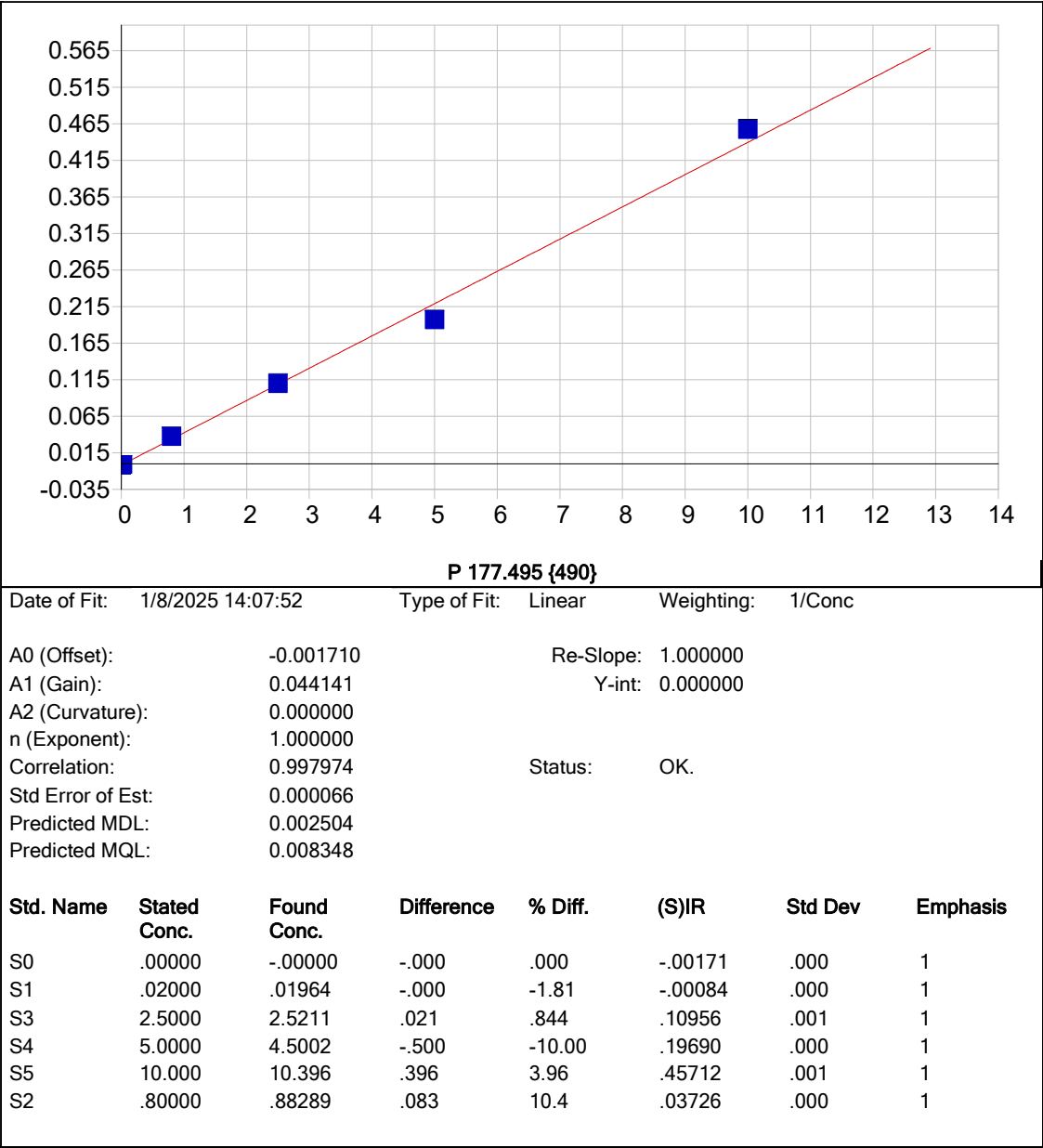


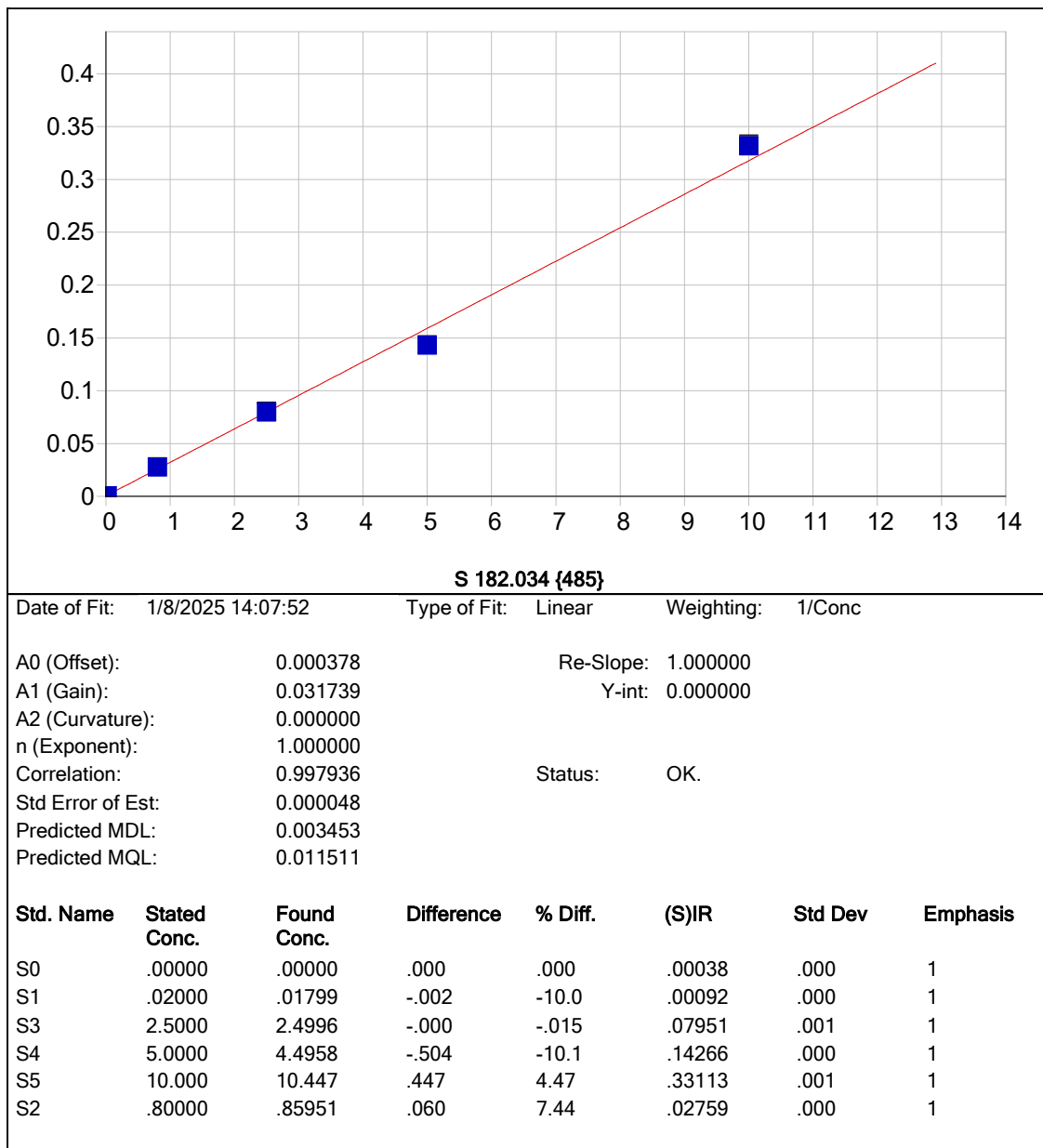


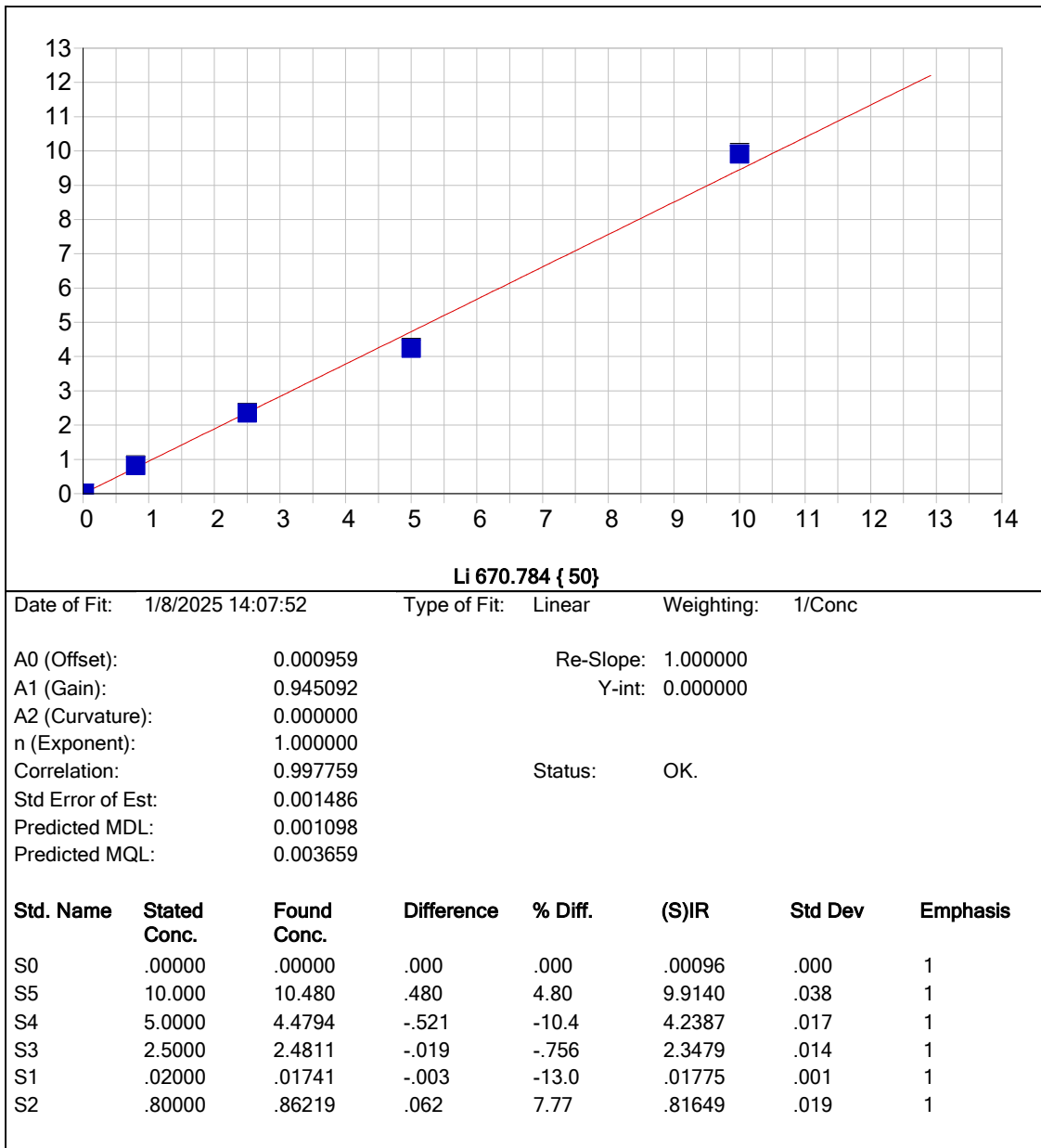






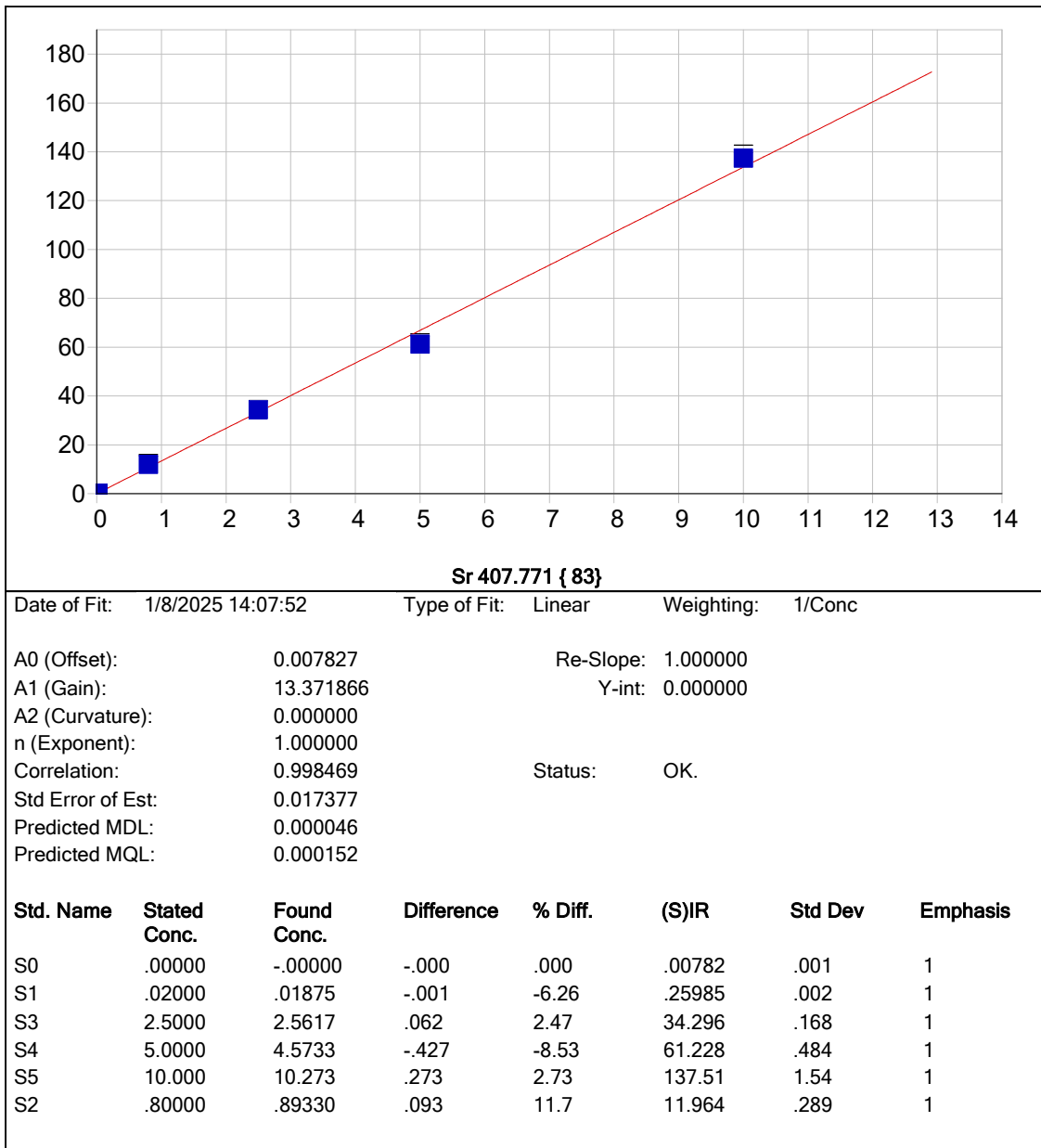


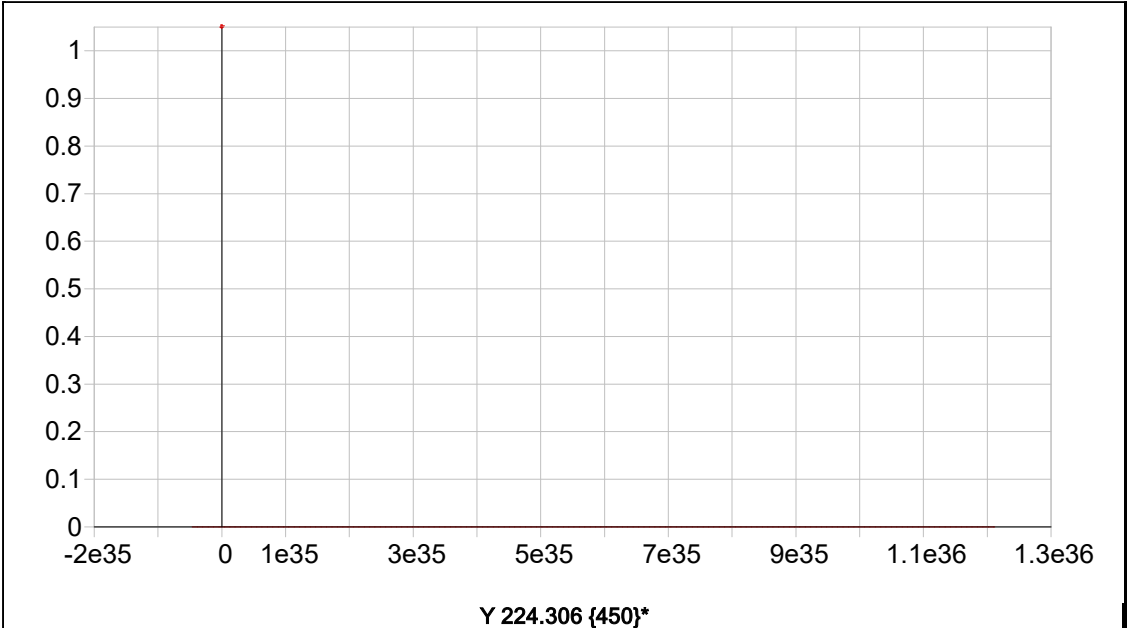




Date of Fit: 1/8/2025 14:07:52      Type of Fit: Linear      Weighting: 1/Conc

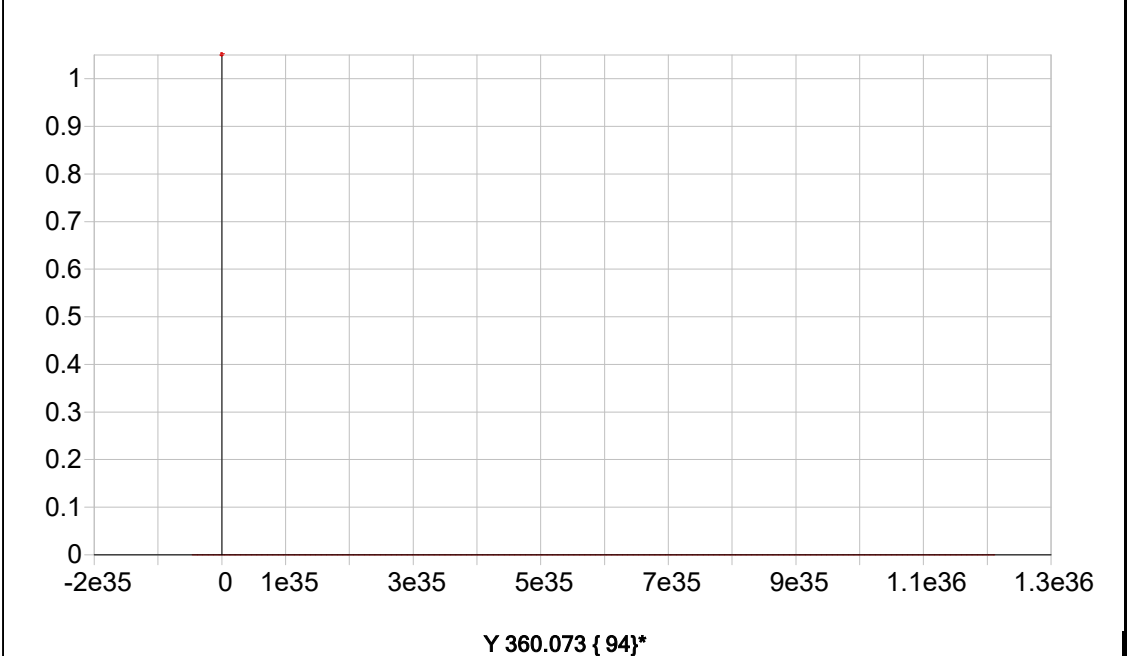
A0 (Offset): 0.000959      Re-Slope: 1.000000  
A1 (Gain): 0.945092      Y-int: 0.000000  
A2 (Curvature): 0.000000  
n (Exponent): 1.000000  
Correlation: 0.997759      Status: OK.  
Std Error of Est: 0.001486  
Predicted MDL: 0.001098  
Predicted MQL: 0.003659



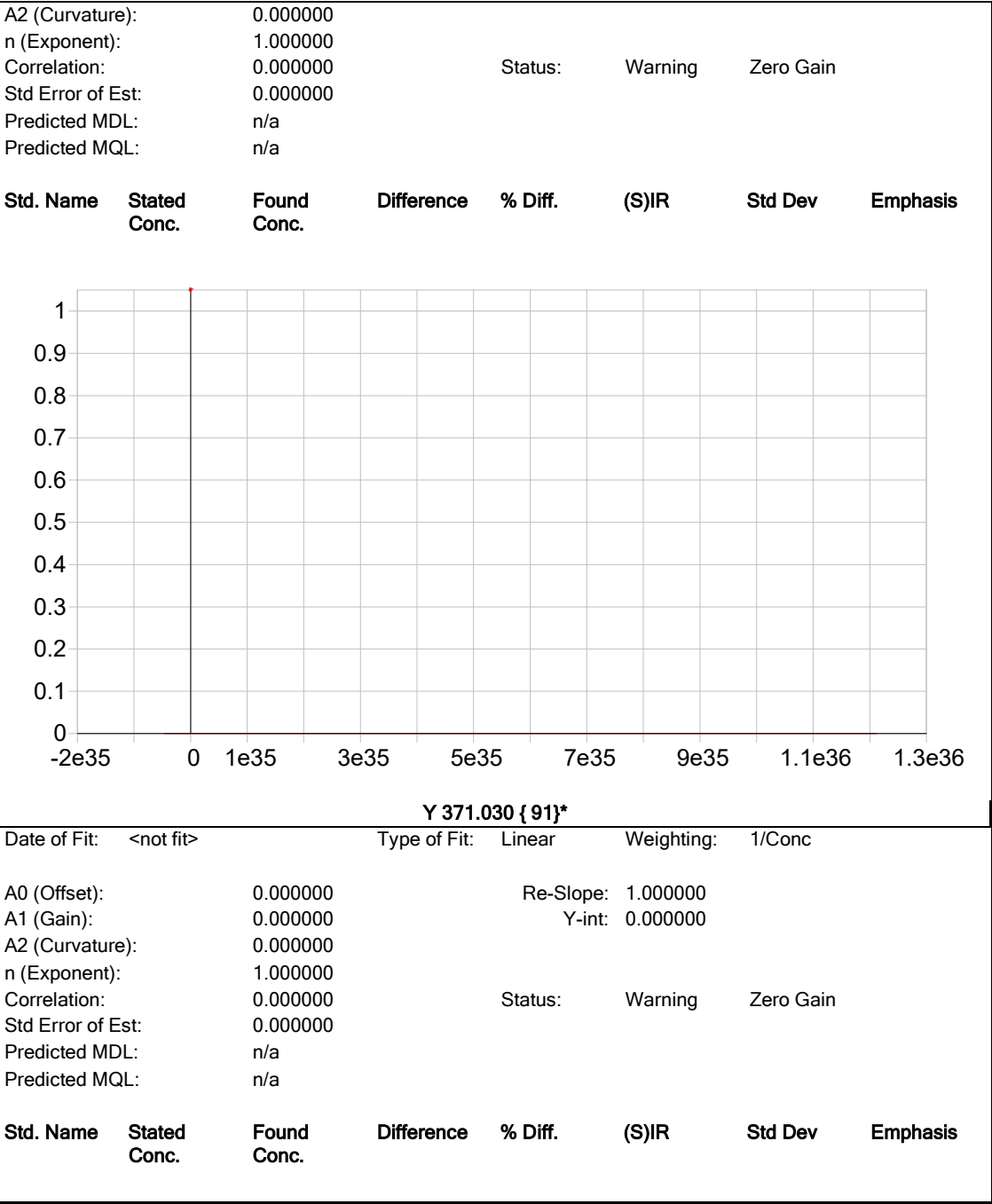


|                   |                   |              |          |            |        |
|-------------------|-------------------|--------------|----------|------------|--------|
| Date of Fit:      | 1/8/2025 14:07:52 | Type of Fit: | Linear   | Weighting: | 1/Conc |
| A0 (Offset):      | 0.000000          | 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 |
|-----------|--------------|-------------|------------|---------|-------|---------|----------|
|-----------|--------------|-------------|------------|---------|-------|---------|----------|



|              |           |              |          |            |        |
|--------------|-----------|--------------|----------|------------|--------|
| Date of Fit: | <not fit> | Type of Fit: | Linear   | Weighting: | 1/Conc |
| A0 (Offset): | 0.000000  | Re-Slope:    | 1.000000 |            |        |
| A1 (Gain):   | 0.000000  | Y-int:       | 0.000000 |            |        |





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

SOP ID : M200.7-Trace Elements-22

SDG No : N/A

Matrix : WATER

Pipette ID: ICP A

Balance ID : N/A

Filter paper ID : N/A

pH Strip ID : M6069

Hood ID : #3

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

Start Digest Date: 01/07/2025 Time : 10:15 Temp : 95 °C

End Digest Date: 01/07/2025 Time : 13:20 Temp : 95 °C

Digestion tube ID: M5595

Block thermometer ID: MET-DIG. #1

Dig Technician Signature: SKS

Supervisor Signature: [Signature]

Temp : 1. 95°C 2. N/A

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

| Chemical Used | ML/SAMPLE USED | Lot Number |
|---------------|----------------|------------|
| 1:1 HNO3      | 1.00           | MP83498    |
| 1:1 HCL       | 0.50           | MP83499    |
| N/A           | N/A            | N/A        |
| N/A           | N/A            | N/A        |
| N/A           | N/A            | N/A        |
| N/A           | N/A            | N/A        |
| N/A           | N/A            | N/A        |
| N/A           | N/A            | N/A        |
| N/A           | N/A            | N/A        |
| N/A           | N/A            | N/A        |

## Extraction Conformance/Non-Conformance Comments:

Hot Block # 1 Cell # 50 Temp: 95 C

| Date / Time    | Prepped Sample Relinquished By/Location | Received By/Location     |
|----------------|-----------------------------------------|--------------------------|
| 01/07/25 14:20 | SKS met digestion                       | [Signature] / Metals Lab |
|                | Preparation Group                       | Analysis Group           |

| Lab Sample ID | Client Sample ID          | pH | Initial Vol (ml) | Final Vol (ml) | Color Before | Color After | Clarity Before | Clarity After | Comment     | Prep Pos |
|---------------|---------------------------|----|------------------|----------------|--------------|-------------|----------------|---------------|-------------|----------|
| PB165970BL    | PBW970                    | <2 | 50               | 25             | Colorless    | Colorless   | Clear          | Clear         | N/A         | 1        |
| PB165970BS    | LCS970                    | <2 | 50               | 25             | Colorless    | Colorless   | Clear          | Clear         | M6000,M6009 | 2        |
| Q1013-01      | 001 WILLETS PT BLVD (JAN) | <2 | 50               | 25             | Colorless    | Colorless   | Clear          | Clear         | N/A         | 3        |
| Q1013-02      | 002 35TH AVE (JAN)        | <2 | 50               | 25             | Colorless    | Colorless   | Clear          | Clear         | N/A         | 4        |
| Q1013-02MS    | 002 35TH AVE (JAN)MS      | <2 | 50               | 25             | Colorless    | Colorless   | Clear          | Clear         | M6000,M6009 | 6        |
| Q1013-02MSD   | 002 35TH AVE (JAN)MSD     | <2 | 50               | 25             | Colorless    | Colorless   | Clear          | Clear         | M6000,M6009 | 7        |
| Q1013-02DUP   | 002 35TH AVE (JAN)DUP     | <2 | 50               | 25             | Colorless    | Colorless   | Clear          | Clear         | N/A         | 5        |

# WORKLIST(Hardcopy Internal Chain)

Worklist Name : PB165970

Worklist ID : 186788

Department : Digestion

Date : 01-07-2025 09:33:41

| Sample   | Customer Sample           | Matrix | Test            | Preservative       | Customer | Raw Sample Storage Location | Collect Date | Method |
|----------|---------------------------|--------|-----------------|--------------------|----------|-----------------------------|--------------|--------|
| Q1013-01 | 001 WILLETS PT BLVD (JAN) | Water  | Metals Group 10 | 1:1 HNO3 to pH < 2 | TULL01   | M11                         | 01/03/2025   | 200.7  |
| Q1013-02 | 002 35TH AVE (JAN)        | Water  | Metals Group 10 | 1:1 HNO3 to pH < 2 | TULL01   | M11                         | 01/03/2025   | 200.7  |

Date/Time 01/07/25 9:55

Raw Sample Received by: SLS. met digestion

Raw Sample Relinquished by: [Signature] SM

Date/Time 01/07/25 10:55

Raw Sample Received by: SLS. met digestion

Raw Sample Relinquished by: [Signature] SM

Instrument ID: P4

**Daily Analysis Runlog For Sequence/QC Batch ID # LB134201**

|                  |                                                 |              |                      |
|------------------|-------------------------------------------------|--------------|----------------------|
| Review By        | kareem                                          | Review On    | 1/9/2025 3:48:43 PM  |
| Supervise By     | Jaswal                                          | Supervise On | 1/20/2025 7:26:28 AM |
| <b>STD. NAME</b> | <b>STD REF.#</b>                                |              |                      |
| ICAL Standard    | mp83935 mp83936 mp83937 mp83938 mp83939 mp83941 |              |                      |
| ICV Standard     | mp83942                                         |              |                      |
| CCV Standard     | mp83945                                         |              |                      |
| ICSA Standard    | mp83943 mp83944                                 |              |                      |
| CRI Standard     | mp83941                                         |              |                      |
| LCS Standard     |                                                 |              |                      |
| Chk Standard     | mp83948 mp83949                                 |              |                      |

| Sr# | SampleId   | ClientID   | QcType | Date           | Comment                              | Operator | Status |
|-----|------------|------------|--------|----------------|--------------------------------------|----------|--------|
| 1   | S0         | S0         | CAL1   | 01/08/25 10:53 |                                      | Kareem   | OK     |
| 2   | S1         | S1         | CAL2   | 01/08/25 10:57 |                                      | Kareem   | OK     |
| 3   | S2         | S2         | CAL3   | 01/08/25 11:02 |                                      | Kareem   | OK     |
| 4   | S3         | S3         | CAL4   | 01/08/25 11:06 |                                      | Kareem   | OK     |
| 5   | S4         | S4         | CAL5   | 01/08/25 11:10 |                                      | Kareem   | OK     |
| 6   | S5         | S5         | CAL6   | 01/08/25 11:15 |                                      | Kareem   | OK     |
| 7   | ICV01      | ICV01      | ICV    | 01/08/25 11:19 | ICV Fail for Be,Ca,Mg,Mn,Se,Vanadium | Kareem   | OK     |
| 8   | LLICV01    | LLICV01    | LLICV  | 01/08/25 11:30 |                                      | Kareem   | OK     |
| 9   | ICB01      | ICB01      | ICB    | 01/08/25 11:34 |                                      | Kareem   | OK     |
| 10  | CRI01      | CRI01      | CRDL   | 01/08/25 11:38 |                                      | Kareem   | OK     |
| 11  | ICSA01     | ICSA01     | ICSA   | 01/08/25 11:43 |                                      | Kareem   | OK     |
| 12  | ICSAB01    | ICSAB01    | ICSAB  | 01/08/25 11:47 |                                      | Kareem   | OK     |
| 13  | ICSADL     | ICSADL     | ICSA   | 01/08/25 11:51 |                                      | Kareem   | OK     |
| 14  | ICSABDL    | ICSABDL    | ICSAB  | 01/08/25 11:55 |                                      | Kareem   | OK     |
| 15  | CCV01      | CCV01      | CCV    | 01/08/25 12:00 |                                      | Kareem   | OK     |
| 16  | CCB01      | CCB01      | CCB    | 01/08/25 12:04 |                                      | Kareem   | OK     |
| 17  | PB165970BL | PB165970BL | MB     | 01/08/25 12:08 |                                      | Kareem   | OK     |
|     |            |            |        |                |                                      |          |        |

Instrument ID: P4

**Daily Analysis Runlog For Sequence/QC Batch ID # LB134201**

|              |        |              |                      |
|--------------|--------|--------------|----------------------|
| Review By    | kareem | Review On    | 1/9/2025 3:48:43 PM  |
| Supervise By | Jaswal | Supervise On | 1/20/2025 7:26:28 AM |

| STD. NAME     | STD REF.#                                       |
|---------------|-------------------------------------------------|
| ICAL Standard | mp83935 mp83936 mp83937 mp83938 mp83939 mp83941 |
| ICV Standard  | mp83942                                         |
| CCV Standard  | mp83945                                         |
| ICSA Standard | mp83943 mp83944                                 |
| CRI Standard  | mp83941                                         |
| LCS Standard  |                                                 |
| Chk Standard  | mp83948 mp83949                                 |

|    |             |                    |     |                |                                                           |        |        |
|----|-------------|--------------------|-----|----------------|-----------------------------------------------------------|--------|--------|
| 18 | PB165970BS  | PB165970BS         | LCS | 01/08/25 12:13 | 0.1ml of m6010 and m6001 were added to 10ml of the sample | Kareem | OK     |
| 19 | Q1013-01    | 001 WILLETS PT BLV | SAM | 01/08/25 12:17 |                                                           | Kareem | OK     |
| 20 | Q1013-02    | 002 35TH AVE (JAN) | SAM | 01/08/25 12:21 |                                                           | Kareem | OK     |
| 21 | Q1013-02DUP | 002 35TH AVE (JAN) | DUP | 01/08/25 12:25 |                                                           | Kareem | OK     |
| 22 | Q1013-02L   | 002 35TH AVE (JAN) | SD  | 01/08/25 12:30 |                                                           | Kareem | OK     |
| 23 | Q1013-02MS  | 002 35TH AVE (JAN) | MS  | 01/08/25 12:34 | 0.1ml of m6010 and m6001 were added to 10ml of the sample | Kareem | OK     |
| 24 | Q1013-02MSD | 002 35TH AVE (JAN) | MSD | 01/08/25 12:38 | 0.1ml of m6010 and m6001 were added to 10ml of the sample | Kareem | OK     |
| 25 | Q1013-02A   | 002 35TH AVE (JAN) | PS  | 01/08/25 12:42 | 0.1ml of m6010 and m6001 were added to 10ml of the sample | Kareem | OK     |
| 26 | CCV02       | CCV02              | CCV | 01/08/25 12:46 |                                                           | Kareem | OK     |
| 27 | CCB02       | CCB02              | CCB | 01/08/25 12:50 |                                                           | Kareem | OK     |
| 28 | PB165979BL  | PB165979BL         | MB  | 01/08/25 12:55 |                                                           | Kareem | OK     |
| 29 | PB165979BS  | PB165979BS         | LCS | 01/08/25 12:59 |                                                           | Kareem | OK     |
| 30 | Q1025-01    | GREENBROOK-COM     | SAM | 01/08/25 13:03 |                                                           | Kareem | OK     |
| 31 | Q1027-01    | EO-03-010725       | SAM | 01/08/25 13:07 |                                                           | Kareem | OK     |
| 32 | Q1028-01    | OR-03-010725       | SAM | 01/08/25 13:11 |                                                           | Kareem | OK     |
| 33 | Q1029-03    | HR-01-01072025     | SAM | 01/08/25 13:15 | MS & MSD fail for 50% parameter                           | Kareem | Not Ok |

Instrument ID: P4

**Daily Analysis Runlog For Sequence/QC Batch ID # LB134201**

|              |        |              |                      |
|--------------|--------|--------------|----------------------|
| Review By    | kareem | Review On    | 1/9/2025 3:48:43 PM  |
| Supervise By | Jaswal | Supervise On | 1/20/2025 7:26:28 AM |

| STD. NAME     | STD REF.#                                       |
|---------------|-------------------------------------------------|
| ICAL Standard | mp83935 mp83936 mp83937 mp83938 mp83939 mp83941 |
| ICV Standard  | mp83942                                         |
| CCV Standard  | mp83945                                         |
| ICSA Standard | mp83943 mp83944                                 |
| CRI Standard  | mp83941                                         |
| LCS Standard  |                                                 |
| Chk Standard  | mp83948 mp83949                                 |

|    |             |                   |          |                |                                 |        |        |
|----|-------------|-------------------|----------|----------------|---------------------------------|--------|--------|
| 34 | Q1029-03DUP | HR-01-01072025DUP | DUP      | 01/08/25 13:20 | MS & MSD fail for 50% parameter | Kareem | Not Ok |
| 35 | Q1029-03L   | HR-01-01072025L   | SD       | 01/08/25 13:24 | MS & MSD fail for 50% parameter | Kareem | Not Ok |
| 36 | Q1029-03MS  | HR-01-01072025MS  | MS       | 01/08/25 13:28 | MS & MSD fail for 50% parameter | Kareem | Not Ok |
| 37 | Q1029-03MSD | HR-01-01072025MSD | MSD      | 01/08/25 13:32 | MS & MSD fail for 50% parameter | Kareem | Not Ok |
| 38 | CCV03       | CCV03             | CCV      | 01/08/25 13:36 |                                 | Kareem | OK     |
| 39 | CCB03       | CCB03             | CCB      | 01/08/25 13:40 |                                 | Kareem | OK     |
| 40 | Q1029-03A   | HR-01-01072025A   | PS       | 01/08/25 13:44 | MS & MSD fail for 50% parameter | Kareem | Not Ok |
| 41 | Q1029-01    | HR-02-01072025    | SAM      | 01/08/25 13:48 |                                 | Kareem | OK     |
| 42 | LR1         | LR1               | HIGH STD | 01/08/25 13:55 |                                 | Kareem | OK     |
| 43 | LR2         | LR2               | HIGH STD | 01/08/25 14:00 |                                 | Kareem | OK     |
| 44 | CCV04       | CCV04             | CCV      | 01/08/25 14:04 |                                 | Kareem | OK     |
| 45 | CCB04       | CCB04             | CCB      | 01/08/25 14:08 |                                 | Kareem | OK     |

## Prep Standard - Chemical Standard Summary

**Order ID :** Q1013

**Test :** Metals Group 10

**Prepbatch ID :** PB165970,

**Sequence ID/Qc Batch ID:** LB134201,

**Standard ID :**

MP83498,MP83499,

**Chemical ID :**

M6000,M6009,M6121,M6126,mp83935 mp83936 mp83937 mp83938 mp83939 mp83941,mp83941,mp83942,mp83943  
mp83944,mp83945,mp83948 mp83949,W3112,

## Metals STANDARD PREPARATION LOG

| <u>Recipe ID</u> | <u>NAME</u> | <u>NO.</u>              | <u>Prep Date</u> | <u>Expiration Date</u> | <u>Prepared By</u> | <u>ScaleID</u> | <u>PipetteID</u> | <u>Supervised By</u> |
|------------------|-------------|-------------------------|------------------|------------------------|--------------------|----------------|------------------|----------------------|
| 169              | 1:1HNO3     | <a href="#">MP83498</a> | 12/09/2024       | 01/31/2025             | Janvi Patel        | None           | None             | Sarabjit Jaswal      |
|                  |             |                         |                  |                        |                    |                |                  | 12/09/2024           |

**FROM** 1250.00000ml of M6126 + 1250.00000ml of W3112 = Final Quantity: 2500.000 ml

| <u>Recipe ID</u> | <u>NAME</u> | <u>NO.</u>              | <u>Prep Date</u> | <u>Expiration Date</u> | <u>Prepared By</u> | <u>ScaleID</u> | <u>PipetteID</u> | <u>Supervised By</u> |
|------------------|-------------|-------------------------|------------------|------------------------|--------------------|----------------|------------------|----------------------|
| 170              | 1:1HCL      | <a href="#">MP83499</a> | 12/09/2024       | 01/17/2025             | Eman Mughal        | None           | None             | Sarabjit Jaswal      |
|                  |             |                         |                  |                        |                    |                |                  | 12/09/2024           |

**FROM** 1250.00000ml of M6121 + 1250.00000ml of W3112 = Final Quantity: 2500.000 ml

## CHEMICAL RECEIPT LOG BOOK

| Supplier           | ItemCode / ItemName                                      | Lot #        | Expiration Date | Date Opened / Opened By | Received Date / Received By | Chemtech Lot # |
|--------------------|----------------------------------------------------------|--------------|-----------------|-------------------------|-----------------------------|----------------|
| Inorganic Ventures | WW-LFS-1 / Laboratory Fortified Stock Solution 1, 125 ml | T2-MEB723367 | 08/30/2026      | 08/13/2024 / Jaswal     | 05/14/2024 / Jaswal         | M6000          |

| Supplier           | ItemCode / ItemName                                      | Lot #        | Expiration Date | Date Opened / Opened By | Received Date / Received By | Chemtech Lot # |
|--------------------|----------------------------------------------------------|--------------|-----------------|-------------------------|-----------------------------|----------------|
| Inorganic Ventures | WW-LFS-2 / Laboratory Fortified Stock Solution 2, 125 ml | U2-MEB731108 | 03/17/2028      | 08/13/2024 / Jaswal     | 05/14/2024 / Jaswal         | M6009          |

| Supplier         | ItemCode / ItemName                                         | Lot #      | Expiration Date | Date Opened / Opened By | Received Date / Received By | Chemtech Lot # |
|------------------|-------------------------------------------------------------|------------|-----------------|-------------------------|-----------------------------|----------------|
| Seidler Chemical | BA-9530-33 / Hydrochloric Acid, Instra-Analyzed (cs/6x2.5L) | 0000275677 | 05/13/2025      | 11/13/2024 / Eman       | 10/13/2024 / Eman           | M6121          |

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

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



Refine your results. Redefine your industry.

RD:05/14/2024

# Certificate of Analysis

300 Technology Drive  
Christiansburg, VA 24073 USA  
inorganicventures.com

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

F: 540-585-3012

info@inorganicventures.com

## 1.0 ACCREDITATION / REGISTRATION

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



## 2.0 PRODUCT DESCRIPTION

|                 |                                     |
|-----------------|-------------------------------------|
| Product Code:   | Multi Analyte Custom Grade Solution |
| Catalog Number: | WW-LFS-1                            |
| Lot Number:     | T2-MEB723367                        |
| Matrix:         | 5% (v/v) HNO <sub>3</sub>           |

|                     |                 |            |
|---------------------|-----------------|------------|
| Value / Analyte(s): | 1 000 µg/mL ea: |            |
|                     | Potassium,      |            |
|                     | 600 µg/mL ea:   |            |
|                     | Phosphorus,     |            |
|                     | 300 µg/mL ea:   |            |
|                     | Sodium,         | Iron,      |
|                     | 200 µg/mL ea:   |            |
|                     | Magnesium,      | Aluminum,  |
|                     | Cerium,         | Selenium,  |
|                     | Thallium,       |            |
|                     | 100 µg/mL ea:   |            |
|                     | Lead,           | Calcium,   |
|                     | 80 µg/mL ea:    |            |
|                     | Arsenic,        |            |
|                     | 70 µg/mL ea:    |            |
|                     | Mercury,        |            |
|                     | 50 µg/mL ea:    |            |
|                     | Nickel,         |            |
|                     | 40 µg/mL ea:    |            |
|                     | Chromium,       |            |
|                     | 30 µg/mL ea:    |            |
|                     | Copper,         | Boron,     |
|                     | Vanadium,       |            |
|                     | 20 µg/mL ea:    |            |
|                     | Zinc,           | Strontium, |
|                     | Barium,         | Beryllium, |
|                     | Cadmium,        | Cobalt,    |
|                     | Manganese,      | Lithium,   |
|                     | 7.5 µg/mL ea:   |            |
|                     | Silver          |            |

### 3.0 CERTIFIED VALUES AND UNCERTAINTIES

| <b>ANALYTE</b> | <b>CERTIFIED VALUE</b> | <b>ANALYTE</b> | <b>CERTIFIED VALUE</b> |
|----------------|------------------------|----------------|------------------------|
| Aluminum, Al   | 200.0 ± 0.7 µg/mL      | Arsenic, As    | 80.0 ± 0.7 µg/mL       |
| Barium, Ba     | 20.00 ± 0.09 µg/mL     | Beryllium, Be  | 20.00 ± 0.13 µg/mL     |
| Boron, B       | 30.00 ± 0.18 µg/mL     | Cadmium, Cd    | 20.00 ± 0.09 µg/mL     |
| Calcium, Ca    | 100.0 ± 0.4 µg/mL      | Cerium, Ce     | 200.0 ± 0.8 µg/mL      |
| Chromium, Cr   | 40.00 ± 0.30 µg/mL     | Cobalt, Co     | 20.00 ± 0.10 µg/mL     |
| Copper, Cu     | 30.00 ± 0.13 µg/mL     | Iron, Fe       | 300.0 ± 1.3 µg/mL      |
| Lead, Pb       | 100.0 ± 0.4 µg/mL      | Lithium, Li    | 20.00 ± 0.08 µg/mL     |
| Magnesium, Mg  | 200.0 ± 0.8 µg/mL      | Manganese, Mn  | 20.00 ± 0.08 µg/mL     |
| Mercury, Hg    | 70.0 ± 0.3 µg/mL       | Nickel, Ni     | 50.00 ± 0.22 µg/mL     |
| Phosphorus, P  | 600.0 ± 2.7 µg/mL      | Potassium, K   | 1 000 ± 4 µg/mL        |
| Selenium, Se   | 200.0 ± 1.3 µg/mL      | Silver, Ag     | 7.50 ± 0.03 µg/mL      |
| Sodium, Na     | 300.0 ± 1.4 µg/mL      | Strontium, Sr  | 20.01 ± 0.08 µg/mL     |
| Thallium, Tl   | 200.0 ± 1.4 µg/mL      | Vanadium, V    | 30.00 ± 0.13 µg/mL     |
| Zinc, Zn       | 20.00 ± 0.09 µg/mL     |                |                        |

**Density:** 1.034 g/mL (measured at 20 ± 4 °C)

**Assay Information:**

| <b>ANALYTE</b> | <b>METHOD</b> | <b>NIST SRM#</b>   | <b>SRM LOT#</b> |
|----------------|---------------|--------------------|-----------------|
| Ag             | ICP Assay     | 3151               | 160729          |
| Ag             | Volhard       | 999c               | 999c            |
| Ag             | Calculated    |                    | See Sec. 4.2    |
| Al             | ICP Assay     | 3101a              | 140903          |
| Al             | EDTA          | 928                | 928             |
| As             | ICP Assay     | 3103a              | 100818          |
| B              | ICP Assay     | 3107               | 190605          |
| Ba             | ICP Assay     | 3104a              | 140909          |
| Ba             | Gravimetric   |                    | See Sec. 4.2    |
| Be             | ICP Assay     | 3105a              | 090514          |
| Ca             | ICP Assay     | 3109a              | 130213          |
| Ca             | EDTA          | 928                | 928             |
| Cd             | ICP Assay     | 3108               | 130116          |
| Cd             | EDTA          | 928                | 928             |
| Ce             | ICP Assay     | 3110               | 090504          |
| Ce             | EDTA          | 928                | 928             |
| Co             | ICP Assay     | 3113               | 190630          |
| Co             | EDTA          | 928                | 928             |
| Cr             | ICP Assay     | 3112a              | 170630          |
| Cu             | ICP Assay     | 3114               | 121207          |
| Cu             | EDTA          | 928                | 928             |
| Fe             | ICP Assay     | 3126a              | 140812          |
| Fe             | EDTA          | 928                | 928             |
| Hg             | ICP Assay     | 3133               | 160921          |
| Hg             | EDTA          | 928                | 928             |
| K              | ICP Assay     | 3141a              | 140813          |
| K              | Gravimetric   |                    | See Sec. 4.2    |
| Li             | ICP Assay     | 3129a              | 100714          |
| Li             | Gravimetric   |                    | See Sec. 4.2    |
| Mg             | ICP Assay     | 3131a              | 140110          |
| Mg             | EDTA          | 928                | 928             |
| Mn             | ICP Assay     | 3132               | 050429          |
| Mn             | EDTA          | 928                | 928             |
| Na             | ICP Assay     | Traceable to 3152A | S2-NA700842     |
| Na             | Gravimetric   |                    | See Sec. 4.2    |
| Ni             | ICP Assay     | 3136               | 120619          |
| Ni             | EDTA          | 928                | 928             |
| P              | ICP Assay     | 3139a              | 060717          |
| P              | Acidimetric   | 84L                | 84L             |
| Pb             | ICP Assay     | 3128               | 101026          |
| Pb             | EDTA          | 928                | 928             |
| Se             | ICP Assay     | 3149               | 100901          |
| Sr             | EDTA          | 928                | 928             |
| Sr             | ICP Assay     | Traceable to 3153a | K2-SR650985     |
| Tl             | ICP Assay     | 3158               | 151215          |
| V              | IC Assay      | 3165               | 160906          |
| V              | EDTA          | 928                | 928             |
| Zn             | ICP Assay     | 3168a              | 120629          |
| Zn             | EDTA          | 928                | 928             |

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

#### Characterization of CRM/RM by Two or More Methods

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

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

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

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

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

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

$k$  = coverage factor = 2

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

$u_{\text{bb}}$  = bottle to bottle homogeneity standard uncertainty

$u_{\text{ts}}$  = long term stability standard uncertainty (storage)

$u_{\text{ts}}$  = transport stability standard uncertainty

#### Characterization of CRM/RM by One Method

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

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

$X_a$  = mean of Assay Method A with

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

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

$k$  = coverage factor = 2

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

$u_{\text{bb}}$  = bottle to bottle homogeneity standard uncertainty

$u_{\text{ts}}$  = long term stability standard uncertainty (storage)

$u_{\text{ts}}$  = transport stability standard uncertainty

## 4.0 TRACEABILITY TO NIST

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

### 4.1 Thermometer Calibration

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

### 4.2 Balance Calibration

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

### 4.3 Glassware Calibration

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

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

N/A

## 6.0 INTENDED USE

- For the calibration of analytical instruments and validation of analytical methods as appropriate.

## 7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

### 7.1 Storage and Handling Recommendations

- Store between approximately 4° - 30° C while in sealed TCT bag.

- While stored in the sealed TCT bag, transpiration of this CRM/RM is negligible. After opening the sealed TCT bag transpiration of the CRM/RM will occur, resulting in a gradual increase in the analyte concentration(s). It is the responsibility of the user to account for this effect. When the bottle is weighed both before and after being placed in storage, the mass difference observed will be a measure of transpiration mass loss.

- After opening the sealed TCT bag, keep cap tightly sealed when not in use and store between 4° - 24° C to minimize the effects of transpiration. Use at 20° ± 4° C to minimize volumetric dilution error when using the reported density. Do not pipette from the container. Do not return removed aliquots to container.

- For more information, visit [www.inorganicventures.com/TCT](http://www.inorganicventures.com/TCT)

**Low Silver Note:** This solution contains "LOW" levels of Silver. Please store this entire bottle inside a sealed glass jar.

## 8.0 HAZARDOUS INFORMATION

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

## 9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

## 10.0 QUALITY STANDARD DOCUMENTATION

### 10.1 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

### 10.2 ISO/IEC 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

### 10.3 ISO 17034 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

Inorganic Ventures, 300 Technology Drive, Christiansburg, Va. 24073, USA; Telephone: 800.669.6799; 540.585.3030, Fax: 540.585.3012; [inorganicventures.com](http://inorganicventures.com); [info@inorganicventures.com](mailto:info@inorganicventures.com)

## 11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

### 11.1 Certification Issue Date

August 30, 2022

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is stored and handled in accordance with instructions given in Sec 7.1. This certification is nullified if instructions in Sec 7.1 are not followed or if the CRM/RM is damaged, contaminated, or otherwise modified.

### 11.2 Lot Expiration Date

- August 30, 2026

- The date after which this CRM/RM should not be used.

- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

### 11.3 Period of Validity

- Sealed TCT Bag Open Date: \_\_\_\_\_

- This CRM/RM should not be used longer than one year (or six months in the case of a 30 mL bottle) from the date of opening the aluminized bag or after the date given in Sec. 11.2, whichever comes first. This is contingent upon the CRM/RM being stored and handled in accordance with the instructions given in Sec. 7.1.

## 12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

### Certificate Approved By:

Thomas Kozikowski  
Manager, Quality Control



### Certifying Officer:

Paul Gaines  
Chairman / Senior Technical Director





Refine your results. Redefine your industry.

RD:05/14/2024

# Certificate of Analysis

300 Technology Drive  
Christiansburg, VA 24073 USA  
inorganicventures.com

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

## 1.0 ACCREDITATION / REGISTRATION

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



## 2.0 PRODUCT DESCRIPTION

Product Code: Multi Analyte Custom Grade Solution  
Catalog Number: WW-LFS-2  
Lot Number: U2-MEB731108  
Matrix: 5% (v/v) HNO<sub>3</sub>  
tr. HF  
Value / Analyte(s):  
200 µg/mL ea:  
Silica,  
80 µg/mL ea:  
Antimony,  
70 µg/mL ea:  
Tin,  
40 µg/mL ea:  
Molybdenum,  
20 µg/mL ea:  
Titanium

## 3.0 CERTIFIED VALUES AND UNCERTAINTIES

| ANALYTE                  | CERTIFIED VALUE    | ANALYTE        | CERTIFIED VALUE    |
|--------------------------|--------------------|----------------|--------------------|
| Antimony, Sb             | 80.1 ± 0.6 µg/mL   | Molybdenum, Mo | 40.03 ± 0.18 µg/mL |
| Silica, SiO <sub>2</sub> | 200.2 ± 1.3 µg/mL  | Tin, Sn        | 70.0 ± 0.4 µg/mL   |
| Titanium, Ti             | 20.01 ± 0.13 µg/mL |                |                    |

Density: 1.025 g/mL (measured at 20 ± 4 °C)

### Assay Information:

| ANALYTE          | METHOD     | NIST SRM# | SRM LOT#     |
|------------------|------------|-----------|--------------|
| Mo               | ICP Assay  | 3134      | 130418       |
| Mo               | Calculated |           | See Sec. 4.2 |
| Sb               | ICP Assay  | 3102a     | 140911       |
| SiO <sub>2</sub> | ICP Assay  | 3150      | 130912       |
| Sn               | ICP Assay  | 3161a     | 140917       |
| Ti               | ICP Assay  | 3162a     | 130925       |
| Ti               | Calculated |           | See Sec. 4.2 |

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

#### Characterization of CRM/RM by Two or More Methods

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

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

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

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

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

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

$k$  = coverage factor = 2

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

$u_{\text{bb}}$  = bottle to bottle homogeneity standard uncertainty

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

$u_{\text{TS}}$  = transport stability standard uncertainty

#### Characterization of CRM/RM by One Method

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

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

$X_a$  = mean of Assay Method A with

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

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

$k$  = coverage factor = 2

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

$u_{\text{bb}}$  = bottle to bottle homogeneity standard uncertainty

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

$u_{\text{TS}}$  = 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](http://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; [info@inorganicventures.com](mailto:info@inorganicventures.com);

## **11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY**

### **11.1 Certification Issue Date**

March 17, 2023

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is stored and handled in accordance with instructions given in Sec 7.1. This certification is nullified if instructions in Sec 7.1 are not followed or if the CRM/RM is damaged, contaminated, or otherwise modified.

### **11.2 Lot Expiration Date**

- **March 17, 2028**

- The date after which this CRM/RM should not be used.

- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

### 11.3 Period of Validity

- Sealed TCT Bag Open Date: \_\_\_\_\_

- This CRM/RM should not be used longer than one year (or six months in the case of a 30 mL bottle) from the date of opening the aluminized bag or after the date given in Sec. 11.2, whichever comes first. This is contingent upon the CRM/RM being stored and handled in accordance with the instructions given in Sec. 7.1.

### 12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

#### Certificate Approved By:

Thomas Kozikowski  
Manager, Quality Control



#### Certifying Officer:

Paul Gaines  
Chairman / Senior Technical Director



Hydrochloric Acid, 36.5-38.0%  
BAKER INSTRA-ANALYZED® Reagent  
For Trace Metal Analysis

avantor™



R → 16/13/24  
Met dig

M 6121

Material No.: 9530-33  
Batch No.: 0000275677  
Manufactured Date: 2020/12/16  
Retest Date: 2025/12/15  
Revision No: 1

## Certificate of Analysis

| Test                                      | Specification | Result  |
|-------------------------------------------|---------------|---------|
| ACS - Assay (as HCl) (by acid-base titrn) | 36.5 - 38.0 % | 37.6    |
| ACS - Color (APHA)                        | <= 10         | 5       |
| ACS - Residue after Ignition              | <= 3 ppm      | 1       |
| ACS - Specific Gravity at 60°/60°F        | 1.185 - 1.192 | 1.190   |
| ACS - Bromide (Br)                        | <= 0.005 %    | < 0.005 |
| ACS - Extractable Organic Substances      | <= 5 ppm      | 1       |
| ACS - Free Chlorine (as Cl <sub>2</sub> ) | <= 0.5 ppm    | < 0.5   |
| Phosphate (PO <sub>4</sub> )              | <= 0.05 ppm   | < 0.03  |
| Sulfate (SO <sub>4</sub> )                | <= 0.5 ppm    | < 0.3   |
| Sulfite (SO <sub>3</sub> )                | <= 0.8 ppm    | 0.3     |
| Ammonium (NH <sub>4</sub> )               | <= 3 ppm      | < 1     |
| Trace Impurities - Arsenic (As)           | <= 0.010 ppm  | < 0.003 |
| Trace Impurities - Aluminum (Al)          | <= 10.0 ppb   | < 0.2   |
| Arsenic and Antimony (as As)              | <= 5 ppb      | < 3     |
| Trace Impurities - Barium (Ba)            | <= 1.0 ppb    | < 0.2   |
| Trace Impurities - Beryllium (Be)         | <= 1.0 ppb    | < 0.2   |
| Trace Impurities - Bismuth (Bi)           | <= 10.0 ppb   | < 1.0   |
| Trace Impurities - Boron (B)              | <= 20.0 ppb   | < 5.0   |
| Trace Impurities - Cadmium (Cd)           | <= 1.0 ppb    | < 0.3   |
| Trace Impurities - Calcium (Ca)           | <= 50.0 ppb   | 29.7    |
| Trace Impurities - Chromium (Cr)          | <= 1.0 ppb    | < 0.4   |
| Trace Impurities - Cobalt (Co)            | <= 1.0 ppb    | < 0.3   |
| Trace Impurities - Copper (Cu)            | <= 1.0 ppb    | < 0.1   |
| Trace Impurities - Gallium (Ga)           | <= 1.0 ppb    | < 0.2   |

For questions on this Certificate of Analysis please contact Technical Services at 855.282.6867 or +1.610.386.1700

Avantor Performance Materials, LLC

100 Matsonford Rd, Suite 200, Radnor, PA 19087. U.S.A. Phone: 610.386.1700

Material No.: 9530-33  
Batch No.: 0000275677

| Test                                                   | Specification | Result |
|--------------------------------------------------------|---------------|--------|
| Trace Impurities – Germanium (Ge)                      | <= 3.0 ppb    | < 2.0  |
| Trace Impurities – Gold (Au)                           | <= 4.0 ppb    | < 0.2  |
| Heavy Metals (as Pb)                                   | <= 100 ppb    | < 50   |
| Trace Impurities – Iron (Fe)                           | <= 15.0 ppb   | < 1    |
| Trace Impurities – Lead (Pb)                           | <= 1.0 ppb    | < 0.5  |
| Trace Impurities – Lithium (Li)                        | <= 1.0 ppb    | 0.2    |
| Trace Impurities – Magnesium (Mg)                      | <= 10.0 ppb   | 0.4    |
| Trace Impurities – Manganese (Mn)                      | <= 1.0 ppb    | < 0.4  |
| Trace Impurities – Mercury (Hg)                        | <= 0.5 ppb    | 0.1    |
| Trace Impurities – Molybdenum (Mo)                     | <= 10.0 ppb   | < 5.0  |
| Trace Impurities – Nickel (Ni)                         | <= 4.0 ppb    | < 0.3  |
| Trace Impurities – Niobium (Nb)                        | <= 1.0 ppb    | < 0.2  |
| Trace Impurities – Potassium (K)                       | <= 9.0 ppb    | < 2.0  |
| Trace Impurities – Selenium (Se), For Information Only | ppb           | 1.0    |
| Trace Impurities – Silicon (Si)                        | <= 100.0 ppb  | < 10.0 |
| Trace Impurities – Silver (Ag)                         | <= 1.0 ppb    | < 0.3  |
| Trace Impurities – Sodium (Na)                         | <= 100.0 ppb  | < 5.0  |
| Trace Impurities – Strontium (Sr)                      | <= 1.0 ppb    | < 0.2  |
| Trace Impurities – Tantalum (Ta)                       | <= 1.0 ppb    | < 0.9  |
| Trace Impurities – Thallium (Tl)                       | <= 5.0 ppb    | < 2.0  |
| Trace Impurities – Tin (Sn)                            | <= 5.0 ppb    | < 0.8  |
| Trace Impurities – Titanium (Ti)                       | <= 1.0 ppb    | 0.2    |
| Trace Impurities – Vanadium (V)                        | <= 1.0 ppb    | < 0.2  |
| Trace Impurities – Zinc (Zn)                           | <= 5.0 ppb    | 0.3    |
| Trace Impurities – Zirconium (Zr)                      | <= 1.0 ppb    | < 0.1  |

For Laboratory, Research or Manufacturing Use

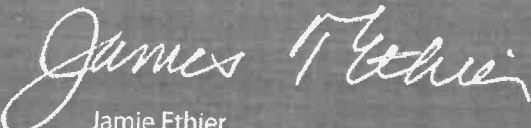
Product Information (not specifications):

Appearance (clear, fuming liquid)

Meets ACS Specifications

Country of Origin: US

Packaging Site: Phillipsburg Mfg Ctr & DC

  
Jamie Ethier

Vice President Global Quality

For questions on this Certificate of Analysis please contact Technical Services at 855.282.6867 or +1.610.386.1700

Avantor Performance Materials, LLC

100 Matsonford Rd, Suite 200, Radnor, PA 19087. U.S.A. Phone: 610.386.1700

Nitric Acid 69%  
CMOS



R → 11/12/24

M6126

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

## Certificate of Analysis

| Test                              | Specification | Result      |
|-----------------------------------|---------------|-------------|
| Assay (HNO <sub>3</sub> )         | 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 <sub>4</sub> )      | ≤ 0.10 ppm    | < 0.03 ppm  |
| Sulfate (SO <sub>4</sub> )        | ≤ 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**<sup>TM</sup>



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



# SHIPPING DOCUMENTS

## CLIENT INFORMATION

REPORT TO BE SENT TO:

COMPANY: Tully Environmental Inc  
ADDRESS: 57 Seaview Blvd  
CITY: Pt Washington STATE: NY ZIP: 11050  
ATTENTION: D Devoe  
PHONE: 718 446 7000 FAX:

## CLIENT PROJECT INFORMATION

PROJECT NAME: Transfer Station SPDES  
PROJECT NO.: 252113 LOCATION:  
PROJECT MANAGER:  
e-mail:  
PHONE: FAX:

## CLIENT BILLING INFORMATION

BILL TO: Same PO#:  
ADDRESS:  
CITY STATE: ZIP:  
ATTENTION: PHONE:

## ANALYSIS

## DATA TURNAROUND INFORMATION

FAX (RUSH) 10 DAYS\*  
HARDCOPY (DATA PACKAGE): DAYS\*  
EDD: DAYS\*

\*TO BE APPROVED BY CHEMTECH

STANDARD HARDCOPY TURNAROUND TIME IS 10 BUSINESS DAYS

## DATA DELIVERABLE INFORMATION

☐ Level 1 (Results Only) ☐ Level 4 (QC + Full Raw Data)  
☐ Level 2 (Results + QC) ☐ NJ Reduced ☐ US EPA CLP  
☐ Level 3 (Results + QC) ☐ NYS ASP A ☐ NYS ASP B  
+ Raw Data ☐ Other  
☐ EDD FORMATCu Fe Pb  
BOD5  
TSS  
Hy 1631 LL  
BTX  
OSG/Ammonia

## PRESERVATIVES

## COMMENTS

| CHEMTECH<br>SAMPLE<br>ID | PROJECT<br>SAMPLE IDENTIFICATION | SAMPLE<br>MATRIX | SAMPLE<br>TYPE |      | SAMPLE<br>COLLECTION |      | # OF BOTTLES |   |   |   |   |   |   |   |   |   | COMMENTS |
|--------------------------|----------------------------------|------------------|----------------|------|----------------------|------|--------------|---|---|---|---|---|---|---|---|---|----------|
|                          |                                  |                  | COMP           | GRAB | DATE                 | TIME |              | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |          |
| 1.                       | 001 Willets Pt Blvd (Jan)        | W                |                | K    | 1/3                  | 1200 | 8            | X | X | X | X | X | X |   |   |   |          |
| 2.                       | 002 35th Ave (Jan)               | W                |                | X    | 1/3                  | 1200 | 8            | X | X | X | X | X | X |   |   |   |          |
| 3.                       |                                  |                  |                |      |                      |      |              |   |   |   |   |   |   |   |   |   |          |
| 4.                       |                                  |                  |                |      |                      |      |              |   |   |   |   |   |   |   |   |   |          |
| 5.                       |                                  |                  |                |      |                      |      |              |   |   |   |   |   |   |   |   |   |          |
| 6.                       |                                  |                  |                |      |                      |      |              |   |   |   |   |   |   |   |   |   |          |
| 7.                       |                                  |                  |                |      |                      |      |              |   |   |   |   |   |   |   |   |   |          |
| 8.                       |                                  |                  |                |      |                      |      |              |   |   |   |   |   |   |   |   |   |          |
| 9.                       |                                  |                  |                |      |                      |      |              |   |   |   |   |   |   |   |   |   |          |
| 10.                      |                                  |                  |                |      |                      |      |              |   |   |   |   |   |   |   |   |   |          |

## SAMPLE CUSTODY MUST BE DOCUMENTED BELOW EACH TIME SAMPLES CHANGE POSSESSION INCLUDING COURIER DELIVERY

|                          |            |                |                                                                                                                                                             |
|--------------------------|------------|----------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------|
| RELINQUISHED BY SAMPLER: | DATE/TIME: | RECEIVED BY:   | Conditions of bottles or coolers at receipt: <input type="checkbox"/> COMPLIANT <input type="checkbox"/> NON COMPLIANT <input type="checkbox"/> COOLER TEMP |
| 1. D Devoe               | 1/3/25     | 1. [Signature] | 11:10 am                                                                                                                                                    |
| RELINQUISHED BY SAMPLER: | DATE/TIME: | RECEIVED BY:   |                                                                                                                                                             |
| 2.                       |            | 2.             |                                                                                                                                                             |
| RELINQUISHED BY SAMPLER: | DATE/TIME: | RECEIVED BY:   |                                                                                                                                                             |
| 3.                       |            | 3.             |                                                                                                                                                             |

Page \_\_\_\_ of \_\_\_\_

CLIENT: ☐ Hand Delivered ☐ Other  
CHEMTECH: ☐ Picked Up ☐ Field Sampling

Shipment Complete  
☐ YES ☐ NO

---

**From:** Dean Devoe <DDevoe@tullyconstruction.com>  
**Sent:** Monday, January 06, 2025 8:58 AM  
**Subject:** RE: SPDES Glassware Request

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

Secured by Check Point

Good morning Kiran – Please let me know as soon as the November/December results are ready. The January results can be standard turnaround. Thanks Dean

---

**From:** Kiran Saleem <Kiran.Saleem@alliancetg.com>  
**Sent:** Friday, January 3, 2025 2:53 PM  
**To:** Dean Devoe <DDevoe@tullyconstruction.com>  
**Subject:** Re: SPDES Glassware Request

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

Thank you Dean!

*Thank you!*

**NOTE:** Chemtech is now an Alliance Technical Group company. Please add [AllianceTG.com](https://www.alliancetg.com) to your safe senders list to ensure receipt of important emails.

Regards,



**Kiran Saleem**  
**Project Manager**  
**Alliance Technical Group**  
**Main:** 908-789-8900  
**Direct:** 908-728-3148  
**Address:** 284 Sheffield St, Ste 1, Mountainside, NJ 07092  
[www.alliancetg.com](https://www.alliancetg.com)

---

**From:** Dean Devoe <[DDevoe@tullyconstruction.com](mailto:DDevoe@tullyconstruction.com)>  
**Sent:** Friday, January 3, 2025 2:45 PM  
**To:** Kiran Saleem <[Kiran.Saleem@alliancetg.com](mailto:Kiran.Saleem@alliancetg.com)>  
**Subject:** RE: SPDES Glassware Request

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

Secured by Check Point

Hi Kiran – The samples are on the way for delivery tomorrow. Tracking number 7915 9388 0520. Thank you Dean

---

**From:** Kiran Saleem <[Kiran.Saleem@alliancetg.com](mailto:Kiran.Saleem@alliancetg.com)>  
**Sent:** Friday, January 3, 2025 9:35 AM  
**To:** Dean Devoe <[DDevoe@tullyconstruction.com](mailto:DDevoe@tullyconstruction.com)>  
**Subject:** Re: SPDES Glassware Request

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

Yes, there will be someone here to receive the samples. Fed Ex also knows the way to our cold room too, they put samples there if delivering at non office hours.

If you are sending via Fed Ex, please share the tracking number with me when you are through.

*Thank you!*

**NOTE:** Chemtech is now an Alliance Technical Group company. Please add [AllianceTG.com](http://AllianceTG.com) to your safe senders list to ensure receipt of important emails.

Regards,



**Kiran Saleem**  
**Project Manager**  
**Alliance Technical Group**  
**Main:** 908-789-8900  
**Direct:** 908-728-3148  
**Address:** 284 Sheffield St, Ste 1, Mountainside, NJ 07092  
[www.alliancetg.com](http://www.alliancetg.com)

---

**From:** Dean Devoe <[DDevoe@tullyconstruction.com](mailto:DDevoe@tullyconstruction.com)>  
**Sent:** Friday, January 3, 2025 9:25 AM  
**To:** Kiran Saleem <[Kiran.Saleem@alliancetg.com](mailto:Kiran.Saleem@alliancetg.com)>  
**Subject:** RE: SPDES Glassware Request

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

Secured by Check Point

We will need to rush. Is there someone at the lab on Saturday to receive?

---

**From:** Kiran Saleem <[Kiran.Saleem@alliancetg.com](mailto:Kiran.Saleem@alliancetg.com)>  
**Sent:** Friday, January 3, 2025 9:21 AM  
**To:** Dean Devoe <[DDevoe@tullyconstruction.com](mailto:DDevoe@tullyconstruction.com)>  
**Subject:** Re: SPDES Glassware Request

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

Good Morning Dean,

It's up to you, whatever you prefer. We can have Jahmir pick up on Monday, 1/6 early in the day. What would be the turnaround for these samples?

*Thank you!*

**NOTE:** Chemtech is now an Alliance Technical Group company. Please add [AllianceTG.com](http://AllianceTG.com) to your safe senders list to ensure receipt of important emails.

Regards,



**Kiran Saleem**  
**Project Manager**  
**Alliance Technical Group**  
**Main:** 908-789-8900  
**Direct:** 908-728-3148  
**Address:** 284 Sheffield St, Ste 1, Mountainside, NJ 07092  
[www.alliancetg.com](http://www.alliancetg.com)

---

**From:** Dean Devoe <[DDevoe@tullyconstruction.com](mailto:DDevoe@tullyconstruction.com)>  
**Sent:** Friday, January 3, 2025 9:02 AM  
**To:** yazmeen <[yazmeen@chemtech.net](mailto:yazmeen@chemtech.net)>; jordan <[jordan@chemtech.net](mailto:jordan@chemtech.net)>; Kiran Saleem <[Kiran.Saleem@alliancetg.com](mailto:Kiran.Saleem@alliancetg.com)>  
**Subject:** RE: SPDES Glassware Request

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

Secured by Check Point

Good morning – If I sample today, should I send by fedex for Saturday delivery, or will Chemtech pickup at Flushing? Thanks Dean

---

**From:** Yazmeen Gomez <[yazmeen@chemtech.net](mailto:yazmeen@chemtech.net)>  
**Sent:** Monday, December 23, 2024 2:51 PM

**To:** Dean Devoe <[DDevoe@tullyconstruction.com](mailto:DDevoe@tullyconstruction.com)>; 'Jordan Hedvat' <[jordan@chemtech.net](mailto:jordan@chemtech.net)>

**Cc:** Scale House <[scale@tullyenvironmental.com](mailto:scale@tullyenvironmental.com)>

**Subject:** RE: SPDES Glassware Request

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

Hi Dean,

Yes, the bottleware is being sent over. I will ask SM for the Tracking #.

**PLEASE NOTE- WE WILL BE CLOSED 12/24 AND 12/25 FOR THE HOLIDAY.**

**Best Regards,**



**Yazmeen Gomez**

**Sr. Project Manager**

**An Alliance Technical Group Company**

**Main:** 908-789-8900

**Direct:** 908-728-3147

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

**[www.alliancetg.com](http://www.alliancetg.com)**     

---

**From:** Dean Devoe <[DDevoe@tullyconstruction.com](mailto:DDevoe@tullyconstruction.com)>

**Sent:** Monday, December 23, 2024 2:46 PM

**To:** Yazmeen Gomez <[yazmeen@chemtech.net](mailto:yazmeen@chemtech.net)>; Jordan Hedvat <[jordan@chemtech.net](mailto:jordan@chemtech.net)>

**Cc:** Scale House <[scale@tullyenvironmental.com](mailto:scale@tullyenvironmental.com)>

**Subject:** SPDES Glassware Request

Hi Yazmeen – Was this sent to transfer station? I would like to schedule to sample Thursday. Thank you Dean

---

**From:** Dean Devoe

**Sent:** Thursday, December 19, 2024 5:39 PM

**To:** Yazmeen Gomez <[yazmeen@chemtech.net](mailto:yazmeen@chemtech.net)>

**Subject:** FW: Summary Report Details For Project SPDES-P5329.

Please send glassware for 4 additional TSS samples. Thanks Dean

---

**From:** [CHEMTECH-Data@chemtech.net](mailto:CHEMTECH-Data@chemtech.net) <[CHEMTECH-Data@chemtech.net](mailto:CHEMTECH-Data@chemtech.net)>

**Sent:** Thursday, December 19, 2024 4:15 PM

**To:** Dean Devoe <[DDevoe@tullyconstruction.com](mailto:DDevoe@tullyconstruction.com)>

**Subject:** Summary Report Details For Project SPDES-P5329.

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

To Dean Devoe;

Please see the attached Summary Report for the following project, or download the file using your login credentials from the link below.

Order ID : P5329  
Project ID : SPDES  
Download File : <https://chemtech.net/secureLogin.aspx>  
Order Date : 12/18/2024 12:12:00 PM

**CHEMTECH's Project Manager** : YAZMEEN GOMEZ , [YAZMEEN@CHEMTECH.NET](mailto:YAZMEEN@CHEMTECH.NET) , 908-357-0579 Ext :3149  
**CHEMTECH's Sales Executive** : Jordan Hedvat , [jordan@chemtech.net](mailto:jordan@chemtech.net) , 908-728-3144 Ext :

Thank you for the opportunity to provide you with our services. For any questions please feel free to contact your project manager.

Click Here for our short online customer Survey [//chemtech.net/ClientSurvey.aspx](https://chemtech.net/ClientSurvey.aspx).

Thank you,

**CHEMTECH**

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284 Sheffield Street, Mountainside NJ 07092 (908)-789-8900 Fax : 908 789 8922

### Laboratory Certification

| Certified By         | License No.      |
|----------------------|------------------|
|                      |                  |
| CAS EPA CLP Contract | 68HERH20D0011    |
|                      |                  |
| Connecticut          | PH-0830          |
|                      |                  |
| DOD ELAP (ANAB)      | L2219            |
|                      |                  |
| Maine                | 2024021          |
|                      |                  |
| Maryland             | 296              |
|                      |                  |
| New Hampshire        | 255424 Rev 1     |
|                      |                  |
| New Jersey           | 20012            |
|                      |                  |
| New York             | 11376            |
|                      |                  |
| Pennsylvania         | 68-00548         |
|                      |                  |
| Soil Permit          | 525-24-234-08441 |
|                      |                  |
| Texas                | T104704488       |

### LOGIN REPORT/SAMPLE TRANSFER

|                                                |               |                                                |                                   |
|------------------------------------------------|---------------|------------------------------------------------|-----------------------------------|
| <b>Order ID :</b> Q1013                        | <b>TULL01</b> | <b>Order Date :</b> 1/6/2025 7:50:00 AM        | <b>Project Mgr :</b>              |
| <b>Client Name :</b> Tully Environmental, Inc  |               | <b>Project Name :</b> Transfer Station-SPDES   | <b>Report Type :</b> Results Only |
| <b>Client Contact :</b> Dean Devoe             |               | <b>Receive DateTime :</b> 1/6/2025 11:10:00 AM | <b>EDD Type :</b> EXCEL NOCLEANUP |
| <b>Invoice Name :</b> Tully Environmental, Inc |               | <b>Purchase Order :</b>                        | <b>Hard Copy Date :</b>           |
| <b>Invoice Contact :</b> Dean Devoe            |               |                                                | <b>Date Signoff :</b>             |

| LAB ID   | CLIENT ID                 | MATRIX | SAMPLE DATE | SAMPLE TIME    | TEST     | TEST GROUP | METHOD | FAX DATE     | DUE DATES |
|----------|---------------------------|--------|-------------|----------------|----------|------------|--------|--------------|-----------|
| Q1013-01 | 001 WILLETS PT BLVD (JAN) | Water  | 01/03/2025  | 00:00<br>12:00 | VOC-BTEX |            | 624.1  | 10 Bus. Days |           |
| Q1013-02 | 002 35TH AVE (JAN)        | Water  | 01/03/2025  | 00:00<br>12:00 | VOC-BTEX |            | 624.1  | 10 Bus. Days |           |

Relinquished By :

Date / Time :

*[Signature]*  
1/6/25 12:10

Received By :

Date / Time :

*[Signature]*  
1/6/25 12:10 NG#5

Storage Area : VOA Refridgerator Room