

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 : Q1295

ATTENTION : Nathan Fretz



Laboratory Certification ID # 20012



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Cover Page

Order ID : Q1295

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

Client : Weston Solutions

Lab Sample Number

Q1295-01

Client Sample Number

TAPFTA-SB01D-020425-00-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 : _____

Date: 2/20/2025

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 # Q1295

Test Name: pH,TOC,Anions Group1

A. Number of Samples and Date of Receipt:

1 Solid sample was received on 02/05/2025.

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-SB01D-020425-00-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 analysis met criteria for all samples.

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_____

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: Q1295

MATRIX: Solid

METHOD: 9045D,9056A,Lloyd Kahn

	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 analysis met criteria for all samples. 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-SB01D-020425-00-T1 of pH as sample receive out of holding time.			

ADDITIONAL COMMENTS:

QA REVIEW

Date

APPENDIX A

QA REVIEW GENERAL DOCUMENTATION

Project #: Q1295

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: 02/20/2025

LAB CHRONICLE

OrderID:	Q1295	OrderDate:	2/5/2025 11:41:00 AM
Client:	Weston Solutions	Project:	Ft Meade Tipton Airfield Parcel RI - PO 0111169
Contact:	Nathan Fretz	Location:	N41

LabID	ClientID	Matrix	Test	Method	Sample Date	Prep Date	Anal Date	Received
Q1295-01	TAPFTA-SB01D-02042 5-00-T1	SOIL			02/04/25 09:25			02/05/25
			Anions Group1	9056A			02/05/25 15:53	
			pH	9045D			02/06/25 08:55	
			TOC	9060A			02/10/25 11:29	



SAMPLE DATA

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Report of Analysis

Client:	Weston Solutions	Date Collected:	02/04/25 09:25
Project:	Ft Meade Tipton Airfield Parcel RI - PO 0111169	Date Received:	02/05/25
Client Sample ID:	TAPFTA-SB01D-020425-00-T1	SDG No.:	Q1295
Lab Sample ID:	Q1295-01	Matrix:	SOIL
		% Solid:	90.9

Parameter	Conc.	Qua.	DF	MDL	LOD	LOQ / CRQL	Units(Dry Weight)	Prep Date	Date Ana.	Ana Met.
Bromide	22.0	U	1	0.54	22.0	44.0	mg/Kg		02/05/25 15:53	9056A
Chloride	3.90	J	1	0.11	6.60	13.2	mg/Kg		02/05/25 15:53	9056A
Fluoride	2.40	J	1	0.42	4.40	8.80	mg/Kg		02/05/25 15:53	9056A
Nitrite	6.60	U	1	0.21	6.60	13.2	mg/Kg		02/05/25 15:53	9056A
Nitrate	5.50	U	1	0.098	5.50	11.0	mg/Kg		02/05/25 15:53	9056A
Sulfate	11.2	J	1	0.67	33.0	66.0	mg/Kg		02/05/25 15:53	9056A
pH	6.74	H	1	0	0	0	pH		02/06/25 08:55	9045D
TOC	3990		1	19.8	50.0	250	mg/Kg		02/10/25 11:29	9060A

Comments: pH result reported at temperature 20.9 °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

Initial and Continuing Calibration Verification

Client: Weston Solutions

SDG No.: Q1295

Project: Ft Meade Tipton Airfield Parcel RI - PO 0111169

RunNo.: LB134597

Analyte	Units	Result	True Value	% Recovery	Acceptance Window (%R)	Analysis Date
Sample ID: ICV pH	pH	7.00	7	100	90-110	02/06/2025
Sample ID: CCV1 pH	pH	2.01	2.00	101	90-110	02/06/2025
Sample ID: CCV2 pH	pH	12.02	12.00	100	90-110	02/06/2025

Initial and Continuing Calibration Verification

Client: Weston Solutions

SDG No.: Q1295

Project: Ft Meade Tipton Airfield Parcel RI - PO 0111169

RunNo.: LB134598

Analyte	Units	Result	True Value	% Recovery	Acceptance Window (%R)	Analysis Date
Sample ID: ICV1						
Bromide	mg/L	10.3	10	103	90-110	01/20/2025
Chloride	mg/L	3.1	3	103	90-110	01/20/2025
Fluoride	mg/L	2.1	2	105	90-110	01/20/2025
Nitrite	mg/L	3.1	3	103	90-110	01/20/2025
Nitrate	mg/L	2.6	2.5	104	90-110	01/20/2025
Sulfate	mg/L	15.4	15	103	90-110	01/20/2025
Orthophosphate as P	mg/L	5.2	5	104	90-110	01/20/2025
Sample ID: CCV1						
Bromide	mg/L	10.3	10	103	90-110	02/05/2025
Chloride	mg/L	3.1	3	103	90-110	02/05/2025
Fluoride	mg/L	2.1	2	105	90-110	02/05/2025
Nitrite	mg/L	3.1	3	103	90-110	02/05/2025
Nitrate	mg/L	2.6	2.5	104	90-110	02/05/2025
Sulfate	mg/L	15.2	15	101	90-110	02/05/2025
Orthophosphate as P	mg/L	5	5	100	90-110	02/05/2025
Sample ID: CCV2						
Bromide	mg/L	10.3	10	103	90-110	02/05/2025
Chloride	mg/L	3.1	3	103	90-110	02/05/2025
Fluoride	mg/L	2	2	100	90-110	02/05/2025
Nitrite	mg/L	3.1	3	103	90-110	02/05/2025
Nitrate	mg/L	2.6	2.5	104	90-110	02/05/2025
Sulfate	mg/L	15.2	15	101	90-110	02/05/2025
Orthophosphate as P	mg/L	5.1	5	102	90-110	02/05/2025

Initial and Continuing Calibration Verification

Client: Weston Solutions

SDG No.: Q1295

Project: Ft Meade Tipton Airfield Parcel RI - PO 0111169

RunNo.: LB134653

Analyte	Units	Result	True Value	% Recovery	Acceptance Window (%R)	Analysis Date
Sample ID: CCV1 TOC	mg/L	971	1000	97	90-110	02/10/2025
Sample ID: CCV2 TOC	mg/L	1030	1000	103	90-110	02/10/2025
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.:	Q1295
Project:	Ft Meade Tipton Airfield Parcel RI - PO 0111169	RunNo.:	LB134598

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	01/20/2025
Chloride	mg/L	< 0.3000	0.3000	U	0.011	0.6	01/20/2025
Fluoride	mg/L	< 0.2000	0.2000	U	0.057	0.4	01/20/2025
Nitrite	mg/L	< 0.3000	0.3000	U	0.011	0.6	01/20/2025
Nitrate	mg/L	< 0.2500	0.2500	U	0.0034	0.5	01/20/2025
Sulfate	mg/L	< 1.5000	1.5000	U	0.032	3	01/20/2025
Orthophosphate as P	mg/L	< 0.5000	0.5000	U	0.079	1	01/20/2025
Sample ID: CCB1							
Bromide	mg/L	< 1.0000	1.0000	U	0.034	2	02/05/2025
Chloride	mg/L	< 0.3000	0.3000	U	0.011	0.6	02/05/2025
Fluoride	mg/L	< 0.2000	0.2000	U	0.057	0.4	02/05/2025
Nitrite	mg/L	< 0.3000	0.3000	U	0.011	0.6	02/05/2025
Nitrate	mg/L	< 0.2500	0.2500	U	0.0034	0.5	02/05/2025
Sulfate	mg/L	< 1.5000	1.5000	U	0.032	3	02/05/2025
Orthophosphate as P	mg/L	< 0.5000	0.5000	U	0.079	1	02/05/2025
Sample ID: CCB2							
Bromide	mg/L	< 1.0000	1.0000	U	0.034	2	02/05/2025
Chloride	mg/L	< 0.3000	0.3000	U	0.011	0.6	02/05/2025
Fluoride	mg/L	< 0.2000	0.2000	U	0.057	0.4	02/05/2025
Nitrite	mg/L	< 0.3000	0.3000	U	0.011	0.6	02/05/2025
Nitrate	mg/L	< 0.2500	0.2500	U	0.0034	0.5	02/05/2025
Sulfate	mg/L	< 1.5000	1.5000	U	0.032	3	02/05/2025
Orthophosphate as P	mg/L	< 0.5000	0.5000	U	0.079	1	02/05/2025

Initial and Continuing Calibration Blank Summary

Client: Weston Solutions

SDG No.: Q1295

Project: Ft Meade Tipton Airfield Parcel RI - PO 0111169

RunNo.: LB134653

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	02/10/2025
Sample ID: CCB2 TOC	mg/L	< 125.0000	125.0000	U	22.3	250	02/10/2025
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.: Q1295

Project: Ft Meade Tipton Airfield Parcel RI - PO 0111169

Analyte	Units	Result	Acceptance Limits	Conc Qual	MDL	RDL	Analysis Date
Sample ID: LB134598BLS							
Bromide	mg/Kg	< 20.0000	20.0000	U	0.49	40	02/05/2025
Chloride	mg/Kg	< 6.0000	6.0000	U	0.096	12	02/05/2025
Fluoride	mg/Kg	< 4.0000	4.0000	U	0.38	8	02/05/2025
Nitrite	mg/Kg	< 6.0000	6.0000	U	0.19	12	02/05/2025
Nitrate	mg/Kg	< 5.0000	5.0000	U	0.089	10	02/05/2025
Sulfate	mg/Kg	< 30.0000	30.0000	U	0.61	60	02/05/2025
Orthophosphate as P	mg/Kg	< 10.0000	10.0000	U	0.24	20	02/05/2025
Sample ID: LB134653BLS							
TOC	mg/Kg	< 125.0000	125.0000	U	19.8	250	02/10/2025

Matrix Spike Summary

Client:	Weston Solutions	SDG No.:	Q1295
Project:	Ft Meade Tipton Airfield Parcel RI - PO 0111169	Sample ID:	Q1295-01
Client ID:	TAPFTA-SB01D-020425-00-T1MS	Percent Solids for Spike Sample:	90.9

Analyte	Units	Acceptance Limit %R	Spiked Result	Conc. Qualifier	Sample Result	Conc. Qualifier	Spike Added	Dilution Factor	% Rec	Qual	Analysis Date
TOC	mg/Kg	75-125	4860		3990		1000	1	87		02/10/2025
Bromide	mg/Kg	80-120	219		0.54	U	220	1	100		02/05/2025
Chloride	mg/Kg	80-120	68.3		3.90	J	65.9	1	98		02/05/2025
Fluoride	mg/Kg	80-120	40.1		2.40	J	43.9	1	86		02/05/2025
Nitrite	mg/Kg	80-120	65.5		0.21	U	65.9	1	99		02/05/2025
Nitrate	mg/Kg	80-120	54.7		0.098	U	54.9	1	100		02/05/2025
Sulfate	mg/Kg	80-120	327		11.2	J	330	1	96		02/05/2025
Orthophosphate as P	mg/Kg	80-120	81.7		0.26	U	110	1	74	*	02/05/2025

Matrix Spike Summary

Client:	Weston Solutions	SDG No.:	Q1295
Project:	Ft Meade Tipton Airfield Parcel RI - PO 0111169	Sample ID:	Q1295-01
Client ID:	TAPFTA-SB01D-020425-00-T1MSD	Percent Solids for Spike Sample:	90.9

Analyte	Units	Acceptance Limit %R	Spiked Result	Conc. Qualifier	Sample Result	Conc. Qualifier	Spike Added	Dilution Factor	% Rec	Qual	Analysis Date
TOC	mg/Kg	75-125	4850		3990		1000	1	86		02/10/2025
Bromide	mg/Kg	80-120	218		0.54	U	220	1	99		02/05/2025
Chloride	mg/Kg	80-120	70.3		3.90	J	65.9	1	101		02/05/2025
Fluoride	mg/Kg	80-120	40.1		2.40	J	43.9	1	86		02/05/2025
Nitrite	mg/Kg	80-120	65.6		0.21	U	65.9	1	100		02/05/2025
Nitrate	mg/Kg	80-120	54.7		0.098	U	54.9	1	100		02/05/2025
Sulfate	mg/Kg	80-120	325		11.2	J	330	1	95		02/05/2025
Orthophosphate as P	mg/Kg	80-120	81.2		0.26	U	110	1	74	*	02/05/2025

Duplicate Sample Summary

Client:	Weston Solutions	SDG No.:	Q1295
Project:	Ft Meade Tipton Airfield Parcel RI - PO 0111169	Sample ID:	Q1295-01
Client ID:	TAPFTA-SB01D-020425-00-T1DUP	Percent Solids for Spike Sample:	90.9

Analyte	Units	Acceptance Limit	Sample Result	Conc. Qualifier	Duplicate Result	Conc. Qualifier	Dilution Factor	RPD/AD	Qual	Analysis Date
pH	pH	+/-20	6.74		6.75		1	0.15		02/06/2025

Duplicate Sample Summary

Client: Weston Solutions	SDG No.: Q1295
Project: Ft Meade Tipton Airfield Parcel RI - PO 0111169	Sample ID: Q1295-01
Client ID: TAPFTA-SB01D-020425-00-T1MSD	Percent Solids for Spike Sample: 90.9

Analyte	Units	Acceptance Limit	Sample Result	Conc. Qualifier	Duplicate Result	Conc. Qualifier	Dilution Factor	RPD/AD	Qual	Analysis Date
Bromide	mg/Kg	+/-15	219		218		1	0		02/05/2025
Fluoride	mg/Kg	+/-15	40.1		40.1		1	0		02/05/2025
Nitrate	mg/Kg	+/-15	54.7		54.7		1	0		02/05/2025
Nitrite	mg/Kg	+/-15	65.5		65.6		1	0		02/05/2025
Orthophosphate as P	mg/Kg	+/-15	81.7		81.2		1	1		02/05/2025
Sulfate	mg/Kg	+/-15	327		325		1	1		02/05/2025
Chloride	mg/Kg	+/-15	68.3		70.3		1	3		02/05/2025
TOC	mg/Kg	+/-20	4860		4850		1	0		02/10/2025

Laboratory Control Sample Summary

Client:	Weston Solutions	SDG No.:	Q1295
Project:	Ft Meade Tipton Airfield Parcel RI - PO 0111169	Run No.:	LB134598

Analyte	Units	True Value	Result	Conc. Qualifier	% Recovery	Dilution Factor	Acceptance Limit %R	Analysis Date
Sample ID	LB134598BSS							
Bromide	mg/Kg	200	206		103	1	90-110	02/05/2025
Chloride	mg/Kg	60	61.6		103	1	90-110	02/05/2025
Fluoride	mg/Kg	40	40.8		102	1	90-110	02/05/2025
Nitrite	mg/Kg	60	61.4		102	1	90-110	02/05/2025
Nitrate	mg/Kg	50	51.4		103	1	90-110	02/05/2025
Sulfate	mg/Kg	300	305		102	1	90-110	02/05/2025
Orthophosphate as P	mg/Kg	100	101		101	1	90-110	02/05/2025

Laboratory Control Sample Summary

Client:	Weston Solutions	SDG No.:	Q1295
Project:	Ft Meade Tipton Airfield Parcel RI - PO 0111169	Run No.:	LB134653

Analyte	Units	True Value	Result	Conc. Qualifier	% Recovery	Dilution Factor	Acceptance Limit %R	Analysis Date
Sample ID	LB134653BSS							
TOC	mg/Kg	1000	1010		101	1	90-110	02/10/2025



RAW DATA

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Analytical Summary Report

Analysis Method: 9045D

Analyst By : jignesh

Parameter: pH

Supervisor Review By : Iwona

Run Number: LB134597

Slope : 98.3

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)	W3161
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	20.2	4.01	02/06/2025	08:30
2	CAL2	1	Water	NA	NA	20.2	7.00	02/06/2025	08:31
3	CAL3	1	Water	NA	NA	20.3	10.02	02/06/2025	08:35
4	ICV	1	Water	NA	NA	20.3	7.00	02/06/2025	08:40
5	CCV1	1	Water	NA	NA	20.2	2.01	02/06/2025	08:45
6	Q1295-01	1	Solid	20.02	20	20.9	6.74	02/06/2025	08:55
7	Q1295-01DUP	1	Solid	20.03	20	20.8	6.75	02/06/2025	08:56
8	CCV2	1	Water	NA	NA	20.3	12.02	02/06/2025	09:00

WORKLIST(Hardcopy Internal Chain)

18734597

WorkList Name : ph q1295 WorkList ID : 187511 Department : Wet-Chemistry Date : 02-06-2025 08:21:45

Sample	Customer Sample	Matrix	Test	Preservative	Customer	Raw Sample Storage Location	Collect Date	Method
Q1295-01	TAPFTA-SB01D-020425-00-T1	Solid	pH	Cool 4 deg C	WEST04	N41	02/04/2025	9045D

Date/Time 02/06/25 08:25
Raw Sample Received by: JH WOC
Raw Sample Relinquished by: JH SM

Date/Time 02/06/25 10:30
Raw Sample Received by: JH SM
Raw Sample Relinquished by: JH WOC

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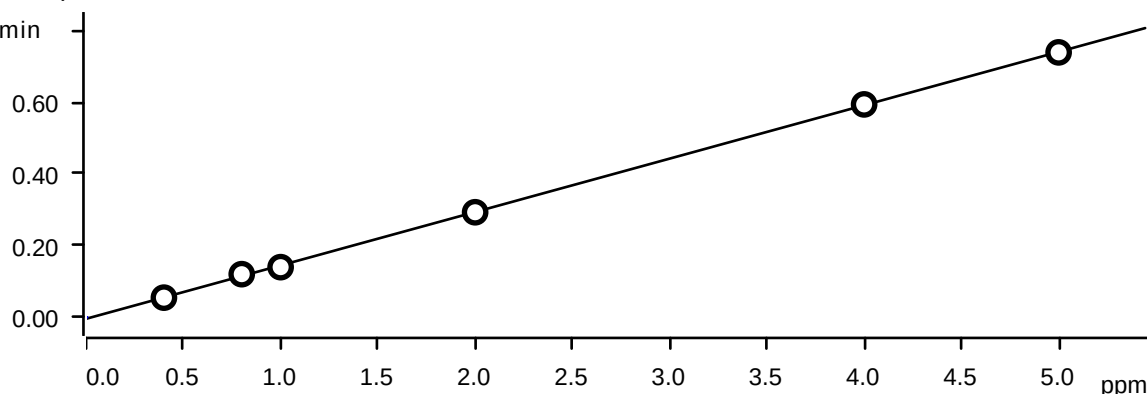
Instrument II		IC-1	Analyst :		NF	Method: 00.0 / 9056A		Method name		date time	initial wt/Final Vc
Ident	Con F-	Con CL-	Con NO2	Con BR-	Con NO3	Con HPO4	Con SO4				
STD1	0	0	0	0	0	0	0	IC1-012025		1/20/2025 11:14	10
STD2	0.396	0.602	0.613	2.019	0.511	0.994	3.09	IC1-012025		1/20/2025 11:36	10
STD3	0.835	1.258	1.254	4.184	1.047	2.089	6.324	IC1-012025		1/20/2025 11:57	10
STD4	0.967	1.463	1.466	4.879	1.221	2.469	7.299	IC1-012025		1/20/2025 12:18	10
STD5	1.996	2.973	2.959	9.912	2.468	4.936	14.741	IC1-012025		1/20/2025 12:40	10
STD6	4.016	5.977	5.973	19.887	4.964	9.97	29.788	IC1-012025		1/20/2025 13:01	10
STD7	4.99	7.527	7.535	25.119	6.289	12.542	37.258	IC1-012025		1/20/2025 13:23	10
ICV	2.059	3.086	3.062	10.267	2.569	5.158	15.361	IC1-012025		1/20/2025 13:44	10
ICB	0	0	0	0	0	0	0	IC1-012025		1/20/2025 14:06	10
CCV	2.051	3.073	3.057	10.27	2.561	5.041	15.232	IC1-012025		2/5/2025 14:27	10
CCB	0	0	0	0	0	0	0	IC1-012025		2/5/2025 14:48	10
LB134598BLW	0	0	0	0	0	0	0	IC1-012025		2/5/2025 15:10	5.00g/100mL
LB134598BSW	2.041	3.079	3.071	10.298	2.569	5.069	15.267	IC1-012025		2/5/2025 15:31	5.00g/100mL
Q1295-01	0.108	0.177	0	0	0	0	0.51	IC1-012025		2/5/2025 15:53	5.00g/100mL
Q1295-01MS	1.824	3.112	2.982	9.982	2.492	3.719	14.876	IC1-012025		2/5/2025 16:14	5.01g/100mL
Q1295-01MSD	1.826	3.202	2.988	9.945	2.491	3.696	14.822	IC1-012025		2/5/2025 16:36	5.01g/100mL
CCV	2.002	3.071	3.064	10.25	2.569	5.112	15.222	IC1-012025		2/5/2025 16:57	10
CCB	0	0	0	0	0	0	0	IC1-012025		2/5/2025 17:19	10

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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	date time	Initial wt/ Final	Analyst								
STD1	0	0	0	0	0	0	0	0 IC1-012025	1/20/2025 11:14	10	NF/IZ								
STD2	0.396	0.602	0.613	2.019	0.511	0.994	3.09	IC1-012025	1/20/2025 11:36	10	NF/IZ								
STD3	0.835	1.258	1.254	4.184	1.047	2.089	6.324	IC1-012025	1/20/2025 11:57	10	NF/IZ								
STD4	0.967	1.463	1.466	4.879	1.221	2.469	7.299	IC1-012025	1/20/2025 12:18	10	NF/IZ								
STD5	1.996	2.973	2.959	9.912	2.468	4.936	14.741	IC1-012025	1/20/2025 12:40	10	NF/IZ								
STD6	4.016	5.977	5.973	19.887	4.964	9.97	29.788	IC1-012025	1/20/2025 13:01	10	NF/IZ								
STD7	4.99	7.527	7.535	25.119	6.289	12.542	37.258	IC1-012025	1/20/2025 13:23	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												
STD1	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000												
STD2	0.4000	0.6000	0.6000	2.0000	0.5000	1.0000	3.0000												
STD3	0.8000	1.2000	1.2000	4.0000	1.0000	2.0000	6.0000												
STD4	1.0000	1.5000	1.5000	5.0000	1.2500	2.5000	7.5000												
STD5	2.0000	3.0000	3.0000	10.0000	2.5000	5.0000	15.0000												
STD6	4.0000	6.0000	6.0000	20.0000	5.0000	10.0000	30.0000												
STD7	5.0000	7.5000	7.5000	25.0000	6.2500	12.5000	37.0000												
ident	Relative Error F-	Relative Error CL-	Relative Error NO2	Relative Error BR-	Relative Error NO3	Relative Error HPO4	Relative Error SO4												
STD1	-1.0000	0.3333	2.1667	0.9500	2.2000	-0.6000	3.0000												
STD2	4.3750	4.8333	4.5000	4.6000	4.7000	4.4500	5.4000												
STD3	-3.3000	-2.4667	-2.2667	-2.4200	-2.3200	-1.2400	-2.6800												
STD4	-0.2000	-0.9000	-1.3667	-0.8800	-1.2800	-1.2800	-1.7267												
STD5	0.4000	-0.3833	-0.4500	-0.5650	-0.7200	-0.3000	-0.7067												
STD6	-0.2000	0.3600	0.4667	0.4760	0.6240	0.3360	0.6973												

Fluoride (Anions)

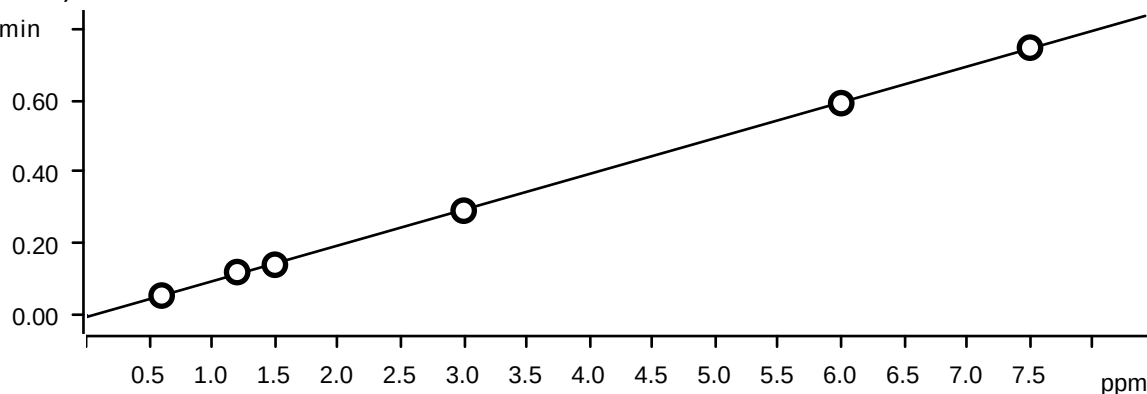
 $(\mu\text{S}/\text{cm}) \times \text{min}$ Function: $A = -4.02271E-3 + 0.0148839 \times Q$

Relative standard deviation 1.203859 %

Correlation coefficient 0.999923

Sample type	Index	Conc.	Volume	Dilution	Sample amount	Area	Ident	Date	Used
Standard 1	1	0.000	10.0	1.0	1.0	n. d.	STD1	2025-01-20 11:14:39 UTC-5	used
Standard 2	1	0.400	10.0	1.0	1.0	0.055	STD2	2025-01-20 11:36:02 UTC-5	used
Standard 3	1	0.800	10.0	1.0	1.0	0.120	STD3	2025-01-20 11:57:26 UTC-5	used
Standard 4	1	1.000	10.0	1.0	1.0	0.140	STD4	2025-01-20 12:18:50 UTC-5	used
Standard 5	1	2.000	10.0	1.0	1.0	0.293	STD5	2025-01-20 12:40:15 UTC-5	used
Standard 6	1	4.000	10.0	1.0	1.0	0.594	STD6	2025-01-20 13:01:41 UTC-5	used
Standard 7	1	5.000	10.0	1.0	1.0	0.739	STD7	2025-01-20 13:23:08 UTC-5	used

Chloride (Anions)

 $(\mu\text{S}/\text{cm}) \times \text{min}$ Function: $A = -4.62538E-3 + 9.98029E-3 \times Q$

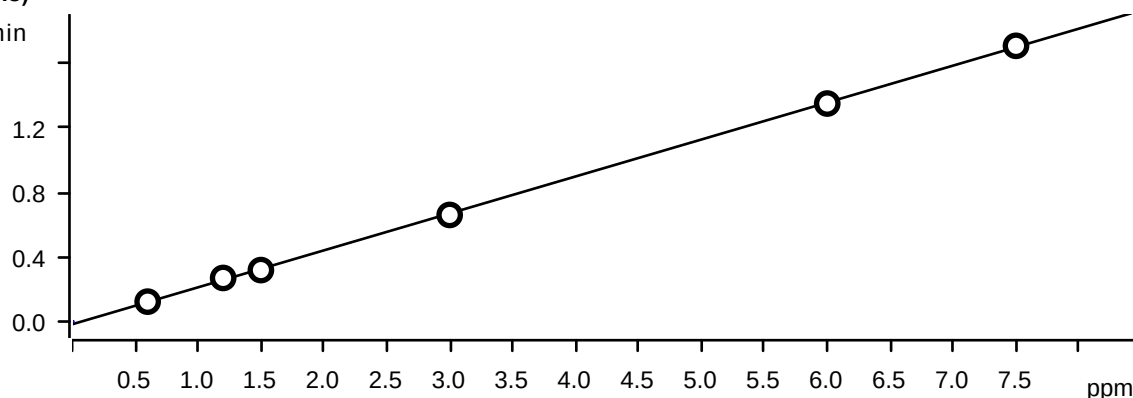
Relative standard deviation 1.261416 %

Correlation coefficient 0.999916

Sample type	Index	Conc.	Volume	Dilution	Sample amount	Area	Ident	Date	Used
Standard 1	1	0.000	10.0	1.0	1.0	n. d.	STD1	2025-01-20 11:14:39 UTC-5	used
Standard 2	1	0.600	10.0	1.0	1.0	0.055	STD2	2025-01-20 11:36:02 UTC-5	used
Standard 3	1	1.200	10.0	1.0	1.0	0.121	STD3	2025-01-20 11:57:26 UTC-5	used
Standard 4	1	1.500	10.0	1.0	1.0	0.141	STD4	2025-01-20 12:18:50 UTC-5	used
Standard 5	1	3.000	10.0	1.0	1.0	0.292	STD5	2025-01-20 12:40:15 UTC-5	used
Standard 6	1	6.000	10.0	1.0	1.0	0.592	STD6	2025-01-20 13:01:41 UTC-5	used
Standard 7	1	7.500	10.0	1.0	1.0	0.747	STD7	2025-01-20 13:23:08 UTC-5	used

Nitrite (Anions)

(μS/cm) x min

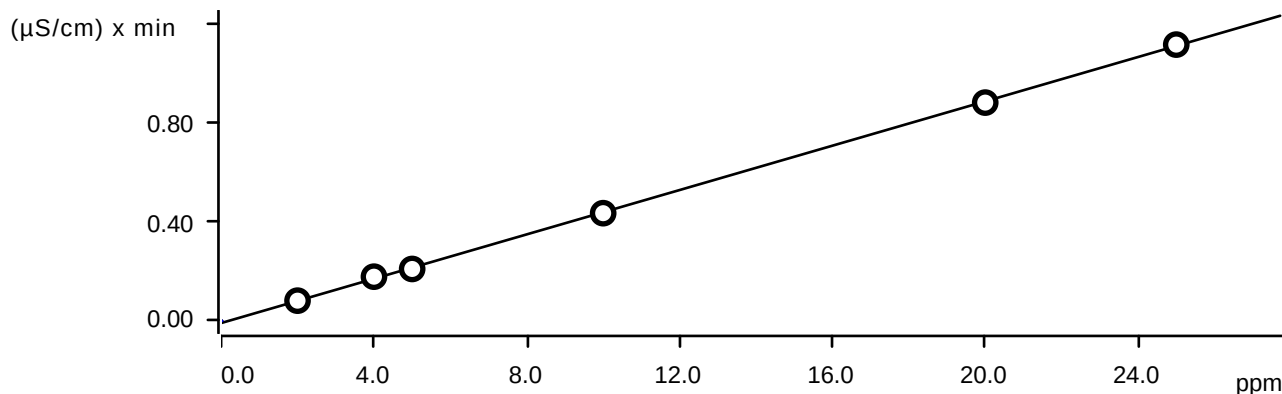
Function: $A = -0.0179856 + 0.0228967 \times Q$

Relative standard deviation 1.369596 %

Correlation coefficient 0.999903

Sample type	Index	Conc.	Volume	Dilution	Sample amount	Area	Ident	Date	Used
Standard 1	1	0.000	10.0	1.0	1.0	n. d.	STD1	2025-01-20 11:14:39 UTC-5	used
Standard 2	1	0.600	10.0	1.0	1.0	0.122	STD2	2025-01-20 11:36:02 UTC-5	used
Standard 3	1	1.200	10.0	1.0	1.0	0.269	STD3	2025-01-20 11:57:26 UTC-5	used
Standard 4	1	1.500	10.0	1.0	1.0	0.318	STD4	2025-01-20 12:18:50 UTC-5	used
Standard 5	1	3.000	10.0	1.0	1.0	0.660	STD5	2025-01-20 12:40:15 UTC-5	used
Standard 6	1	6.000	10.0	1.0	1.0	1.350	STD6	2025-01-20 13:01:41 UTC-5	used
Standard 7	1	7.500	10.0	1.0	1.0	1.707	STD7	2025-01-20 13:23:08 UTC-5	used

Bromide (Anions)



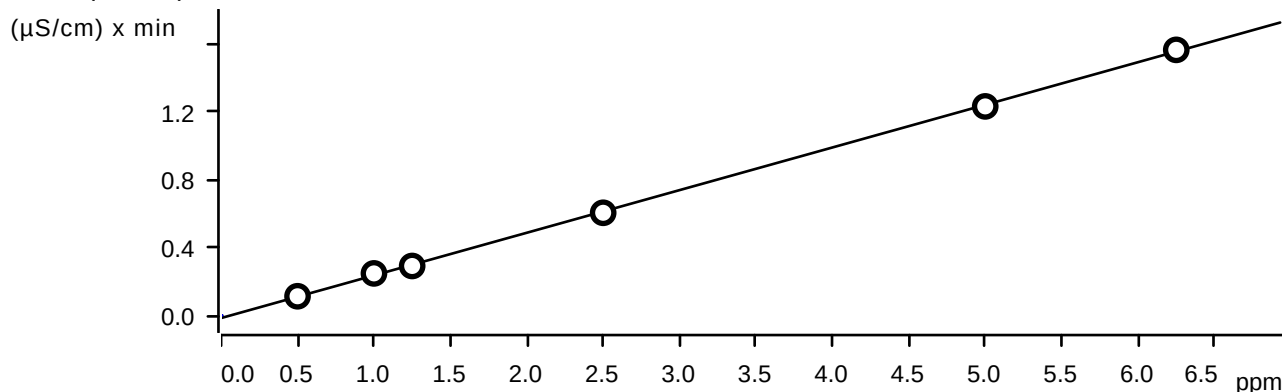
Function: $A = -8.89651E-3 + 4.46429E-3 \times Q$

Relative standard deviation 1.338167 %

Correlation coefficient 0.999906

Sample type	Index	Conc.	Volume	Dilution	Sample amount	Area	Ident	Date	Used
Standard 1	1	0.000	10.0	1.0	1.0	n. d.	STD1	2025-01-20 11:14:39 UTC-5	used
Standard 2	1	2.000	10.0	1.0	1.0	0.081	STD2	2025-01-20 11:36:02 UTC-5	used
Standard 3	1	4.000	10.0	1.0	1.0	0.178	STD3	2025-01-20 11:57:26 UTC-5	used
Standard 4	1	5.000	10.0	1.0	1.0	0.209	STD4	2025-01-20 12:18:50 UTC-5	used
Standard 5	1	10.000	10.0	1.0	1.0	0.434	STD5	2025-01-20 12:40:15 UTC-5	used
Standard 6	1	20.000	10.0	1.0	1.0	0.879	STD6	2025-01-20 13:01:41 UTC-5	used
Standard 7	1	25.000	10.0	1.0	1.0	1.112	STD7	2025-01-20 13:23:08 UTC-5	used

Nitrate (Anions)

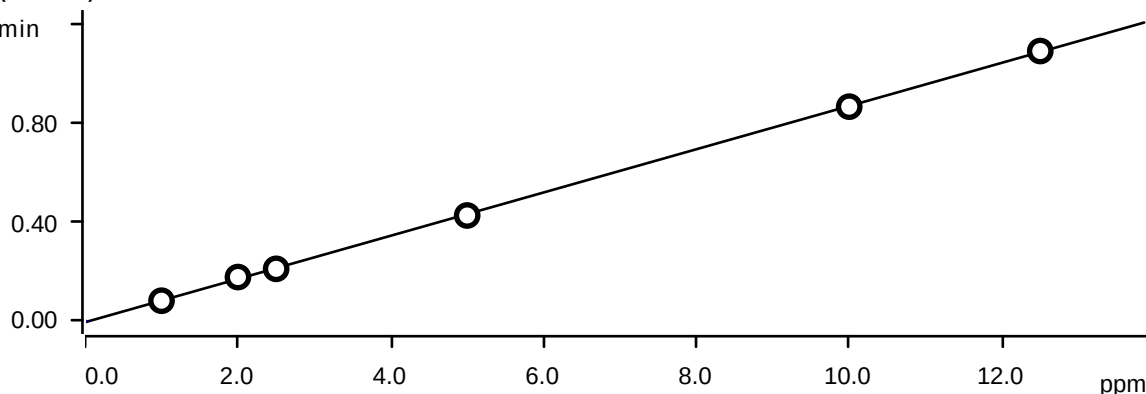


Function: $A = -0.0155875 + 0.0250988 \times Q$

Relative standard deviation 1.561944 %

Correlation coefficient 0.999873

Sample type	Index	Conc.	Volume	Dilution	Sample amount	Area	Ident	Date	Used
Standard 1	1	0.000	10.0	1.0	1.0	n. d.	STD1	2025-01-20 11:14:39 UTC-5	used
Standard 2	1	0.500	10.0	1.0	1.0	0.113	STD2	2025-01-20 11:36:02 UTC-5	used
Standard 3	1	1.000	10.0	1.0	1.0	0.247	STD3	2025-01-20 11:57:26 UTC-5	used
Standard 4	1	1.250	10.0	1.0	1.0	0.291	STD4	2025-01-20 12:18:50 UTC-5	used
Standard 5	1	2.500	10.0	1.0	1.0	0.604	STD5	2025-01-20 12:40:15 UTC-5	used
Standard 6	1	5.000	10.0	1.0	1.0	1.230	STD6	2025-01-20 13:01:41 UTC-5	used
Standard 7	1	6.250	10.0	1.0	1.0	1.563	STD7	2025-01-20 13:23:08 UTC-5	used

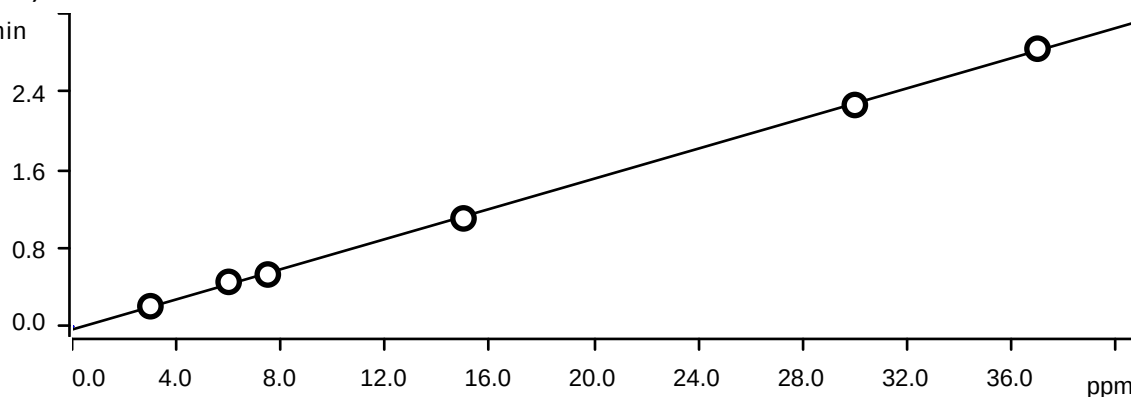
Phosphate (Anions) $(\mu\text{S}/\text{cm}) \times \text{min}$ Function: $A = -4.38887E-3 + 8.70711E-3 \times Q$

Relative standard deviation 1.148005 %

Correlation coefficient 0.999929

Sample type	Index	Conc.	Volume	Dilution	Sample amount	Area	Ident	Date	Used
Standard 1	1	0.000	10.0	1.0	1.0	n. d.	STD1	2025-01-20 11:14:39 UTC-5	used
Standard 2	1	1.000	10.0	1.0	1.0	0.082	STD2	2025-01-20 11:36:02 UTC-5	used
Standard 3	1	2.000	10.0	1.0	1.0	0.177	STD3	2025-01-20 11:57:26 UTC-5	used
Standard 4	1	2.500	10.0	1.0	1.0	0.211	STD4	2025-01-20 12:18:50 UTC-5	used
Standard 5	1	5.000	10.0	1.0	1.0	0.425	STD5	2025-01-20 12:40:15 UTC-5	used
Standard 6	1	10.000	10.0	1.0	1.0	0.864	STD6	2025-01-20 13:01:41 UTC-5	used
Standard 7	1	12.500	10.0	1.0	1.0	1.088	STD7	2025-01-20 13:23:08 UTC-5	used

Sulfate (Anions)

 $(\mu\text{S}/\text{cm}) \times \text{min}$ Function: $A = -0.0310554 + 7.70543E-3 \times Q$

Relative standard deviation 1.797524 %

Correlation coefficient 0.999831

Sample type	Index	Conc.	Volume	Dilution	Sample amount	Area	Ident	Date	Used
Standard 1	1	0.000	10.0	1.0	1.0	n. d.	STD1	2025-01-20 11:14:39 UTC-5	used
Standard 2	1	3.000	10.0	1.0	1.0	0.207	STD2	2025-01-20 11:36:02 UTC-5	used
Standard 3	1	6.000	10.0	1.0	1.0	0.456	STD3	2025-01-20 11:57:26 UTC-5	used
Standard 4	1	7.500	10.0	1.0	1.0	0.531	STD4	2025-01-20 12:18:50 UTC-5	used
Standard 5	1	15.000	10.0	1.0	1.0	1.105	STD5	2025-01-20 12:40:15 UTC-5	used
Standard 6	1	30.000	10.0	1.0	1.0	2.264	STD6	2025-01-20 13:01:41 UTC-5	used
Standard 7	1	37.000	10.0	1.0	1.0	2.840	STD7	2025-01-20 13:23:08 UTC-5	used

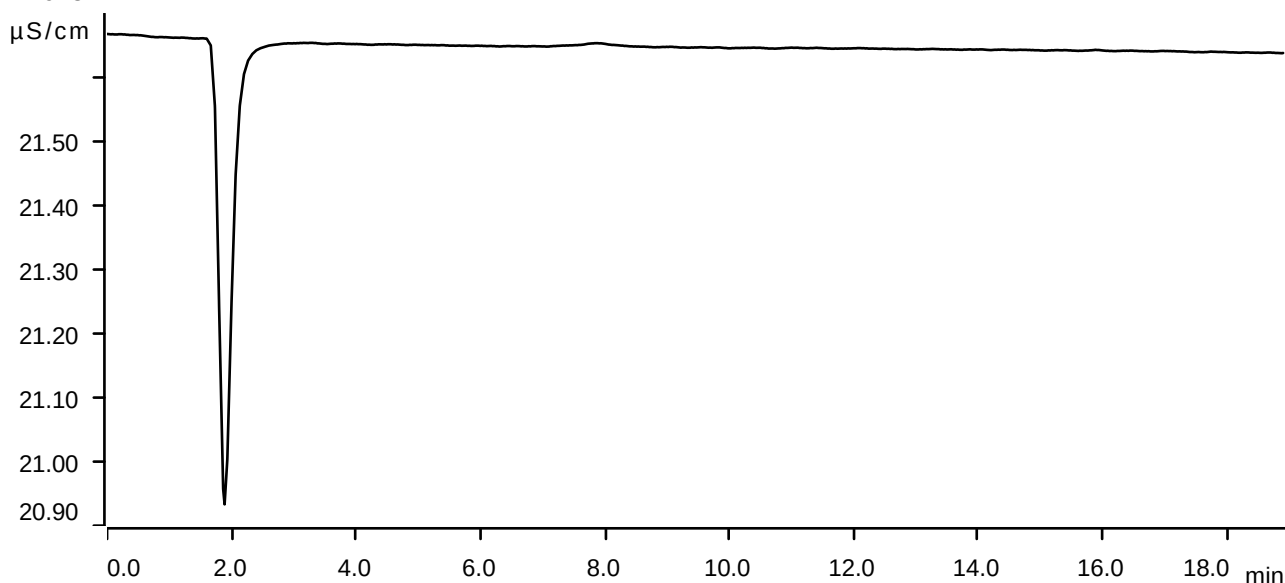
Sample data

Ident STD1
Sample type Standard 1
Determination start 2025-01-20 11:14:39 UTC-5
Method IC1-012025
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 12.39 MPa
Maximum pressure monitored yes
Temperature ---- °C

Anions



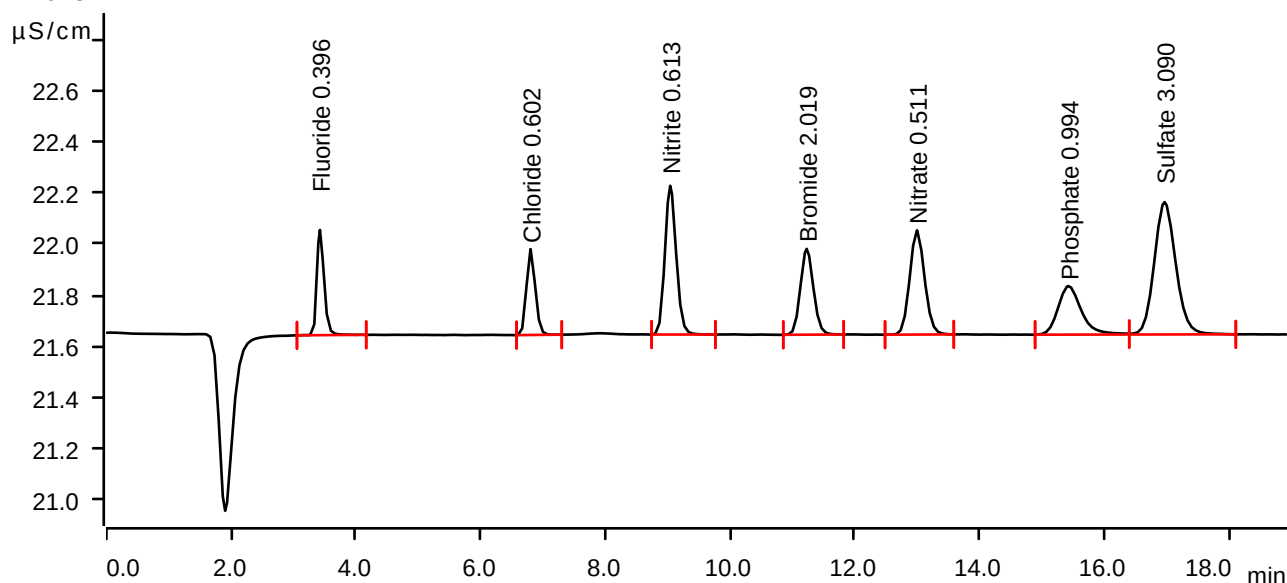
Sample data

Ident STD2
Sample type Standard 2
Determination start 2025-01-20 11:36:02 UTC-5
Method IC1-012025
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 12.11 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	3.425	0.0549	0.411	0.396	Fluoride
2	6.802	0.0555	0.335	0.602	Chloride
3	9.040	0.1223	0.581	0.613	Nitrite
4	11.228	0.0813	0.335	2.019	Bromide
5	12.995	0.1126	0.407	0.511	Nitrate
6	15.423	0.0822	0.190	0.994	Phosphate
7	16.967	0.2070	0.517	3.090	Sulfate

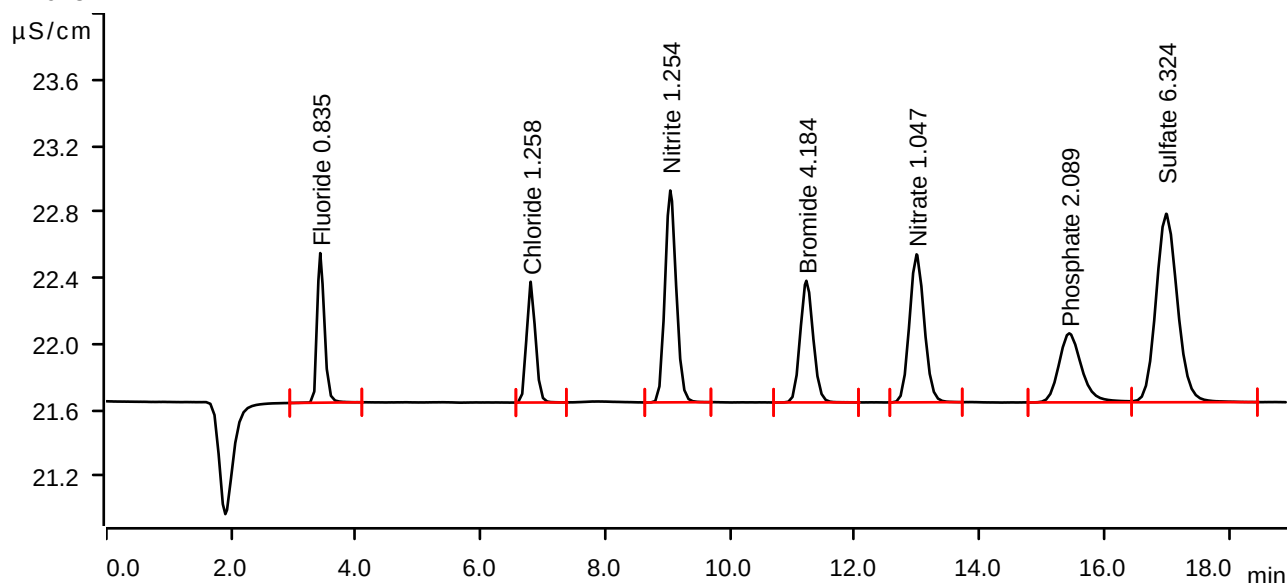
Sample data

Ident STD3
Sample type Standard 3
Determination start 2025-01-20 11:57:26 UTC-5
Method IC1-012025
Operator

Anions

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

Anions



Peak number	Retention time min	Area (µS/cm) x min	Height µS/cm	Concentration ppm	Component name
1	3.430	0.1203	0.906	0.835	Fluoride
2	6.803	0.1209	0.731	1.258	Chloride
3	9.042	0.2691	1.282	1.254	Nitrite
4	11.223	0.1779	0.736	4.184	Bromide
5	12.990	0.2472	0.896	1.047	Nitrate
6	15.438	0.1775	0.418	2.089	Phosphate
7	16.992	0.4562	1.141	6.324	Sulfate

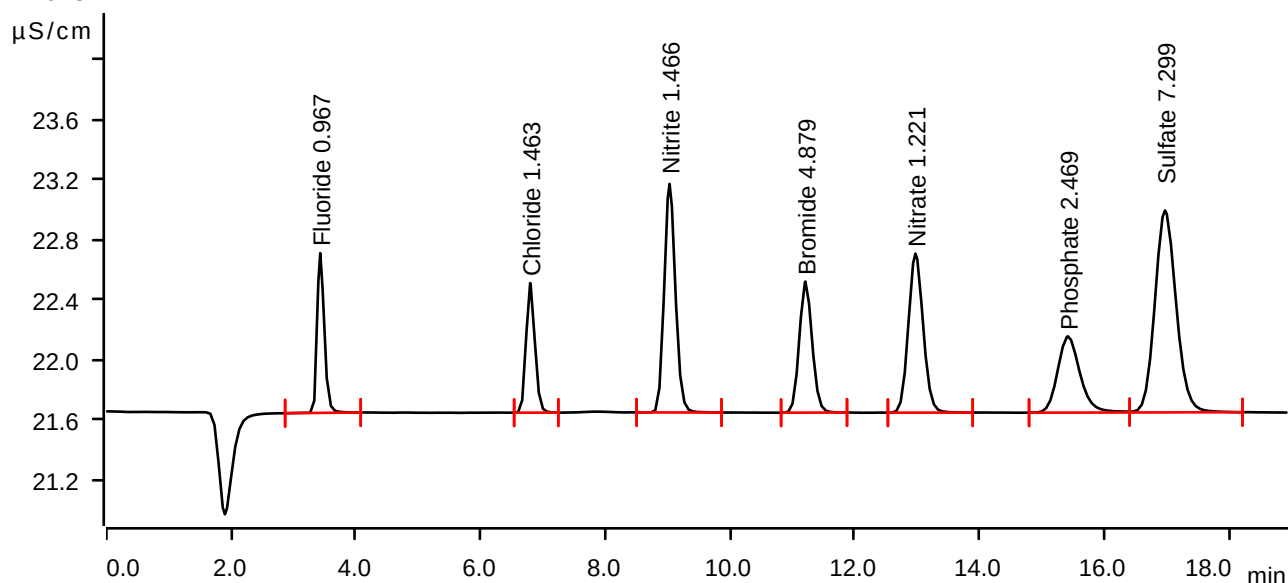
Sample data

Ident STD4
Sample type Standard 4
Determination start 2025-01-20 12:18:50 UTC-5
Method IC1-012025
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 12.11 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	3.430	0.1399	1.061	0.967	Fluoride
2	6.795	0.1414	0.860	1.463	Chloride
3	9.030	0.3178	1.517	1.466	Nitrite
4	11.208	0.2089	0.870	4.879	Bromide
5	12.972	0.2908	1.056	1.221	Nitrate
6	15.417	0.2105	0.506	2.469	Phosphate
7	16.973	0.5314	1.341	7.299	Sulfate

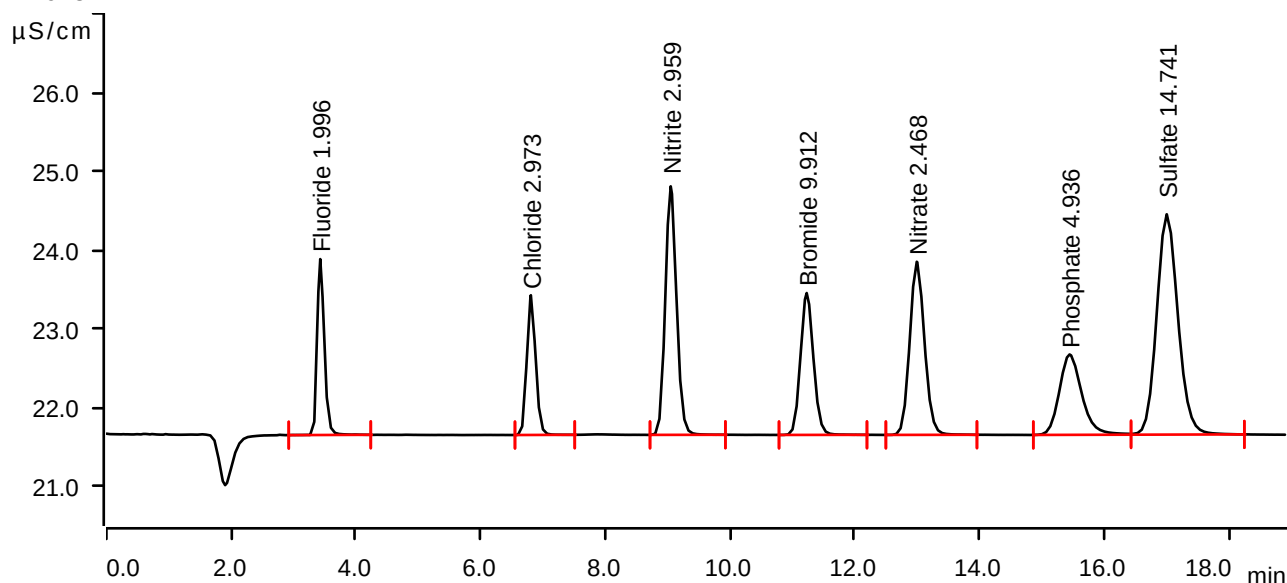
Sample data

Ident STD5
Sample type Standard 5
Determination start 2025-01-20 12:40:15 UTC-5
Method IC1-012025
Operator

Anions

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

Anions



Peak number	Retention time min	Area (µS/cm) x min	Height µS/cm	Concentration ppm	Component name
1	3.430	0.2930	2.233	1.996	Fluoride
2	6.807	0.2921	1.773	2.973	Chloride
3	9.048	0.6595	3.154	2.959	Nitrite
4	11.228	0.4336	1.801	9.912	Bromide
5	12.993	0.6039	2.197	2.468	Nitrate
6	15.443	0.4254	1.020	4.936	Phosphate
7	17.002	1.1048	2.795	14.741	Sulfate

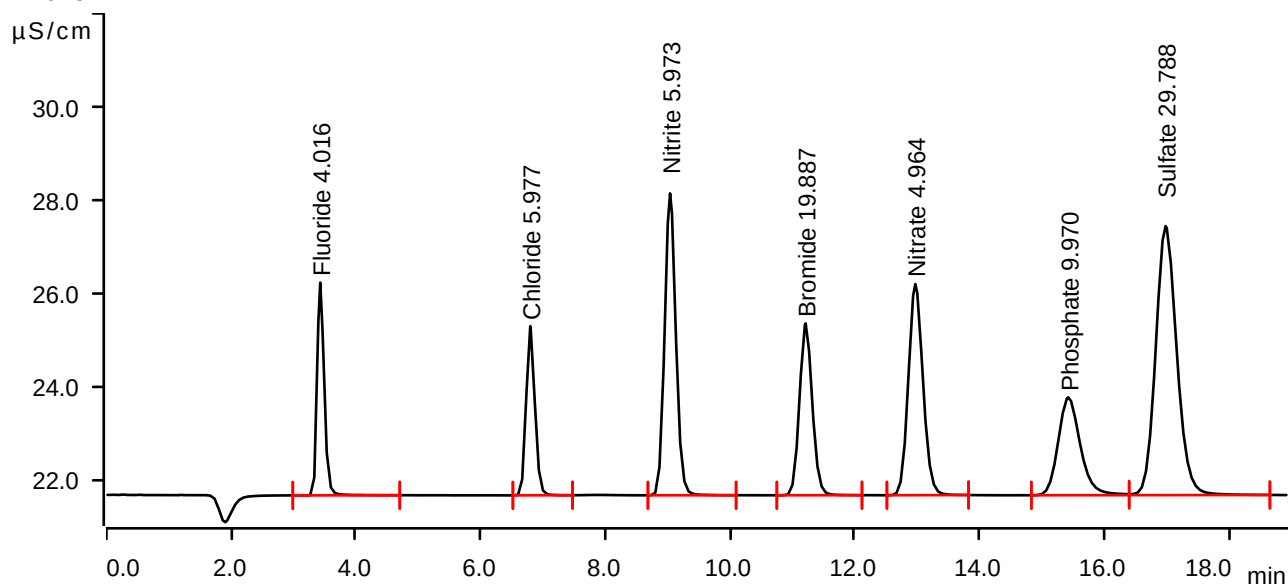
Sample data

Ident STD6
Sample type Standard 6
Determination start 2025-01-20 13:01:41 UTC-5
Method IC1-012025
Operator

Anions

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

Anions



Peak number	Retention time min	Area (µS/cm) x min	Height µS/cm	Concentration ppm	Component name
1	3.430	0.5937	4.568	4.016	Fluoride
2	6.797	0.5919	3.633	5.977	Chloride
3	9.038	1.3497	6.484	5.973	Nitrite
4	11.212	0.8789	3.691	19.887	Bromide
5	12.970	1.2302	4.535	4.964	Nitrate
6	15.423	0.8637	2.101	9.970	Phosphate
7	16.983	2.2643	5.777	29.788	Sulfate

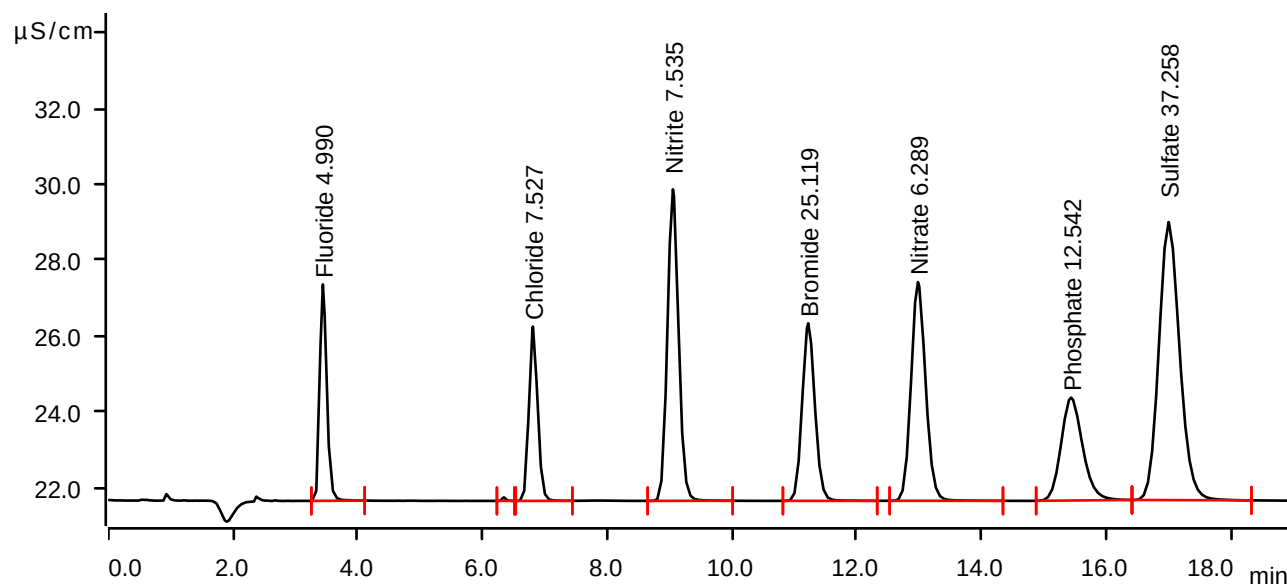
Sample data

Ident STD7
Sample type Standard 7
Determination start 2025-01-20 13:23:08 UTC-5
Method IC1-012025
Operator

Anions

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

Anions



Peak number	Retention time min	Area ($\mu\text{S}/\text{cm}$) x min	Height $\mu\text{S}/\text{cm}$	Concentration ppm	Component name
1	3.440	0.7387	5.703	4.990	Fluoride
2	6.342	0.0051	0.093	invalid	
3	6.808	0.7466	4.595	7.527	Chloride
4	9.052	1.7073	8.209	7.535	Nitrite
5	11.222	1.1125	4.681	25.119	Bromide
6	12.980	1.5629	5.766	6.289	Nitrate
7	15.435	1.0877	2.713	12.542	Phosphate
8	16.998	2.8398	7.327	37.258	Sulfate

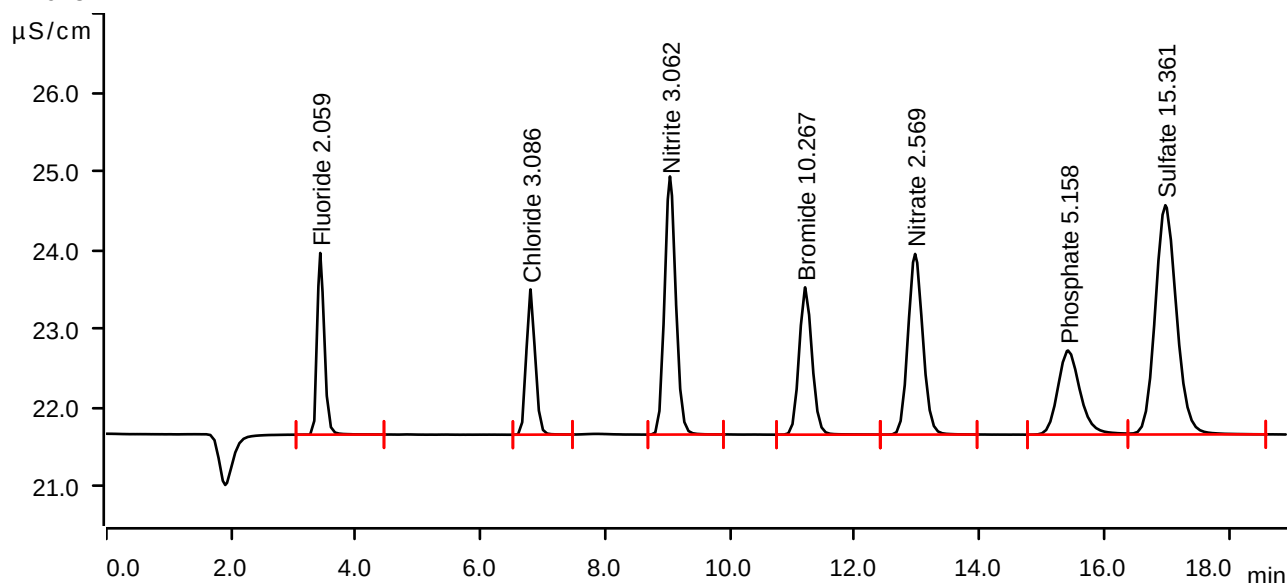
Sample data

Ident ICV
Sample type Check standard 1
Determination start 2025-01-20 13:44:36 UTC-5
Method IC1-012025
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 11.88 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	3.430	0.3025	2.306	2.059	Fluoride
2	6.798	0.3033	1.843	3.086	Chloride
3	9.037	0.6832	3.276	3.062	Nitrite
4	11.205	0.4495	1.869	10.267	Bromide
5	12.967	0.6293	2.293	2.569	Nitrate
6	15.418	0.4447	1.067	5.158	Phosphate
7	16.978	1.1525	2.909	15.361	Sulfate

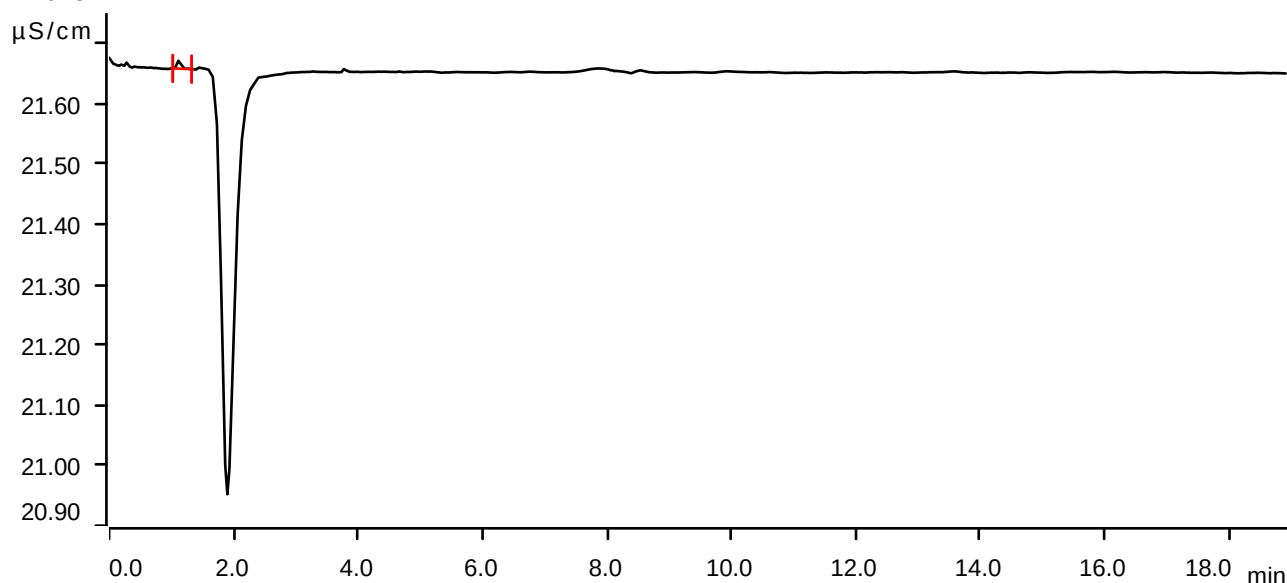
Sample data

Ident ICB
Sample type Sample
Determination start 2025-01-20 14:06:05 UTC-5
Method IC1-012025
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 12.44 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	1.115	0.0010	0.013	invalid	

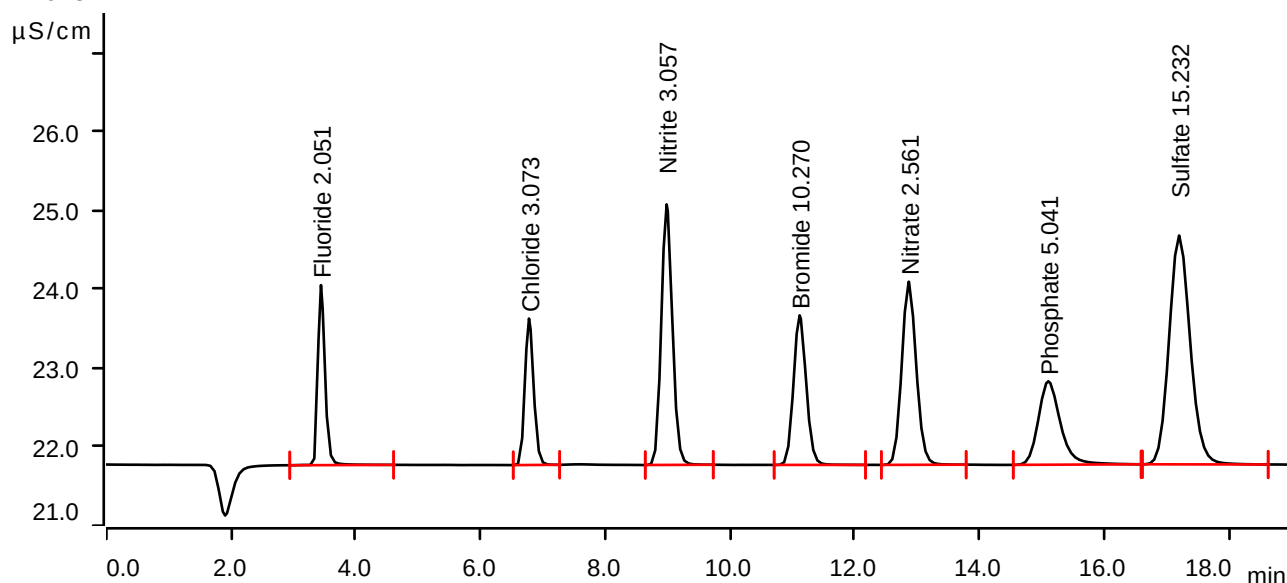
Sample data

Ident CCV
Sample type Check standard 1
Determination start 2025-02-05 14:27:20 UTC-5
Method IC1-012025
Operator

Anions

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

Anions



Peak number	Retention time min	Area (µS/cm) x min	Height µS/cm	Concentration ppm	Component name
1	3.442	0.3012	2.284	2.051	Fluoride
2	6.777	0.3020	1.859	3.073	Chloride
3	8.983	0.6820	3.306	3.057	Nitrite
4	11.115	0.4496	1.898	10.270	Bromide
5	12.863	0.6272	2.324	2.561	Nitrate
6	15.102	0.4345	1.059	5.041	Phosphate
7	17.198	1.1426	2.904	15.232	Sulfate

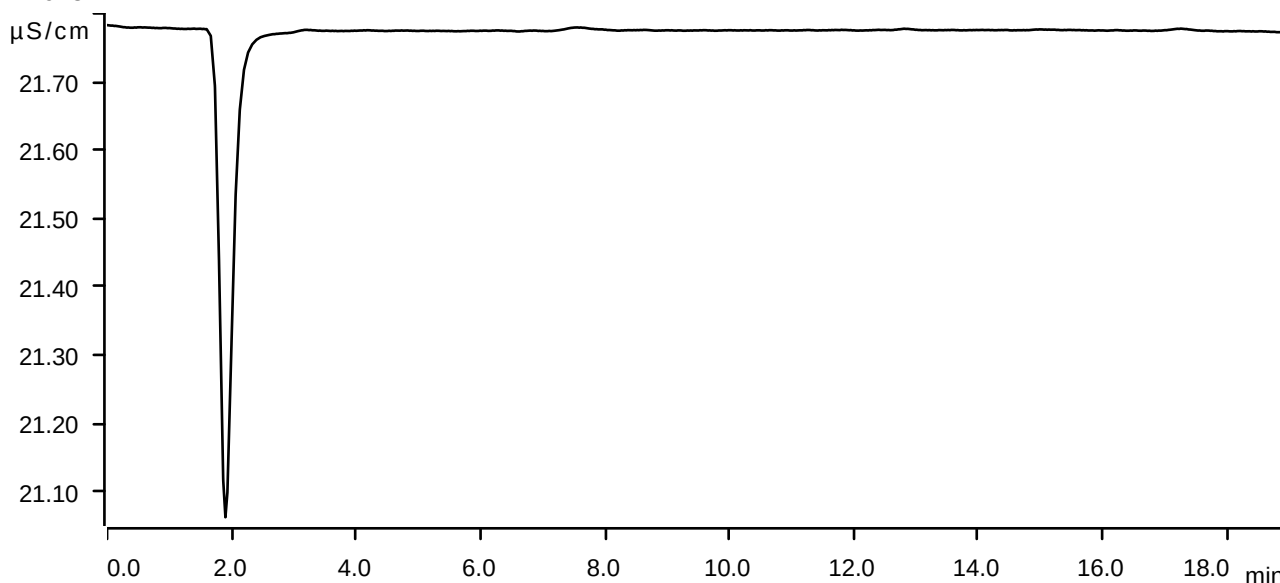
Sample data

Ident CCB
Sample type Sample
Determination start 2025-02-05 14:48:42 UTC-5
Method IC1-012025
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 11.43 MPa
Maximum pressure monitored yes
Temperature ---- °C

Anions



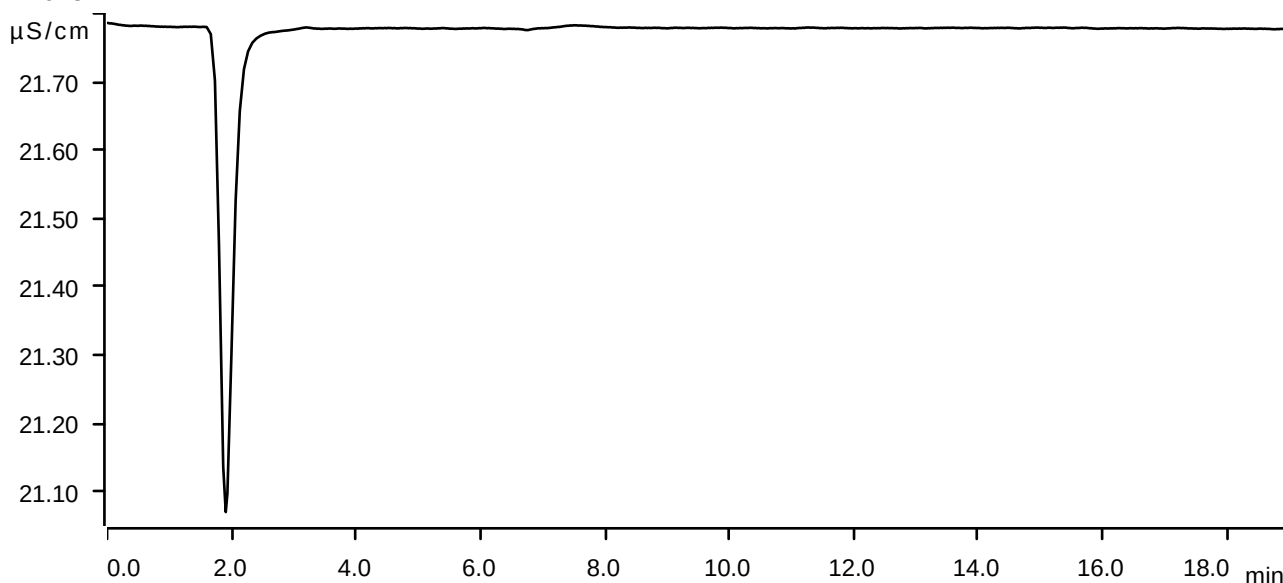
Sample data

Ident LB134598BLW
Sample type Sample
Determination start 2025-02-05 15:10:13 UTC-5
Method IC1-012025
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



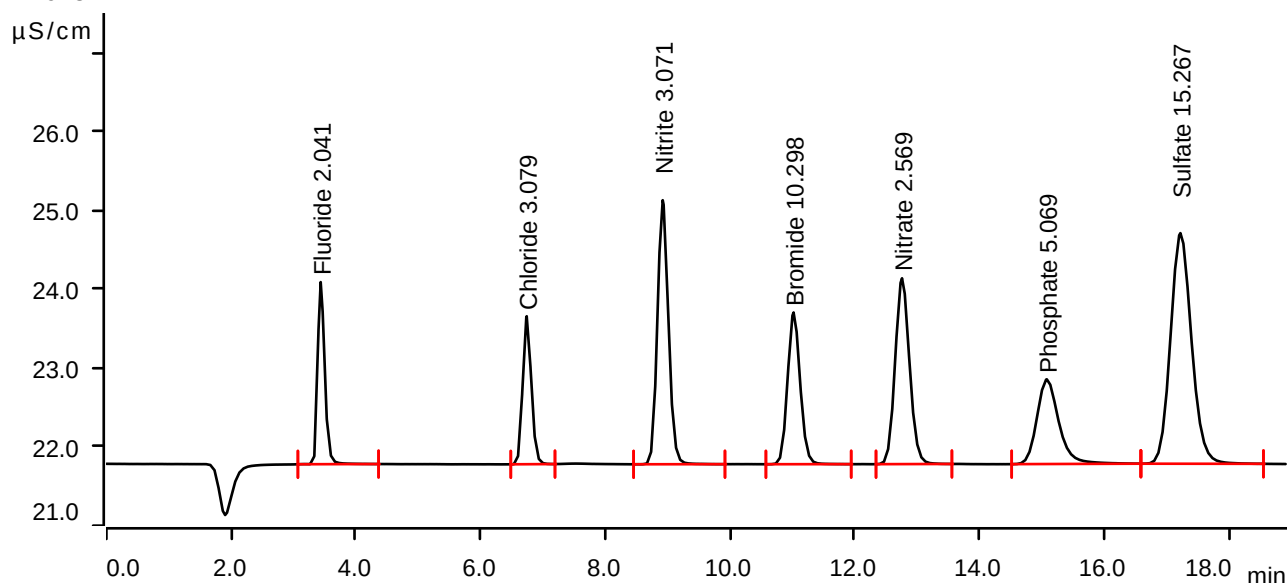
Sample data

Ident LB134598BSW
Sample type Check standard 1
Determination start 2025-02-05 15:31:44 UTC-5
Method IC1-012025
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	3.437	0.2997	2.311	2.041	Fluoride
2	6.740	0.3027	1.878	3.079	Chloride
3	8.920	0.6851	3.351	3.071	Nitrite
4	11.018	0.4508	1.926	10.298	Bromide
5	12.757	0.6291	2.359	2.569	Nitrate
6	15.078	0.4370	1.075	5.069	Phosphate
7	17.220	1.1453	2.927	15.267	Sulfate

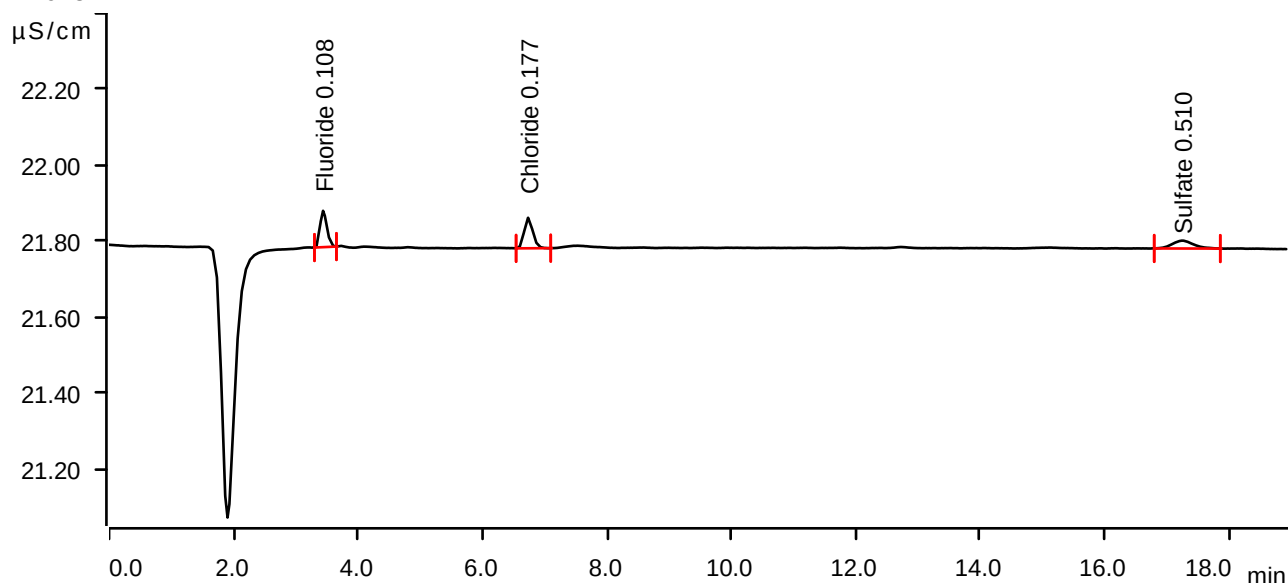
Sample data

Ident Q1295-01
Sample type Sample
Determination start 2025-02-05 15:53:17 UTC-5
Method IC1-012025
Operator

Anions

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

Anions



Peak number	Retention time min	Area (µS/cm) x min	Height µS/cm	Concentration ppm	Component name
1	3.440	0.0120	0.096	0.108	Fluoride
2	6.735	0.0130	0.080	0.177	Chloride
3	17.237	0.0082	0.021	0.510	Sulfate

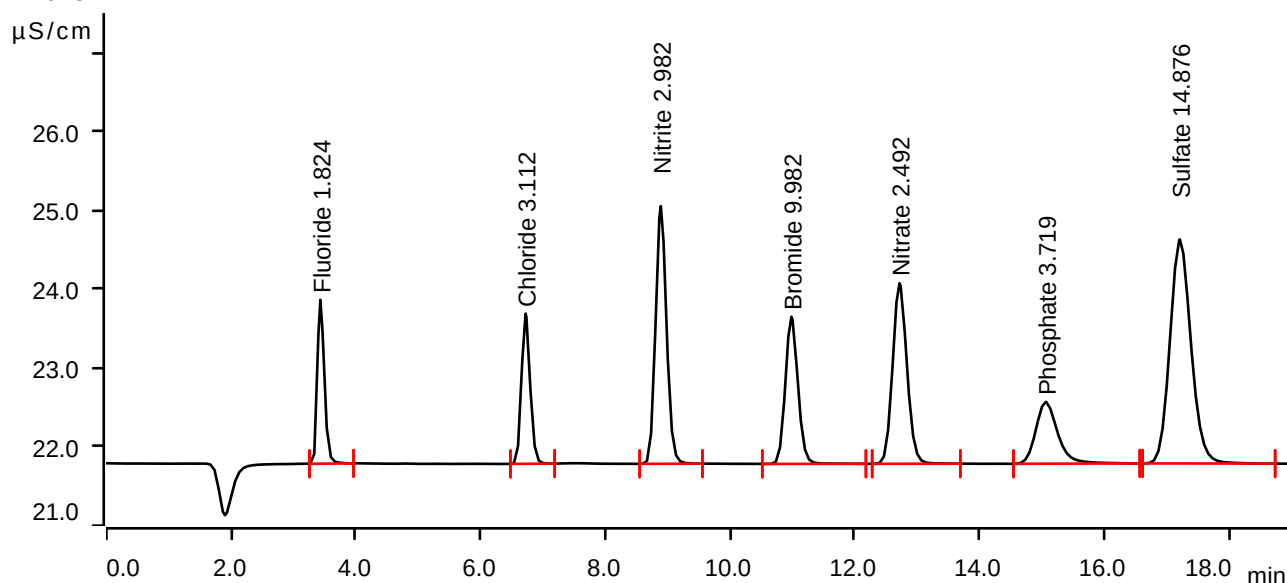
Sample data

Ident Q1295-01MS
Sample type Sample
Determination start 2025-02-05 16:14:50 UTC-5
Method IC1-012025
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	3.432	0.2675	2.080	1.824	Fluoride
2	6.722	0.3060	1.906	3.112	Chloride
3	8.890	0.6649	3.270	2.982	Nitrite
4	10.983	0.4367	1.867	9.982	Bromide
5	12.717	0.6099	2.291	2.492	Nitrate
6	15.062	0.3194	0.784	3.719	Phosphate
7	17.212	1.1152	2.844	14.876	Sulfate

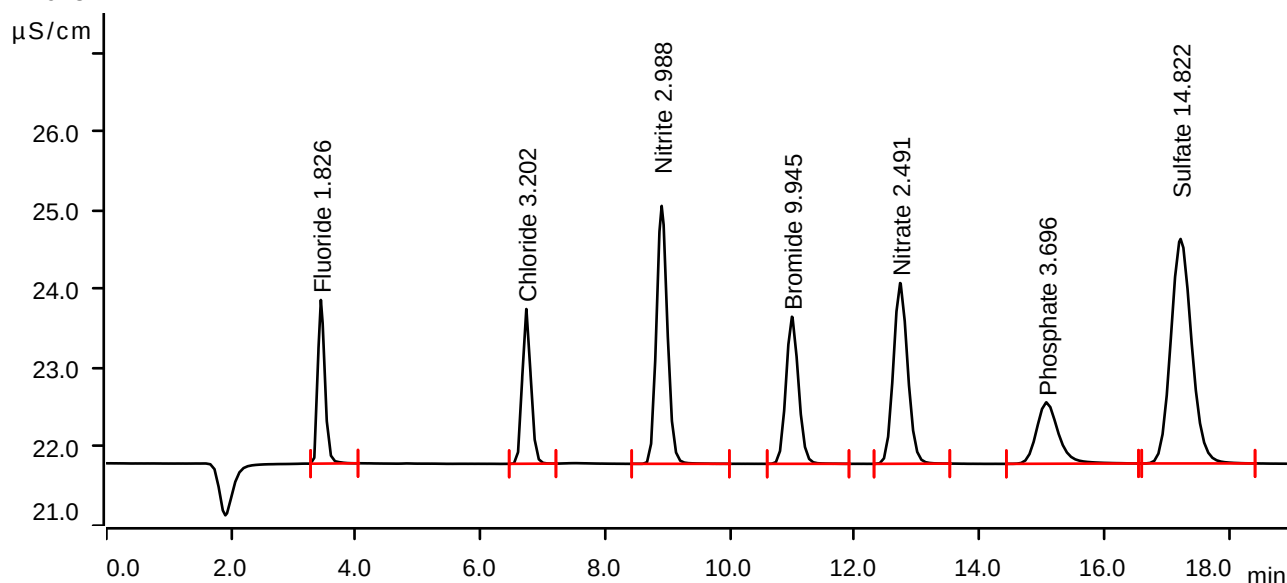
Sample data

Ident Q1295-01MSD
Sample type Sample
Determination start 2025-02-05 16:36:24 UTC-5
Method IC1-012025
Operator

Anions

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

Anions



Peak number	Retention time min	Area (µS/cm) x min	Height µS/cm	Concentration ppm	Component name
1	3.440	0.2677	2.076	1.826	Fluoride
2	6.733	0.3149	1.964	3.202	Chloride
3	8.903	0.6663	3.273	2.988	Nitrite
4	10.992	0.4351	1.867	9.945	Bromide
5	12.727	0.6096	2.294	2.491	Nitrate
6	15.072	0.3175	0.779	3.696	Phosphate
7	17.223	1.1111	2.849	14.822	Sulfate

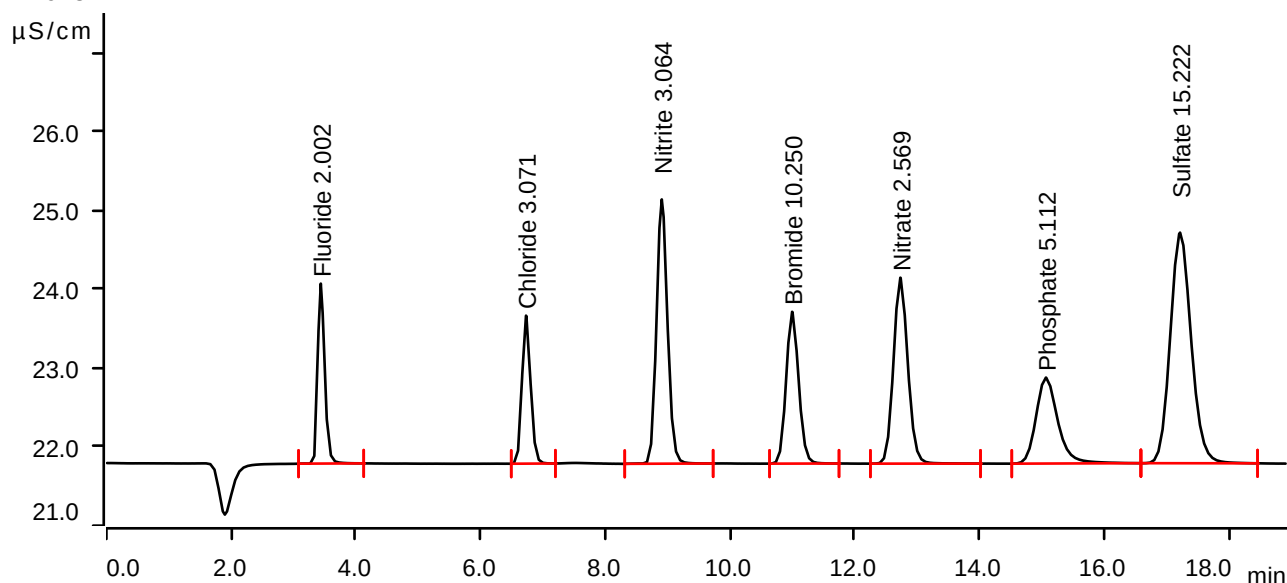
Sample data

Ident CCV
Sample type Check standard 1
Determination start 2025-02-05 16:57:58 UTC-5
Method IC1-012025
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 11.43 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	3.438	0.2939	2.284	2.002	Fluoride
2	6.728	0.3018	1.878	3.071	Chloride
3	8.905	0.6836	3.354	3.064	Nitrite
4	10.995	0.4487	1.926	10.250	Bromide
5	12.730	0.6291	2.360	2.569	Nitrate
6	15.063	0.4407	1.091	5.112	Phosphate
7	17.215	1.1419	2.927	15.222	Sulfate

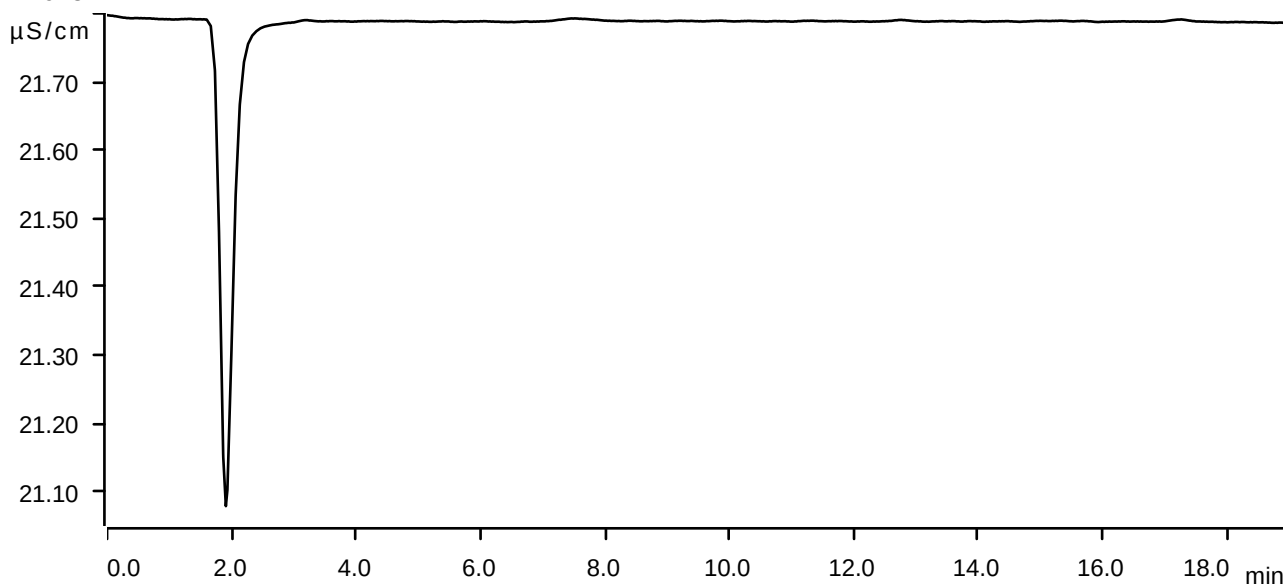
Sample data

Ident CCB
Sample type Sample
Determination start 2025-02-05 17:19:28 UTC-5
Method IC1-012025
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



WORKLIST(Hardcopy Internal Chain)

LB134598

WorkList Name : ANIONS S-02052025

WorkList ID : 187508

Department : Wet-Chemistry

Date : 02-05-2025 14:20:39

Sample	Customer Sample	Matrix	Test	Preservative	Customer	Raw Sample Storage Location	Collect Date	Method
Q1295-01	TAPFTA-SB01D-020425-00-T1.5	Solid	Anions Group1	Cool 4 deg C	WEST04	N41	02/04/2025	9056A

Q1295-01 MS 5.01g

Q1295-01 MSD 5.01g

BL 5.00g

BS 5.00g

Final volume with 100ml DI water

Balance ID : WC SC - 7

NF

02.05.2025

Date/Time 02.05.2025, 14:30

Raw Sample Received by: NF(wc)

Raw Sample Relinquished by: MoeJC

Date/Time 02.05.2025, 16:40

Raw Sample Received by: JH(wc)

Raw Sample Relinquished by: NF(wc)

Sample ID	Result	Std. Dev.	RSD	Mode	ALT
CCV1	899.2720			TOC	
CCV1	978.4121			TOC	
CCV1	1001.3810			TOC	
CCV1.....	1003.5271...	..	...	TOC	..
CCB1	3.5424			TOC	
CCB1	8.5777			TOC	
CCB1.....	2.5585...	..	...	TOC	..
CCB1	6.4185			TOC	
LB134653BLS	4.4831			TOC	
LB134653BLS.....	0.3745...	..	...	TOC	..
LB134653BLS	1.3553			TOC	
LB134653BLS	3.7770			TOC	
LB134653BSS.....	994.4513...	..	...	TOC	..
LB134653BSS	1011.0070			TOC	
LB134653BSS	1021.1046			TOC	
LB134653BSS.....	1030.9650...	..	...	TOC	..
Q1168-03	59.0723			TOC	
Q1168-03	50.2646			TOC	
Q1168-03.....	50.6540...	..	...	TOC	..
Q1168-03	50.2922			TOC	
Q1295-01	4246.5405			TOC	
Q1295-01.....	4685.3984...	..	...	TOC	..
Q1295-01	3567.7615			TOC	
Q1295-01	3474.0864			TOC	
Q1295-01MS.....	5138.1802...	..	...	TOC	..
Q1295-01MS	4802.1514			TOC	
Q1295-01MS	5693.8540			TOC	
Q1295-01MS.....	3798.9082...	..	...	TOC	..
Q1295-01MSD	4112.7876			TOC	
Q1295-01MSD	5258.2852			TOC	
Q1295-01MSD.....	5343.4595...	..	...	TOC	..
Q1295-01MSD	4687.4399			TOC	
CCV2.....	1024.9879...	..	...	TOC	..
CCV2	1004.8304			TOC	
CCV2	1056.8309			TOC	
CCV2	1044.6074			TOC	
CCB2.....	1.7696...	..	...	TOC	..
CCB2	22.2816			TOC	
CCB2	5.0836			TOC	
CCB2.....	21.6579...	..	...	TOC	..

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Method ID		Sample Type	Vial Timestamp		Message		
Boat Sampler		Sample		2025/02/10 09:35			
Boat Sampler		Sample		2025/02/10 09:37			
Boat Sampler		Sample		2025/02/10 09:41			
Boat Sampler	...	Sample	..	..2025/02/10 09:43	..		1
Boat Sampler		Sample		2025/02/10 09:47	Low Sample Detected		2
Boat Sampler		Sample		2025/02/10 09:50	Low Sample Detected		
Boat Sampler	...	Sample	..	..2025/02/10 09:58	..Low Sample Detected		3
Boat Sampler		Sample		2025/02/10 10:01	Low Sample Detected		
Boat Sampler		Sample		2025/02/10 10:05	Low Sample Detected		4
Boat Sampler	...	Sample	..	..2025/02/10 10:09	..Low Sample Detected		
Boat Sampler		Sample		2025/02/10 10:12	Low Sample Detected		5
Boat Sampler		Sample		2025/02/10 10:16	Low Sample Detected		
Boat Sampler	...	Sample	..	..2025/02/10 10:19	..		6
Boat Sampler		Sample		2025/02/10 10:22			
Boat Sampler		Sample		2025/02/10 10:30			7
Boat Sampler	...	Sample	..	..2025/02/10 10:35	..		
Boat Sampler		Sample		2025/02/10 10:40			8
Boat Sampler		Sample		2025/02/10 10:42			
Boat Sampler	...	Sample	..	..2025/02/10 10:45	..		9
Boat Sampler		Sample		2025/02/10 10:48			
Boat Sampler		Sample		2025/02/10 10:56			10
Boat Sampler	...	Sample	..	..2025/02/10 11:00	..		
Boat Sampler		Sample		2025/02/10 11:08			11
Boat Sampler		Sample		2025/02/10 11:29			12
Boat Sampler	...	Sample	..	..2025/02/10 11:46	..		
Boat Sampler		Sample		2025/02/10 11:53			13
Boat Sampler		Sample		2025/02/10 12:08			14
Boat Sampler	...	Sample	..	..2025/02/10 12:16	..		
Boat Sampler		Sample		2025/02/10 12:30			
Boat Sampler		Sample		2025/02/10 12:35			
Boat Sampler	...	Sample	..	..2025/02/10 12:42	..		
Boat Sampler		Sample		2025/02/10 12:50			
Boat Sampler		Sample		2025/02/10 12:55			
Boat Sampler	...	Sample	..	..2025/02/10 12:57	..		
Boat Sampler		Sample		2025/02/10 13:01			
Boat Sampler		Sample		2025/02/10 13:03			
Boat Sampler	...	Sample	..	..2025/02/10 13:07	..Low Sample Detected		
Boat Sampler		Sample		2025/02/10 13:11			
Boat Sampler		Sample		2025/02/10 13:16	Low Sample Detected		
Boat Sampler	...	Sample	..	..2025/02/10 13:18	..		

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Last Message: Low Sample Detected
=====

Sample ID: CCB1 Mode: TOC
Method: Boat Sampler Filename: 02100955
Cal. Curve: TOC SOIL Timestamp: 2025/02/10 09:58
Operator ID: NF IZ Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	2.5585	0.1023	7247	-1.946	-1.998	120

Last Message: Low Sample Detected
=====

Sample ID: CCB1 Mode: TOC
Method: Boat Sampler Filename: 02100958
Cal. Curve: TOC SOIL Timestamp: 2025/02/10 10:01
Operator ID: NF IZ Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	6.4185	0.2567	18180	-1.982	-2.024	120

Last Message: Low Sample Detected
=====

Sample ID: LB134653BLS Mode: TOC
Method: Boat Sampler Filename: 02101002
Cal. Curve: TOC SOIL Timestamp: 2025/02/10 10:05
Operator ID: NF IZ Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	4.4831	0.1793	12698	-2.044	-2.086	120

Last Message: Low Sample Detected
=====

Sample ID: LB134653BLS Mode: TOC
Method: Boat Sampler Filename: 02101006
Cal. Curve: TOC SOIL Timestamp: 2025/02/10 10:09
Operator ID: NF IZ Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	0.3745	0.0150	1061	-2.025	-2.119	120

Last Message: Low Sample Detected
=====

Sample ID: LB134653BLS Mode: TOC
Method: Boat Sampler Filename: 02101010
Cal. Curve: TOC SOIL Timestamp: 2025/02/10 10:12
Operator ID: NF IZ Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	1.3553	0.0542	3839	-2.109	-2.175	120

Last Message: Low Sample Detected
=====

Sample ID: LB134653BLS
Method: Boat Sampler
Cal. Curve: TOC SOIL
Operator ID: NF IZ
Mode: TOC
Filename: 02101013
Timestamp: 2025/02/10 10:16
Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	3.7770	0.1511	10698	-2.146	-2.158	120

Last Message: Low Sample Detected
=====

Sample ID: LB134653BSS
Method: Boat Sampler
Cal. Curve: TOC SOIL
Operator ID: NF IZ
Mode: TOC
Filename: 02101016
Timestamp: 2025/02/10 10:19
Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	994.4513	39.7781	2816739	-2.206	-1.210	71

=====

Sample ID: LB134653BSS
Method: Boat Sampler
Cal. Curve: TOC SOIL
Operator ID: NF IZ
Mode: TOC
Filename: 02101020
Timestamp: 2025/02/10 10:22
Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	1011.0070	40.4403	2863633	-2.051	-1.056	70

=====

Sample ID: LB134653BSS
Method: Boat Sampler
Cal. Curve: TOC SOIL
Operator ID: NF IZ
Mode: TOC
Filename: 02101028
Timestamp: 2025/02/10 10:30
Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	1021.1046	40.8442	2892234	-2.173	-1.173	78

=====

Sample ID: LB134653BSS
Method: Boat Sampler
Cal. Curve: TOC SOIL
Operator ID: NF IZ
Mode: TOC
Filename: 02101033
Timestamp: 2025/02/10 10:35
Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	1030.9650	41.2386	2920163	-2.272	-1.275	72

=====

Sample ID: Q1168-03
Method: Boat Sampler
Cal. Curve: TOC SOIL
Operator ID: NF IZ
Mode: TOC
Filename: 02101038
Timestamp: 2025/02/10 10:40
Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	59.0723	2.3629	167320	-2.293	-1.300	42

Sample ID: Q1168-03 Mode: TOC
Method: Boat Sampler Filename: 02101041
Cal. Curve: TOC SOIL Timestamp: 2025/02/10 10:42
Operator ID: NF IZ Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	50.2646	2.0106	142372	-2.352	-1.367	39

Sample ID: Q1168-03 Mode: TOC
Method: Boat Sampler Filename: 02101044
Cal. Curve: TOC SOIL Timestamp: 2025/02/10 10:45
Operator ID: NF IZ Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	50.6540	2.0262	143475	-2.344	-1.353	39

Sample ID: Q1168-03 Mode: TOC
Method: Boat Sampler Filename: 02101046
Cal. Curve: TOC SOIL Timestamp: 2025/02/10 10:48
Operator ID: NF IZ Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	50.2922	2.0117	142451	-2.350	-1.355	39

Sample ID: Q1295-01 Mode: TOC
Method: Boat Sampler Filename: 02101054
Cal. Curve: TOC S0IL Timestamp: 2025/02/10 10:56
Operator ID: NF IZ Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning	Ending	Integration
				Baseline	Baseline	Time
1	4246.5405	22.5067	1593728	-2.366	-1.369	83
=====						

Sample ID: Q1295-01 Mode: TOC
Method: Boat Sampler Filename: 02101058
Cal. Curve: TOC S0IL Timestamp: 2025/02/10 11:00
Operator ID: NF IZ Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning	Ending	Integration
				Baseline	Baseline	Time
1	4685.3984	29.5180	2090212	-2.411	-1.413	89
=====						

Sample ID: Q1295-01 Mode: TOC
Method: Boat Sampler Filename: 02101106
Cal. Curve: TOC S0IL Timestamp: 2025/02/10 11:08
Operator ID: NF IZ Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning	Ending	Integration
				Baseline	Baseline	Time
1	3567.7615	21.0498	1490565	-2.449	-1.451	86
=====						

Sample ID: Q1295-01 Mode: TOC
Method: Boat Sampler Filename: 02101127
Cal. Curve: TOC SOIL Timestamp: 2025/02/10 11:29
Operator ID: NF IZ Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	3474.0864	22.2342	1574432	-2.614	-1.616	88

Sample ID: Q1295-01MS Mode: TOC
Method: Boat Sampler Filename: 02101144
Cal. Curve: TOC SOIL Timestamp: 2025/02/10 11:46
Operator ID: NF IZ Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	5138.1802	28.2600	2001129	-2.529	-1.531	116

Sample ID: Q1295-01MS Mode: TOC
Method: Boat Sampler Filename: 02101150
Cal. Curve: TOC SOIL Timestamp: 2025/02/10 11:53
Operator ID: NF IZ Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	4802.1514	30.7338	2176301	-2.626	-1.627	138

Sample ID: Q1295-01MS Mode: TOC
Method: Boat Sampler Filename: 02101205
Cal. Curve: TOC SOIL Timestamp: 2025/02/10 12:08
Operator ID: NF IZ Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	5693.8540	30.1774	2136906	-2.598	-1.599	91

Sample ID: Q1295-01MS Mode: TOC
Method: Boat Sampler Filename: 02101214
Cal. Curve: TOC SOIL Timestamp: 2025/02/10 12:16
Operator ID: NF IZ Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	3798.9082	25.0728	1775440	-2.634	-1.641	86

Sample ID: Q1295-01MSD Mode: TOC
Method: Boat Sampler Filename: 02101228
Cal. Curve: TOC SOIL Timestamp: 2025/02/10 12:30
Operator ID: NF IZ Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	4112.7876	21.7978	1543531	-2.462	-1.463	78

Sample ID: Q1295-01MSD Mode: TOC

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

Filename: 02101233
Timestamp: 2025/02/10 12:35
Sample Type: Sample

Reviewed By:Iwona
On:2/11/2025 11:15:26
AM
Inst Id :Appolo-9000
LB :LB134653

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	5258.2852	28.9206	2047906	-2.530	-1.537	107

Sample ID: Q1295-01MSD
Method: Boat Sampler
Cal. Curve: TOC SOIL
Operator ID: NF IZ

Mode: TOC
Filename: 02101238
Timestamp: 2025/02/10 12:42
Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	5343.4595	33.6638	2383780	-2.578	-1.582	202

Sample ID: Q1295-01MSD
Method: Boat Sampler
Cal. Curve: TOC SOIL
Operator ID: NF IZ

Mode: TOC
Filename: 02101248
Timestamp: 2025/02/10 12:50
Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	4687.4399	24.8434	1759198	-2.486	-1.492	80

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

Mode: TOC
Filename: 02101253
Timestamp: 2025/02/10 12:55
Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	1044.6074	41.7843	2958805	-2.581	-1.582	72

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

Mode: TOC
Filename: 02101256
Timestamp: 2025/02/10 12:57
Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	1024.9879	40.9995	2903233	-2.444	-1.450	68

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

Mode: TOC
Filename: 02101258
Timestamp: 2025/02/10 13:01
Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	1004.8304	40.1932	2846138	-2.399	-1.407	107

Sample ID: CCV2
Method: Boat Sampler

Mode: TOC
Filename: 02101301

Operator ID: NF IZ				Sample Type: Sample		
Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	1056.8309	42.2732	2993427	-2.394	-1.395	74

Sample ID: CCB2				Mode: TOC		
Method: Boat Sampler				Filename: 02101304		
Cal. Curve: TOC SOIL				Timestamp: 2025/02/10 13:07		
Operator ID: NF IZ				Sample Type: Sample		
Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	1.7696	0.0708	5012	-2.341	-2.501	120
Last Message: Low Sample Detected						

Sample ID: CCB2				Mode: TOC		
Method: Boat Sampler				Filename: 02101309		
Cal. Curve: TOC SOIL				Timestamp: 2025/02/10 13:11		
Operator ID: NF IZ				Sample Type: Sample		
Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	22.2816	0.8913	63112	-2.554	-1.555	36

Sample ID: CCB2				Mode: TOC		
Method: Boat Sampler				Filename: 02101314		
Cal. Curve: TOC SOIL				Timestamp: 2025/02/10 13:16		
Operator ID: NF IZ				Sample Type: Sample		
Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	5.0836	0.2033	14399	-2.534	-2.586	120
Last Message: Low Sample Detected						

Sample ID: CCB2				Mode: TOC		
Method: Boat Sampler				Filename: 02101317		
Cal. Curve: TOC SOIL				Timestamp: 2025/02/10 13:18		
Operator ID: NF IZ				Sample Type: Sample		
Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	21.6579	0.8663	61345	-2.592	-1.602	42

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
=====

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
=====

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

12
11/12/24

WORKLIST(Hardcopy Internal Chain)

LB134653

WorkList Name : TOC S- 02102025

WorkList ID : 187606

Department : Wet-Chemistry

Date : 02-10-2025 09:19:53

Sample	Customer Sample	Matrix	Test	Preservative	Customer	Raw Sample Storage Location	Collect Date	Method
Q1295-01	TAPFTA-SB01D-020425-00-T1	Solid	TOC	Cool 4 deg C	WEST04	N41	02/04/2025	9060A
Q1168-03	MDL-SOIL-03-QT1-2025	Solid	TOC	Cool 4 deg C	CHEM02	QA Of	01/23/2025	9060A

Date/Time02-10-2025, 09:25

Raw Sample Received by: NFWC

Raw Sample Relinquished by: [Signature]

Date/Time02-10-2025, 13:00

Raw Sample Received by: [Signature]

Raw Sample Relinquished by: [Signature]

Instrument ID: WC PH METER-1

Daily Analysis Runlog For Sequence/QCBatch ID # LB134597

Review By	jignesh	Review On	2/6/2025 8:58:57 AM
Supervise By	Iwona	Supervise On	2/6/2025 11:23:07 AM
SubDirectory	LB134597	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,W3161,W3072		

Sr#	SampleId	ClientID	QcType	Date	Comment	Operator	Status
1	CAL1	CAL1	CAL	02/06/25 08:30		Jignesh	OK
2	CAL2	CAL2	CAL	02/06/25 08:31		Jignesh	OK
3	CAL3	CAL3	CAL	02/06/25 08:35		Jignesh	OK
4	ICV	ICV	ICV	02/06/25 08:40		Jignesh	OK
5	CCV1	CCV1	CCV	02/06/25 08:45		Jignesh	OK
6	Q1295-01	TAPFTA-SB01D-0204	SAM	02/06/25 08:55		Jignesh	OK
7	Q1295-01DUP	TAPFTA-SB01D-0204	DUP	02/06/25 08:56		Jignesh	OK
8	CCV2	CCV2	CCV	02/06/25 09:00		Jignesh	OK

Instrument ID: IC-2

Daily Analysis Runlog For Sequence/QC Batch ID # LB134598

Review By	Niha	Review On	2/7/2025 9:31:31 AM
Supervise By	Iwona	Supervise On	2/7/2025 11:53:08 AM
SubDirectory	LB134598	Test	Anions
STD. NAME	STD REF.#		
ICAL Standard	WP111484,WP111485,WP111486,WP111487,WP111488,WP111489,WP111490		
ICV Standard	WP111491		
CCV Standard	WP111805		
ICSA Standard	N/A		
CRI Standard	N/A		
LCS Standard	WP111806		
Chk Standard	WP111492,WP111493		

Sr#	SampleId	ClientID	QcType	Date	Comment	Operator	Status
1	STD1	STD1	CAL1	01/20/25 11:14	All standards, samples, and	NF/IZ	OK
2	STD2	STD2	CAL2	01/20/25 11:36	QC are filtered through	NF/IZ	OK
3	STD3	STD3	CAL3	01/20/25 11:57	0.45um, filter lot W3160	NF/IZ	OK
4	STD4	STD4	CAL4	01/20/25 12:18		NF/IZ	OK
5	STD5	STD5	CAL5	01/20/25 12:40		NF/IZ	OK
6	STD6	STD6	CAL6	01/20/25 13:01		NF/IZ	OK
7	STD7	STD7	CAL7	01/20/25 13:23		NF/IZ	OK
8	ICV1	ICV1	ICV	01/20/25 13:44		NF/IZ	OK
9	ICB1	ICB1	ICB	01/20/25 14:06		NF/IZ	OK
10	CCV1	CCV1	CCV	02/05/25 14:27		NF/IZ	OK
11	CCB1	CCB1	CCB	02/05/25 14:48		NF/IZ	OK
12	LB134598BLS	LB134598BLS	MB	02/05/25 15:10		NF/IZ	OK
13	LB134598BSS	LB134598BSS	LCS	02/05/25 15:31		NF/IZ	OK
14	Q1295-01	TAPFTA-SB01D-0204	SAM	02/05/25 15:53		NF/IZ	OK
15	Q1295-01MS	TAPFTA-SB01D-0204	MS	02/05/25 16:14	5ml W3092	NF/IZ	OK
16	Q1295-01MSD	TAPFTA-SB01D-0204	MSD	02/05/25 16:36	5ml W3092	NF/IZ	OK
17	CCV2	CCV2	CCV	02/05/25 16:57		NF/IZ	OK
18	CCB2	CCB2	CCB	02/05/25 17:19		NF/IZ	OK

Instrument ID: TOC

Daily Analysis Runlog For Sequence/QC Batch ID # LB134653

Review By	Niha	Review On	2/11/2025 10:03:11 AM
Supervise By	Iwona	Supervise On	2/11/2025 11:15:26 AM
SubDirectory	LB134653	Test	TOC
STD. NAME	STD REF.#		
ICAL Standard	WP110667,WP110662,WP110663,WP110664,WP110665		
ICV Standard	WP110666		
CCV Standard	WP111776		
ICSA Standard	N/A		
CRI Standard	N/A		
LCS Standard	WP111777		
Chk Standard	WP109953,WP111778		

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	02/10/25 09:43		NF IZ	OK
9	CCB1	CCB1	CCB	02/10/25 10:01		NF IZ	OK
10	LB134653BLS	LB134653BLS	MB	02/10/25 10:16		NF IZ	OK
11	LB134653BSS	LB134653BSS	LCS	02/10/25 10:35		NF IZ	OK
12	Q1168-03	MDL-SOIL-03-QT1-20	SAM	02/10/25 10:48		NF IZ	OK
13	Q1295-01	TAPFTA-SB01D-0204	SAM	02/10/25 11:29		NF IZ	OK
14	Q1295-01MS	TAPFTA-SB01D-0204	MS	02/10/25 12:16		NF IZ	OK
15	Q1295-01MSD	TAPFTA-SB01D-0204	MSD	02/10/25 12:50		NF IZ	OK
16	CCV2	CCV2	CCV	02/10/25 13:03		NF IZ	OK
17	CCB2	CCB2	CCB	02/10/25 13:18		NF IZ	OK

Prep Standard - Chemical Standard Summary

Order ID : Q1295

Test : Anions Group1,Percent Solids,pH,TOC

Prepbatch ID :

Sequence ID/Qc Batch ID: LB134597, LB134598, LB134653,

Standard ID :

WP109217, WP109218, WP109953, WP110259, WP110662, WP110663, WP110664, WP110665, WP110666, WP110667, WP111436, WP111437, WP111484, WP111485, WP111486, WP111487, WP111488, WP111489, WP111490, WP111491, WP111492, WP111493, WP111776, WP111777, WP111778, WP111805, WP111806,

Chemical ID :

M6041, W2647, W2784, W2860, W3058, W3062, W3063, W3071, W3072, W3093, W3094, W3107, W3111, W3112, W3161, W3169,

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>
613	Phosphoric acid reagent	WP109953	09/25/2024	03/25/2025	Niha Farheen Shaik	None	None	Iwona Zarych
								09/27/2024

FROM 150.00000ml of W3112 + 50.00000ml of W2860 = Final Quantity: 200.000 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>
2050	TOC STOCK STD, 4000PPM	WP111436	01/15/2025	07/15/2025	Niha Farheen Shaik	WETCHEM_SCALE_5 (WC)	WETCHEM_FIPETTE_3 (WC)	Iwona Zarych 01/16/2025
FROM 5.00000ml of W2860 + 8.51200gram of W3169 + 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	WP111437	01/15/2025	06/30/2025	Niha Farheen Shaik	WETCHEM_SCALE_5 (WC)	WETCHEM_FIPETTE_3 (WC)	Iwona Zarych 01/16/2025
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>
2487	Anions 300/9056 calibration standard 1	WP111484	01/20/2025	01/21/2025	Niha Farheen Shaik	None	None	Iwona Zarych 01/20/2025

FROM 100.00000ml 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	WP111485	01/20/2025	01/21/2025	Niha Farheen Shaik	None	WETCHEM_FIPETTE_3 (WC)	Iwona Zarych 01/20/2025

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	WP111486	01/20/2025	01/21/2025	Niha Farheen Shaik	None	WETCHEM_FIPETTE_3 (WC)	Iwona Zarych 01/20/2025
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	WP111487	01/20/2025	01/21/2025	Niha Farheen Shaik	None	WETCHEM_FIPETTE_3 (WC)	Iwona Zarych 01/20/2025
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	WP111488	01/20/2025	01/21/2025	Niha Farheen Shaik	None	Glass Pipette-A	Iwona Zarych 01/20/2025

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	WP111489	01/20/2025	01/21/2025	Niha Farheen Shaik	None	Glass Pipette-A	Iwona Zarych 01/20/2025

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	WP111490	01/20/2025	01/21/2025	Niha Farheen Shaik	None	Glass Pipette-A	Iwona Zarych 01/20/2025

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	WP111491	01/20/2025	01/21/2025	Niha Farheen Shaik	None	Glass Pipette-A	Iwona Zarych 01/20/2025

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

Wet Chemistry STANDARD PREPARATION LOG

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
4036	IC ELUENT FOR IC-1	WP111492	01/20/2025	02/20/2025	Niha Farheen Shaik	None	Glass Pipette-A	Iwona Zarych 01/20/2025

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	WP111493	01/20/2025	02/20/2025	Niha Farheen Shaik	None	Glass Pipette-A	Iwona Zarych 01/20/2025

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>
3544	TOC SOIL Cal- CCV 1000PPM	WP111776	02/04/2025	02/11/2025	Niha Farheen Shaik	None	None	Iwona Zarych
								02/07/2025

FROM 15.00000ml of W3112 + 5.00000ml of WP111436 = 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	WP111777	02/04/2025	02/11/2025	Niha Farheen Shaik	None	None	Iwona Zarych
								02/07/2025

FROM 15.00000ml of W3112 + 5.00000ml of WP111437 = Final Quantity: 20.000 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>
3545	TOC SOIL MDL-50PPM	WP111778	02/04/2025	02/11/2025	Niha Farheen Shaik	None	WETCHEM_FIPETTE_3 (WC)	Iwona Zarych 02/07/2025
FROM 39.50000ml of W3112 + 0.50000ml of WP111436 = Final Quantity: 40.000 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>
3680	Anions 300/9056 calibration standard 5-CCV	WP111805	02/05/2025	02/06/2025	Niha Farheen Shaik	None	Glass Pipette-A	Iwona Zarych 02/07/2025
FROM 45.00000ml of W3112 + 5.00000ml of W3063 = 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>
3233	Anions 300/9056 ICV-LCS std	WP111806	02/05/2025	02/06/2025	Niha Farheen Shaik	None	Glass Pipette-A	Iwona Zarych 02/07/2025
FROM 45.00000ml of W3112 + 5.00000ml of W3062 = Final Quantity: 50.000 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.	EM-SX0395-3 / SODIUM CARBONATE ANHYDR 2.5KG	2023012653	10/19/2028	09/03/2024 / jignesh	10/19/2023 / lwona	W3058

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

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	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

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

CHEMICAL RECEIPT LOG BOOK

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

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)	2411E26	10/31/2026	12/09/2024 / lwona	12/09/2024 / lwona	W3161

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	24H0956262	04/28/2026	01/03/2025 / lwona	01/03/2025 / lwona	W3169

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

James Ethier
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 (PO4)	0.001% max.	<0.001%
Potassium (K)	0.005% max.	0.003%
Silica (SiO2)	0.005% max.	<0.005%
Sulfur compounds (as SO4)	0.003% max.	<0.003%

Joe Schoellkopf

Quality Control Manager

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

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

EMD Millipore Corporation

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

Form number: 00005624CA, Rev. 2.0

Certificate of Analysis

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

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info@inorganicventures.com

N 3062

rec on 10/30/23
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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: 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

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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, NO_3^-	25.00 ± 0.09 µg/mL
Nitrite as N, NO_2^-	30.00 ± 0.15 µg/mL	o-Phosphate as P, PO_4	50.00 ± 0.18 µg/mL
Sulfate, SO_4	150.0 ± 0.8 µg/mL		

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

Assay Information:

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

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

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

Characterization of CRM/RM by Two or More Methods

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

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

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

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

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

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

k = coverage factor = 2

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

u_{bb} = bottle to bottle homogeneity standard uncertainty

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

u_{ts} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

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

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

X_a = mean of Assay Method A with

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

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

k = coverage factor = 2

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

u_{bb} = bottle to bottle homogeneity standard uncertainty

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

u_{ts} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

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

4.1 Thermometer Calibration

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

4.2 Balance Calibration

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

4.3 Glassware Calibration

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

5.0 CHROMATOGRAM

N/A

6.0 INTENDED USE

6.1 This standard is intended for the calibration of analytical instruments and validation of analytical methods as appropriate. This CRM may be used in connection with EPA Methods 6010, 6020 (all versions), Standard Methods 3120 B and USP <232> / ICH Q3D.

6.2 For products attaining traceability through Inorganic Ventures' Primary Certified Reference Materials (PCRM™) see the Limited License to Use PCRM™ in the Inorganic Ventures Terms and Conditions of Sale, <https://www.inorganicventures.com/terms-and-conditions-sale>. The Terms and Conditions contain information on the use of materials traceable to PCRM™ certified reference materials. This Limited License agreement is especially pertinent for laboratories accredited under ISO:17034.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

- Store between approximately 4° - 30° C while in sealed TCT bag.
- While stored in the sealed TCT bag, transpiration of this CRM/RM is negligible. After opening the sealed TCT bag transpiration of the CRM/RM will occur, resulting in a gradual increase in the analyte concentration(s). It is the responsibility of the user to account for this effect. When the bottle is weighed both before and after being placed in storage, the mass difference observed will be a measure of transpiration mass loss.
- After opening the sealed TCT bag, keep cap tightly sealed when not in use and store between 4° - 24° C to minimize the effects of transpiration. Use at 20° ± 4° C to minimize volumetric dilution error when using the reported density. Do not pipette from the container. Do not return removed aliquots to container.

- For more information, visit www.inorganicventures.com/TCT

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®

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customerservice@riccachemical.com

W 3072
REC. 12/01/23
12

Certificate of Analysis

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

Lot Number: 2310P21

Product Number: 1615

Manufacture Date: OCT 24, 2023

Expiration Date: APR 2025

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

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

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

Test	Specification	Result
Appearance	Colorless liquid	Passed

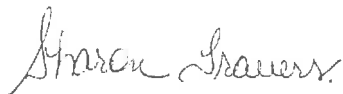
*Not a certified value.

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

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

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

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



Sharon Travers (10/24/2023)

Operations Manager

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

This product was tested in an ISO 17025 Accredited Laboratory

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 faxThermo Fisher Scientific's Quality System has been found to conform to Quality Management System
Standard ISO9001:2015 by SAI Global Certificate Number CERT – 0120632

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

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

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



Julian Burton - Quality Control Manager – Fair Lawn

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

*Based on suggested storage condition.

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

avantor™



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

 **avantorsm**

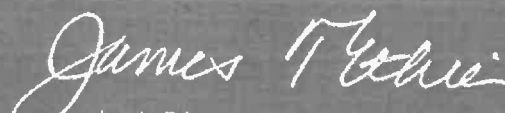


Material No.: 9673-33
Batch No.: 23D2462010

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



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

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



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)

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Paul Brandon (03/09/2024)

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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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.



Certificate of Analysis

Buffer, Reference Standard, pH 2.00 ± 0.01 at 25°C**Lot Number:** 2411E26**Product Number:** 1493**Manufacture Date:** NOV 11, 2024**Expiration Date:** OCT 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	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)	1.994	0.02	185i, 186-I-g, 186-II-g

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)
1493-1	4 L natural poly	24 months
1493-16	500 mL natural poly	24 months
1493-1CT	4 L Cubitainer®	24 months
1493-2.5	10 L Cubitainer®	24 months
1493-32	1 L natural poly	24 months

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



Jose Pena (11/11/2024)
Operations Manager

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.



Material	BDH9260-500G
Material Description	BDH POTASS HYDRGN PHTHLTE 500G
Grade	ACS GRADE
Batch	24H0956262
Reassay Date	04/28/2026
CAS Number	877-24-7
Molecular Formula	HOCC6H4COOK
Molecular Mass	204.22
Date of Manufacture	04/29/2023
Storage	Room Temperature

Characteristics	Specifications	Measured Values
Appearance	White crystals.	White crystals.
Assay (dried basis)	99.95 - 100.05 %	99.98 %
Chlorine Compounds	<= 0.003 %	<0.003 %
Heavy Metals (as Pb)	<= 5 ppm	<5 ppm
Insoluble Matter	<= 0.005 %	0.003 %
Iron	<= 5 ppm	<5 ppm
pH (0.05M, Water) @25C	4.00 - 4.02	4.00
Sodium	<= 0.005 %	<0.005 %
Sulfur Compounds	<= 0.002 %	<0.002 %

Internal ID #: 322

Signature	Additional Information
We certify that this batch conforms to the specifications listed above. 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: 2/6/2025

OVENTEMP IN Celsius(°C): 107
Time IN: 17:30
In Date: 02/05/2025
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: 02/06/2025
Weight Check 1.0g: 1.00
Weight Check 10g: 10.00
BalanceID: M SC-4
Thermometer ID: % SOLID- OVEN

QC:LB134582

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
Q1295-01	TAPFTA-SB01D-020425-00-T1	1	1.15	8.75	9.9	9.1	90.9	
Q1299-01	WC-1	2	1.18	8.42	9.6	8.63	88.5	
Q1299-02	WC-1-EPH	3	1.14	8.40	9.54	8.72	90.2	
Q1299-03	WC-1-VOC	4	1.15	8.82	9.97	9.44	94.0	
Q1299-05	WC-2	5	1.14	8.76	9.9	8.93	88.9	
Q1299-06	WC-2-EPH	6	1.15	8.76	9.91	8.98	89.4	
Q1299-07	WC-2-VOC	7	1.19	8.77	9.96	9.00	89.1	
Q1304-01	RB21140	8	1.14	8.82	9.96	7.81	75.6	
Q1304-02	RB21140-E2	9	1.12	8.51	9.63	7.78	78.3	
Q1305-01	BC258874-1-1	10	1.00	1.00	2.00	2.00	100.0	oilc
Q1305-02	BC258874-1-2	11	1.00	1.00	2.00	2.00	100.0	oilc
Q1305-03	BC258874-2-1	12	1.00	1.00	2.00	2.00	100.0	oilc
Q1305-04	BC258874-2-2	13	1.00	1.00	2.00	2.00	100.0	oilc
Q1305-05	Y2308-0040-1-1	14	1.00	1.00	2.00	2.00	100.0	oilc
Q1305-06	Y2308-0040-1-2	15	1.00	1.00	2.00	2.00	100.0	oilc
Q1305-07	BC216351-1-1	16	1.00	1.00	2.00	2.00	100.0	oilc
Q1305-08	BC216351-1-2	17	1.00	1.00	2.00	2.00	100.0	oilc
Q1306-01	KMH840Y-1-1	18	1.00	1.00	2.00	2.00	100.0	oilc
Q1306-02	KMH840Y-1-2	19	1.00	1.00	2.00	2.00	100.0	oilc
Q1306-03	KMH840Y-2-1	20	1.00	1.00	2.00	2.00	100.0	oilc
Q1306-04	KMH840Y-2-2	21	1.00	1.00	2.00	2.00	100.0	oilc
Q1307-01	434	22	1.16	8.40	9.56	8.77	90.6	
Q1308-01	EX-8-TPH-1	23	1.15	8.81	9.96	8.96	88.6	
Q1308-02	EX-6-TPH-1	24	1.13	8.72	9.85	8.39	83.3	
Q1308-03	EX-6-TPH-2	25	1.15	8.81	9.96	8.54	83.9	
Q1308-04	EX-11-TPH-5	26	1.13	8.65	9.78	8.51	85.3	
Q1308-05	EX-11-TPH-6	27	1.13	8.86	9.99	8.5	83.2	
Q1308-06	EX-11-TPH-7	28	1.19	8.40	9.59	8.31	84.8	

PERCENT SOLID

Supervisor: Iwona
Analyst: jignesh
Date: 2/6/2025

OVENTEMP IN Celsius(°C): 107
Time IN: 17:30
In Date: 02/05/2025
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: 02/06/2025
Weight Check 1.0g: 1.00
Weight Check 10g: 10.00
BalanceID: M SC-4
Thermometer ID: % SOLID- OVEN

QC:LB134582

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
Q1308-07	EX-11-TPH-8	29	1.13	8.85	9.98	9.4	93.4	
Q1308-08	EX-11-TPH-9	30	1.15	8.80	9.95	9.1	90.3	
Q1308-09	EX-11-TPH-10	31	1.16	8.41	9.57	7.66	77.3	
Q1308-10	EX-11-TPH-11	32	1.14	8.83	9.97	8.92	88.1	
Q1308-11	EX-11-TPH-12	33	1.17	8.76	9.93	8.95	88.8	
Q1308-12	EX-11-TPH-13	34	1.15	8.49	9.64	8.48	86.3	
Q1308-13	EX-11-TPH-14	35	1.13	8.85	9.98	8.4	82.1	
Q1308-14	EX-11-TPH-14	36	1.00	1.00	2.00	2.00	100.0	
Q1309-01	WC-2	37	1.18	8.38	9.56	8.19	83.7	
Q1309-02	WC-2-EPH	38	1.16	8.58	9.74	8.32	83.4	
Q1309-03	WC-2-VOC	39	1.13	8.79	9.92	8.51	84.0	
Q1309-05	WC-3	40	1.16	8.48	9.64	8.28	84.0	
Q1309-06	WC-3-EPH	41	1.13	8.86	9.99	8.84	87.0	
Q1309-07	WC-3-VOC	42	1.14	8.62	9.76	8.26	82.6	
Q1309-09	WC-4	43	1.13	8.79	9.92	8.76	86.8	
Q1309-10	WC-4-EPH	44	1.16	8.74	9.9	8.45	83.4	
Q1309-11	WC-4-VOC	45	1.15	8.80	9.95	8.3	81.3	
Q1309-13	WC-5	46	1.17	8.48	9.65	8.36	84.8	
Q1309-14	WC-5-EPH	47	1.13	8.81	9.94	8.47	83.3	
Q1309-15	WC-5-VOC	48	1.17	8.82	9.99	8.94	88.1	
Q1309-17	WC-6	49	1.12	8.55	9.67	8.55	86.9	
Q1309-18	WC-6-EPH	50	1.15	8.83	9.98	9.03	89.2	
Q1309-19	WC-6-VOC	51	1.13	8.84	9.97	8.56	84.0	
Q1309-21	WC-8	52	1.12	8.61	9.73	8.57	86.5	
Q1309-22	WC-8-EPH	53	1.13	8.62	9.75	8.45	84.9	
Q1309-23	WC-8-VOC	54	1.16	8.83	9.99	9.12	90.1	

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



SHIPPING DOCUMENTS

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Q1295



Weston COC ID
Weston_20250204_1140

Chain of Custody Record/Lab Work Request

Page	1	of	1
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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:	Mike Giles		

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:	Yazmeen Gomez
TAT (days):	21	Lab Phone:	908-728-3144
Lab Address:	284 Sheffield Street Mountainside, NJ 07092		

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

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

Analyses Requested:	Antions by EPA 9056A	Metals w Hg by EPA 6020B and 7470A	pH by EPA 9045D and TOC by 9060A																
	Container Type:	Glass	Glass	Glass															
	Container Size:	8 oz	8 oz	8 oz															
	Preservative:	Ice to 0 6 deg	Ice to 0 6 deg	Ice to 0 6 deg															

#	Sample ID	G/C	Matrix	# Cont	MS/MSD	Date Collected	Time Collected													Special Instructions/Comments
1	TAPFTA-SB01D-020425-00-T1	g	SB	3	no	2/4/2025	9:25	X	X	X										
2																				
3																				
4																				
5																				
6																				
7																				
8																				
9																				
10																				
11																				
12																				

Shipping Airbill Number: 7714 425 1549						Cooler Number:			of	
Relinquished By	Date	Time	Received By	Date	Time	Additional Comments				
1.) [Signature]	04 Feb 25	1800	[Signature]	2-5-25	9:25	QSM 6.0 Compliant				
2.)						Deliverable Requirements: DoD Level IV report, EnviroData EDD, and ERIS-compatible EDD				
3.)										

ILG 1-8

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