

DATA PACKAGE GENERAL CHEMISTRY

PROJECT NAME : FORMER SCHLUMBERGER STC PTC SITE D3868221

JACOBS ENGINEERING GROUP, INC.

412 Mt. Kemble Ave

Downtown Building

Morristown, NJ - 07960

Phone No: 9732670555

ORDER ID : Q1711

ATTENTION : John Ynfante



Laboratory Certification ID # 20012



1) GENERAL CHEMISTRY DATA	2
2) Signature Page	3
3) Case Narrative	4
4) Qualifier Page	6
5) Conformance/Non Conformance	7
6) QA Checklist	8
7) Chronicle	9
8) Sample Data	11
8.1) MW-18B-56-040225	12
8.2) MW-18B-56-040225DL	13
8.3) MW-17B-55-040225	14
8.4) MW-17B-55-040225DL	15
8.5) EB01-040225	16
9) QC Data Summary For Genchem	17
9.1) Initial and Continuing Calibration Verification	18
9.2) Initial and Continuing Calibration Blank Summary	20
9.3) Preparation Blank Summary	22
9.4) Matrix Spike Summary	23
9.5) Duplicate Sample Summary	25
9.6) Laboratory Control Sample Summary	28
10) GENCHEM RAW DATA	32
10.1) GENCHEM RAW DATA - ANALYTICAL	33
10.1.1) LB135286	33
10.1.2) LB135288	35
10.1.3) LB135291	37
10.1.4) LB135296	38
11) Analytical Runlogs	72
12) Standard Prep Logs	77
13) Shipping Document	104
13.1) Chain Of Custody	105
13.2) ROC	107
13.3) Lab Certificate	110
13.4) Internal COC	111

Cover Page

Order ID : Q1711

Project ID : Former Schlumberger STC PTC Site D3868221

Client : JACOBS Engineering Group, Inc.

Lab Sample Number

Q1711-01
Q1711-02
Q1711-03
Q1711-04
Q1711-07
Q1711-08
Q1711-10
Q1711-12
Q1711-13
Q1711-14
Q1711-15
Q1711-16

Client Sample Number

MW-18B-56-040225
MW-18B-56-040225MS
MW-18B-56-040225MSD
MW-17B-55-040225
RMW-05B-89-040225
EB01-040225
TB01-040225
MW-17B-55-040225
EB01-040225
MW-18B-56-040225
MW-18B-56-040225MS
MW-18B-56-040225MSD

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 :

APPROVED

By Nimisha Pandya, QA/QC Supervisor at 11:16 am, Apr 14, 2025

Date: 4/7/2025

NYDOH CERTIFICATION NO - 11376

NJDEP CERTIFICATION NO - 20012



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

CASE NARRATIVE

JACOBS Engineering Group, Inc.

Project Name: Former Schlumberger STC PTC Site D3868221

Project # N/A

Chemtech Project # Q1711

Test Name: Alkalinity,TDS,Anions Group1

A. Number of Samples and Date of Receipt:

12 Water samples were received on 04/02/2025.

B. Parameters:

According to the Chain of Custody document, the following analyses were requested: Alkalinity, Anions Group1, Dissolved ICP-Group2, Dissolved Metals Group3, Metals Group4, SVOC-SIMGroup1, TDS, VOC-TRACE-SFAM and VOCMS Group3. This data package contains results for Alkalinity,TDS,Anions Group1.

C. Analytical Techniques:

The analysis of Anions Group1 was based on method 9056A, The analysis of Alkalinity was based on method SM2320 B and The analysis of TDS was based on method SM2540 C.

D. QA/ QC Samples:

The Holding Times were met for all analysis.

Sample MW-18B-56-040225 was diluted due to high concentrations for Chloride &

Sample MW-17B-55-040225 was diluted due to high concentrations for Chloride.

The Blank Spike met requirements for all samples.

The Duplicate analysis met criteria for all samples.

The Matrix Spike (MW-18B-56-040225MS) analysis met criteria for all samples except for Chloride due to matrix interference.

The Matrix Spike Duplicate (MW-18B-56-040225MSD) analysis met criteria for all samples except for due to matrix interference.

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

The Calibration met the requirements.

E. Additional Comments:

I certify that the data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed



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

Signature_____

APPROVED

By Nimisha Pandya, QA/QC Supervisor at 11:16 am, Apr 14, 2025

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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: Q1711

MATRIX: Water

METHOD: 9056A,SM2320 B,SM2540 C

	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 (MW-18B-56-040225MS) analysis met criteria for all samples except for Chloride due to matrix interference. The Matrix Spike Duplicate (MW-18B-56-040225MSD) analysis met criteria for all samples except for due to matrix interference.			
3. Sample Duplicate Analysis Met QC Criteria			✓
If not met, list those compounds and their recoveries which fall outside the acceptable range.			
4. Digestion Holding Time Met			✓
If not met, list number of days exceeded for each sample:			

ADDITIONAL COMMENTS:

QA REVIEW

REVIEWED

By Sohil Jodhani, QA/QC Director at 9:52 am, Apr 14, 2025

APPENDIX A

QA REVIEW GENERAL DOCUMENTATION

Project #: Q1711

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: 04/07/2025

LAB CHRONICLE

OrderID:	Q1711	OrderDate:	4/3/2025 10:00:00 AM
Client:	JACOBS Engineering Group, Inc.	Project:	Former Schlumberger STC PTC Site D3868221
Contact:	John Ynfante	Location:	I41,L21,VOA Ref. #3 Water

LabID	ClientID	Matrix	Test	Method	Sample Date	Prep Date	Anal Date	Received
Q1711-01	MW-18B-56-040225	WATER			04/02/25 12:35			04/02/25
			Alkalinity	SM2320 B				
			Anions Group1	9056A				
			TDS	SM2540 C				
Q1711-01DL	MW-18B-56-040225D L	WATER			04/02/25 12:35			04/02/25
			Anions Group1	9056A				
Q1711-04	MW-17B-55-040225	WATER			04/02/25 15:35			04/02/25
			Alkalinity	SM2320 B				
			Anions Group1	9056A				
			TDS	SM2540 C				
Q1711-04DL	MW-17B-55-040225D L	WATER			04/02/25 15:35			04/02/25
			Anions Group1	9056A				
Q1711-08	EB01-040225	Water			04/02/25 15:50			04/02/25

LAB CHRONICLE

Alkalinity	SM2320 B	04/03/25 14:04
Anions Group1	9056A	04/03/25 14:16
TDS	SM2540 C	04/03/25 12:30



SAMPLE DATA

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Report of Analysis

Client:	JACOBS Engineering Group, Inc.	Date Collected:	04/02/25 12:35
Project:	Former Schlumberger STC PTC Site D3868221	Date Received:	04/02/25
Client Sample ID:	MW-18B-56-040225	SDG No.:	Q1711
Lab Sample ID:	Q1711-01	Matrix:	WATER
		% Solid:	0

Parameter	Conc.	Qua.	DF	MDL	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
Alkalinity	273		1	1.00	2.00	mg/L		04/03/25 13:36	SM 2320 B-11
Chloride	26.6	OR	1	0.19	0.60	mg/L		04/03/25 12:29	9056A
Nitrate	0.095	U	1	0.095	0.50	mg/L		04/03/25 12:29	9056A
Sulfate	10.7		1	0.46	3.00	mg/L		04/03/25 12:29	9056A
TDS	257		1	1.00	10.0	mg/L		04/03/25 12:30	SM 2540 C-15

Comments: The alkalinity to pH 4.28=273 mg CaCO₃/L

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

Report of Analysis

Client:	JACOBS Engineering Group, Inc.	Date Collected:	04/02/25 12:35
Project:	Former Schlumberger STC PTC Site D3868221	Date Received:	04/02/25
Client Sample ID:	MW-18B-56-040225DL	SDG No.:	Q1711
Lab Sample ID:	Q1711-01DL	Matrix:	WATER
		% Solid:	0

Parameter	Conc.	Qua.	DF	MDL	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
Chloride	23.6	D	10	1.90	6.00	mg/L		04/03/25 14:59	9056A

Comments:

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

Report of Analysis

Client:	JACOBS Engineering Group, Inc.	Date Collected:	04/02/25 15:35
Project:	Former Schlumberger STC PTC Site D3868221	Date Received:	04/02/25
Client Sample ID:	MW-17B-55-040225	SDG No.:	Q1711
Lab Sample ID:	Q1711-04	Matrix:	WATER
		% Solid:	0

Parameter	Conc.	Qua.	DF	MDL	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
Alkalinity	91.4		1	1.00	2.00	mg/L		04/03/25 13:45	SM 2320 B-11
Chloride	20.1	OR	1	0.19	0.60	mg/L		04/03/25 13:55	9056A
Nitrate	0.095	U	1	0.095	0.50	mg/L		04/03/25 13:55	9056A
Sulfate	4.50		1	0.46	3.00	mg/L		04/03/25 13:55	9056A
TDS	38.0		1	1.00	10.0	mg/L		04/03/25 12:30	SM 2540 C-15

Comments: The alkalinity to pH 4.37=91.4 mg CaCO₃/L

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

Report of Analysis

Client:	JACOBS Engineering Group, Inc.	Date Collected:	04/02/25 15:35
Project:	Former Schlumberger STC PTC Site D3868221	Date Received:	04/02/25
Client Sample ID:	MW-17B-55-040225DL	SDG No.:	Q1711
Lab Sample ID:	Q1711-04DL	Matrix:	WATER
		% Solid:	0

Parameter	Conc.	Qua.	DF	MDL	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
Chloride	18.4	D	5	0.95	3.00	mg/L		04/03/25 15:21	9056A

Comments:

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

Report of Analysis

Client:	JACOBS Engineering Group, Inc.	Date Collected:	04/02/25 15:50
Project:	Former Schlumberger STC PTC Site D3868221	Date Received:	04/02/25
Client Sample ID:	EB01-040225	SDG No.:	Q1711
Lab Sample ID:	Q1711-08	Matrix:	Water
		% Solid:	0

Parameter	Conc.	Qua.	DF	MDL	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
Alkalinity	1.00	U	1	1.00	2.00	mg/L		04/03/25 14:04	SM 2320 B-11
Chloride	0.19	U	1	0.19	0.60	mg/L		04/03/25 14:16	9056A
Nitrate	0.095	U	1	0.095	0.50	mg/L		04/03/25 14:16	9056A
Sulfate	0.46	U	1	0.46	3.00	mg/L		04/03/25 14:16	9056A
TDS	1.00	U	1	1.00	10.0	mg/L		04/03/25 12:30	SM 2540 C-15

Comments:

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: JACOBS Engineering Group, Inc.

SDG No.: Q1711

Project: Former Schlumberger STC PTC Site D3868221

RunNo.: LB135296

Analyte	Units	Result	True Value	% Recovery	Acceptance Window (%R)	Analysis Date
Sample ID: ICV1						
Bromide	mg/L	10.4	10	104	90-110	03/21/2025
Chloride	mg/L	3	3	100	90-110	03/21/2025
Fluoride	mg/L	2	2	100	90-110	03/21/2025
Nitrite	mg/L	3.1	3	103	90-110	03/21/2025
Nitrate	mg/L	2.6	2.5	104	90-110	03/21/2025
Sulfate	mg/L	15.3	15	102	90-110	03/21/2025
Orthophosphate as P	mg/L	5.2	5	104	90-110	03/21/2025
Sample ID: CCV1						
Bromide	mg/L	10.4	10	104	90-110	04/03/2025
Chloride	mg/L	3.1	3	103	90-110	04/03/2025
Fluoride	mg/L	2	2	100	90-110	04/03/2025
Nitrite	mg/L	3.1	3	103	90-110	04/03/2025
Nitrate	mg/L	2.6	2.5	104	90-110	04/03/2025
Sulfate	mg/L	15.2	15	101	90-110	04/03/2025
Orthophosphate as P	mg/L	5.2	5	104	90-110	04/03/2025
Sample ID: CCV2						
Bromide	mg/L	10.4	10	104	90-110	04/03/2025
Chloride	mg/L	3.1	3	103	90-110	04/03/2025
Fluoride	mg/L	2.1	2	105	90-110	04/03/2025
Nitrite	mg/L	3.1	3	103	90-110	04/03/2025
Nitrate	mg/L	2.6	2.5	104	90-110	04/03/2025
Sulfate	mg/L	15.4	15	103	90-110	04/03/2025
Orthophosphate as P	mg/L	5.2	5	104	90-110	04/03/2025

Initial and Continuing Calibration Verification

Client: JACOBS Engineering Group, Inc.

SDG No.: Q1711

Project: Former Schlumberger STC PTC Site D3868221

RunNo.: LB135296

Analyte	Units	Result	True Value	% Recovery	Acceptance Window (%R)	Analysis Date
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Initial and Continuing Calibration Blank Summary

Client: JACOBS Engineering Group, Inc.

SDG No.: Q1711

Project: Former Schlumberger STC PTC Site D3868221

RunNo.: LB135296

Analyte	Units	Result	Acceptance Limits	Conc Qual	MDL	RDL	Analysis Date
Sample ID: ICB1							
Bromide	mg/L	< 1.0000	1.0000	U	0.37	2	03/21/2025
Chloride	mg/L	< 0.3000	0.3000	U	0.19	0.6	03/21/2025
Fluoride	mg/L	< 0.2000	0.2000	U	0.11	0.4	03/21/2025
Nitrite	mg/L	0.08	0.3000	J	0.074	0.6	03/21/2025
Nitrate	mg/L	< 0.2500	0.2500	U	0.095	0.5	03/21/2025
Sulfate	mg/L	< 1.5000	1.5000	U	0.46	3	03/21/2025
Orthophosphate as P	mg/L	< 0.5000	0.5000	U	0.34	1	03/21/2025
Sample ID: CCB1							
Bromide	mg/L	< 1.0000	1.0000	U	0.37	2	04/03/2025
Chloride	mg/L	< 0.3000	0.3000	U	0.19	0.6	04/03/2025
Fluoride	mg/L	< 0.2000	0.2000	U	0.11	0.4	04/03/2025
Nitrite	mg/L	< 0.3000	0.3000	U	0.074	0.6	04/03/2025
Nitrate	mg/L	< 0.2500	0.2500	U	0.095	0.5	04/03/2025
Sulfate	mg/L	< 1.5000	1.5000	U	0.46	3	04/03/2025
Orthophosphate as P	mg/L	< 0.5000	0.5000	U	0.34	1	04/03/2025
Sample ID: CCB2							
Bromide	mg/L	< 1.0000	1.0000	U	0.37	2	04/03/2025
Chloride	mg/L	< 0.3000	0.3000	U	0.19	0.6	04/03/2025
Fluoride	mg/L	< 0.2000	0.2000	U	0.11	0.4	04/03/2025
Nitrite	mg/L	< 0.3000	0.3000	U	0.074	0.6	04/03/2025
Nitrate	mg/L	< 0.2500	0.2500	U	0.095	0.5	04/03/2025
Sulfate	mg/L	< 1.5000	1.5000	U	0.46	3	04/03/2025
Orthophosphate as P	mg/L	< 0.5000	0.5000	U	0.34	1	04/03/2025

Initial and Continuing Calibration Blank Summary

Client: JACOBS Engineering Group, Inc.

SDG No.: Q1711

Project: Former Schlumberger STC PTC Site D3868221

RunNo.: LB135296

Analyte	Units	Result	Acceptance Limits	Conc Qual	MDL	RDL	Analysis Date
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Preparation Blank Summary

Client: JACOBS Engineering Group, Inc.

SDG No.: Q1711

Project: Former Schlumberger STC PTC Site D3868221

Analyte	Units	Result	Acceptance Limits	Conc Qual	MDL	RDL	Analysis Date
Sample ID: LB135286BL							
TDS	mg/L	1	5.0000	J	1.0	10	04/03/2025
Sample ID: LB135288BLW							
Alkalinity	mg/L	< 1.0000	1.0000	U	1	2	04/03/2025
Sample ID: LB135291BL							
Alkalinity	mg/L	< 1.0000	1.0000	U	1	2	04/03/2025
Sample ID: LB135296BLW							
Bromide	mg/L	< 1.0000	1.0000	U	0.37	2	04/03/2025
Chloride	mg/L	< 0.3000	0.3000	U	0.19	0.6	04/03/2025
Fluoride	mg/L	< 0.2000	0.2000	U	0.11	0.4	04/03/2025
Nitrite	mg/L	< 0.3000	0.3000	U	0.074	0.6	04/03/2025
Nitrate	mg/L	< 0.2500	0.2500	U	0.095	0.5	04/03/2025
Sulfate	mg/L	< 1.5000	1.5000	U	0.46	3	04/03/2025
Orthophosphate as P	mg/L	< 0.5000	0.5000	U	0.34	1	04/03/2025

Matrix Spike Summary

Client:	JACOBS Engineering Group, Inc.	SDG No.:	Q1711
Project:	Former Schlumberger STC PTC Site D3868221	Sample ID:	Q1711-01
Client ID:	MW-18B-56-040225MS	Percent Solids for Spike Sample:	0

Analyte	Units	Acceptance Limit %R	Spiked Result	Conc. Qualifier	Sample Result	Conc. Qualifier	Spike Added	Dilution Factor	% Rec	Qual	Analysis Date
Bromide	mg/L	80-120	10.4	OR	0.37	U	10	1	104		04/03/2025
Chloride	mg/L	80-120	28.9		26.6	OR	3	1	77	*	04/03/2025
Fluoride	mg/L	80-120	2.30		0.33	J	2	1	98		04/03/2025
Nitrite	mg/L	80-120	3.10		0.074	U	3	1	103		04/03/2025
Nitrate	mg/L	80-120	2.60		0.095	U	2.5	1	104		04/03/2025
Sulfate	mg/L	80-120	24.9		10.7		15	1	95		04/03/2025
Orthophosphate as P	mg/L	80-120	2.40		2.10		5	1	6	*	04/03/2025

Matrix Spike Summary

Client:	JACOBS Engineering Group, Inc.	SDG No.:	Q1711
Project:	Former Schlumberger STC PTC Site D3868221	Sample ID:	Q1711-01
Client ID:	MW-18B-56-040225MSD	Percent Solids for Spike Sample:	0

Analyte	Units	Acceptance Limit %R	Spiked Result	Conc. Qualifier	Sample Result	Conc. Qualifier	Spike Added	Dilution Factor	% Rec	Qual	Analysis Date
Bromide	mg/L	80-120	10.1	OR	0.37	U	10	1	101		04/03/2025
Chloride	mg/L	80-120	28.9		26.6	OR	3	1	77	*	04/03/2025
Fluoride	mg/L	80-120	2.20		0.33	J	2	1	94		04/03/2025
Nitrite	mg/L	80-120	3.00		0.074	U	3	1	100		04/03/2025
Nitrate	mg/L	80-120	2.50		0.095	U	2.5	1	100		04/03/2025
Sulfate	mg/L	80-120	24.5		10.7		15	1	92		04/03/2025
Orthophosphate as P	mg/L	80-120	1.60		2.10		5	1	-10	*	04/03/2025

Duplicate Sample Summary

Client: JACOBS Engineering Group, Inc. Project: Former Schlumberger STC PTC Site D3868221 Client ID: MW-18B-56-040225DUP	SDG No.: Q1711 Sample ID: Q1711-01 Percent Solids for Spike Sample: 0
---	--

Analyte	Units	Acceptance Limit	Sample Result	Conc. Qualifier	Duplicate Result	Conc. Qualifier	Dilution Factor	RPD/AD	Qual	Analysis Date
TDS	mg/L	+/-5	257		261		1	1.54		04/03/2025
Alkalinity	mg/L	+/-20	273		270		1	1		04/03/2025

Duplicate Sample Summary

Client:	JACOBS Engineering Group, Inc.	SDG No.:	Q1711
Project:	Former Schlumberger STC PTC Site D3868221	Sample ID:	Q1711-01
Client ID:	MW-18B-56-040225MSD	Percent Solids for Spike Sample:	0

Analyte	Units	Acceptance Limit	Sample Result	Conc. Qualifier	Duplicate Result	Conc. Qualifier	Dilution Factor	RPD/AD	Qual	Analysis Date
Chloride	mg/L	+/-15	28.9	OR	28.9	OR	1	0		04/03/2025
Sulfate	mg/L	+/-15	24.9		24.5		1	2		04/03/2025
Bromide	mg/L	+/-15	10.4		10.1		1	3		04/03/2025
Nitrite	mg/L	+/-15	3.10		3.00		1	3		04/03/2025
Fluoride	mg/L	+/-15	2.30		2.20		1	4		04/03/2025
Nitrate	mg/L	+/-15	2.60		2.50		1	4		04/03/2025
Orthophosphate as P	mg/L	+/-15	2.40		1.60		1	40	*	04/03/2025

Duplicate Sample Summary

Client: JACOBS Engineering Group, Inc.	SDG No.: Q1711
Project: Former Schlumberger STC PTC Site D3868221	Sample ID: Q1711-08
Client ID: EB01-040225DUP	Percent Solids for Spike Sample: 0

Analyte	Units	Acceptance Limit	Sample Result	Conc. Qualifier	Duplicate Result	Conc. Qualifier	Dilution Factor	RPD/AD	Qual	Analysis Date
Alkalinity	mg/L	+/-20	1.00	U	1.00	U	1	0		04/03/2025

Laboratory Control Sample Summary

Client:	JACOBS Engineering Group, Inc.	SDG No.:	Q1711
Project:	Former Schlumberger STC PTC Site D3868221	Run No.:	LB135286

Analyte	Units	True Value	Result	Conc. Qualifier	% Recovery	Dilution Factor	Acceptance Limit %R	Analysis Date
Sample ID	LB135286BS							
TDS	mg/L	100	94.0		94	1	90-110	04/03/2025

Laboratory Control Sample Summary

Client:	JACOBS Engineering Group, Inc.	SDG No.:	Q1711
Project:	Former Schlumberger STC PTC Site D3868221	Run No.:	LB135288

Analyte	Units	True Value	Result	Conc. Qualifier	% Recovery	Dilution Factor	Acceptance Limit %R	Analysis Date
Sample ID	LB135288BSW							
Alkalinity	mg/L	50	53.2		106	1	80-120	04/03/2025

Laboratory Control Sample Summary

Client:	JACOBS Engineering Group, Inc.	SDG No.:	Q1711
Project:	Former Schlumberger STC PTC Site D3868221	Run No.:	LB135291

Analyte	Units	True Value	Result	Conc. Qualifier	% Recovery	Dilution Factor	Acceptance Limit %R	Analysis Date
Sample ID	LB135291BS							
Alkalinity	mg/L	50	45.4		91	1	80-120	04/03/2025

Laboratory Control Sample Summary

Client:	JACOBS Engineering Group, Inc.	SDG No.:	Q1711
Project:	Former Schlumberger STC PTC Site D3868221	Run No.:	LB135296

Analyte	Units	True Value	Result	Conc. Qualifier	% Recovery	Dilution Factor	Acceptance Limit %R	Analysis Date
Sample ID	LB135296BSW							
Bromide	mg/L	10	10.4		104	1	90-110	04/03/2025
Chloride	mg/L	3	3.10		103	1	90-110	04/03/2025
Fluoride	mg/L	2	2.00		100	1	90-110	04/03/2025
Nitrite	mg/L	3	3.10		103	1	90-110	04/03/2025
Nitrate	mg/L	2.5	2.60		104	1	90-110	04/03/2025
Sulfate	mg/L	15	15.2		101	1	90-110	04/03/2025
Orthophosphate as P	mg/L	5	5.20		104	1	90-110	04/03/2025



RAW DATA

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TOTAL Dissolved Solids - SM2540C

Run Number: LB135286

Date: 04/04/2025

SUPERVISOR: Iwona

ANALYST: jignesh

BalanceID: WC SC-6

Filter ID: 17416528

EMPTY DISH				EMPTY DISH				OvenID:	WC OVEN-1	Thermo ID:	WET OVNE#1
TEMP IN:	104 °C	04/03/2025	11:00	TEMP OUT:	104 °C	04/03/2025	12:00				
TEMP1 IN:	103 °C	04/03/2025	12:30	TEMP1 OUT:	103 °C	04/03/2025	13:30	OvenID1:	WC OVEN-1	Thermo ID1:	WET OVEN#1
TEMP2 IN:	104 °C	04/03/2025	17:00	TEMP2 OUT:	103 °C	04/04/2025	08:00	OvenID2:	WC OVEN-2	Thermo ID2:	WET OVEN#2
TEMP3 IN:	180 °C	04/04/2025	08:05	TEMP3 OUT:	180 °C	04/04/2025	09:45	OvenID3:	WC OVEN#2	Thermo ID3:	WET OVEN#2

Dish #	Lab ID	Client ID	Empty Dish Weight (g)	Final Empty Dish Weight (g)	Sample Volume (ml)	1st Empty Dish+Sample weight after 1.5hr drying @180(±2) °C (g)	2nd Empty Dish+Sample weight after 1.5hr drying @180(±2) °C (g)	Final Empty Dish+Sample weight after 1.5hr drying @180(±2) °C (g)	Weight (g)	Result mg/L
1	LB135286BL	LB135286BL	135.6257	135.6257	100	135.6258	135.6258	135.6258	0.0001	1
2	LB135286BS	LB135286BS	118.0367	118.0367	100	118.0461	118.0461	118.0461	0.0094	94
3	Q1711-01	MW-18B-56-040225	142.7617	142.7617	100	142.7874	142.7874	142.7874	0.0257	257
4	Q1711-01DUP	MW-18B-56-040225DUP	148.8741	148.8740	100	148.9001	148.9001	148.9001	0.0261	261
5	Q1711-04	MW-17B-55-040225	157.5139	157.5140	100	157.5178	157.5178	157.5178	0.0038	38
6	Q1711-08	EB01-040225	156.5594	156.5594	100	156.5594	156.5594	156.5594	0.0000	0

A = Sample Volume (ml)

B = Empty Dish Weight (g)

C = 2nd Empty Dish + Sample weight after 1.5 hr drying @180(±2) °C(g)

D = Weight (g)

$$\text{Weight (g)} = C - B$$

$$\text{Result mg/L} = \frac{D}{A} * 1000 * 1000$$

135286

WORKLIST(Hardcopy Internal Chain)

WorkList Name : tds q1711 WorkList ID : 188711 Department : Wet-Chemistry Date : 04-03-2025 12:16:40

Sample	Customer Sample	Matrix	Test	Preservative	Customer	Raw Sample Storage Location	Collect Date	Method
Q1711-01 F	MW-18B-56-040225	Water	TDS	Cool 4 deg C	JACO05	I41	04/02/2025	SM2540 C
Q1711-04 F	MW-17B-55-040225	Water	TDS	Cool 4 deg C	JACO05	I41	04/02/2025	SM2540 C
Q1711-08 F	EB01-040225	Water	TDS	Cool 4 deg C	JACO05	I41	04/02/2025	SM2540 C

Date/Time 09/03/25 12:40
Raw Sample Received by: SB GARCIA
Raw Sample Relinquished by: CP SPM

Date/Time 04/03/25 16:00
Raw Sample Received by: CP SPM
Raw Sample Relinquished by: SB GARCIA

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TitriSoft Report

Ident	Amount	DateTime	Alkalinity	Final pH (sample)	Initial pH (sample)	slope	offset
LB135288BLW	100	03/04/2025 13:24	0.00	3.73	3.76	103.3	6.96
LB135288BSW	100	03/04/2025 13:29	53.20	4.42	9.52	103.3	6.96
Q1711-01	50	03/04/2025 13:36	272.64	4.28	11.21	103.3	6.96
Q1711-01DUP	50	03/04/2025 13:41	270.24	4.31	11.18	103.3	6.96
Q1711-04	50	03/04/2025 13:45	91.38	4.37	6.43	103.3	6.96
Q1711-08	50	03/04/2025 13:49	2.86	4.38	5.22	103.3	6.96

04/03/2025

12
4/3/25

WORKLIST(Hardcopy Internal Chain)

LB135288

WorkList Name : ALK-040325

WorkList ID : 188705

Department : Wet-Chemistry

Date : 04-03-2025 11:59:31

Sample	Customer Sample	Matrix	Test	Preservative	Customer	Raw Sample Storage Location	Collect Date	Method
Q1711-01	MW-18B-56-040225	Water	Alkalinity	Cool 4 deg C	JACO05	I41	04/02/2025	SM2320 B
Q1711-04	MW-17B-55-040225	Water	Alkalinity	Cool 4 deg C	JACO05	I41	04/02/2025	SM2320 B
Q1711-08	EB01-040225	Water	Alkalinity	Cool 4 deg C	JACO05	I41	04/02/2025	SM2320 B

Date/Time 04/03/25 13:10
Raw Sample Received by: 12(wc)
Raw Sample Relinquished by: RB(wc)

Date/Time 04/03/25 14:15
Raw Sample Received by: RB(wc)
Raw Sample Relinquished by: RB(wc)

Analytical Summary Report

Analysis Method: SM2320 B
Parameter: Alkalinity
Run Number: LB135291
Constant: 50,000

Reviewed By: Niha
Supervisor Review By: Iwona
Normality: 0.02
pH Meter ID: WC pH meter-1

Reagent/Standard	Lot/Log #
alkalinity LCSW 50 ppm	WP112573
SULFURIC ACID, 0.02N, 4L	W3150

Seq	LabID	ClientID	TV (mg/L)	DL	Sample Vol (mL)	Initial pH	pH(4.3- 4.7)	Final pH	0.02N H2SO4				Alkalinity	Anal Date	Anal Time
									A	B	C	D			
									Initial(ml)	ml at pH(4.3-4.7)	Final(ml)	Diff(ml)			
1	LB135291BL	LB135291BL		1	100	5.14	4.52	4.22	0.00	0.04	0.08	0.00	0.00	04/03/2025	13:55
2	LB135291BS	LB135291BS	50	1	100	9.42	4.48	4.18	0.00	5.38	6.22	4.54	45.40	04/03/2025	13:58
3	Q1711-08	EB01-040225		1	100	5.17	4.69	4.29	0.00	0.02	0.04	0.00	0.00	04/03/2025	14:04
4	Q1711-08DUP	EB01-040225DUP		1	100	4.18	4.62	4.32	0.00	0.04	0.06	0.02	0.20	04/03/2025	14:08

$$D = 2(B-A) - (C-A)$$

$$\text{Alkalinity} = (D * \text{Normality} * \text{Constant}) / \text{Sample Volume (ml)}$$

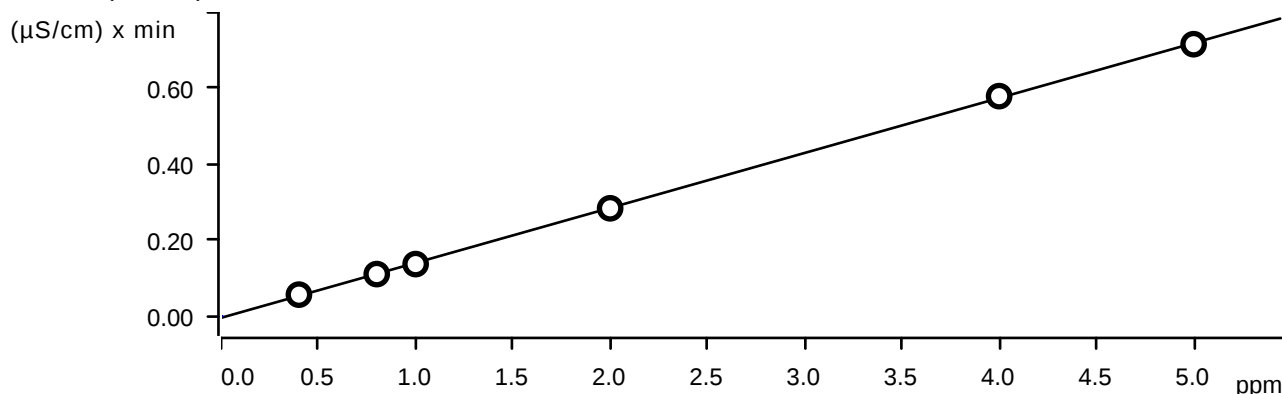
Ident	Instrument IC-1				Analyst: NF		Method: 300.0 / 9056A		Initial Analyst		
	Con F-	Con CL-	Con NO2	Con BR-	Con NO3	Con HPO4	Con SO4				
STD1	0	0	0	0	0	0	0	0	IC1-032125	3/21/2025 10:45	10 NF/IZ
STD2	0.421	0.619	0.631	2.075	0.523	1.052	3.247	IC1-032125	3/21/2025 11:07	10 NF/IZ	
STD3	0.795	1.199	1.203	3.994	1.001	1.993	5.998	IC1-032125	3/21/2025 11:28	10 NF/IZ	
STD4	0.977	1.475	1.468	4.904	1.226	2.407	7.216	IC1-032125	3/21/2025 11:50	10 NF/IZ	
STD5	1.993	3.009	2.995	10.03	2.493	4.968	14.842	IC1-032125	3/21/2025 12:11	10 NF/IZ	
STD6	4.034	5.988	5.986	19.975	5.011	10.256	30.502	IC1-032125	3/21/2025 12:32	10 NF/IZ	
STD7	4.979	7.51	7.517	25.022	6.247	12.323	36.695	IC1-032125	3/21/2025 12:54	10 NF/IZ	
ICV	2.031	3.038	3.08	10.364	2.568	5.199	15.269	IC1-032125	3/21/2025 13:37	10 NF/IZ	
ICB	0	0.122	0.08	0	0	0	0	IC1-032125	3/21/2025 13:58	10 NF/IZ	
CCV	2.034	3.119	3.093	10.383	2.559	5.188	15.179	IC1-032125	4/3/2025 9:38	10 NF/IZ	
CCB	0	0	0	0	0	0	0	IC1-032125	4/3/2025 9:59	10 NF/IZ	
LB135296BSW	2.028	3.121	3.103	10.387	2.561	5.226	15.185	IC1-032125	4/3/2025 10:43	10 NF/IZ	
LB135296BLW	0	0	0	0	0	0	0	IC1-032125	4/3/2025 11:04	10 NF/IZ	
Q1711-01	0.332	26.59	0	0.215	0	2.108	10.666	IC1-032125	4/3/2025 12:29	10 NF/IZ	
Q1711-02MS	2.301	28.881	3.076	10.43	2.571	2.367	24.892	IC1-032125	4/3/2025 12:50	10 NF/IZ	
Q1711-03MSD	2.172	28.857	2.983	10.101	2.479	1.573	24.485	IC1-032125	4/3/2025 13:12	10 NF/IZ	
Q1711-04	0.275	20.1	0	0.221	0	0	4.529	IC1-032125	4/3/2025 13:55	10 NF/IZ	
Q1711-08	0	0.047	0	0	0	0	0	IC1-032125	4/3/2025 14:16	10 NF/IZ	
Q1716-01	0.433	427.687	0	0.63	0.296	0	54.697	IC1-032125	4/3/2025 14:38	10 NF/IZ	
Q1711-01DLX10	0.054	2.364	0	0	0	0	1.413	IC1-032125	4/3/2025 14:59	10 NF/IZ	
Q1711-04DLX5	0.071	3.687	0	0	0	0	1.238	IC1-032125	4/3/2025 15:21	10 NF/IZ	
CCV	2.072	3.107	3.112	10.418	2.589	5.237	15.386	IC1-032125	4/3/2025 15:43	10 NF/IZ	
CCB	0	0	0	0	0	0	0	IC1-032125	4/3/2025 17:16	10 NF/IZ	

Clear table

Instrument ID: IC-2 Analyst: IZ Method: 300.0 / 9056A									
ident	concentra tion F-	concentratio n CL-	concentrati on NO2	concentrati on BR-	concentrati on NO3	concentrati on HPO4	concentrati on SO4	file name	Initial wt/ Final
STD1	0	0	0	0	0	0	0	0 IC1-032125	10 NF/IZ
STD2	0.421	0.619	0.631	2.075	0.523	1.052	3.247	IC1-032125	10 NF/IZ
STD3	0.795	1.199	1.203	3.994	1.001	1.993	5.998	IC1-032125	10 NF/IZ
STD4	0.977	1.475	1.468	4.904	1.226	2.407	7.216	IC1-032125	10 NF/IZ
STD5	1.993	3.009	2.995	10.03	2.493	4.968	14.842	IC1-032125	10 NF/IZ
STD6	4.034	5.988	5.986	19.975	5.011	10.256	30.502	IC1-032125	10 NF/IZ
STD7	4.979	7.51	7.517	25.022	6.247	12.323	36.695	IC1-032125	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									
STD2	5.2500	3.1667	5.1667	3.7500	4.6000	5.2000	8.2333		
STD3	-0.6250	-0.0833	0.2500	-0.1500	0.1000	-0.3500	-0.0333		
STD4	-2.3000	-1.6667	-2.1333	-1.9200	-1.9200	-3.7200	-3.7867		
STD5	-0.3500	0.3000	-0.1667	0.3000	-0.2800	-0.6400	-1.0533		
STD6	0.8500	-0.2000	-0.2333	-0.1250	0.2200	2.5600	1.6733		
STD7	-0.4200	0.1333	0.2267	0.0880	-0.0480	-1.4160	-0.8243		

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Fluoride (Anions)

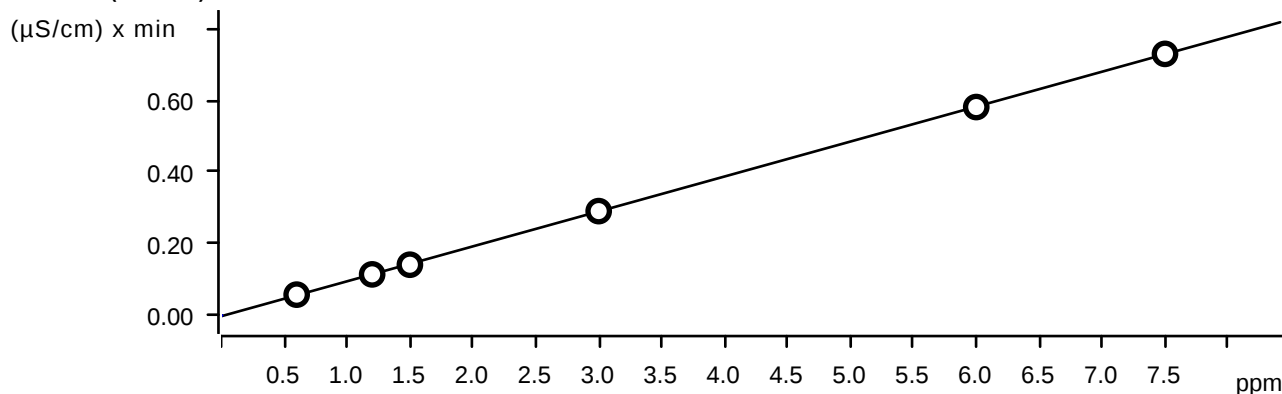
Function: $A = -4.00269E-3 + 0.0144679 \times Q$

Relative standard deviation 1.180947 %

Correlation coefficient 0.999926

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	2025-03-21 10:45:52 UTC-4	used
Standard 2	1	0.400	10.0	1.0	1.0	0.057	STD2	2025-03-21 11:07:15 UTC-4	used
Standard 3	1	0.800	10.0	1.0	1.0	0.111	STD3	2025-03-21 11:28:39 UTC-4	used
Standard 4	1	1.000	10.0	1.0	1.0	0.137	STD4	2025-03-21 11:50:04 UTC-4	used
Standard 5	1	2.000	10.0	1.0	1.0	0.284	STD5	2025-03-21 12:11:30 UTC-4	used
Standard 6	1	4.000	10.0	1.0	1.0	0.580	STD6	2025-03-21 12:32:57 UTC-4	used
Standard 7	1	5.000	10.0	1.0	1.0	0.716	STD7	2025-03-21 12:54:24 UTC-4	used

Chloride (Anions)

Function: $A = -2.25189E-3 + 9.74103E-3 \times Q$

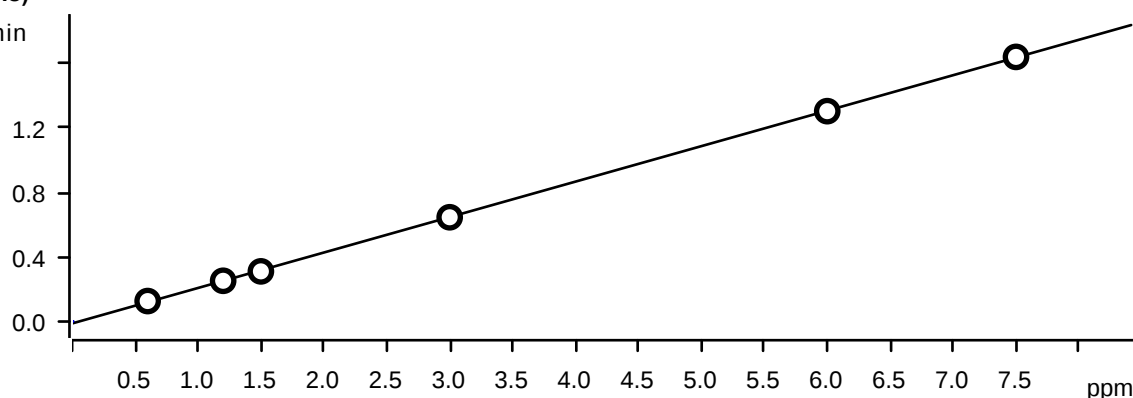
Relative standard deviation 0.547466 %

Correlation coefficient 0.999984

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	2025-03-21 10:45:52 UTC-4	used
Standard 2	1	0.600	10.0	1.0	1.0	0.058	STD2	2025-03-21 11:07:15 UTC-4	used
Standard 3	1	1.200	10.0	1.0	1.0	0.115	STD3	2025-03-21 11:28:39 UTC-4	used
Standard 4	1	1.500	10.0	1.0	1.0	0.141	STD4	2025-03-21 11:50:04 UTC-4	used
Standard 5	1	3.000	10.0	1.0	1.0	0.291	STD5	2025-03-21 12:11:30 UTC-4	used
Standard 6	1	6.000	10.0	1.0	1.0	0.581	STD6	2025-03-21 12:32:57 UTC-4	used
Standard 7	1	7.500	10.0	1.0	1.0	0.729	STD7	2025-03-21 12:54:24 UTC-4	used

Nitrite (Anions)

(μS/cm) x min

Function: $A = -0.0127504 + 0.0219707 \times Q$

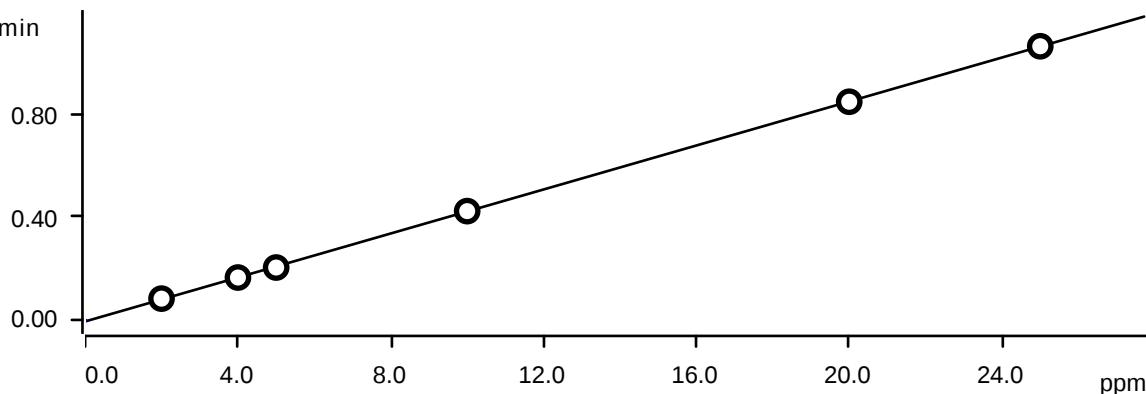
Relative standard deviation 0.767970 %

Correlation coefficient 0.999969

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	2025-03-21 10:45:52 UTC-4	used
Standard 2	1	0.600	10.0	1.0	1.0	0.126	STD2	2025-03-21 11:07:15 UTC-4	used
Standard 3	1	1.200	10.0	1.0	1.0	0.252	STD3	2025-03-21 11:28:39 UTC-4	used
Standard 4	1	1.500	10.0	1.0	1.0	0.310	STD4	2025-03-21 11:50:04 UTC-4	used
Standard 5	1	3.000	10.0	1.0	1.0	0.645	STD5	2025-03-21 12:11:30 UTC-4	used
Standard 6	1	6.000	10.0	1.0	1.0	1.302	STD6	2025-03-21 12:32:57 UTC-4	used
Standard 7	1	7.500	10.0	1.0	1.0	1.639	STD7	2025-03-21 12:54:24 UTC-4	used

Bromide (Anions)

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



Function: $A = -4.26620E-3 + 4.25885E-3 \times Q$

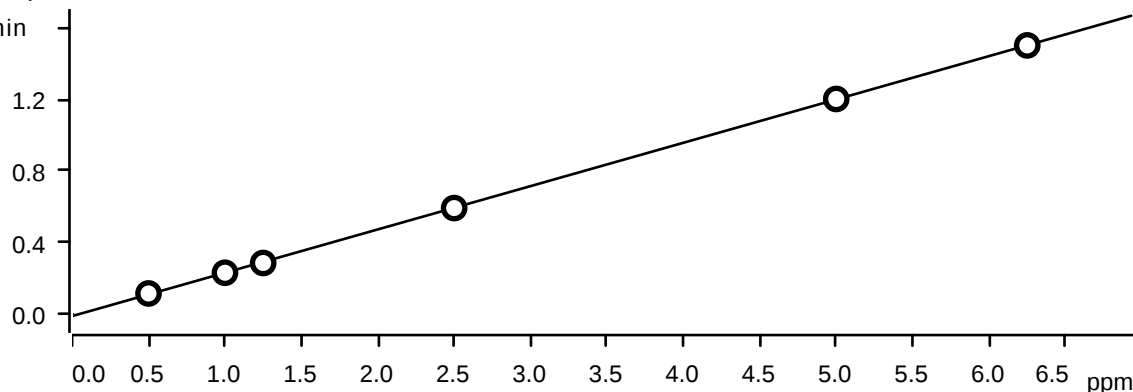
Relative standard deviation: 0.597348 %

Correlation coefficient: 0.999981

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	2025-03-21 10:45:52 UTC-4	used
Standard 2	1	2.000	10.0	1.0	1.0	0.084	STD2	2025-03-21 11:07:15 UTC-4	used
Standard 3	1	4.000	10.0	1.0	1.0	0.166	STD3	2025-03-21 11:28:39 UTC-4	used
Standard 4	1	5.000	10.0	1.0	1.0	0.205	STD4	2025-03-21 11:50:04 UTC-4	used
Standard 5	1	10.000	10.0	1.0	1.0	0.423	STD5	2025-03-21 12:11:30 UTC-4	used
Standard 6	1	20.000	10.0	1.0	1.0	0.846	STD6	2025-03-21 12:32:57 UTC-4	used
Standard 7	1	25.000	10.0	1.0	1.0	1.061	STD7	2025-03-21 12:54:24 UTC-4	used

Nitrate (Anions)

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

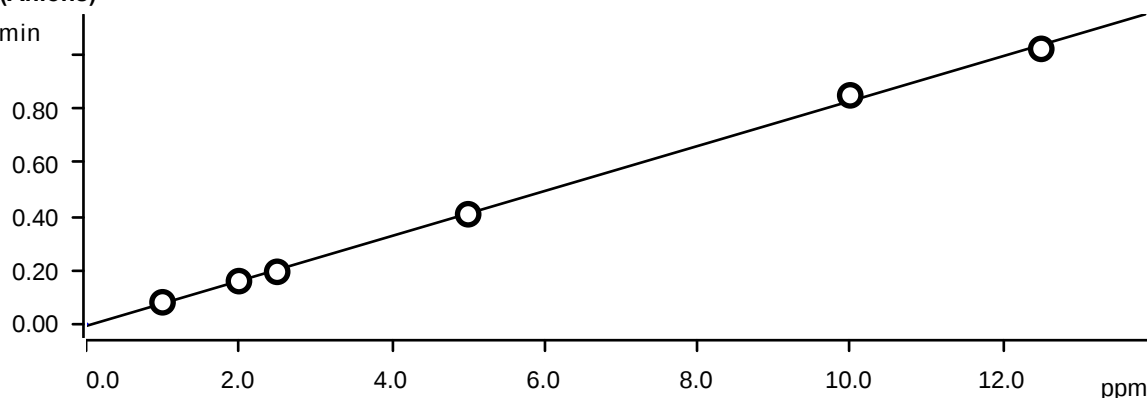


Function: $A = -9.20754E-3 + 0.0241631 \times Q$

Relative standard deviation: 0.659338 %

Correlation coefficient 0.999977

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	2025-03-21 10:45:52 UTC-4	used
Standard 2	1	0.500	10.0	1.0	1.0	0.117	STD2	2025-03-21 11:07:15 UTC-4	used
Standard 3	1	1.000	10.0	1.0	1.0	0.233	STD3	2025-03-21 11:28:39 UTC-4	used
Standard 4	1	1.250	10.0	1.0	1.0	0.287	STD4	2025-03-21 11:50:04 UTC-4	used
Standard 5	1	2.500	10.0	1.0	1.0	0.593	STD5	2025-03-21 12:11:30 UTC-4	used
Standard 6	1	5.000	10.0	1.0	1.0	1.202	STD6	2025-03-21 12:32:57 UTC-4	used
Standard 7	1	6.250	10.0	1.0	1.0	1.500	STD7	2025-03-21 12:54:24 UTC-4	used

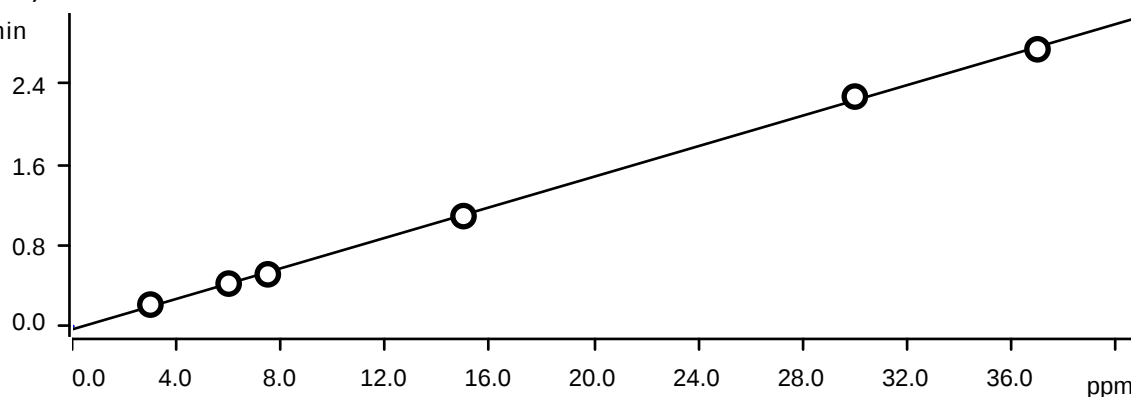
Phosphate (Anions) $(\mu\text{S}/\text{cm}) \times \text{min}$ Function: $A = -6.92112E-3 + 8.35786E-3 \times Q$

Relative standard deviation 3.051728 %

Correlation coefficient 0.999508

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	2025-03-21 10:45:52 UTC-4	used
Standard 2	1	1.000	10.0	1.0	1.0	0.081	STD2	2025-03-21 11:07:15 UTC-4	used
Standard 3	1	2.000	10.0	1.0	1.0	0.160	STD3	2025-03-21 11:28:39 UTC-4	used
Standard 4	1	2.500	10.0	1.0	1.0	0.194	STD4	2025-03-21 11:50:04 UTC-4	used
Standard 5	1	5.000	10.0	1.0	1.0	0.408	STD5	2025-03-21 12:11:30 UTC-4	used
Standard 6	1	10.000	10.0	1.0	1.0	0.850	STD6	2025-03-21 12:32:57 UTC-4	used
Standard 7	1	12.500	10.0	1.0	1.0	1.023	STD7	2025-03-21 12:54:24 UTC-4	used

Sulfate (Anions)

 $(\mu\text{S}/\text{cm}) \times \text{min}$ Function: $A = -0.0318458 + 7.56676E-3 \times Q$

Relative standard deviation 2.235653 %

Correlation coefficient 0.999739

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	2025-03-21 10:45:52 UTC-4	used
Standard 2	1	3.000	10.0	1.0	1.0	0.214	STD2	2025-03-21 11:07:15 UTC-4	used
Standard 3	1	6.000	10.0	1.0	1.0	0.422	STD3	2025-03-21 11:28:39 UTC-4	used
Standard 4	1	7.500	10.0	1.0	1.0	0.514	STD4	2025-03-21 11:50:04 UTC-4	used
Standard 5	1	15.000	10.0	1.0	1.0	1.091	STD5	2025-03-21 12:11:30 UTC-4	used
Standard 6	1	30.000	10.0	1.0	1.0	2.276	STD6	2025-03-21 12:32:57 UTC-4	used
Standard 7	1	37.000	10.0	1.0	1.0	2.745	STD7	2025-03-21 12:54:24 UTC-4	used

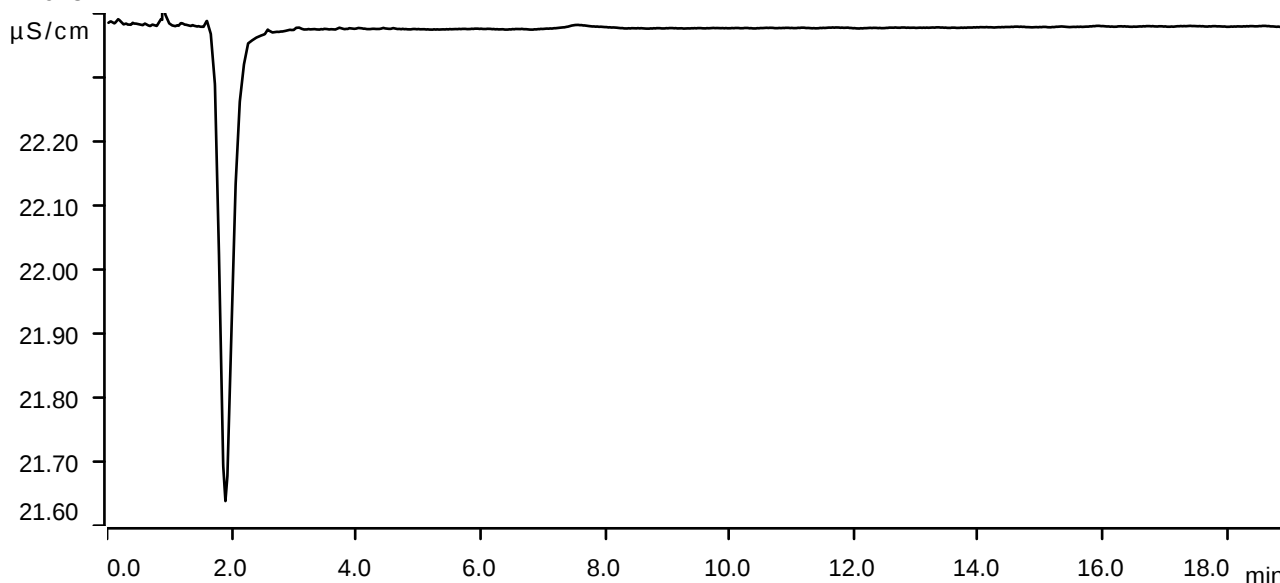
Sample data

Ident STD1
Sample type Standard 1
Determination start 2025-03-21 10:45:52 UTC-4
Method IC1-032125
Operator

Anions

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

Anions



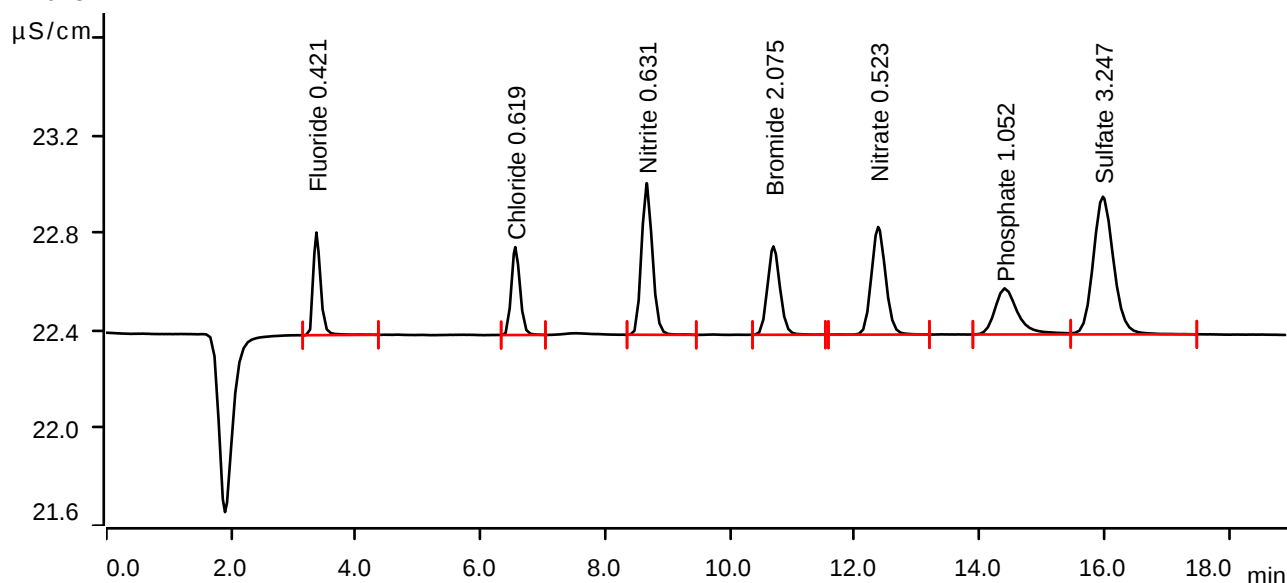
Sample data

Ident STD2
Sample type Standard 2
Determination start 2025-03-21 11:07:15 UTC-4
Method IC1-032125
Operator

Anions

Data source Conductivity detector 1 (Eco IC 1)
Channel Conductivity
Recording time 19.0 min
Integration Automatically
Column type Metrosep A Supp 19 - 150/4.0
Eluent composition not defined
Flow 0.700 mL/min
Maximum flow monitored yes
Pressure 11.49 MPa
Maximum pressure monitored yes
Temperature ---- °C

Anions



Peak number	Retention time min	Area (µS/cm) x min	Height µS/cm	Concentration ppm	Component name
1	3.368	0.0570	0.420	0.421	Fluoride
2	6.557	0.0580	0.361	0.619	Chloride
3	8.662	0.1260	0.621	0.631	Nitrite
4	10.695	0.0841	0.362	2.075	Bromide
5	12.375	0.1171	0.441	0.523	Nitrate
6	14.403	0.0810	0.189	1.052	Phosphate
7	15.978	0.2139	0.564	3.247	Sulfate

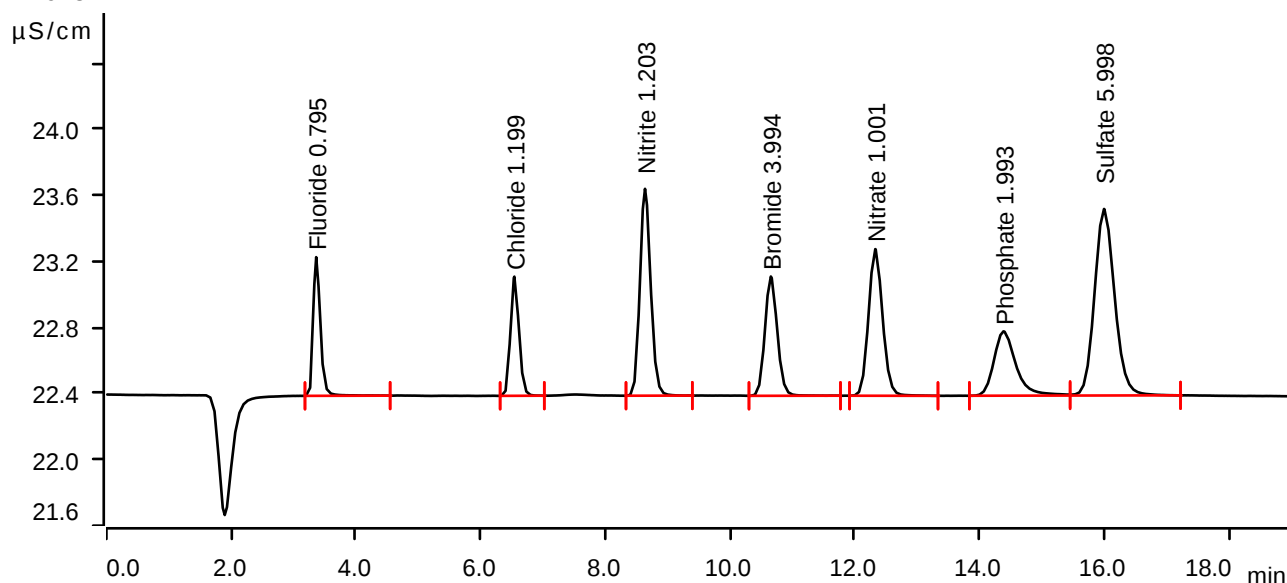
Sample data

Ident STD3
Sample type Standard 3
Determination start 2025-03-21 11:28:39 UTC-4
Method IC1-032125
Operator

Anions

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

Anions



Peak number	Retention time min	Area (µS/cm) x min	Height µS/cm	Concentration ppm	Component name
1	3.365	0.1110	0.839	0.795	Fluoride
2	6.542	0.1146	0.721	1.199	Chloride
3	8.637	0.2515	1.252	1.203	Nitrite
4	10.653	0.1658	0.722	3.994	Bromide
5	12.328	0.2325	0.888	1.001	Nitrate
6	14.383	0.1597	0.389	1.993	Phosphate
7	15.995	0.4220	1.129	5.998	Sulfate

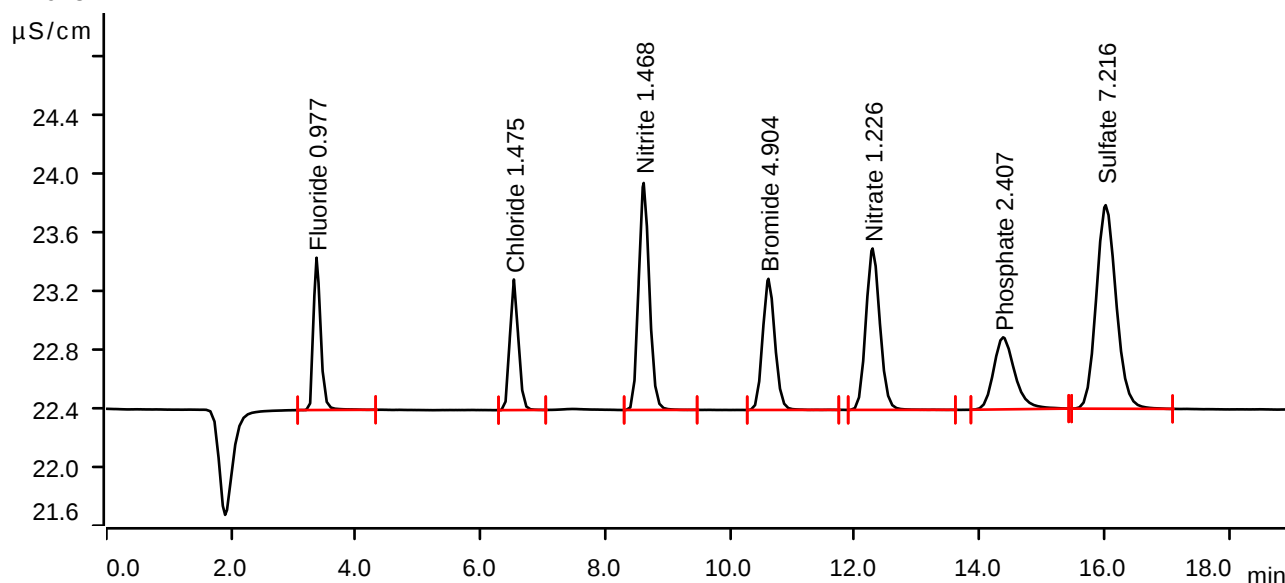
Sample data

Ident STD4
Sample type Standard 4
Determination start 2025-03-21 11:50:04 UTC-4
Method IC1-032125
Operator

Anions

Data source Conductivity detector 1 (Eco IC 1)
Channel Conductivity
Recording time 19.0 min
Integration Automatically
Column type Metrosep A Supp 19 - 150/4.0
Eluent composition not defined
Flow 0.700 mL/min
Maximum flow monitored yes
Pressure 11.49 MPa
Maximum pressure monitored yes
Temperature ---- °C

Anions



Peak number	Retention time min	Area (µS/cm) x min	Height µS/cm	Concentration ppm	Component name
1	3.370	0.1374	1.040	0.977	Fluoride
2	6.533	0.1415	0.892	1.475	Chloride
3	8.615	0.3099	1.551	1.468	Nitrite
4	10.615	0.2046	0.896	4.904	Bromide
5	12.285	0.2869	1.103	1.226	Nitrate
6	14.378	0.1943	0.492	2.407	Phosphate
7	16.022	0.5142	1.391	7.216	Sulfate

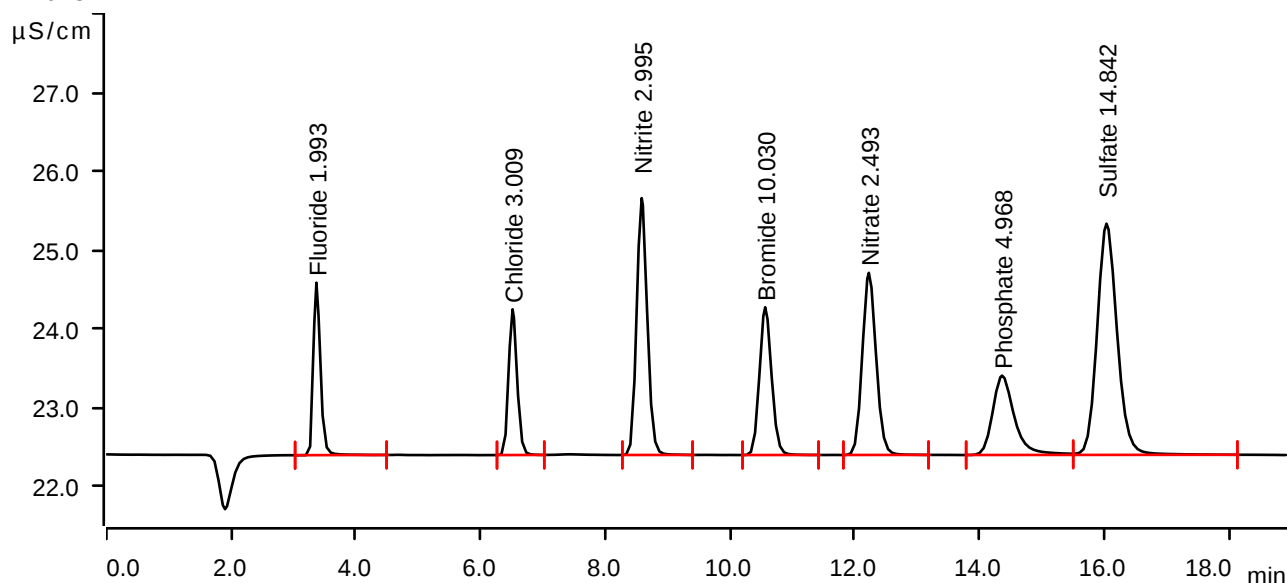
Sample data

Ident STD5
Sample type Standard 5
Determination start 2025-03-21 12:11:30 UTC-4
Method IC1-032125
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 11.20 MPa
Maximum pressure monitored yes
Temperature ---- °C

Anions



Peak number	Retention time min	Area (µS/cm) x min	Height µS/cm	Concentration ppm	Component name
1	3.368	0.2843	2.188	1.993	Fluoride
2	6.513	0.2909	1.849	3.009	Chloride
3	8.583	0.6452	3.260	2.995	Nitrite
4	10.563	0.4229	1.875	10.030	Bromide
5	12.225	0.5933	2.311	2.493	Nitrate
6	14.362	0.4083	1.007	4.968	Phosphate
7	16.035	1.0913	2.934	14.842	Sulfate

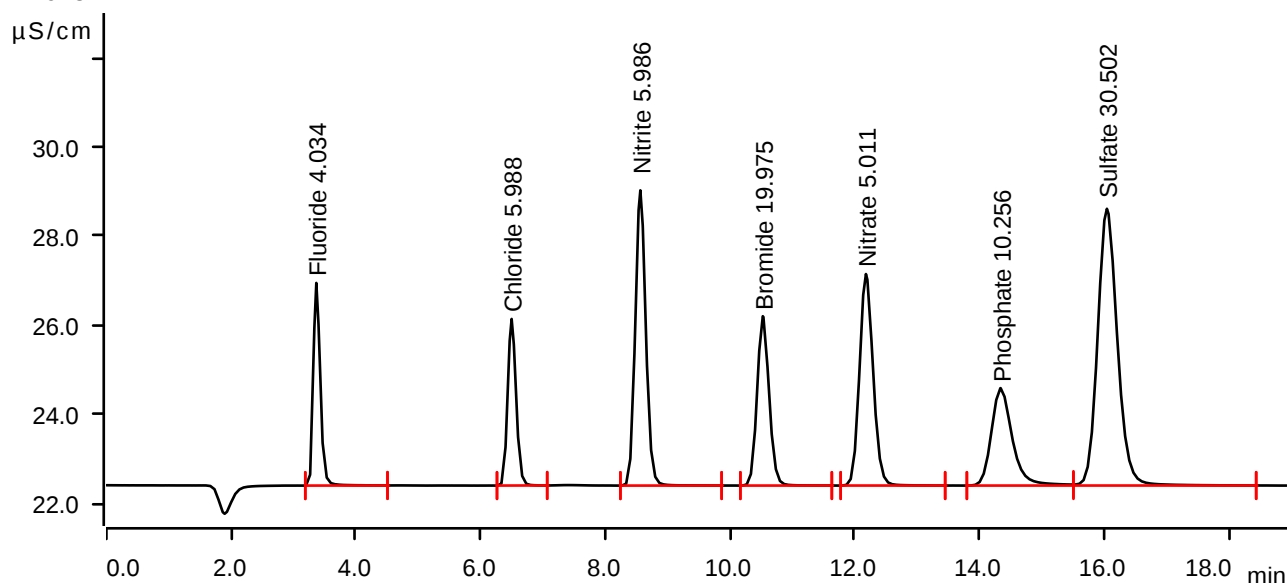
Sample data

Ident STD6
Sample type Standard 6
Determination start 2025-03-21 12:32:57 UTC-4
Method IC1-032125
Operator

Anions

Data source Conductivity detector 1 (Eco IC 1)
Channel Conductivity
Recording time 19.0 min
Integration Automatically
Column type Metrosep A Supp 19 - 150/4.0
Eluent composition not defined
Flow 0.700 mL/min
Maximum flow monitored yes
Pressure 11.09 MPa
Maximum pressure monitored yes
Temperature ---- °C

Anions



Peak number	Retention time min	Area (µS/cm) x min	Height µS/cm	Concentration ppm	Component name
1	3.367	0.5796	4.549	4.034	Fluoride
2	6.498	0.5810	3.740	5.988	Chloride
3	8.562	1.3025	6.628	5.986	Nitrite
4	10.525	0.8465	3.803	19.975	Bromide
5	12.178	1.2015	4.749	5.011	Nitrate
6	14.338	0.8503	2.187	10.256	Phosphate
7	16.042	2.2762	6.214	30.502	Sulfate

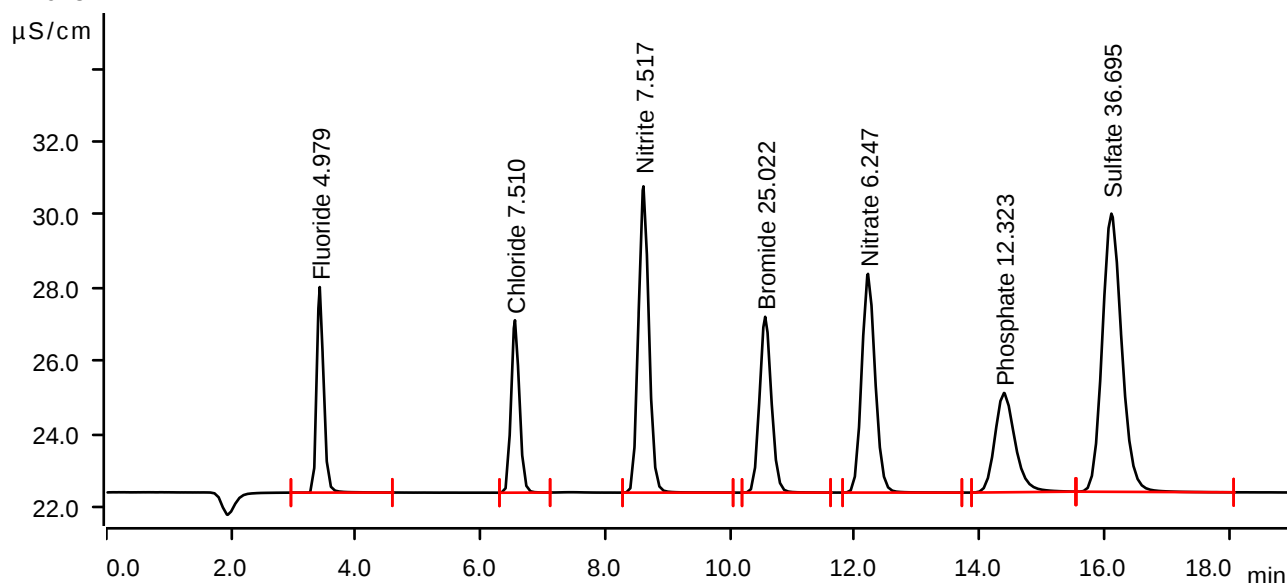
Sample data

Ident STD7
Sample type Standard 7
Determination start 2025-03-21 12:54:24 UTC-4
Method IC1-032125
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	3.422	0.7164	5.617	4.979	Fluoride
2	6.552	0.7293	4.712	7.510	Chloride
3	8.612	1.6387	8.371	7.517	Nitrite
4	10.563	1.0614	4.806	25.022	Bromide
5	12.212	1.5003	5.978	6.247	Nitrate
6	14.392	1.0231	2.714	12.323	Phosphate
7	16.113	2.7448	7.604	36.695	Sulfate

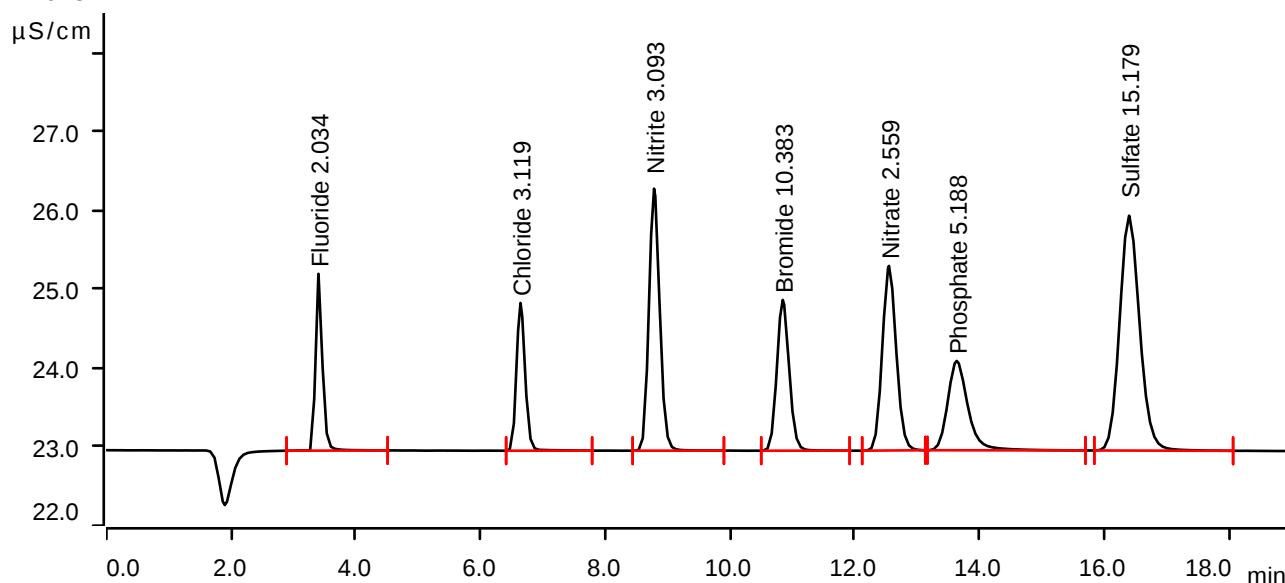
Sample data

Ident CCV
Sample type Check standard 1
Determination start 2025-04-03 09:38:28 UTC-4
Method IC1-032125
Operator

Anions

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

Anions



Peak number	Retention time min	Area (µS/cm) x min	Height µS/cm	Concentration ppm	Component name
1	3.402	0.2903	2.243	2.034	Fluoride
2	6.640	0.3016	1.875	3.119	Chloride
3	8.782	0.6668	3.325	3.093	Nitrite
4	10.845	0.4379	1.914	10.383	Bromide
5	12.548	0.6091	2.343	2.559	Nitrate
6	13.633	0.4267	1.134	5.188	Phosphate
7	16.397	1.1167	2.980	15.179	Sulfate

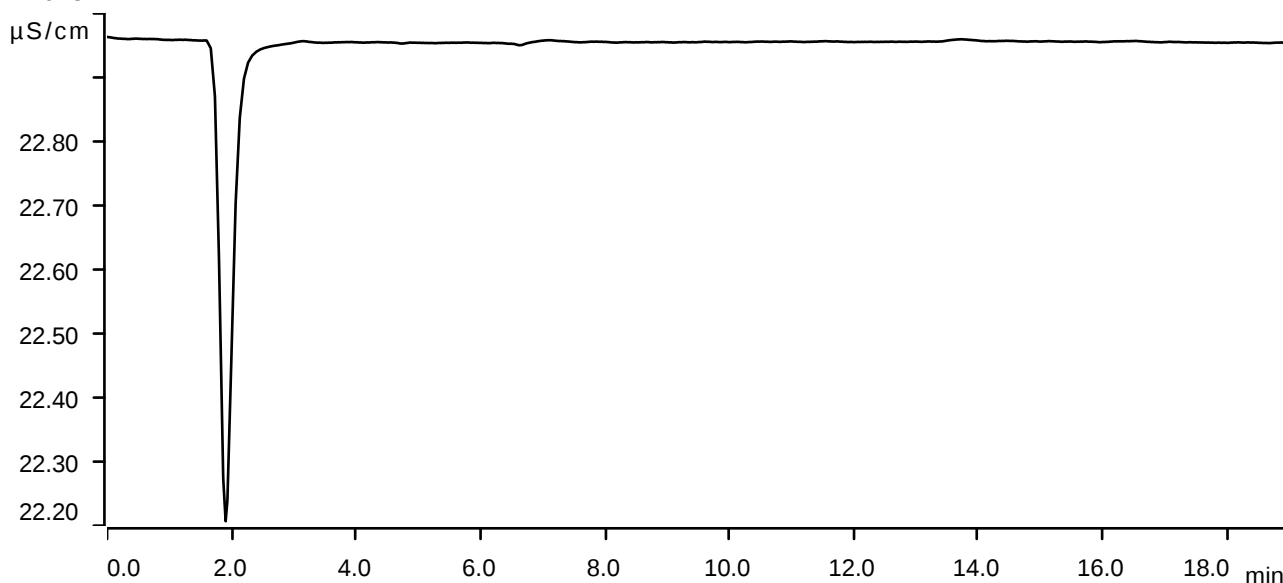
Sample data

Ident CCB
Sample type Sample
Determination start 2025-04-03 09:59:58 UTC-4
Method IC1-032125
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



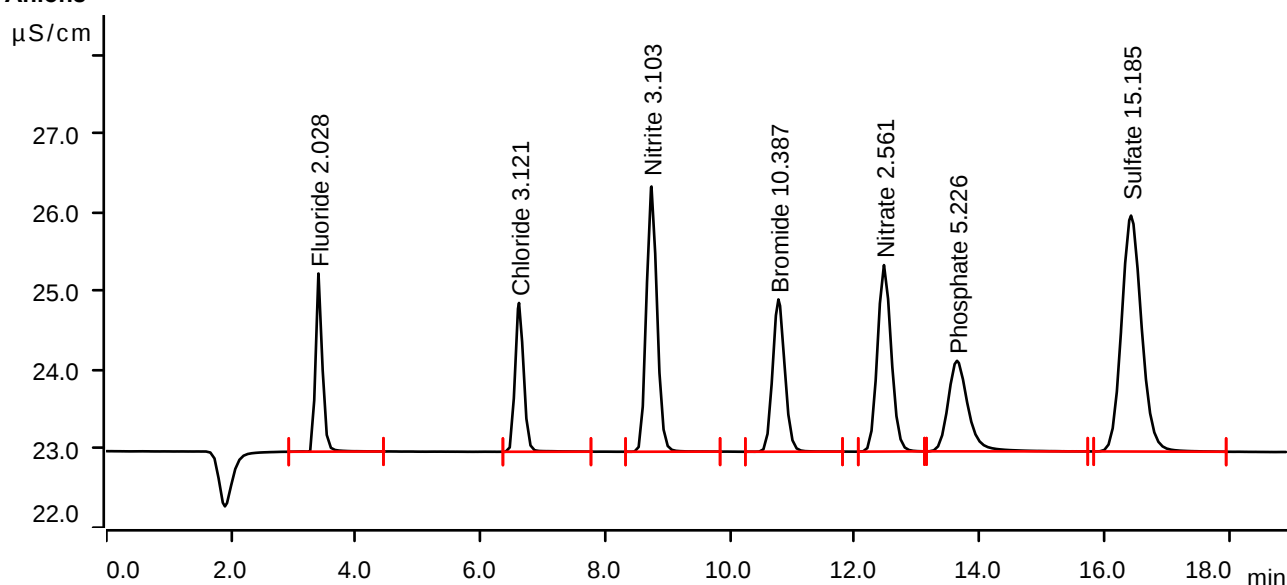
Sample data

Ident LB135296BSW
Sample type Check standard 1
Determination start 2025-04-03 10:43:00 UTC-4
Method IC1-032125
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 12.22 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	3.402	0.2894	2.260	2.028	Fluoride
2	6.617	0.3018	1.888	3.121	Chloride
3	8.740	0.6691	3.365	3.103	Nitrite
4	10.775	0.4381	1.933	10.387	Bromide
5	12.468	0.6096	2.366	2.561	Nitrate
6	13.638	0.4298	1.150	5.226	Phosphate
7	16.428	1.1172	2.994	15.185	Sulfate

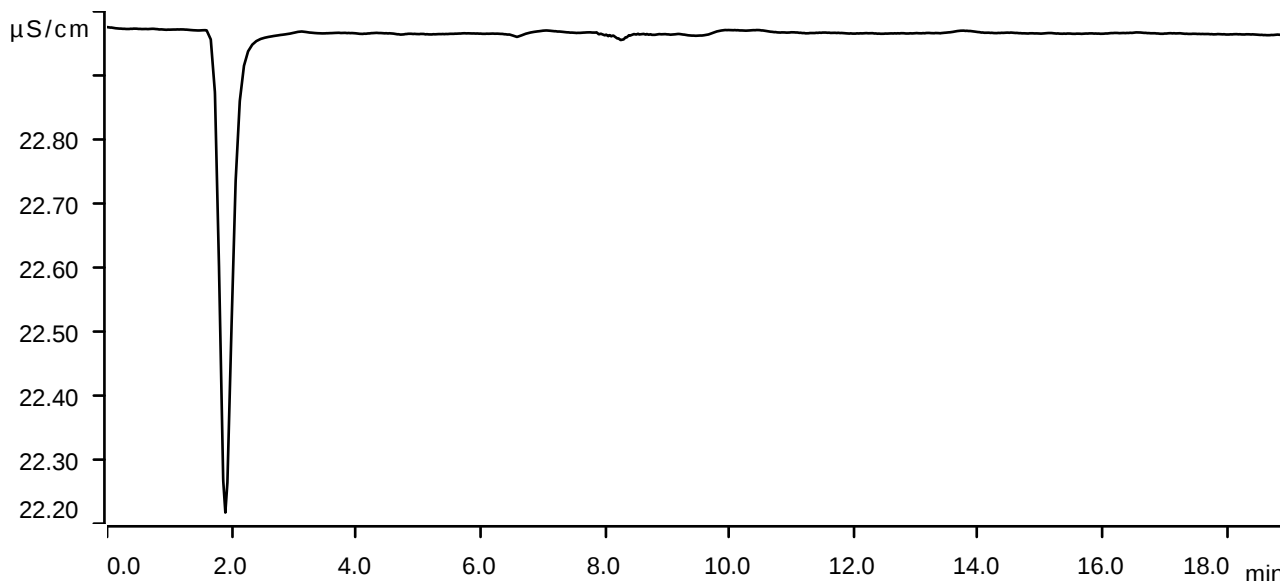
Sample data

Ident LB135296BLW
Sample type Sample
Determination start 2025-04-03 11:04:32 UTC-4
Method IC1-032125
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 13.06 MPa
Maximum pressure monitored yes
Temperature ---- °C

Anions



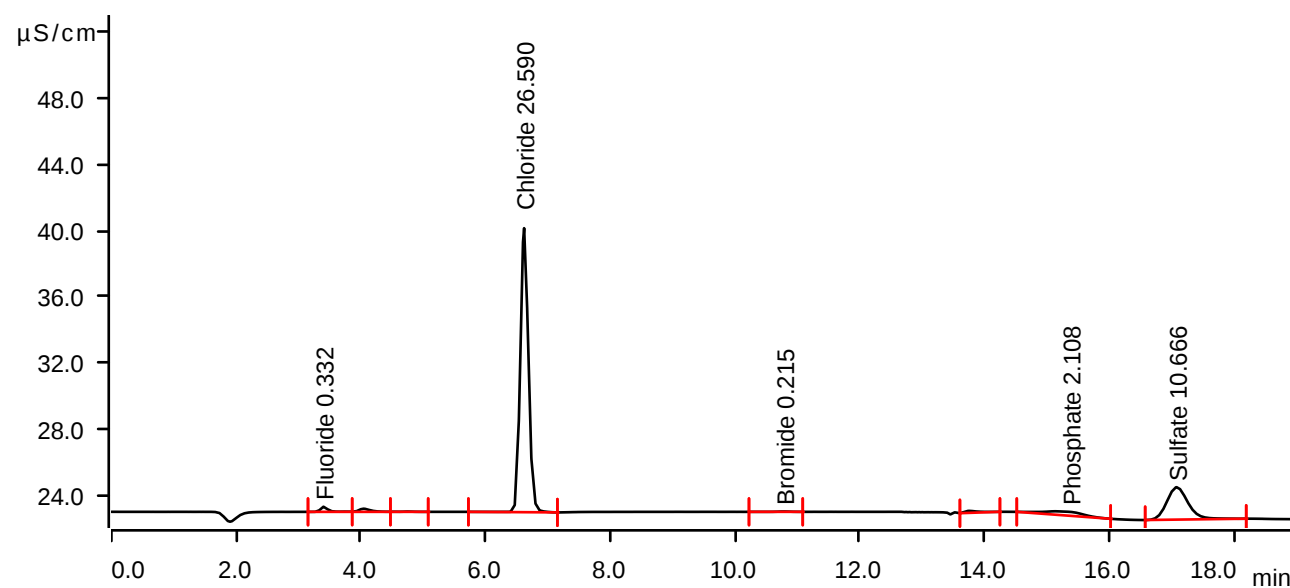
Sample data

Ident Q1711-01
Sample type Sample
Determination start 2025-04-03 12:29:01 UTC-4
Method IC1-032125
Operator

Anions

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

Anions



Peak number	Retention time min	Area ($\mu\text{S/cm}$) x min	Height $\mu\text{S/cm}$	Concentration ppm	Component name
1	3.402	0.0440	0.309	0.332	Fluoride
2	4.043	0.0410	0.190	invalid	
3	4.747	0.0043	0.018	invalid	
4	6.618	2.5879	17.186	26.590	Chloride
5	10.788	0.0049	0.020	0.215	Bromide
6	13.753	0.0307	0.121	invalid	
7	15.130	0.1693	0.206	2.108	Phosphate
8	17.080	0.7752	1.961	10.666	Sulfate

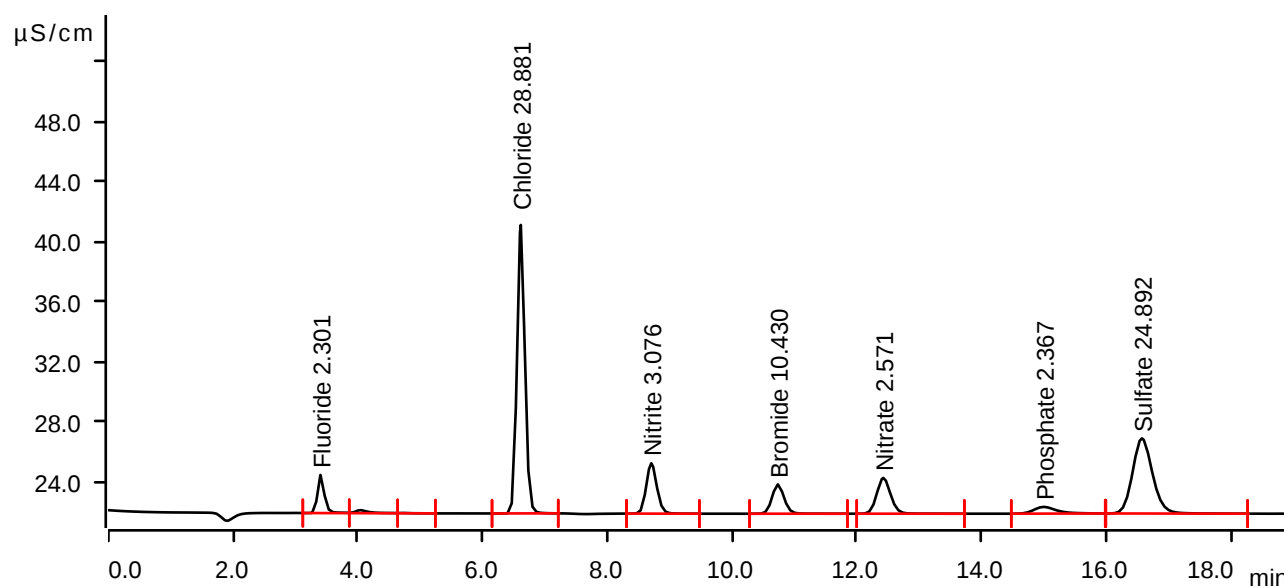
Sample data

Ident Q1711-02MS
Sample type Sample
Determination start 2025-04-03 12:50:34 UTC-4
Method IC1-032125
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 ($\mu\text{S/cm}$) x min	Height $\mu\text{S/cm}$	Concentration ppm	Component name
1	3.400	0.3289	2.526	2.301	Fluoride
2	4.042	0.0521	0.199	invalid	
3	4.730	0.0049	0.024	invalid	
4	6.613	2.8111	19.147	28.881	Chloride
5	8.705	0.6631	3.341	3.076	Nitrite
6	10.733	0.4399	1.947	10.430	Bromide
7	12.425	0.6120	2.375	2.571	Nitrate
8	14.997	0.1909	0.447	2.367	Phosphate
9	16.572	1.8517	4.990	24.892	Sulfate

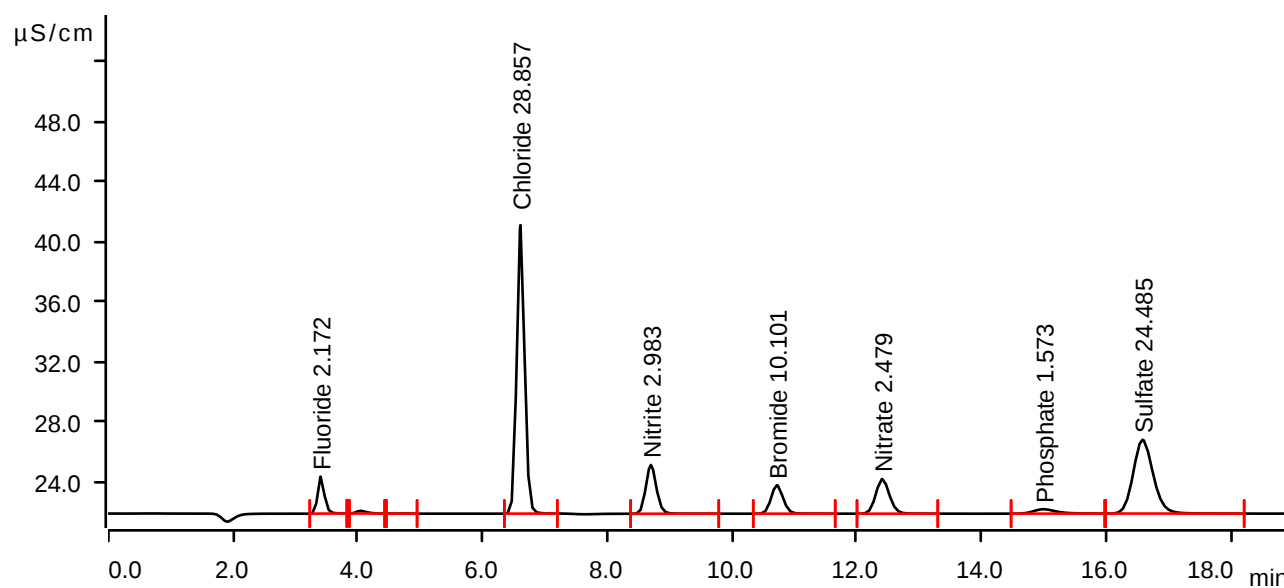
Sample data

Ident Q1711-03MSD
Sample type Sample
Determination start 2025-04-03 13:12:08 UTC-4
Method IC1-032125
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 ($\mu\text{S/cm}$) x min	Height $\mu\text{S/cm}$	Concentration ppm	Component name
1	3.403	0.3102	2.455	2.172	Fluoride
2	4.045	0.0340	0.173	invalid	
3	4.737	0.0024	0.014	invalid	
4	6.608	2.8087	19.146	28.857	Chloride
5	8.698	0.6426	3.237	2.983	Nitrite
6	10.718	0.4259	1.891	10.101	Bromide
7	12.408	0.5899	2.298	2.479	Nitrate
8	14.993	0.1246	0.294	1.573	Phosphate
9	16.582	1.8209	4.901	24.485	Sulfate

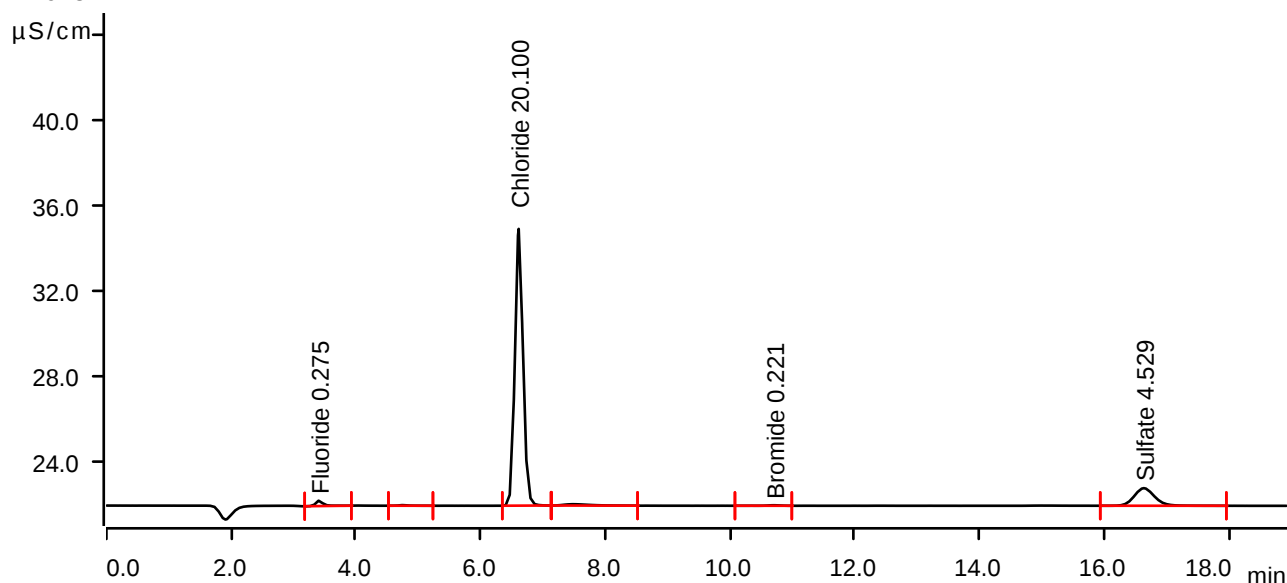
Sample data

Ident Q1711-04
Sample type Sample
Determination start 2025-04-03 13:55:13 UTC-4
Method IC1-032125
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	3.405	0.0358	0.250	0.275	Fluoride
2	4.750	0.0047	0.028	invalid	
3	6.612	1.9557	12.967	20.100	Chloride
4	7.478	0.0300	0.062	invalid	
5	10.705	0.0052	0.023	0.221	Bromide
6	16.633	0.3108	0.824	4.529	Sulfate

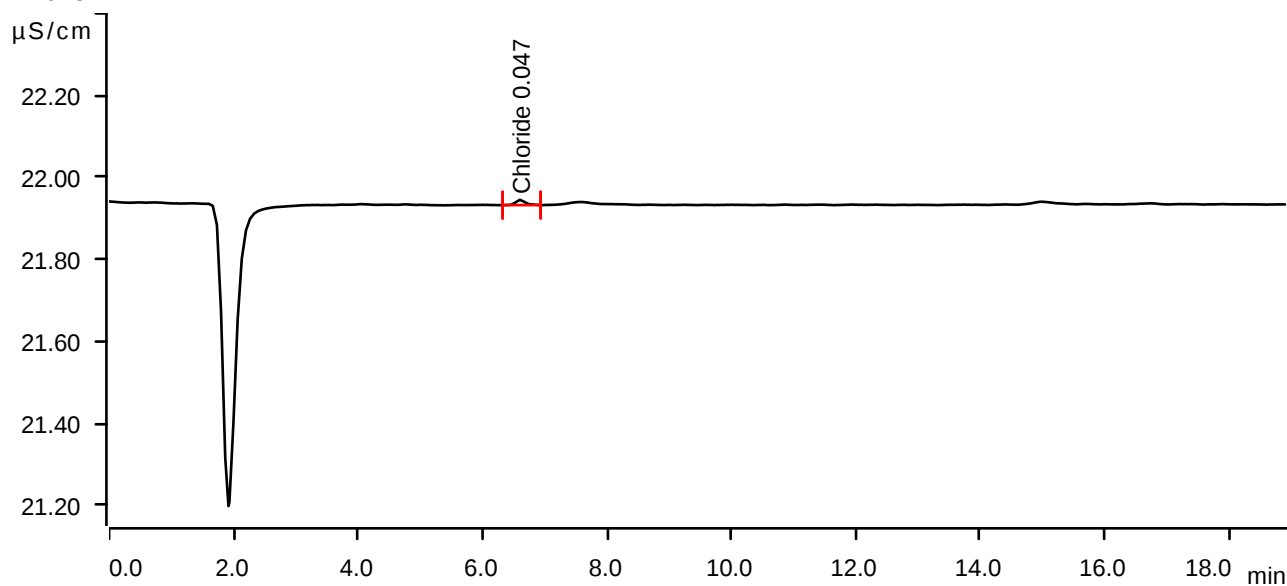
Sample data

Ident Q1711-08
Sample type Sample
Determination start 2025-04-03 14:16:48 UTC-4
Method IC1-032125
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 11.20 MPa
Maximum pressure monitored yes
Temperature ---- °C

Anions



Peak number	Retention time min	Area ($\mu\text{S/cm}$) x min	Height $\mu\text{S/cm}$	Concentration ppm	Component name
1	6.602	0.0023	0.013	0.047	Chloride

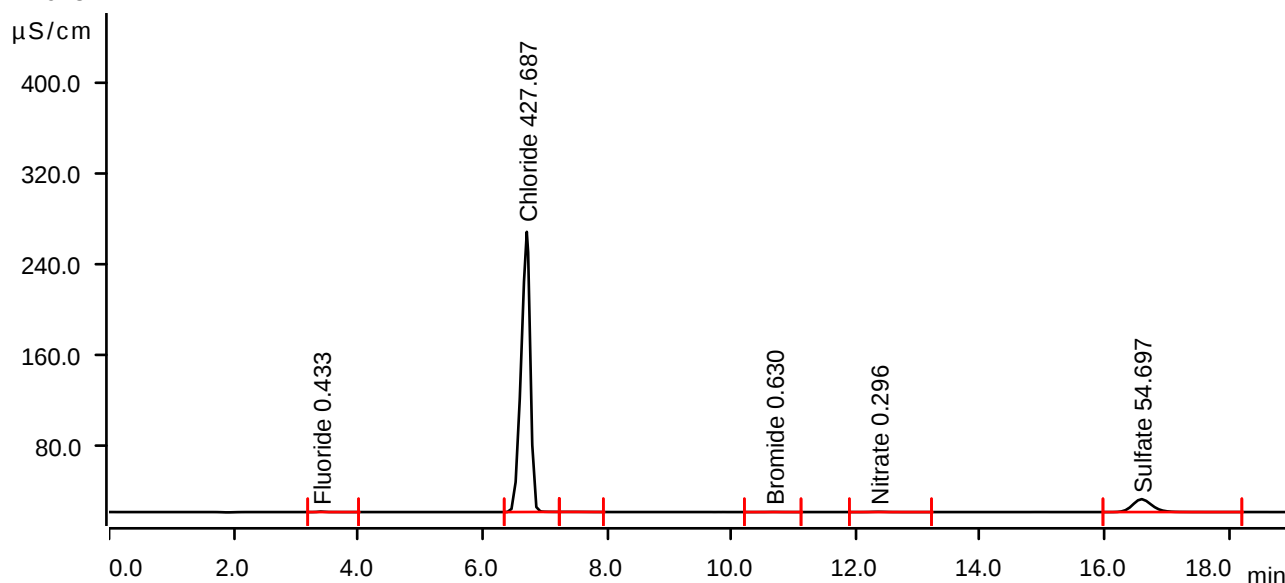
Sample data

Ident Q1716-01
Sample type Sample
Determination start 2025-04-03 14:38:22 UTC-4
Method IC1-032125
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 13.96 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	3.403	0.0586	0.445	0.433	Fluoride
2	6.713	41.6589	246.092	427.687	Chloride
3	7.423	0.0196	0.056	invalid	
4	10.682	0.0226	0.101	0.630	Bromide
5	12.363	0.0622	0.243	0.296	Nitrate
6	16.592	4.1070	11.278	54.697	Sulfate

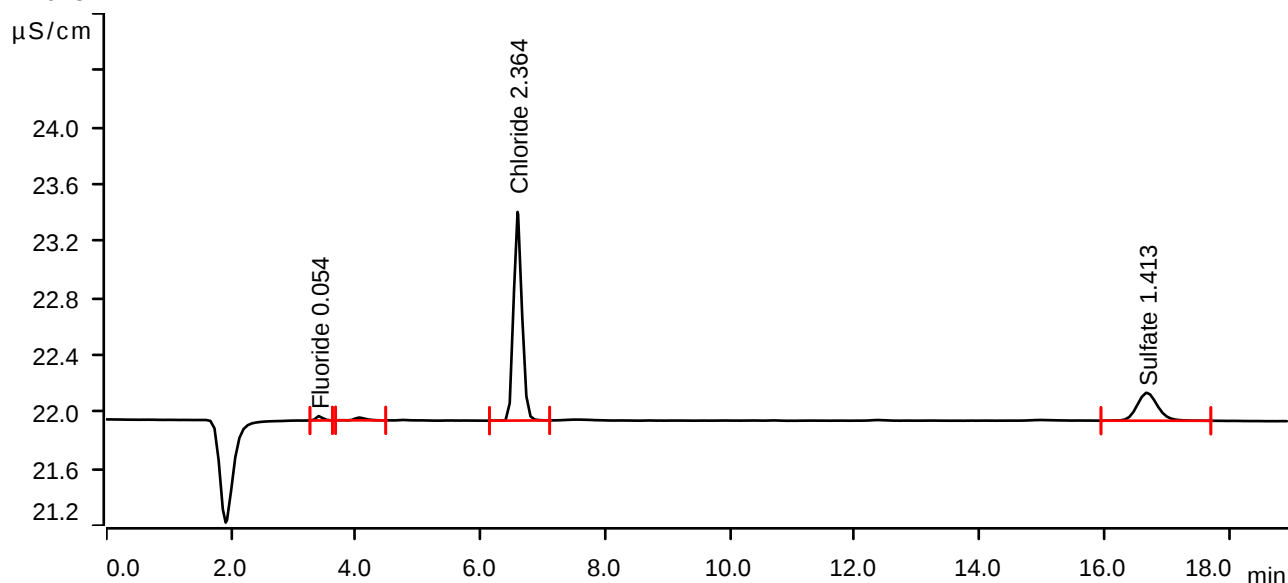
Sample data

Ident Q1711-01DLX10
Sample type Sample
Determination start 2025-04-03 14:59:56 UTC-4
Method IC1-032125
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 11.15 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	3.407	0.0039	0.030	0.054	Fluoride
2	4.052	0.0041	0.019	invalid	
3	6.593	0.2280	1.466	2.364	Chloride
4	16.682	0.0751	0.196	1.413	Sulfate

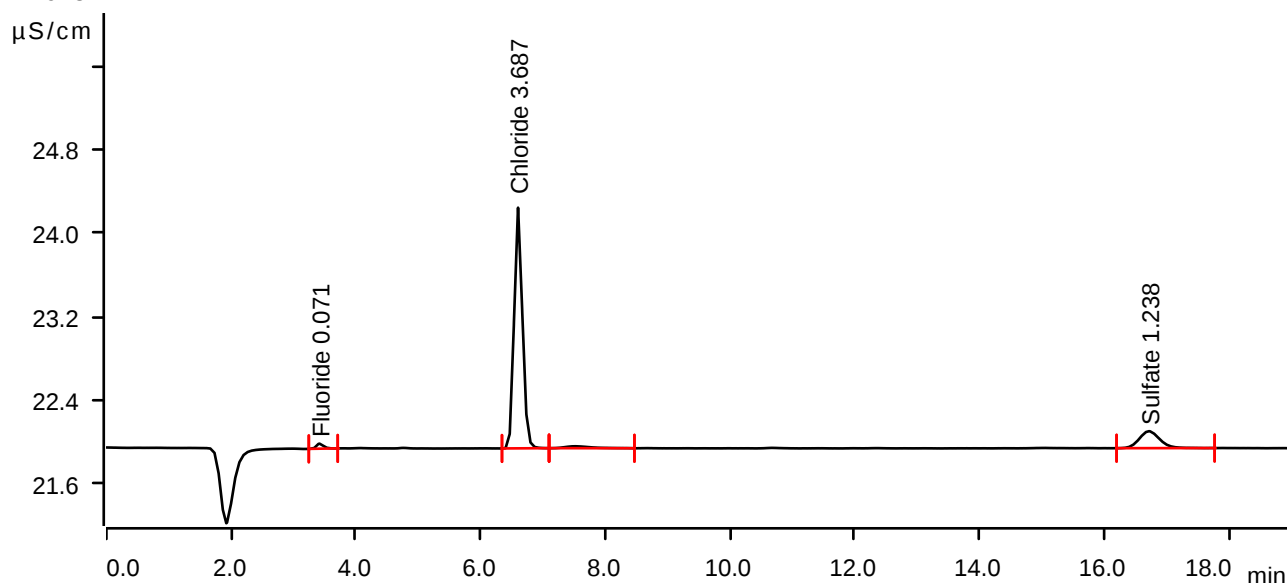
Sample data

Ident Q1711-04DLX5
Sample type Sample
Determination start 2025-04-03 15:21:28 UTC-4
Method IC1-032125
Operator

Anions

Data source Conductivity detector 1 (Eco IC 1)
Channel Conductivity
Recording time 19.0 min
Integration Automatically
Column type Metrosep A Supp 19 - 150/4.0
Eluent composition not defined
Flow 0.700 mL/min
Maximum flow monitored yes
Pressure 10.98 MPa
Maximum pressure monitored yes
Temperature ---- °C

Anions



Peak number	Retention time min	Area (µS/cm) x min	Height µS/cm	Concentration ppm	Component name
1	3.418	0.0063	0.048	0.071	Fluoride
2	6.600	0.3569	2.302	3.687	Chloride
3	7.522	0.0089	0.018	invalid	
4	16.717	0.0618	0.162	1.238	Sulfate

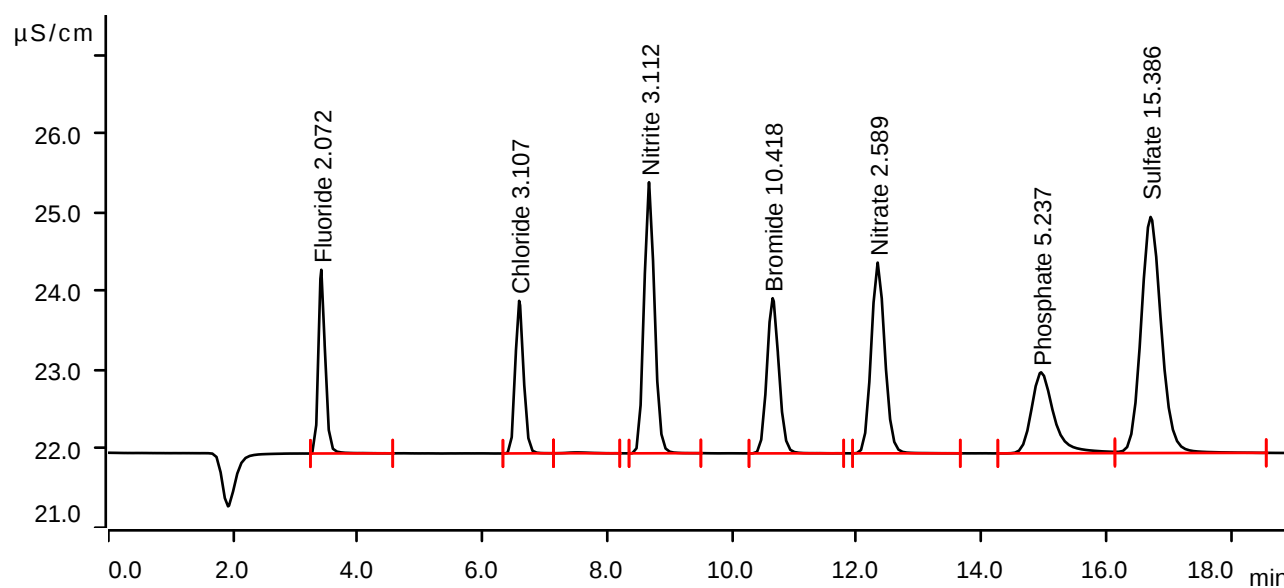
Sample data

Ident CCV
Sample type Check standard 1
Determination start 2025-04-03 15:43:00 UTC-4
Method IC1-032125
Operator

Anions

Data source Conductivity detector 1 (Eco IC 1)
Channel Conductivity
Recording time 19.0 min
Integration Automatically
Column type Metrosep A Supp 19 - 150/4.0
Eluent composition not defined
Flow 0.700 mL/min
Maximum flow monitored yes
Pressure 10.92 MPa
Maximum pressure monitored yes
Temperature ---- °C

Anions



Peak number	Retention time min	Area ($\mu\text{S/cm}$) x min	Height $\mu\text{S/cm}$	Concentration ppm	Component name
1	3.415	0.2957	2.330	2.072	Fluoride
2	6.587	0.3004	1.936	3.107	Chloride
3	7.513	0.0045	0.011	invalid	
4	8.670	0.6709	3.439	3.112	Nitrite
5	10.650	0.4394	1.969	10.418	Bromide
6	12.335	0.6163	2.420	2.589	Nitrate
7	14.955	0.4308	1.027	5.237	Phosphate
8	16.710	1.1324	2.996	15.386	Sulfate

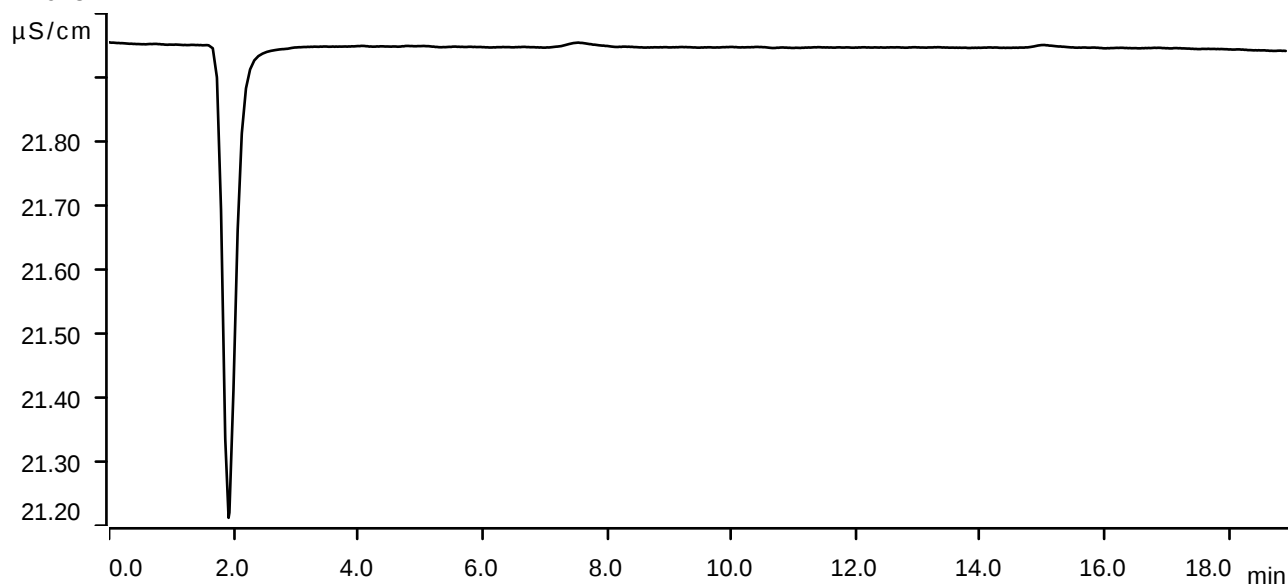
Sample data

Ident CCB
Sample type Sample
Determination start 2025-04-03 17:16:13 UTC-4
Method IC1-032125
Operator

Anions

Data source Conductivity detector 1 (Eco IC 1)
Channel Conductivity
Recording time 19.0 min
Integration Automatically
Column type Metrosep A Supp 19 - 150/4.0
Eluent composition not defined
Flow 0.700 mL/min
Maximum flow monitored yes
Pressure 10.81 MPa
Maximum pressure monitored yes
Temperature ---- °C

Anions



WORKLIST(Hardcopy Internal Chain)

LB135296

WorkList Name : ANIONS-04032025

WorkList ID : 188704

Department : Wet-Chemistry

Date : 04-03-2025 11:03:28

Sample	Customer Sample	Matrix	Test	Preservative	Customer	Raw Sample Storage Location	Collect Date	Method
Q1711-01	MW-18B-56-040225	Water	Anions Group1	Cool 4 deg C	JACO05	I41	04/02/2025	9056A
Q1711-02	Q1711-01MS	Water	Anions Group1	Cool 4 deg C	JACO05	I41	04/02/2025	9056A
Q1711-03	Q1711-01MSD	Water	Anions Group1	Cool 4 deg C	JACO05	I41	04/02/2025	9056A
Q1711-04	MW-17B-55-040225	Water	Anions Group1	Cool 4 deg C	JACO05	I41	04/02/2025	9056A
Q1711-08	EB01-040225	Water	Anions Group1	Cool 4 deg C	JACO05	I41	04/02/2025	9056A

Date/Time 04.03.2025 , 11:15
Raw Sample Received by: NF(WC)
Raw Sample Relinquished by: [Signature]

Date/Time 04.03.2025 16:00
Raw Sample Received by: [Signature]
Raw Sample Relinquished by: NF(WC)

LB135296

WORKLIST(Hardcopy Internal Chain)

WorkList Name : ANIONS -04032025

WorkList ID : 188735

Department : Wet-Chemistry

Date : 04-03-2025 13:41:37

Sample	Customer Sample	Matrix	Test	Preservative	Customer	Raw Sample Storage Location	Collect Date	Method
Q1716-01	MOD-FOR-LRSA	Water	Anions Group1	Cool 4 deg C	PSEG04	I31	04/03/2025	9056A

Date/Time 04.03.2025, 13:45
Raw Sample Received by: NF(WC)
Raw Sample Relinquished by: TD WOC,

Date/Time 04.03.2025, 16:00
Raw Sample Received by: TD WOC
Raw Sample Relinquished by: NF(WC)

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

Instrument ID: WC SC-3

Daily Analysis Runlog For Sequence/QC Batch ID # LB135286

Review By	jignesh	Review On	4/4/2025 10:51:05 AM
Supervise By	Iwona	Supervise On	4/4/2025 12:36:35 PM
SubDirectory	LB135286	Test	TDS
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	N/A		

Sr#	SampleId	ClientID	QcType	Date	Comment	Operator	Status
1	LB135286BL	LB135286BL	MB	04/03/25 12:30		jignesh	OK
2	LB135286BS	LB135286BS	LCS	04/03/25 12:30		jignesh	OK
3	Q1711-01	MW-18B-56-040225	SAM	04/03/25 12:30		jignesh	OK
4	Q1711-01DUP	MW-18B-56-040225D	DUP	04/03/25 12:30		jignesh	OK
5	Q1711-04	MW-17B-55-040225	SAM	04/03/25 12:30		jignesh	OK
6	Q1711-08	EB01-040225	SAM	04/03/25 12:30		jignesh	OK

Instrument ID: TITRATOR

Daily Analysis Runlog For Sequence/QC Batch ID # LB135288

Review By	Niha	Review On	4/4/2025 1:27:15 PM
Supervise By	Iwona	Supervise On	4/4/2025 1:54:32 PM
SubDirectory	LB135288	Test	Alkalinity
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	WP112573		
Chk Standard	W3071,W3178,W3150		

Sr#	SampleId	ClientID	QcType	Date	Comment	Operator	Status
1	LB135288BLW	LB135288BLW	MB	04/03/25 13:24	pH=3.73	Iwona	OK
2	LB135288BSW	LB135288BSW	LCS	04/03/25 13:29	pH=4.42	Iwona	OK
3	Q1711-01	MW-18B-56-040225	SAM	04/03/25 13:36	pH=4.28	Iwona	OK
4	Q1711-01DUP	MW-18B-56-040225D	DUP	04/03/25 13:41	pH=4.31	Iwona	OK
5	Q1711-04	MW-17B-55-040225	SAM	04/03/25 13:45	pH=4.37	Iwona	OK
6	Q1711-08	EB01-040225	SAM	04/03/25 13:49	pH=4.38,Need low level Alkalinity	Iwona	Not Ok

Instrument ID: TITRATOR

Daily Analysis Runlog For Sequence/QC Batch ID # LB135291

Review By	Niha	Review On	4/3/2025 4:21:53 PM
Supervise By	Iwona	Supervise On	4/3/2025 4:25:11 PM
SubDirectory	LB135291	Test	Alkalinity
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	WP112573,W3150		

Sr#	SampleID	ClientID	QcType	Date	Comment	Operator	Status
1	LB135291BL	LB135291BL	MB	04/03/25 13:55		Iwona	OK
2	LB135291BS	LB135291BS	LCS	04/03/25 13:58		Iwona	OK
3	Q1711-08	EB01-040225	SAM	04/03/25 14:04		Iwona	OK
4	Q1711-08DUP	EB01-040225DUP	DUP	04/03/25 14:08		Iwona	OK

Instrument ID: IC-2

Daily Analysis Runlog For Sequence/QC Batch ID # LB135296

Review By	rubina	Review On	4/4/2025 2:25:41 PM
Supervise By	Iwona	Supervise On	4/4/2025 2:25:58 PM
SubDirectory	LB135296	Test	Anions
STD. NAME	STD REF.#		
ICAL Standard	WP112435,WP112436,WP112437,WP112438,WP112439,WP112440,WP112441		
ICV Standard	WP112442		
CCV Standard	WP112574		
ICSA Standard	N/A		
CRI Standard	N/A		
LCS Standard	WP112575		
Chk Standard	WP112443,WP112444		

Sr#	SampleId	ClientID	QcType	Date	Comment	Operator	Status
1	STD1	STD1	CAL1	03/21/25 10:45	All standards, samples, and	NF/IZ	OK
2	STD2	STD2	CAL2	03/21/25 11:07	QC are filtered through	NF/IZ	OK
3	STD3	STD3	CAL3	03/21/25 11:28	0.45um, filter lot W3160	NF/IZ	OK
4	STD4	STD4	CAL4	03/21/25 11:50		NF/IZ	OK
5	STD5	STD5	CAL5	03/21/25 12:11		NF/IZ	OK
6	STD6	STD6	CAL6	03/21/25 12:32		NF/IZ	OK
7	STD7	STD7	CAL7	03/21/25 12:54		NF/IZ	OK
8	ICV1	ICV1	ICV	03/21/25 13:37		NF/IZ	OK
9	ICB1	ICB1	ICB	03/21/25 13:58		NF/IZ	OK
10	CCV1	CCV1	CCV	04/03/25 09:38		NF/IZ	OK
11	CCB1	CCB1	CCB	04/03/25 09:59		NF/IZ	OK
12	LB135296BSW	LB135296BSW	LCS	04/03/25 10:43		NF/IZ	OK
13	LB135296BLW	LB135296BLW	MB	04/03/25 11:04		NF/IZ	OK
14	Q1711-01	MW-18B-56-040225	SAM	04/03/25 12:29	CL high	NF/IZ	Dilution
15	Q1711-02	MW-18B-56-040225M	MS	04/03/25 12:50	9.5ml of sample, 0.5mL W3092	NF/IZ	OK
16	Q1711-03	MW-18B-56-040225M	MSD	04/03/25 13:12	9.5ml of sample, 0.5mL W3092	NF/IZ	OK
17	Q1711-04	MW-17B-55-040225	SAM	04/03/25 13:55	CL high	NF/IZ	Dilution
18	Q1711-08	EB01-040225	SAM	04/03/25 14:16		NF/IZ	OK

Instrument ID: IC-2

Daily Analysis Runlog For Sequence/QC Batch ID # LB135296

Review By	rubina	Review On	4/4/2025 2:25:41 PM
Supervise By	Iwona	Supervise On	4/4/2025 2:25:58 PM
SubDirectory	LB135296	Test	Anions
STD. NAME	STD REF.#		
ICAL Standard	WP112435,WP112436,WP112437,WP112438,WP112439,WP112440,WP112441		
ICV Standard	WP112442		
CCV Standard	WP112574		
ICSA Standard	N/A		
CRI Standard	N/A		
LCS Standard	WP112575		
Chk Standard	WP112443,WP112444		

19	Q1716-01	MOD-FOR-LRSA	SAM	04/03/25 14:38		NF/IZ	OK
20	Q1711-01DL	MW-18B-56-040225D	SAM	04/03/25 14:59	10X for CL	NF/IZ	Confirms
21	Q1711-04DL	MW-17B-55-040225D	SAM	04/03/25 15:21	5X for CL	NF/IZ	Confirms
22	CCV2	CCV2	CCV	04/03/25 15:43		NF/IZ	OK
23	CCB2	CCB2	CCB	04/03/25 17:16		NF/IZ	OK

Prep Standard - Chemical Standard Summary

Order ID : Q1711

Test : Alkalinity,Anions Group1,TDS

Prepbatch ID :

Sequence ID/Qc Batch ID: LB135286, LB135288, LB135291, LB135296,

Standard ID :

WP110259, WP112435, WP112436, WP112437, WP112438, WP112439, WP112440, WP112441, WP112442, WP112443, WP112444, WP112572, WP112573, WP112574, WP112575,

Chemical ID :

M6041, W2647, W3058, W3063, W3071, W3112, W3150, W3178, W3180,

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>
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
FROM 2.10000gram of W2647 + 84.75000gram of W3058 + 913.15000ml 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>
2487	Anions 300/9056 calibration standard 1	WP112435	03/21/2025	03/22/2025	Niha Farheen Shaik	None	None	Iwona Zarych
FROM 10.00000ml 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>
24	Anions 300/9056 calibration standard 2	WP112436	03/21/2025	03/22/2025	Niha Farheen Shaik	None	WETCHEM_FIPETTE_3 (WC)	Iwona Zarych 03/24/2025
FROM 0.20000ml of W3180 + 9.80000ml 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>
25	Anions 300/9056 calibration standard 3	WP112437	03/21/2025	03/22/2025	Niha Farheen Shaik	None	WETCHEM_FIPETTE_3 (WC)	Iwona Zarych 03/24/2025
FROM 0.40000ml of W3180 + 9.60000ml 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>
26	Anions 300/9056 calibration standard 4	WP112438	03/21/2025	03/22/2025	Niha Farheen Shaik	None	WETCHEM_FIPETTE_3 (WC)	Iwona Zarych 03/24/2025
FROM 0.50000ml of W3180 + 9.50000ml 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>
3680	Anions 300/9056 calibration standard 5-CCV	WP112439	03/21/2025	03/22/2025	Niha Farheen Shaik	None	Glass Pipette-A	Iwona Zarych 03/24/2025
FROM 45.00000ml of W3112 + 5.00000ml of W3180 = 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>
3679	Anions 300/9056 calibration standard 6	WP112440	03/21/2025	03/22/2025	Niha Farheen Shaik	None	Glass Pipette-A	Iwona Zarych 03/24/2025
FROM 2.00000ml of W3180 + 8.00000ml 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>
3681	Anions 300/9056 calibration standard 7	WP112441	03/21/2025	03/22/2025	Niha Farheen Shaik	None	Glass Pipette-A	Iwona Zarych 03/24/2025
FROM 2.50000ml of W3180 + 7.50000ml 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>
3233	Anions 300/9056 ICV-LCS std	WP112442	03/21/2025	03/22/2025	Niha Farheen Shaik	None	Glass Pipette-A	Iwona Zarych 03/24/2025

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>
4036	IC ELUENT FOR IC-1	WP112443	03/21/2025	04/16/2025	Niha Farheen Shaik	None	None	Iwona Zarych 03/24/2025

FROM 1980.00000ml of W3112 + 20.00000ml of WP110259 = Final Quantity: 2000.000 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>
4037	IC H2SO4 FOR IC-1	WP112444	03/21/2025	04/21/2025	Niha Farheen Shaik	None	Glass Pipette-A	Iwona Zarych 03/24/2025
FROM 5.60000ml of M6041 + 994.40000ml 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>
3407	Acidity-Alkalinity Stock Std(-+2500PPM)	WP112572	04/02/2025	04/09/2025	Iwona Zarych	WETCHEM_SCALE_5 (WC SC-5)	None	Jignesh Parikh 04/03/2025
FROM 0.62500gram of W3058 + 249.40000ml of W3112 = Final Quantity: 250.000 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>
293	alkalinity LCSW 50 ppm	WP112573	04/02/2025	04/09/2025	Iwona Zarych	None	WETCHEM_FIPETTE_3 (WC)	Jignesh Parikh 04/03/2025
FROM 196.00000ml of W3112 + 4.00000ml of WP112572 = 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>
3680	Anions 300/9056 calibration standard 5-CCV	WP112574	04/03/2025	04/04/2025	Niha Farheen Shaik	None	Glass Pipette-A	Iwona Zarych 04/03/2025
FROM 45.00000ml of W3112 + 5.00000ml of W3180 = 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	WP112575	04/03/2025	04/04/2025	Niha Farheen Shaik	None	Glass Pipette-A	Iwona Zarych 04/03/2025
FROM 45.00000ml of W3112 + 5.00000ml of W3063 = 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.	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	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 #
Seidler Chemical	DIW / DI Water	Daily Lab-Certified	07/03/2029	07/03/2024 / lwona	07/03/2024 / lwona	W3112

CHEMICAL RECEIPT LOG BOOK

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
PCI Scientific Supply, Inc.	AL74050-8 / SULFURIC ACID, 0.02N, 4L	235420	03/31/2029	11/04/2024 / lwona	11/04/2024 / lwona	W3150

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	2411A93	10/30/2026	04/01/2025 / JIGNESH	01/27/2025 / jignesh	W3178

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	V2-MEB742616	02/19/2026	02/19/2025 / lwona	01/27/2025 / lwona	W3180

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

W3071
Rec 12/6/23

Certificate of Analysis 12

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

Lot Number: 4308H30

Product Number: 1551

Manufacture Date: AUG 09, 2023

Expiration Date: JUL 2025

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

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

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

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

Test	Specification	Result
Appearance	Yellow liquid	Passed

*Not a certified value.

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

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

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

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

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



Paul Brandon (08/09/2023)

Production Manager

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

This product was tested in an ISO 17025 Accredited Laboratory

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

Certificate Of Analysis



W 3058

Re. 10/19/23 12

Date of Release: 1/27/2023

Name: **Sodium Carbonate, Anhydrous**

Powder, ACS

Item No: **SX0395 All Sizes**

Lot / Batch No: **2023012653**

Country of Origin: **India**

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

Joe Schoellkopf

Quality Control Manager

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

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

EMD Millipore Corporation

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

Form number: 00005624CA, Rev. 2.0

Certificate of Analysis

300 Technology Drive
Christiansburg, VA 24073 USA
inorganicventures.com

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

W3063
rec. 11/16/23 12

1.0 ACCREDITATION / REGISTRATION

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



2.0 PRODUCT DESCRIPTION

Product Code: Multi Analyte Ion Chromatography Solution
Catalog Number: 300-CAL-A
Lot Number: 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, NNO ₃ -	25.00 ± 0.09 µg/mL
Nitrite as N, NNO ₂ -	30.00 ± 0.15 µg/mL	o-Phosphate as P, PPO 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



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

avantor™



M 6041-4b
MS

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

Certificate of Analysis

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

>>> Continued on page 2 >>>

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

 **avantor™**

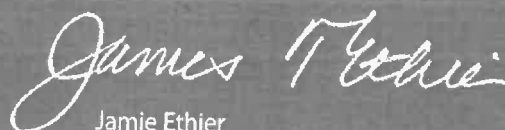


Material No.: 9673-33
Batch No.: 23D2462010

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

For Laboratory, Research, or Manufacturing Use

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



Jamie Ethier
Vice President Global Quality

Certificate of Analysis

ThermoFisher
SCIENTIFIC

Certificate of Analysis

1 Reagent Lane
Fair Lawn, NJ 07410
201.796.7100 tel
201.796.1329 fax

Thermo Fisher Scientific's Quality System has been found to conform to Quality Management System
Standard ISO9001:2015 by SAI Global Certificate Number CERT – 0120633

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	SA226	Quality Test / Release Date	03/18/2024
Lot Number	235420		
Description	SULFURIC ACID, 0.02N, CERTIFIED		
Country of Origin	United States	Suggested Retest Date	Mar/2029

N/A			
Result Name	Units	Specifications	Test Value
APPEARANCE		REPORT	Clear, colorless liquid
COLOR	APHA	<= 5	<5
IDENTIFICATION	PASS/FAIL	= PASS TEST	PASS TEST
NORMALITY		Inclusive Between 0.0198 - 0.0202	0.0200
TRACEABLE TO NIST KHP STD	POT. ACID PHTHALATE	= LOT 84L	SRM 84I



Harout Sahagian - 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.

Certificate of Analysis

231758 58

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

Lot Number: 2411A93

Product Number: 1501

Manufacture Date: NOV 04, 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	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)	4.008	0.02	185i, 186-I-g, 186-II-g

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

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)
1501-16	500 mL natural poly	24 months
1501-2.5	10 L Cubitainer®	24 months
1501-5	20 L Cubitainer®	24 months

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



Refine your results. Redefine your industry.

Certificate of Analysis

300 Technology Drive
Christiansburg, VA 24073 USA
inorganicventures.com

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

1.0 ACCREDITATION / REGISTRATION

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



2.0 PRODUCT DESCRIPTION

Product Code: Multi Analyte Ion Chromatography Solution
Catalog Number: 300-CAL-A
Lot Number: V2-MEB742616
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	30.01 ± 0.13 µg/mL
Fluoride, F-	20.00 ± 0.07 µg/mL	Nitrate as N, NNO ₃ -	25.00 ± 0.10 µg/mL
Nitrite as N, NNO ₂ -	30.00 ± 0.10 µg/mL	o-Phosphate as P, PPO 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	08228TH-H2
NNO2-	Calculated	40h	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:

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

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

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

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

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](https://www.inorganicventures.com); info@inorganicventures.com

11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

April 02, 2024

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

11.2 Lot Expiration Date

- **April 02, 2029**

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

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

11.3 Period of Validity

- Sealed TCT Bag Open Date: _____

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

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Prepared By:

Uyen Truong
Custom Processing Supervisor



Certificate Approved By:

Thomas Kozikowski
Stock VS Manager



Certifying Officer:

Paul Gaines
Chairman / Senior Technical Director





SHIPPING DOCUMENTS

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

CLIENT INFORMATION

REPORT TO BE SENT TO:

COMPANY: Jacobs
ADDRESS: 412 Mt Kemble Ave Suite # 100
CITY Morrisstown STATE: NJ ZIP: 07960
ATTENTION: John Yufank John.Yufank@Jacobs.com
PHONE: FAX:

CLIENT PROJECT INFORMATION

PROJECT NAME: STC PTC
PROJECT NO.: 03868221 LOCATION: Princeton Junction
PROJECT MANAGER: Mary Murphy
e-mail: PM Pgt Mary.Murphy@Jacobs.com
PHONE: FAX:

CLIENT BILLING INFORMATION

BILL TO: Mary Murphy PO#:
ADDRESS:
CITY STATE: ZIP:
ATTENTION: PHONE:

ANALYSIS

DATA TURNAROUND INFORMATION

FAX (RUSH) Rush TAT (2 day) DAYS*
HARDCOPY (DATA PACKAGE): DAYS*
EDD: DAYS*
*TO BE APPROVED BY CHEMTECH
STANDARD HARDCOPY TURNAROUND TIME IS 10 BUSINESS

DATA DELIVERABLE INFORMATION

☐ Level 1 (Results Only) ☐ Level 4 (QC + Full Raw Data)
☐ Level 2 (Results + QC) ☐ NJ Reduced ☐ US EPA CLP
☐ Level 3 (Results + QC) ☐ NYS ASP A ☐ NYS ASP B
+ Raw Data ☐ Other
☐ EDD FORMAT

1. Site Specific VOCs (SM 23208)
2. 1st Diatom (SM 23208)
3. Total 15 Metals (SM 23208)
4. Dissolved Iron (SM 23208)
5. Alkalinity (SM 23208)
6. TDS (SM 23208)
7. Anions (SM 23208)
8. Trace VOCs (SM 23208)
9. SEM/EDS (SM 23208)

PRESERVATIVES

COMMENTS

ALLIANCE SAMPLE ID	PROJECT SAMPLE IDENTIFICATION	SAMPLE MATRIX	SAMPLE TYPE		SAMPLE COLLECTION		# OF BOTTLES	PRESERVATIVES							COMMENTS	
			COMP	GRAB	DATE	TIME		A/E	E	B/E	E	E	E	E	A/E	
1.	MW-18B-56-040225	GW		✓	4/2/25	1235	2	✓	✓	✓	✓	✓	✓	✓	✓	MS/MSD !! (27 bottles)
2.	MW-17B-55-040225	GW		✓	4/2/25	1535	2	✓	✓	✓	✓	✓	✓	✓	✓	9 bottles
3.	MW-18B-56-040225-SIM	GW		✓	4/2/25	1235	2									
4.	MW-17B-55-040225-SIM	GW		✓	4/2/25	1535	2									
5.																
6.																
7.																
8.																
9.																
10.																

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

RELINQUISHED BY SAMPLER: 1. <u>HAL</u>	DATE/TIME: 4-2-25 1650	RECEIVED BY: 1. <u>[Signature]</u> 4-2-25 1650	Conditions of bottles or coolers at receipt: ☐ COMPLIANT ☐ NON COMPLIANT ☐ COOLER TEMP <u>3.0°C</u>
RELINQUISHED BY SAMPLER: 2. <u>[Signature]</u>	DATE/TIME:	RECEIVED BY: 2. <u>[Signature]</u>	Comments: <u>See work order for list of site specific VOCs</u> <u>PRESERVE DISSOLVE IRON SAMPLES UPON ARRIVAL TO THE LAB</u> <u>PO # 148064311</u> <u>Temp 3.0°C (Adjusted Factor +1) IR Gun #1.</u>
RELINQUISHED BY SAMPLER: 3. <u>[Signature]</u>	DATE/TIME: 4-2-25 1825	RECEIVED BY: 3. <u>[Signature]</u>	Page <u>1</u> of <u>2</u> CLIENT: ☐ Hand Delivered ☐ Other Shipment Complete ☐ YES ☐ NO

Q1711

CLIENT INFORMATION

REPORT TO BE SENT TO:

COMPANY: Jacobs
ADDRESS: 412 Mt Kemble Ave Suite 100
CITY: Morrisstown STATE: NJ ZIP: 07960
ATTENTION: John Yufante John.Yufante@Jacobs.com
PHONE: _____ FAX: _____

CLIENT PROJECT INFORMATION

PROJECT NAME: STC PTC
PROJECT NO.: D386821 LOCATION: Princeton Junction
PROJECT MANAGER: Mary Murphy
e-mail: Mary.Murphy@Jacobs.com
PHONE: _____ FAX: _____

CLIENT BILLING INFORMATION

BILL TO: Mary Murphy PO#: _____
ADDRESS: _____
CITY: _____ STATE: _____ ZIP: _____
ATTENTION: _____ PHONE: _____

ANALYSIS

DATA TURNAROUND INFORMATION

FAX (RUSH) Standard TAT DAYS*
HARDCOPY (DATA PACKAGE): _____ DAYS*
EDD: _____ DAYS*

*TO BE APPROVED BY CHEMTECH

STANDARD HARDCOPY TURNAROUND TIME IS 10 BUSINESS

DATA DELIVERABLE INFORMATION

☐ Level 1 (Results Only) ☐ Level 4 (QC + Full Raw Data)
☐ Level 2 (Results + QC) ☐ NJ Reduced ☐ US EPA CLP
☒ Level 3 (Results + QC) ☐ NYS ASP A ☐ NYS ASP B
+ Raw Data ☐ Other _____
☐ EDD FORMAT _____

1. Site Spec Vocs (GC/MS) 1650
2. A+D DOW (GC/MS) 1650
3. Trace Vocs (GC/MS) 1650
4. Total Aromatics (GC/MS) 1650
5. Dissolved Van (GC/MS) 1650
6. Alkalinity (SM) 1650
7. TDS (SM) 1650
8. Ammonia (AO) 1650
9. _____

PRESERVATIVES

COMMENTS

ALLIANCE SAMPLE ID	PROJECT SAMPLE IDENTIFICATION	SAMPLE MATRIX	SAMPLE TYPE		SAMPLE COLLECTION		# OF BOTTLES	PRESERVATIVES								COMMENTS ← Specify Preservatives A-HCl D-NaOH B-HNO3 E-ICE C-H2SO4 F-OTHER
			COMP	GRAB	DATE	TIME		A/E	E	A/E	B/E	E	E	E	E	
1.	RMW-05B-89-040225	GW		✓	4/2/25	1605	4	✓	✓	✓	✓	✓	✓	✓	✓	
2.	EB01-040225	DI		✓	4/2/25	1550	9	✓	✓		✓	✓	✓	✓	✓	
3.	EB01-040225-SIM	DI		✓	4/2/25	1550	2			✓						
4.	TB01-040225	DI		✓	4/2/25	1600	2	✓								
5.																
6.																
7.																
8.																
9.																
10.																

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

RELINQUISHED BY SAMPLER: 1. <u>[Signature]</u>	DATE/TIME: <u>4-2-25 1650</u>	RECEIVED BY: <u>[Signature]</u> <u>1650</u>	Conditions of bottles or coolers at receipt: ☐ COMPLIANT ☐ NON COMPLIANT ☐ COOLER TEMP <u>3.0</u> °C
RELINQUISHED BY SAMPLER: 2. <u>[Signature]</u>	DATE/TIME: _____	RECEIVED BY: _____	Comments: <u>see work order for list of site specific Vocs</u>
RELINQUISHED BY SAMPLER: 3. <u>[Signature]</u>	DATE/TIME: <u>4-2-25 1825</u>	RECEIVED BY: _____	Temp <u>3.0°C</u> (Adjusted Factor +1) IR Gun #1.

Page 2 of 2 CLIENT: ☐ Hand Delivered ☐ Other _____ Shipment Complete ☐ YES ☐ NO

From: Ynfante, John <John.Ynfante@jacobs.com>
Sent: Friday, April 04, 2025 12:54 PM
To: Yazmeen Gomez; Mohammad Ahmed
Subject: RE: Princeton SIM/no-SIM

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

Secured by Check Point

Thanks Yazmeen, but like I mentioned yesterday if you aren't able to analyze any of those 3 normal samples by SIM then I have no need for the EB to be analyzed by SIM either so please just cancel that SIM EB. I will already have EB data for VOCs from the EB you ran (or are running) by your routine low 8260D.

From: Yazmeen Gomez <Yazmeen.Gomez@alliancetg.com>
Sent: Friday, April 4, 2025 11:51 AM
To: Ynfante, John <John.Ynfante@jacobs.com>; Mohammad Ahmed <mohammad.ahmed@alliancetg.com>
Subject: [EXTERNAL] RE: Princeton SIM/no-SIM

John,

Please see attached. SIM analysis is also not possible for MW-18B and MW-17B.

However, "EB01-040225-SIM" will be analyzed with SIM.

Best Regards,



Yazmeen Gomez
Sr. Project Manager
An Alliance Technical Group Company
Main: 908-789-8900
Direct: 908-728-3147
Address: 284 Sheffield St, Ste 1, Mountainside, NJ 07092
www.alliancetg.com     

From: Ynfante, John <John.Ynfante@jacobs.com>
Sent: Thursday, April 3, 2025 6:27 PM
To: Mohammad Ahmed <mohammad.ahmed@alliancetg.com>; Yazmeen Gomez <Yazmeen.Gomez@alliancetg.com>
Subject: RE: Princeton SIM/no-SIM

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Ok thanks for the confirmation Mohammad

From: Mohammad Ahmed <mohammad.ahmed@alliancetg.com>

Sent: Thursday, April 3, 2025 5:22 PM

To: Ynfante, John <John.Ynfante@jacobs.com>; Yazmeen Gomez <Yazmeen.Gomez@alliancetg.com>

Subject: [EXTERNAL] Re: Princeton SIM/no-SIM

Hi John ,

I will let you know about other 2 samples regarding SIM .

1 8oz jar is enough to run Total metals and SPLP

Get [Outlook for iOS](#)

From: Ynfante, John <John.Ynfante@jacobs.com>

Sent: Thursday, April 3, 2025 5:55:35 PM

To: Yazmeen Gomez <Yazmeen.Gomez@alliancetg.com>; Mohammad Ahmed <mohammad.ahmed@alliancetg.com>

Subject: Princeton SIM/no-SIM

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

Secured by Check Point

Hi Yazmeen and Mohammad, a few things:

After speaking with Mohammad I understand that the full scan 8260D run for the MW-17B sample had ~11ppm of TCE and high concs of other VOCs as well so you won't be able to run SIM on it – I understand the limitations and have passed that update on to the team so that is fine. There should also be SIM samples collected for 2 more samples - MW-18B and MW-19B so please let me know if your standard 8260 run shows similar concentrations on those as well. Note that these 3 samples are in a completely different location from the rest of the samples and their concentrations shouldn't necessarily represent the levels we will see for other samples – I understand if you have to dilute these high-conc samples I just don't want to over-dilute other samples unnecessarily.

Also, if you don't end up running any of the 3 SFAM-SIM samples then we have no need for that SIM equipment blank to be analyzed either so you can cancel that unless MW-18B or MW-19B turn out to be low enough to be able to be run by SIM in which case I would want the SIM EB.

Finally, for the soil samples we are collecting next week the client decided today that we should also collect for SPLP silver and place it on hold pending the total silver results – I believe you sent 8oz jars for the total silver so that should be plenty to cover the initial silver analysis and then still have enough for SPLP Silver if we need to run it right? Or do you prefer a completely separate jar for the SPLP Ag?

John Ynfante
Jacobs
Chemist
281-414-1719 mobile
John.Ynfante@jacobs.com
www.jacobs.com

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- 12
- 13

Laboratory Certification

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

LOGIN REPORT/SAMPLE TRANSFER

Order ID : Q1711	JACO05	Order Date : 4/3/2025 10:00:00 AM	Project Mgr :
Client Name : JACOBS Engineering Grou		Project Name : Former Schlumberger STC	Report Type : Level 4
Client Contact : John Ynfante		Receive DateTime : 4/2/2025 6:25:00 PM	EDD Type : CH2MHILL
Invoice Name : JACOBS Engineering Grou		Purchase Order :	Hard Copy Date :
Invoice Contact : John Ynfante			Date Signoff :

LAB ID	CLIENT ID	MATRIX	SAMPLE DATE	SAMPLE TIME	TEST	TEST GROUP	METHOD	FAX DATE	DUE DATES
Q1711-01	MW-18B-56-040225	Water	04/02/2025	12:35					
					VOCMS Group3		8260-Low	2 Bus. Days	
Q1711-02	Q1711-01MS	Water	04/02/2025	12:35					
					VOCMS Group3		8260-Low	2 Bus. Days	
Q1711-03	Q1711-01MSD	Water	04/02/2025	12:35					
					VOCMS Group3		8260-Low	2 Bus. Days	
Q1711-04	MW-17B-55-040225	Water	04/02/2025	15:35					
					VOCMS Group3		8260-Low	2 Bus. Days	
Q1711-05	MW-18B-56-040225-SIM	Water	04/02/2025	12:35					
					VOC-TRACE-SFAM		SFAM_Trace	2 Bus. Days	
Q1711-06	MW-17B-56-040225-SIM	Water	04/02/2025	15:35					
					VOC-TRACE-SFAM		SFAM_Trace	2 Bus. Days	
Q1711-07	RMW-05B-89-040225	Water	04/02/2025	16:05					
					VOCMS Group3		8260-Low	2 Bus. Days	
Q1711-08	EB01-040225	Water	04/02/2025	15:50					

YG
04/04/2025

LOGIN REPORT/SAMPLE TRANSFER

Order ID : Q1711	JACO05	Order Date : 4/3/2025 10:00:00 AM	Project Mgr :
Client Name : JACOBS Engineering Grou		Project Name : Former Schlumberger STC	Report Type : Level 4
Client Contact : John Ynfante		Receive DateTime : 4/2/2025 6:25:00 PM	EDD Type : CH2MHILL
Invoice Name : JACOBS Engineering Grou		Purchase Order :	Hard Copy Date :
Invoice Contact : John Ynfante			Date Signoff :

LAB ID	CLIENT ID	MATRIX	SAMPLE DATE	SAMPLE TIME	TEST	TEST GROUP	METHOD	FAX DATE	DUE DATES
					VOCMS Group3		8260-Low	2 Bus. Days	
Q1711-09	EB01-040225-SIM	Water	04/02/2025	15:50	VOC TRACE SFAM		SFAM_Trace	2 Bus. Days	YG
Q1711-10	TB01-040225	Water	04/02/2025	16:00					04/04/2025
					VOCMS Group3		8260-Low	2 Bus. Days	

Relinquished By : af

Date / Time : 4.3.25 1225

Received By : [Signature]

Date / Time : 4.3.25 12:25

Storage Area : VOA Refridgerator Room