

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 : P5365

ATTENTION : Nathan Fretz



Laboratory Certification ID # 20012



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Cover Page

Order ID : P5365

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

Client : Weston Solutions

Lab Sample Number

P5365-01

Client Sample Number

TAPFTA-SB01I-4.5-121924-00-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 9:22 am, Jan 09, 2025

NYDOH CERTIFICATION NO - 11376

NJDEP CERTIFICATION NO - 20012



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

CASE NARRATIVE

Weston Solutions

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

Project # N/A

Chemtech Project # P5365

Test Name: pH,TOC,Anions Group1

A. Number of Samples and Date of Receipt:

1 Solid sample was received on 12/20/2024.

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 TAPFTA-SB01I-4.5-121924-00-T1 of pH as sample receive out of holding time.

The Blank Spike met requirements for all samples.

The Duplicate analysis met criteria for all samples.

The Matrix Spike (TAPFTA-SB01I-4.5-121924-00-T1MS) analysis met criteria for all samples except for TOC due to sample matrix interference.

The Matrix Spike Duplicate analysis met criteria for all samples.

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

The Calibration met the requirements.

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 9:23 am, Jan 09, 2025

DATA REPORTING QUALIFIERS- INORGANIC

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

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

GENERAL CHEMISTRY CONFORMANCE/NON-CONFORMANCE SUMMARY

CHEMTECH PROJECT NUMBER: P5365

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 (TAPFTA-SB01I-4.5-121924-00-T1MS) analysis met criteria for all samples except for TOC due to sample matrix interference. The Matrix Spike Duplicate analysis met criteria for all samples. | | | |
| 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 TAPFTA-SB01I-4.5-121924-00-T1 of pH as sample received out of holding time. | | | |

ADDITIONAL COMMENTS:

N. N. Pandya

QA REVIEW

APPROVED

By Nimisha Pandya, QA/QC Supervisor at 9:25 am, Jan 09, 2025

Date

APPENDIX A

QA REVIEW GENERAL DOCUMENTATION

Project #: P5365

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: 01/08/2025

LAB CHRONICLE

OrderID:	P5365	OrderDate:	12/20/2024 10:24:00 AM
Client:	Weston Solutions	Project:	Ft Meade Tipton Airfield Parcel RI - PO 0111169
Contact:	Nathan Fretz	Location:	N21

LabID	ClientID	Matrix	Test	Method	Sample Date	Prep Date	Anal Date	Received
P5365-01	TAPFTA-SB011I-4.5-12 1924-00-T1	SOIL			12/19/24 13:00			12/20/24
			Anions Group1	9056A			12/20/24 14:57	
			pH	9045D			12/20/24 11:55	
			TOC	9060A			01/06/25 11:56	



SAMPLE DATA

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Report of Analysis

Client:	Weston Solutions	Date Collected:	12/19/24 13:00
Project:	Ft Meade Tipton Airfield Parcel RI - PO 0111169	Date Received:	12/20/24
Client Sample ID:	TAPFTA-SB01I-4.5-121924-00-T1	SDG No.:	P5365
Lab Sample ID:	P5365-01	Matrix:	SOIL
		% Solid:	90.1

Parameter	Conc.	Qua.	DF	MDL	LOD	LOQ / CRQL	Units(Dry Weight)	Prep Date	Date Ana.	Ana Met.
Bromide	22.2	U	1	0.54	22.2	44.3	mg/Kg		12/20/24 14:57	9056A
Chloride	9.10	J	1	0.11	6.60	13.3	mg/Kg		12/20/24 14:57	9056A
Fluoride	5.10	J	1	0.42	4.40	8.90	mg/Kg		12/20/24 14:57	9056A
Nitrite	6.60	U	1	0.21	6.60	13.3	mg/Kg		12/20/24 14:57	9056A
Nitrate	5.50	U	1	0.099	5.50	11.1	mg/Kg		12/20/24 14:57	9056A
Sulfate	32.3	J	1	0.68	33.2	66.5	mg/Kg		12/20/24 14:57	9056A
pH	6.89	H	1	0	0	0	pH		12/20/24 11:55	9045D
TOC	1010		1	19.8	50.0	250	mg/Kg		01/06/25 11:56	9060A

Comments: pH result reported at temperature 23.6 °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

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Initial and Continuing Calibration Verification

Client: Weston Solutions

SDG No.: P5365

Project: Ft Meade Tipton Airfield Parcel RI - PO 0111169

RunNo.: LB134040

Analyte	Units	Result	True Value	% Recovery	Acceptance Window (%R)	Analysis Date
Sample ID: ICV pH	pH	7.01	7	100	90-110	12/20/2024
Sample ID: CCV1 pH	pH	2.02	2.00	101	90-110	12/20/2024
Sample ID: CCV2 pH	pH	12.02	12.00	100	90-110	12/20/2024

Initial and Continuing Calibration Verification

Client: Weston Solutions

SDG No.: P5365

Project: Ft Meade Tipton Airfield Parcel RI - PO 0111169

RunNo.: LB134042

Analyte	Units	Result	True Value	% Recovery	Acceptance Window (%R)	Analysis Date
Sample ID: ICV1						
Bromide	mg/L	10.3	10	103	90-110	12/18/2024
Chloride	mg/L	3.1	3	103	90-110	12/18/2024
Fluoride	mg/L	2	2	100	90-110	12/18/2024
Nitrite	mg/L	3.1	3	103	90-110	12/18/2024
Nitrate	mg/L	2.6	2.5	104	90-110	12/18/2024
Sulfate	mg/L	15.3	15	102	90-110	12/18/2024
Orthophosphate as P	mg/L	5.1	5	102	90-110	12/18/2024
Sample ID: CCV1						
Bromide	mg/L	10.5	10	105	90-110	12/20/2024
Chloride	mg/L	3.1	3	103	90-110	12/20/2024
Fluoride	mg/L	2.1	2	105	90-110	12/20/2024
Nitrite	mg/L	3.1	3	103	90-110	12/20/2024
Nitrate	mg/L	2.6	2.5	104	90-110	12/20/2024
Sulfate	mg/L	15.6	15	104	90-110	12/20/2024
Orthophosphate as P	mg/L	5.4	5	108	90-110	12/20/2024
Sample ID: CCV2						
Bromide	mg/L	10.6	10	106	90-110	12/20/2024
Chloride	mg/L	3.2	3	107	90-110	12/20/2024
Fluoride	mg/L	2.1	2	105	90-110	12/20/2024
Nitrite	mg/L	3.2	3	107	90-110	12/20/2024
Nitrate	mg/L	2.6	2.5	104	90-110	12/20/2024
Sulfate	mg/L	15.8	15	105	90-110	12/20/2024
Orthophosphate as P	mg/L	5.4	5	108	90-110	12/20/2024

Initial and Continuing Calibration Verification

Client: Weston Solutions

SDG No.: P5365

Project: Ft Meade Tipton Airfield Parcel RI - PO 0111169

RunNo.: LB134163

Analyte	Units	Result	True Value	% Recovery	Acceptance Window (%R)	Analysis Date
Sample ID: CCV1 TOC	mg/L	1100	1000	110	90-110	01/06/2025
Sample ID: CCV2 TOC	mg/L	1080	1000	108	90-110	01/06/2025
Sample ID: ICV1 TOC	mg/L	934	1000	93	90-110	11/12/2024

Initial and Continuing Calibration Blank Summary

Client: Weston Solutions

SDG No.: P5365

Project: Ft Meade Tipton Airfield Parcel RI - PO 0111169

RunNo.: LB134042

Analyte	Units	Result	Acceptance Limits	Conc Qual	MDL	RDL	Analysis Date
Sample ID: ICB1							
Bromide	mg/L	< 1.0000	1.0000	U	0.034	2	12/18/2024
Chloride	mg/L	< 0.3000	0.3000	U	0.011	0.6	12/18/2024
Fluoride	mg/L	< 0.2000	0.2000	U	0.057	0.4	12/18/2024
Nitrite	mg/L	< 0.3000	0.3000	U	0.011	0.6	12/18/2024
Nitrate	mg/L	< 0.2500	0.2500	U	0.0034	0.5	12/18/2024
Sulfate	mg/L	< 1.5000	1.5000	U	0.032	3	12/18/2024
Orthophosphate as P	mg/L	< 0.5000	0.5000	U	0.079	1	12/18/2024
Sample ID: CCB1							
Bromide	mg/L	< 1.0000	1.0000	U	0.034	2	12/20/2024
Chloride	mg/L	< 0.3000	0.3000	U	0.011	0.6	12/20/2024
Fluoride	mg/L	< 0.2000	0.2000	U	0.057	0.4	12/20/2024
Nitrite	mg/L	< 0.3000	0.3000	U	0.011	0.6	12/20/2024
Nitrate	mg/L	< 0.2500	0.2500	U	0.0034	0.5	12/20/2024
Sulfate	mg/L	< 1.5000	1.5000	U	0.032	3	12/20/2024
Orthophosphate as P	mg/L	< 0.5000	0.5000	U	0.079	1	12/20/2024
Sample ID: CCB2							
Bromide	mg/L	< 1.0000	1.0000	U	0.034	2	12/20/2024
Chloride	mg/L	< 0.3000	0.3000	U	0.011	0.6	12/20/2024
Fluoride	mg/L	< 0.2000	0.2000	U	0.057	0.4	12/20/2024
Nitrite	mg/L	< 0.3000	0.3000	U	0.011	0.6	12/20/2024
Nitrate	mg/L	< 0.2500	0.2500	U	0.0034	0.5	12/20/2024
Sulfate	mg/L	< 1.5000	1.5000	U	0.032	3	12/20/2024
Orthophosphate as P	mg/L	< 0.5000	0.5000	U	0.079	1	12/20/2024

Initial and Continuing Calibration Blank Summary

Client: Weston Solutions	SDG No.: P5365
Project: Ft Meade Tipton Airfield Parcel RI - PO 0111169	RunNo.: LB134163

Analyte	Units	Result	Acceptance Limits	Conc Qual	MDL	RDL	Analysis Date
Sample ID: CCB1 TOC	mg/L	< 125.0000	125.0000	U	22.3	250	01/06/2025
Sample ID: CCB2 TOC	mg/L	< 125.0000	125.0000	U	22.3	250	01/06/2025
Sample ID: ICB1 TOC	mg/L	< 125.0000	125.0000	U	22.3	250	11/12/2024

Preparation Blank Summary

Client: Weston Solutions

SDG No.: P5365

Project: Ft Meade Tipton Airfield Parcel RI - PO 0111169

Analyte	Units	Result	Acceptance Limits	Conc Qual	MDL	RDL	Analysis Date
Sample ID: LB134042BLS							
Bromide	mg/Kg	< 20.0000	20.0000	U	0.49	40	12/20/2024
Chloride	mg/Kg	< 6.0000	6.0000	U	0.096	12	12/20/2024
Fluoride	mg/Kg	< 4.0000	4.0000	U	0.38	8	12/20/2024
Nitrite	mg/Kg	< 6.0000	6.0000	U	0.19	12	12/20/2024
Nitrate	mg/Kg	< 5.0000	5.0000	U	0.089	10	12/20/2024
Sulfate	mg/Kg	< 30.0000	30.0000	U	0.61	60	12/20/2024
Orthophosphate as P	mg/Kg	< 10.0000	10.0000	U	0.24	20	12/20/2024
Sample ID: LB134163BLS							
TOC	mg/Kg	< 125.0000	125.0000	U	19.8	250	01/06/2025

Matrix Spike Summary

Client:	Weston Solutions	SDG No.:	P5365
Project:	Ft Meade Tipton Airfield Parcel RI - PO 0111169	Sample ID:	P5365-01
Client ID:	TAPFTA-SB01I-4.5-121924-00-T1MS	Percent Solids for Spike Sample:	90.1

Analyte	Units	Acceptance Limit %R	Spiked Result	Conc. Qualifier	Sample Result	Conc. Qualifier	Spike Added	Dilution Factor	% Rec	Qual	Analysis Date
Bromide	mg/Kg	80-120	233		0.54	U	220	1	106		12/20/2024
TOC	mg/Kg	75-125	2320		1010		1000	1	131	*	01/06/2025
Chloride	mg/Kg	80-120	76.8		9.10	J	66.3	1	102		12/20/2024
Fluoride	mg/Kg	80-120	43.3		5.10	J	44.2	1	86		12/20/2024
Nitrite	mg/Kg	80-120	69.8		0.21	U	66.3	1	105		12/20/2024
Nitrate	mg/Kg	80-120	58.4		0.099	U	55.3	1	106		12/20/2024
Sulfate	mg/Kg	80-120	355		32.3	J	330	1	98		12/20/2024
Orthophosphate as P	mg/Kg	80-120	90.0		0.27	U	110	1	82		12/20/2024

Matrix Spike Summary

Client:	Weston Solutions	SDG No.:	P5365
Project:	Ft Meade Tipton Airfield Parcel RI - PO 0111169	Sample ID:	P5365-01
Client ID:	TAPFTA-SB01I-4.5-121924-00-T1MSD	Percent Solids for Spike Sample:	90.1

Analyte	Units	Acceptance Limit %R	Spiked Result	Conc. Qualifier	Sample Result	Conc. Qualifier	Spike Added	Dilution Factor	% Rec	Qual	Analysis Date
Bromide	mg/Kg	80-120	233		0.54	U	220	1	106		12/20/2024
TOC	mg/Kg	75-125	1950		1010		1000	1	94		01/06/2025
Chloride	mg/Kg	80-120	76.7		9.10	J	66.3	1	102		12/20/2024
Fluoride	mg/Kg	80-120	43.3		5.10	J	44.2	1	86		12/20/2024
Nitrite	mg/Kg	80-120	69.9		0.21	U	66.3	1	105		12/20/2024
Nitrate	mg/Kg	80-120	58.5		0.099	U	55.3	1	106		12/20/2024
Sulfate	mg/Kg	80-120	356		32.3	J	330	1	98		12/20/2024
Orthophosphate as P	mg/Kg	80-120	89.9		0.27	U	110	1	82		12/20/2024

Duplicate Sample Summary

Client:	Weston Solutions	SDG No.:	P5365
Project:	Ft Meade Tipton Airfield Parcel RI - PO 0111169	Sample ID:	P5365-01
Client ID:	TAPFTA-SB01I-4-.5-121924-00-T1DUP	Percent Solids for Spike Sample:	90.1

Analyte	Units	Acceptance Limit	Sample Result	Conc. Qualifier	Duplicate Result	Conc. Qualifier	Dilution Factor	RPD/AD	Qual	Analysis Date
pH	pH	+/-20	6.89		6.90		1	0.15		12/20/2024

Duplicate Sample Summary

Client: Weston Solutions	SDG No.: P5365
Project: Ft Meade Tipton Airfield Parcel RI - PO 0111169	Sample ID: P5365-01
Client ID: TAPFTA-SB01I-4.5-121924-00-T1MSD	Percent Solids for Spike Sample: 90.1

Analyte	Units	Acceptance Limit	Sample Result	Conc. Qualifier	Duplicate Result	Conc. Qualifier	Dilution Factor	RPD/AD	Qual	Analysis Date
Bromide	mg/Kg	+/-15	233		233		1	0		12/20/2024
Chloride	mg/Kg	+/-15	76.8		76.7		1	0		12/20/2024
Fluoride	mg/Kg	+/-15	43.3		43.3		1	0		12/20/2024
Nitrate	mg/Kg	+/-15	58.4		58.5		1	0		12/20/2024
Nitrite	mg/Kg	+/-15	69.8		69.9		1	0		12/20/2024
Orthophosphate as P	mg/Kg	+/-15	90.0		89.9		1	0		12/20/2024
Sulfate	mg/Kg	+/-15	355		356		1	0		12/20/2024
TOC	mg/Kg	+/-20	2320		1950		1	17		01/06/2025

Laboratory Control Sample Summary

Client:	Weston Solutions	SDG No.:	P5365
Project:	Ft Meade Tipton Airfield Parcel RI - PO 0111169	Run No.:	LB134042

Analyte	Units	True Value	Result	Conc. Qualifier	% Recovery	Dilution Factor	Acceptance Limit %R	Analysis Date
Sample ID	LB134042BSS							
Bromide	mg/Kg	200	211		106	1	90-110	12/20/2024
Chloride	mg/Kg	60	62.9		105	1	90-110	12/20/2024
Fluoride	mg/Kg	40	42.6		106	1	90-110	12/20/2024
Nitrite	mg/Kg	60	62.9		105	1	90-110	12/20/2024
Nitrate	mg/Kg	50	52.6		105	1	90-110	12/20/2024
Sulfate	mg/Kg	300	314		105	1	90-110	12/20/2024
Orthophosphate as P	mg/Kg	100	109		109	1	90-110	12/20/2024

Laboratory Control Sample Summary

Client:	Weston Solutions	SDG No.:	P5365
Project:	Ft Meade Tipton Airfield Parcel RI - PO 0111169	Run No.:	LB134163

Analyte	Units	True Value	Result	Conc. Qualifier	% Recovery	Dilution Factor	Acceptance Limit %R	Analysis Date
Sample ID	LB134163BSS							
TOC	mg/Kg	1000	1020		102	1	90-110	01/06/2025



RAW DATA

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Analytical Summary Report

Analysis Method: 9045D

Analyst By : jignesh

Parameter: pH

Supervisor Review By : Iwona

Run Number: LB134040

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	12/20/2024	11:40
2	CAL2	1	Water	NA	NA	20.3	7.00	12/20/2024	11:41
3	CAL3	1	Water	NA	NA	20.2	10.02	12/20/2024	11:44
4	ICV	1	Water	NA	NA	20.2	7.01	12/20/2024	11:45
5	CCV1	1	Water	NA	NA	20.3	2.02	12/20/2024	11:47
6	P5365-01	1	Solid	20.02	20	23.6	6.89	12/20/2024	11:55
7	P5365-01DUP	1	Solid	20.03	20	23.7	6.90	12/20/2024	11:56
8	CCV2	1	Water	NA	NA	20.2	12.02	12/20/2024	12:00

WORKLIST(Hardcopy Internal Chain)

WB 134040

WorkList Name : PH P5365

WorkList ID : 186529

Department : Wet-Chemistry

Date : 12-20-2024 11:18:22

Sample	Customer Sample	Matrix	Test	Preservative	Customer	Raw Sample Storage Location	Collect Date	Method
P5365-01	TAPFTA-SB01L-4-5-121924-00	Solid	pH	Cool 4 deg C	WEST04	N21	12/19/2024	9045D

Date/Time 12/20/24 11:30
 Raw Sample Received by: ad woc
 Raw Sample Relinquished by: ad sm

Date/Time 12/20/24 13:13
 Raw Sample Received by: ad sm
 Raw Sample Relinquished by: ad sm

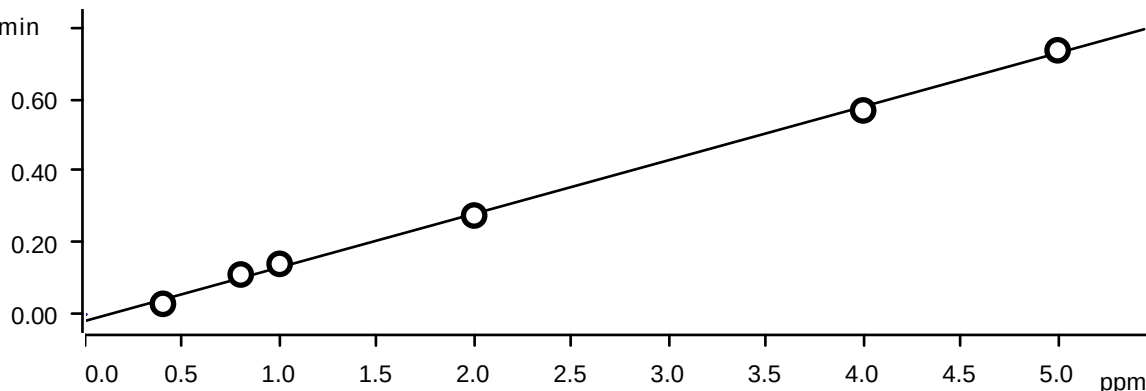
Instrument		IC-1	Analyst:	NF	Method: 10.0 / 9056A						
Ident	Con F-	Con CL-	Con NO2	Con BR-	Con NO3	Con HPO4	Con SO4	Method name	date time	initial wt/Final Vc	Analyst
STD1	0	0	0	0	0	0	0	IC1-121824	12/18/2024 10:39	10	NF/IZ
STD2	0.319	0.475	0.485	1.586	0.405	0.794	2.525	IC1-121824	12/18/2024 11:00	10	NF/IZ
STD3	0.867	1.29	1.286	4.307	1.073	2.153	6.454	IC1-121824	12/18/2024 11:22	10	NF/IZ
STD4	1.065	1.59	1.587	5.29	1.327	2.68	7.947	IC1-121824	12/18/2024 11:43	10	NF/IZ
STD5	1.968	2.98	2.975	9.935	2.472	4.928	14.761	IC1-121824	12/18/2024 12:04	10	NF/IZ
STD6	3.929	5.897	5.891	19.654	4.906	9.805	29.16	IC1-121824	12/18/2024 12:26	10	NF/IZ
STD7	5.052	7.568	7.575	25.229	6.317	12.641	37.652	IC1-121824	12/18/2024 12:47	10	NF/IZ
ICV	2.021	3.088	3.087	10.28	2.565	5.117	15.271	IC1-121824	12/18/2024 13:09	10	NF/IZ
ICB	0	0	0	0	0	0	0	IC1-121824	12/18/2024 13:30	10	NF/IZ
CCV	2.098	3.132	3.135	10.506	2.62	5.41	15.612	IC1-121824	12/20/2024 13:10	10	NF/IZ
CCB	0	0	0	0	0	0	0	IC1-121824	12/20/2024 13:32	10	NF/IZ
LB134042BLS	0	0	0	0	0	0	0	IC1-121824	12/20/2024 14:15	5.00g/100ML	NF/IZ
LB134042BSS	2.128	3.147	3.146	10.545	2.629	5.433	15.675	IC1-121824	12/20/2024 14:36	5.00g/100ML	NF/IZ
P5365-01	0.231	0.41	0	0	0	0	1.46	IC1-121824	12/20/2024 14:57	5.01g/100ML	NF/IZ
P5365-01MS	1.96	3.475	3.158	10.527	2.643	4.072	16.061	IC1-121824	12/20/2024 15:19	5.02g/100ML	NF/IZ
P5365-01MSD	1.96	3.469	3.16	10.548	2.644	4.068	16.087	IC1-121824	12/20/2024 15:41	5.02g/100ML	NF/IZ
CCV	2.1	3.161	3.166	10.591	2.64	5.437	15.767	IC1-121824	12/20/2024 16:02	10	NF/IZ
CCB	0	0	0	0	0	0	0	IC1-121824	12/20/2024 16:24	10	NF/IZ

Clear table

Instrument ID: IC-2									
Analyst : IZ				Method: 300.0 / 9056A					
ident	concentra tion F-	concentratio n CL-	concentrati on NO2	concentrati on BR-	concentrati on NO3	concentrati on HPO4	concentrati on SO4	file name	Initial wt/ Final
STD1	0	0	0	0	0	0	0	0 IC1-121824	10 NF/IZ
STD2	0.319	0.475	0.485	1.586	0.405	0.794	2.525	IC1-121824	10 NF/IZ
STD3	0.867	1.29	1.286	4.307	1.073	2.153	6.454	IC1-121824	10 NF/IZ
STD4	1.065	1.59	1.587	5.29	1.327	2.68	7.947	IC1-121824	10 NF/IZ
STD5	1.968	2.98	2.975	9.935	2.472	4.928	14.761	IC1-121824	10 NF/IZ
STD6	3.929	5.897	5.891	19.654	4.906	9.805	29.16	IC1-121824	10 NF/IZ
STD7	5.052	7.568	7.575	25.229	6.317	12.641	37.652	IC1-121824	10 NF/IZ
ident	True Value F-	True Value CL-	True Value NO2	True Value BR-	True Value NO3	True Value HPO4	True Value SO4		date time
STD1	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		12/18/2024 10:39
STD2	0.4000	0.6000	0.6000	2.0000	0.5000	1.0000	3.0000		12/18/2024 11:00
STD3	0.8000	1.2000	1.2000	4.0000	1.0000	2.0000	6.0000		12/18/2024 11:22
STD4	1.0000	1.5000	1.5000	5.0000	1.2500	2.5000	7.5000		12/18/2024 11:43
STD5	2.0000	3.0000	3.0000	10.0000	2.5000	5.0000	15.0000		12/18/2024 12:04
STD6	4.0000	6.0000	6.0000	20.0000	5.0000	10.0000	30.0000		12/18/2024 12:26
STD7	5.0000	7.5000	7.5000	25.0000	6.2500	12.5000	37.0000		12/18/2024 12:47
ident	Relative Error F-	Relative Error CL-	Relative Error NO2	Relative Error BR-	Relative Error NO3	Relative Error HPO4	Relative Error SO4		
STD1	-20.2500	-20.8333	-19.1667	-20.7000	-19.0000	-20.6000	-15.8333		
STD2	8.3750	7.5000	7.1667	7.6750	7.3000	7.6500	7.5667		
STD3	6.5000	6.0000	5.8000	5.8000	6.1600	7.2000	5.9600		
STD4	-1.6000	-0.6667	-0.8333	-0.6500	-1.1200	-1.4400	-1.5933		
STD5	-1.7750	-1.7167	-1.8167	-1.7300	-1.8800	-1.9500	-2.8000		
STD6	1.0400	0.9067	1.0000	0.9160	1.0720	1.1280	1.7622		

Fluoride (Anions)

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



Function: $A = -0.0183596 + 0.0149351 \times Q$

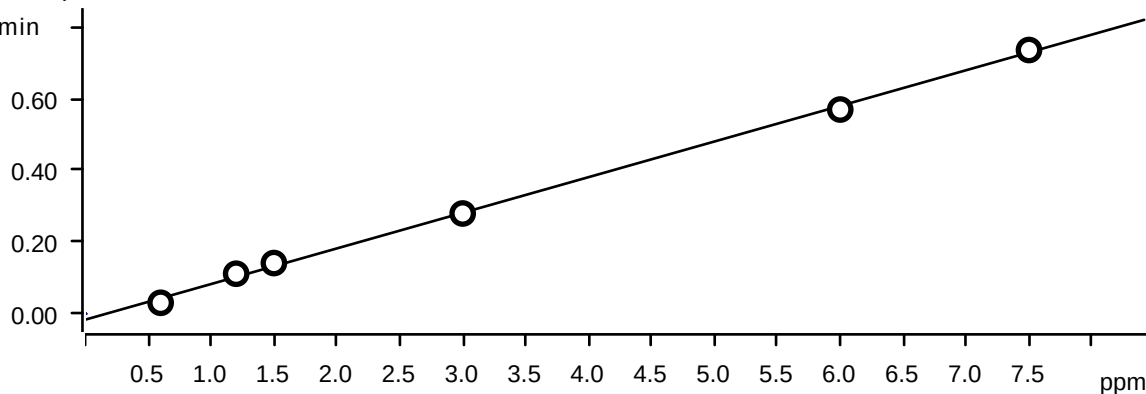
Relative standard deviation 3.731557 %

Correlation coefficient 0.999324

Sample type	Index	Conc.	Volume	Dilution	Sample amount	Area	Ident	Date	Used
Standard 2	1	0.400	10.0	1.0	1.0	0.029	STD2	2024-12-18 11:00:37 UTC-5	used
Standard 3	1	0.800	10.0	1.0	1.0	0.111	STD3	2024-12-18 11:22:01 UTC-5	used
Standard 4	1	1.000	10.0	1.0	1.0	0.141	STD4	2024-12-18 11:43:26 UTC-5	used
Standard 5	1	2.000	10.0	1.0	1.0	0.276	STD5	2024-12-18 12:04:52 UTC-5	used
Standard 6	1	4.000	10.0	1.0	1.0	0.568	STD6	2024-12-18 12:26:18 UTC-5	used
Standard 7	1	5.000	10.0	1.0	1.0	0.736	STD7	2024-12-18 12:47:45 UTC-5	used

Chloride (Anions)

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



Function: $A = -0.0165562 + 9.93613E-3 \times Q$

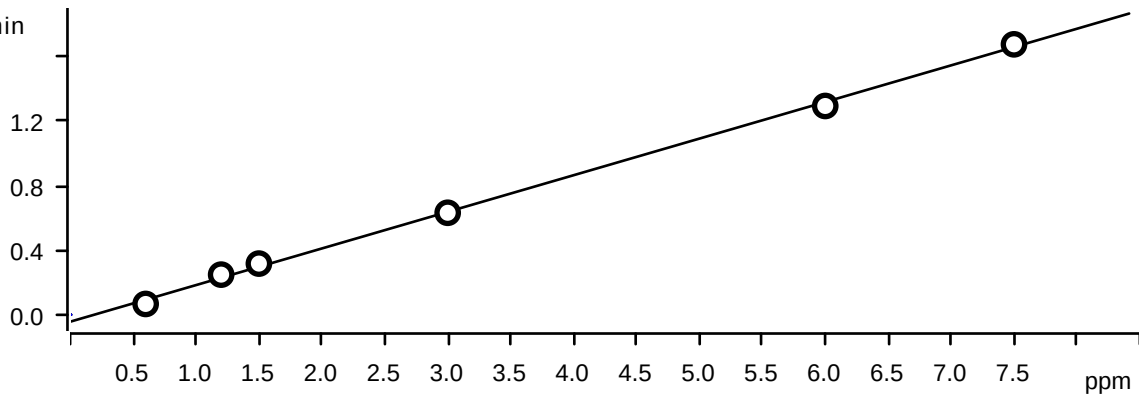
Relative standard deviation 3.466087 %

Correlation coefficient 0.999410

Sample type	Index	Conc.	Volume	Dilution	Sample amount	Area	Ident	Date	Used
Standard 2	1	0.600	10.0	1.0	1.0	0.031	STD2	2024-12-18 11:00:37 UTC-5	used
Standard 3	1	1.200	10.0	1.0	1.0	0.112	STD3	2024-12-18 11:22:01 UTC-5	used
Standard 4	1	1.500	10.0	1.0	1.0	0.141	STD4	2024-12-18 11:43:26 UTC-5	used
Standard 5	1	3.000	10.0	1.0	1.0	0.280	STD5	2024-12-18 12:04:52 UTC-5	used
Standard 6	1	6.000	10.0	1.0	1.0	0.569	STD6	2024-12-18 12:26:18 UTC-5	used
Standard 7	1	7.500	10.0	1.0	1.0	0.735	STD7	2024-12-18 12:47:45 UTC-5	used

Nitrite (Anions)

(µS/cm) x min



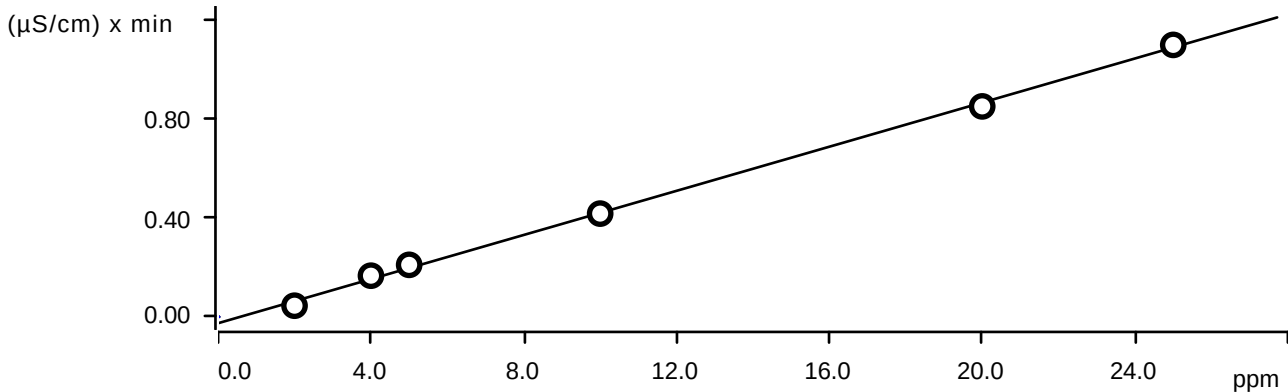
Function: $A = -0.0434679 + 0.0226901 \times Q$

Relative standard deviation 3.455351 %

Correlation coefficient 0.999423

Sample type	Index	Conc.	Volume	Dilution	Sample amount	Area	Ident	Date	Used
Standard 2	1	0.600	10.0	1.0	1.0	0.067	STD2	2024-12-18 11:00:37 UTC-5	used
Standard 3	1	1.200	10.0	1.0	1.0	0.248	STD3	2024-12-18 11:22:01 UTC-5	used
Standard 4	1	1.500	10.0	1.0	1.0	0.317	STD4	2024-12-18 11:43:26 UTC-5	used
Standard 5	1	3.000	10.0	1.0	1.0	0.632	STD5	2024-12-18 12:04:52 UTC-5	used
Standard 6	1	6.000	10.0	1.0	1.0	1.293	STD6	2024-12-18 12:26:18 UTC-5	used
Standard 7	1	7.500	10.0	1.0	1.0	1.675	STD7	2024-12-18 12:47:45 UTC-5	used

Bromide (Anions)



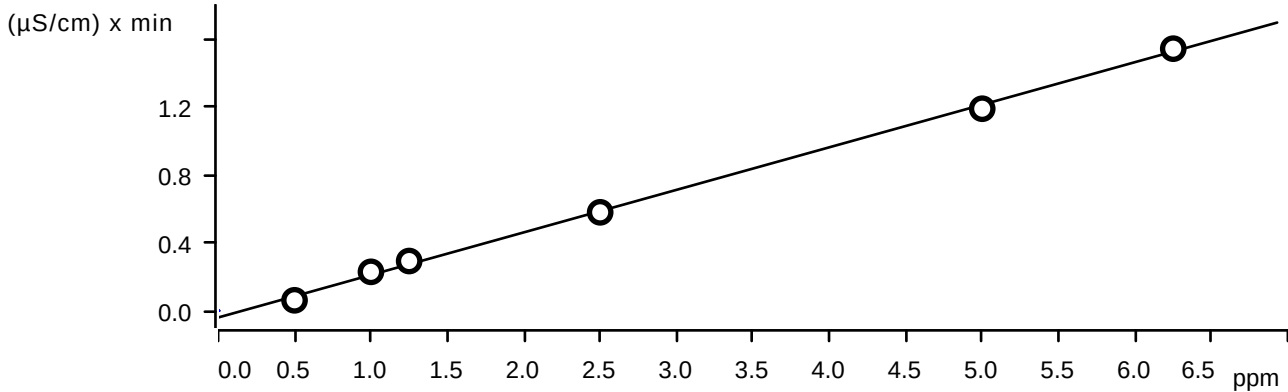
Function: $A = -0.0255661 + 4.44233E-3 \times Q$

Relative standard deviation 3.478545 %

Correlation coefficient 0.999408

Sample type	Index	Conc.	Volume	Dilution	Sample amount	Area	Ident	Date	Used
Standard 2	1	2.000	10.0	1.0	1.0	0.045	STD2	2024-12-18 11:00:37 UTC-5	used
Standard 3	1	4.000	10.0	1.0	1.0	0.166	STD3	2024-12-18 11:22:01 UTC-5	used
Standard 4	1	5.000	10.0	1.0	1.0	0.209	STD4	2024-12-18 11:43:26 UTC-5	used
Standard 5	1	10.000	10.0	1.0	1.0	0.416	STD5	2024-12-18 12:04:52 UTC-5	used
Standard 6	1	20.000	10.0	1.0	1.0	0.848	STD6	2024-12-18 12:26:18 UTC-5	used
Standard 7	1	25.000	10.0	1.0	1.0	1.095	STD7	2024-12-18 12:47:45 UTC-5	used

Nitrate (Anions)



Function: $A = -0.0400484 + 0.0250507 \times Q$

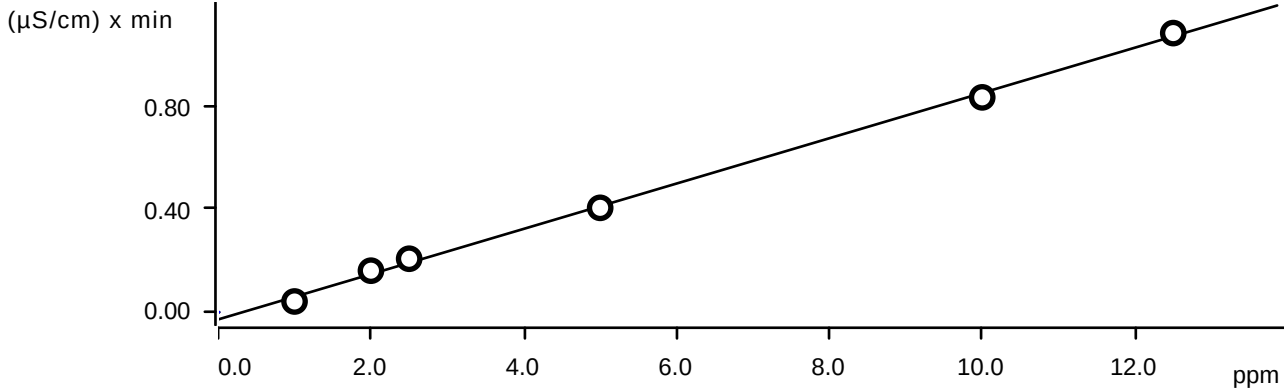
Relative standard deviation 3.586984 %

Correlation coefficient 0.999378

Sample type	Index	Conc.	Volume	Dilution	Sample amount	Area	Ident	Date	Used
Standard 2	1	0.500	10.0	1.0	1.0	0.061	STD2	2024-12-18 11:00:37 UTC-5	used

Sample type	Index	Conc.	Volume	Dilution	Sample amount	Area	Ident	Date	Used
Standard 3	1	1.000	10.0	1.0	1.0	0.229	STD3	2024-12-18 11:22:01 UTC-5	used
Standard 4	1	1.250	10.0	1.0	1.0	0.292	STD4	2024-12-18 11:43:26 UTC-5	used
Standard 5	1	2.500	10.0	1.0	1.0	0.579	STD5	2024-12-18 12:04:52 UTC-5	used
Standard 6	1	5.000	10.0	1.0	1.0	1.189	STD6	2024-12-18 12:26:18 UTC-5	used
Standard 7	1	6.250	10.0	1.0	1.0	1.542	STD7	2024-12-18 12:47:45 UTC-5	used

Phosphate (Anions)



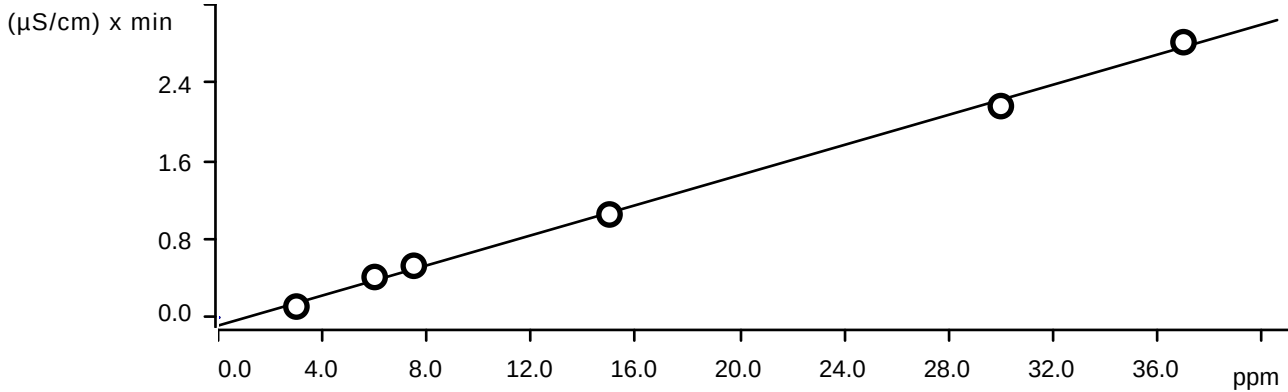
Function: $A = -0.0282076 + 8.77175E-3 \times Q$

Relative standard deviation 3.880200 %

Correlation coefficient 0.999273

Sample type	Index	Conc.	Volume	Dilution	Sample amount	Area	Ident	Date	Used
Standard 2	1	1.000	10.0	1.0	1.0	0.041	STD2	2024-12-18 11:00:37 UTC-5	used
Standard 3	1	2.000	10.0	1.0	1.0	0.161	STD3	2024-12-18 11:22:01 UTC-5	used
Standard 4	1	2.500	10.0	1.0	1.0	0.207	STD4	2024-12-18 11:43:26 UTC-5	used
Standard 5	1	5.000	10.0	1.0	1.0	0.404	STD5	2024-12-18 12:04:52 UTC-5	used
Standard 6	1	10.000	10.0	1.0	1.0	0.832	STD6	2024-12-18 12:26:18 UTC-5	used
Standard 7	1	12.500	10.0	1.0	1.0	1.081	STD7	2024-12-18 12:47:45 UTC-5	used

Sulfate (Anions)



Function: $A = -0.0827937 + 7.69466E-3 \times Q$

Relative standard deviation 4.394299 %

Correlation coefficient 0.999072

Sample type	Index	Conc.	Volume	Dilution	Sample amount	Area	Ident	Date	Used
Standard 2	1	3.000	10.0	1.0	1.0	0.112	STD2	2024-12-18 11:00:37 UTC-5	used
Standard 3	1	6.000	10.0	1.0	1.0	0.414	STD3	2024-12-18 11:22:01 UTC-5	used
Standard 4	1	7.500	10.0	1.0	1.0	0.529	STD4	2024-12-18 11:43:26 UTC-5	used
Standard 5	1	15.000	10.0	1.0	1.0	1.053	STD5	2024-12-18 12:04:52 UTC-5	used
Standard 6	1	30.000	10.0	1.0	1.0	2.161	STD6	2024-12-18 12:26:18 UTC-5	used
Standard 7	1	37.000	10.0	1.0	1.0	2.814	STD7	2024-12-18 12:47:45 UTC-5	used

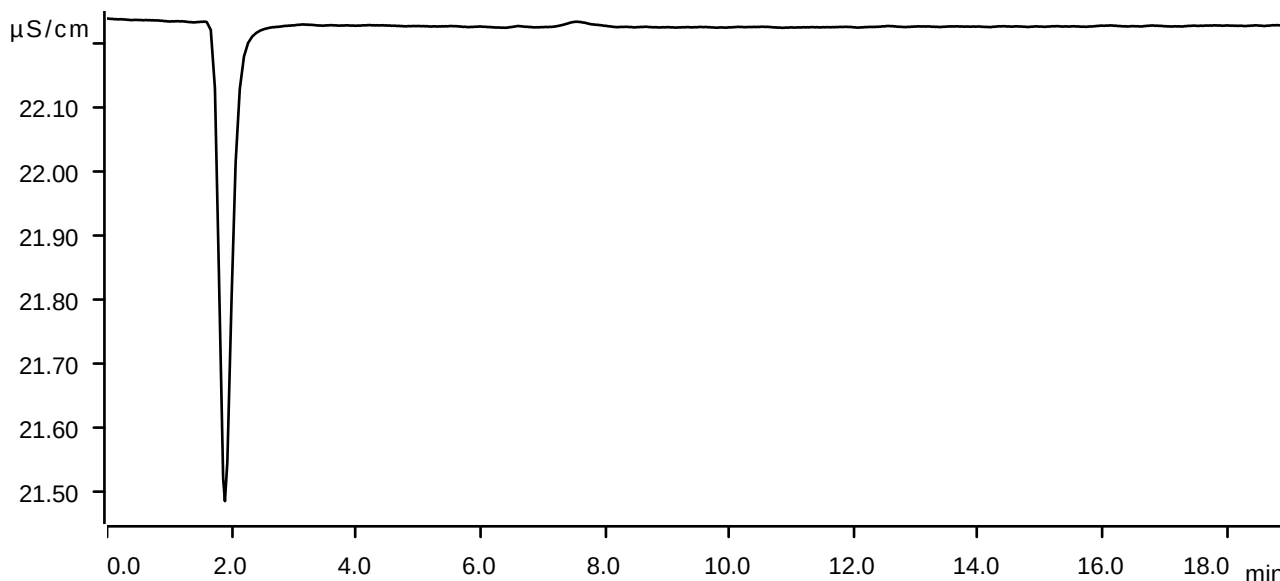
Sample data

Ident STD1
Sample type Standard 1
Determination start 2024-12-18 10:39:14 UTC-5
Method IC1-121824
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



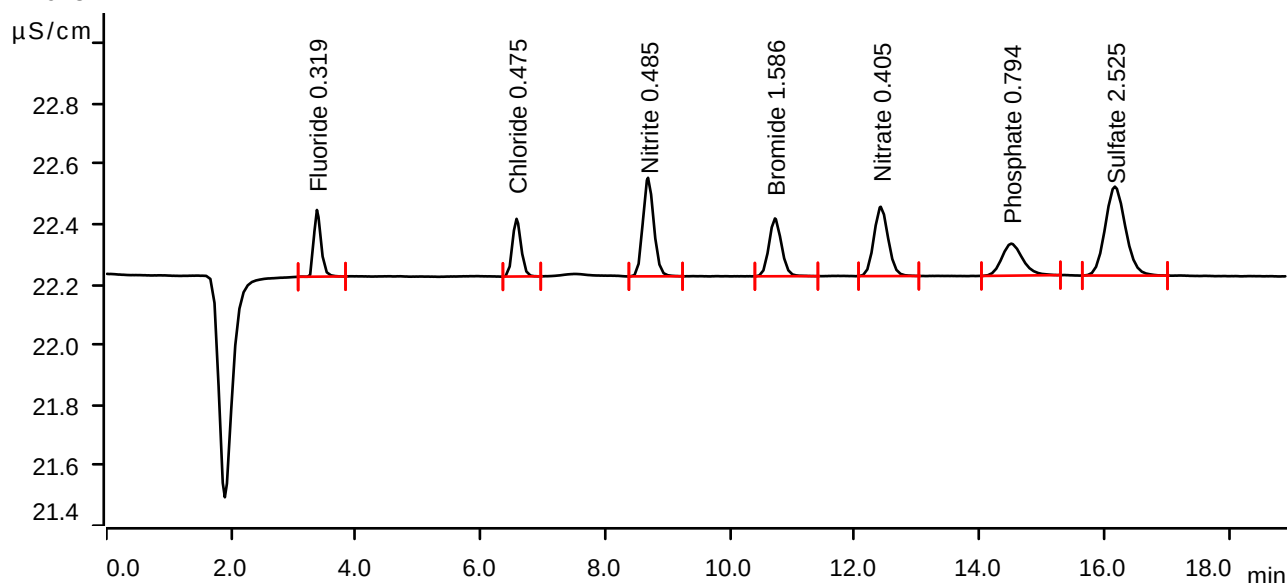
Sample data

Ident STD2
Sample type Standard 2
Determination start 2024-12-18 11:00:37 UTC-5
Method IC1-121824
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 min	Area (µS/cm) x min	Height µS/cm	Concentration ppm	Component name
1	3.377	0.0293	0.221	0.319	Fluoride
2	6.577	0.0307	0.191	0.475	Chloride
3	8.685	0.0666	0.327	0.485	Nitrite
4	10.720	0.0449	0.192	1.586	Bromide
5	12.415	0.0613	0.230	0.405	Nitrate
6	14.510	0.0414	0.106	0.794	Phosphate
7	16.170	0.1115	0.295	2.525	Sulfate

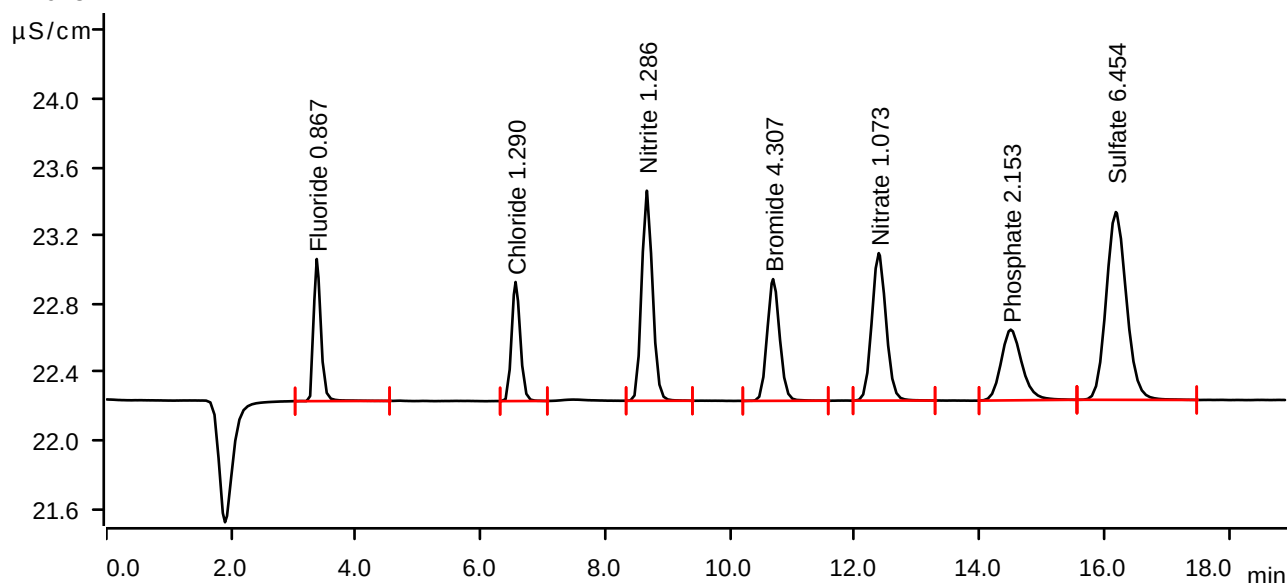
Sample data

Ident STD3
Sample type Standard 3
Determination start 2024-12-18 11:22:01 UTC-5
Method IC1-121824
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 11.09 MPa
Maximum pressure monitored yes
Temperature ---- °C

Anions



Peak number	Retention time min	Area (µS/cm) x min	Height µS/cm	Concentration ppm	Component name
1	3.373	0.1111	0.832	0.867	Fluoride
2	6.562	0.1116	0.697	1.290	Chloride
3	8.665	0.2483	1.230	1.286	Nitrite
4	10.690	0.1658	0.713	4.307	Bromide
5	12.383	0.2288	0.864	1.073	Nitrate
6	14.500	0.1606	0.414	2.153	Phosphate
7	16.185	0.4138	1.100	6.454	Sulfate

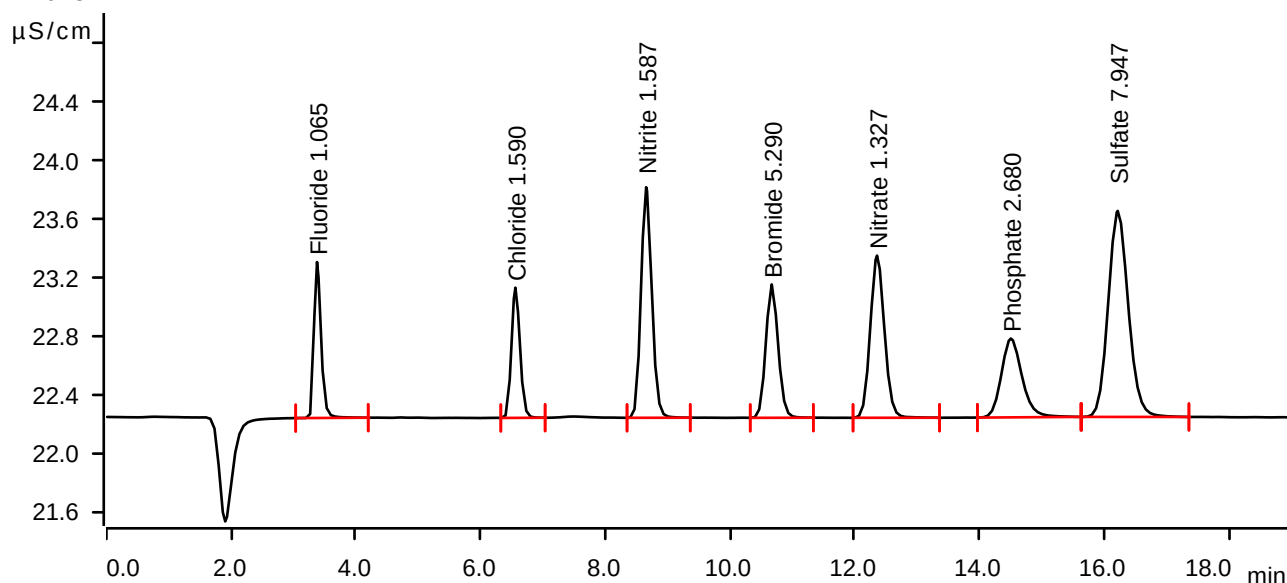
Sample data

Ident STD4
Sample type Standard 4
Determination start 2024-12-18 11:43:26 UTC-5
Method IC1-121824
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 10.87 MPa
Maximum pressure monitored yes
Temperature ---- °C

Anions



Peak number	Retention time min	Area (µS/cm) x min	Height µS/cm	Concentration ppm	Component name
1	3.378	0.1407	1.065	1.065	Fluoride
2	6.558	0.1414	0.890	1.590	Chloride
3	8.655	0.3167	1.575	1.587	Nitrite
4	10.668	0.2094	0.911	5.290	Bromide
5	12.357	0.2924	1.108	1.327	Nitrate
6	14.502	0.2069	0.539	2.680	Phosphate
7	16.215	0.5287	1.408	7.947	Sulfate

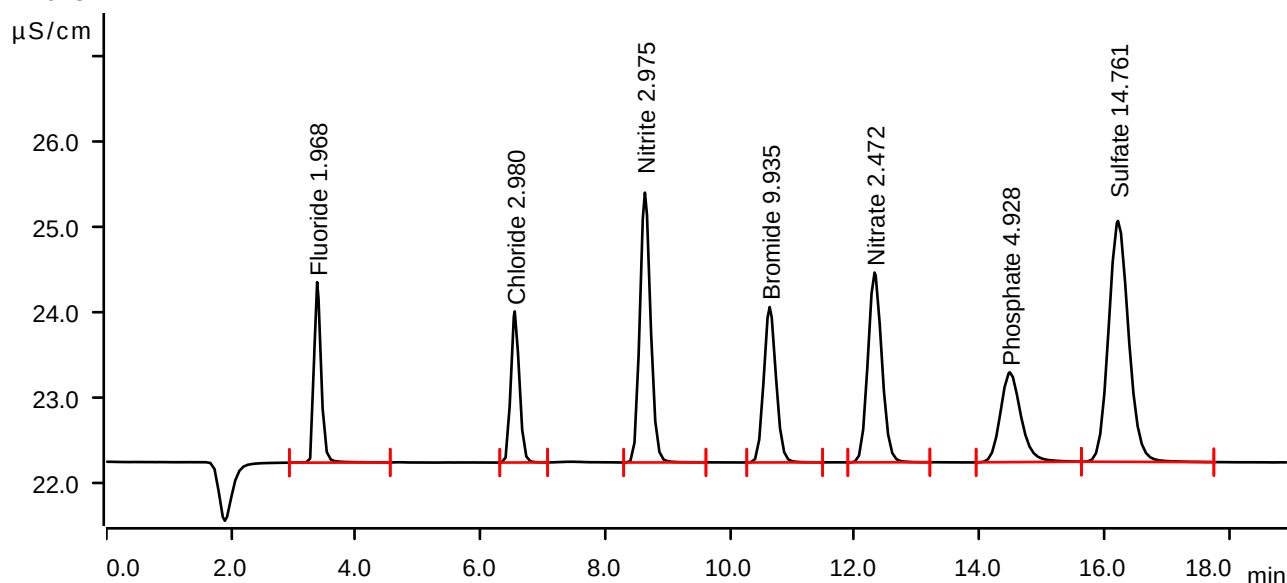
Sample data

Ident STD5
Sample type Standard 5
Determination start 2024-12-18 12:04:52 UTC-5
Method IC1-121824
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 11.04 MPa
Maximum pressure monitored yes
Temperature ---- °C

Anions



Peak number	Retention time min	Area (µS/cm) x min	Height µS/cm	Concentration ppm	Component name
1	3.380	0.2755	2.114	1.968	Fluoride
2	6.548	0.2796	1.770	2.980	Chloride
3	8.635	0.6316	3.161	2.975	Nitrite
4	10.635	0.4158	1.820	9.935	Bromide
5	12.317	0.5791	2.223	2.472	Nitrate
6	14.485	0.4040	1.052	4.928	Phosphate
7	16.220	1.0530	2.822	14.761	Sulfate

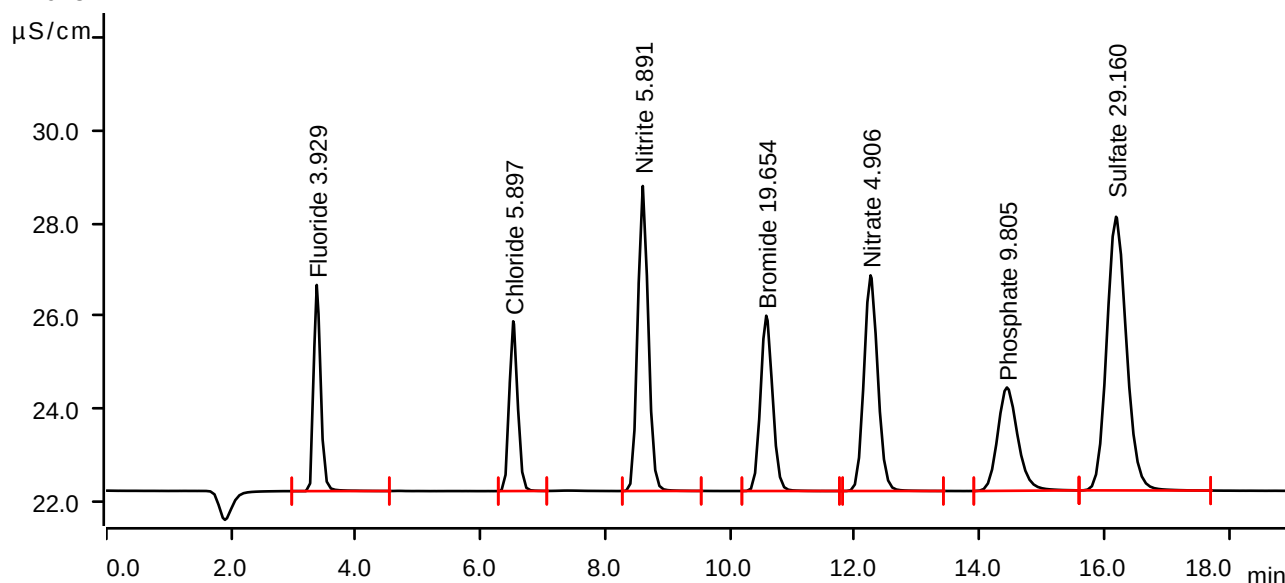
Sample data

Ident STD6
Sample type Standard 6
Determination start 2024-12-18 12:26:18 UTC-5
Method IC1-121824
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 10.98 MPa
Maximum pressure monitored yes
Temperature ---- °C

Anions



Peak number	Retention time min	Area (µS/cm) x min	Height µS/cm	Concentration ppm	Component name
1	3.373	0.5685	4.427	3.929	Fluoride
2	6.523	0.5694	3.646	5.897	Chloride
3	8.602	1.2933	6.549	5.891	Nitrite
4	10.580	0.8475	3.765	19.654	Bromide
5	12.252	1.1889	4.631	4.906	Nitrate
6	14.438	0.8318	2.220	9.805	Phosphate
7	16.188	2.1610	5.877	29.160	Sulfate

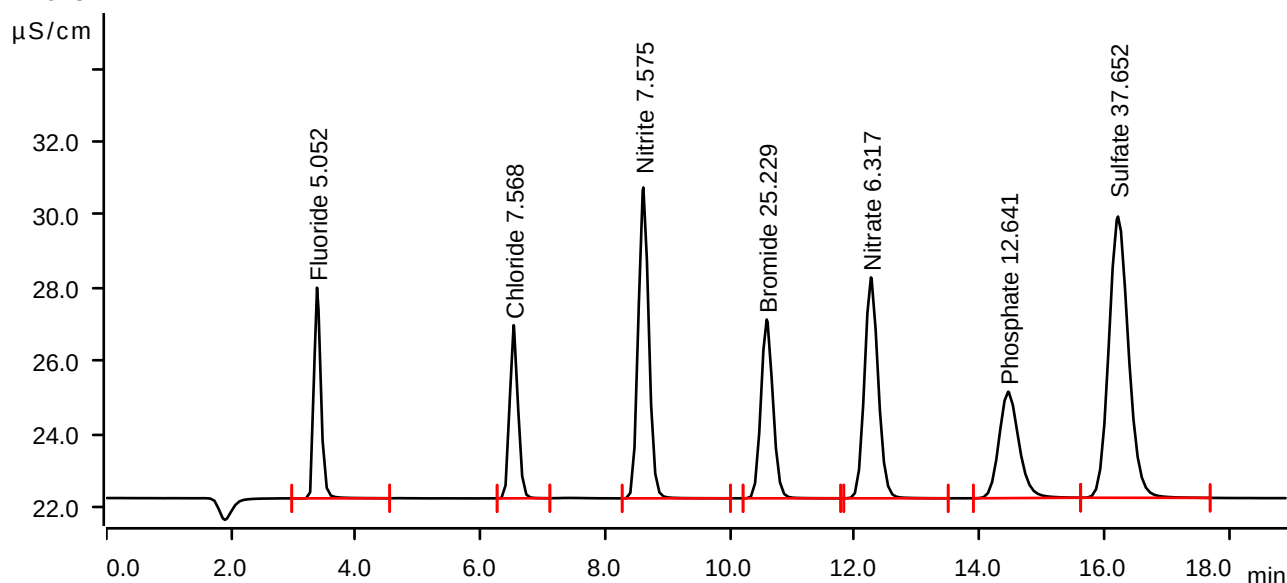
Sample data

Ident STD7
Sample type Standard 7
Determination start 2024-12-18 12:47:45 UTC-5
Method IC1-121824
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 10.75 MPa
Maximum pressure monitored yes
Temperature ---- °C

Anions



Peak number	Retention time min	Area (µS/cm) x min	Height µS/cm	Concentration ppm	Component name
1	3.378	0.7362	5.758	5.052	Fluoride
2	6.530	0.7354	4.734	7.568	Chloride
3	8.610	1.6752	8.496	7.575	Nitrite
4	10.587	1.0952	4.888	25.229	Bromide
5	12.258	1.5424	6.037	6.317	Nitrate
6	14.458	1.0806	2.908	12.641	Phosphate
7	16.220	2.8144	7.686	37.652	Sulfate

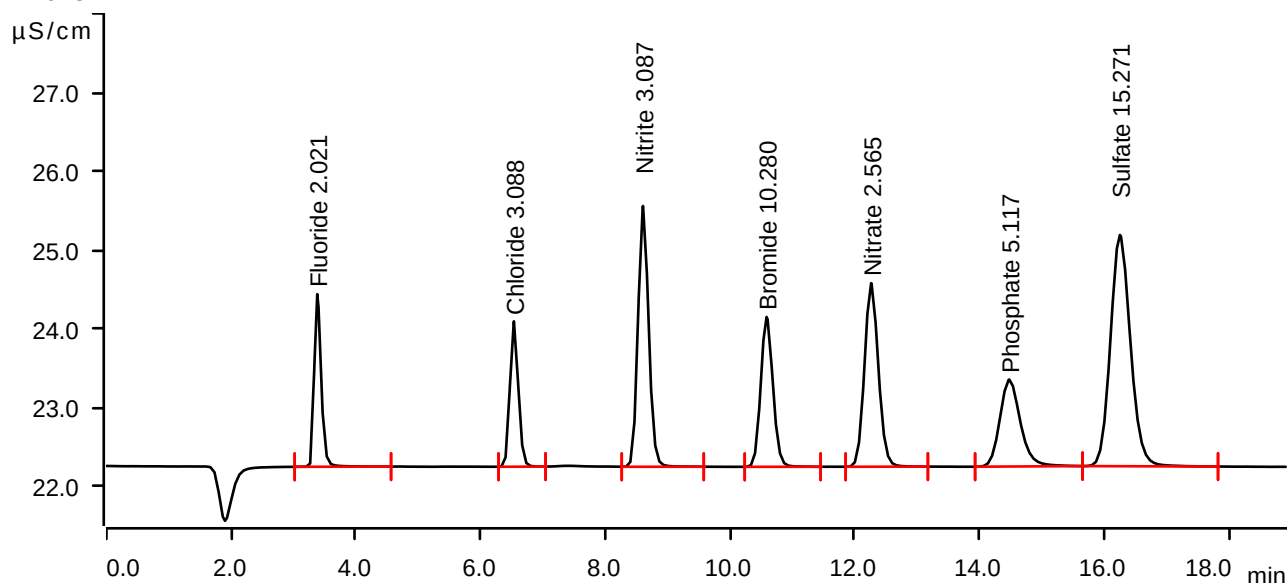
Sample data

Ident ICV
Sample type Check standard 1
Determination start 2024-12-18 13:09:13 UTC-5
Method IC1-121824
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 10.87 MPa
Maximum pressure monitored yes
Temperature ---- °C

Anions



Peak number	Retention time min	Area (µS/cm) x min	Height µS/cm	Concentration ppm	Component name
1	3.382	0.2835	2.190	2.021	Fluoride
2	6.533	0.2903	1.845	3.088	Chloride
3	8.605	0.6571	3.309	3.087	Nitrite
4	10.585	0.4311	1.902	10.280	Bromide
5	12.262	0.6024	2.329	2.565	Nitrate
6	14.477	0.4207	1.104	5.117	Phosphate
7	16.250	1.0923	2.934	15.271	Sulfate

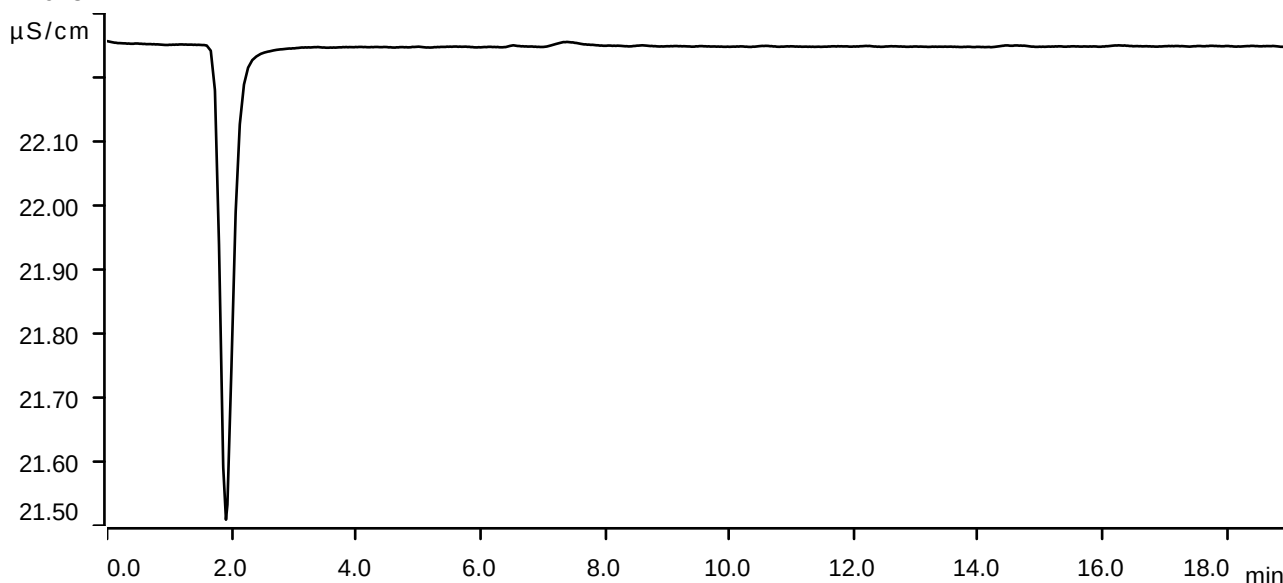
Sample data

Ident ICB
Sample type Sample
Determination start 2024-12-18 13:30:41 UTC-5
Method IC1-121824
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 10.64 MPa
Maximum pressure monitored yes
Temperature ---- °C

Anions



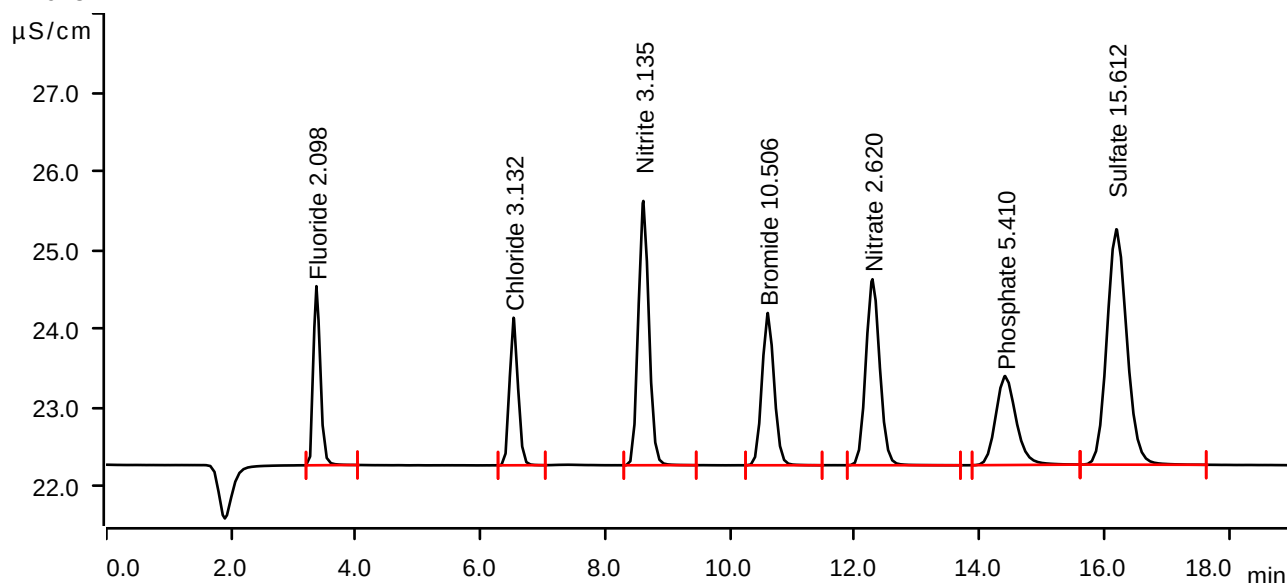
Sample data

Ident CCV
Sample type Check standard 1
Determination start 2024-12-20 13:10:32 UTC-5
Method IC1-121824
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 12.05 MPa
Maximum pressure monitored yes
Temperature ---- °C

Anions



Peak number	Retention time min	Area (µS/cm) x min	Height µS/cm	Concentration ppm	Component name
1	3.368	0.2900	2.273	2.098	Fluoride
2	6.528	0.2937	1.873	3.132	Chloride
3	8.610	0.6642	3.354	3.135	Nitrite
4	10.605	0.4377	1.932	10.506	Bromide
5	12.283	0.6116	2.361	2.620	Nitrate
6	14.410	0.4284	1.129	5.410	Phosphate
7	16.193	1.1068	2.987	15.612	Sulfate

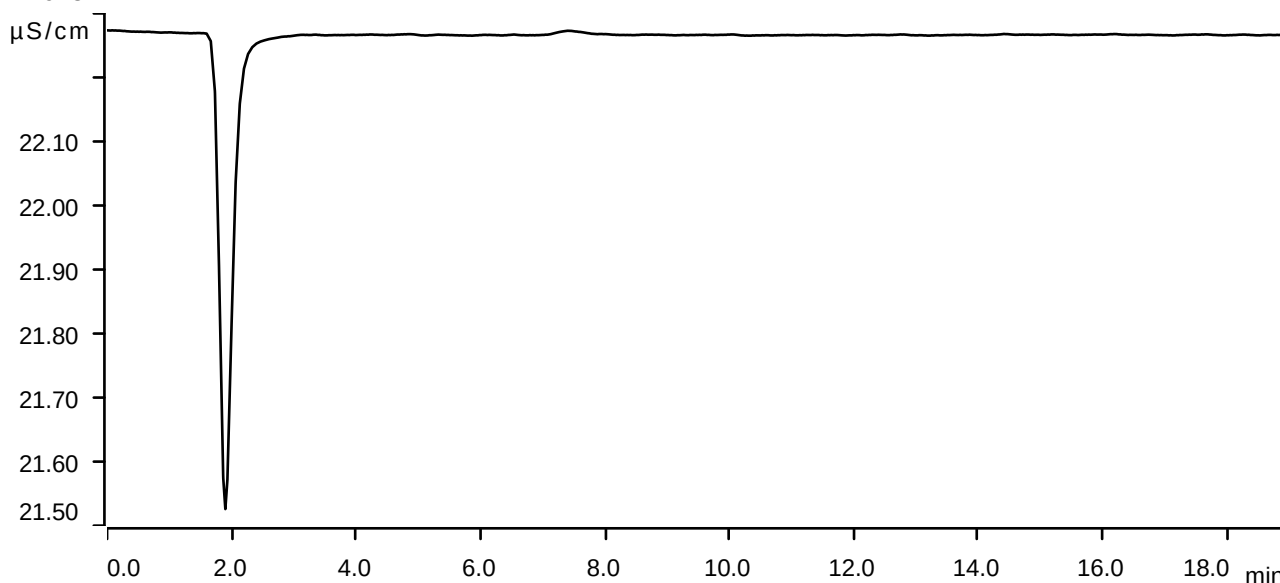
Sample data

Ident CCB
Sample type Sample
Determination start 2024-12-20 13:32:02 UTC-5
Method IC1-121824
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 11.49 MPa
Maximum pressure monitored yes
Temperature ---- °C

Anions



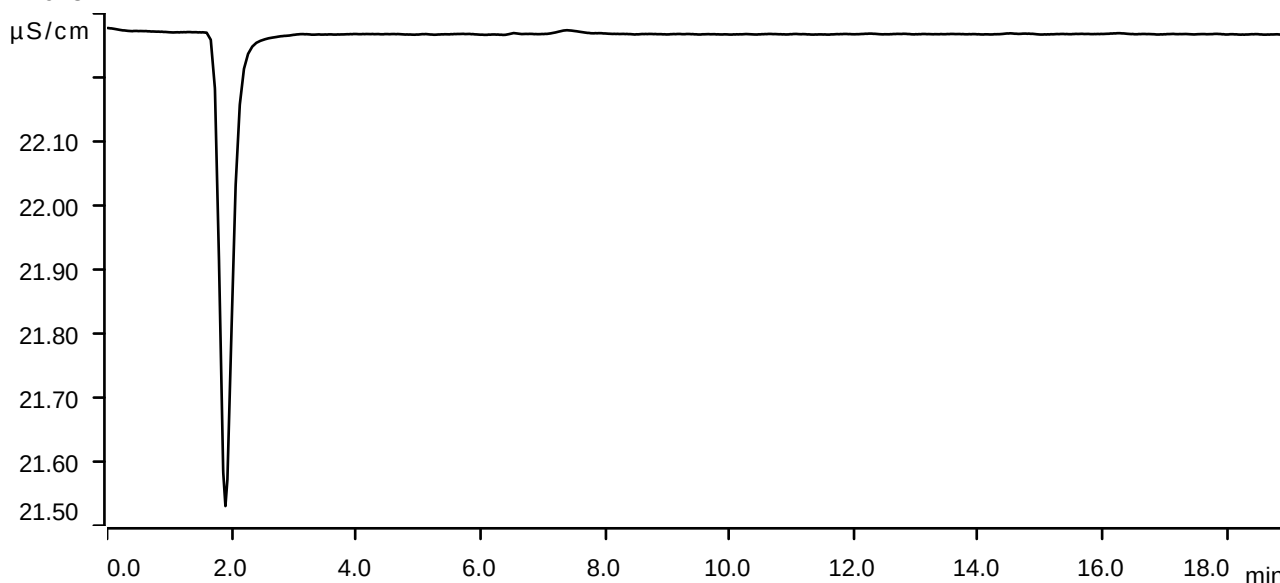
Sample data

Ident LB134042BLS
Sample type Sample
Determination start 2024-12-20 14:15:02 UTC-5
Method IC1-121824
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 11.09 MPa
Maximum pressure monitored yes
Temperature ---- °C

Anions



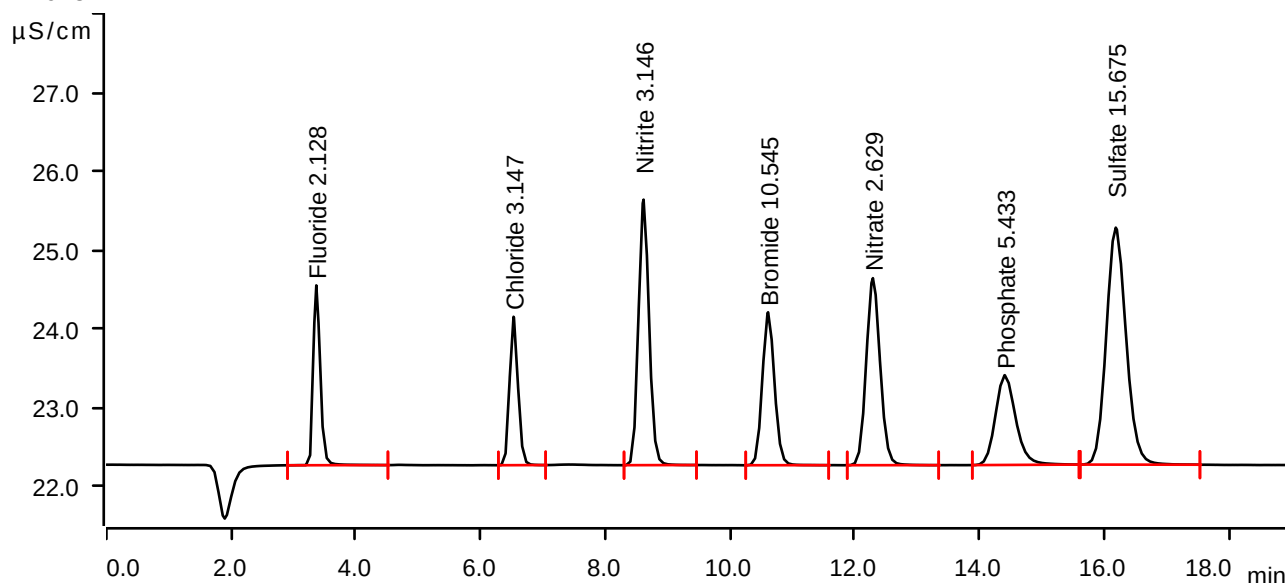
Sample data

Ident LB134042BSS
Sample type Sample
Determination start 2024-12-20 14:36:24 UTC-5
Method IC1-121824
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 11.04 MPa
Maximum pressure monitored yes
Temperature ---- °C

Anions



Peak number	Retention time min	Area (µS/cm) x min	Height µS/cm	Concentration ppm	Component name
1	3.367	0.2944	2.283	2.128	Fluoride
2	6.528	0.2951	1.884	3.147	Chloride
3	8.613	0.6667	3.369	3.146	Nitrite
4	10.610	0.4394	1.941	10.545	Bromide
5	12.290	0.6140	2.374	2.629	Nitrate
6	14.405	0.4304	1.139	5.433	Phosphate
7	16.183	1.1116	3.007	15.675	Sulfate

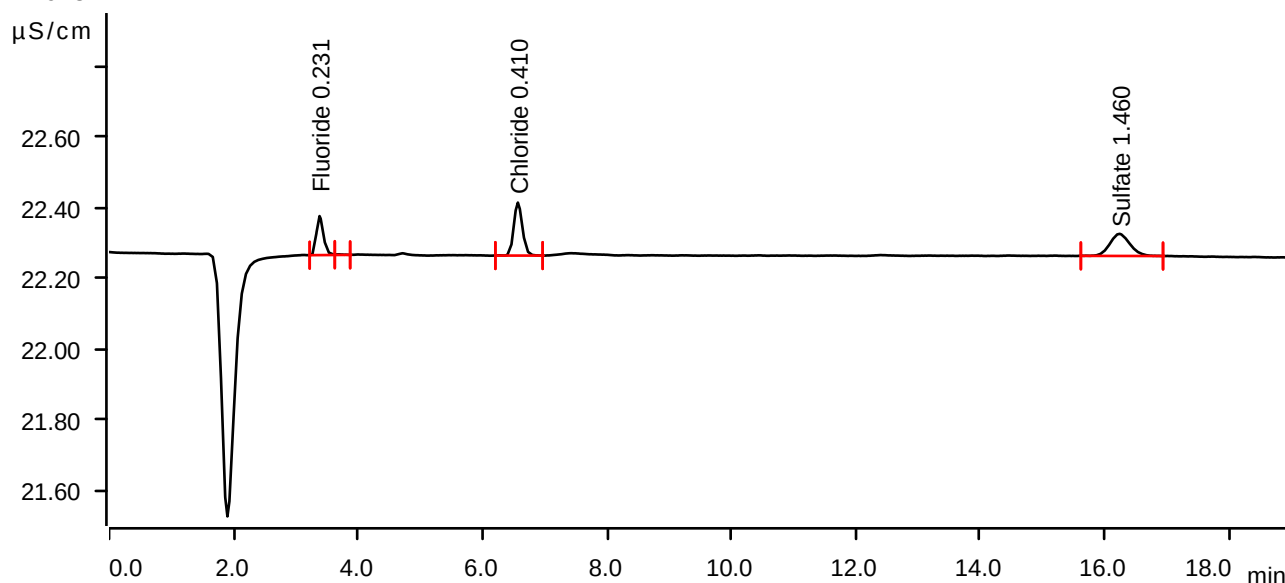
Sample data

Ident P5365-01
Sample type Sample
Determination start 2024-12-20 14:57:57 UTC-5
Method IC1-121824
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 10.87 MPa
Maximum pressure monitored yes
Temperature ---- °C

Anions



Peak number	Retention time min	Area (µS/cm) x min	Height µS/cm	Concentration ppm	Component name
1	3.383	0.0143	0.111	0.231	Fluoride
2	3.650	0.0002	0.002	invalid	
3	6.570	0.0239	0.150	0.410	Chloride
4	16.242	0.0235	0.063	1.460	Sulfate

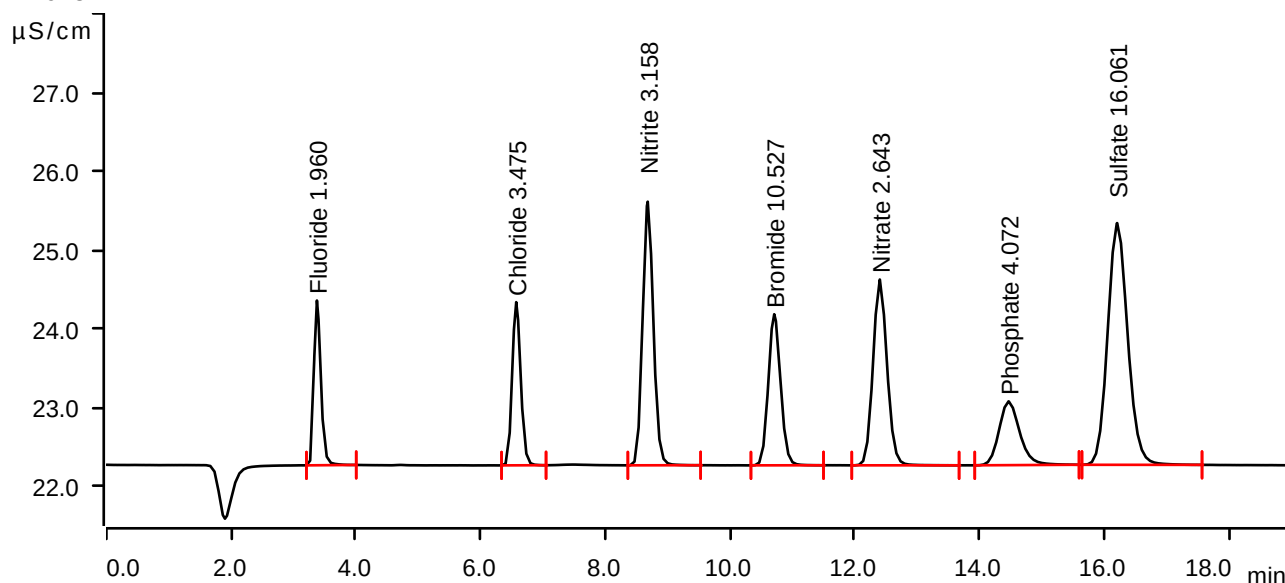
Sample data

Ident P5365-01MS
Sample type Sample
Determination start 2024-12-20 15:19:31 UTC-5
Method IC1-121824
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 11.04 MPa
Maximum pressure monitored yes
Temperature ---- °C

Anions



Peak number	Retention time min	Area (µS/cm) x min	Height µS/cm	Concentration ppm	Component name
1	3.377	0.2697	2.091	1.960	Fluoride
2	6.572	0.3276	2.071	3.475	Chloride
3	8.680	0.6695	3.346	3.158	Nitrite
4	10.708	0.4387	1.918	10.527	Bromide
5	12.400	0.6172	2.358	2.643	Nitrate
6	14.465	0.3111	0.810	4.072	Phosphate
7	16.207	1.1411	3.067	16.061	Sulfate

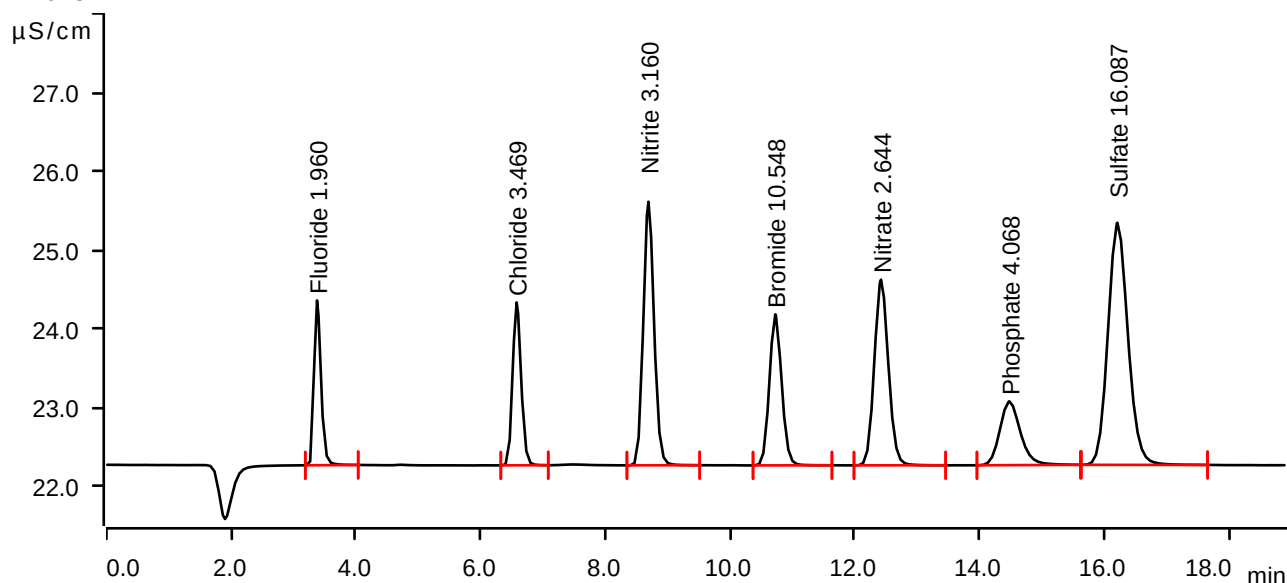
Sample data

Ident P5365-01MSD
Sample type Sample
Determination start 2024-12-20 15:41:05 UTC-5
Method IC1-121824
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 11.09 MPa
Maximum pressure monitored yes
Temperature ---- °C

Anions



Peak number	Retention time min	Area (µS/cm) x min	Height µS/cm	Concentration ppm	Component name
1	3.378	0.2697	2.091	1.960	Fluoride
2	6.578	0.3270	2.067	3.469	Chloride
3	8.692	0.6698	3.345	3.160	Nitrite
4	10.725	0.4396	1.917	10.548	Bromide
5	12.420	0.6177	2.357	2.644	Nitrate
6	14.478	0.3108	0.809	4.068	Phosphate
7	16.210	1.1431	3.072	16.087	Sulfate

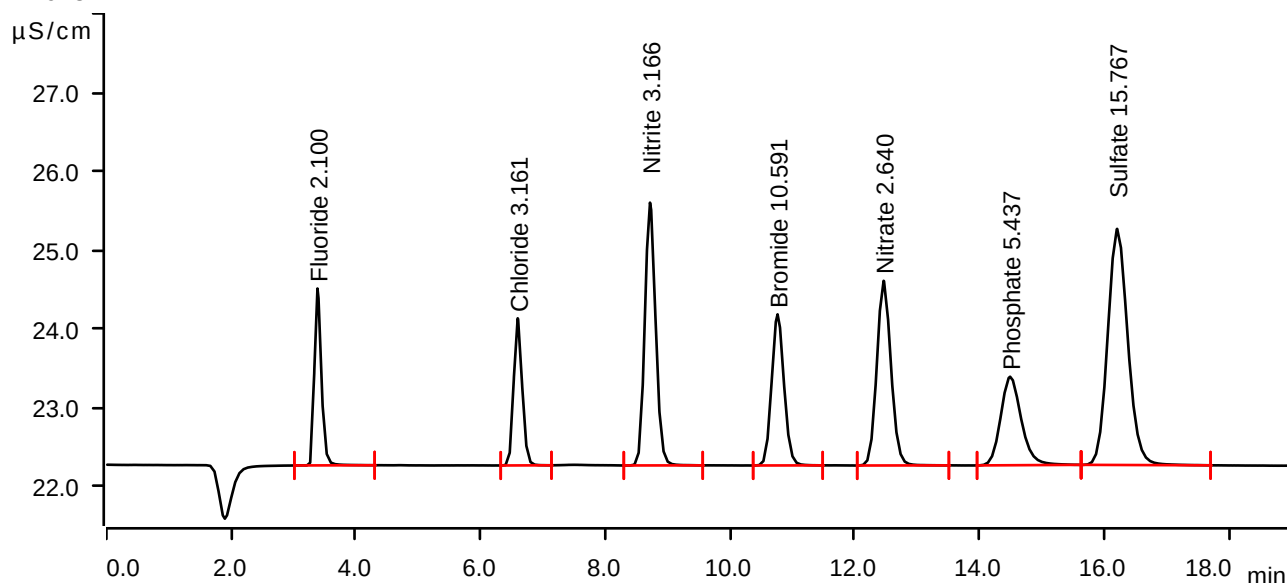
Sample data

Ident CCV
Sample type Check standard 1
Determination start 2024-12-20 16:02:39 UTC-5
Method IC1-121824
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 11.04 MPa
Maximum pressure monitored yes
Temperature ---- °C

Anions



Peak number	Retention time min	Area (µS/cm) x min	Height µS/cm	Concentration ppm	Component name
1	3.385	0.2903	2.245	2.100	Fluoride
2	6.595	0.2965	1.867	3.161	Chloride
3	8.717	0.6713	3.335	3.166	Nitrite
4	10.762	0.4415	1.918	10.591	Bromide
5	12.462	0.6165	2.343	2.640	Nitrate
6	14.490	0.4308	1.124	5.437	Phosphate
7	16.207	1.1186	2.996	15.767	Sulfate

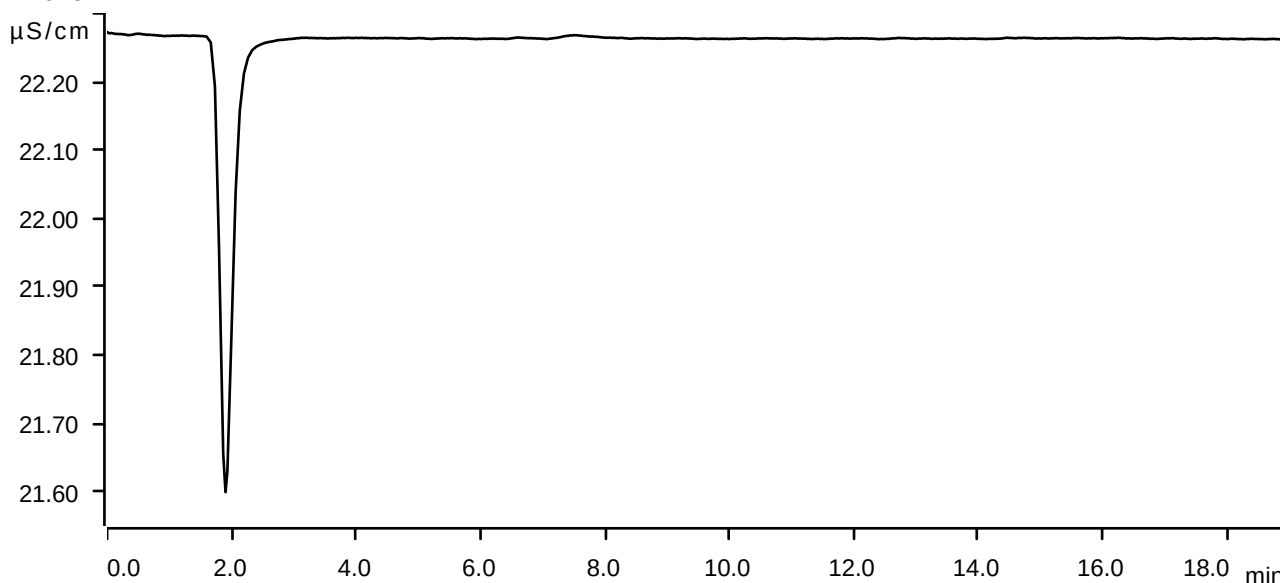
Sample data

Ident CCB
Sample type Sample
Determination start 2024-12-20 16:24:09 UTC-5
Method IC1-121824
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 11.09 MPa
Maximum pressure monitored yes
Temperature ---- °C

Anions



WORKLIST(Hardcopy Internal Chain)

LB134042

WorkList Name : ANIONS S-12202024

WorkList ID : 186537

Department : Wet-Chemistry

Date : 12-20-2024 11:59:58

Sample	Customer Sample	Matrix	Test	Preservative	Customer	Raw Sample Storage Location	Collect Date	Method
P5365-01	5.01g TAPFTA-SB011-4.5-121924-00-	Solid	Anions Group1	Cool 4 deg C	WEST04	N21	12/19/2024	9056A

P5365-01 MS - 5.02g
P5365-01 MSD - 5.02g
BL - 5.00g
BS - 5.00g

Final volume 10ml with DI water

Balance 1A : WC SC-7

NF

12-20-2024

Date/Time 12-20-2024, 13:10

Raw Sample Received by: NF (WC)

Raw Sample Relinquished by: SP (WC)

Date/Time 12-20-2024

Raw Sample Received by: SP (WC)

Raw Sample Relinquished by: NF (WC)

Sample ID	Result	Std. Dev.	RSD	Mode	ALT
CCV1	1169.3528			TOC	
CCV1	1055.6158			TOC	
CCV1	1078.3311			TOC	
CCV1.....	1082.9587...	..	...	TOC	..
CCB1	8.3429			TOC	
CCB1	46.2769			TOC	
CCB1.....	14.9425...	..	...	TOC	..
CCB1	7.4668			TOC	
LB134163BLS	6.6935			TOC	
LB134163BLS.....	33.2489...	..	...	TOC	..
LB134163BLS	9.9311			TOC	
LB134163BLS	11.9644			TOC	
LB134163BSS.....	1005.6211...	..	...	TOC	..
LB134163BSS	1013.9993			TOC	
LB134163BSS	1009.6273			TOC	
LB134163BSS.....	1044.4635...	..	...	TOC	..
P5365-01	1099.6969			TOC	
P5365-01	904.0583			TOC	
P5365-01.....	984.0247...	..	...	TOC	..
P5365-01	1062.0786			TOC	
P5365-01MS	2643.0835			TOC	
P5365-01MS.....	2475.6133...	..	...	TOC	..
P5365-01MS	1670.4973			TOC	
P5365-01MS	2489.6084			TOC	
P5365-01MSD.....	2494.1643...	..	...	TOC	..
P5365-01MSD	1641.8716			TOC	
P5365-01MSD	1757.2025			TOC	
P5365-01MSD.....	1901.1833...	..	...	TOC	..
CCV2	1190.2026			TOC	
CCV2	1044.8025			TOC	
CCV2.....	1013.8391...	..	...	TOC	..
CCV2	1058.6000			TOC	
CCB2	5.7461			TOC	
CCB2.....	4.0252...	..	...	TOC	..
CCB2	0.4203			TOC	
CCB2	2.4461			TOC	

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Method ID	Sample Type	Vial	Timestamp	Message
Boat Sampler	Sample		2025/01/06 10:28	
Boat Sampler	Sample		2025/01/06 10:37	
Boat Sampler	Sample		2025/01/06 10:40	
Boat Sampler	...Sample	..	..2025/01/06 10:51	..
Boat Sampler	Sample		2025/01/06 10:56	Low Sample Detected
Boat Sampler	Sample		2025/01/06 11:02	
Boat Sampler	...Sample	..	..2025/01/06 11:04	..
Boat Sampler	Sample		2025/01/06 11:08	Low Sample Detected
Boat Sampler	Sample		2025/01/06 11:13	Low Sample Detected
Boat Sampler	...Sample	..	..2025/01/06 11:16	..
Boat Sampler	Sample		2025/01/06 11:19	Low Sample Detected
Boat Sampler	Sample		2025/01/06 11:21	
Boat Sampler	...Sample	..	..2025/01/06 11:24	..
Boat Sampler	Sample		2025/01/06 11:27	
Boat Sampler	Sample		2025/01/06 11:30	
Boat Sampler	...Sample	..	..2025/01/06 11:32	..
Boat Sampler	Sample		2025/01/06 11:47	
Boat Sampler	Sample		2025/01/06 11:50	
Boat Sampler	...Sample	..	..2025/01/06 11:53	..
Boat Sampler	Sample		2025/01/06 11:56	
Boat Sampler	Sample		2025/01/06 12:18	
Boat Sampler	...Sample	..	..2025/01/06 12:24	..
Boat Sampler	Sample		2025/01/06 12:28	
Boat Sampler	Sample		2025/01/06 12:32	
Boat Sampler	...Sample	..	..2025/01/06 12:36	..
Boat Sampler	Sample		2025/01/06 12:42	
Boat Sampler	Sample		2025/01/06 12:45	
Boat Sampler	...Sample	..	..2025/01/06 12:48	..
Boat Sampler	Sample		2025/01/06 13:01	
Boat Sampler	Sample		2025/01/06 13:05	
Boat Sampler	...Sample	..	..2025/01/06 13:07	..
Boat Sampler	Sample		2025/01/06 13:11	
Boat Sampler	Sample		2025/01/06 13:14	Low Sample Detected
Boat Sampler	...Sample	..	..2025/01/06 13:18	..Low Sample Detected
Boat Sampler	Sample		2025/01/06 13:22	Low Sample Detected
Boat Sampler	Sample		2025/01/06 13:25	Low Sample Detected

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Sample ID: CCB1 Mode: TOC
Method: Boat Sampler Filename: 01061103
Cal. Curve: TOC SOIL Timestamp: 2025/01/06 11:04
Operator ID: NF IZ Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	14.9425	0.5977	42324	-3.835	-2.839	34

Sample ID: CCB1 Mode: TOC
Method: Boat Sampler Filename: 01061105
Cal. Curve: TOC SOIL Timestamp: 2025/01/06 11:08
Operator ID: NF IZ Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	7.4668	0.2987	21150	-3.789	-3.861	120

Last Message: Low Sample Detected

Sample ID: LB134163BLS Mode: TOC
Method: Boat Sampler Filename: 01061110
Cal. Curve: TOC SOIL Timestamp: 2025/01/06 11:13
Operator ID: NF IZ Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	6.6935	0.2677	18959	-3.813	-3.846	120

Last Message: Low Sample Detected

Sample ID: LB134163BLS Mode: TOC
Method: Boat Sampler Filename: 01061114
Cal. Curve: TOC SOIL Timestamp: 2025/01/06 11:16
Operator ID: NF IZ Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	33.2489	1.3300	94176	-3.806	-2.813	44

Sample ID: LB134163BLS Mode: TOC
Method: Boat Sampler Filename: 01061116
Cal. Curve: TOC SOIL Timestamp: 2025/01/06 11:19
Operator ID: NF IZ Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	9.9311	0.3972	28130	-3.801	-3.848	120

Last Message: Low Sample Detected

Sample ID: LB134163BLS Mode: TOC
Method: Boat Sampler Filename: 01061120
Cal. Curve: TOC SOIL Timestamp: 2025/01/06 11:21
Operator ID: NF IZ Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	11.9644	0.4786	33889	-3.865	-2.865	35

Sample ID: LB134163BSS Mode: TOC
Method: Boat Sampler Filename: 01061123
Cal. Curve: TOC SOIL Timestamp: 2025/01/06 11:24
Operator ID: NF IZ Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	1005.6211	40.2248	2848378	-3.877	-2.883	72

Sample ID: LB134163BSS Mode: TOC
Method: Boat Sampler Filename: 01061125
Cal. Curve: TOC SOIL Timestamp: 2025/01/06 11:27
Operator ID: NF IZ Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	1013.9993	40.5600	2872108	-3.740	-2.741	67

Sample ID: LB134163BSS Mode: TOC
Method: Boat Sampler Filename: 01061128
Cal. Curve: TOC SOIL Timestamp: 2025/01/06 11:30
Operator ID: NF IZ Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	1009.6273	40.3851	2859725	-3.634	-2.641	69

Sample ID: LB134163BSS Mode: TOC
Method: Boat Sampler Filename: 01061130
Cal. Curve: TOC SOIL Timestamp: 2025/01/06 11:32
Operator ID: NF IZ Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	1044.4635	41.7785	2958397	-3.617	-2.623	69

Sample ID: P5365-01 Mode: TOC
Method: Boat Sampler Filename: 01061146
Cal. Curve: TOC SOIL Timestamp: 2025/01/06 11:47
Operator ID: NF IZ Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	1099.6969	7.5879	537310	-3.735	-2.737	40

Sample ID: P5365-01 Mode: TOC
Method: Boat Sampler Filename: 01061148
Cal. Curve: TOC SOIL Timestamp: 2025/01/06 11:50
Operator ID: NF IZ Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	904.0583	5.1531	364901	-3.734	-2.739	40

Sample ID: P5365-01
Method: Boat Sampler
Cal. Curve: TOC SOIL
Operator ID: NF IZ

Mode: TOC
Filename: 01061152
Timestamp: 2025/01/06 11:53
Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	984.0247	5.3137	376273	-3.831	-2.837	44

Sample ID: P5365-01
Method: Boat Sampler
Cal. Curve: TOC SOIL
Operator ID: NF IZ

Mode: TOC
Filename: 01061154
Timestamp: 2025/01/06 11:56
Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	1062.0786	6.4787	458764	-3.306	-2.316	43

Sample ID: P5365-01MS
Method: Boat Sampler
Cal. Curve: TOC SOIL
Operator ID: NF IZ

Mode: TOC
Filename: 01061216
Timestamp: 2025/01/06 12:18
Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	2643.0835	14.0083	991950	-3.893	-2.898	47

Sample ID: P5365-01MS
Method: Boat Sampler
Cal. Curve: TOC SOIL
Operator ID: NF IZ

Mode: TOC
Filename: 01061223
Timestamp: 2025/01/06 12:24
Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	2475.6133	14.3586	1016750	-3.865	-2.875	50

Sample ID: P5365-01MS
Method: Boat Sampler
Cal. Curve: TOC SOIL
Operator ID: NF IZ

Mode: TOC
Filename: 01061226
Timestamp: 2025/01/06 12:28
Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	1670.4973	10.6912	757058	-3.847	-2.851	43

Sample ID: P5365-01MS
Method: Boat Sampler
Cal. Curve: TOC SOIL
Operator ID: NF IZ

Mode: TOC
Filename: 01061230
Timestamp: 2025/01/06 12:32
Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
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1	2489.6084	13.9418	987239	-3.792	-2.797	46
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Sample ID: P5365-01MSD Mode: TOC
Method: Boat Sampler Filename: 01061234
Cal. Curve: TOC SOIL Timestamp: 2025/01/06 12:36
Operator ID: NF IZ Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	2494.1643	15.2144	1077353	-3.350	-2.364	41

Sample ID: P5365-01MSD Mode: TOC
Method: Boat Sampler Filename: 01061240
Cal. Curve: TOC SOIL Timestamp: 2025/01/06 12:42
Operator ID: NF IZ Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	1641.8716	11.4931	813843	-3.818	-2.825	47

Sample ID: P5365-01MSD Mode: TOC
Method: Boat Sampler Filename: 01061243
Cal. Curve: TOC SOIL Timestamp: 2025/01/06 12:45
Operator ID: NF IZ Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	1757.2025	11.0704	783909	-3.825	-2.833	46

Sample ID: P5365-01MSD Mode: TOC
Method: Boat Sampler Filename: 01061246
Cal. Curve: TOC SOIL Timestamp: 2025/01/06 12:48
Operator ID: NF IZ Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	1901.1833	11.0269	780828	-3.645	-2.655	41

Sample ID: CCV2 Mode: TOC
Method: Boat Sampler Filename: 01061258
Cal. Curve: TOC SOIL Timestamp: 2025/01/06 13:01
Operator ID: NF IZ Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	1190.2026	47.6081	3371196	-3.879	-2.879	90

Sample ID: CCV2 Mode: TOC
Method: Boat Sampler Filename: 01061303
Cal. Curve: TOC SOIL Timestamp: 2025/01/06 13:05
Operator ID: NF IZ Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	1044.8025	41.7921	2959357	-3.708	-2.714	73

Sample ID: CCV2 Mode: TOC
Method: Boat Sampler Filename: 01061305
Cal. Curve: TOC SOIL Timestamp: 2025/01/06 13:07
Operator ID: NF IZ Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	1013.8391	40.5536	2871655	-3.619	-2.620	69

Sample ID: CCV2 Mode: TOC
Method: Boat Sampler Filename: 01061309
Cal. Curve: TOC SOIL Timestamp: 2025/01/06 13:11
Operator ID: NF IZ Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	1058.6000	42.3440	2998438	-3.672	-2.677	73

Sample ID: CCB2 Mode: TOC
Method: Boat Sampler Filename: 01061312
Cal. Curve: TOC SOIL Timestamp: 2025/01/06 13:14
Operator ID: NF IZ Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	5.7461	0.2298	16276	-3.630	-3.826	120

Last Message: Low Sample Detected

Sample ID: CCB2 Mode: TOC
Method: Boat Sampler Filename: 01061316
Cal. Curve: TOC SOIL Timestamp: 2025/01/06 13:18
Operator ID: NF IZ Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	4.0252	0.1610	11401	-3.866	-3.864	120

Last Message: Low Sample Detected

Sample ID: CCB2 Mode: TOC
Method: Boat Sampler Filename: 01061319
Cal. Curve: TOC SOIL Timestamp: 2025/01/06 13:22
Operator ID: NF IZ Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	0.4203	0.0168	1190	-3.760	-3.854	120

Last Message: Low Sample Detected

Sample ID: CCB2 Mode: TOC
Method: Boat Sampler Filename: 01061322
Cal. Curve: TOC SOIL Timestamp: 2025/01/06 13:25
Operator ID: NF IZ Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	2.4461	0.0978	6929	-3.773	-3.831	120

Last Message: Low Sample Detected
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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 Baseline	Ending Baseline	Integration 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 Baseline	Ending Baseline	Integration 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 Baseline	Ending Baseline	Integration 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 Baseline	Ending Baseline	Integration 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 Baseline	Ending Baseline	Integration 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 Baseline	Ending Baseline	Integration Time
1	4.4514	0.1781	12608	-2.598	-2.685	120

Last Message: Low Sample Detected
=====

Sample ID: ICB Mode: TOC
Method: Boat Sampler Filename: 11121223
Cal. Curve: TOC SOIL Timestamp: 2024/11/12 12:26
Operator ID: NF IZ Sample Type: Sample

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

Last Message: Low Sample Detected
=====

Sample ID: ICB Mode: TOC
Method: Boat Sampler Filename: 11121226
Cal. Curve: TOC SOIL Timestamp: 2024/11/12 12:29
Operator ID: NF IZ Sample Type: Sample

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

Last Message: Low Sample Detected
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Sample ID: ICB Mode: TOC
Method: Boat Sampler Filename: 11121230
Cal. Curve: TOC SOIL Timestamp: 2024/11/12 12:32
Operator ID: NF IZ Sample Type: Sample

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

Last Message: Low Sample Detected
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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 Message	Date & 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

LB134163

WORKLIST(Hardcopy Internal Chain)

WorkList Name : TOC S-01062025 WorkList ID : 186762 Department : Wet-Chemistry Date : 01-06-2025 10:00:00

Sample	Customer Sample	Matrix	Test	Preservative	Customer	Raw Sample Storage Location	Collect Date	Method
P5365-01	TAPFTA-SB011-4.5-121924-00-	Solid	TOC	Cool 4 deg C	WEST04	N21	12/19/2024	9060A

Date/Time 01.06.2025, 10:05
Raw Sample Received by: NF(wc)
Raw Sample Relinquished by: OP sm

Date/Time 01.06.2025 11:00
Raw Sample Received by: OP sm
Raw Sample Relinquished by: NF(wc)

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Instrument ID: WC PH METER-1

Daily Analysis Runlog For Sequence/QC Batch ID # LB134040

Review By	jignesh	Review On	12/20/2024 11:39:30 AM
Supervise By	Iwona	Supervise On	12/20/2024 11:44:28 AM
SubDirectory	LB134040	Test	pH
STD. NAME	STD REF.#		
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	12/20/24 11:40		Jignesh	OK
2	CAL2	CAL2	CAL	12/20/24 11:41		Jignesh	OK
3	CAL3	CAL3	CAL	12/20/24 11:44		Jignesh	OK
4	ICV	ICV	ICV	12/20/24 11:45		Jignesh	OK
5	CCV1	CCV1	CCV	12/20/24 11:47		Jignesh	OK
6	P5365-01	TAPFTA-SB01I-4.5-12	SAM	12/20/24 11:55		Jignesh	OK
7	P5365-01DUP	TAPFTA-SB01I-4.5-12	DUP	12/20/24 11:56		Jignesh	OK
8	CCV2	CCV2	CCV	12/20/24 12:00		Jignesh	OK

Instrument ID: IC-2

Daily Analysis Runlog For Sequence/QC Batch ID # LB134042

Review By	Niha	Review On	12/27/2024 8:17:56 AM
Supervise By	Iwona	Supervise On	12/27/2024 9:16:12 AM
SubDirectory	LB134042	Test	Anions
STD. NAME	STD REF.#		
ICAL Standard	WP111131,WP111132,WP111133,WP111134,WP111135,WP111136,WP111137		
ICV Standard	WP111138		
CCV Standard	WP111175		
ICSA Standard	N/A		
CRI Standard	N/A		
LCS Standard	WP111176		
Chk Standard	WP111129,WP111130		

Sr#	SampleId	ClientID	QcType	Date	Comment	Operator	Status
1	STD1	STD1	CAL1	12/18/24 10:39	All standards, samples, and	NF/IZ	OK
2	STD2	STD2	CAL2	12/18/24 11:00	QC are filtered through	NF/IZ	OK
3	STD3	STD3	CAL3	12/18/24 11:22	0.45um, filter lot W3160	NF/IZ	OK
4	STD4	STD4	CAL4	12/18/24 11:43		NF/IZ	OK
5	STD5	STD5	CAL5	12/18/24 12:04		NF/IZ	OK
6	STD6	STD6	CAL6	12/18/24 12:26		NF/IZ	OK
7	STD7	STD7	CAL7	12/18/24 12:47		NF/IZ	OK
8	ICV1	ICV1	ICV	12/18/24 13:09		NF/IZ	OK
9	ICB1	ICB1	ICB	12/18/24 13:30		NF/IZ	OK
10	CCV1	CCV1	CCV	12/20/24 13:10		NF/IZ	OK
11	CCB1	CCB1	CCB	12/20/24 13:32		NF/IZ	OK
12	LB134042BLS	LB134042BLS	MB	12/20/24 14:15		NF/IZ	OK
13	LB134042BSS	LB134042BSS	LCS	12/20/24 14:36		NF/IZ	OK
14	P5365-01	TAPFTA-SB01I-4.5-12	SAM	12/20/24 14:57		NF/IZ	OK
15	P5365-01MS	TAPFTA-SB01I-4.5-12	MS	12/20/24 15:19	5ml W3091	NF/IZ	OK
16	P5365-01MSD	TAPFTA-SB01I-4.5-12	MSD	12/20/24 15:41	5ml W3091	NF/IZ	OK
17	CCV2	CCV2	CCV	12/20/24 16:02		NF/IZ	OK
18	CCB2	CCB2	CCB	12/20/24 16:24		NF/IZ	OK

Instrument ID: TOC

Daily Analysis Runlog For Sequence/QC Batch ID # LB134163

Review By	Niha	Review On	1/6/2025 2:51:21 PM
Supervise By	Iwona	Supervise On	1/6/2025 2:52:58 PM
SubDirectory	LB134163	Test	TOC
STD. NAME	STD REF.#		
ICAL Standard	WP110667,WP110662,WP110663,WP110664,WP110665		
ICV Standard	WP110666		
CCV Standard	WP111287		
ICSA Standard	N/A		
CRI Standard	N/A		
LCS Standard	WP111288		
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	01/06/25 10:51		NF IZ	OK
9	CCB1	CCB1	CCB	01/06/25 11:08		NF IZ	OK
10	LB134163BLS	LB134163BLS	MB	01/06/25 11:21		NF IZ	OK
11	LB134163BSS	LB134163BSS	LCS	01/06/25 11:32		NF IZ	OK
12	P5365-01	TAPFTA-SB01I-4.5-12	SAM	01/06/25 11:56		NF IZ	OK
13	P5365-01MS	TAPFTA-SB01I-4.5-12	MS	01/06/25 12:32	sample + 40ul of 111287	NF IZ	OK
14	P5365-01MSD	TAPFTA-SB01I-4.5-12	MSD	01/06/25 12:48	sample + 40ul of 111287	NF IZ	OK
15	CCV2	CCV2	CCV	01/06/25 13:11		NF IZ	OK
16	CCB2	CCB2	CCB	01/06/25 13:25		NF IZ	OK

Prep Standard - Chemical Standard Summary

Order ID : P5365

Test : Anions Group1,Percent Solids,pH,TOC

Prepbatch ID :

Sequence ID/Qc Batch ID: LB134040,LB134042,LB134163,

Standard ID :

WP109217,WP109218,WP109225,WP110259,WP110662,WP110663,WP110664,WP110665,WP110666,WP110667,W
P111129,WP111130,WP111131,WP111132,WP111133,WP111134,WP111135,WP111136,WP111137,WP111138,WP1111
75,WP111176,WP111287,WP111288,

Chemical ID :

M6041,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	WP109217	08/07/2024	01/18/2025	Iwona Zarych	WETCHEM_SCALE_5 (WC)	WETCHEM_FIPETTE_3 (WC)	Mohan Bera 08/16/2024
FROM 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	WP109218	08/07/2024	02/07/2025	Iwona Zarych	WETCHEM_SCALE_5 (WC)	WETCHEM_FIPETTE_3 (WC)	Mohan Bera 08/16/2024
FROM 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	WP109225	08/07/2024	02/07/2025	Iwona Zarych	None	WETCHEM_FIPETTE_3 (WC)	Mohan Bera 08/16/2024
FROM 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	WP110259	10/16/2024	04/16/2025	Iwona Zarych	WETCHEM_SCALE_5 (WC SC-5)	None	Jignesh Parikh 10/17/2024
FROM 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	WP110662	11/12/2024	11/19/2024	Niha Farheen Shaik	None	None	Iwona Zarych 11/14/2024
FROM 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	WP110663	11/12/2024	11/19/2024	Niha Farheen Shaik	None	None	Iwona Zarych 11/14/2024
FROM 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	WP110664	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	WP110665	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	WP110666	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	WP110667	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>
4036	IC ELUENT FOR IC-1	WP111129	12/18/2024	01/18/2025	Niha Farheen Shaik	None	None	Iwona Zarych 12/18/2024

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	WP111130	12/18/2024	01/18/2025	Niha Farheen Shaik	None	Glass Pipette-A	Iwona Zarych 12/18/2024

FROM 5.60000ml of M6041 + 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>
2487	Anions 300/9056 calibration standard 1	WP111131	12/18/2024	12/19/2024	Niha Farheen Shaik	None	None	Iwona Zarych 12/18/2024
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	WP111132	12/18/2024	12/19/2024	Niha Farheen Shaik	None	WETCHEM_FIPETTE_3 (WC)	Iwona Zarych 12/18/2024
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	WP111133	12/18/2024	12/19/2024	Niha Farheen Shaik	None	WETCHEM_FIPETTE_3 (WC)	Iwona Zarych 12/18/2024
FROM 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	WP111134	12/18/2024	12/19/2024	Niha Farheen Shaik	None	WETCHEM_FIPETTE_3 (WC)	Iwona Zarych 12/18/2024
FROM 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	WP111135	12/18/2024	12/19/2024	Niha Farheen Shaik	None	WETCHEM_FIPETTE_3 (WC)	Iwona Zarych 12/18/2024
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	WP111136	12/18/2024	12/19/2024	Niha Farheen Shaik	None	WETCHEM_FIPETTE_3 (WC)	Iwona Zarych 12/18/2024
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	WP111137	12/18/2024	12/19/2024	Niha Farheen Shaik	None	WETCHEM_FIPETTE_3 (WC)	Iwona Zarych 12/18/2024
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	WP111138	12/18/2024	12/19/2024	Niha Farheen Shaik	None	Glass Pipette-A	Iwona Zarych 12/18/2024
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>
3680	Anions 300/9056 calibration standard 5-CCV	WP111175	12/20/2024	12/21/2024	Niha Farheen Shaik	None	None	Iwona Zarych 12/20/2024

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	WP111176	12/20/2024	12/21/2024	Niha Farheen Shaik	None	None	Iwona Zarych 12/20/2024

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	WP111287	01/06/2025	01/13/2025	Niha Farheen Shaik	None	None	Iwona Zarych
								01/07/2025

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	WP111288	01/06/2025	01/13/2025	Niha Farheen Shaik	None	None	Iwona Zarych
								01/07/2025

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	08/16/2024 / mohan	08/16/2024 / mohan	M6041

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 ₃) (dried basis)	99.7 – 100.3 %	100.1
Insoluble Matter	<= 0.015 %	< 0.002
Chloride (Cl)	<= 0.003 %	0.003
Phosphate (PO ₄)	<= 0.001 %	0.001
Sulfur Compounds (as SO ₄)	<= 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 ₄)	<= 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_3PO_4) (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_4)	≤ 12 ppm	< 4
Volatile Acids (as CH_3COOH)	≤ 0.001 %	0.001
Reducing Substances	Passes Test	PT
Chloride (Cl)	≤ 3 ppm	< 1
Nitrate (NO_3)	≤ 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 ₄)	0.001% max.	<0.001%
Potassium (K)	0.005% max.	0.003%
Silica (SiO ₂)	0.005% max.	<0.005%
Sulfur compounds (as SO ₄)	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

300 Technology Drive
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

8.0 HAZARDOUS INFORMATION

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

9.0 HOMOGENEITY

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

10.0 QUALITY STANDARD DOCUMENTATION

10.1 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

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

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

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

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

Inorganic Ventures, 300 Technology Drive, Christiansburg, Va. 24073, USA; Telephone: 800.669.6799; 540.585.3030, Fax: 540.585.3012; inorganicventures.com; info@inorganicventures.com

11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

March 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
F: 540-585-3012
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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, NNO3-	25.00 ± 0.09 µg/mL
Nitrite as N, NNO2-	30.00 ± 0.15 µg/mL	o-Phosphate as P, PPO4	50.00 ± 0.18 µg/mL
Sulfate, SO4	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

8.0 HAZARDOUS INFORMATION

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

9.0 HOMOGENEITY

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

10.0 QUALITY STANDARD DOCUMENTATION

10.1 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

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

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

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

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

Inorganic Ventures, 300 Technology Drive, Christiansburg, Va. 24073, USA; Telephone: 800.669.6799; 540.585.3030, Fax: 540.585.3012; inorganicventures.com; info@inorganicventures.com

11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

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®**

1841 Broad Street
Pocomoke City, MD 21851
<http://www.riccachemical.com>
1-888-GO-RICCA
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

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

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

Certificate of Analysis

ThermoFisher
SCIENTIFIC

Certificate of Analysis

1 Reagent Lane

Fair Lawn, NJ 07410

201.796.7100 tel

201.796.1329 fax

Thermo 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™



M 6041-4b
MS

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 ₂ SO ₄)	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 ₂)	≤ 2 ppm	< 2 ppm
Ammonium (NH ₄)	≤ 1 ppm	1 ppm
Chloride (Cl)	≤ 0.1 ppm	< 0.1 ppm
Nitrate (NO ₃)	≤ 0.2 ppm	< 0.1 ppm
Phosphate (PO ₄)	≤ 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

 **avantor™**

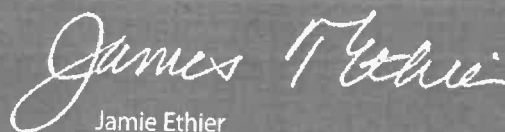


Material No.: 9673-33
Batch No.: 23D2462010

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

This Certificate of Analysis 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

W3093
094121
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

Paul Brandon (01/08/2024)
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

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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)



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)

Paul Brandon

Production Manager

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This product was tested in an ISO 17025 Accredited Laboratory

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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. This document has been electronically produced and is valid without a signature. Leona Edwardson, Quality Control Sr. Manager - Solon VWR Chemicals, LLC. 28600 Fountain Parkway, Solon OH 44139 USA	Analysis may have been rounded to significant digits in specification limits. Product meets analytical specifications of the grades listed.

PERCENT SOLID

Supervisor: Iwona
Analyst: jignesh
Date: 12/23/2024

OVENTEMP IN Celsius(°C): 106
Time IN: 16:30
In Date: 12/20/2024
Weight Check 1.0g: 1.00
Weight Check 10g: 10.00
OvenID: M OVEN#1

OVENTEMP OUT Celsius(°C): 103
Time OUT: 08:27
Out Date: 12/21/2024
Weight Check 1.0g: 1.00
Weight Check 10g: 10.00
BalanceID: M SC-4
Thermometer ID: % SOLID- OVEN

QC:LB134046

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
P5318-01	AU-06-122024	15	1.15	8.84	9.99	8.77	86.2	
P5319-01	AUD-1617	16	1.00	1.00	2.00	2.00	100.0	wipe sample
P5361-01	SB-01-20241219-7.0-7.5	1	1.14	8.41	9.55	8.85	91.7	
P5361-02	SB-01-20241219-9.0-9.5	2	1.19	8.48	9.67	8.58	87.1	
P5362-01	WC-SOIL-20241219	3	1.13	8.70	9.83	9.13	92.0	
P5365-01	TAPFTA-SB01I-4.5-121924-00-T1	4	1.13	8.56	9.69	8.84	90.1	
P5369-05	SVOC-GPC-BLANK	5	1.00	1.00	2.00	2.00	100.0	
P5369-06	PEST-GPC-BLANK	6	1.00	1.00	2.00	2.00	100.0	
P5369-07	PEST-GPC-BLANK-SPIKE	7	1.00	1.00	2.00	2.00	100.0	
P5369-08	PCB-GPC-BLANK	8	1.00	1.00	2.00	2.00	100.0	
P5369-09	PCB-GPC-BLANK-SPIKE	9	1.00	1.00	2.00	2.00	100.0	
P5369-10	SVOC-GPC2-BLANK	10	1.00	1.00	2.00	2.00	100.0	
P5369-11	PEST-GPC2-BLANK	11	1.00	1.00	2.00	2.00	100.0	
P5369-12	PEST-GPC2-BLANK-SPIKE	12	1.00	1.00	2.00	2.00	100.0	
P5369-13	PCB-GPC2-BLANK	13	1.00	1.00	2.00	2.00	100.0	
P5369-14	PCB-GPC2-BLANK-SPIKE	14	1.00	1.00	2.00	2.00	100.0	
P5377-01	GAS-TRE-1119	17	1.00	1.00	2.00	2.00	100.0	wipe sample

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

WORKLIST(Hardcopy Internal Chain)

134046

WorkList Name : %1-122024

WorkList ID : 186509

Department : Wet-Chemistry

Date : 12-20-2024 08:05:45

Sample	Customer Sample	Matrix	Test	Preservative	Customer	Raw Sample Storage Location	Collect Date	Method
P5318-01	AU-06-122024	Solid	Percent Solids	Cool 4 deg C	PSEG05	N31	12/20/2024	Chemtech -SO
P5319-01	AUD-1617	Solid	Percent Solids	Cool 4 deg C	PSEG03	N31	12/20/2024	Chemtech -SO
P5361-01	SB-01-20241219-7.0-7.5	Solid	Percent Solids	Cool 4 deg C	PARS02	N12	12/20/2024	Chemtech -SO
P5361-02	SB-01-20241219-9.0-9.5	Solid	Percent Solids	Cool 4 deg C	PARS02	N12	12/20/2024	Chemtech -SO
P5362-01	WC-SOIL-20241219	Solid	Percent Solids	Cool 4 deg C	PARS02	N21	12/19/2024	Chemtech -SO
P5365-01	TAPFTA-SB01I-4.5-121924-00-	Solid	Percent Solids	Cool 4 deg C	WEST04	N21	12/19/2024	Chemtech -SO
P5369-05	SVOC-GPC-BLANK	Solid	Percent Solids	Cool 4 deg C	CHEM02	N22	12/13/2024	Chemtech -SO
P5369-06	PEST-GPC-BLANK	Solid	Percent Solids	Cool 4 deg C	CHEM02	N22	12/13/2024	Chemtech -SO
P5369-07	PEST-GPC-BLANK-SPIKE	Solid	Percent Solids	Cool 4 deg C	CHEM02	N22	12/13/2024	Chemtech -SO
P5369-08	PCB-GPC-BLANK	Solid	Percent Solids	Cool 4 deg C	CHEM02	N22	12/13/2024	Chemtech -SO
P5369-09	PCB-GPC-BLANK-SPIKE	Solid	Percent Solids	Cool 4 deg C	CHEM02	N22	12/13/2024	Chemtech -SO
P5369-10	SVOC-GPC2-BLANK	Solid	Percent Solids	Cool 4 deg C	CHEM02	N22	12/13/2024	Chemtech -SO
P5369-11	PEST-GPC2-BLANK	Solid	Percent Solids	Cool 4 deg C	CHEM02	N22	12/13/2024	Chemtech -SO
P5369-12	PEST-GPC2-BLANK-SPIKE	Solid	Percent Solids	Cool 4 deg C	CHEM02	N22	12/13/2024	Chemtech -SO
P5369-13	PCB-GPC2-BLANK	Solid	Percent Solids	Cool 4 deg C	CHEM02	N22	12/13/2024	Chemtech -SO
P5369-14	PCB-GPC2-BLANK-SPIKE	Solid	Percent Solids	Cool 4 deg C	CHEM02	N22	12/13/2024	Chemtech -SO
P5377-01	GAS-TRE-1119	Solid	Percent Solids	Cool 4 deg C	PSEG03	N13	12/20/2024	Chemtech -SO

Date/Time 12/20/24 16:15

Raw Sample Received by: JB GGC

Raw Sample Relinquished by: CG SR

Date/Time 12/20/24

Raw Sample Received by: CG SR

Raw Sample Relinquished by: CG SR



SHIPPING DOCUMENTS

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Weston COC ID
Weston_20241219_1530

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 property 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:	908-728-3144	
Lab Address:	284 Sheffield Street Mountainside, NJ 07092				
Analyses Requested:	Anions by EPA 9056A	pH by EPA 9045D	TAL Metals by EPA 6020B/7471B	TOC by 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	

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

#	Sample ID	G/C	Matrix	# Cont	MS/MSD	Date Collected	Time Collected	Special Instructions/Comments									
1	TAPFTA-SB011-4.5-121924-00-T1	g	SB	3	no	12/19/2024	13:00	X	X	X	X						
2																	
3																	
4																	
5																	
6																	
7																	
8																	
9																	
10																	
11																	
12																	

Shipping Airbill Number(s):				Cooler Number:		1	of	1
Relinquished By	Date	Time	Received By	Date	Time	Additional Comments		
1.) <i>Sol R. Del. with</i>	12/19/24	1800	<i>JD</i>	12-20-24	9:40	QSM 6.0 Compliant		
2.)						Deliverable Requirements: DoD Level IV report, EnviroData EDD, and ERIS-compatible EDD		
3.)								

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