

## **DATA PACKAGE GENERAL CHEMISTRY**

**PROJECT NAME : FT MEADE TIPTON AIRFIELD PARCEL RI - PO 0111169**

**WESTON SOLUTIONS**

**1400 Weston Way**

**PO Box 2653**

**West Chester, PA - 19380**

**Phone No: 610-701-7400**

**ORDER ID : P5022**

**ATTENTION : Nathan Fretz**



**Laboratory Certification ID # 20012**



|                                                       |     |
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## Cover Page

**Order ID :** P5022

**Project ID :** Ft Meade Tipton Airfield Parcel RI - PO 0111169

**Client :** Weston Solutions

**Lab Sample Number**

P5022-01

**Client Sample Number**

TAPIAL2-SB02D-13-112424-00-T1

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 : N. N. Pandya

**APPROVED**

By Nimisha Pandya, QA/QC Supervisor at 3:14 pm, Dec 11, 2024

NYDOH CERTIFICATION NO - 11376

NJDEP CERTIFICATION NO - 20012



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

## **CASE NARRATIVE**

### **Weston Solutions**

**Project Name:** Ft Meade Tipton Airfield Parcel RI - PO 0111169

**Project #** N/A

**Chemtech Project #** P5022

**Test Name:** pH,TOC,Anions Group1

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

1 Solid sample was received on 11/27/2024.

### **B. Parameters:**

According to the Chain of Custody document, the following analyses were requested: Anions Group1, Mercury, Metals ICP-TAL, METALS-TAL, pH and TOC. This data package contains results for pH,TOC,Anions Group1.

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

The analysis of pH was based on method 9045D, The analysis of Anions Group1 was based on method 9056A and The analysis of TOC was based on method 9060A.

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

The Holding Times were met for all samples except for TAPIAL2-SB02D-13-112424-00-T1 of pH, as this sample received out of hold.

The Blank Spike met requirements for all samples.

The Duplicate analysis met criteria for all samples.

The Matrix Spike (TAPIAL2-SB02D-13-112424-00-T1MS) analysis met criteria for all samples except for Fluoride due to matrix interference.

The Matrix Spike Duplicate (TAPIAL2-SB02D-13-112424-00-T1MSD) analysis met criteria for all samples except for Fluoride due to matrix interference.

The Blank analysis did not indicate the presence of lab contamination.

The Calibration met the requirements.

### **E. Additional Comments:**

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 N. N. Pandya

**APPROVED**

By Nimisha Pandya, QA/QC Supervisor at 3:15 pm, Dec 11, 2024



## 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                                                                                                                                                                                                                                                                                                                                              |

**GENERAL CHEMISTRY CONFORMANCE/NON-CONFORMANCE SUMMARY**

CHEMTECH PROJECT NUMBER: P5022

MATRIX: Solid

METHOD: 9045D,9056A,9060A

- |                                                                                                                                                                                                                                                                                                                                                | NA | NO | YES |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----|----|-----|
| 1. Blank Contamination - If yes, list compounds and concentrations in each blank:                                                                                                                                                                                                                                                              |    | ✓  |     |
| 2. Matrix Spike Duplicate Recoveries Met Criteria                                                                                                                                                                                                                                                                                              |    | ✓  |     |
| If not met, list those compounds and their recoveries which fall outside the acceptable range.                                                                                                                                                                                                                                                 |    |    |     |
| The Blank Spike met requirements for all samples. The Matrix Spike (TAPIAL2-SB02D-13-112424-00-T1MS) analysis met criteria for all samples except for Fluoride due to matrix interference. The Matrix Spike Duplicate (TAPIAL2-SB02D-13-112424-00-T1MSD) analysis met criteria for all samples except for Fluoride due to matrix interference. |    |    |     |
| 3. Sample Duplicate Analysis Met QC Criteria                                                                                                                                                                                                                                                                                                   |    |    | ✓   |
| If not met, list those compounds and their recoveries which fall outside the acceptable range.                                                                                                                                                                                                                                                 |    |    |     |
| 4. Digestion Holding Time Met                                                                                                                                                                                                                                                                                                                  |    | ✓  |     |
| If not met, list number of days exceeded for each sample:                                                                                                                                                                                                                                                                                      |    |    |     |
| The Holding Times were met for all samples except for TAPIAL2-SB02D-13-112424-00-T1 of pH, as this sample received out of hold.                                                                                                                                                                                                                |    |    |     |

ADDITIONAL COMMENTS:

S. M. Jodhani  
QA REVIEW

**REVIEWED**

By Sohil Jodhani, QA/QC Director at 3:11 pm, Dec 11, 2024

APPENDIX A

**QA REVIEW GENERAL DOCUMENTATION**

Project #: P5022

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: SOHIL JODHANI

Date: 12/10/2024

## LAB CHRONICLE

|                 |                  |                   |                                                 |
|-----------------|------------------|-------------------|-------------------------------------------------|
| <b>OrderID:</b> | P5022            | <b>OrderDate:</b> | 11/27/2024 10:42:00 AM                          |
| <b>Client:</b>  | Weston Solutions | <b>Project:</b>   | Ft Meade Tipton Airfield Parcel RI - PO 0111169 |
| <b>Contact:</b> | Nathan Fretz     | <b>Location:</b>  | L41                                             |

| LabID           | ClientID                                        | Matrix      | Test          | Method | Sample Date                     | Prep Date | Anal Date         | Received        |
|-----------------|-------------------------------------------------|-------------|---------------|--------|---------------------------------|-----------|-------------------|-----------------|
| <b>P5022-01</b> | <b>TAPIAL2-SB02D-13-1</b><br><b>12424-00-T1</b> | <b>SOIL</b> |               |        | <b>11/24/24</b><br><b>16:30</b> |           |                   | <b>11/27/24</b> |
|                 |                                                 |             | Anions Group1 | 9056A  |                                 |           | 11/27/24<br>13:51 |                 |
|                 |                                                 |             | pH            | 9045D  |                                 |           | 12/02/24<br>16:00 |                 |
|                 |                                                 |             | TOC           | 9060A  |                                 |           | 12/06/24<br>13:55 |                 |



# SAMPLE DATA

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14

## Report of Analysis

|                   |                                                 |                 |                |
|-------------------|-------------------------------------------------|-----------------|----------------|
| Client:           | Weston Solutions                                | Date Collected: | 11/24/24 16:30 |
| Project:          | Ft Meade Tipton Airfield Parcel RI - PO 0111169 | Date Received:  | 11/27/24       |
| Client Sample ID: | TAPIAL2-SB02D-13-112424-00-T1                   | SDG No.:        | P5022          |
| Lab Sample ID:    | P5022-01                                        | Matrix:         | SOIL           |
|                   |                                                 | % Solid:        | 92.9           |

| Parameter | Conc. | Qua. | DF | MDL   | LOD  | LOQ / CRQL | Units(Dry Weight) | Prep Date | Date Ana.      | Ana Met. |
|-----------|-------|------|----|-------|------|------------|-------------------|-----------|----------------|----------|
| Bromide   | 21.4  | U    | 1  | 0.53  | 21.4 | 42.9       | mg/Kg             |           | 11/27/24 13:51 | 9056A    |
| Chloride  | 2.40  | J    | 1  | 0.10  | 6.40 | 12.9       | mg/Kg             |           | 11/27/24 13:51 | 9056A    |
| Fluoride  | 1.30  | J    | 1  | 0.41  | 4.30 | 8.60       | mg/Kg             |           | 11/27/24 13:51 | 9056A    |
| Nitrite   | 6.40  | U    | 1  | 0.20  | 6.40 | 12.9       | mg/Kg             |           | 11/27/24 13:51 | 9056A    |
| Nitrate   | 5.40  | U    | 1  | 0.095 | 5.40 | 10.7       | mg/Kg             |           | 11/27/24 13:51 | 9056A    |
| Sulfate   | 39.2  | J    | 1  | 0.65  | 32.2 | 64.3       | mg/Kg             |           | 11/27/24 13:51 | 9056A    |
| pH        | 6.17  | H    | 1  | 0     | 0    | 0          | pH                |           | 12/02/24 16:00 | 9045D    |
| TOC       | 1670  |      | 1  | 19.8  | 50.0 | 250        | mg/Kg             |           | 12/06/24 13:55 | 9060A    |

Comments: pH result reported at temperature 22.1 °C

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

H = Sample Analysis Out Of Hold Time

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



# QC RESULT SUMMARY

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14

## Initial and Continuing Calibration Verification

**Client:** Weston Solutions

**SDG No.:** P5022

**Project:** Ft Meade Tipton Airfield Parcel RI - PO 0111169

**RunNo.:** LB133665

| Analyte                | Units | Result | True Value | % Recovery | Acceptance Window (%R) | Analysis Date |
|------------------------|-------|--------|------------|------------|------------------------|---------------|
| <b>Sample ID: ICV1</b> |       |        |            |            |                        |               |
| Bromide                | mg/L  | 10     | 10         | 100        | 90-110                 | 11/18/2024    |
| Chloride               | mg/L  | 3      | 3          | 100        | 90-110                 | 11/18/2024    |
| Fluoride               | mg/L  | 2      | 2          | 100        | 90-110                 | 11/18/2024    |
| Nitrite                | mg/L  | 3      | 3          | 100        | 90-110                 | 11/18/2024    |
| Nitrate                | mg/L  | 2.5    | 2.5        | 100        | 90-110                 | 11/18/2024    |
| Sulfate                | mg/L  | 14.6   | 15         | 97         | 90-110                 | 11/18/2024    |
| Orthophosphate as P    | mg/L  | 5      | 5          | 100        | 90-110                 | 11/18/2024    |
| <b>Sample ID: CCV1</b> |       |        |            |            |                        |               |
| Bromide                | mg/L  | 10.4   | 10         | 104        | 90-110                 | 11/27/2024    |
| Chloride               | mg/L  | 3.1    | 3          | 103        | 90-110                 | 11/27/2024    |
| Fluoride               | mg/L  | 2      | 2          | 100        | 90-110                 | 11/27/2024    |
| Nitrite                | mg/L  | 3.1    | 3          | 103        | 90-110                 | 11/27/2024    |
| Nitrate                | mg/L  | 2.6    | 2.5        | 104        | 90-110                 | 11/27/2024    |
| Sulfate                | mg/L  | 14.7   | 15         | 98         | 90-110                 | 11/27/2024    |
| Orthophosphate as P    | mg/L  | 5.2    | 5          | 104        | 90-110                 | 11/27/2024    |
| <b>Sample ID: CCV2</b> |       |        |            |            |                        |               |
| Bromide                | mg/L  | 10.4   | 10         | 104        | 90-110                 | 11/27/2024    |
| Chloride               | mg/L  | 3.1    | 3          | 103        | 90-110                 | 11/27/2024    |
| Fluoride               | mg/L  | 2      | 2          | 100        | 90-110                 | 11/27/2024    |
| Nitrite                | mg/L  | 3.1    | 3          | 103        | 90-110                 | 11/27/2024    |
| Nitrate                | mg/L  | 2.6    | 2.5        | 104        | 90-110                 | 11/27/2024    |
| Sulfate                | mg/L  | 14.7   | 15         | 98         | 90-110                 | 11/27/2024    |
| Orthophosphate as P    | mg/L  | 5.2    | 5          | 104        | 90-110                 | 11/27/2024    |



## Initial and Continuing Calibration Verification

**Client:** Weston Solutions

**SDG No.:** P5022

**Project:** Ft Meade Tipton Airfield Parcel RI - PO 0111169

**RunNo.:** LB133690

| Analyte                      | Units | Result | True Value | % Recovery | Acceptance Window (%R) | Analysis Date |
|------------------------------|-------|--------|------------|------------|------------------------|---------------|
| Sample ID: <b>ICV</b><br>pH  | pH    | 7.00   | 7          | 100        | 90-110                 | 12/02/2024    |
| Sample ID: <b>CCV1</b><br>pH | pH    | 2.01   | 2.00       | 101        | 90-110                 | 12/02/2024    |
| Sample ID: <b>CCV2</b><br>pH | pH    | 12.02  | 12.00      | 100        | 90-110                 | 12/02/2024    |

## Initial and Continuing Calibration Verification

**Client:** Weston Solutions

**SDG No.:** P5022

**Project:** Ft Meade Tipton Airfield Parcel RI - PO 0111169

**RunNo.:** LB133779

| Analyte                       | Units | Result | True Value | % Recovery | Acceptance Window (%R) | Analysis Date |
|-------------------------------|-------|--------|------------|------------|------------------------|---------------|
| Sample ID: <b>ICV1</b><br>TOC | mg/L  | 934    | 1000       | 93         | 90-110                 | 11/12/2024    |
| Sample ID: <b>CCV1</b><br>TOC | mg/L  | 937    | 1000       | 94         | 90-110                 | 12/06/2024    |
| Sample ID: <b>CCV2</b><br>TOC | mg/L  | 999    | 1000       | 100        | 90-110                 | 12/06/2024    |

### Initial and Continuing Calibration Blank Summary

|                 |                                                 |                 |          |
|-----------------|-------------------------------------------------|-----------------|----------|
| <b>Client:</b>  | Weston Solutions                                | <b>SDG No.:</b> | P5022    |
| <b>Project:</b> | Ft Meade Tipton Airfield Parcel RI - PO 0111169 | <b>RunNo.:</b>  | LB133665 |

| Analyte                | Units | Result   | Acceptance Limits | Conc Qual | MDL    | RDL | Analysis Date |
|------------------------|-------|----------|-------------------|-----------|--------|-----|---------------|
| <b>Sample ID: ICB1</b> |       |          |                   |           |        |     |               |
| Bromide                | mg/L  | < 1.0000 | 1.0000            | U         | 0.034  | 2   | 11/18/2024    |
| Chloride               | mg/L  | < 0.3000 | 0.3000            | U         | 0.011  | 0.6 | 11/18/2024    |
| Fluoride               | mg/L  | < 0.2000 | 0.2000            | U         | 0.057  | 0.4 | 11/18/2024    |
| Nitrite                | mg/L  | < 0.3000 | 0.3000            | U         | 0.011  | 0.6 | 11/18/2024    |
| Nitrate                | mg/L  | < 0.2500 | 0.2500            | U         | 0.0034 | 0.5 | 11/18/2024    |
| Sulfate                | mg/L  | < 1.5000 | 1.5000            | U         | 0.032  | 3   | 11/18/2024    |
| Orthophosphate as P    | mg/L  | < 0.5000 | 0.5000            | U         | 0.079  | 1   | 11/18/2024    |
| <b>Sample ID: CCB1</b> |       |          |                   |           |        |     |               |
| Bromide                | mg/L  | < 1.0000 | 1.0000            | U         | 0.034  | 2   | 11/27/2024    |
| Chloride               | mg/L  | < 0.3000 | 0.3000            | U         | 0.011  | 0.6 | 11/27/2024    |
| Fluoride               | mg/L  | < 0.2000 | 0.2000            | U         | 0.057  | 0.4 | 11/27/2024    |
| Nitrite                | mg/L  | < 0.3000 | 0.3000            | U         | 0.011  | 0.6 | 11/27/2024    |
| Nitrate                | mg/L  | < 0.2500 | 0.2500            | U         | 0.0034 | 0.5 | 11/27/2024    |
| Sulfate                | mg/L  | < 1.5000 | 1.5000            | U         | 0.032  | 3   | 11/27/2024    |
| Orthophosphate as P    | mg/L  | < 0.5000 | 0.5000            | U         | 0.079  | 1   | 11/27/2024    |
| <b>Sample ID: CCB2</b> |       |          |                   |           |        |     |               |
| Bromide                | mg/L  | < 1.0000 | 1.0000            | U         | 0.034  | 2   | 11/27/2024    |
| Chloride               | mg/L  | < 0.3000 | 0.3000            | U         | 0.011  | 0.6 | 11/27/2024    |
| Fluoride               | mg/L  | < 0.2000 | 0.2000            | U         | 0.057  | 0.4 | 11/27/2024    |
| Nitrite                | mg/L  | < 0.3000 | 0.3000            | U         | 0.011  | 0.6 | 11/27/2024    |
| Nitrate                | mg/L  | < 0.2500 | 0.2500            | U         | 0.0034 | 0.5 | 11/27/2024    |
| Sulfate                | mg/L  | < 1.5000 | 1.5000            | U         | 0.032  | 3   | 11/27/2024    |
| Orthophosphate as P    | mg/L  | < 0.5000 | 0.5000            | U         | 0.079  | 1   | 11/27/2024    |

### Initial and Continuing Calibration Blank Summary

|                                                                 |                         |
|-----------------------------------------------------------------|-------------------------|
| <b>Client:</b> Weston Solutions                                 | <b>SDG No.:</b> P5022   |
| <b>Project:</b> Ft Meade Tipton Airfield Parcel RI - PO 0111169 | <b>RunNo.:</b> LB133779 |

| Analyte                       | Units | Result     | Acceptance Limits | Conc Qual | MDL  | RDL | Analysis Date |
|-------------------------------|-------|------------|-------------------|-----------|------|-----|---------------|
| Sample ID: <b>ICB1</b><br>TOC | mg/L  | < 125.0000 | 125.0000          | U         | 22.3 | 250 | 11/12/2024    |
| Sample ID: <b>CCB1</b><br>TOC | mg/L  | < 125.0000 | 125.0000          | U         | 22.3 | 250 | 12/06/2024    |
| Sample ID: <b>CCB2</b><br>TOC | mg/L  | < 125.0000 | 125.0000          | U         | 22.3 | 250 | 12/06/2024    |

## Preparation Blank Summary

**Client:** Weston Solutions

**SDG No.:** P5022

**Project:** Ft Meade Tipton Airfield Parcel RI - PO 0111169

| Analyte                       | Units | Result     | Acceptance<br>Limits | Conc<br>Qual | MDL   | RDL | Analysis<br>Date |
|-------------------------------|-------|------------|----------------------|--------------|-------|-----|------------------|
| <b>Sample ID: LB133665BLS</b> |       |            |                      |              |       |     |                  |
| Bromide                       | mg/Kg | < 20.0000  | 20.0000              | U            | 0.49  | 40  | 11/27/2024       |
| Chloride                      | mg/Kg | < 6.0000   | 6.0000               | U            | 0.096 | 12  | 11/27/2024       |
| Fluoride                      | mg/Kg | < 4.0000   | 4.0000               | U            | 0.38  | 8   | 11/27/2024       |
| Nitrite                       | mg/Kg | < 6.0000   | 6.0000               | U            | 0.19  | 12  | 11/27/2024       |
| Nitrate                       | mg/Kg | < 5.0000   | 5.0000               | U            | 0.089 | 10  | 11/27/2024       |
| Sulfate                       | mg/Kg | < 30.0000  | 30.0000              | U            | 0.61  | 60  | 11/27/2024       |
| Orthophosphate as P           | mg/Kg | < 10.0000  | 10.0000              | U            | 0.24  | 20  | 11/27/2024       |
| <b>Sample ID: LB133779BLS</b> |       |            |                      |              |       |     |                  |
| TOC                           | mg/Kg | < 125.0000 | 125.0000             | U            | 19.8  | 250 | 12/06/2024       |

## Matrix Spike Summary

|                   |                                                 |                                         |          |
|-------------------|-------------------------------------------------|-----------------------------------------|----------|
| <b>Client:</b>    | Weston Solutions                                | <b>SDG No.:</b>                         | P5022    |
| <b>Project:</b>   | Ft Meade Tipton Airfield Parcel RI - PO 0111169 | <b>Sample ID:</b>                       | P5022-01 |
| <b>Client ID:</b> | TAPIAL2-SB02D-13-112424-00-T1MS                 | <b>Percent Solids for Spike Sample:</b> | 92.9     |

| Analyte             | Units | Acceptance<br>Limit %R | Spiked<br>Result | Conc.<br>Qualifier | Sample<br>Result | Conc.<br>Qualifier | Spike<br>Added | Dilution<br>Factor | %<br>Rec | Qual | Analysis<br>Date |
|---------------------|-------|------------------------|------------------|--------------------|------------------|--------------------|----------------|--------------------|----------|------|------------------|
| Bromide             | mg/Kg | 80-120                 | 217              |                    | 0.53             | U                  | 210            | 1                  | 103      |      | 11/27/2024       |
| TOC                 | mg/Kg | 75-125                 | 2560             |                    | 1670             |                    | 1000           | 1                  | 89       |      | 12/06/2024       |
| Chloride            | mg/Kg | 80-120                 | 68.0             |                    | 2.40             | J                  | 64.5           | 1                  | 102      |      | 11/27/2024       |
| Fluoride            | mg/Kg | 80-120                 | 33.6             |                    | 1.30             | J                  | 43             | 1                  | 75       | *    | 11/27/2024       |
| Nitrite             | mg/Kg | 80-120                 | 65.1             |                    | 0.20             | U                  | 64.5           | 1                  | 101      |      | 11/27/2024       |
| Nitrate             | mg/Kg | 80-120                 | 53.9             |                    | 0.095            | U                  | 53.7           | 1                  | 100      |      | 11/27/2024       |
| Sulfate             | mg/Kg | 80-120                 | 366              |                    | 39.2             | J                  | 320            | 1                  | 102      |      | 11/27/2024       |
| Orthophosphate as P | mg/Kg | 80-120                 | 67.4             |                    | 0.26             | U                  | 110            | 1                  | 61       | *    | 11/27/2024       |

## Matrix Spike Summary

|                   |                                                 |                                         |          |
|-------------------|-------------------------------------------------|-----------------------------------------|----------|
| <b>Client:</b>    | Weston Solutions                                | <b>SDG No.:</b>                         | P5022    |
| <b>Project:</b>   | Ft Meade Tipton Airfield Parcel RI - PO 0111169 | <b>Sample ID:</b>                       | P5022-01 |
| <b>Client ID:</b> | TAPIAL2-SB02D-13-112424-00-T1MSD                | <b>Percent Solids for Spike Sample:</b> | 92.9     |

| Analyte             | Units | Acceptance<br>Limit %R | Spiked<br>Result | Conc.<br>Qualifier | Sample<br>Result | Conc.<br>Qualifier | Spike<br>Added | Dilution<br>Factor | %<br>Rec | Qual | Analysis<br>Date |
|---------------------|-------|------------------------|------------------|--------------------|------------------|--------------------|----------------|--------------------|----------|------|------------------|
| Bromide             | mg/Kg | 80-120                 | 216              |                    | 0.53             | U                  | 210            | 1                  | 103      |      | 11/27/2024       |
| TOC                 | mg/Kg | 75-125                 | 2550             |                    | 1670             |                    | 1000           | 1                  | 88       |      | 12/06/2024       |
| Chloride            | mg/Kg | 80-120                 | 67.6             |                    | 2.40             | J                  | 64.5           | 1                  | 101      |      | 11/27/2024       |
| Fluoride            | mg/Kg | 80-120                 | 33.1             |                    | 1.30             | J                  | 43             | 1                  | 74       | *    | 11/27/2024       |
| Nitrite             | mg/Kg | 80-120                 | 65.1             |                    | 0.20             | U                  | 64.5           | 1                  | 101      |      | 11/27/2024       |
| Nitrate             | mg/Kg | 80-120                 | 53.7             |                    | 0.095            | U                  | 53.7           | 1                  | 100      |      | 11/27/2024       |
| Sulfate             | mg/Kg | 80-120                 | 365              |                    | 39.2             | J                  | 320            | 1                  | 102      |      | 11/27/2024       |
| Orthophosphate as P | mg/Kg | 80-120                 | 64.5             |                    | 0.26             | U                  | 110            | 1                  | 59       | *    | 11/27/2024       |

### Duplicate Sample Summary

|                   |                                                 |                                         |          |
|-------------------|-------------------------------------------------|-----------------------------------------|----------|
| <b>Client:</b>    | Weston Solutions                                | <b>SDG No.:</b>                         | P5022    |
| <b>Project:</b>   | Ft Meade Tipton Airfield Parcel RI - PO 0111169 | <b>Sample ID:</b>                       | P5022-01 |
| <b>Client ID:</b> | TAPIAL2-SB02D-13-112424-00-T1DUP                | <b>Percent Solids for Spike Sample:</b> | 92.9     |

| Analyte | Units | Acceptance Limit | Sample Result | Conc. Qualifier | Duplicate Result | Conc. Qualifier | Dilution Factor | RPD/AD | Qual | Analysis Date |
|---------|-------|------------------|---------------|-----------------|------------------|-----------------|-----------------|--------|------|---------------|
| pH      | pH    | +/-20            | 6.17          |                 | 6.18             |                 | 1               | 0.16   |      | 12/02/2024    |



## Duplicate Sample Summary

|                   |                                                 |                                         |          |
|-------------------|-------------------------------------------------|-----------------------------------------|----------|
| <b>Client:</b>    | Weston Solutions                                | <b>SDG No.:</b>                         | P5022    |
| <b>Project:</b>   | Ft Meade Tipton Airfield Parcel RI - PO 0111169 | <b>Sample ID:</b>                       | P5022-01 |
| <b>Client ID:</b> | TAPIAL2-SB02D-13-112424-00-T1MSD                | <b>Percent Solids for Spike Sample:</b> | 92.9     |

| Analyte             | Units | Acceptance Limit | Sample Result | Conc. Qualifier | Duplicate Result | Conc. Qualifier | Dilution Factor | RPD/AD | Qual | Analysis Date |
|---------------------|-------|------------------|---------------|-----------------|------------------|-----------------|-----------------|--------|------|---------------|
| Bromide             | mg/Kg | +/-15            | 217           |                 | 216              |                 | 1               | 0      |      | 11/27/2024    |
| Nitrate             | mg/Kg | +/-15            | 53.9          |                 | 53.7             |                 | 1               | 0      |      | 11/27/2024    |
| Nitrite             | mg/Kg | +/-15            | 65.1          |                 | 65.1             |                 | 1               | 0      |      | 11/27/2024    |
| Sulfate             | mg/Kg | +/-15            | 366           |                 | 365              |                 | 1               | 0      |      | 11/27/2024    |
| Chloride            | mg/Kg | +/-15            | 68.0          |                 | 67.6             |                 | 1               | 1      |      | 11/27/2024    |
| Fluoride            | mg/Kg | +/-15            | 33.6          |                 | 33.1             |                 | 1               | 1      |      | 11/27/2024    |
| Orthophosphate as P | mg/Kg | +/-15            | 67.4          |                 | 64.5             |                 | 1               | 4      |      | 11/27/2024    |
| TOC                 | mg/Kg | +/-20            | 2560          |                 | 2550             |                 | 1               | 0      |      | 12/06/2024    |

### Laboratory Control Sample Summary

|                 |                                                 |                 |          |
|-----------------|-------------------------------------------------|-----------------|----------|
| <b>Client:</b>  | Weston Solutions                                | <b>SDG No.:</b> | P5022    |
| <b>Project:</b> | Ft Meade Tipton Airfield Parcel RI - PO 0111169 | <b>Run No.:</b> | LB133665 |

| Analyte             | Units       | True Value | Result | Conc. Qualifier | % Recovery | Dilution Factor | Acceptance Limit %R | Analysis Date |
|---------------------|-------------|------------|--------|-----------------|------------|-----------------|---------------------|---------------|
| Sample ID           | LB133665BSS |            |        |                 |            |                 |                     |               |
| Bromide             | mg/Kg       | 200        | 208    |                 | 104        | 1               | 90-110              | 11/27/2024    |
| Chloride            | mg/Kg       | 60         | 61.4   |                 | 102        | 1               | 90-110              | 11/27/2024    |
| Fluoride            | mg/Kg       | 40         | 40.0   |                 | 100        | 1               | 90-110              | 11/27/2024    |
| Nitrite             | mg/Kg       | 60         | 62.4   |                 | 104        | 1               | 90-110              | 11/27/2024    |
| Nitrate             | mg/Kg       | 50         | 51.3   |                 | 103        | 1               | 90-110              | 11/27/2024    |
| Sulfate             | mg/Kg       | 300        | 295    |                 | 98         | 1               | 90-110              | 11/27/2024    |
| Orthophosphate as P | mg/Kg       | 100        | 105    |                 | 105        | 1               | 90-110              | 11/27/2024    |

### Laboratory Control Sample Summary

|                 |                                                 |                 |          |
|-----------------|-------------------------------------------------|-----------------|----------|
| <b>Client:</b>  | Weston Solutions                                | <b>SDG No.:</b> | P5022    |
| <b>Project:</b> | Ft Meade Tipton Airfield Parcel RI - PO 0111169 | <b>Run No.:</b> | LB133779 |

| Analyte   | Units       | True Value | Result | Conc. Qualifier | % Recovery | Dilution Factor | Acceptance Limit %R | Analysis Date |
|-----------|-------------|------------|--------|-----------------|------------|-----------------|---------------------|---------------|
| Sample ID | LB133779BSS |            |        |                 |            |                 |                     |               |
| TOC       | mg/Kg       | 1000       | 962    |                 | 96         | 1               | 90-110              | 12/06/2024    |



# RAW DATA

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Instrument IC-1 Analyst: NF Method: 00.0 / 9056A

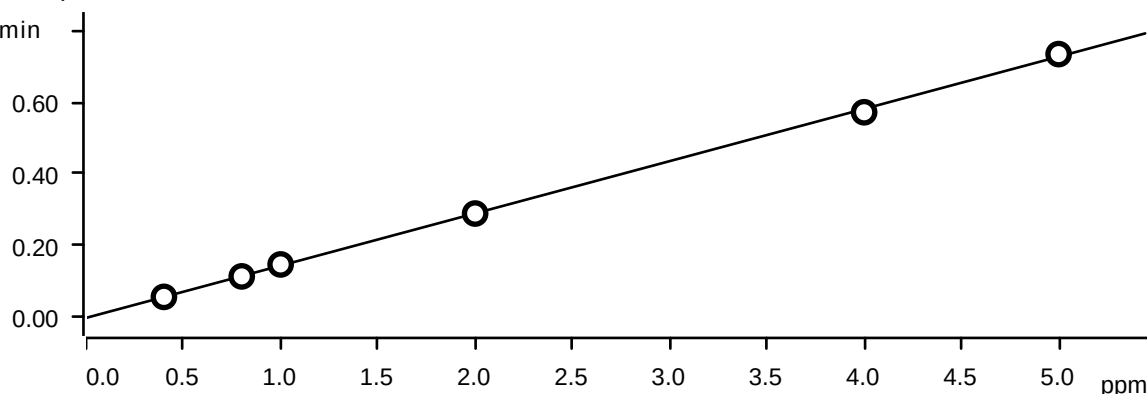
| Ident       | Con F- | Con CL- Con NO2 | Con BR- Con NO3 | Con HPO4 | Con SO4 | Method name | date time        | Initial wt/Final Vol | Analyst |
|-------------|--------|-----------------|-----------------|----------|---------|-------------|------------------|----------------------|---------|
| STD1        | 0      | 0               | 0               | 0        | 0       | IC1-111824  | 11/18/2024 11:24 | 10                   | NF/IZ   |
| STD2        | 0.402  | 0.571           | 0.601           | 1.961    | 0.489   | IC1-111824  | 11/18/2024 11:24 | 10                   | NF/IZ   |
| STD3        | 0.794  | 1.185           | 1.175           | 3.939    | 0.997   | IC1-111824  | 11/18/2024 12:07 | 10                   | NF/IZ   |
| STD4        | 1.023  | 1.554           | 1.535           | 5.128    | 1.284   | IC1-111824  | 11/18/2024 12:29 | 10                   | NF/IZ   |
| STD5        | 1.997  | 3.009           | 2.993           | 9.997    | 2.488   | IC1-111824  | 11/18/2024 12:50 | 10                   | NF/IZ   |
| STD6        | 3.936  | 5.952           | 5.978           | 19.928   | 4.964   | IC1-111824  | 11/18/2024 13:11 | 10                   | NF/IZ   |
| STD7        | 5.049  | 7.529           | 7.517           | 25.045   | 6.279   | IC1-111824  | 11/18/2024 13:33 | 10                   | NF/IZ   |
| ICV         | 1.966  | 3.006           | 2.997           | 9.98     | 2.49    | IC1-111824  | 11/18/2024 13:54 | 10                   | NF/IZ   |
| ICB         | 0      | 0               | 0               | 0        | 0       | IC1-111824  | 11/18/2024 14:16 | 10                   | NF/IZ   |
| CCV         | 2.005  | 3.061           | 3.099           | 10.357   | 2.559   | IC1-111824  | 11/27/2024 11:26 | 10                   | NF/IZ   |
| CCB         | 0      | 0               | 0               | 0        | 0       | IC1-111824  | 11/27/2024 11:47 | 10                   | NF/IZ   |
| LB133665BLW | 0      | 0               | 0               | 0        | 0       | IC1-111824  | 11/27/2024 12:09 | 5.00g/100ML          | NF/IZ   |
| LB133665BSW | 2.002  | 3.07            | 3.119           | 10.396   | 2.564   | IC1-111824  | 11/27/2024 12:30 | 5.00g/100ML          | NF/IZ   |
| P5022-01    | 0.061  | 0.114           | 0               | 0        | 0       | IC1-111824  | 11/27/2024 13:51 | 5.02g/100ML          | NF/IZ   |
| P5022-01MS  | 1.565  | 3.164           | 3.032           | 10.098   | 2.509   | IC1-111824  | 11/27/2024 14:12 | 5.01g/100ML          | NF/IZ   |
| P5022-01MSD | 1.541  | 3.146           | 3.031           | 10.068   | 2.5     | IC1-111824  | 11/27/2024 14:34 | 5.01g/100ML          | NF/IZ   |
| CCV         | 2.023  | 3.077           | 3.109           | 10.36    | 2.566   | IC1-111824  | 11/27/2024 14:56 | 10                   | NF/IZ   |
| CCB         | 0      | 0               | 0               | 0        | 0       | IC1-111824  | 11/27/2024 15:17 | 10                   | NF/IZ   |

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Clear table

| Instrument ID: IC-2 |                      |                       |                       |                       |                       |                        |                       |            |                  |                         |         | Analyst : |  | IZ |  | Method: |  | 300.0 / 9056A |  |
|---------------------|----------------------|-----------------------|-----------------------|-----------------------|-----------------------|------------------------|-----------------------|------------|------------------|-------------------------|---------|-----------|--|----|--|---------|--|---------------|--|
| ident               | concentra<br>tion F- | concentratio<br>n CL- | concentrati<br>on NO2 | concentrati<br>on BR- | concentrati<br>on NO3 | concentrati<br>on HPO4 | concentrati<br>on SO4 | file name  | date time        | Initial<br>wt/<br>Final | Analyst |           |  |    |  |         |  |               |  |
| STD1                | 0.000                | 0.000                 | 0.000                 | 0.000                 | 0.000                 | 0.000                  | 0.000                 | IC1-111824 | 11/18/2024 11:24 | 10                      | NF/IZ   |           |  |    |  |         |  |               |  |
| STD2                | 0.402                | 0.571                 | 0.601                 | 1.961                 | 0.489                 | 1.025                  | 3.062                 | IC1-111824 | 11/18/2024 11:46 | 10                      | NF/IZ   |           |  |    |  |         |  |               |  |
| STD3                | 0.794                | 1.185                 | 1.175                 | 3.939                 | 0.997                 | 1.928                  | 6.062                 | IC1-111824 | 11/18/2024 12:07 | 10                      | NF/IZ   |           |  |    |  |         |  |               |  |
| STD4                | 1.023                | 1.554                 | 1.535                 | 5.128                 | 1.284                 | 2.665                  | 7.843                 | IC1-111824 | 11/18/2024 12:29 | 10                      | NF/IZ   |           |  |    |  |         |  |               |  |
| STD5                | 1.997                | 3.009                 | 2.993                 | 9.997                 | 2.488                 | 4.960                  | 14.679                | IC1-111824 | 11/18/2024 12:50 | 10                      | NF/IZ   |           |  |    |  |         |  |               |  |
| STD6                | 3.936                | 5.952                 | 5.978                 | 19.928                | 4.964                 | 9.645                  | 28.993                | IC1-111824 | 11/18/2024 13:11 | 10                      | NF/IZ   |           |  |    |  |         |  |               |  |
| STD7                | 5.049                | 7.529                 | 7.517                 | 25.045                | 6.279                 | 12.776                 | 37.863                | IC1-111824 | 11/18/2024 13:33 | 10                      | NF/IZ   |           |  |    |  |         |  |               |  |
| ident               | True<br>Value F-     | True Value<br>CL-     | True Value<br>NO2     | True Value<br>BR-     | True Value<br>NO3     | True Value<br>HPO4     | True Value<br>SO4     |            |                  |                         |         |           |  |    |  |         |  |               |  |
| STD1                | 0.0000               | 0.0000                | 0.0000                | 0.0000                | 0.0000                | 0.0000                 | 0.0000                |            |                  |                         |         |           |  |    |  |         |  |               |  |
| STD2                | 0.4000               | 0.6000                | 0.6000                | 2.0000                | 0.5000                | 1.0000                 | 3.0000                |            |                  |                         |         |           |  |    |  |         |  |               |  |
| STD3                | 0.8000               | 1.2000                | 1.2000                | 4.0000                | 1.0000                | 2.0000                 | 6.0000                |            |                  |                         |         |           |  |    |  |         |  |               |  |
| STD4                | 1.0000               | 1.5000                | 1.5000                | 5.0000                | 1.2500                | 2.5000                 | 7.5000                |            |                  |                         |         |           |  |    |  |         |  |               |  |
| STD5                | 2.0000               | 3.0000                | 3.0000                | 10.0000               | 2.5000                | 5.0000                 | 15.0000               |            |                  |                         |         |           |  |    |  |         |  |               |  |
| STD6                | 4.0000               | 6.0000                | 6.0000                | 20.0000               | 5.0000                | 10.0000                | 30.0000               |            |                  |                         |         |           |  |    |  |         |  |               |  |
| STD7                | 5.0000               | 7.5000                | 7.5000                | 25.0000               | 6.2500                | 12.5000                | 37.0000               |            |                  |                         |         |           |  |    |  |         |  |               |  |
| ident               | Relative<br>Error F- | Relative<br>Error CL- | Relative<br>Error NO2 | Relative<br>Error BR- | Relative<br>Error NO3 | Relative<br>Error HPO4 | Relative<br>Error SO4 |            |                  |                         |         |           |  |    |  |         |  |               |  |
| STD1                | 0.5000               | -4.8333               | 0.1667                | -1.9500               | -2.2000               | 2.5000                 | 2.0667                |            |                  |                         |         |           |  |    |  |         |  |               |  |
| STD2                | -0.7500              | -1.2500               | -2.0833               | -1.5250               | -0.3000               | -3.6000                | 1.0333                |            |                  |                         |         |           |  |    |  |         |  |               |  |
| STD3                | 2.3000               | 3.6000                | 2.3333                | 2.5600                | 2.7200                | 6.6000                 | 4.5733                |            |                  |                         |         |           |  |    |  |         |  |               |  |
| STD4                | -0.1500              | 0.3000                | -0.2333               | -0.0300               | -0.4800               | -0.8000                | -2.1400               |            |                  |                         |         |           |  |    |  |         |  |               |  |
| STD5                | -1.6000              | -0.8000               | -0.3667               | -0.3600               | -0.7200               | -3.5500                | -3.3567               |            |                  |                         |         |           |  |    |  |         |  |               |  |
| STD6                | 0.9800               | 0.3867                | 0.2267                | 0.1800                | 0.4640                | 2.2080                 | 2.3324                |            |                  |                         |         |           |  |    |  |         |  |               |  |
| STD7                |                      |                       |                       |                       |                       |                        |                       |            |                  |                         |         |           |  |    |  |         |  |               |  |

## Fluoride (Anions)

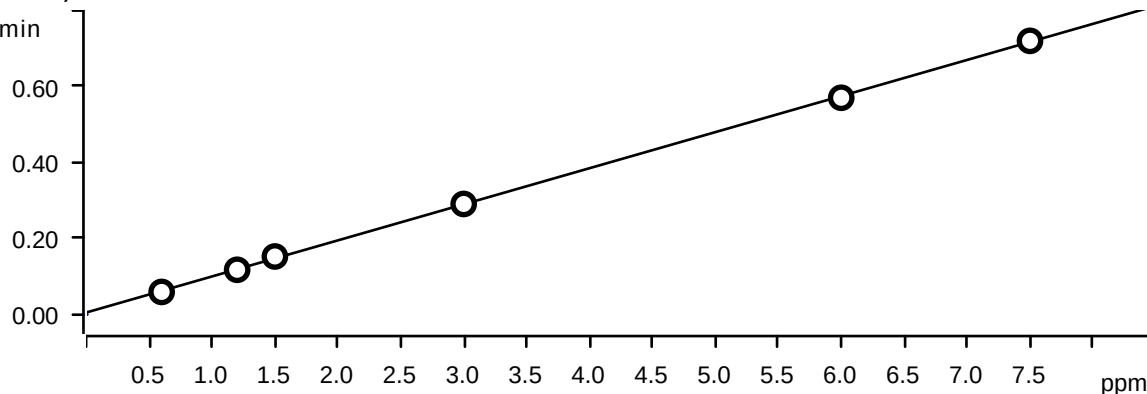
 $(\mu\text{S}/\text{cm}) \times \text{min}$ Function: . . . . .  $A = -1.48773\text{E-}3 + 0.0145652 \times Q$ 

Relative standard deviation . . . . . 1.923523 %

Correlation coefficient . . . . . 0.999800

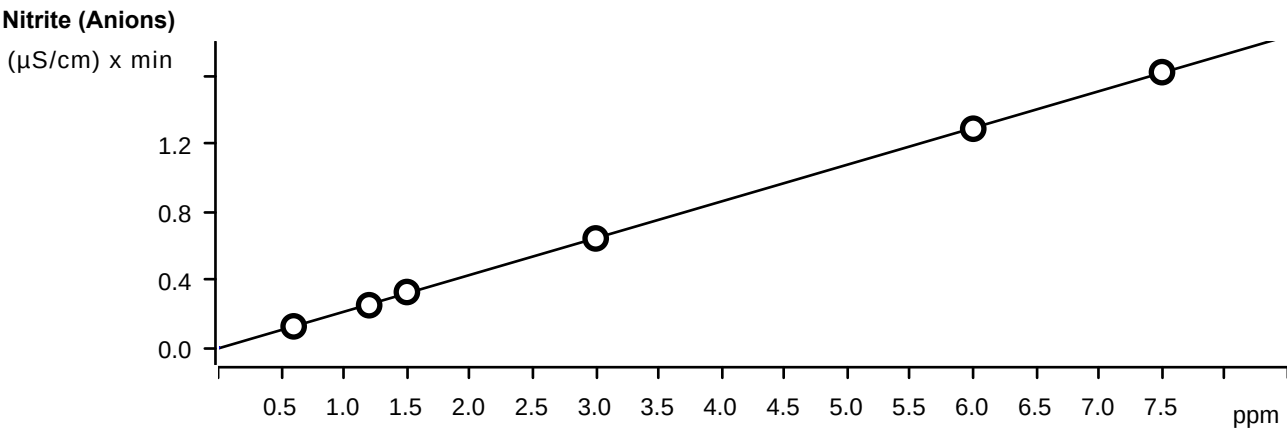
| Sample type | Index | Conc. | Volume | Dilution | Sample amount | Area  | Ident | Date                      | Used |
|-------------|-------|-------|--------|----------|---------------|-------|-------|---------------------------|------|
| Standard 1  | 1     | 0.000 | 10.0   | 1.0      | 1.0           | n. d. | STD1  | 2024-11-18 11:24:52 UTC-5 | used |
| Standard 2  | 1     | 0.400 | 10.0   | 1.0      | 1.0           | 0.057 | STD2  | 2024-11-18 11:46:16 UTC-5 | used |
| Standard 3  | 1     | 0.800 | 10.0   | 1.0      | 1.0           | 0.114 | STD3  | 2024-11-18 12:07:40 UTC-5 | used |
| Standard 4  | 1     | 1.000 | 10.0   | 1.0      | 1.0           | 0.147 | STD4  | 2024-11-18 12:29:05 UTC-5 | used |
| Standard 5  | 1     | 2.000 | 10.0   | 1.0      | 1.0           | 0.289 | STD5  | 2024-11-18 12:50:30 UTC-5 | used |
| Standard 6  | 1     | 4.000 | 10.0   | 1.0      | 1.0           | 0.572 | STD6  | 2024-11-18 13:11:57 UTC-5 | used |
| Standard 7  | 1     | 5.000 | 10.0   | 1.0      | 1.0           | 0.734 | STD7  | 2024-11-18 13:33:24 UTC-5 | used |

## Chloride (Anions)

 $(\mu\text{S}/\text{cm}) \times \text{min}$ Function: . . . . .  $A = 4.85841\text{E-}3 + 9.50243\text{E-}3 \times Q$

Relative standard deviation . . . . . 1.265280 %  
Correlation coefficient . . . . . 0.999910

| Sample type | Index | Conc. | Volume | Dilution | Sample amount | Area  | Ident | Date                      | Used |
|-------------|-------|-------|--------|----------|---------------|-------|-------|---------------------------|------|
| Standard 1  | 1     | 0.000 | 10.0   | 1.0      | 1.0           | n. d. | STD1  | 2024-11-18 11:24:52 UTC-5 | used |
| Standard 2  | 1     | 0.600 | 10.0   | 1.0      | 1.0           | 0.059 | STD2  | 2024-11-18 11:46:16 UTC-5 | used |
| Standard 3  | 1     | 1.200 | 10.0   | 1.0      | 1.0           | 0.117 | STD3  | 2024-11-18 12:07:40 UTC-5 | used |
| Standard 4  | 1     | 1.500 | 10.0   | 1.0      | 1.0           | 0.153 | STD4  | 2024-11-18 12:29:05 UTC-5 | used |
| Standard 5  | 1     | 3.000 | 10.0   | 1.0      | 1.0           | 0.291 | STD5  | 2024-11-18 12:50:30 UTC-5 | used |
| Standard 6  | 1     | 6.000 | 10.0   | 1.0      | 1.0           | 0.570 | STD6  | 2024-11-18 13:11:57 UTC-5 | used |
| Standard 7  | 1     | 7.500 | 10.0   | 1.0      | 1.0           | 0.720 | STD7  | 2024-11-18 13:33:24 UTC-5 | used |



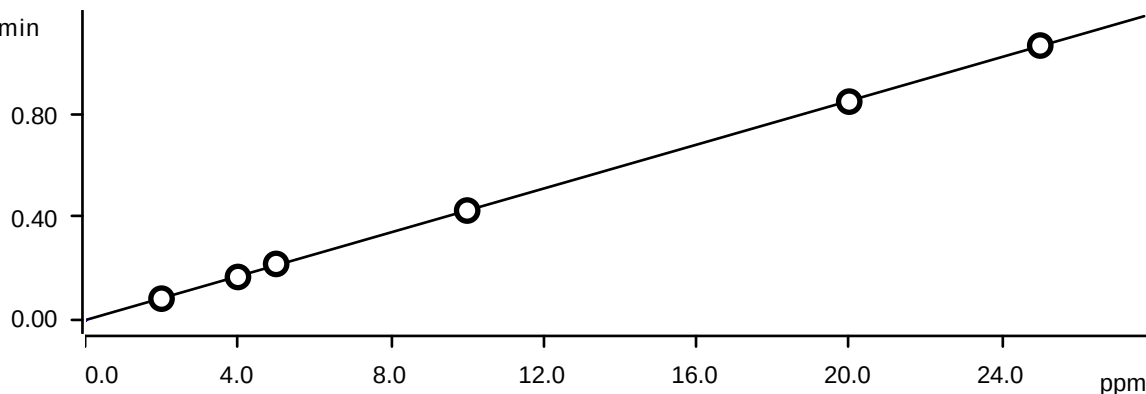
Function: . . . . .  $A = -5.27414E-3 + 0.0216316 \times Q$   
Relative standard deviation . . . . . 0.783603 %  
Correlation coefficient . . . . . 0.999967

| Sample type | Index | Conc. | Volume | Dilution | Sample amount | Area  | Ident | Date                      | Used |
|-------------|-------|-------|--------|----------|---------------|-------|-------|---------------------------|------|
| Standard 1  | 1     | 0.000 | 10.0   | 1.0      | 1.0           | n. d. | STD1  | 2024-11-18 11:24:52 UTC-5 | used |
| Standard 2  | 1     | 0.600 | 10.0   | 1.0      | 1.0           | 0.125 | STD2  | 2024-11-18 11:46:16 UTC-5 | used |
| Standard 3  | 1     | 1.200 | 10.0   | 1.0      | 1.0           | 0.249 | STD3  | 2024-11-18 12:07:40 UTC-5 | used |
| Standard 4  | 1     | 1.500 | 10.0   | 1.0      | 1.0           | 0.327 | STD4  | 2024-11-18 12:29:05 UTC-5 | used |
| Standard 5  | 1     | 3.000 | 10.0   | 1.0      | 1.0           | 0.642 | STD5  | 2024-11-18 12:50:30 UTC-5 | used |
| Standard 6  | 1     | 6.000 | 10.0   | 1.0      | 1.0           | 1.288 | STD6  | 2024-11-18 13:11:57 UTC-5 | used |
| Standard 7  | 1     | 7.500 | 10.0   | 1.0      | 1.0           | 1.621 | STD7  | 2024-11-18 13:33:24 UTC-5 | used |



### Bromide (Anions)

( $\mu\text{S/cm}$ )  $\times$  min



Function:  $A = 7.64331E-4 + 4.24604E-3 \times Q$

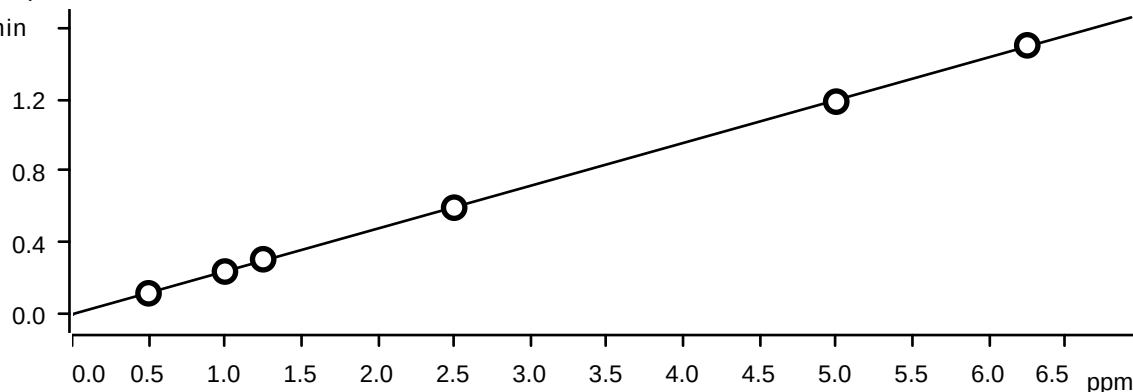
Relative standard deviation: 0.771268 %

Correlation coefficient: 0.999967

| Sample type | Index | Conc.  | Volume | Dilution | Sample amount | Area  | Ident | Date                      | Used |
|-------------|-------|--------|--------|----------|---------------|-------|-------|---------------------------|------|
| Standard 1  | 1     | 0.000  | 10.0   | 1.0      | 1.0           | n. d. | STD1  | 2024-11-18 11:24:52 UTC-5 | used |
| Standard 2  | 1     | 2.000  | 10.0   | 1.0      | 1.0           | 0.084 | STD2  | 2024-11-18 11:46:16 UTC-5 | used |
| Standard 3  | 1     | 4.000  | 10.0   | 1.0      | 1.0           | 0.168 | STD3  | 2024-11-18 12:07:40 UTC-5 | used |
| Standard 4  | 1     | 5.000  | 10.0   | 1.0      | 1.0           | 0.219 | STD4  | 2024-11-18 12:29:05 UTC-5 | used |
| Standard 5  | 1     | 10.000 | 10.0   | 1.0      | 1.0           | 0.425 | STD5  | 2024-11-18 12:50:30 UTC-5 | used |
| Standard 6  | 1     | 20.000 | 10.0   | 1.0      | 1.0           | 0.847 | STD6  | 2024-11-18 13:11:57 UTC-5 | used |
| Standard 7  | 1     | 25.000 | 10.0   | 1.0      | 1.0           | 1.064 | STD7  | 2024-11-18 13:33:24 UTC-5 | used |

### Nitrate (Anions)

( $\mu\text{S/cm}$ )  $\times$  min



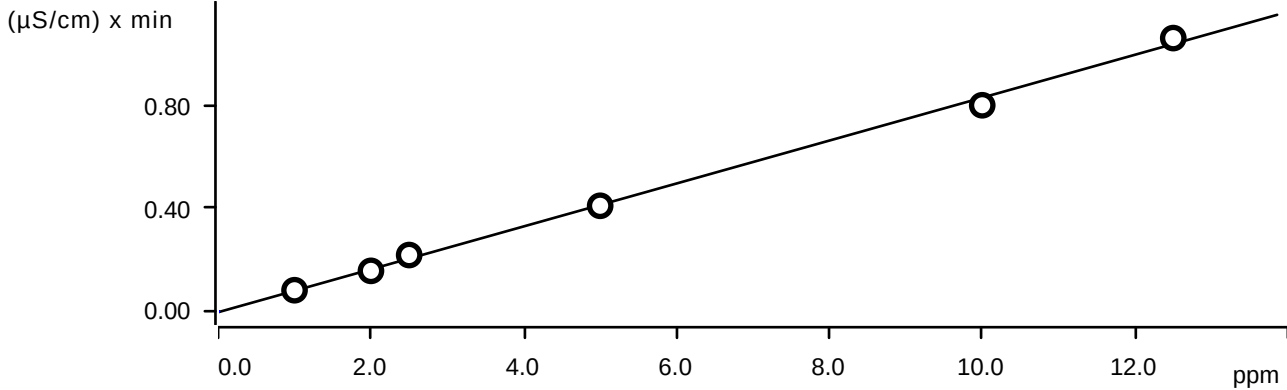
Function:  $A = 1.14484E-3 + 0.0238833 \times Q$

Relative standard deviation: 1.085494 %

Correlation coefficient . . . . . 0.999936

| Sample type | Index | Conc. | Volume | Dilution | Sample amount | Area  | Ident | Date                      | Used |
|-------------|-------|-------|--------|----------|---------------|-------|-------|---------------------------|------|
| Standard 1  | 1     | 0.000 | 10.0   | 1.0      | 1.0           | n. d. | STD1  | 2024-11-18 11:24:52 UTC-5 | used |
| Standard 2  | 1     | 0.500 | 10.0   | 1.0      | 1.0           | 0.118 | STD2  | 2024-11-18 11:46:16 UTC-5 | used |
| Standard 3  | 1     | 1.000 | 10.0   | 1.0      | 1.0           | 0.239 | STD3  | 2024-11-18 12:07:40 UTC-5 | used |
| Standard 4  | 1     | 1.250 | 10.0   | 1.0      | 1.0           | 0.308 | STD4  | 2024-11-18 12:29:05 UTC-5 | used |
| Standard 5  | 1     | 2.500 | 10.0   | 1.0      | 1.0           | 0.595 | STD5  | 2024-11-18 12:50:30 UTC-5 | used |
| Standard 6  | 1     | 5.000 | 10.0   | 1.0      | 1.0           | 1.187 | STD6  | 2024-11-18 13:11:57 UTC-5 | used |
| Standard 7  | 1     | 6.250 | 10.0   | 1.0      | 1.0           | 1.501 | STD7  | 2024-11-18 13:33:24 UTC-5 | used |

Phosphate (Anions)



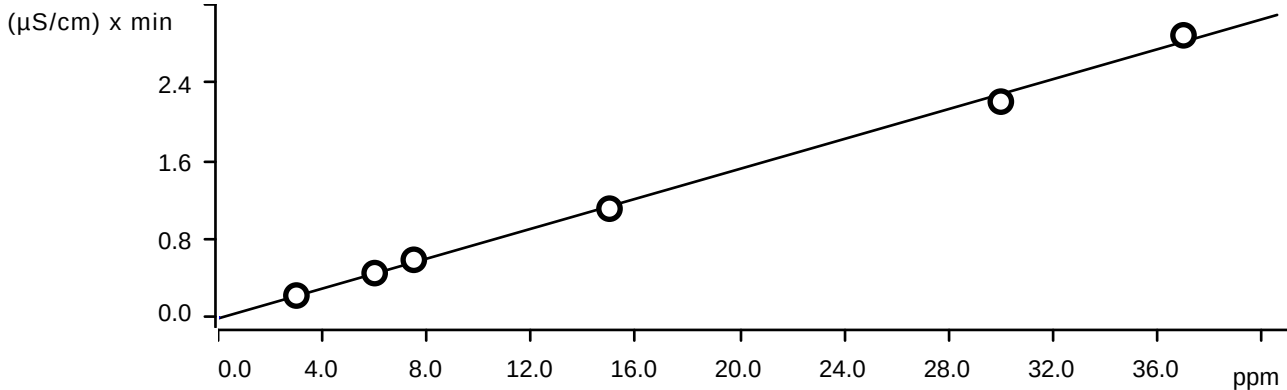
Function: . . . . .  $A = -2.33576E-3 + 8.30878E-3 \times Q$

Relative standard deviation . . . . . 4.444706 %

Correlation coefficient . . . . . 0.998936

| Sample type | Index | Conc.  | Volume | Dilution | Sample amount | Area  | Ident | Date                      | Used |
|-------------|-------|--------|--------|----------|---------------|-------|-------|---------------------------|------|
| Standard 1  | 1     | 0.000  | 10.0   | 1.0      | 1.0           | n. d. | STD1  | 2024-11-18 11:24:52 UTC-5 | used |
| Standard 2  | 1     | 1.000  | 10.0   | 1.0      | 1.0           | 0.083 | STD2  | 2024-11-18 11:46:16 UTC-5 | used |
| Standard 3  | 1     | 2.000  | 10.0   | 1.0      | 1.0           | 0.158 | STD3  | 2024-11-18 12:07:40 UTC-5 | used |
| Standard 4  | 1     | 2.500  | 10.0   | 1.0      | 1.0           | 0.219 | STD4  | 2024-11-18 12:29:05 UTC-5 | used |
| Standard 5  | 1     | 5.000  | 10.0   | 1.0      | 1.0           | 0.410 | STD5  | 2024-11-18 12:50:30 UTC-5 | used |
| Standard 6  | 1     | 10.000 | 10.0   | 1.0      | 1.0           | 0.799 | STD6  | 2024-11-18 13:11:57 UTC-5 | used |
| Standard 7  | 1     | 12.500 | 10.0   | 1.0      | 1.0           | 1.059 | STD7  | 2024-11-18 13:33:24 UTC-5 | used |

Sulfate (Anions)



Function: . . . . .  $A = -9.71222E-3 + 7.64397E-3 \times Q$

Relative standard deviation . . . . . 4.327283 %

Correlation coefficient . . . . . 0.998986

| Sample type | Index | Conc.  | Volume | Dilution | Sample amount | Area  | Ident | Date                      | Used |
|-------------|-------|--------|--------|----------|---------------|-------|-------|---------------------------|------|
| Standard 1  | 1     | 0.000  | 10.0   | 1.0      | 1.0           | n. d. | STD1  | 2024-11-18 11:24:52 UTC-5 | used |
| Standard 2  | 1     | 3.000  | 10.0   | 1.0      | 1.0           | 0.224 | STD2  | 2024-11-18 11:46:16 UTC-5 | used |
| Standard 3  | 1     | 6.000  | 10.0   | 1.0      | 1.0           | 0.454 | STD3  | 2024-11-18 12:07:40 UTC-5 | used |
| Standard 4  | 1     | 7.500  | 10.0   | 1.0      | 1.0           | 0.590 | STD4  | 2024-11-18 12:29:05 UTC-5 | used |
| Standard 5  | 1     | 15.000 | 10.0   | 1.0      | 1.0           | 1.112 | STD5  | 2024-11-18 12:50:30 UTC-5 | used |
| Standard 6  | 1     | 30.000 | 10.0   | 1.0      | 1.0           | 2.206 | STD6  | 2024-11-18 13:11:57 UTC-5 | used |
| Standard 7  | 1     | 37.000 | 10.0   | 1.0      | 1.0           | 2.884 | STD7  | 2024-11-18 13:33:24 UTC-5 | used |

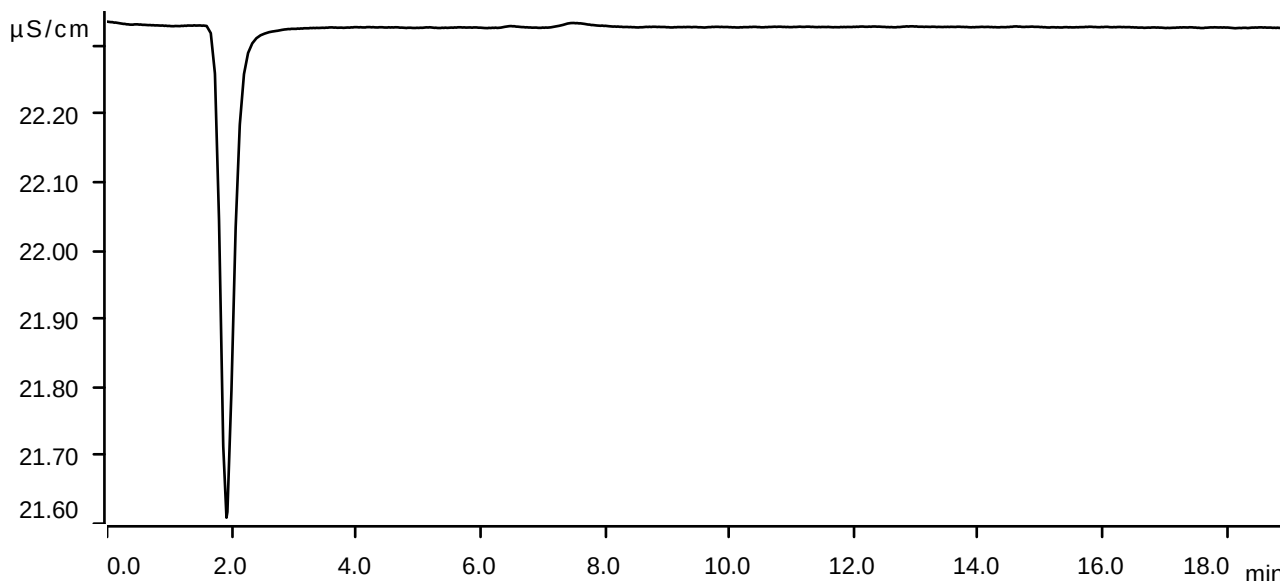
## Sample data

Ident . . . . . STD1  
Sample type . . . . . Standard 1  
Determination start . . . . . 2024-11-18 11:24:52 UTC-5  
Method . . . . . IC1-111824  
Operator . . . . .

## Anions

Data source . . . . . Conductivity detector 1 (Eco IC 1)  
Channel . . . . . Conductivity  
Recording time . . . . . 19.0 min  
Integration . . . . . Automatically  
Column type . . . . . Metrosep A Supp 19 - 150/4.0  
Eluent composition . . . . . not defined  
Flow . . . . . 0.700 mL/min  
Maximum flow monitored . . . . . yes  
Pressure . . . . . 11.60 MPa  
Maximum pressure monitored . . . . . yes  
Temperature . . . . . ---- °C

## Anions



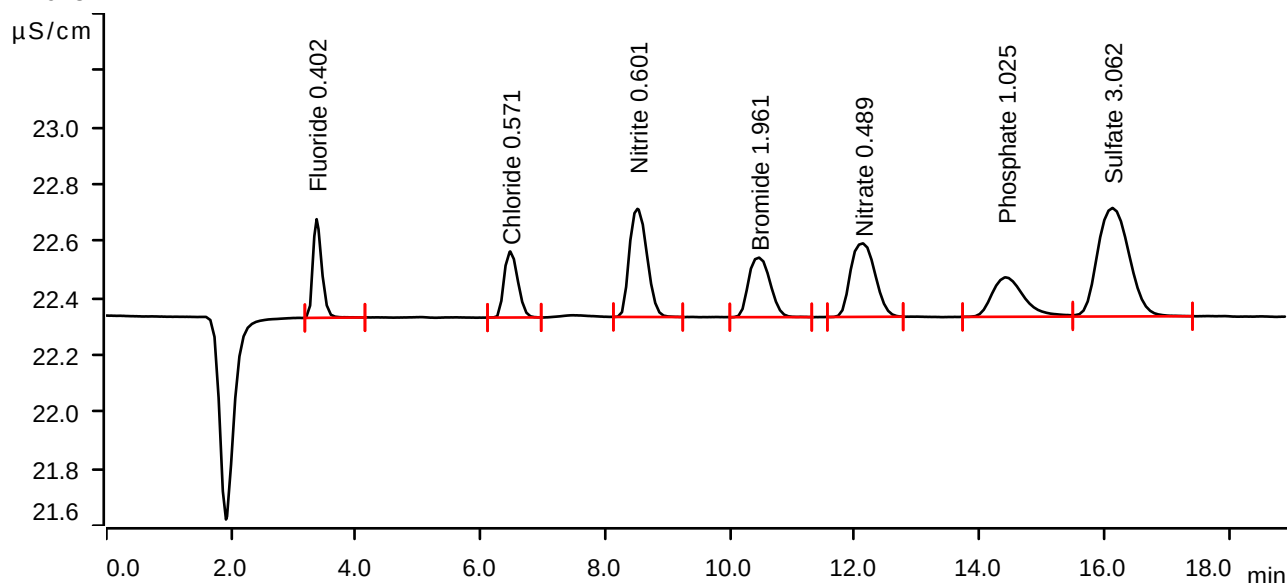
## Sample data

Ident . . . . . STD2  
Sample type . . . . . Standard 2  
Determination start . . . . . 2024-11-18 11:46:16 UTC-5  
Method . . . . . IC1-111824  
Operator . . . . .

## Anions

Data source . . . . . Conductivity detector 1 (Eco IC 1)  
Channel . . . . . Conductivity  
Recording time . . . . . 19.0 min  
Integration . . . . . Automatically  
Column type . . . . . Metrosep A Supp 19 - 150/4.0  
Eluent composition . . . . . not defined  
Flow . . . . . 0.700 mL/min  
Maximum flow monitored . . . . . yes  
Pressure . . . . . 11.54 MPa  
Maximum pressure monitored . . . . . yes  
Temperature . . . . . ---- °C

## Anions



| Peak number | Retention time<br>min | Area<br>(µS/cm) x min | Height<br>µS/cm | Concentration<br>ppm | Component name |
|-------------|-----------------------|-----------------------|-----------------|----------------------|----------------|
| 1           | 3.372                 | 0.0570                | 0.347           | 0.402                | Fluoride       |
| 2           | 6.477                 | 0.0592                | 0.232           | 0.571                | Chloride       |
| 3           | 8.515                 | 0.1247                | 0.380           | 0.601                | Nitrite        |
| 4           | 10.463                | 0.0840                | 0.209           | 1.961                | Bromide        |
| 5           | 12.127                | 0.1179                | 0.258           | 0.489                | Nitrate        |
| 6           | 14.418                | 0.0829                | 0.139           | 1.025                | Phosphate      |
| 7           | 16.130                | 0.2243                | 0.381           | 3.062                | Sulfate        |

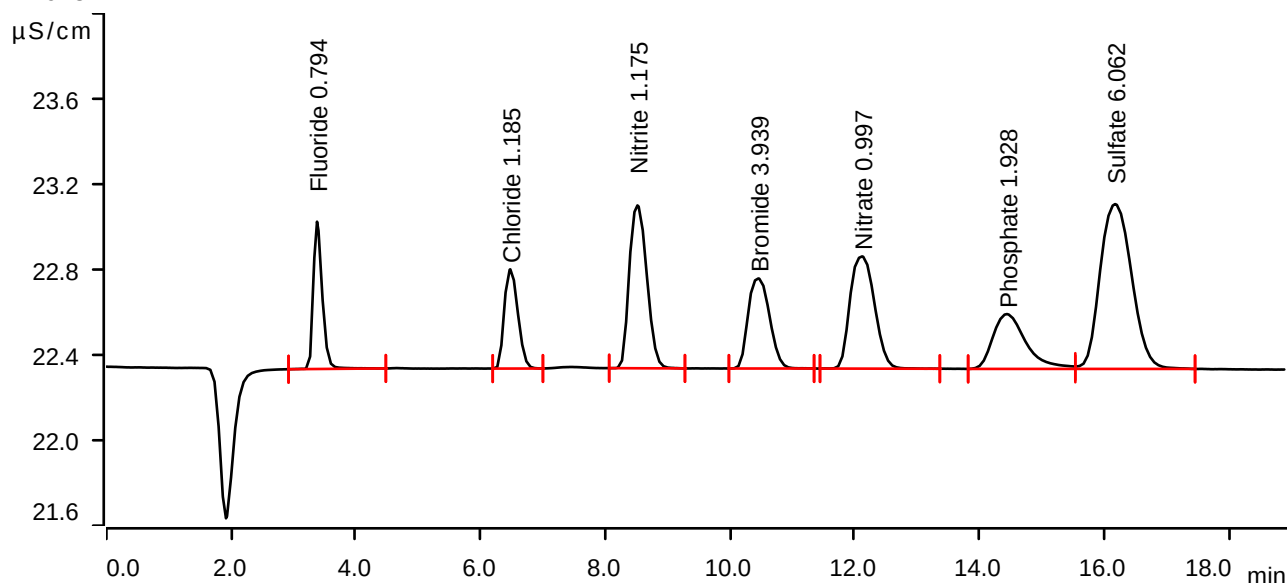
## Sample data

Ident . . . . . STD3  
Sample type . . . . . Standard 3  
Determination start . . . . . 2024-11-18 12:07:40 UTC-5  
Method . . . . . IC1-111824  
Operator . . . . .

## Anions

Data source . . . . . Conductivity detector 1 (Eco IC 1)  
Channel . . . . . Conductivity  
Recording time . . . . . 19.0 min  
Integration . . . . . Automatically  
Column type . . . . . Metrosep A Supp 19 - 150/4.0  
Eluent composition . . . . . not defined  
Flow . . . . . 0.700 mL/min  
Maximum flow monitored . . . . . yes  
Pressure . . . . . 11.37 MPa  
Maximum pressure monitored . . . . . yes  
Temperature . . . . . ---- °C

## Anions



| Peak number | Retention time<br>min | Area<br>(µS/cm) x min | Height<br>µS/cm | Concentration<br>ppm | Component name |
|-------------|-----------------------|-----------------------|-----------------|----------------------|----------------|
| 1           | 3.378                 | 0.1141                | 0.690           | 0.794                | Fluoride       |
| 2           | 6.478                 | 0.1175                | 0.465           | 1.185                | Chloride       |
| 3           | 8.515                 | 0.2490                | 0.763           | 1.175                | Nitrite        |
| 4           | 10.453                | 0.1680                | 0.422           | 3.939                | Bromide        |
| 5           | 12.117                | 0.2394                | 0.526           | 0.997                | Nitrate        |
| 6           | 14.440                | 0.1579                | 0.257           | 1.928                | Phosphate      |
| 7           | 16.173                | 0.4537                | 0.772           | 6.062                | Sulfate        |

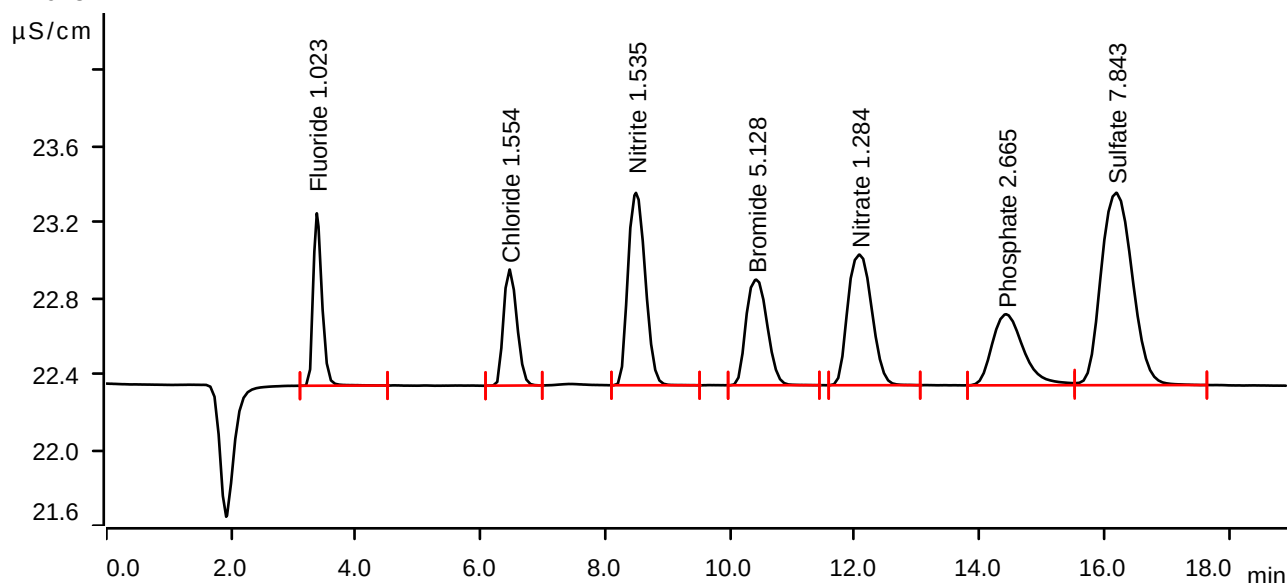
## Sample data

Ident . . . . . STD4  
Sample type . . . . . Standard 4  
Determination start . . . . . 2024-11-18 12:29:05 UTC-5  
Method . . . . . IC1-111824  
Operator . . . . .

## Anions

Data source . . . . . Conductivity detector 1 (Eco IC 1)  
Channel . . . . . Conductivity  
Recording time . . . . . 19.0 min  
Integration . . . . . Automatically  
Column type . . . . . Metrosep A Supp 19 - 150/4.0  
Eluent composition . . . . . not defined  
Flow . . . . . 0.700 mL/min  
Maximum flow monitored . . . . . yes  
Pressure . . . . . 11.32 MPa  
Maximum pressure monitored . . . . . yes  
Temperature . . . . . ---- °C

## Anions



| Peak number | Retention time<br>min | Area<br>(µS/cm) x min | Height<br>µS/cm | Concentration<br>ppm | Component name |
|-------------|-----------------------|-----------------------|-----------------|----------------------|----------------|
| 1           | 3.375                 | 0.1475                | 0.909           | 1.023                | Fluoride       |
| 2           | 6.465                 | 0.1525                | 0.612           | 1.554                | Chloride       |
| 3           | 8.493                 | 0.3268                | 1.014           | 1.535                | Nitrite        |
| 4           | 10.420                | 0.2185                | 0.557           | 5.128                | Bromide        |
| 5           | 12.077                | 0.3078                | 0.689           | 1.284                | Nitrate        |
| 6           | 14.427                | 0.2191                | 0.375           | 2.665                | Phosphate      |
| 7           | 16.192                | 0.5898                | 1.014           | 7.843                | Sulfate        |

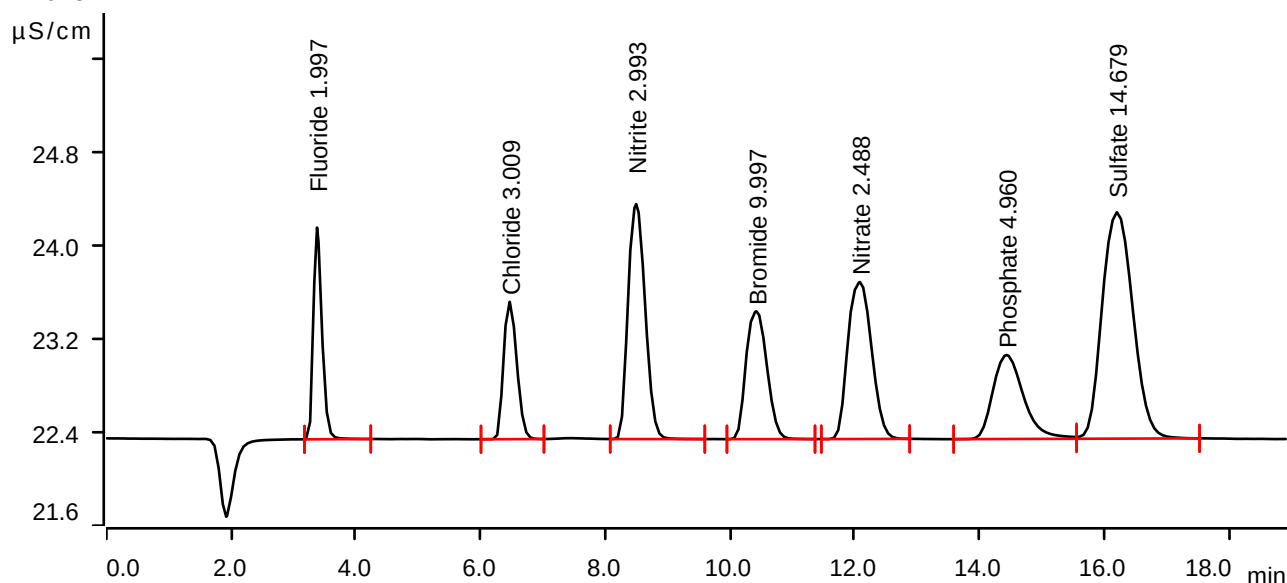
## Sample data

Ident . . . . . STD5  
Sample type . . . . . Standard 5  
Determination start . . . . . 2024-11-18 12:50:30 UTC-5  
Method . . . . . IC1-111824  
Operator . . . . .

## Anions

Data source . . . . . Conductivity detector 1 (Eco IC 1)  
Channel . . . . . Conductivity  
Recording time . . . . . 19.0 min  
Integration . . . . . Automatically  
Column type . . . . . Metrosep A Supp 19 - 150/4.0  
Eluent composition . . . . . not defined  
Flow . . . . . 0.700 mL/min  
Maximum flow monitored . . . . . yes  
Pressure . . . . . 11.26 MPa  
Maximum pressure monitored . . . . . yes  
Temperature . . . . . ---- °C

## Anions



| Peak number | Retention time<br>min | Area<br>(µS/cm) x min | Height<br>µS/cm | Concentration<br>ppm | Component name |
|-------------|-----------------------|-----------------------|-----------------|----------------------|----------------|
| 1           | 3.378                 | 0.2894                | 1.819           | 1.997                | Fluoride       |
| 2           | 6.467                 | 0.2908                | 1.180           | 3.009                | Chloride       |
| 3           | 8.495                 | 0.6422                | 2.018           | 2.993                | Nitrite        |
| 4           | 10.422                | 0.4253                | 1.098           | 9.997                | Bromide        |
| 5           | 12.082                | 0.5953                | 1.348           | 2.488                | Nitrate        |
| 6           | 14.432                | 0.4098                | 0.722           | 4.960                | Phosphate      |
| 7           | 16.203                | 1.1123                | 1.944           | 14.679               | Sulfate        |



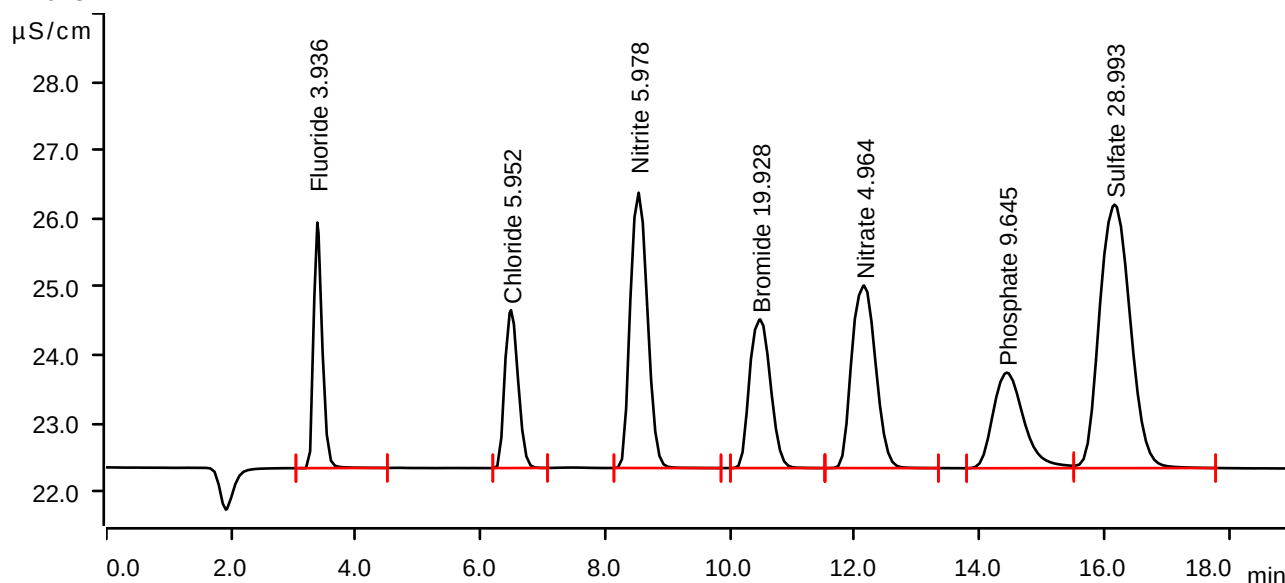
## Sample data

Ident . . . . . STD6  
Sample type . . . . . Standard 6  
Determination start . . . . . 2024-11-18 13:11:57 UTC-5  
Method . . . . . IC1-111824  
Operator . . . . .

## Anions

Data source . . . . . Conductivity detector 1 (Eco IC 1)  
Channel . . . . . Conductivity  
Recording time . . . . . 19.0 min  
Integration . . . . . Automatically  
Column type . . . . . Metrosep A Supp 19 - 150/4.0  
Eluent composition . . . . . not defined  
Flow . . . . . 0.700 mL/min  
Maximum flow monitored . . . . . yes  
Pressure . . . . . 11.37 MPa  
Maximum pressure monitored . . . . . yes  
Temperature . . . . . ---- °C

## Anions



| Peak number | Retention time<br>min | Area<br>(µS/cm) x min | Height<br>µS/cm | Concentration<br>ppm | Component name |
|-------------|-----------------------|-----------------------|-----------------|----------------------|----------------|
| 1           | 3.383                 | 0.5717                | 3.596           | 3.936                | Fluoride       |
| 2           | 6.488                 | 0.5704                | 2.311           | 5.952                | Chloride       |
| 3           | 8.533                 | 1.2879                | 4.031           | 5.978                | Nitrite        |
| 4           | 10.483                | 0.8469                | 2.176           | 19.928               | Bromide        |
| 5           | 12.148                | 1.1866                | 2.673           | 4.964                | Nitrate        |
| 6           | 14.438                | 0.7991                | 1.399           | 9.645                | Phosphate      |
| 7           | 16.165                | 2.2065                | 3.859           | 28.993               | Sulfate        |

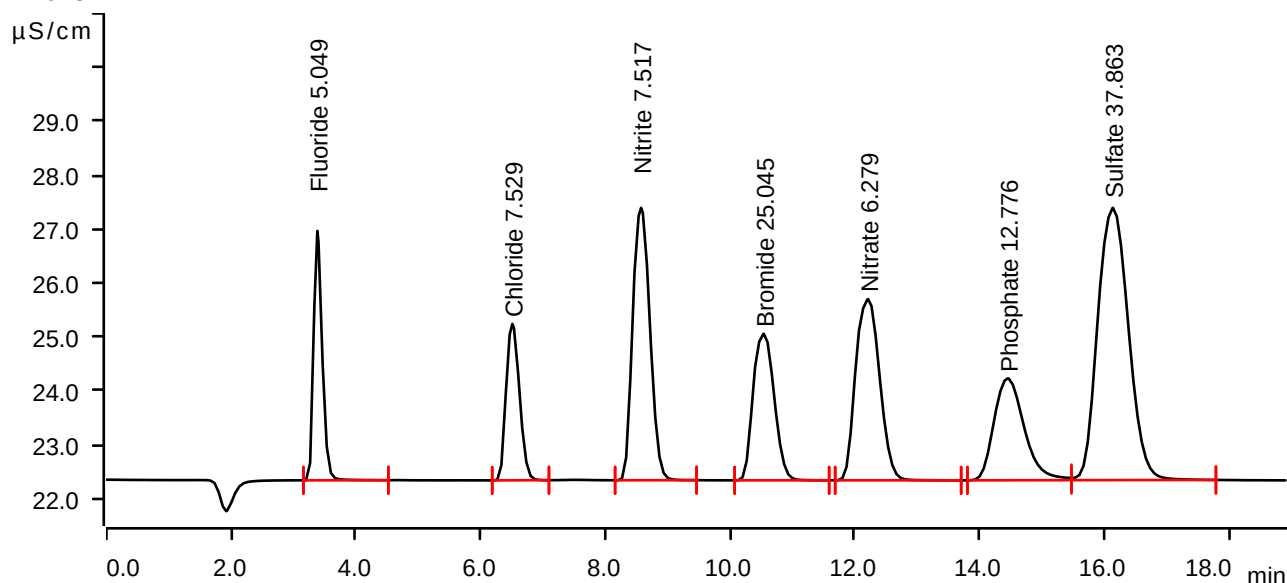
## Sample data

Ident . . . . . STD7  
Sample type . . . . . Standard 7  
Determination start . . . . . 2024-11-18 13:33:24 UTC-5  
Method . . . . . IC1-111824  
Operator . . . . .

## Anions

Data source . . . . . Conductivity detector 1 (Eco IC 1)  
Channel . . . . . Conductivity  
Recording time . . . . . 19.0 min  
Integration . . . . . Automatically  
Column type . . . . . Metrosep A Supp 19 - 150/4.0  
Eluent composition . . . . . not defined  
Flow . . . . . 0.700 mL/min  
Maximum flow monitored . . . . . yes  
Pressure . . . . . 11.54 MPa  
Maximum pressure monitored . . . . . yes  
Temperature . . . . . ---- °C

## Anions



| Peak number | Retention time<br>min | Area<br>(µS/cm) x min | Height<br>µS/cm | Concentration<br>ppm | Component name |
|-------------|-----------------------|-----------------------|-----------------|----------------------|----------------|
| 1           | 3.383                 | 0.7339                | 4.626           | 5.049                | Fluoride       |
| 2           | 6.510                 | 0.7203                | 2.901           | 7.529                | Chloride       |
| 3           | 8.573                 | 1.6208                | 5.052           | 7.517                | Nitrite        |
| 4           | 10.542                | 1.0642                | 2.717           | 25.045               | Bromide        |
| 5           | 12.213                | 1.5007                | 3.361           | 6.279                | Nitrate        |
| 6           | 14.452                | 1.0592                | 1.891           | 12.776               | Phosphate      |
| 7           | 16.138                | 2.8845                | 5.052           | 37.863               | Sulfate        |

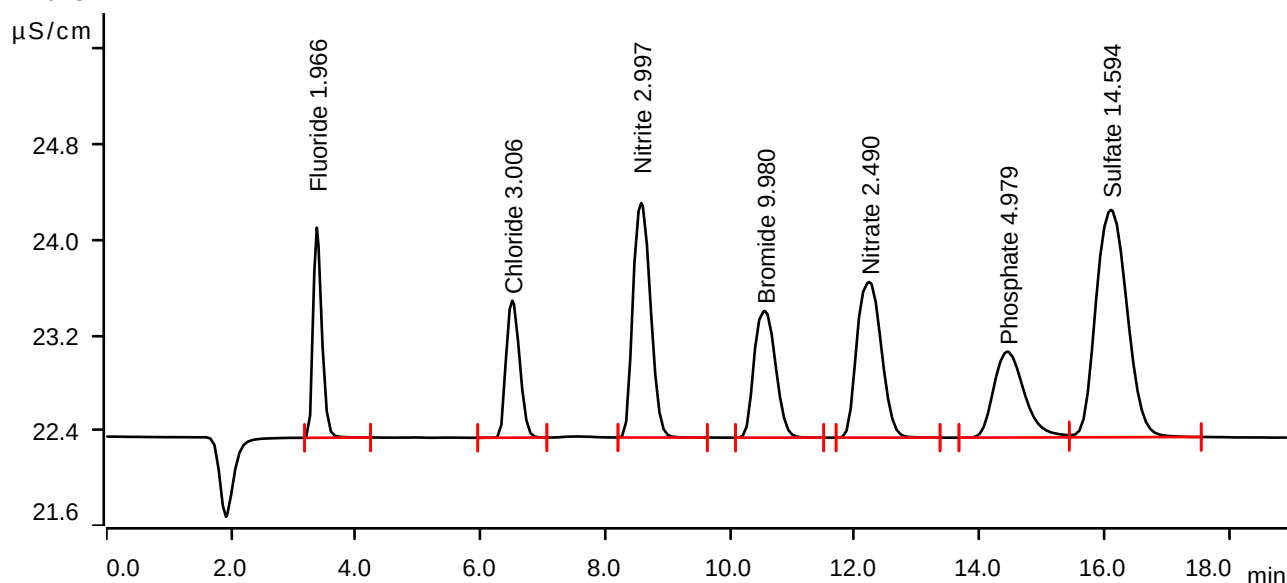
## Sample data

Ident . . . . . ICV  
Sample type . . . . . Check standard 1  
Determination start . . . . . 2024-11-18 13:54:44 UTC-5  
Method . . . . . IC1-111824  
Operator . . . . .

## Anions

Data source . . . . . Conductivity detector 1 (Eco IC 1)  
Channel . . . . . Conductivity  
Recording time . . . . . 19.0 min  
Integration . . . . . Automatically  
Column type . . . . . Metrosep A Supp 19 - 150/4.0  
Eluent composition . . . . . not defined  
Flow . . . . . 0.700 mL/min  
Maximum flow monitored . . . . . yes  
Pressure . . . . . 11.66 MPa  
Maximum pressure monitored . . . . . yes  
Temperature . . . . . ---- °C

## Anions



| Peak number | Retention time<br>min | Area<br>(µS/cm) x min | Height<br>µS/cm | Concentration<br>ppm | Component name |
|-------------|-----------------------|-----------------------|-----------------|----------------------|----------------|
| 1           | 3.375                 | 0.2848                | 1.764           | 1.966                | Fluoride       |
| 2           | 6.508                 | 0.2905                | 1.150           | 3.006                | Chloride       |
| 3           | 8.577                 | 0.6430                | 1.968           | 2.997                | Nitrite        |
| 4           | 10.557                | 0.4245                | 1.063           | 9.980                | Bromide        |
| 5           | 12.230                | 0.5959                | 1.307           | 2.490                | Nitrate        |
| 6           | 14.447                | 0.4114                | 0.721           | 4.979                | Phosphate      |
| 7           | 16.107                | 1.1058                | 1.909           | 14.594               | Sulfate        |

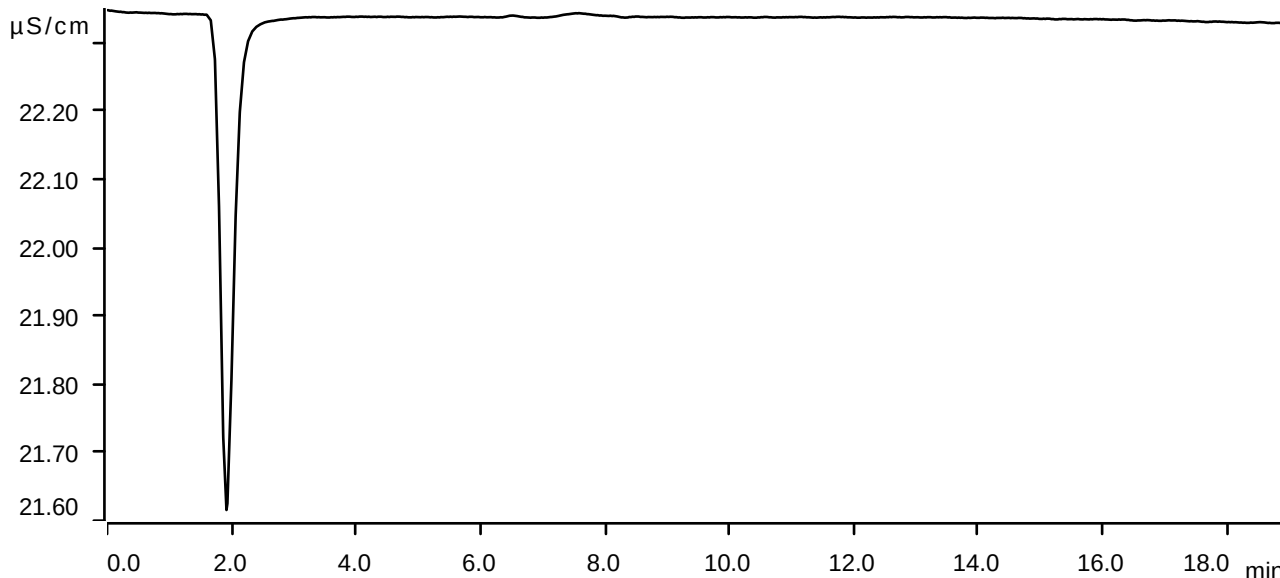
## Sample data

Ident . . . . . ICB  
Sample type . . . . . Sample  
Determination start . . . . . 2024-11-18 14:16:12 UTC-5  
Method . . . . . IC1-111824  
Operator . . . . .

## Anions

Data source . . . . . Conductivity detector 1 (Eco IC 1)  
Channel . . . . . Conductivity  
Recording time . . . . . 19.0 min  
Integration . . . . . Automatically  
Column type . . . . . Metrosep A Supp 19 - 150/4.0  
Eluent composition . . . . . not defined  
Flow . . . . . 0.700 mL/min  
Maximum flow monitored . . . . . yes  
Pressure . . . . . 11.66 MPa  
Maximum pressure monitored . . . . . yes  
Temperature . . . . . ---- °C

## Anions



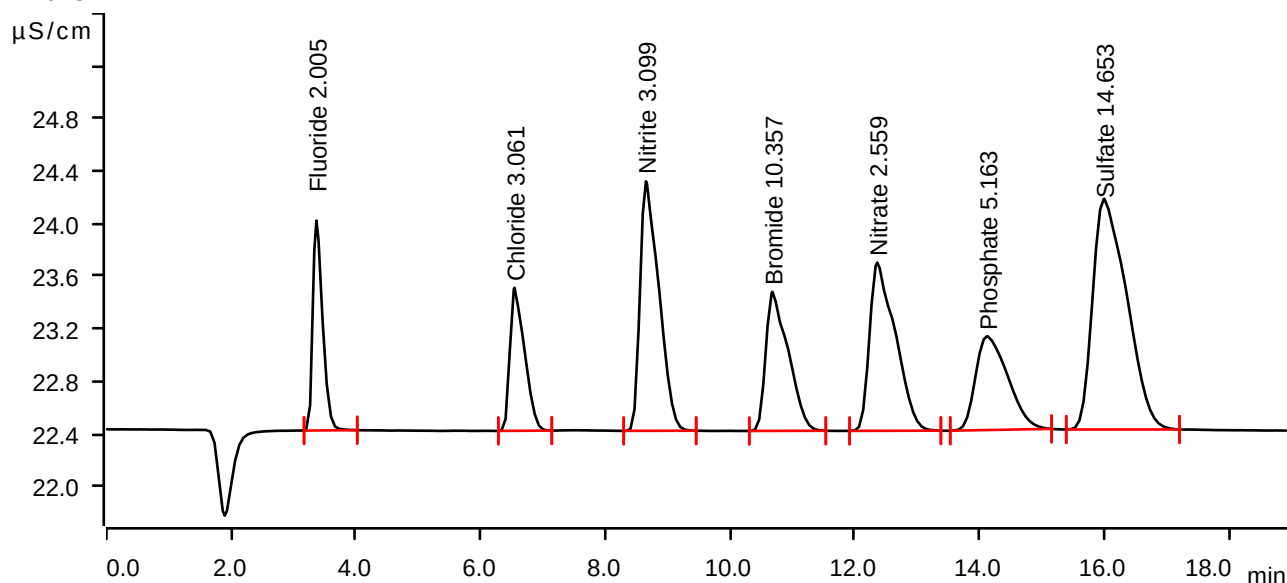
## Sample data

Ident . . . . . CCV  
Sample type . . . . . Check standard 1  
Determination start . . . . . 2024-11-27 11:26:27 UTC-5  
Method . . . . . IC1-111824  
Operator . . . . .

## Anions

Data source . . . . . Conductivity detector 1 (Eco IC 1)  
Channel . . . . . Conductivity  
Recording time . . . . . 19.0 min  
Integration . . . . . Automatically  
Column type . . . . . Metrosep A Supp 19 - 150/4.0  
Eluent composition . . . . . not defined  
Flow . . . . . 0.700 mL/min  
Maximum flow monitored . . . . . yes  
Pressure . . . . . 12.16 MPa  
Maximum pressure monitored . . . . . yes  
Temperature . . . . . ---- °C

## Anions



| Peak number | Retention time<br>min | Area<br>(µS/cm) x min | Height<br>µS/cm | Concentration<br>ppm | Component name |
|-------------|-----------------------|-----------------------|-----------------|----------------------|----------------|
| 1           | 3.368                 | 0.2906                | 1.598           | 2.005                | Fluoride       |
| 2           | 6.545                 | 0.2957                | 1.089           | 3.061                | Chloride       |
| 3           | 8.652                 | 0.6650                | 1.900           | 3.099                | Nitrite        |
| 4           | 10.680                | 0.4405                | 1.059           | 10.357               | Bromide        |
| 5           | 12.360                | 0.6123                | 1.281           | 2.559                | Nitrate        |
| 6           | 14.120                | 0.4267                | 0.714           | 5.163                | Phosphate      |
| 7           | 15.993                | 1.1103                | 1.757           | 14.653               | Sulfate        |

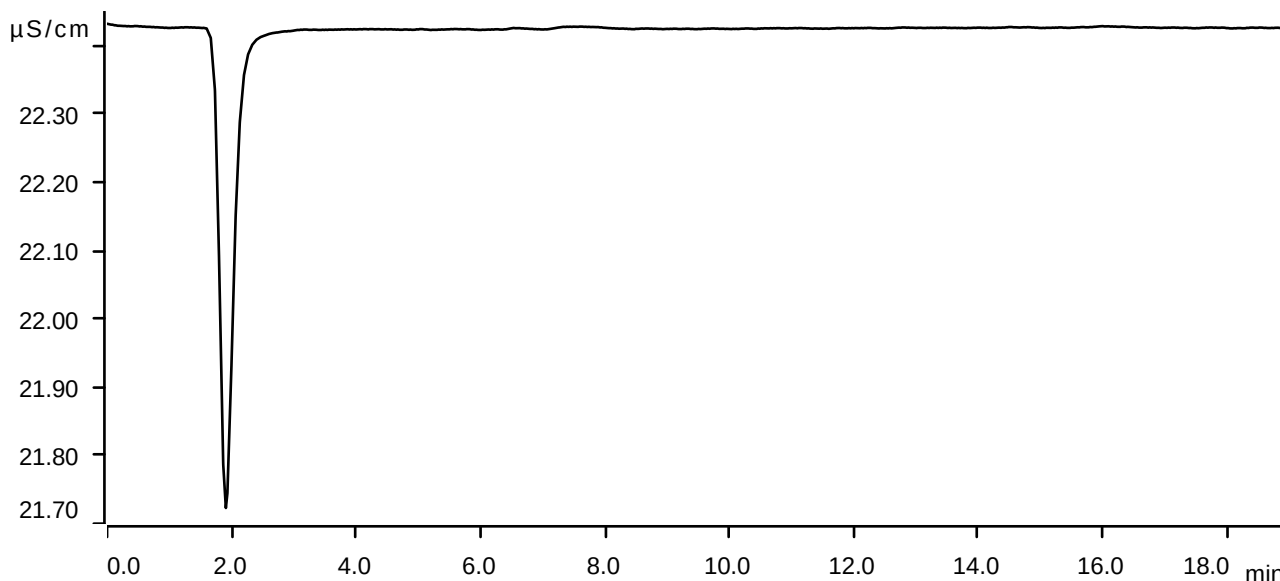
## Sample data

Ident . . . . . CCB  
Sample type . . . . . Sample  
Determination start . . . . . 2024-11-27 11:47:56 UTC-5  
Method . . . . . IC1-111824  
Operator . . . . .

## Anions

Data source . . . . . Conductivity detector 1 (Eco IC 1)  
Channel . . . . . Conductivity  
Recording time . . . . . 19.0 min  
Integration . . . . . Automatically  
Column type . . . . . Metrosep A Supp 19 - 150/4.0  
Eluent composition . . . . . not defined  
Flow . . . . . 0.700 mL/min  
Maximum flow monitored . . . . . yes  
Pressure . . . . . 11.99 MPa  
Maximum pressure monitored . . . . . yes  
Temperature . . . . . ---- °C

## Anions



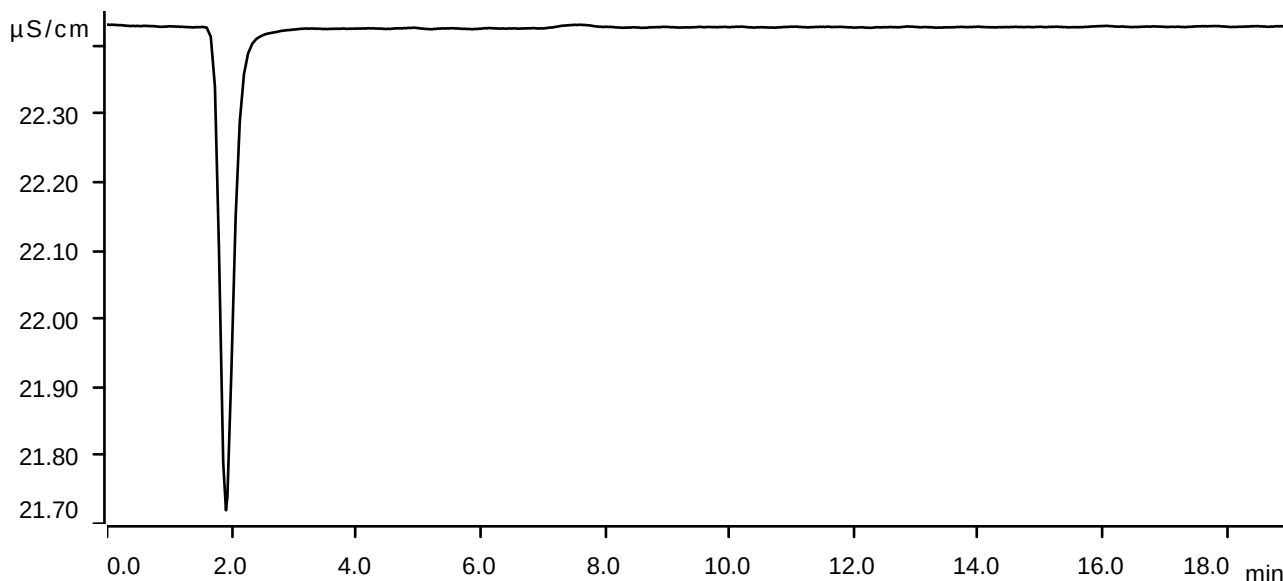
## Sample data

Ident . . . . . LB133665BLW  
Sample type . . . . . Sample  
Determination start . . . . . 2024-11-27 12:09:26 UTC-5  
Method . . . . . IC1-111824  
Operator . . . . .

## Anions

Data source . . . . . Conductivity detector 1 (Eco IC 1)  
Channel . . . . . Conductivity  
Recording time . . . . . 19.0 min  
Integration . . . . . Automatically  
Column type . . . . . Metrosep A Supp 19 - 150/4.0  
Eluent composition . . . . . not defined  
Flow . . . . . 0.700 mL/min  
Maximum flow monitored . . . . . yes  
Pressure . . . . . 11.94 MPa  
Maximum pressure monitored . . . . . yes  
Temperature . . . . . ---- °C

## Anions



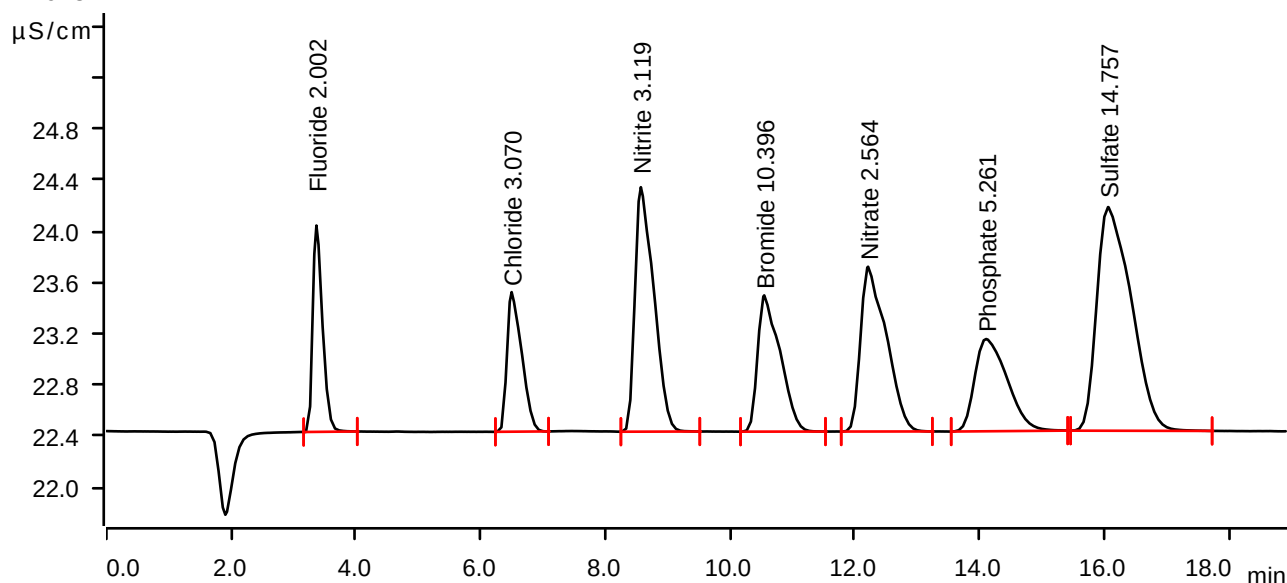
## Sample data

Ident . . . . . LB133665BSW  
Sample type . . . . . Check standard 1  
Determination start . . . . . 2024-11-27 12:30:57 UTC-5  
Method . . . . . IC1-111824  
Operator . . . . .

## Anions

Data source . . . . . Conductivity detector 1 (Eco IC 1)  
Channel . . . . . Conductivity  
Recording time . . . . . 19.0 min  
Integration . . . . . Automatically  
Column type . . . . . Metrosep A Supp 19 - 150/4.0  
Eluent composition . . . . . not defined  
Flow . . . . . 0.700 mL/min  
Maximum flow monitored . . . . . yes  
Pressure . . . . . 11.82 MPa  
Maximum pressure monitored . . . . . yes  
Temperature . . . . . ---- °C

## Anions



| Peak number | Retention time<br>min | Area<br>(µS/cm) x min | Height<br>µS/cm | Concentration<br>ppm | Component name |
|-------------|-----------------------|-----------------------|-----------------|----------------------|----------------|
| 1           | 3.368                 | 0.2901                | 1.611           | 2.002                | Fluoride       |
| 2           | 6.498                 | 0.2966                | 1.090           | 3.070                | Chloride       |
| 3           | 8.570                 | 0.6694                | 1.909           | 3.119                | Nitrite        |
| 4           | 10.548                | 0.4422                | 1.064           | 10.396               | Bromide        |
| 5           | 12.213                | 0.6136                | 1.287           | 2.564                | Nitrate        |
| 6           | 14.107                | 0.4348                | 0.721           | 5.261                | Phosphate      |
| 7           | 16.060                | 1.1183                | 1.747           | 14.757               | Sulfate        |



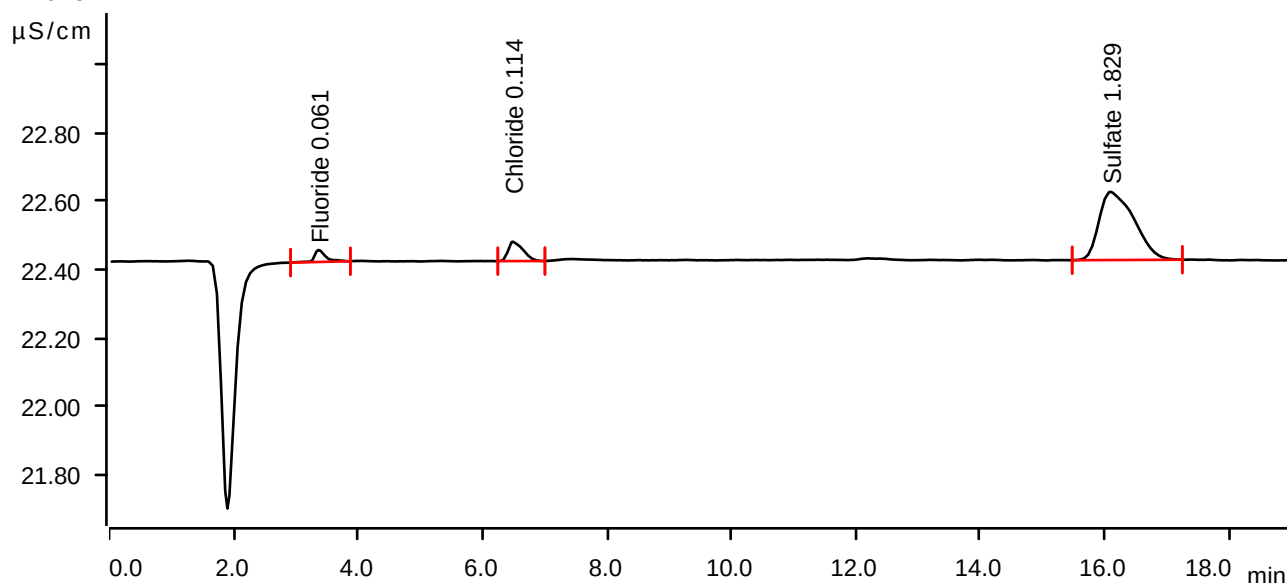
## Sample data

Ident . . . . . P5022-01  
Sample type . . . . . Sample  
Determination start . . . . . 2024-11-27 13:51:17 UTC-5  
Method . . . . . IC1-111824  
Operator . . . . .

## Anions

Data source . . . . . Conductivity detector 1 (Eco IC 1)  
Channel . . . . . Conductivity  
Recording time . . . . . 19.0 min  
Integration . . . . . Automatically  
Column type . . . . . Metrosep A Supp 19 - 150/4.0  
Eluent composition . . . . . not defined  
Flow . . . . . 0.700 mL/min  
Maximum flow monitored . . . . . yes  
Pressure . . . . . 11.77 MPa  
Maximum pressure monitored . . . . . yes  
Temperature . . . . . ---- °C

## Anions



| Peak number | Retention time<br>min | Area<br>(µS/cm) x min | Height<br>µS/cm | Concentration<br>ppm | Component name |
|-------------|-----------------------|-----------------------|-----------------|----------------------|----------------|
| 1           | 3.367                 | 0.0074                | 0.035           | 0.061                | Fluoride       |
| 2           | 6.487                 | 0.0157                | 0.057           | 0.114                | Chloride       |
| 3           | 16.097                | 0.1301                | 0.200           | 1.829                | Sulfate        |

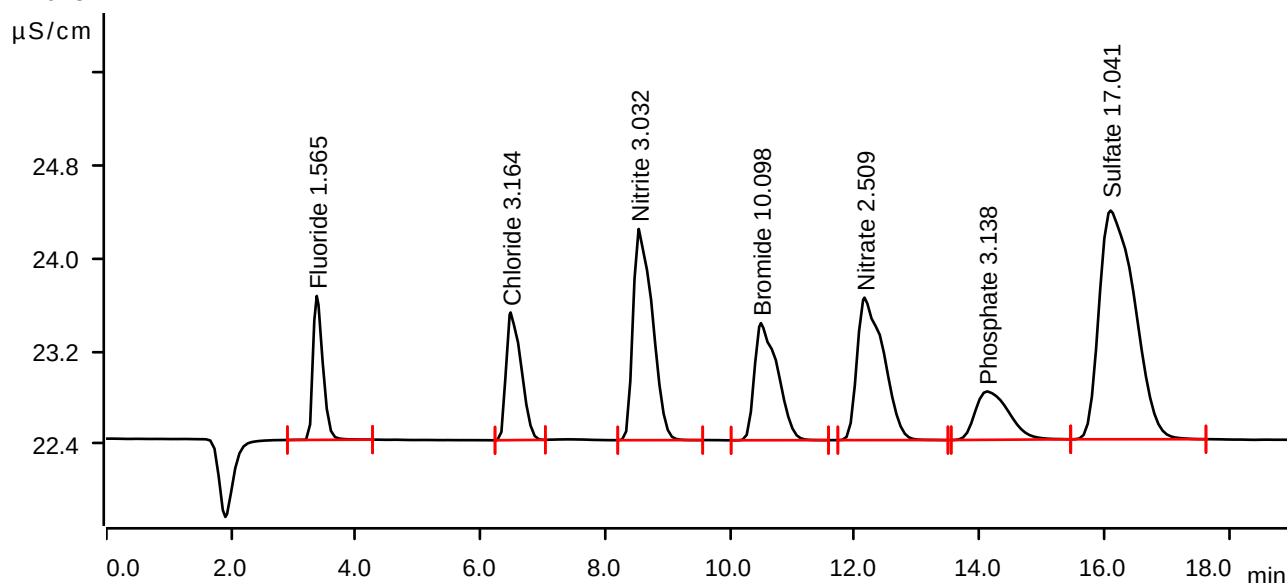
## Sample data

Ident . . . . . P5022-01MS  
Sample type . . . . . Sample  
Determination start . . . . . 2024-11-27 14:12:54 UTC-5  
Method . . . . . IC1-111824  
Operator . . . . .

## Anions

Data source . . . . . Conductivity detector 1 (Eco IC 1)  
Channel . . . . . Conductivity  
Recording time . . . . . 19.0 min  
Integration . . . . . Automatically  
Column type . . . . . Metrosep A Supp 19 - 150/4.0  
Eluent composition . . . . . not defined  
Flow . . . . . 0.700 mL/min  
Maximum flow monitored . . . . . yes  
Pressure . . . . . 11.66 MPa  
Maximum pressure monitored . . . . . yes  
Temperature . . . . . ---- °C

## Anions



| Peak number | Retention time<br>min | Area<br>(µS/cm) x min | Height<br>µS/cm | Concentration<br>ppm | Component name |
|-------------|-----------------------|-----------------------|-----------------|----------------------|----------------|
| 1           | 3.373                 | 0.2265                | 1.237           | 1.565                | Fluoride       |
| 2           | 6.482                 | 0.3055                | 1.097           | 3.164                | Chloride       |
| 3           | 8.537                 | 0.6507                | 1.814           | 3.032                | Nitrite        |
| 4           | 10.495                | 0.4295                | 1.006           | 10.098               | Bromide        |
| 5           | 12.155                | 0.6004                | 1.224           | 2.509                | Nitrate        |
| 6           | 14.120                | 0.2584                | 0.415           | 3.138                | Phosphate      |
| 7           | 16.100                | 1.2929                | 1.964           | 17.041               | Sulfate        |

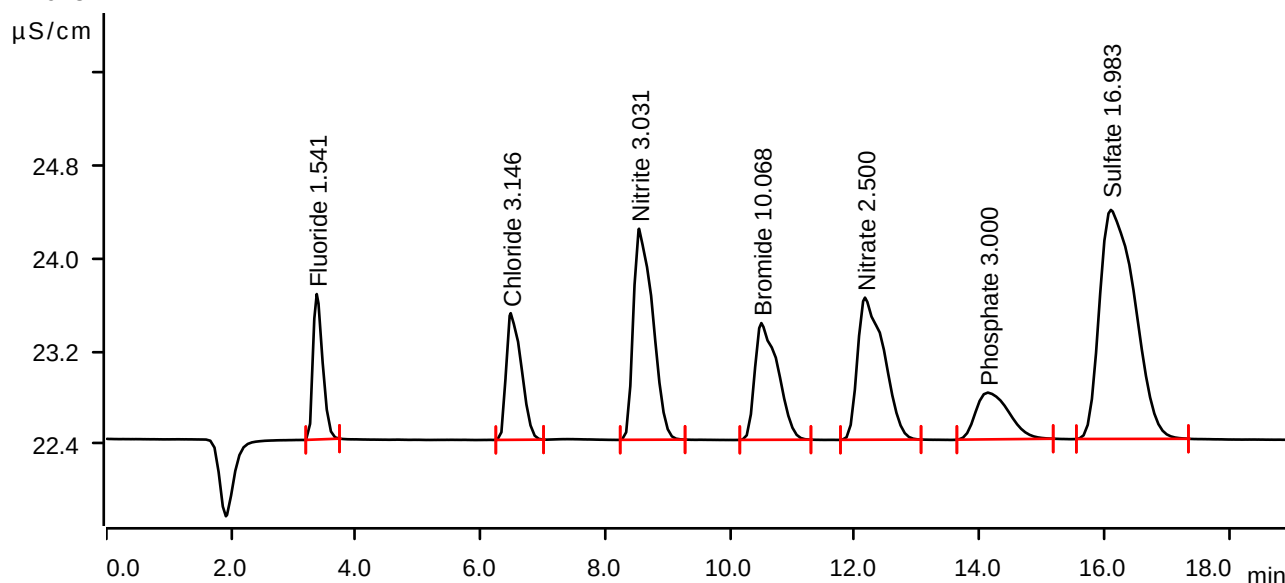
## Sample data

Ident . . . . . P5022-01MSD  
Sample type . . . . . Sample  
Determination start . . . . . 2024-11-27 14:34:27 UTC-5  
Method . . . . . IC1-111824  
Operator . . . . .

## Anions

Data source . . . . . Conductivity detector 1 (Eco IC 1)  
Channel . . . . . Conductivity  
Recording time . . . . . 19.0 min  
Integration . . . . . Automatically  
Column type . . . . . Metrosep A Supp 19 - 150/4.0  
Eluent composition . . . . . not defined  
Flow . . . . . 0.700 mL/min  
Maximum flow monitored . . . . . yes  
Pressure . . . . . 11.71 MPa  
Maximum pressure monitored . . . . . yes  
Temperature . . . . . ---- °C

## Anions



| Peak number | Retention time<br>min | Area<br>(µS/cm) x min | Height<br>µS/cm | Concentration<br>ppm | Component name |
|-------------|-----------------------|-----------------------|-----------------|----------------------|----------------|
| 1           | 3.373                 | 0.2229                | 1.249           | 1.541                | Fluoride       |
| 2           | 6.483                 | 0.3038                | 1.088           | 3.146                | Chloride       |
| 3           | 8.542                 | 0.6504                | 1.813           | 3.031                | Nitrite        |
| 4           | 10.502                | 0.4282                | 1.003           | 10.068               | Bromide        |
| 5           | 12.163                | 0.5983                | 1.221           | 2.500                | Nitrate        |
| 6           | 14.132                | 0.2469                | 0.401           | 3.000                | Phosphate      |
| 7           | 16.105                | 1.2884                | 1.967           | 16.983               | Sulfate        |

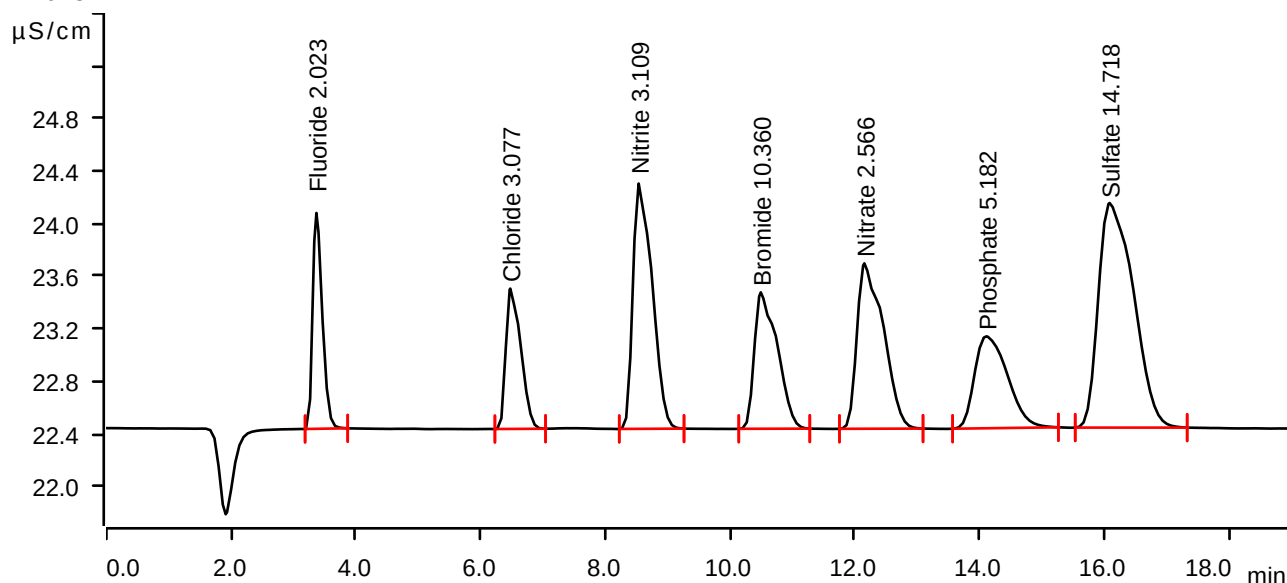
## Sample data

Ident . . . . . CCV  
Sample type . . . . . Check standard 1  
Determination start . . . . . 2024-11-27 14:56:01 UTC-5  
Method . . . . . IC1-111824  
Operator . . . . .

## Anions

Data source . . . . . Conductivity detector 1 (Eco IC 1)  
Channel . . . . . Conductivity  
Recording time . . . . . 19.0 min  
Integration . . . . . Automatically  
Column type . . . . . Metrosep A Supp 19 - 150/4.0  
Eluent composition . . . . . not defined  
Flow . . . . . 0.700 mL/min  
Maximum flow monitored . . . . . yes  
Pressure . . . . . 11.77 MPa  
Maximum pressure monitored . . . . . yes  
Temperature . . . . . ---- °C

## Anions



| Peak number | Retention time<br>min | Area<br>(µS/cm) x min | Height<br>µS/cm | Concentration<br>ppm | Component name |
|-------------|-----------------------|-----------------------|-----------------|----------------------|----------------|
| 1           | 3.368                 | 0.2932                | 1.643           | 2.023                | Fluoride       |
| 2           | 6.477                 | 0.2972                | 1.069           | 3.077                | Chloride       |
| 3           | 8.535                 | 0.6673                | 1.868           | 3.109                | Nitrite        |
| 4           | 10.493                | 0.4406                | 1.038           | 10.360               | Bromide        |
| 5           | 12.153                | 0.6141                | 1.259           | 2.566                | Nitrate        |
| 6           | 14.110                | 0.4283                | 0.700           | 5.182                | Phosphate      |
| 7           | 16.085                | 1.1153                | 1.710           | 14.718               | Sulfate        |

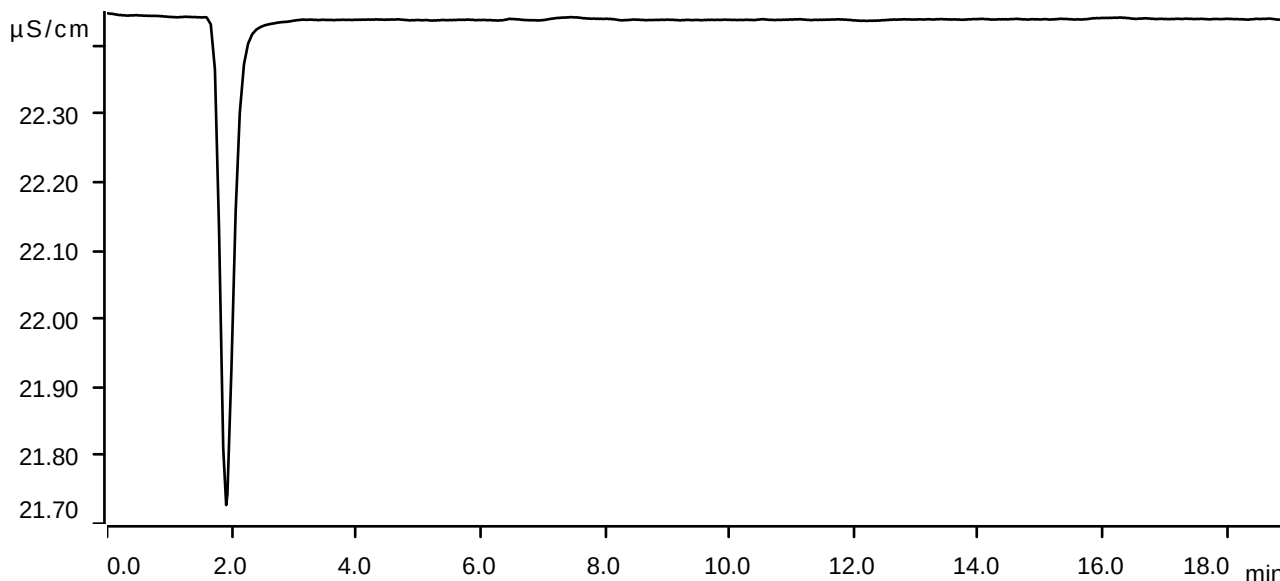
## Sample data

Ident . . . . . CCB  
Sample type . . . . . Sample  
Determination start . . . . . 2024-11-27 15:17:31 UTC-5  
Method . . . . . IC1-111824  
Operator . . . . .

## Anions

Data source . . . . . Conductivity detector 1 (Eco IC 1)  
Channel . . . . . Conductivity  
Recording time . . . . . 19.0 min  
Integration . . . . . Automatically  
Column type . . . . . Metrosep A Supp 19 - 150/4.0  
Eluent composition . . . . . not defined  
Flow . . . . . 0.700 mL/min  
Maximum flow monitored . . . . . yes  
Pressure . . . . . 11.71 MPa  
Maximum pressure monitored . . . . . yes  
Temperature . . . . . ---- °C

## Anions



WORKLIST(Hardcopy Internal Chain)

LB133665

WorkList Name : ANIONS S-11272024

WorkList ID : 185854

Department : Wet-Chemistry

Date : 11-27-2024 12:33:45

| Sample   | Customer Sample                  | Matrix | Test          | Preservative | Customer | Raw Sample Storage Location | Collect Date | Method |
|----------|----------------------------------|--------|---------------|--------------|----------|-----------------------------|--------------|--------|
| P5022-01 | 5.02g TAPIAL2-SB02D-13-112424-00 | Solid  | Anions Group1 | Cool 4 deg C | WEST04   | L41                         | 11/24/2024   | 9056A  |

P5022-01MS 0.1g

P5022-01MSA 5.01g

BL 5.00g

BS 5.00g

Final volume 100ml with DI water

Balance ID : WC SC-7 NF

11-27-2024

Date/Time 11-27-2024 12:45

Raw Sample Received by: NF(WC)

Raw Sample Relinquished by: SD GARCIA

Date/Time

11-27-2024

Raw Sample Received by:

Raw Sample Relinquished by:

14:3

SD GARCIA

NF(WC)

## Analytical Summary Report

Analysis Method: 9045D

Analyst By : jignesh

Parameter: pH

Supervisor Review By : Iwona

Run Number: LB133690

Slope : 98.6

BalanceID: WC SC-7

pH Meter ID : WC PH METER-1

| Calibration Standards          | Chemtech Log# |
|--------------------------------|---------------|
| PH 4 BUFFER SOLUTION           | W3107         |
| BUFFER PH 7.00 GREEN 1PINT PK6 | W3093         |
| PH 10.01 BUFFER,COLOR CD 475ML | W3094         |
| buffer solution pH 7 yellow    | W3071         |
| Buffer Solution, PH2 (500ml)   | W3005         |
| Buffer Solution, PH12 (500ml)  | W3072         |

True Value of ICV = 7.00 Control Limits[+/- 0.1].

True Value of CCV1 = 2.00 Control Limits[+/- 0.1].

True Value of CCV2 = 12.00 Control Limits[+/- 0.1].

| Seq | LabID       | DF | Matrix | Weight (gm) | Volume (ml) | Temperature (°C) | Result (pH) | Anal Date  | Anal Time |
|-----|-------------|----|--------|-------------|-------------|------------------|-------------|------------|-----------|
| 1   | CAL1        | 1  | Water  | NA          | NA          | 20.3             | 4.01        | 12/02/2024 | 15:37     |
| 2   | CAL2        | 1  | Water  | NA          | NA          | 20.3             | 7.00        | 12/02/2024 | 15:38     |
| 3   | CAL3        | 1  | Water  | NA          | NA          | 20.3             | 10.02       | 12/02/2024 | 15:40     |
| 4   | ICV         | 1  | Water  | NA          | NA          | 20.3             | 7.00        | 12/02/2024 | 15:45     |
| 5   | CCV1        | 1  | Water  | NA          | NA          | 20.3             | 2.01        | 12/02/2024 | 15:50     |
| 6   | P5022-01    | 1  | Solid  | 20.02       | 20          | 22.1             | 6.17        | 12/02/2024 | 16:00     |
| 7   | P5022-01DUP | 1  | Solid  | 20.03       | 20          | 22.2             | 6.18        | 12/02/2024 | 16:02     |
| 8   | CCV2        | 1  | Water  | NA          | NA          | 20.3             | 12.02       | 12/02/2024 | 16:05     |

WORKLIST(Hardcopy Internal Chain)

WP 133690

WorkList Name : PH P5022

WorkList ID : 185903

Department : Wet-Chemistry

Date : 12-02-2024 15:27:24

| Sample   | Customer Sample             | Matrix | Test | Preservative | Customer | Raw Sample Storage Location | Collect Date | Method |
|----------|-----------------------------|--------|------|--------------|----------|-----------------------------|--------------|--------|
| P5022-01 | TAPIAL2-SB02D-13-112424-00. | Solid  | pH   | Cool 4 deg C | WEST04   | L41                         | 11/24/2024   | 9045D  |

Date/Time 12/02/24 15:30  
Raw Sample Received by: [Signature]  
Raw Sample Relinquished by: [Signature]

Date/Time 12/02/24 17:30  
Raw Sample Received by: [Signature]  
Raw Sample Relinquished by: [Signature]



| Sample ID        | Result       | Std. Dev. | RSD | Mode | ALT |
|------------------|--------------|-----------|-----|------|-----|
| CCV1             | 906.9207     |           |     | TOC  |     |
| CCV1             | 946.1523     |           |     | TOC  |     |
| CCV1             | 943.5790     |           |     | TOC  |     |
| CCV1.....        | 952.4374...  | ..        | ... | TOC  | ..  |
| CCB1             | 24.7643      |           |     | TOC  |     |
| CCB1             | 7.8669       |           |     | TOC  |     |
| CCB1.....        | 30.2333...   | ..        | ... | TOC  | ..  |
| CCB1             | 23.6075      |           |     | TOC  |     |
| LB133779BLS      | 2.3765       |           |     | TOC  |     |
| LB133779BLS..... | 1.9132...    | ..        | ... | TOC  | ..  |
| LB133779BLS      | 5.4325       |           |     | TOC  |     |
| LB133779BLS      | 13.4427      |           |     | TOC  |     |
| LB133779BSS..... | 960.5422...  | ..        | ... | TOC  | ..  |
| LB133779BSS      | 966.7218     |           |     | TOC  |     |
| LB133779BSS      | 945.8391     |           |     | TOC  |     |
| LB133779BSS..... | 973.9248...  | ..        | ... | TOC  | ..  |
| P5113-01         | 313.2646     |           |     | TOC  |     |
| P5113-01         | 331.6778     |           |     | TOC  |     |
| P5113-01.....    | 232.7811...  | ..        | ... | TOC  | ..  |
| P5113-01         | 231.7867     |           |     | TOC  |     |
| P5113-02         | 424.3524     |           |     | TOC  |     |
| P5113-02.....    | 348.4884...  | ..        | ... | TOC  | ..  |
| P5113-02         | 404.6520     |           |     | TOC  |     |
| P5113-02         | 409.2955     |           |     | TOC  |     |
| P5022-01.....    | 1592.4867... | ..        | ... | TOC  | ..  |
| P5022-01         | 1520.0836    |           |     | TOC  |     |
| P5022-01         | 1924.7922    |           |     | TOC  |     |
| P5022-01.....    | 1631.9971... | ..        | ... | TOC  | ..  |
| P5022-01MS       | 2194.9075    |           |     | TOC  |     |
| P5022-01MS       | 2786.8528    |           |     | TOC  |     |
| P5022-01MS.....  | 2944.4070... | ..        | ... | TOC  | ..  |
| P5022-01MS       | 2298.9773    |           |     | TOC  |     |
| P5022-01MSD      | 2434.9634    |           |     | TOC  |     |
| P5022-01MSD..... | 2164.7324... | ..        | ... | TOC  | ..  |
| P5022-01MSD      | 3038.4358    |           |     | TOC  |     |
| P5022-01MSD      | 2567.5728    |           |     | TOC  |     |
| P5076-01.....    | 1049.1886... | ..        | ... | TOC  | ..  |
| P5076-01         | 1247.4980    |           |     | TOC  |     |
| P5076-01         | 1138.2893    |           |     | TOC  |     |
| P5076-01.....    | 1132.0439... | ..        | ... | TOC  | ..  |
| P5117-01         | 477.3856     |           |     | TOC  |     |
| P5117-01         | 409.1736     |           |     | TOC  |     |
| P5117-01.....    | 378.8983...  | ..        | ... | TOC  | ..  |
| P5117-01         | 338.3237     |           |     | TOC  |     |
| CCV2             | 1074.5073    |           |     | TOC  |     |
| CCV2.....        | 980.9690...  | ..        | ... | TOC  | ..  |
| CCV2             | 974.1614     |           |     | TOC  |     |
| CCV2             | 965.5085     |           |     | TOC  |     |
| CCB2.....        | 5.6898...    | ..        | ... | TOC  | ..  |
| CCB2             | 17.7748      |           |     | TOC  |     |
| CCB2             | 43.7854      |           |     | TOC  |     |
| CCB2.....        | 7.1315...    | ..        | ... | TOC  | ..  |

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| Method ID |         | Sample Type | Vial Timestamp |                    | Message               |
|-----------|---------|-------------|----------------|--------------------|-----------------------|
| Boat      | Sampler | Sample      | 2024/12/06     | 10:01              |                       |
| Boat      | Sampler | Sample      | 2024/12/06     | 10:09              |                       |
| Boat      | Sampler | Sample      | 2024/12/06     | 10:12              |                       |
| Boat      | Sampler | ...Sample   | ..             | ..2024/12/06 10:16 | ..                    |
| Boat      | Sampler | Sample      | 2024/12/06     | 10:21              |                       |
| Boat      | Sampler | Sample      | 2024/12/06     | 10:24              | Low Sample Detected   |
| Boat      | Sampler | ...Sample   | ..             | ..2024/12/06 10:26 | ..                    |
| Boat      | Sampler | Sample      | 2024/12/06     | 10:28              |                       |
| Boat      | Sampler | Sample      | 2024/12/06     | 10:32              | Low Sample Detected   |
| Boat      | Sampler | ...Sample   | ..             | ..2024/12/06 10:36 | ..Low Sample Detected |
| Boat      | Sampler | Sample      | 2024/12/06     | 10:52              | Low Sample Detected   |
| Boat      | Sampler | Sample      | 2024/12/06     | 10:59              |                       |
| Boat      | Sampler | ...Sample   | ..             | ..2024/12/06 11:04 | ..                    |
| Boat      | Sampler | Sample      | 2024/12/06     | 11:06              |                       |
| Boat      | Sampler | Sample      | 2024/12/06     | 11:10              |                       |
| Boat      | Sampler | ...Sample   | ..             | ..2024/12/06 11:15 | ..                    |
| Boat      | Sampler | Sample      | 2024/12/06     | 11:45              |                       |
| Boat      | Sampler | Sample      | 2024/12/06     | 11:53              |                       |
| Boat      | Sampler | ...Sample   | ..             | ..2024/12/06 12:05 | ..                    |
| Boat      | Sampler | Sample      | 2024/12/06     | 12:09              |                       |
| Boat      | Sampler | Sample      | 2024/12/06     | 12:43              |                       |
| Boat      | Sampler | ...Sample   | ..             | ..2024/12/06 12:51 | ..                    |
| Boat      | Sampler | Sample      | 2024/12/06     | 12:55              |                       |
| Boat      | Sampler | Sample      | 2024/12/06     | 13:00              |                       |
| Boat      | Sampler | ...Sample   | ..             | ..2024/12/06 13:17 | ..                    |
| Boat      | Sampler | Sample      | 2024/12/06     | 13:23              |                       |
| Boat      | Sampler | Sample      | 2024/12/06     | 13:27              |                       |
| Boat      | Sampler | ...Sample   | ..             | ..2024/12/06 13:55 | ..                    |
| Boat      | Sampler | Sample      | 2024/12/06     | 14:02              |                       |
| Boat      | Sampler | Sample      | 2024/12/06     | 14:05              |                       |
| Boat      | Sampler | ...Sample   | ..             | ..2024/12/06 14:09 | ..                    |
| Boat      | Sampler | Sample      | 2024/12/06     | 14:12              |                       |
| Boat      | Sampler | Sample      | 2024/12/06     | 14:16              |                       |
| Boat      | Sampler | ...Sample   | ..             | ..2024/12/06 14:20 | ..                    |
| Boat      | Sampler | Sample      | 2024/12/06     | 14:23              |                       |
| Boat      | Sampler | Sample      | 2024/12/06     | 14:25              |                       |
| Boat      | Sampler | ...Sample   | ..             | ..2024/12/06 14:51 | ..                    |
| Boat      | Sampler | Sample      | 2024/12/06     | 14:55              |                       |
| Boat      | Sampler | Sample      | 2024/12/06     | 15:12              |                       |
| Boat      | Sampler | ...Sample   | ..             | ..2024/12/06 15:17 | ..                    |
| Boat      | Sampler | Sample      | 2024/12/06     | 15:24              |                       |
| Boat      | Sampler | Sample      | 2024/12/06     | 15:27              |                       |
| Boat      | Sampler | ...Sample   | ..             | ..2024/12/06 15:30 | ..                    |
| Boat      | Sampler | Sample      | 2024/12/06     | 15:34              |                       |
| Boat      | Sampler | Sample      | 2024/12/06     | 15:38              |                       |
| Boat      | Sampler | ...Sample   | ..             | ..2024/12/06 15:41 | ..                    |
| Boat      | Sampler | Sample      | 2024/12/06     | 15:43              |                       |
| Boat      | Sampler | Sample      | 2024/12/06     | 15:46              |                       |
| Boat      | Sampler | ...Sample   | ..             | ..2024/12/06 15:50 | ..Low Sample Detected |
| Boat      | Sampler | Sample      | 2024/12/06     | 15:55              |                       |
| Boat      | Sampler | Sample      | 2024/12/06     | 15:59              |                       |
| Boat      | Sampler | ...Sample   | ..             | ..2024/12/06 16:02 | ..Low Sample Detected |

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Sample ID: CCB1 Mode: TOC  
Method: Boat Sampler Filename: 12061025  
Cal. Curve: TOC SOIL Timestamp: 2024/12/06 10:26  
Operator ID: NF IZ Sample Type: Sample

| Rep # | ppm C   | ug C   | Raw Data | Beginning<br>Baseline | Ending<br>Baseline | Integration<br>Time |
|-------|---------|--------|----------|-----------------------|--------------------|---------------------|
| 1     | 30.2333 | 1.2093 | 85634    | -2.969                | -1.983             | 37                  |

Sample ID: CCB1 Mode: TOC  
Method: Boat Sampler Filename: 12061027  
Cal. Curve: TOC SOIL Timestamp: 2024/12/06 10:28  
Operator ID: NF IZ Sample Type: Sample

| Rep # | ppm C   | ug C   | Raw Data | Beginning<br>Baseline | Ending<br>Baseline | Integration<br>Time |
|-------|---------|--------|----------|-----------------------|--------------------|---------------------|
| 1     | 23.6075 | 0.9443 | 66867    | -2.937                | -1.944             | 33                  |

Sample ID: LB133779BLS Mode: TOC  
Method: Boat Sampler Filename: 12061029  
Cal. Curve: TOC SOIL Timestamp: 2024/12/06 10:32  
Operator ID: NF IZ Sample Type: Sample

| Rep # | ppm C  | ug C   | Raw Data | Beginning<br>Baseline | Ending<br>Baseline | Integration<br>Time |
|-------|--------|--------|----------|-----------------------|--------------------|---------------------|
| 1     | 2.3765 | 0.0951 | 6731     | -2.943                | -3.029             | 120                 |

Last Message: Low Sample Detected

Sample ID: LB133779BLS Mode: TOC  
Method: Boat Sampler Filename: 12061033  
Cal. Curve: TOC SOIL Timestamp: 2024/12/06 10:36  
Operator ID: NF IZ Sample Type: Sample

| Rep # | ppm C  | ug C   | Raw Data | Beginning<br>Baseline | Ending<br>Baseline | Integration<br>Time |
|-------|--------|--------|----------|-----------------------|--------------------|---------------------|
| 1     | 1.9132 | 0.0765 | 5419     | -2.979                | -3.048             | 120                 |

Last Message: Low Sample Detected

Sample ID: LB133779BLS Mode: TOC  
Method: Boat Sampler Filename: 12061049  
Cal. Curve: TOC SOIL Timestamp: 2024/12/06 10:52  
Operator ID: NF IZ Sample Type: Sample

| Rep # | ppm C  | ug C   | Raw Data | Beginning<br>Baseline | Ending<br>Baseline | Integration<br>Time |
|-------|--------|--------|----------|-----------------------|--------------------|---------------------|
| 1     | 5.4325 | 0.2173 | 15387    | -3.102                | -3.151             | 120                 |

Last Message: Low Sample Detected

Sample ID: LB133779BLS Mode: TOC  
Method: Boat Sampler Filename: 12061058  
Cal. Curve: TOC SOIL Timestamp: 2024/12/06 10:59  
Operator ID: NF IZ Sample Type: Sample

| Rep # | ppm C   | ug C   | Raw Data | Beginning<br>Baseline | Ending<br>Baseline | Integration<br>Time |
|-------|---------|--------|----------|-----------------------|--------------------|---------------------|
| 1     | 13.4427 | 0.5377 | 38076    | -3.204                | -2.207             | 32                  |

Sample ID: LB133779BSS Mode: TOC  
Method: Boat Sampler Filename: 12061102  
Cal. Curve: TOC SOIL Timestamp: 2024/12/06 11:04  
Operator ID: NF IZ Sample Type: Sample

| Rep # | ppm C    | ug C    | Raw Data | Beginning<br>Baseline | Ending<br>Baseline | Integration<br>Time |
|-------|----------|---------|----------|-----------------------|--------------------|---------------------|
| 1     | 960.5422 | 38.4217 | 2720693  | -3.023                | -2.028             | 65                  |

Sample ID: LB133779BSS Mode: TOC  
Method: Boat Sampler Filename: 12061104  
Cal. Curve: TOC SOIL Timestamp: 2024/12/06 11:06  
Operator ID: NF IZ Sample Type: Sample

| Rep # | ppm C    | ug C    | Raw Data | Beginning<br>Baseline | Ending<br>Baseline | Integration<br>Time |
|-------|----------|---------|----------|-----------------------|--------------------|---------------------|
| 1     | 966.7218 | 38.6689 | 2738197  | -2.960                | -1.965             | 67                  |

Sample ID: LB133779BSS Mode: TOC  
Method: Boat Sampler Filename: 12061108  
Cal. Curve: TOC SOIL Timestamp: 2024/12/06 11:10  
Operator ID: NF IZ Sample Type: Sample

| Rep # | ppm C    | ug C    | Raw Data | Beginning<br>Baseline | Ending<br>Baseline | Integration<br>Time |
|-------|----------|---------|----------|-----------------------|--------------------|---------------------|
| 1     | 945.8391 | 37.8336 | 2679048  | -3.196                | -2.200             | 68                  |

Sample ID: LB133779BSS Mode: TOC  
Method: Boat Sampler Filename: 12061113  
Cal. Curve: TOC SOIL Timestamp: 2024/12/06 11:15  
Operator ID: NF IZ Sample Type: Sample

| Rep # | ppm C    | ug C    | Raw Data | Beginning<br>Baseline | Ending<br>Baseline | Integration<br>Time |
|-------|----------|---------|----------|-----------------------|--------------------|---------------------|
| 1     | 973.9248 | 38.9570 | 2758599  | -3.246                | -2.248             | 69                  |

Sample ID: P5113-01 Mode: TOC  
Method: Boat Sampler Filename: 12061143  
Cal. Curve: TOC SOIL Timestamp: 2024/12/06 11:45  
Operator ID: NF IZ Sample Type: Sample

| Rep # | ppm C    | ug C   | Raw Data | Beginning<br>Baseline | Ending<br>Baseline | Integration<br>Time |
|-------|----------|--------|----------|-----------------------|--------------------|---------------------|
| 1     | 313.2646 | 1.9422 | 137533   | -3.371                | -2.381             | 36                  |

Sample ID: P5113-01 Mode: TOC  
Method: Boat Sampler Filename: 12061152  
Cal. Curve: TOC SOIL Timestamp: 2024/12/06 11:53  
Operator ID: NF IZ Sample Type: Sample

| Rep # | ppm C    | ug C   | Raw Data | Beginning<br>Baseline | Ending<br>Baseline | Integration<br>Time |
|-------|----------|--------|----------|-----------------------|--------------------|---------------------|
| 1     | 331.6778 | 2.4212 | 171452   | -3.383                | -2.390             | 37                  |

Sample ID: P5113-01  
Method: Boat Sampler  
Cal. Curve: TOC SOIL  
Operator ID: NF IZ

Mode: TOC  
Filename: 12061204  
Timestamp: 2024/12/06 12:05  
Sample Type: Sample

| Rep # | ppm C    | ug C   | Raw Data | Beginning<br>Baseline | Ending<br>Baseline | Integration<br>Time |
|-------|----------|--------|----------|-----------------------|--------------------|---------------------|
| 1     | 232.7811 | 1.6062 | 113737   | -3.366                | -2.367             | 36                  |

Sample ID: P5113-01  
Method: Boat Sampler  
Cal. Curve: TOC SOIL  
Operator ID: NF IZ

Mode: TOC  
Filename: 12061208  
Timestamp: 2024/12/06 12:09  
Sample Type: Sample

| Rep # | ppm C    | ug C   | Raw Data | Beginning<br>Baseline | Ending<br>Baseline | Integration<br>Time |
|-------|----------|--------|----------|-----------------------|--------------------|---------------------|
| 1     | 231.7867 | 1.5761 | 111609   | -3.419                | -2.425             | 34                  |

Sample ID: P5113-02  
Method: Boat Sampler  
Cal. Curve: TOC SOIL  
Operator ID: NF IZ

Mode: TOC  
Filename: 12061242  
Timestamp: 2024/12/06 12:43  
Sample Type: Sample

| Rep # | ppm C    | ug C   | Raw Data | Beginning<br>Baseline | Ending<br>Baseline | Integration<br>Time |
|-------|----------|--------|----------|-----------------------|--------------------|---------------------|
| 1     | 424.3524 | 3.0553 | 216353   | -3.366                | -2.373             | 42                  |

Sample ID: P5113-02  
Method: Boat Sampler  
Cal. Curve: TOC SOIL  
Operator ID: NF IZ

Mode: TOC  
Filename: 12061250  
Timestamp: 2024/12/06 12:51  
Sample Type: Sample

| Rep # | ppm C    | ug C   | Raw Data | Beginning<br>Baseline | Ending<br>Baseline | Integration<br>Time |
|-------|----------|--------|----------|-----------------------|--------------------|---------------------|
| 1     | 348.4884 | 2.0909 | 148062   | -3.386                | -2.387             | 42                  |

Sample ID: P5113-02  
Method: Boat Sampler  
Cal. Curve: TOC SOIL  
Operator ID: NF IZ

Mode: TOC  
Filename: 12061254  
Timestamp: 2024/12/06 12:55  
Sample Type: Sample

| Rep # | ppm C    | ug C   | Raw Data | Beginning<br>Baseline | Ending<br>Baseline | Integration<br>Time |
|-------|----------|--------|----------|-----------------------|--------------------|---------------------|
| 1     | 404.6520 | 2.2661 | 160462   | -3.350                | -2.358             | 40                  |

Sample ID: P5113-02  
Method: Boat Sampler  
Cal. Curve: TOC SOIL  
Operator ID: NF IZ

Mode: TOC  
Filename: 12061259  
Timestamp: 2024/12/06 13:00  
Sample Type: Sample

| Rep # | ppm C | ug C | Raw Data | Beginning<br>Baseline | Ending<br>Baseline | Integration<br>Time |
|-------|-------|------|----------|-----------------------|--------------------|---------------------|
|-------|-------|------|----------|-----------------------|--------------------|---------------------|

|   |          |        |        |        |        |    |
|---|----------|--------|--------|--------|--------|----|
| 1 | 409.2955 | 2.4558 | 173897 | -3.416 | -2.418 | 41 |
|---|----------|--------|--------|--------|--------|----|

|              |              |              |                  |
|--------------|--------------|--------------|------------------|
| Sample ID:   | P5022-01     | Mode:        | TOC              |
| Method:      | Boat Sampler | Filename:    | 12061315         |
| Cal. Curve:  | TOC SOIL     | Timestamp:   | 2024/12/06 13:17 |
| Operator ID: | NF IZ        | Sample Type: | Sample           |

| Rep # | ppm C     | ug C    | Raw Data | Beginning<br>Baseline | Ending<br>Baseline | Integration<br>Time |
|-------|-----------|---------|----------|-----------------------|--------------------|---------------------|
| 1     | 1592.4867 | 12.7399 | 902130   | -3.460                | -2.463             | 53                  |

|              |              |              |                  |
|--------------|--------------|--------------|------------------|
| Sample ID:   | P5022-01     | Mode:        | TOC              |
| Method:      | Boat Sampler | Filename:    | 12061322         |
| Cal. Curve:  | TOC SOIL     | Timestamp:   | 2024/12/06 13:23 |
| Operator ID: | NF IZ        | Sample Type: | Sample           |

| Rep # | ppm C     | ug C    | Raw Data | Beginning<br>Baseline | Ending<br>Baseline | Integration<br>Time |
|-------|-----------|---------|----------|-----------------------|--------------------|---------------------|
| 1     | 1520.0836 | 10.3366 | 731947   | -3.406                | -2.412             | 51                  |

|              |              |              |                  |
|--------------|--------------|--------------|------------------|
| Sample ID:   | P5022-01     | Mode:        | TOC              |
| Method:      | Boat Sampler | Filename:    | 12061325         |
| Cal. Curve:  | TOC SOIL     | Timestamp:   | 2024/12/06 13:27 |
| Operator ID: | NF IZ        | Sample Type: | Sample           |

| Rep # | ppm C     | ug C    | Raw Data | Beginning<br>Baseline | Ending<br>Baseline | Integration<br>Time |
|-------|-----------|---------|----------|-----------------------|--------------------|---------------------|
| 1     | 1924.7922 | 11.1638 | 790524   | -3.446                | -2.453             | 52                  |

|              |              |              |                  |
|--------------|--------------|--------------|------------------|
| Sample ID:   | P5022-01     | Mode:        | TOC              |
| Method:      | Boat Sampler | Filename:    | 12061354         |
| Cal. Curve:  | TOC SOIL     | Timestamp:   | 2024/12/06 13:55 |
| Operator ID: | NF IZ        | Sample Type: | Sample           |

| Rep # | ppm C     | ug C    | Raw Data | Beginning<br>Baseline | Ending<br>Baseline | Integration<br>Time |
|-------|-----------|---------|----------|-----------------------|--------------------|---------------------|
| 1     | 1631.9971 | 10.2816 | 728053   | -3.216                | -2.222             | 49                  |

|              |              |              |                  |
|--------------|--------------|--------------|------------------|
| Sample ID:   | P5022-01MS   | Mode:        | TOC              |
| Method:      | Boat Sampler | Filename:    | 12061400         |
| Cal. Curve:  | TOC SOIL     | Timestamp:   | 2024/12/06 14:02 |
| Operator ID: | NF IZ        | Sample Type: | Sample           |

| Rep # | ppm C     | ug C    | Raw Data | Beginning<br>Baseline | Ending<br>Baseline | Integration<br>Time |
|-------|-----------|---------|----------|-----------------------|--------------------|---------------------|
| 1     | 2194.9075 | 12.7305 | 901462   | -3.349                | -2.353             | 54                  |

|              |              |              |                  |
|--------------|--------------|--------------|------------------|
| Sample ID:   | P5022-01MS   | Mode:        | TOC              |
| Method:      | Boat Sampler | Filename:    | 12061403         |
| Cal. Curve:  | TOC SOIL     | Timestamp:   | 2024/12/06 14:05 |
| Operator ID: | NF IZ        | Sample Type: | Sample           |

| Rep # | ppm C     | ug C    | Raw Data | Beginning<br>Baseline | Ending<br>Baseline | Integration<br>Time |
|-------|-----------|---------|----------|-----------------------|--------------------|---------------------|
| 1     | 2786.8528 | 15.3277 | 1085375  | -3.316                | -2.321             | 59                  |

Sample ID: P5022-01MS Mode: TOC  
Method: Boat Sampler Filename: 12061407  
Cal. Curve: TOC SOIL Timestamp: 2024/12/06 14:09  
Operator ID: NF IZ Sample Type: Sample

| Rep # | ppm C     | ug C    | Raw Data | Beginning<br>Baseline | Ending<br>Baseline | Integration<br>Time |
|-------|-----------|---------|----------|-----------------------|--------------------|---------------------|
| 1     | 2944.4070 | 18.2553 | 1292685  | -3.368                | -2.374             | 62                  |

Sample ID: P5022-01MS Mode: TOC  
Method: Boat Sampler Filename: 12061411  
Cal. Curve: TOC SOIL Timestamp: 2024/12/06 14:12  
Operator ID: NF IZ Sample Type: Sample

| Rep # | ppm C     | ug C    | Raw Data | Beginning<br>Baseline | Ending<br>Baseline | Integration<br>Time |
|-------|-----------|---------|----------|-----------------------|--------------------|---------------------|
| 1     | 2298.9773 | 14.2537 | 1009322  | -3.389                | -2.396             | 57                  |

Sample ID: P5022-01MSD Mode: TOC  
Method: Boat Sampler Filename: 12061414  
Cal. Curve: TOC SOIL Timestamp: 2024/12/06 14:16  
Operator ID: NF IZ Sample Type: Sample

| Rep # | ppm C     | ug C    | Raw Data | Beginning<br>Baseline | Ending<br>Baseline | Integration<br>Time |
|-------|-----------|---------|----------|-----------------------|--------------------|---------------------|
| 1     | 2434.9634 | 16.5578 | 1172477  | -3.359                | -2.360             | 59                  |

Sample ID: P5022-01MSD Mode: TOC  
Method: Boat Sampler Filename: 12061418  
Cal. Curve: TOC SOIL Timestamp: 2024/12/06 14:20  
Operator ID: NF IZ Sample Type: Sample

| Rep # | ppm C     | ug C    | Raw Data | Beginning<br>Baseline | Ending<br>Baseline | Integration<br>Time |
|-------|-----------|---------|----------|-----------------------|--------------------|---------------------|
| 1     | 2164.7324 | 12.9884 | 919726   | -3.330                | -2.331             | 54                  |

Sample ID: P5022-01MSD Mode: TOC  
Method: Boat Sampler Filename: 12061421  
Cal. Curve: TOC SOIL Timestamp: 2024/12/06 14:23  
Operator ID: NF IZ Sample Type: Sample

| Rep # | ppm C     | ug C    | Raw Data | Beginning<br>Baseline | Ending<br>Baseline | Integration<br>Time |
|-------|-----------|---------|----------|-----------------------|--------------------|---------------------|
| 1     | 3038.4358 | 18.8383 | 1333967  | -3.342                | -2.344             | 61                  |

Sample ID: P5022-01MSD Mode: TOC  
Method: Boat Sampler Filename: 12061424  
Cal. Curve: TOC SOIL Timestamp: 2024/12/06 14:25  
Operator ID: NF IZ Sample Type: Sample

| Rep # | ppm C     | ug C    | Raw Data | Beginning<br>Baseline | Ending<br>Baseline | Integration<br>Time |
|-------|-----------|---------|----------|-----------------------|--------------------|---------------------|
| 1     | 2567.5728 | 14.8919 | 1054518  | -3.298                | -2.298             | 57                  |



Sample ID: P5076-01  
Method: Boat Sampler  
Cal. Curve: TOC SOIL  
Operator ID: NF IZ

Mode: TOC  
Filename: 12061449  
Timestamp: 2024/12/06 14:51  
Sample Type: Sample

| Rep # | ppm C     | ug C   | Raw Data | Beginning<br>Baseline | Ending<br>Baseline | Integration<br>Time |
|-------|-----------|--------|----------|-----------------------|--------------------|---------------------|
| 1     | 1049.1886 | 5.6656 | 401190   | -3.439                | -2.439             | 46                  |

Sample ID: P5076-01  
Method: Boat Sampler  
Cal. Curve: TOC SOIL  
Operator ID: NF IZ

Mode: TOC  
Filename: 12061453  
Timestamp: 2024/12/06 14:55  
Sample Type: Sample

| Rep # | ppm C     | ug C   | Raw Data | Beginning<br>Baseline | Ending<br>Baseline | Integration<br>Time |
|-------|-----------|--------|----------|-----------------------|--------------------|---------------------|
| 1     | 1247.4980 | 6.7365 | 477020   | -3.456                | -2.459             | 47                  |

Sample ID: P5076-01  
Method: Boat Sampler  
Cal. Curve: TOC SOIL  
Operator ID: NF IZ

Mode: TOC  
Filename: 12061511  
Timestamp: 2024/12/06 15:12  
Sample Type: Sample

| Rep # | ppm C     | ug C   | Raw Data | Beginning<br>Baseline | Ending<br>Baseline | Integration<br>Time |
|-------|-----------|--------|----------|-----------------------|--------------------|---------------------|
| 1     | 1138.2893 | 6.6021 | 467502   | -3.417                | -2.425             | 50                  |

Sample ID: P5076-01  
Method: Boat Sampler  
Cal. Curve: TOC SOIL  
Operator ID: NF IZ

Mode: TOC  
Filename: 12061516  
Timestamp: 2024/12/06 15:17  
Sample Type: Sample

| Rep # | ppm C     | ug C   | Raw Data | Beginning<br>Baseline | Ending<br>Baseline | Integration<br>Time |
|-------|-----------|--------|----------|-----------------------|--------------------|---------------------|
| 1     | 1132.0439 | 6.2262 | 440889   | -3.397                | -2.398             | 45                  |

Sample ID: P5117-01  
Method: Boat Sampler  
Cal. Curve: TOC SOIL  
Operator ID: NF IZ

Mode: TOC  
Filename: 12061522  
Timestamp: 2024/12/06 15:24  
Sample Type: Sample

| Rep # | ppm C    | ug C   | Raw Data | Beginning<br>Baseline | Ending<br>Baseline | Integration<br>Time |
|-------|----------|--------|----------|-----------------------|--------------------|---------------------|
| 1     | 477.3856 | 3.4372 | 243391   | -3.413                | -2.424             | 39                  |

Sample ID: P5117-01  
Method: Boat Sampler  
Cal. Curve: TOC SOIL  
Operator ID: NF IZ

Mode: TOC  
Filename: 12061526  
Timestamp: 2024/12/06 15:27  
Sample Type: Sample

| Rep # | ppm C    | ug C   | Raw Data | Beginning<br>Baseline | Ending<br>Baseline | Integration<br>Time |
|-------|----------|--------|----------|-----------------------|--------------------|---------------------|
| 1     | 409.1736 | 2.7824 | 197024   | -3.384                | -2.392             | 38                  |

Sample ID: P5117-01

Mode: TOC

Method: Boat Sampler  
Cal. Curve: TOC SOIL  
Operator ID: NF IZ

Filename: 12061529  
Timestamp: 2024/12/06 15:30  
Sample Type: Sample

Reviewed By:Iwona  
On:12/10/2024 9:22:06  
AM  
Inst Id :Appolo-9000  
LB :LB133779

| Rep # | ppm C    | ug C   | Raw Data | Beginning<br>Baseline | Ending<br>Baseline | Integration<br>Time |
|-------|----------|--------|----------|-----------------------|--------------------|---------------------|
| 1     | 378.8983 | 3.0312 | 214643   | -3.379                | -2.382             | 36                  |

Sample ID: P5117-01  
Method: Boat Sampler  
Cal. Curve: TOC SOIL  
Operator ID: NF IZ

Mode: TOC  
Filename: 12061533  
Timestamp: 2024/12/06 15:34  
Sample Type: Sample

| Rep # | ppm C    | ug C   | Raw Data | Beginning<br>Baseline | Ending<br>Baseline | Integration<br>Time |
|-------|----------|--------|----------|-----------------------|--------------------|---------------------|
| 1     | 338.3237 | 1.9623 | 138952   | -3.396                | -2.402             | 36                  |

Sample ID: CCV2  
Method: Boat Sampler  
Cal. Curve: TOC SOIL  
Operator ID: NF IZ

Mode: TOC  
Filename: 12061535  
Timestamp: 2024/12/06 15:38  
Sample Type: Sample

| Rep # | ppm C     | ug C    | Raw Data | Beginning<br>Baseline | Ending<br>Baseline | Integration<br>Time |
|-------|-----------|---------|----------|-----------------------|--------------------|---------------------|
| 1     | 1074.5073 | 42.9803 | 3043495  | -3.365                | -2.366             | 88                  |

Sample ID: CCV2  
Method: Boat Sampler  
Cal. Curve: TOC SOIL  
Operator ID: NF IZ

Mode: TOC  
Filename: 12061539  
Timestamp: 2024/12/06 15:41  
Sample Type: Sample

| Rep # | ppm C    | ug C    | Raw Data | Beginning<br>Baseline | Ending<br>Baseline | Integration<br>Time |
|-------|----------|---------|----------|-----------------------|--------------------|---------------------|
| 1     | 980.9690 | 39.2388 | 2778551  | -3.194                | -2.195             | 71                  |

Sample ID: CCV2  
Method: Boat Sampler  
Cal. Curve: TOC SOIL  
Operator ID: NF IZ

Mode: TOC  
Filename: 12061542  
Timestamp: 2024/12/06 15:43  
Sample Type: Sample

| Rep # | ppm C    | ug C    | Raw Data | Beginning<br>Baseline | Ending<br>Baseline | Integration<br>Time |
|-------|----------|---------|----------|-----------------------|--------------------|---------------------|
| 1     | 974.1614 | 38.9665 | 2759269  | -3.147                | -2.151             | 71                  |

Sample ID: CCV2  
Method: Boat Sampler  
Cal. Curve: TOC SOIL  
Operator ID: NF IZ

Mode: TOC  
Filename: 12061544  
Timestamp: 2024/12/06 15:46  
Sample Type: Sample

| Rep # | ppm C    | ug C    | Raw Data | Beginning<br>Baseline | Ending<br>Baseline | Integration<br>Time |
|-------|----------|---------|----------|-----------------------|--------------------|---------------------|
| 1     | 965.5085 | 38.6203 | 2734760  | -3.083                | -2.083             | 68                  |

Sample ID: CCB2  
Method: Boat Sampler  
Cal. Curve: TOC SOIL

Mode: TOC  
Filename: 12061547  
Timestamp: 2024/12/06 15:50

Operator ID: NF IZ

Sample Type: Sample

Reviewed By:Iwona  
On:12/10/2024 9:22:06  
AM  
Inst Id :Appolo-9000  
LB :LB133779

| Rep # | ppm C  | ug C   | Raw Data | Beginning<br>Baseline | Ending<br>Baseline | Integration<br>Time |
|-------|--------|--------|----------|-----------------------|--------------------|---------------------|
| 1     | 5.6898 | 0.2276 | 16116    | -3.126                | -3.264             | 120                 |

Last Message: Low Sample Detected

Sample ID: CCB2  
Method: Boat Sampler  
Cal. Curve: TOC SOIL  
Timestamp: 2024/12/06 15:55

Mode: TOC  
Filename: 12061554

Operator ID: NF IZ

Sample Type: Sample

| Rep # | ppm C   | ug C   | Raw Data | Beginning<br>Baseline | Ending<br>Baseline | Integration<br>Time |
|-------|---------|--------|----------|-----------------------|--------------------|---------------------|
| 1     | 17.7748 | 0.7110 | 50346    | -3.273                | -2.286             | 32                  |

Sample ID: CCB2  
Method: Boat Sampler  
Cal. Curve: TOC SOIL  
Operator ID: NF IZ

Mode: TOC  
Filename: 12061558  
Timestamp: 2024/12/06 15:59  
Sample Type: Sample

| Rep # | ppm C   | ug C   | Raw Data | Beginning<br>Baseline | Ending<br>Baseline | Integration<br>Time |
|-------|---------|--------|----------|-----------------------|--------------------|---------------------|
| 1     | 43.7854 | 1.7514 | 124020   | -3.256                | -2.258             | 42                  |

Sample ID: CCB2  
Method: Boat Sampler  
Cal. Curve: TOC SOIL  
Operator ID: NF IZ

Mode: TOC  
Filename: 12061559  
Timestamp: 2024/12/06 16:02  
Sample Type: Sample

| Rep # | ppm C  | ug C   | Raw Data | Beginning<br>Baseline | Ending<br>Baseline | Integration<br>Time |
|-------|--------|--------|----------|-----------------------|--------------------|---------------------|
| 1     | 7.1315 | 0.2853 | 20200    | -3.217                | -3.281             | 120                 |

Last Message: Low Sample Detected

| Sample ID     | Result      | Std. Dev. | RSD     | Mode | ALT |
|---------------|-------------|-----------|---------|------|-----|
| BLANK         | 9263        | 5695      | 61.48   | TOC  |     |
| 250mg/l       | 813930      | 31881     | 3.92    | TOC  |     |
| 500mg/l       | 1580916     | 138813    | 8.78    | TOC  |     |
| 1000mg/l..... | 2797885...  | 74757..   | 2.67... | TOC  | ..  |
| 2000mg/l      | 5752648     | 21216     | 0.37    | TOC  |     |
| ICV           | 943.9813    |           |         | TOC  |     |
| ICV.....      | 919.2893... | ..        | ...     | TOC  | ..  |
| ICV           | 940.0988    |           |         | TOC  |     |
| ICV           | 933.3373    |           |         | TOC  |     |
| ICB.....      | 4.4514...   | ..        | ...     | TOC  | ..  |
| ICB           | 9.3085      |           |         | TOC  |     |
| ICB           | 6.7305      |           |         | TOC  |     |
| ICB.....      | 7.5078...   | ..        | ...     | TOC  | ..  |

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| Method ID    | Sample Type     | Vial Timestamp |                    | Message               |
|--------------|-----------------|----------------|--------------------|-----------------------|
| Boat Sampler | TOC Standard    | 2024/11/12     | 11:01              | Low Sample Detected   |
| Boat Sampler | TOC Standard    | 2024/11/12     | 11:15              |                       |
| Boat Sampler | TOC Standard    | 2024/11/12     | 11:27              |                       |
| Boat Sampler | ...TOC Standard | ..             | ..2024/11/12 11:36 | ..                    |
| Boat Sampler | TOC Standard    | 2024/11/12     | 12:05              |                       |
| Boat Sampler | Sample          | 2024/11/12     | 12:12              |                       |
| Boat Sampler | ...Sample       | ..             | ..2024/11/12 12:14 | ..                    |
| Boat Sampler | Sample          | 2024/11/12     | 12:16              |                       |
| Boat Sampler | Sample          | 2024/11/12     | 12:18              |                       |
| Boat Sampler | ...Sample       | ..             | ..2024/11/12 12:23 | ..Low Sample Detected |
| Boat Sampler | Sample          | 2024/11/12     | 12:26              | Low Sample Detected   |
| Boat Sampler | Sample          | 2024/11/12     | 12:29              | Low Sample Detected   |
| Boat Sampler | ...Sample       | ..             | ..2024/11/12 12:32 | ..Low Sample Detected |

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| Rep # | ppm C | ug C | Raw Data | Beginning<br>Baseline | Ending<br>Baseline | Integration<br>Time |
|-------|-------|------|----------|-----------------------|--------------------|---------------------|
| 1     |       |      | 5772363  | -2.492                | -1.493             | 116                 |
| 2     |       |      | 5763448  | -2.138                | -1.139             | 91                  |
| 3     |       |      | 5723617  | -0.015                | 0.979              | 57                  |
| 4     |       |      | 5751163  | -0.355                | 0.644              | 62                  |

<<<Statistics>>>      Mean: 5752648      Std Dev: 21216      RSD: 0.37

Sample ID: ICV  
Method: Boat Sampler  
Cal. Curve: TOC SOIL  
Operator ID: NF IZ

Mode: TOC  
Filename: 11121210  
Timestamp: 2024/11/12 12:12  
Sample Type: Sample

| Rep # | ppm C    | ug C    | Raw Data | Beginning<br>Baseline | Ending<br>Baseline | Integration<br>Time |
|-------|----------|---------|----------|-----------------------|--------------------|---------------------|
| 1     | 943.9813 | 37.7593 | 2673786  | -2.569                | -1.574             | 83                  |

Sample ID: ICV  
Method: Boat Sampler  
Cal. Curve: TOC SOIL  
Operator ID: NF IZ

Mode: TOC  
Filename: 11121212  
Timestamp: 2024/11/12 12:14  
Sample Type: Sample

| Rep # | ppm C    | ug C    | Raw Data | Beginning<br>Baseline | Ending<br>Baseline | Integration<br>Time |
|-------|----------|---------|----------|-----------------------|--------------------|---------------------|
| 1     | 919.2893 | 36.7716 | 2603846  | -2.379                | -1.380             | 64                  |

Sample ID: ICV  
Method: Boat Sampler  
Cal. Curve: TOC SOIL  
Operator ID: NF IZ

Mode: TOC  
Filename: 11121214  
Timestamp: 2024/11/12 12:16  
Sample Type: Sample

| Rep # | ppm C    | ug C    | Raw Data | Beginning<br>Baseline | Ending<br>Baseline | Integration<br>Time |
|-------|----------|---------|----------|-----------------------|--------------------|---------------------|
| 1     | 940.0988 | 37.6040 | 2662788  | -2.346                | -1.346             | 61                  |

Sample ID: ICV  
Method: Boat Sampler  
Cal. Curve: TOC SOIL  
Operator ID: NF IZ

Mode: TOC  
Filename: 11121217  
Timestamp: 2024/11/12 12:18  
Sample Type: Sample

| Rep # | ppm C    | ug C    | Raw Data | Beginning<br>Baseline | Ending<br>Baseline | Integration<br>Time |
|-------|----------|---------|----------|-----------------------|--------------------|---------------------|
| 1     | 933.3373 | 37.3335 | 2643637  | -2.443                | -1.445             | 63                  |

Sample ID: ICB  
Method: Boat Sampler  
Cal. Curve: TOC SOIL  
Operator ID: NF IZ

Mode: TOC  
Filename: 11121220  
Timestamp: 2024/11/12 12:23  
Sample Type: Sample

| Rep # | ppm C  | ug C   | Raw Data | Beginning<br>Baseline | Ending<br>Baseline | Integration<br>Time |
|-------|--------|--------|----------|-----------------------|--------------------|---------------------|
| 1     | 4.4514 | 0.1781 | 12608    | -2.598                | -2.685             | 120                 |

Last Message: Low Sample Detected

Sample ID: ICBMode: TOC  
Method: Boat SamplerFilename: 11121223  
Cal. Curve: TOC SOILTimestamp: 2024/11/12 12:26  
Operator ID: NF IZSample Type: Sample

| Rep # | ppm C  | ug C   | Raw Data | Beginning<br>Baseline | Ending<br>Baseline | Integration<br>Time |
|-------|--------|--------|----------|-----------------------|--------------------|---------------------|
| 1     | 9.3085 | 0.3723 | 26366    | -2.661                | -2.693             | 120                 |

Last Message: Low Sample Detected

Sample ID: ICBMode: TOC  
Method: Boat SamplerFilename: 11121226  
Cal. Curve: TOC SOILTimestamp: 2024/11/12 12:29  
Operator ID: NF IZSample Type: Sample

| Rep # | ppm C  | ug C   | Raw Data | Beginning<br>Baseline | Ending<br>Baseline | Integration<br>Time |
|-------|--------|--------|----------|-----------------------|--------------------|---------------------|
| 1     | 6.7305 | 0.2692 | 19064    | -2.649                | -2.682             | 120                 |

Last Message: Low Sample Detected

Sample ID: ICBMode: TOC  
Method: Boat SamplerFilename: 11121230  
Cal. Curve: TOC SOILTimestamp: 2024/11/12 12:32  
Operator ID: NF IZSample Type: Sample

| Rep # | ppm C  | ug C   | Raw Data | Beginning<br>Baseline | Ending<br>Baseline | Integration<br>Time |
|-------|--------|--------|----------|-----------------------|--------------------|---------------------|
| 1     | 7.5078 | 0.3003 | 2        |                       |                    |                     |
| 1266  | -2.657 | -2.679 | 120      |                       |                    |                     |

Last Message: Low Sample Detected



Calibration Report    Print Date/Time: 2024/11/12 12:05:31

Cal. Curve ID:                TOC SOIL  
Created:                      2024/11/12 12:05  
Calibration Factor (m): 7.081e+04  
Y Intercept (b):            66586  
r-squared:                   0.99875

| Standard ID | Y        | X Expected | Measured | Re<br>Message | Date &<br>Time   |
|-------------|----------|------------|----------|---------------|------------------|
|             | Raw Data | ug C       | ug C     |               |                  |
| BLANK       | 9263     | 0.000      | -0.810   |               | 2024/11/12 11:01 |
| 250mg/l     | 813930   | 10.000     | 10.554   | 5.5           | 2024/11/12 11:15 |
| 500mg/l     | 1580917  | 20.000     | 21.385   | 6.9           | 2024/11/12 11:27 |
| 1000mg/l    | 2797884  | 40.000     | 38.571   | -3.6          | 2024/11/12 11:36 |
| 2000mg/l    | 5752648  | 80.000     | 80.299   | 0.4           | 2024/11/12 12:05 |

12  
11/12/24

WORKLIST(Hardcopy Internal Chain)

LB133779

WorkList Name : TOC SOIL-12032024

WorkList ID : 185934

Department : Wet-Chemistry

Date : 12-03-2024 15:04:40

| Sample   | Customer Sample              | Matrix | Test | Preservative | Customer | Raw Sample Storage Location | Collect Date | Method |
|----------|------------------------------|--------|------|--------------|----------|-----------------------------|--------------|--------|
| P5113-01 | FES-SB406-4345               | Solid  | TOC  | Cool 4 deg C | TETR06   | L31                         | 12/04/2024   | 9060A  |
| P5113-02 | FES-SB406-7375               | Solid  | TOC  | Cool 4 deg C | TETR06   | L31                         | 12/04/2024   | 9060A  |
| P5022-01 | TAPIAL2-SB02D-13-112424-00-  | Solid  | TOC  | Cool 4 deg C | WEST04   | L41                         | 11/24/2024   | 9060A  |
| P5076-01 | TAPIAL2-SB02I-7.5-120224-00- | Solid  | TOC  | Cool 4 deg C | WEST04   | L61                         | 12/02/2024   | 9060A  |
| P5117-01 | TAPIAL3-SB04I-10-120324-00-  | Solid  | TOC  | Cool 4 deg C | WEST04   | L41                         | 12/05/2024   | 9060A  |

Date/Time 12.06.2024, 08:30  
Raw Sample Received by: NFWC  
Raw Sample Relinquished by: NFWC

Instrument ID: IC-2

**Daily Analysis Runlog For Sequence/QC Batch ID # LB133665**

|                  |                                                                |              |                       |
|------------------|----------------------------------------------------------------|--------------|-----------------------|
| Review By        | Niha                                                           | Review On    | 12/2/2024 10:14:59 AM |
| Supervise By     | Iwona                                                          | Supervise On | 12/2/2024 2:04:18 PM  |
| SubDirectory     | LB133665                                                       | Test         | Anions                |
| <b>STD. NAME</b> | <b>STD REF.#</b>                                               |              |                       |
| ICAL Standard    | WP110752,WP110753,WP110754,WP110755,WP110756,WP110757,WP110758 |              |                       |
| ICV Standard     | WP110759                                                       |              |                       |
| CCV Standard     | WP110890                                                       |              |                       |
| ICSA Standard    | N/A                                                            |              |                       |
| CRI Standard     | N/A                                                            |              |                       |
| LCS Standard     | WP110891                                                       |              |                       |
| Chk Standard     | WP110760,WP110761                                              |              |                       |

| Sr# | SampleId    | ClientID           | QcType | Date           | Comment                     | Operator | Status |
|-----|-------------|--------------------|--------|----------------|-----------------------------|----------|--------|
| 1   | STD1        | STD1               | CAL1   | 11/18/24 11:24 | All standards, samples, and | NF/IZ    | OK     |
| 2   | STD2        | STD2               | CAL2   | 11/18/24 11:46 | QC are filtered through     | NF/IZ    | OK     |
| 3   | STD3        | STD3               | CAL3   | 11/18/24 12:07 | 0.45um, filter lot W2865    | NF/IZ    | OK     |
| 4   | STD4        | STD4               | CAL4   | 11/18/24 12:29 |                             | NF/IZ    | OK     |
| 5   | STD5        | STD5               | CAL5   | 11/18/24 12:50 |                             | NF/IZ    | OK     |
| 6   | STD6        | STD6               | CAL6   | 11/18/24 13:11 |                             | NF/IZ    | OK     |
| 7   | STD7        | STD7               | CAL7   | 11/18/24 13:33 |                             | NF/IZ    | OK     |
| 8   | ICV1        | ICV1               | ICV    | 11/18/24 13:54 |                             | NF/IZ    | OK     |
| 9   | ICB1        | ICB1               | ICB    | 11/18/24 14:16 |                             | NF/IZ    | OK     |
| 10  | CCV1        | CCV1               | CCV    | 11/27/24 11:26 |                             | NF/IZ    | OK     |
| 11  | CCB1        | CCB1               | CCB    | 11/27/24 11:47 |                             | NF/IZ    | OK     |
| 12  | LB133665BLS | LB133665BLS        | MB     | 11/27/24 12:09 |                             | NF/IZ    | OK     |
| 13  | LB133665BSS | LB133665BSS        | LCS    | 11/27/24 12:30 |                             | NF/IZ    | OK     |
| 14  | P5022-01    | TAPIAL2-SB02D-13-1 | SAM    | 11/27/24 13:51 |                             | NF/IZ    | OK     |
| 15  | P5022-01MS  | TAPIAL2-SB02D-13-1 | MS     | 11/27/24 14:12 | 5ML W3091                   | NF/IZ    | OK     |
| 16  | P5022-01MSD | TAPIAL2-SB02D-13-1 | MSD    | 11/27/24 14:34 | 5ML W3091                   | NF/IZ    | OK     |
| 17  | CCV2        | CCV2               | CCV    | 11/27/24 14:56 |                             | NF/IZ    | OK     |
| 18  | CCB2        | CCB2               | CCB    | 11/27/24 15:17 |                             | NF/IZ    | OK     |

**Instrument ID:** WC PH METER-1

**Daily Analysis Runlog For Sequence/QC Batch ID # LB133690**

|                  |                                     |              |                      |
|------------------|-------------------------------------|--------------|----------------------|
| Review By        | jignesh                             | Review On    | 12/2/2024 3:34:16 PM |
| Supervise By     | Iwona                               | Supervise On | 12/2/2024 3:59:12 PM |
| SubDirectory     | LB133690                            | Test         | pH                   |
| <b>STD. NAME</b> | <b>STD REF.#</b>                    |              |                      |
| ICAL Standard    | N/A                                 |              |                      |
| ICV Standard     | N/A                                 |              |                      |
| CCV Standard     | N/A                                 |              |                      |
| ICSA Standard    | N/A                                 |              |                      |
| CRI Standard     | N/A                                 |              |                      |
| LCS Standard     | N/A                                 |              |                      |
| Chk Standard     | W3107,W3093,W3094,W3071,W3005,W3072 |              |                      |

| Sr# | SampleId    | ClientID           | QcType | Date           | Comment | Operator | Status |
|-----|-------------|--------------------|--------|----------------|---------|----------|--------|
| 1   | CAL1        | CAL1               | CAL    | 12/02/24 15:37 |         | Jignesh  | OK     |
| 2   | CAL2        | CAL2               | CAL    | 12/02/24 15:38 |         | Jignesh  | OK     |
| 3   | CAL3        | CAL3               | CAL    | 12/02/24 15:40 |         | Jignesh  | OK     |
| 4   | ICV         | ICV                | ICV    | 12/02/24 15:45 |         | Jignesh  | OK     |
| 5   | CCV1        | CCV1               | CCV    | 12/02/24 15:50 |         | Jignesh  | OK     |
| 6   | P5022-01    | TAPIAL2-SB02D-13-1 | SAM    | 12/02/24 16:00 |         | Jignesh  | OK     |
| 7   | P5022-01DUP | TAPIAL2-SB02D-13-1 | DUP    | 12/02/24 16:02 |         | Jignesh  | OK     |
| 8   | CCV2        | CCV2               | CCV    | 12/02/24 16:05 |         | Jignesh  | OK     |

Instrument ID: TOC

**Daily Analysis Runlog For Sequence/QC Batch ID # LB133779**

|                  |                                              |              |                       |
|------------------|----------------------------------------------|--------------|-----------------------|
| Review By        | Niha                                         | Review On    | 12/9/2024 2:36:05 PM  |
| Supervise By     | Iwona                                        | Supervise On | 12/10/2024 9:22:06 AM |
| SubDirectory     | LB133779                                     | Test         | TOC                   |
| <b>STD. NAME</b> | <b>STD REF.#</b>                             |              |                       |
| ICAL Standard    | WP110667,WP110662,WP110663,WP110664,WP110665 |              |                       |
| ICV Standard     | WP110666                                     |              |                       |
| CCV Standard     | WP111002                                     |              |                       |
| ICSA Standard    | N/A                                          |              |                       |
| CRI Standard     | N/A                                          |              |                       |
| LCS Standard     | WP111003                                     |              |                       |
| Chk Standard     | WP109225                                     |              |                       |

| Sr# | SampleId    | ClientID            | QcType | Date           | Comment                 | Operator | Status |
|-----|-------------|---------------------|--------|----------------|-------------------------|----------|--------|
| 1   | BLANK       | BLANK               | CAL1   | 11/12/24 11:01 |                         | NF IZ    | OK     |
| 2   | 250mg/l     | 250mg/l             | CAL2   | 11/12/24 11:15 |                         | NF IZ    | OK     |
| 3   | 500mg/l     | 500mg/l             | CAL3   | 11/12/24 11:27 |                         | NF IZ    | OK     |
| 4   | 1000mg/l    | 1000mg/l            | CAL4   | 11/12/24 11:36 |                         | NF IZ    | OK     |
| 5   | 2000mg/l    | 2000mg/l            | CAL5   | 11/12/24 12:05 |                         | NF IZ    | OK     |
| 6   | ICV1        | ICV1                | ICV    | 11/12/24 12:18 |                         | NF IZ    | OK     |
| 7   | ICB1        | ICB1                | ICB    | 11/12/24 12:32 |                         | NF IZ    | OK     |
| 8   | CCV1        | CCV1                | CCV    | 12/06/24 10:16 |                         | NF IZ    | OK     |
| 9   | CCB1        | CCB1                | CCB    | 12/06/24 10:28 |                         | NF IZ    | OK     |
| 10  | LB133779BLS | LB133779BLS         | MB     | 12/06/24 10:59 |                         | NF IZ    | OK     |
| 11  | LB133779BSS | LB133779BSS         | LCS    | 12/06/24 11:15 |                         | NF IZ    | OK     |
| 12  | P5113-01    | FES-SB406-4345      | SAM    | 12/06/24 12:09 |                         | NF IZ    | OK     |
| 13  | P5113-02    | FES-SB406-7375      | SAM    | 12/06/24 13:00 |                         | NF IZ    | OK     |
| 14  | P5022-01    | TAPIAL2-SB02D-13-1  | SAM    | 12/06/24 13:55 |                         | NF IZ    | OK     |
| 15  | P5022-01MS  | TAPIAL2-SB02D-13-1  | MS     | 12/06/24 14:12 | sample + 40ul of 111002 | NF IZ    | OK     |
| 16  | P5022-01MSD | TAPIAL2-SB02D-13-1  | MSD    | 12/06/24 14:25 | sample + 40ul of 111002 | NF IZ    | OK     |
| 17  | P5076-01    | TAPIAL2-SB02I-7.5-1 | SAM    | 12/06/24 15:17 |                         | NF IZ    | OK     |
| 18  | P5117-01    | TAPIAL3-SB04I-10-12 | SAM    | 12/06/24 15:34 |                         | NF IZ    | OK     |

Instrument ID: TOC

Daily Analysis Runlog For Sequence/QC Batch ID # LB133779

|               |                                              |              |                       |
|---------------|----------------------------------------------|--------------|-----------------------|
| Review By     | Niha                                         | Review On    | 12/9/2024 2:36:05 PM  |
| Supervise By  | Iwona                                        | Supervise On | 12/10/2024 9:22:06 AM |
| SubDirectory  | LB133779                                     | Test         | TOC                   |
| STD. NAME     | STD REF.#                                    |              |                       |
| ICAL Standard | WP110667,WP110662,WP110663,WP110664,WP110665 |              |                       |
| ICV Standard  | WP110666                                     |              |                       |
| CCV Standard  | WP111002                                     |              |                       |
| ICSA Standard | N/A                                          |              |                       |
| CRI Standard  | N/A                                          |              |                       |
| LCS Standard  | WP111003                                     |              |                       |
| Chk Standard  | WP109225                                     |              |                       |

|    |      |      |     |                |  |       |    |
|----|------|------|-----|----------------|--|-------|----|
| 19 | CCV2 | CCV2 | CCV | 12/06/24 15:46 |  | NF IZ | OK |
| 20 | CCB2 | CCB2 | CCB | 12/06/24 16:02 |  | NF IZ | OK |

## Prep Standard - Chemical Standard Summary

**Order ID :** P5022

**Test :** Anions Group1,Percent Solids,pH,TOC

**Prepbatch ID :**

**Sequence ID/Qc Batch ID:** LB133665,LB133690,LB133779,

**Standard ID :**

WP109217,WP109218,WP109225,WP110259,WP110662,WP110663,WP110664,WP110665,WP110666,WP110667,W  
P110752,WP110753,WP110754,WP110755,WP110756,WP110757,WP110758,WP110759,WP110760,WP110761,WP11  
0890,WP110891,WP111002,WP111003,

**Chemical ID :**

M5673,W2647,W2784,W2860,W3005,W3058,W3062,W3063,W3071,W3072,W3093,W3094,W3107,W3111,W3112,

## Wet Chemistry 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>     |
|------------------------------------------------------------------------------------------------------------|------------------------|--------------------------|------------------|------------------------|--------------------|----------------------|------------------------|--------------------------|
| 2050                                                                                                       | TOC STOCK STD, 4000PPM | <a href="#">WP109217</a> | 08/07/2024       | 01/18/2025             | Iwona Zarych       | WETCHEM_SCALE_5 (WC) | WETCHEM_FIPETTE_3 (WC) | Mohan Bera<br>08/16/2024 |
| <b>FROM</b> 5.00000ml of W2860 + 8.51200gram of W3111 + 990.00000ml of W3112 = Final Quantity: 1000.000 ml |                        |                          |                  |                        |                    |                      |                        |                          |

| <u>Recipe ID</u>                                                                                           | <u>NAME</u>               | <u>NO.</u>               | <u>Prep Date</u> | <u>Expiration Date</u> | <u>Prepared By</u> | <u>ScaleID</u>       | <u>PipetteID</u>       | <u>Supervised By</u>     |
|------------------------------------------------------------------------------------------------------------|---------------------------|--------------------------|------------------|------------------------|--------------------|----------------------|------------------------|--------------------------|
| 2051                                                                                                       | TOC STOCK STD-SS, 4000PPM | <a href="#">WP109218</a> | 08/07/2024       | 02/07/2025             | Iwona Zarych       | WETCHEM_SCALE_5 (WC) | WETCHEM_FIPETTE_3 (WC) | Mohan Bera<br>08/16/2024 |
| <b>FROM</b> 5.00000ml of W2860 + 8.51200gram of W2784 + 990.00000ml of W3112 = Final Quantity: 1000.000 ml |                           |                          |                  |                        |                    |                      |                        |                          |



## Wet Chemistry 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>     |
|------------------------------------------------------------------------------------|-----------------------------------|--------------------------|------------------|------------------------|--------------------|----------------|------------------------|--------------------------|
| 2435                                                                               | 1:1 PHOSPHORIC ACID FOR TOC SOILS | <a href="#">WP109225</a> | 08/07/2024       | 02/07/2025             | Iwona Zarych       | None           | WETCHEM_FIPETTE_3 (WC) | Mohan Bera<br>08/16/2024 |
| <b>FROM</b> 50.00000ml of W2860 + 50.00000ml of W3112 = Final Quantity: 100.000 ml |                                   |                          |                  |                        |                    |                |                        |                          |

| <u>Recipe ID</u>                                                                                              | <u>NAME</u>                    | <u>NO.</u>               | <u>Prep Date</u> | <u>Expiration Date</u> | <u>Prepared By</u> | <u>ScaleID</u>            | <u>PipetteID</u> | <u>Supervised By</u>         |
|---------------------------------------------------------------------------------------------------------------|--------------------------------|--------------------------|------------------|------------------------|--------------------|---------------------------|------------------|------------------------------|
| 4035                                                                                                          | IC ELUENT CONCENTRATE FOR IC-1 | <a href="#">WP110259</a> | 10/16/2024       | 04/16/2025             | Iwona Zarych       | WETCHEM_SCALE_5 (WC SC-5) | None             | Jignesh Parikh<br>10/17/2024 |
| <b>FROM</b> 2.10000gram of W2647 + 84.75000gram of W3058 + 913.15000ml of W3112 = Final Quantity: 1000.000 ml |                                |                          |                  |                        |                    |                           |                  |                              |

## Wet Chemistry 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>       |
|-------------------------------------------------------------------------------------|---------------------|--------------------------|------------------|------------------------|--------------------|----------------|------------------|----------------------------|
| 712                                                                                 | TOC SOIL cal 250ppm | <a href="#">WP110662</a> | 11/12/2024       | 11/19/2024             | Niha Farheen Shaik | None           | None             | Iwona Zarych<br>11/14/2024 |
| <b>FROM</b> 15.00000ml of W3112 + 1.00000ml of WP109217 = Final Quantity: 16.000 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>       |
|-------------------------------------------------------------------------------------|---------------------|--------------------------|------------------|------------------------|--------------------|----------------|------------------|----------------------------|
| 710                                                                                 | TOC SOIL cal 500ppm | <a href="#">WP110663</a> | 11/12/2024       | 11/19/2024             | Niha Farheen Shaik | None           | None             | Iwona Zarych<br>11/14/2024 |
| <b>FROM</b> 14.00000ml of W3112 + 2.00000ml of WP109217 = Final Quantity: 16.000 ml |                     |                          |                  |                        |                    |                |                  |                            |

## Wet Chemistry 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> |
|------------------|---------------------------|--------------------------|------------------|------------------------|--------------------|----------------|------------------|----------------------|
| 3544             | TOC SOIL Cal- CCV 1000PPM | <a href="#">WP110664</a> | 11/12/2024       | 11/19/2024             | Niha Farheen Shaik | None           | None             | Iwona Zarych         |
| 11/14/2024       |                           |                          |                  |                        |                    |                |                  |                      |

**FROM** 15.00000ml of W3112 + 5.00000ml of WP109217 = Final Quantity: 20.000 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> |
|------------------|----------------------|--------------------------|------------------|------------------------|--------------------|----------------|------------------|----------------------|
| 713              | TOC SOIL cal 2000ppm | <a href="#">WP110665</a> | 11/12/2024       | 11/19/2024             | Niha Farheen Shaik | None           | None             | Iwona Zarych         |
| 11/14/2024       |                      |                          |                  |                        |                    |                |                  |                      |

**FROM** 5.00000ml of W3112 + 5.00000ml of WP109217 = Final Quantity: 10.000 ml

## Wet Chemistry 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> |
|------------------|-----------------------|--------------------------|------------------|------------------------|--------------------|----------------|------------------|----------------------|
| 2819             | TOC ICV-LCSS, 1000PPM | <a href="#">WP110666</a> | 11/12/2024       | 11/19/2024             | Niha Farheen Shaik | None           | None             | Iwona Zarych         |
|                  |                       |                          |                  |                        |                    |                |                  | 11/14/2024           |

**FROM** 15.00000ml of W3112 + 5.00000ml of WP109218 = Final Quantity: 20.000 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> |
|------------------|-----------------|--------------------------|------------------|------------------------|--------------------|----------------|------------------|----------------------|
| 304              | TOC CAL 0.00ppm | <a href="#">WP110667</a> | 11/12/2024       | 11/19/2024             | Niha Farheen Shaik | None           | None             | Iwona Zarych         |
|                  |                 |                          |                  |                        |                    |                |                  | 11/14/2024           |

**FROM** 100.00000ml of W3112 = Final Quantity: 100.000 ml

## Wet Chemistry 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>       |
|------------------|----------------------------------------|--------------------------|------------------|------------------------|--------------------|----------------|------------------|----------------------------|
| 2487             | Anions 300/9056 calibration standard 1 | <a href="#">WP110752</a> | 11/18/2024       | 11/19/2024             | Niha Farheen Shaik | None           | None             | Iwona Zarych<br>11/19/2024 |

**FROM** 10.00000ml of W3112 = Final Quantity: 10.000 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>       |
|------------------|----------------------------------------|--------------------------|------------------|------------------------|--------------------|----------------|------------------------|----------------------------|
| 24               | Anions 300/9056 calibration standard 2 | <a href="#">WP110753</a> | 11/18/2024       | 11/19/2024             | Niha Farheen Shaik | None           | WETCHEM_FIPETTE_3 (WC) | Iwona Zarych<br>11/19/2024 |

**FROM** 0.20000ml of W3063 + 9.80000ml of W3112 = Final Quantity: 10.000 ml

## Wet Chemistry 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>       |
|---------------------------------------------------------------------------------|----------------------------------------|--------------------------|------------------|------------------------|--------------------|----------------|---------------------------|----------------------------|
| 25                                                                              | Anions 300/9056 calibration standard 3 | <a href="#">WP110754</a> | 11/18/2024       | 11/19/2024             | Niha Farheen Shaik | None           | WETCHEM_FIPETTE_3<br>(WC) | Iwona Zarych<br>11/19/2024 |
| <b>FROM</b> 0.40000ml of W3063 + 9.60000ml of W3112 = Final Quantity: 10.000 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>       |
|---------------------------------------------------------------------------------|----------------------------------------|--------------------------|------------------|------------------------|--------------------|----------------|---------------------------|----------------------------|
| 26                                                                              | Anions 300/9056 calibration standard 4 | <a href="#">WP110755</a> | 11/18/2024       | 11/19/2024             | Niha Farheen Shaik | None           | WETCHEM_FIPETTE_3<br>(WC) | Iwona Zarych<br>11/19/2024 |
| <b>FROM</b> 0.50000ml of W3063 + 9.50000ml of W3112 = Final Quantity: 10.000 ml |                                        |                          |                  |                        |                    |                |                           |                            |

## Wet Chemistry 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>       |
|------------------|--------------------------------------------|--------------------------|------------------|------------------------|--------------------|----------------|------------------|----------------------------|
| 3680             | Anions 300/9056 calibration standard 5-CCV | <a href="#">WP110756</a> | 11/18/2024       | 11/19/2024             | Niha Farheen Shaik | None           | None             | Iwona Zarych<br>11/19/2024 |

**FROM** 45.00000ml of W3112 + 5.00000ml of W3063 = Final Quantity: 50.000 ml

| <u>Recipe ID</u> | <u>NAME</u>                            | <u>NO.</u>               | <u>Prep Date</u> | <u>Expiration Date</u> | <u>Prepared By</u> | <u>ScaleID</u> | <u>PipetteID</u> | <u>Supervised By</u>       |
|------------------|----------------------------------------|--------------------------|------------------|------------------------|--------------------|----------------|------------------|----------------------------|
| 3679             | Anions 300/9056 calibration standard 6 | <a href="#">WP110757</a> | 11/18/2024       | 11/19/2024             | Niha Farheen Shaik | None           | None             | Iwona Zarych<br>11/19/2024 |

**FROM** 2.00000ml of W3063 + 8.00000ml of W3112 = Final Quantity: 10.000 ml

## Wet Chemistry 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>       |
|------------------|----------------------------------------|--------------------------|------------------|------------------------|--------------------|----------------|------------------|----------------------------|
| 3681             | Anions 300/9056 calibration standard 7 | <a href="#">WP110758</a> | 11/18/2024       | 11/19/2024             | Niha Farheen Shaik | None           | None             | Iwona Zarych<br>11/19/2024 |

**FROM** 2.50000ml of W3063 + 7.50000ml of W3112 = Final Quantity: 10.000 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>       |
|------------------|-----------------------------|--------------------------|------------------|------------------------|--------------------|----------------|------------------|----------------------------|
| 3233             | Anions 300/9056 ICV-LCS std | <a href="#">WP110759</a> | 11/18/2024       | 11/19/2024             | Niha Farheen Shaik | None           | None             | Iwona Zarych<br>11/19/2024 |

**FROM** 45.00000ml of W3112 + 5.00000ml of W3062 = Final Quantity: 50.000 ml



## Wet Chemistry 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> |
|------------------|--------------------|--------------------------|------------------|------------------------|--------------------|----------------|------------------|----------------------|
| 4036             | IC ELUENT FOR IC-1 | <a href="#">WP110760</a> | 11/18/2024       | 12/18/2024             | Niha Farheen Shaik | None           | None             | Iwona Zarych         |
|                  |                    |                          |                  |                        |                    |                |                  | 11/19/2024           |

**FROM** 1980.00000ml of W3112 + 20.00000ml of WP110259 = Final Quantity: 2000.000 ml

| <u>Recipe ID</u> | <u>NAME</u>       | <u>NO.</u>               | <u>Prep Date</u> | <u>Expiration Date</u> | <u>Prepared By</u> | <u>ScaleID</u> | <u>PipetteID</u> | <u>Supervised By</u> |
|------------------|-------------------|--------------------------|------------------|------------------------|--------------------|----------------|------------------|----------------------|
| 4037             | IC H2SO4 FOR IC-1 | <a href="#">WP110761</a> | 11/18/2024       | 12/18/2024             | Niha Farheen Shaik | None           | None             | Iwona Zarych         |
|                  |                   |                          |                  |                        |                    |                |                  | 11/19/2024           |

**FROM** 5.60000ml of M5673 + 994.40000ml of W3112 = Final Quantity: 1000.000 ml

## Wet Chemistry 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>       |
|------------------|--------------------------------------------|--------------------------|------------------|------------------------|--------------------|----------------|------------------|----------------------------|
| 3680             | Anions 300/9056 calibration standard 5-CCV | <a href="#">WP110890</a> | 11/27/2024       | 11/28/2024             | Niha Farheen Shaik | None           | None             | Iwona Zarych<br>12/02/2024 |

**FROM** 45.00000ml of W3112 + 5.00000ml of W3063 = Final Quantity: 50.000 ml

| <u>Recipe ID</u> | <u>NAME</u>                 | <u>NO.</u>               | <u>Prep Date</u> | <u>Expiration Date</u> | <u>Prepared By</u> | <u>ScaleID</u> | <u>PipetteID</u> | <u>Supervised By</u>       |
|------------------|-----------------------------|--------------------------|------------------|------------------------|--------------------|----------------|------------------|----------------------------|
| 3233             | Anions 300/9056 ICV-LCS std | <a href="#">WP110891</a> | 11/27/2024       | 11/28/2024             | Niha Farheen Shaik | None           | None             | Iwona Zarych<br>12/02/2024 |

**FROM** 45.00000ml of W3112 + 5.00000ml of W3062 = Final Quantity: 50.000 ml

## Wet Chemistry 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> |
|------------------|---------------------------|--------------------------|------------------|------------------------|--------------------|----------------|------------------|----------------------|
| 3544             | TOC SOIL Cal- CCV 1000PPM | <a href="#">WP111002</a> | 12/06/2024       | 12/13/2024             | Niha Farheen Shaik | None           | None             | Iwona Zarych         |
|                  |                           |                          |                  |                        |                    |                |                  | 12/09/2024           |

**FROM** 15.00000ml of W3112 + 5.00000ml of WP109217 = Final Quantity: 20.000 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> |
|------------------|-----------------------|--------------------------|------------------|------------------------|--------------------|----------------|------------------|----------------------|
| 2819             | TOC ICV-LCSS, 1000PPM | <a href="#">WP111003</a> | 12/06/2024       | 12/13/2024             | Niha Farheen Shaik | None           | None             | Iwona Zarych         |
|                  |                       |                          |                  |                        |                    |                |                  | 12/09/2024           |

**FROM** 15.00000ml of W3112 + 5.00000ml of WP109218 = Final Quantity: 20.000 ml

## CHEMICAL RECEIPT LOG BOOK

| Supplier         | ItemCode / ItemName                                     | Lot #      | Expiration Date | Date Opened / Opened By | Received Date / Received By | Chemtech Lot # |
|------------------|---------------------------------------------------------|------------|-----------------|-------------------------|-----------------------------|----------------|
| Seidler Chemical | BA-9673-33 / Sulfuric Acid, Instra-Analyzed (cs/6c2.5L) | 23D2462010 | 03/20/2028      | 09/21/2023 / mohan      | 09/05/2023 / mohan          | M5673          |

| Supplier                    | ItemCode / ItemName                           | Lot #      | Expiration Date | Date Opened / Opened By | Received Date / Received By | Chemtech Lot # |
|-----------------------------|-----------------------------------------------|------------|-----------------|-------------------------|-----------------------------|----------------|
| PCI Scientific Supply, Inc. | J3506-5 / SODIUM BICARBONATE, PWD, ACS, 2.5KG | 0000240594 | 06/03/2026      | 02/24/2020 / AMANDEEP   | 01/20/2020 / apatel         | W2647          |

| Supplier                    | ItemCode / ItemName                              | Lot #  | Expiration Date | Date Opened / Opened By | Received Date / Received By | Chemtech Lot # |
|-----------------------------|--------------------------------------------------|--------|-----------------|-------------------------|-----------------------------|----------------|
| PCI Scientific Supply, Inc. | P243-500 / Potassium Hydrogen Phthalate, 500 gms | 201089 | 06/30/2025      | 12/23/2020 / apatel     | 12/16/2020 / apatel         | W2784          |

| Supplier                    | ItemCode / ItemName              | Lot #      | Expiration Date | Date Opened / Opened By | Received Date / Received By | Chemtech Lot # |
|-----------------------------|----------------------------------|------------|-----------------|-------------------------|-----------------------------|----------------|
| PCI Scientific Supply, Inc. | J0260-3 / Phosphoric Acid, 2.5 L | 0000278313 | 01/31/2026      | 07/12/2021 / apatel     | 07/12/2021 / apatel         | W2860          |

| Supplier                    | ItemCode / ItemName                      | Lot #   | Expiration Date | Date Opened / Opened By | Received Date / Received By | Chemtech Lot # |
|-----------------------------|------------------------------------------|---------|-----------------|-------------------------|-----------------------------|----------------|
| PCI Scientific Supply, Inc. | AL13850-1 / Buffer Solution, PH2 (500ml) | 4212E45 | 12/31/2024      | 01/31/2023 / lwona      | 01/31/2023 / lwona          | W3005          |

| Supplier                    | ItemCode / ItemName                         | Lot #      | Expiration Date | Date Opened / Opened By | Received Date / Received By | Chemtech Lot # |
|-----------------------------|---------------------------------------------|------------|-----------------|-------------------------|-----------------------------|----------------|
| PCI Scientific Supply, Inc. | EM-SX0395-3 / SODIUM CARBONATE ANHYDR 2.5KG | 2023012653 | 10/19/2028      | 09/03/2024 / jignesh    | 10/19/2023 / lwona          | W3058          |

## CHEMICAL RECEIPT LOG BOOK

| Supplier           | ItemCode / ItemName                                  | Lot #        | Expiration Date | Date Opened / Opened By | Received Date / Received By | Chemtech Lot # |
|--------------------|------------------------------------------------------|--------------|-----------------|-------------------------|-----------------------------|----------------|
| Inorganic Ventures | 300-CAL-A-500ML / 300.0 Calibration Standard, 500 ml | T2-MEB716667 | 02/12/2025      | 02/12/2024 / lwona      | 10/30/2023 / lwona          | W3062          |

| Supplier           | ItemCode / ItemName                                  | Lot #        | Expiration Date | Date Opened / Opened By | Received Date / Received By | Chemtech Lot # |
|--------------------|------------------------------------------------------|--------------|-----------------|-------------------------|-----------------------------|----------------|
| Inorganic Ventures | 300-CAL-A-500ML / 300.0 Calibration Standard, 500 ml | U2-MEB735684 | 04/09/2025      | 04/09/2024 / lwona      | 11/16/2023 / lwona          | W3063          |

| Supplier                    | ItemCode / ItemName                     | Lot #   | Expiration Date | Date Opened / Opened By | Received Date / Received By | Chemtech Lot # |
|-----------------------------|-----------------------------------------|---------|-----------------|-------------------------|-----------------------------|----------------|
| PCI Scientific Supply, Inc. | AL14455-3 / buffer solution pH 7 yellow | 4308H30 | 07/31/2025      | 01/02/2024 / JIGNESH    | 12/06/2023 / lwona          | W3071          |

| Supplier                    | ItemCode / ItemName                       | Lot #   | Expiration Date | Date Opened / Opened By | Received Date / Received By | Chemtech Lot # |
|-----------------------------|-------------------------------------------|---------|-----------------|-------------------------|-----------------------------|----------------|
| PCI Scientific Supply, Inc. | AL14940-1 / Buffer Solution, PH12 (500ml) | 2310P21 | 04/30/2025      | 01/02/2024 / JIGNESH    | 12/07/2023 / lwona          | W3072          |

| Supplier                    | ItemCode / ItemName                     | Lot #    | Expiration Date | Date Opened / Opened By | Received Date / Received By | Chemtech Lot # |
|-----------------------------|-----------------------------------------|----------|-----------------|-------------------------|-----------------------------|----------------|
| PCI Scientific Supply, Inc. | 566002 / BUFFER PH 7.00 GREEN 1PINT PK6 | 44001f99 | 12/31/2025      | 04/03/2024 / jignesh    | 04/02/2024 / jignesh        | W3093          |

| Supplier                    | ItemCode / ItemName                     | Lot #   | Expiration Date | Date Opened / Opened By | Received Date / Received By | Chemtech Lot # |
|-----------------------------|-----------------------------------------|---------|-----------------|-------------------------|-----------------------------|----------------|
| PCI Scientific Supply, Inc. | 1601-1 / PH 10.01 BUFFER,COLOR CD 475ML | 4310g83 | 03/31/2025      | 04/03/2024 / jignesh    | 04/02/2024 / jignesh        | W3094          |

### CHEMICAL RECEIPT LOG BOOK

| Supplier                    | ItemCode / ItemName              | Lot #     | Expiration Date | Date Opened / Opened By | Received Date / Received By | Chemtech Lot # |
|-----------------------------|----------------------------------|-----------|-----------------|-------------------------|-----------------------------|----------------|
| PCI Scientific Supply, Inc. | AL14055-3 / PH 4 BUFFER SOLUTION | AL14055-3 | 02/27/2026      | 09/05/2024 / jignesh    | 05/13/2024 / jignesh        | W3107          |

| Supplier                    | ItemCode / ItemName                              | Lot #      | Expiration Date | Date Opened / Opened By | Received Date / Received By | Chemtech Lot # |
|-----------------------------|--------------------------------------------------|------------|-----------------|-------------------------|-----------------------------|----------------|
| PCI Scientific Supply, Inc. | P243-500 / Potassium Hydrogen Phthalate, 500 gms | 24A1956910 | 01/18/2025      | 06/26/2024 / lwona      | 06/26/2024 / lwona          | W3111          |

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

Sodium Bicarbonate, Powder  
BAKER ANALYZED® A.C.S. Reagent

(sodium hydrogen carbonate)



Material No.: 3506-05  
Batch No.: 0000240594  
Manufactured Date: 2019/06/05  
Retest Date: 2026/06/03  
Revision No: 1

## Certificate of Analysis

Meets ACS Reagent Chemical Requirements,

| Test                                          | Specification  | Result  |
|-----------------------------------------------|----------------|---------|
| Assay (NaHCO <sub>3</sub> ) (dried basis)     | 99.7 – 100.3 % | 100.1   |
| Insoluble Matter                              | <= 0.015 %     | < 0.002 |
| Chloride (Cl)                                 | <= 0.003 %     | 0.003   |
| Phosphate (PO <sub>4</sub> )                  | <= 0.001 %     | 0.001   |
| Sulfur Compounds (as SO <sub>4</sub> )        | <= 0.003 %     | 0.003   |
| Calcium (Ca)                                  | <= 0.02 %      | 0.02    |
| Trace Impurities – Iron (Fe)                  | <= 0.001 %     | 0.001   |
| Magnesium (Mg)                                | <= 0.005 %     | 0.005   |
| Potassium (K)                                 | <= 0.005 %     | 0.005   |
| Ammonium (NH <sub>4</sub> )                   | <= 5 ppm       | 5       |
| Trace Impurities – ACS – Heavy Metals (as Pb) | <= 5 ppm       | 5       |

For Laboratory, Research or Manufacturing Use  
Meets Reagent Specifications for testing USP/NF monographs

Country of Origin: US  
Packaging Site: Paris 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

Phosphoric Acid  
BAKER ANALYZED® A.C.S. Reagent

(orthophosphoric acid)



Material No.: 0260-03  
Batch No.: 0000278313  
Manufactured Date: 2021/02/01  
Retest Date: 2026/01/31  
Revision No: 2

## Certificate of Analysis

Meets ACS Reagent Chemical Requirements,

| Test                                                    | Specification  | Result  |
|---------------------------------------------------------|----------------|---------|
| Assay (H <sub>3</sub> PO <sub>4</sub> ) (by acidimetry) | 85.0 – 87.0 %  | 85.8    |
| Calcium (Ca)                                            | <= 0.002 %     | < 0.001 |
| Color (APHA)                                            | <= 10          | 5       |
| Insoluble Matter                                        | <= 0.001 %     | < 0.001 |
| ACS – Magnesium (Mg)                                    | <= 0.002 %     | <0.002  |
| Sulfate (SO <sub>4</sub> )                              | <= 12 ppm      | < 4     |
| Volatile Acids (as CH <sub>3</sub> COOH)                | <= 0.001 %     | 0.001   |
| Reducing Substances                                     | Passes Test    | PT      |
| Chloride (Cl)                                           | <= 3 ppm       | < 1     |
| Nitrate (NO <sub>3</sub> )                              | <= 5 ppm       | < 2     |
| Trace Impurities – Antimony (Sb)                        | <= 20.000 ppm  | 0.007   |
| Trace Impurities – Arsenic (As)                         | <= 0.500 ppm   | < 0.001 |
| Trace Impurities – Iron (Fe)                            | <= 10.000 ppm  | < 1.000 |
| Heavy Metals (as Pb)                                    | <= 8 ppm       | < 3     |
| Trace Impurities – Manganese (Mn)                       | <= 0.500 ppm   | 0.005   |
| Trace Impurities – Potassium (K)                        | <= 40.000 ppm  | < 0.001 |
| Trace Impurities – Sodium (Na)                          | <= 200.000 ppm | 0.082   |

For Laboratory, Research or Manufacturing Use  
Exceeds A.C.S. Specifications  
Meets Reagent Specifications for testing USP/NF monographs

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




W3071  
Rec 12/6/23

## Certificate of Analysis 12

Buffer, Reference Standard, pH 7.00 ± 0.01 at 25°C (Color Coded Yellow)

Lot Number: 4308H30

Product Number: 1551

Manufacture Date: AUG 09, 2023

Expiration Date: JUL 2025

The certified value for this product is confirmed in independent testing by a second qualified chemist.

The NIST traceable pH value is certified to ±0.01 at 25 °C only. All other pH values at their corresponding temperatures are accurate to ± 0.05.

|    |      |      |      |      |      |      |      |      |      |      |      |
|----|------|------|------|------|------|------|------|------|------|------|------|
| °C | 0    | 5    | 10   | 15   | 20   | 25   | 30   | 35   | 40   | 45   | 50   |
| pH | 7.12 | 7.09 | 7.06 | 7.04 | 7.02 | 7.00 | 6.99 | 6.98 | 6.98 | 6.97 | 6.97 |

| Name                           | CAS#        | Grade           |
|--------------------------------|-------------|-----------------|
| Water                          | 7732-18-5   | ACS/ASTM/USP/EP |
| Sodium Phosphate Dibasic       | 7558-79-4   | ACS             |
| Potassium Dihydrogen Phosphate | 7778-77-0   | ACS             |
| Preservative                   | Proprietary |                 |
| Yellow Dye                     | Proprietary |                 |
| Sodium Hydroxide               | 1310-73-2   | Reagent         |

| Test       | Specification | Result |
|------------|---------------|--------|
| Appearance | Yellow liquid | Passed |

\*Not a certified value.

| Test                                  | Certified Value | Uncertainty | NIST SRM#               |
|---------------------------------------|-----------------|-------------|-------------------------|
| pH at 25°C (Method: SQCP027, SQCP033) | 7.002           | 0.02        | 186-I-g, 186-II-g, 191d |

| Specification               | Reference       |
|-----------------------------|-----------------|
| Commercial Buffer Solutions | ASTM (D 1293 B) |
| Buffer A                    | ASTM (D 5464)   |
| Buffer A                    | ASTM (D 5128)   |

pH measurements were performed in our Batesville, IN laboratory under ISO/IEC 17025 accreditation (ANAB Certificate L2387.02) and are certified traceable to National Institute of Standards and Technology (NIST) Standard Reference Material as indicated above via an unbroken chain of comparisons. The uncertainty is calculated from the uncertainty of the measurement variation from sample to sample, the uncertainty in the NIST Standard Reference Material, and the uncertainty of the measurement process. The uncertainty is multiplied by k=2, corresponding to 95% coverage in a normal distribution. Volumetric glassware complies with Class A tolerance requirements of ASTM E 288 and NIST Circular 434; it is calibrated before first use and recalibrated regularly in accordance with ASTM E 542 and NIST Procedure NBSIR 74-461. Balances are calibrated regularly with weights certified traceable to the NIST national mass standard. Thermometers and temperature probes are calibrated before first use and recalibrated regularly with a thermometer traceable to NIST standards. All products are prepared according to master documents that assure manufacture according to validated methods. Batch records document raw material traceability and production and testing history for each lot manufactured.

| Part Number | Size / Package Type | Shelf Life (Unopened Container) |
|-------------|---------------------|---------------------------------|
| 1551-2.5    | 10 L Cubitainer®    | 24 months                       |
| 1551-5      | 20 L Cubitainer®    | 24 months                       |

Recommended Storage: 15°C - 30°C (59°F - 86°F)



Paul Brandon (08/09/2023)

Production Manager

This document is designed to comply with ISO Guide 31 "Reference Materials --  
Contents of Certificates and Labels."

**This product was tested in an ISO 17025 Accredited Laboratory**

This test report shall not be reproduced, except in full, without the written approval of Ricca Chemical Company.

# Certificate Of Analysis



W 3058

Re. 10/19/23 12

Date of Release: 1/27/2023

Name: **Sodium Carbonate, Anhydrous**

Powder, ACS

Item No: **SX0395 All Sizes**

Lot / Batch No: **2023012653**

Country of Origin: **India**

| Item                                   | Specifications | Analysis    |
|----------------------------------------|----------------|-------------|
| Assay (calculated on dried substance)  | 99.5% min.     | 100.2%      |
| Calcium (Ca)                           | 0.03% max.     | 0.004%      |
| Chloride (Cl)                          | 0.001% max.    | <0.001%     |
| Color                                  | White          | Passes Test |
| Form                                   | Powder         | Passes Test |
| Heavy metals (by ICP-OES)              | 5 ppm max.     | <5 ppm      |
| Insoluble Matter                       | 0.01% max.     | 0.003%      |
| Iron (Fe)                              | 5 ppm max.     | <5 ppm      |
| Loss on heating at 285C                | 1.0% max.      | 0.1%        |
| Magnesium (Mg)                         | 0.005% max.    | 0.0008%     |
| Phosphate (PO <sub>4</sub> )           | 0.001% max.    | <0.001%     |
| Potassium (K)                          | 0.005% max.    | 0.003%      |
| Silica (SiO <sub>2</sub> )             | 0.005% max.    | <0.005%     |
| Sulfur compounds (as SO <sub>4</sub> ) | 0.003% max.    | <0.003%     |

Joe Schoellkopf

Quality Control Manager

This document has been produced electronically and is valid without a signature.

EMD Millipore is a division of Merck KGaA, Darmstadt, Germany

EMD Millipore Corporation

400 Summit Drive  
Burlington, MA 01803  
U.S.A.

Form number: 00005624CA, Rev. 2.0

# Certificate of Analysis

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Christiansburg, VA 24073 USA  
inorganicventures.com

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

F: 540-585-3012

info@inorganicventures.com

N 3062

rec on 10/30/23  
12

## 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 Ion Chromatography Solution  
Catalog Number: 300-CAL-A  
Lot Number: T2-MEB716667  
Matrix: H2O  
Value / Analyte(s):  
150 µg/mL ea:  
Sulfate,  
100 µg/mL ea:  
Bromide,  
50 µg/mL ea:  
o-Phosphate as P,  
30 µg/mL ea:  
Chloride, Nitrite as N,  
25 µg/mL ea:  
Nitrate as N,  
20 µg/mL ea:  
Fluoride

## 3.0 CERTIFIED VALUES AND UNCERTAINTIES

| ANALYTE             | CERTIFIED VALUE    | ANALYTE                | CERTIFIED VALUE    |
|---------------------|--------------------|------------------------|--------------------|
| Bromide, Br         | 100.0 ± 0.5 µg/mL  | Chloride, Cl           | 30.00 ± 0.13 µg/mL |
| Fluoride, F-        | 20.00 ± 0.06 µg/mL | Nitrate as N, NNO3-    | 25.00 ± 0.09 µg/mL |
| Nitrite as N, NNO2- | 30.00 ± 0.15 µg/mL | o-Phosphate as P, PPO4 | 50.00 ± 0.30 µg/mL |
| Sulfate, SO4        | 150.0 ± 0.9 µg/mL  |                        |                    |

**Density:** 0.999 g/mL (measured at 20 ± 4 °C)

**Assay Information:**

| ANALYTE | METHOD     | NIST SRM# | SRM LOT#         |
|---------|------------|-----------|------------------|
| Br      | IC Assay   | 3184      | 151130           |
| Br      | Fajans     | 999c      | 999c             |
| Cl      | IC Assay   | 3182      | 060925           |
| Cl      | Fajans     | 999c      | 999c             |
| Cl      | Calculated |           | See Sec. 4.2     |
| F-      | IC Assay   | 3183      | 140203           |
| NNO3-   | IC Assay   | 3185      | 050517           |
| NNO2-   | IC Assay   |           | traceable to 40h |
| PPO4    | IC Assay   | 3186      | 170606           |
| SO4     | IC Assay   | 3181      | 080603           |

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

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

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

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

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

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

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

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

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

$k$  = coverage factor = 2

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

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

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

$u_{ts}$  = transport stability standard uncertainty

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

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

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

$X_a$  = mean of Assay Method A with

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

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

$k$  = coverage factor = 2

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

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

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

$u_{ts}$  = transport stability standard uncertainty

## 4.0 TRACEABILITY TO NIST

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

### 4.1 Thermometer Calibration

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

### 4.2 Balance Calibration

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

### 4.3 Glassware Calibration

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

## 5.0 CHROMATOGRAM

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)

## **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**

March 17, 2022

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

### **11.2 Lot Expiration Date**

- **March 17, 2027**

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

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

### 11.3 Period of Validity

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

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

### 12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

#### Certificate Approved By:

Thomas Kozikowski  
Manager, Quality Control



#### Certifying Officer:

Paul Gaines  
Chairman / Senior Technical Director



# Certificate of Analysis

300 Technology Drive  
Christiansburg, VA 24073 USA  
inorganicventures.com

W3063  
rec. 11/16/23 12

P: 800-669-6799/540-585-3030  
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## 1.0 ACCREDITATION / REGISTRATION

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



## 2.0 PRODUCT DESCRIPTION

Product Code: Multi Analyte Ion Chromatography Solution  
Catalog Number: 300-CAL-A  
Lot Number: U2-MEB735684  
Matrix: H2O  
Value / Analyte(s):  
150 µg/mL ea:  
Sulfate,  
100 µg/mL ea:  
Bromide,  
50 µg/mL ea:  
o-Phosphate as P,  
30 µg/mL ea:  
Chloride, Nitrite as N,  
25 µg/mL ea:  
Nitrate as N,  
20 µg/mL ea:  
Fluoride

## 3.0 CERTIFIED VALUES AND UNCERTAINTIES

| ANALYTE                       | CERTIFIED VALUE    | ANALYTE                         | CERTIFIED VALUE    |
|-------------------------------|--------------------|---------------------------------|--------------------|
| Bromide, Br                   | 100.0 ± 0.5 µg/mL  | Chloride, Cl                    | 30.00 ± 0.14 µg/mL |
| Fluoride, F-                  | 20.00 ± 0.06 µg/mL | Nitrate as N, $\text{NO}_3^-$   | 25.00 ± 0.09 µg/mL |
| Nitrite as N, $\text{NO}_2^-$ | 30.00 ± 0.15 µg/mL | o-Phosphate as P, $\text{PO}_4$ | 50.00 ± 0.18 µg/mL |
| Sulfate, $\text{SO}_4$        | 150.0 ± 0.8 µg/mL  |                                 |                    |

Density: 0.999 g/mL (measured at 20 ± 4 °C)

Assay Information:



| ANALYTE | METHOD   | NIST SRM# | SRM LOT#         |
|---------|----------|-----------|------------------|
| Br      | IC Assay | 3184      | 151130           |
| Br      | Fajans   | 999c      | 999c             |
| Cl      | IC Assay | 3182      | 190830           |
| Cl      | Fajans   | 999c      | 999c             |
| F-      | IC Assay | 3183      | 140203           |
| NNO3-   | IC Assay | 3185      | 170309           |
| NNO2-   | IC Assay |           | traceable to 40h |
| PPO4    | IC Assay | 3186      | 170606           |
| SO4     | IC Assay | 3181      | 080603           |

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

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

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

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

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

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

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

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

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

$k$  = coverage factor = 2

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

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

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

$u_{ts}$  = transport stability standard uncertainty

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

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

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

$X_a$  = mean of Assay Method A with

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

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

$k$  = coverage factor = 2

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

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

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

$u_{ts}$  = transport stability standard uncertainty

## 4.0 TRACEABILITY TO NIST

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

### 4.1 Thermometer Calibration

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

### 4.2 Balance Calibration

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

### 4.3 Glassware Calibration

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

## 5.0 CHROMATOGRAM

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)

## 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 10, 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

- **August 10, 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 Prepared By:

Justin Dirico  
Stock Processing Supervisor



#### Certificate Approved By:

Nicholas Plymale  
Custom VSM Coordinator



#### Certifying Officer:

Paul Gaines  
Chairman / Senior Technical Director



**RICCA CHEMICAL COMPANY®**

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<http://www.riccachemical.com>  
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[customerservice@riccachemical.com](mailto:customerservice@riccachemical.com)

# Certificate of Analysis

Buffer, Reference Standard, pH 12.00 ± 0.01 at 25°C

Lot Number: 2310P21

Product Number: 1615

Manufacture Date: OCT 24, 2023

Expiration Date: APR 2025

The certified value for this product is confirmed in independent testing by a second qualified chemist.

|    |       |       |       |       |       |       |
|----|-------|-------|-------|-------|-------|-------|
| °C | 15    | 20    | 25    | 30    | 35    | 40    |
| pH | 12.35 | 12.17 | 11.99 | 11.78 | 11.62 | 11.46 |

| Name               | CAS#      | Grade           |
|--------------------|-----------|-----------------|
| Water              | 7732-18-5 | ACS/ASTM/USP/EP |
| Potassium Chloride | 7447-40-7 | ACS             |
| Sodium Hydroxide   | 1310-73-2 | Reagent         |

| Test       | Specification    | Result |
|------------|------------------|--------|
| Appearance | Colorless liquid | Passed |

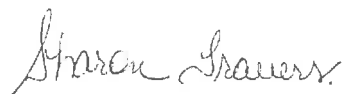
\*Not a certified value.

| Test                                  | Certified Value | Uncertainty | NIST SRM#               |
|---------------------------------------|-----------------|-------------|-------------------------|
| pH at 25°C (Method: SQCP027, SQCP033) | 12.005          | 0.02        | 186-I-g, 186-II-g, 191d |

pH measurements were performed in our Pocomoke City, MD laboratory under ISO/IEC 17025 accreditation (ANAB Certificate L2387.01) and are certified traceable to National Institute of Standards and Technology (NIST) Standard Reference Material as indicated above via an unbroken chain of comparisons. The uncertainty is calculated from the uncertainty of the measurement variation from sample to sample, the uncertainty in the NIST Standard Reference Material, and the uncertainty of the measurement process. The uncertainty is multiplied by k=2, corresponding to 95% coverage in a normal distribution. Volumetric glassware complies with Class A tolerance requirements of ASTM E 288 and NIST Circular 434; it is calibrated before first use and recalibrated regularly in accordance with ASTM E 542 and NIST Procedure NBSIR 74-461. Balances are calibrated regularly with weights certified traceable to the NIST national mass standard. Thermometers and temperature probes are calibrated before first use and recalibrated regularly with a thermometer traceable to NIST standards. All products are prepared according to master documents that assure manufacture according to validated methods. Batch records document raw material traceability and production and testing history for each lot manufactured.

| Part Number | Size / Package Type | Shelf Life (Unopened Container) |
|-------------|---------------------|---------------------------------|
| 1615-1      | 4 L natural poly    | 18 months                       |
| 1615-16     | 500 mL clear PET-G  | 18 months                       |
| 1615-32     | 1 L natural poly    | 18 months                       |
| 1615-5      | 20 L Cubitainer®    | 18 months                       |

Recommended Storage: 15°C - 30°C (59°F - 86°F)



Sharon Travers (10/24/2023)

Operations Manager

This document is designed to comply with ISO Guide 31 "Reference Materials --  
Contents of Certificates and Labels."

**This product was tested in an ISO 17025 Accredited Laboratory**

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Certificate of Analysis

**ThermoFisher**  
SCIENTIFIC

## Certificate of Analysis

1 Reagent Lane  
Fair Lawn, NJ 07410  
201.796.7100 tel  
201.796.1329 faxThermo Fisher Scientific's Quality System has been found to conform to Quality Management System  
Standard ISO9001:2015 by SAI Global Certificate Number CERT – 0120632

This is to certify that units of the lot number below were tested and found to comply with the specifications of the grade listed. Certain data have been supplied by third parties. Thermo Fisher Scientific expressly disclaims all warranties, expressed or implied, including the implied warranties of merchantability and fitness for a particular purpose. Products are for research use or further manufacturing. Not for direct administration to humans or animals. It is the responsibility of the final formulator and end user to determine suitability based upon the intended use of the end product. Products are tested to meet the analytical requirements of the noted grade. The following information is the actual analytical results obtained.

|                   |                                                                                                                                                                                                   |                             |            |
|-------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------|------------|
| Catalog Number    | P243                                                                                                                                                                                              | Quality Test / Release Date | 06/19/2020 |
| Lot Number        | 201089                                                                                                                                                                                            |                             |            |
| Description       | POTASSIUM HYDROGEN PHTHALATE, ACIDIMETRIC STANDARD, A.C.S.                                                                                                                                        |                             |            |
| Country of Origin | Spain                                                                                                                                                                                             | Suggested Retest Date       | Jun/2025   |
| Chemical Origin   | Organic - non animal                                                                                                                                                                              |                             |            |
| BSE/TSE Comment   | No animal products are used as starting raw material ingredients, or used in processing, including lubricants, processing aids, or any other material that might migrate to the finished product. |                             |            |

| N/A                                |                     |                                  |                |
|------------------------------------|---------------------|----------------------------------|----------------|
| Result Name                        | Units               | Specifications                   | Test Value     |
| APPEARANCE                         |                     | REPORT                           | WHITE CRYSTALS |
| ASSAY POTASSIUM HYDROGEN PHTHALATE | %                   | Inclusive Between 99.95 - 100.05 | 100.03         |
| CHLORINE COMPOUNDS                 | %                   | <= 0.003                         | <0.003         |
| HEAVY METALS (as Pb)               | ppm                 | <= 5                             | <5             |
| IDENTIFICATION                     | PASS/FAIL           | = PASS TEST                      | PASS TEST      |
| INSOLUBLE MATTER                   | %                   | <= 0.005                         | <0.005         |
| IRON (Fe)                          | ppm                 | <= 5                             | <5             |
| PH OF 0.05M SOLUTION               |                     | Inclusive Between 4.00 - 4.02    | 4.00           |
| SODIUM (Na)                        | %                   | <= 0.005                         | <0.005         |
| SULFUR COMPOUNDS                   | %                   | <= 0.002                         | <0.002%        |
| TRACEABLE TO NIST                  | SOD CARBONATE       | = LOT 351a                       | 351a           |
| TRACEABLE TO NIST KHP STD          | POT. ACID PHTHALATE | = LOT 84L                        | 84L            |



Julian Burton - Quality Control Manager – Fair Lawn

Note: The data listed is valid for all package sizes of this lot of this product, expressed as an extension of this catalog number listed above.  
If there are any questions with this certificate, please call at (800) 227-6701.

\*Based on suggested storage condition.

Sulfuric Acid  
BAKER INSTRA-ANALYZED® Reagent  
For Trace Metal Analysis  
Low Selenium

avantor™



Material No.: 9673-33  
Batch No.: 23D2462010  
Manufactured Date: 2023-03-22  
Retest Date: 2028-03-20  
Revision No.: 0

## Certificate of Analysis

| Test                                                         | Specification | Result      |
|--------------------------------------------------------------|---------------|-------------|
| ACS – Assay (H <sub>2</sub> SO <sub>4</sub> )                | 95.0 – 98.0 % | 96.1 %      |
| Appearance                                                   | Passes Test   | Passes Test |
| ACS – Color (APHA)                                           | ≤ 10          | 5           |
| ACS – Residue after Ignition                                 | ≤ 3 ppm       | < 1 ppm     |
| ACS – Substances Reducing Permanganate (as SO <sub>2</sub> ) | ≤ 2 ppm       | < 2 ppm     |
| Ammonium (NH <sub>4</sub> )                                  | ≤ 1 ppm       | 1 ppm       |
| Chloride (Cl)                                                | ≤ 0.1 ppm     | < 0.1 ppm   |
| Nitrate (NO <sub>3</sub> )                                   | ≤ 0.2 ppm     | < 0.1 ppm   |
| Phosphate (PO <sub>4</sub> )                                 | ≤ 0.5 ppm     | < 0.1 ppm   |
| Trace Impurities – Aluminum (Al)                             | ≤ 30.0 ppb    | < 5.0 ppb   |
| Arsenic and Antimony (as As)                                 | ≤ 4.0 ppb     | < 2.0 ppb   |
| Trace Impurities – Boron (B)                                 | ≤ 10.0 ppb    | 8.5 ppb     |
| Trace Impurities – Cadmium (Cd)                              | ≤ 2.0 ppb     | < 0.3 ppb   |
| Trace Impurities – Chromium (Cr)                             | ≤ 6.0 ppb     | < 0.4 ppb   |
| Trace Impurities – Cobalt (Co)                               | ≤ 0.5 ppb     | < 0.3 ppb   |
| Trace Impurities – Copper (Cu)                               | ≤ 1.0 ppb     | < 0.1 ppb   |
| Trace Impurities – Gold (Au)                                 | ≤ 10.0 ppb    | 0.5 ppb     |
| Heavy Metals (as Pb)                                         | ≤ 500.0 ppb   | < 100.0 ppb |
| Trace Impurities – Iron (Fe)                                 | ≤ 50.0 ppb    | 1.3 ppb     |
| Trace Impurities – Lead (Pb)                                 | ≤ 0.5 ppb     | < 0.5 ppb   |
| Trace Impurities – Magnesium (Mg)                            | ≤ 7.0 ppb     | 0.8 ppb     |
| Trace Impurities – Manganese (Mn)                            | ≤ 1.0 ppb     | < 0.4 ppb   |
| Trace Impurities – Mercury (Hg)                              | ≤ 0.5 ppb     | < 0.1 ppb   |
| Trace Impurities – Nickel (Ni)                               | ≤ 2.0 ppb     | 0.3 ppb     |
| Trace Impurities – Potassium (K)                             | ≤ 500.0 ppb   | < 2.0 ppb   |
| Trace Impurities – Selenium (Se)                             | ≤ 50.0 ppb    | < 0.1 ppb   |
| Trace Impurities – Silicon (Si)                              | ≤ 100.0 ppb   | 31.5 ppb    |
| Trace Impurities – Silver (Ag)                               | ≤ 1.0 ppb     | < 0.3 ppb   |

>>> Continued on page 2 >>>

Sulfuric Acid  
BAKER INSTRA-ANALYZED® Reagent  
For Trace Metal Analysis  
Low Selenium

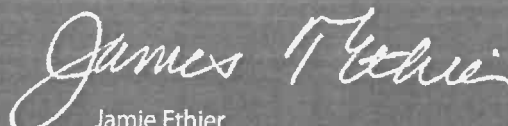


Material No.: 9673-33  
Batch No.: 23D2462010

| Test                              | Specification | Result    |
|-----------------------------------|---------------|-----------|
| Trace Impurities – Sodium (Na)    | ≤ 500.0 ppb   | 5.4 ppb   |
| Trace Impurities – Strontium (Sr) | ≤ 5.0 ppb     | < 0.2 ppb |
| Trace Impurities – Tin (Sn)       | ≤ 5.0 ppb     | < 0.8 ppb |
| Trace Impurities – Zinc (Zn)      | ≤ 5.0 ppb     | 0.4 ppb   |

For Laboratory, Research, or Manufacturing Use

Country of Origin: USA  
Packaging Site: Phillipsburg Mfg Ctr & DC

  
Jamie Ethier  
Vice President Global Quality





# RICCA CHEMICAL COMPANY®

W 3005

REC- 1/31/23

12

1490 Lammers Pike

Batesville, IN 47006

<http://www.riccachemical.com>

1-888-GO-RICCA

customerservice@riccachemical.com

## Certificate of Analysis

Buffer, Reference Standard, pH 2.00 ± 0.01 at 25°C

Lot Number: 4212E45

Product Number: 1493

Manufacture Date: DEC 20, 2022

Expiration Date: DEC 2024

The certified value for this product is confirmed in independent testing by a second qualified chemist.

The NIST traceable pH value is certified to ±0.01 at 25 °C only. All other pH values at their corresponding temperatures are accurate to ± 0.05.

|    |      |      |      |      |      |      |      |      |      |
|----|------|------|------|------|------|------|------|------|------|
| °C | 10   | 15   | 20   | 25   | 30   | 35   | 40   | 45   | 50   |
| pH | 1.93 | 1.98 | 1.98 | 2.00 | 2.01 | 2.03 | 2.03 | 2.04 | 2.04 |

| Name               | CAS#      | Grade           |
|--------------------|-----------|-----------------|
| Water              | 7732-18-5 | ACS/ASTM/USP/EP |
| Potassium Chloride | 7447-40-7 | ACS             |
| Hydrochloric Acid  | 7647-01-0 | ACS             |

| Test       | Specification    | Result |
|------------|------------------|--------|
| Appearance | Colorless liquid | Passed |

\*Not a certified value.

| Test                                  | Certified Value | Uncertainty | NIST SRM#               |
|---------------------------------------|-----------------|-------------|-------------------------|
| pH at 25°C (Method: SQCP027, SQCP033) | 2.000           | 0.02        | 185i, 186-I-g, 186-II-g |

pH measurements were performed in our Batesville, IN laboratory under ISO/IEC 17025 accreditation (ANAB Certificate L2387.02) and are certified traceable to National Institute of Standards and Technology (NIST) Standard Reference Material as indicated above via an unbroken chain of comparisons. The uncertainty is calculated from the uncertainty of the measurement variation from sample to sample, the uncertainty in the NIST Standard Reference Material, and the uncertainty of the measurement process. The uncertainty is multiplied by k=2, corresponding to 95% coverage in a normal distribution. Volumetric glassware complies with Class A tolerance requirements of ASTM E 288 and NIST Circular 434; it is calibrated before first use and recalibrated regularly in accordance with ASTM E 542 and NIST Procedure NBSIR 74-461. Balances are calibrated regularly with weights certified traceable to the NIST national mass standard. Thermometers and temperature probes are calibrated before first use and recalibrated regularly with a thermometer traceable to NIST standards. All products are prepared according to master documents that assure manufacture according to validated methods. Batch records document raw material traceability and production and testing history for each lot manufactured.

| Part Number | Size / Package Type | Shelf Life (Unopened Container) |
|-------------|---------------------|---------------------------------|
| 1493-1      | 4 L natural poly    | 24 months                       |
| 1493-16     | 500 mL natural poly | 24 months                       |
| 1493-32     | 1 L natural poly    | 24 months                       |
| 1493-5      | 20 L Cubitainer®    | 24 months                       |

Recommended Storage: 15°C - 30°C (59°F - 86°F)



Paul Brandon (12/20/2022)

Production Manager

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## Certificate of Analysis

W3093  
004121  
04/03/2024  
16

Buffer, Reference Standard, pH 7.00 ± 0.01 at 25°C (Color Coded Yellow)

Lot Number: 4401F99

Product Number: 1551

Manufacture Date: JAN 08, 2024

Expiration Date: DEC 2025

The certified value for this product is confirmed in independent testing by a second qualified chemist.

The NIST traceable pH value is certified to ±0.01 at 25 °C only. All other pH values at their corresponding temperatures are accurate to ± 0.05.

|    |      |      |      |      |      |      |      |      |      |      |      |
|----|------|------|------|------|------|------|------|------|------|------|------|
| °C | 0    | 5    | 10   | 15   | 20   | 25   | 30   | 35   | 40   | 45   | 50   |
| pH | 7.12 | 7.09 | 7.06 | 7.04 | 7.02 | 7.00 | 6.99 | 6.98 | 6.98 | 6.97 | 6.97 |

| Name                           | CAS#        | Grade           |
|--------------------------------|-------------|-----------------|
| Water                          | 7732-18-5   | ACS/ASTM/USP/EP |
| Sodium Phosphate Dibasic       | 7558-79-4   | ACS             |
| Potassium Dihydrogen Phosphate | 7778-77-0   | ACS             |
| Preservative                   | Proprietary |                 |
| Yellow Dye                     | Proprietary |                 |
| Sodium Hydroxide               | 1310-73-2   |                 |

| Test       | Specification | Result |
|------------|---------------|--------|
| Appearance | Yellow liquid | Passed |

\*Not a certified value.

| Test                                  | Certified Value | Uncertainty | NIST SRM#               |
|---------------------------------------|-----------------|-------------|-------------------------|
| pH at 25°C (Method: SQCP027, SQCP033) | 7.004           | 0.02        | 186-I-g, 186-II-g, 191d |

| Specification               | Reference       |
|-----------------------------|-----------------|
| Commercial Buffer Solutions | ASTM (D 1293 B) |
| Buffer A                    | ASTM (D 5464)   |
| Buffer A                    | ASTM (D 5128)   |

pH measurements were performed in our Batesville, IN laboratory under ISO/IEC 17025 accreditation (ANAB Certificate L2387.02) and are certified traceable to National Institute of Standards and Technology (NIST) Standard Reference Material as indicated above via an unbroken chain of comparisons. The uncertainty is calculated from the uncertainty of the measurement variation from sample to sample, the uncertainty in the NIST Standard Reference Material, and the uncertainty of the measurement process. The uncertainty is multiplied by k=2, corresponding to 95% coverage in a normal distribution. Volumetric glassware complies with Class A tolerance requirements of ASTM E 288 and NIST Circular 434; it is calibrated before first use and recalibrated regularly in accordance with ASTM E 542 and NIST Procedure NBSIR 74-461. Balances are calibrated regularly with weights certified traceable to the NIST national mass standard. Thermometers and temperature probes are calibrated before first use and recalibrated regularly with a thermometer traceable to NIST standards. All products are prepared according to master documents that assure manufacture according to validated methods. Batch records document raw material traceability and production and testing history for each lot manufactured.

| Part Number | Size / Package Type | Shelf Life (Unopened Container) |
|-------------|---------------------|---------------------------------|
| 1551-1      | 4 L natural poly    | 24 months                       |
| 1551-1CT    | 4 L Cubitainer®     | 24 months                       |
| 1551-2.5    | 10 L Cubitainer®    | 24 months                       |
| 1551-5      | 20 L Cubitainer®    | 24 months                       |

Recommended Storage: 15°C - 30°C (59°F - 86°F)



Paul Brandon (01/08/2024)

Production Manager

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## Certificate of Analysis

Buffer, Reference Standard, pH 10.00 ± 0.01 at 25°C (Color Coded Blue)

Lot Number: 4310G83

Product Number: 1601

Manufacture Date: OCT 09, 2023

Expiration Date: MAR 2025

The certified value for this product is confirmed in independent testing by a second qualified chemist.

The NIST traceable pH value is certified to ±0.01 at 25 °C only. All other pH values at their corresponding temperatures are accurate to ± 0.05.

|    |       |       |       |       |       |       |      |      |      |      |
|----|-------|-------|-------|-------|-------|-------|------|------|------|------|
| °C | 0     | 5     | 10    | 15    | 20    | 25    | 30   | 35   | 40   | 50   |
| pH | 10.31 | 10.23 | 10.17 | 10.11 | 10.05 | 10.00 | 9.95 | 9.91 | 9.87 | 9.81 |

| Name               | CAS#        | Grade           |
|--------------------|-------------|-----------------|
| Water              | 7732-18-5   | ACS/ASTM/USP/EP |
| Sodium Carbonate   | 497-19-8    | ACS             |
| Sodium Bicarbonate | 144-55-8    | ACS             |
| Sodium Hydroxide   | 1310-73-2   | Reagent         |
| Preservative       | Proprietary |                 |
| Blue Dye           | Proprietary |                 |

| Test       | Specification | Result |
|------------|---------------|--------|
| Appearance | Blue liquid   | Passed |

\*Not a certified value.

| Test                                  | Certified Value | Uncertainty | NIST SRM#               |
|---------------------------------------|-----------------|-------------|-------------------------|
| pH at 25°C (Method: SQCP027, SQCP033) | 10.003          | 0.02        | 186-I-g, 186-II-g, 191d |

| Specification               | Reference       |
|-----------------------------|-----------------|
| Commercial Buffer Solutions | ASTM (D 1293 B) |
| Buffer C                    | ASTM (D 5464)   |
| Buffer C                    | ASTM (D 5128)   |

pH measurements were performed in our Batesville, IN laboratory under ISO/IEC 17025 accreditation (ANAB Certificate L2387.02) and are certified traceable to National Institute of Standards and Technology (NIST) Standard Reference Material as indicated above via an unbroken chain of comparisons. The uncertainty is calculated from the uncertainty of the measurement variation from sample to sample, the uncertainty in the NIST Standard Reference Material, and the uncertainty of the measurement process. The uncertainty is multiplied by k=2, corresponding to 95% coverage in a normal distribution. Volumetric glassware complies with Class A tolerance requirements of ASTM E 288 and NIST Circular 434; it is calibrated before first use and recalibrated regularly in accordance with ASTM E 542 and NIST Procedure NBSIR 74-461. Balances are calibrated regularly with weights certified traceable to the NIST national mass standard. Thermometers and temperature probes are calibrated before first use and recalibrated regularly with a thermometer traceable to NIST standards. All products are prepared according to master documents that assure manufacture according to validated methods. Batch records document raw material traceability and production and testing history for each lot manufactured.

| Part Number | Size / Package Type | Shelf Life (Unopened Container) |
|-------------|---------------------|---------------------------------|
| 1601-16     | 500 mL natural poly | 18 months                       |
| 1601-5      | 20 L Cubitainer®    | 18 months                       |

Recommended Storage: 15°C - 30°C (59°F - 86°F)



Paul Brandon (10/09/2023)

Production Manager

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## Certificate of Analysis

Buffer, Reference Standard, pH 4.00 ± 0.01 at 25°C (Color Coded Red)

Lot Number: 4403F90

Product Number: 1501

Manufacture Date: MAR 09, 2024

Expiration Date: FEB 2026

The certified value for this product is confirmed in independent testing by a second qualified chemist.

The NIST Traceable pH value is certified to ±0.01 at 25 °C only. All other pH values at their corresponding temperatures are accurate to ± 0.05.

|    |      |      |      |      |      |      |      |      |      |      |      |
|----|------|------|------|------|------|------|------|------|------|------|------|
| °C | 0    | 5    | 10   | 15   | 20   | 25   | 30   | 35   | 40   | 45   | 50   |
| pH | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.01 | 4.02 | 4.03 | 4.04 | 4.06 |

| Name                     | CAS#        | Grade           |
|--------------------------|-------------|-----------------|
| Water                    | 7732-18-5   | ACS/ASTM/USP/EP |
| Potassium Acid Phthalate | 877-24-7    | Buffer          |
| Preservative             | Proprietary | Commercial      |
| Red Dye                  | Proprietary | Purified        |

| Test       | Specification | Result |
|------------|---------------|--------|
| Appearance | Red liquid    | Passed |

\*Not a certified value.

| Test                                  | Certified Value | Uncertainty | NIST SRM#               |
|---------------------------------------|-----------------|-------------|-------------------------|
| pH at 25°C (Method: SQCP027, SQCP033) | 4.000           | 0.02        | 185i, 186-I-g, 186-II-g |

| Specification               | Reference       |
|-----------------------------|-----------------|
| Commercial Buffer Solutions | ASTM (D 1293 B) |
| Buffer B                    | ASTM (D 5464)   |
| Buffer B                    | ASTM (D 5128)   |

pH measurements were performed in our Batesville, IN laboratory under ISO/IEC 17025 accreditation (ANAB Certificate L2387.02) and are certified traceable to National Institute of Standards and Technology (NIST) Standard Reference Material as indicated above via an unbroken chain of comparisons. The uncertainty is calculated from the uncertainty of the measurement variation from sample to sample, the uncertainty in the NIST Standard Reference Material, and the uncertainty of the measurement process. The uncertainty is multiplied by k=2, corresponding to 95% coverage in a normal distribution. Volumetric glassware complies with Class A tolerance requirements of ASTM E 288 and NIST Circular 434; it is calibrated before first use and recalibrated regularly in accordance with ASTM E 542 and NIST Procedure NBSIR 74-461. Balances are calibrated regularly with weights certified traceable to the NIST national mass standard. Thermometers and temperature probes are calibrated before first use and recalibrated regularly with a thermometer traceable to NIST standards. All products are prepared according to master documents that assure manufacture according to validated methods. Batch records document raw material traceability and production and testing history for each lot manufactured.

| Part Number | Size / Package Type | Shelf Life (Unopened Container) |
|-------------|---------------------|---------------------------------|
| 1501-2.5    | 10 L Cubitainer®    | 24 months                       |
| 1501-32     | 1 L natural poly    | 24 months                       |
| 1501-5      | 20 L Cubitainer®    | 24 months                       |

Recommended Storage: 15°C - 30°C (59°F - 86°F)

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14



Paul Brandon (03/09/2024)

Production Manager

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# POTASSIUM HYDROGEN PHTHALATE

**Material:** N983  
**Grade:** ACS GRADE  
**Batch Number:** 24A1956910

Chemical Formula: HOCC6H4COOK  
Molecular Weight: 204.22  
CAS #: 877-24-7  
Appearance:

Manufacture Date: 01/19/2022  
Reassay Date: 01/18/2025  
Storage: Room Temperature

White crystals.

| TEST                   | SPECIFICATION    | ANALYSIS | DISPOSITION |
|------------------------|------------------|----------|-------------|
| Assay (dried basis)    | 99.95 - 100.05 % | 99.97 %  | PASS        |
| Chlorine Compounds     | <= 0.003 %       | <0.003 % | PASS        |
| Heavy Metals (as Pb)   | <= 5 ppm         | <5 ppm   | PASS        |
| Insoluble Matter       | <= 0.005 %       | 0.003 %  | PASS        |
| Iron                   | <= 5 ppm         | <5 ppm   | PASS        |
| pH (0.05M, Water) @25C | 4.00 - 4.02      | 4.00     | PASS        |
| Sodium                 | <= 0.005 %       | <0.005 % | PASS        |
| Sulfur Compounds       | <= 0.002 %       | <0.002 % | PASS        |

Spec Set: N983ACS

Internal ID #: 710

| Signature                                                                                                                                                                                                                                                                                  | Additional Information                                                                                                                             |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------|
| We certify that this batch conforms to the specifications listed.<br><br>This document has been electronically produced and is valid without a signature.<br><br>Leona Edwardson, Quality Control Sr. Manager - Solon<br>VWR Chemicals, LLC.<br>28600 Fountain Parkway, Solon OH 44139 USA | Analysis may have been rounded to significant digits in specification limits.<br><br>Product meets analytical specifications of the grades listed. |

# PERCENT SOLID

Supervisor: Iwona  
Analyst: jignesh  
Date: 12/2/2024

OVENTEMP IN Celsius(°C): 107  
Time IN: 17:15  
In Date: 11/27/2024  
Weight Check 1.0g: 1.00  
Weight Check 10g: 10.00  
OvenID: M OVEN#1

OVENTEMP OUT Celsius(°C): 103  
Time OUT: 08:15  
Out Date: 11/28/2024  
Weight Check 1.0g: 1.00  
Weight Check 10g: 10.00  
BalanceID: M SC-4  
Thermometer ID: % SOLID- OVEN

QC:LB133667

| Lab ID   | Client SampleID                | Dish # | Dish Wt (g) (A) | Sample Wt (g) | Dish + Sample Wt (g) (B) | Dish+Dry Sample Wt (g) (C) | % Solid | Comments |
|----------|--------------------------------|--------|-----------------|---------------|--------------------------|----------------------------|---------|----------|
| P5022-01 | TAPIAL2-SB02D-13-11242 4-00-T1 | 1      | 1.15            | 8.70          | 9.85                     | 9.23                       | 92.9    |          |
| P5025-01 | SOIL-WEST                      | 2      | 1.18            | 8.43          | 9.61                     | 8.41                       | 85.8    |          |
| P5025-03 | SOIL-WEST-TPH2                 | 3      | 1.17            | 8.60          | 9.77                     | 8.54                       | 85.7    |          |
| P5025-04 | SOIL-WEST-GRAB                 | 4      | 1.16            | 8.49          | 9.65                     | 8.43                       | 85.6    |          |
| P5025-05 | SOIL-EAST                      | 5      | 1.15            | 8.73          | 9.88                     | 7.85                       | 76.7    |          |
| P5025-07 | SOIL-EAST-TPH2                 | 6      | 1.11            | 8.70          | 9.81                     | 7.76                       | 76.4    |          |
| P5025-08 | SOIL-EAST-GRAB                 | 7      | 1.15            | 8.82          | 9.97                     | 9.39                       | 93.4    |          |
| P5026-01 | SOIL-1-HAM                     | 8      | 1.13            | 8.65          | 9.78                     | 8.00                       | 79.4    |          |
| P5026-03 | SOIL-1-HAM-TPH2                | 9      | 1.17            | 8.50          | 9.67                     | 8.72                       | 88.8    |          |
| P5026-04 | SOIL-1-HAM-GRAB                | 10     | 1.18            | 8.42          | 9.6                      | 8.66                       | 88.8    |          |
| P5026-05 | SOIL-1-HAM                     | 11     | 1.15            | 8.81          | 9.96                     | 8.00                       | 77.8    |          |
| P5026-07 | SOIL-1-HAM-TPH2                | 12     | 1.19            | 8.50          | 9.69                     | 7.51                       | 74.4    |          |
| P5026-08 | SOIL-1-HAM-GRAB                | 13     | 1.14            | 8.75          | 9.89                     | 7.7                        | 75.0    |          |
| P5045-01 | SU-04-11222024                 | 14     | 1.19            | 8.50          | 9.69                     | 8.96                       | 91.4    |          |
| P5045-02 | SU-04-11222024-E2              | 15     | 1.13            | 8.74          | 9.87                     | 8.49                       | 84.2    |          |
| P5046-01 | HD-01-11272024                 | 16     | 1.17            | 8.57          | 9.74                     | 8.8                        | 89.0    |          |
| P5046-02 | HD-01-11272024-E2              | 17     | 1.16            | 8.83          | 9.99                     | 9.00                       | 88.8    |          |
| P5048-01 | MH-746-WC                      | 18     | 1.17            | 8.65          | 9.82                     | 9.18                       | 92.6    |          |
| P5048-02 | MH-746-EPH                     | 19     | 1.15            | 8.80          | 9.95                     | 8.91                       | 88.2    |          |
| P5048-03 | MH-746--VOC                    | 20     | 1.15            | 8.36          | 9.51                     | 8.48                       | 87.7    |          |

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

# WORKLIST(Hardcopy Internal Chain)

133667

WorkList Name : %1-112724

WorkList ID : 185820

Department : Wet-Chemistry

Date : 11-27-2024 08:06:01

| Sample   | Customer Sample             | Matrix | Test           | Preservative | Customer | Raw Sample Storage Location | Collect Date | Method       |
|----------|-----------------------------|--------|----------------|--------------|----------|-----------------------------|--------------|--------------|
| P5022-01 | TAPIAL2-SB02D-13-112424-00. | Solid  | Percent Solids | Cool 4 deg C | WEST04   | L41                         | 11/24/2024   | Chemtech -SO |
| P5025-01 | SOIL-WEST                   | Solid  | Percent Solids | Cool 4 deg C | TULL02   | L61                         | 11/27/2024   | Chemtech -SO |
| P5025-03 | SOIL-WEST-TPH2              | Solid  | Percent Solids | Cool 4 deg C | TULL02   | L61                         | 11/27/2024   | Chemtech -SO |
| P5025-04 | SOIL-WEST-GRAB              | Solid  | Percent Solids | Cool 4 deg C | TULL02   | L61                         | 11/27/2024   | Chemtech -SO |
| P5025-05 | SOIL-EAST                   | Solid  | Percent Solids | Cool 4 deg C | TULL02   | L61                         | 11/27/2024   | Chemtech -SO |
| P5025-07 | SOIL-EAST-TPH2              | Solid  | Percent Solids | Cool 4 deg C | TULL02   | L61                         | 11/27/2024   | Chemtech -SO |
| P5025-08 | SOIL-EAST-GRAB              | Solid  | Percent Solids | Cool 4 deg C | TULL02   | L61                         | 11/27/2024   | Chemtech -SO |
| P5026-01 | SOIL-1-HAM                  | Solid  | Percent Solids | Cool 4 deg C | TULL02   | L61                         | 11/27/2024   | Chemtech -SO |
| P5026-03 | SOIL-1-HAM-TPH2             | Solid  | Percent Solids | Cool 4 deg C | TULL02   | L61                         | 11/27/2024   | Chemtech -SO |
| P5026-04 | SOIL-1-HAM-GRAB             | Solid  | Percent Solids | Cool 4 deg C | TULL02   | L61                         | 11/27/2024   | Chemtech -SO |
| P5026-05 | SOIL-1-HAM                  | Solid  | Percent Solids | Cool 4 deg C | TULL02   | L61                         | 11/27/2024   | Chemtech -SO |
| P5026-07 | SOIL-1-HAM-TPH2             | Solid  | Percent Solids | Cool 4 deg C | TULL02   | L61                         | 11/27/2024   | Chemtech -SO |
| P5026-08 | SOIL-1-HAM-GRAB             | Solid  | Percent Solids | Cool 4 deg C | TULL02   | L61                         | 11/27/2024   | Chemtech -SO |
| P5045-01 | SU-04-11222024              | Solid  | Percent Solids | Cool 4 deg C | PSEG05   | L51                         | 11/27/2024   | Chemtech -SO |
| P5045-02 | SU-04-11222024-E2           | Solid  | Percent Solids | Cool 4 deg C | PSEG05   | L51                         | 11/27/2024   | Chemtech -SO |
| P5046-01 | HD-01-11272024              | Solid  | Percent Solids | Cool 4 deg C | PSEG05   | L51                         | 11/27/2024   | Chemtech -SO |
| P5046-02 | HD-01-11272024-E2           | Solid  | Percent Solids | Cool 4 deg C | PSEG05   | L51                         | 11/27/2024   | Chemtech -SO |
| P5048-01 | MH-746-WC                   | Solid  | Percent Solids | Cool 4 deg C | PSEG03   | L61                         | 11/27/2024   | Chemtech -SO |
| P5048-02 | MH-746-EPH                  | Solid  | Percent Solids | Cool 4 deg C | PSEG03   | L61                         | 11/27/2024   | Chemtech -SO |
| P5048-03 | MH-746-VOC                  | Solid  | Percent Solids | Cool 4 deg C | PSEG03   | L61                         | 11/27/2024   | Chemtech -SO |

Date/Time 11/27/24 16:10

Raw Sample Received by: JG WOC

Raw Sample Relinquished by: JG WOC

Date/Time 11/27/24

Raw Sample Received by: JG WOC

Raw Sample Relinquished by: JG WOC



# SHIPPING DOCUMENTS

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14

P5022



Weston COC ID

Weston\_20241126\_1529

## Chain of Custody Record/Lab Work Request

Page 1 of 1

|                  |                                   |          |              |
|------------------|-----------------------------------|----------|--------------|
| Client:          | Weston Solutions, Inc.            |          |              |
| Project Manager: | David Sembrot                     |          |              |
| Street Address:  | 1400 Weston Way                   | City:    | West Chester |
| Phone:           | 610-314-5456                      | ST, ZIP: | PA, 19038    |
| e-mail:          | david.sembrot@westonsolutions.com |          |              |
| Sampled By:      | Cheyenne Harrington               |          |              |

## Lab Use Only

|                                                     |   |   |
|-----------------------------------------------------|---|---|
| Temperature of cooler when received (°C)            |   |   |
| COC Tape was present and unbroken on outer package? | Y | N |
| Samples received in good condition?                 | Y | N |
| Labels indicate properly preserved?                 | Y | N |
| Received within holding times?                      | Y | N |
| Discrepancies between sample labels and COC record? | Y | N |

|               |                                             |              |                                  |
|---------------|---------------------------------------------|--------------|----------------------------------|
| Project Name: | Fort Meade RI                               | Project POC: | Nathan Fretz                     |
| PO Number     | 0111169                                     | Phone:       | 484-524-5665                     |
| W.O. #:       |                                             | POC e-mail:  | nathan.fretz@westonsolutions.com |
| Lab:          | Chemtech                                    | Lab POC:     | Jordan Hedvat                    |
| TAT (days):   | 21                                          | Lab Phone:   | 908-728-3148                     |
| Lab Address:  | 284 Sheffield Street Mountainside, NJ 07092 |              |                                  |

## Matrix Codes

|                      |
|----------------------|
| SB - Soil            |
| SE - Sediment        |
| SO - Solid           |
| SL - Sludge          |
| GW - Groundwater     |
| W - Water            |
| O - Oil              |
| A - Air              |
| DS - Drum Solids     |
| DL - Drum Liquids    |
| L - EP/TCLP Leachate |
| WI - Wipe            |
| X - Other            |
| F - Fish             |

## Analyses Requested:

|                               |                 |                     |                  |            |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|-------------------------------|-----------------|---------------------|------------------|------------|--|--|--|--|--|--|--|--|--|--|--|--|--|--|
| TAL Metals by EPA 6020B/7471B | pH by EPA 9045D | Anions by EPA 9056A | TOC by EPA 9060A |            |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Container Type:               | Glass           | Glass               | Glass            | Glass      |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Container Size:               | 8 oz            | 8 oz                | 8 oz             | 8 oz       |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Preservative:                 | Ice to 0-6      | Ice to 0-6          | Ice to 0-6       | Ice to 0-6 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |

| #  | Sample ID                     | G/C | Matrix | # Cont | MS/MSD | Date Collected | Time Collected |   |   |   |   |  |  |  |  |  |  |  | Special Instructions/Comments |
|----|-------------------------------|-----|--------|--------|--------|----------------|----------------|---|---|---|---|--|--|--|--|--|--|--|-------------------------------|
| 1  | TAPIAL2-SB02D-13-112424-00-T1 | g   | SB     | 3      | no     | 11/24/2024     | 16:30          | X | X | X | X |  |  |  |  |  |  |  |                               |
| 2  |                               |     |        |        |        |                |                |   |   |   |   |  |  |  |  |  |  |  |                               |
| 3  |                               |     |        |        |        |                |                |   |   |   |   |  |  |  |  |  |  |  |                               |
| 4  |                               |     |        |        |        |                |                |   |   |   |   |  |  |  |  |  |  |  |                               |
| 5  |                               |     |        |        |        |                |                |   |   |   |   |  |  |  |  |  |  |  |                               |
| 6  |                               |     |        |        |        |                |                |   |   |   |   |  |  |  |  |  |  |  |                               |
| 7  |                               |     |        |        |        |                |                |   |   |   |   |  |  |  |  |  |  |  |                               |
| 8  |                               |     |        |        |        |                |                |   |   |   |   |  |  |  |  |  |  |  |                               |
| 9  |                               |     |        |        |        |                |                |   |   |   |   |  |  |  |  |  |  |  |                               |
| 10 |                               |     |        |        |        |                |                |   |   |   |   |  |  |  |  |  |  |  |                               |
| 11 |                               |     |        |        |        |                |                |   |   |   |   |  |  |  |  |  |  |  |                               |
| 12 |                               |     |        |        |        |                |                |   |   |   |   |  |  |  |  |  |  |  |                               |

|                          |              |      |             |          |      |                                                                                        |   |    |   |
|--------------------------|--------------|------|-------------|----------|------|----------------------------------------------------------------------------------------|---|----|---|
| Shipping Airbill Number: | 770246101180 |      |             |          |      | Cooler Number:                                                                         | 1 | of | 1 |
| Relinquished By          | Date         | Time | Received By | Date     | Time | Additional Comments                                                                    |   |    |   |
| 1.) <i>Chyen H</i>       | 11/26/24     | 1600 | <i>R</i>    | 11-27-24 | 1005 | QSM 6.0 Compliant                                                                      |   |    |   |
| 2.)                      |              |      |             |          |      | Deliverable Requirements: DoD Level IV report, EnviroData EDD, and ERIS-compatible EDD |   |    |   |
| 3.)                      |              |      |             |          |      |                                                                                        |   |    |   |

28 Cont #1 3.4

**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       |