

DATA PACKAGE GENERAL CHEMISTRY

PROJECT NAME : NWIRP BETHPAGE 112G08005-WE13

TETRA TECH NUS, INC.

661 Andersen Drive

Suite 200

Pittsburgh, PA - 15220-2745

Phone No: 412-921-7090

ORDER ID : Q2695

ATTENTION : Ernie Wu



Laboratory Certification ID # 20012



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Cover Page

Order ID : Q2695

Project ID : NWIRP Bethpage 112G08005-WE13

Client : Tetra Tech NUS, Inc.

Lab Sample Number

Q2695-01

Client Sample Number

RW5-SP100-20250724

I certify that the data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hard copy data package has been authorized by the laboratory manager or his designee, as verified by the following signature.

Signature : _____

Date: 7/30/2025

NYDOH CERTIFICATION NO - 11376

NJDEP CERTIFICATION NO - 20012



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

CASE NARRATIVE

Tetra Tech NUS, Inc.

Project Name: NWIRP Bethpage 112G08005-WE13

Project Manager : Ernie Wu

Order ID # Q2695

Test Name: Anions Group4

A. Number of Samples and Date of Receipt:

1 Water sample was received on 07/25/2025.

B. Parameters:

According to the Chain of Custody document, the following analyses were requested: Anions Group4. This data package contains results for Anions Group4.

C. Analytical Techniques:

The analysis of Anions Group4 was based on method 300.0.

D. QA/ QC Samples:

The Holding Times were met for all analysis.

The Blank Spike met requirements for all compounds.

The Duplicate analysis met criteria for all compounds.

The Matrix Spike analysis met criteria for all compounds.

The Matrix Spike Duplicate analysis met criteria for all compounds.

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

The Calibration met the requirements.

E. Additional Comments:

The laboratory certifies that the all-electronic diskette deliverable exactly match the data summary forms (i.e. Form Is).

I certify that the data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. The laboratory manager or his designee, as verified by the following signature has authorized release of the data contained in this hard copy data package.

Signature_____

DATA REPORTING QUALIFIERS- INORGANIC

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

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

GENERAL CHEMISTRY CONFORMANCE/NON-CONFORMANCE SUMMARY

ORDER ID: Q2695

MATRIX: Water

METHOD: 300.0

	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 compounds.			
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:

The laboratory certifies that the all-electronic diskette deliverable exactly match the data summary forms (i.e. Form Is).

QA REVIEW

Date

APPENDIX A

QA REVIEW GENERAL DOCUMENTATION

Project #: Q2695

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: 07/30/2025

LAB CHRONICLE

OrderID:	Q2695	OrderDate:	7/25/2025 10:40:00 AM
Client:	Tetra Tech NUS, Inc.	Project:	NWIRP Bethpage 112G08005-WE13
Contact:	Ernie Wu	Location:	D31

LabID	ClientID	Matrix	Test	Method	Sample Date	Prep Date	Anal Date	Received
Q2695-01	RW5-SP100-2025072 4	WATER	Anions Group4	300.0	07/24/25 10:45		07/25/25 13:16	07/25/25



SAMPLE DATA

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Report of Analysis

Client:	Tetra Tech NUS, Inc.	Date Collected:	07/24/25 10:45
Project:	NWIRP Bethpage 112G08005-WE13	Date Received:	07/25/25
Client Sample ID:	RW5-SP100-20250724	SDG No.:	Q2695
Lab Sample ID:	Q2695-01	Matrix:	WATER
		% Solid:	0

Parameter	Conc.	Qua.	DF	MDL	LOD	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
Nitrite	0.30	U	1	0.074	0.30	0.60	mg/L		07/25/25 13:16	300.0
Nitrate	3.90		1	0.095	0.25	0.50	mg/L		07/25/25 13:16	300.0
Nitrate+Nitrite	3.90		1	0.17	0.55	1.10	mg/L		07/25/25 13:16	300.0

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: Tetra Tech NUS, Inc.

SDG No.: Q2695

Project: NWIRP Bethpage 112G08005-WE13

RunNo.: LB136635

Analyte	Units	Result	True Value	% Recovery	Acceptance Window (%R)	Analysis Date
Sample ID: ICV1						
Bromide	mg/L	9.5	10	95	90-110	07/21/2025
Chloride	mg/L	2.8	3	93	90-110	07/21/2025
Fluoride	mg/L	1.9	2	95	90-110	07/21/2025
Nitrite	mg/L	2.8	3	93	90-110	07/21/2025
Nitrate	mg/L	2.3	2.5	92	90-110	07/21/2025
Sulfate	mg/L	14.2	15	95	90-110	07/21/2025
Orthophosphate as P	mg/L	4.8	5	96	90-110	07/21/2025
Sample ID: CCV1						
Bromide	mg/L	10.1	10	101	90-110	07/25/2025
Chloride	mg/L	3.1	3	103	90-110	07/25/2025
Fluoride	mg/L	2	2	100	90-110	07/25/2025
Nitrite	mg/L	3	3	100	90-110	07/25/2025
Nitrate	mg/L	2.5	2.5	100	90-110	07/25/2025
Sulfate	mg/L	14.9	15	99	90-110	07/25/2025
Orthophosphate as P	mg/L	5	5	100	90-110	07/25/2025
Sample ID: CCV2						
Bromide	mg/L	10.2	10	102	90-110	07/25/2025
Chloride	mg/L	3.1	3	103	90-110	07/25/2025
Fluoride	mg/L	2	2	100	90-110	07/25/2025
Nitrite	mg/L	3	3	100	90-110	07/25/2025
Nitrate	mg/L	2.5	2.5	100	90-110	07/25/2025
Sulfate	mg/L	15.1	15	101	90-110	07/25/2025
Orthophosphate as P	mg/L	5.1	5	102	90-110	07/25/2025
Sample ID: CCV3						
Bromide	mg/L	10.2	10	102	90-110	07/25/2025
Chloride	mg/L	3.1	3	103	90-110	07/25/2025
Fluoride	mg/L	2	2	100	90-110	07/25/2025
Nitrite	mg/L	3	3	100	90-110	07/25/2025
Nitrate	mg/L	2.5	2.5	100	90-110	07/25/2025
Sulfate	mg/L	15	15	100	90-110	07/25/2025
Orthophosphate as P	mg/L	5.1	5	102	90-110	07/25/2025

Initial and Continuing Calibration Blank Summary

Client: Tetra Tech NUS, Inc.

SDG No.: Q2695

Project: NWIRP Bethpage 112G08005-WE13

RunNo.: LB136635

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	07/21/2025
Chloride	mg/L	< 0.3000	0.3000	U	0.19	0.6	07/21/2025
Fluoride	mg/L	< 0.2000	0.2000	U	0.11	0.4	07/21/2025
Nitrite	mg/L	< 0.3000	0.3000	U	0.074	0.6	07/21/2025
Nitrate	mg/L	< 0.2500	0.2500	U	0.095	0.5	07/21/2025
Sulfate	mg/L	< 1.5000	1.5000	U	0.46	3	07/21/2025
Orthophosphate as P	mg/L	< 0.5000	0.5000	U	0.34	1	07/21/2025
Sample ID: CCB1							
Bromide	mg/L	< 1.0000	1.0000	U	0.37	2	07/25/2025
Chloride	mg/L	< 0.3000	0.3000	U	0.19	0.6	07/25/2025
Fluoride	mg/L	< 0.2000	0.2000	U	0.11	0.4	07/25/2025
Nitrite	mg/L	< 0.3000	0.3000	U	0.074	0.6	07/25/2025
Nitrate	mg/L	< 0.2500	0.2500	U	0.095	0.5	07/25/2025
Sulfate	mg/L	< 1.5000	1.5000	U	0.46	3	07/25/2025
Orthophosphate as P	mg/L	< 0.5000	0.5000	U	0.34	1	07/25/2025
Sample ID: CCB2							
Bromide	mg/L	< 1.0000	1.0000	U	0.37	2	07/25/2025
Chloride	mg/L	< 0.3000	0.3000	U	0.19	0.6	07/25/2025
Fluoride	mg/L	< 0.2000	0.2000	U	0.11	0.4	07/25/2025
Nitrite	mg/L	< 0.3000	0.3000	U	0.074	0.6	07/25/2025
Nitrate	mg/L	< 0.2500	0.2500	U	0.095	0.5	07/25/2025
Sulfate	mg/L	< 1.5000	1.5000	U	0.46	3	07/25/2025
Orthophosphate as P	mg/L	< 0.5000	0.5000	U	0.34	1	07/25/2025
Sample ID: CCB3							
Bromide	mg/L	< 1.0000	1.0000	U	0.37	2	07/25/2025
Chloride	mg/L	< 0.3000	0.3000	U	0.19	0.6	07/25/2025
Fluoride	mg/L	< 0.2000	0.2000	U	0.11	0.4	07/25/2025
Nitrite	mg/L	< 0.3000	0.3000	U	0.074	0.6	07/25/2025
Nitrate	mg/L	< 0.2500	0.2500	U	0.095	0.5	07/25/2025
Sulfate	mg/L	< 1.5000	1.5000	U	0.46	3	07/25/2025
Orthophosphate as P	mg/L	< 0.5000	0.5000	U	0.34	1	07/25/2025

Preparation Blank Summary

Client: Tetra Tech NUS, Inc.

SDG No.: Q2695

Project: NWIRP Bethpage 112G08005-WE13

Analyte	Units	Result	Acceptance Limits	Conc Qual	MDL	RDL	Analysis Date
Sample ID: LB136635BLW							
Bromide	mg/L	< 1.0000	1.0000	U	0.37	2	07/25/2025
Chloride	mg/L	< 0.3000	0.3000	U	0.19	0.6	07/25/2025
Fluoride	mg/L	< 0.2000	0.2000	U	0.11	0.4	07/25/2025
Nitrite	mg/L	< 0.3000	0.3000	U	0.074	0.6	07/25/2025
Nitrate	mg/L	< 0.2500	0.2500	U	0.095	0.5	07/25/2025
Sulfate	mg/L	< 1.5000	1.5000	U	0.46	3	07/25/2025
Orthophosphate as P	mg/L	< 0.5000	0.5000	U	0.34	1	07/25/2025

Matrix Spike Summary

Client:	Tetra Tech NUS, Inc.	SDG No.:	Q2695
Project:	NWIRP Bethpage 112G08005-WE13	Sample ID:	Q2695-01
Client ID:	RW5-SP100-20250724MS	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		0.37	U	10	1	101		07/25/2025
Chloride	mg/L	80-120	13.4	OR	10.8	OR	3	1	87		07/25/2025
Fluoride	mg/L	80-120	2.00		0.11	U	2	1	100		07/25/2025
Nitrite	mg/L	80-120	3.00		0.074	U	3	1	100		07/25/2025
Nitrate	mg/L	80-120	6.30	OR	3.90		2.5	1	96		07/25/2025
Sulfate	mg/L	80-120	16.9		2.60	J	15	1	95		07/25/2025
Orthophosphate as P	mg/L	80-120	5.10		0.34	U	5	1	102		07/25/2025

Matrix Spike Summary

Client:	Tetra Tech NUS, Inc.	SDG No.:	Q2695
Project:	NWIRP Bethpage 112G08005-WE13	Sample ID:	Q2695-01
Client ID:	RW5-SP100-20250724MSD	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	10.0		0.37	U	10	1	100		07/25/2025
Chloride	mg/L	80-120	13.4	OR	10.8	OR	3	1	87		07/25/2025
Fluoride	mg/L	80-120	2.00		0.11	U	2	1	100		07/25/2025
Nitrite	mg/L	80-120	2.90		0.074	U	3	1	97		07/25/2025
Nitrate	mg/L	80-120	6.30	OR	3.90		2.5	1	96		07/25/2025
Sulfate	mg/L	80-120	16.7		2.60	J	15	1	94		07/25/2025
Orthophosphate as P	mg/L	80-120	5.00		0.34	U	5	1	100		07/25/2025

Duplicate Sample Summary

Client:	Tetra Tech NUS, Inc.	SDG No.:	Q2695
Project:	NWIRP Bethpage 112G08005-WE13	Sample ID:	Q2695-01
Client ID:	RW5-SP100-20250724MSD	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
Fluoride	mg/L	+/-20	2.00		2.00		1	0		07/25/2025
Chloride	mg/L	+/-20	13.4	OR	13.4	OR	1	0		07/25/2025
Nitrate	mg/L	+/-20	6.30	OR	6.30	OR	1	0		07/25/2025
Bromide	mg/L	+/-20	10.1		10.0		1	1		07/25/2025
Sulfate	mg/L	+/-20	16.9		16.7		1	1		07/25/2025
Orthophosphate as P	mg/L	+/-20	5.10		5.00		1	2		07/25/2025
Nitrite	mg/L	+/-20	3.00		2.90		1	3		07/25/2025

Laboratory Control Sample Summary

Client:	Tetra Tech NUS, Inc.	SDG No.:	Q2695
Project:	NWIRP Bethpage 112G08005-WE13	Run No.:	LB136635

Analyte	Units	True Value	Result	Conc. Qualifier	% Recovery	Dilution Factor	Acceptance Limit %R	Analysis Date
Sample ID	LB136635BSW							
Bromide	mg/L	10	10.2		102	1	90-110	07/25/2025
Chloride	mg/L	3	3.10		103	1	90-110	07/25/2025
Fluoride	mg/L	2	2.00		100	1	90-110	07/25/2025
Nitrite	mg/L	3	3.00		100	1	90-110	07/25/2025
Nitrate	mg/L	2.5	2.50		100	1	90-110	07/25/2025
Sulfate	mg/L	15	15.0		100	1	90-110	07/25/2025
Orthophosphate as P	mg/L	5	5.10		102	1	90-110	07/25/2025



RAW DATA

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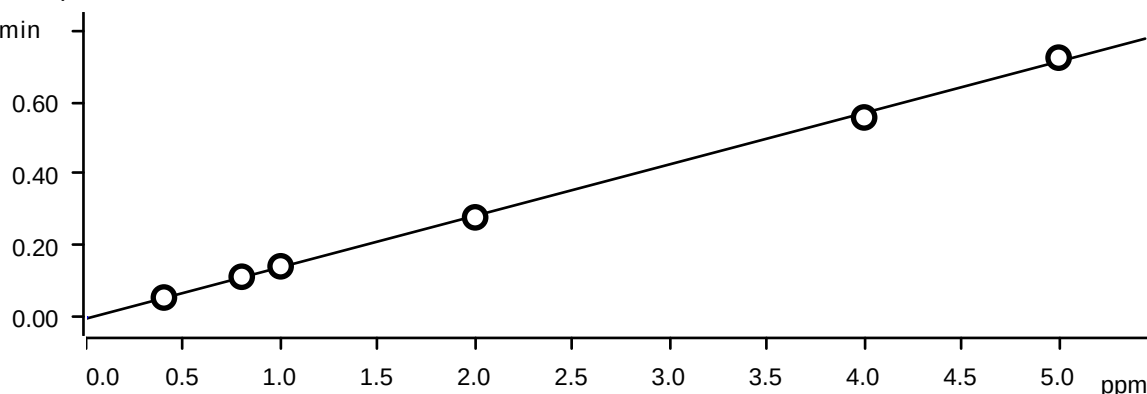
Clear table

Instrument ID: IC-2 Analyst : IZ Method: 300.0 / 9056A											
ident	concentra tion F-	concentratio n CL-	concentratio on NO2	concentratio on BR-	concentratio on NO3	concentratio n HPO4	concentratio on SO4	file name	date time	Initial wt/ Final	Analyst
STD1	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	IC1-072225	7/22/2025 9:56	10	RM/IZ
STD2	0.4100	0.6170	0.6240	2.0670	0.5210	1.0490	3.2130	IC1-072225	7/22/2025 10:17	10	RM/IZ
STD3	0.8140	1.2160	1.2160	4.0280	1.0140	1.9750	6.0380	IC1-072225	7/22/2025 10:39	10	RM/IZ
STD4	1.0180	1.5360	1.5370	5.1300	1.2780	2.5790	7.7180	IC1-072225	7/22/2025 11:00	10	RM/IZ
STD5	1.9700	2.9530	2.9420	9.8490	2.4540	4.9430	14.6590	IC1-072225	7/22/2025 11:22	10	RM/IZ
STD6	3.9130	5.8540	5.8490	19.5060	4.8730	9.7400	28.9480	IC1-072225	7/22/2025 11:43	10	RM/IZ
STD7	5.0750	7.6250	7.6320	25.4200	6.3600	12.7160	37.9230	IC1-072225	7/22/2025 12:04	10	RM/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	2.5000	2.8333	4.0000	3.3500	4.2000	4.9000	7.1000				
STD3	1.7500	1.3333	1.3333	0.7000	1.4000	-1.2500	0.6333				
STD4	1.8000	2.4000	2.4667	2.6000	2.2400	3.1600	2.9067				
STD5	-1.5000	-1.5667	-1.9333	-1.5100	-1.8400	-1.1400	-2.2733				
STD6	-2.1750	-2.4333	-2.5167	-2.4700	-2.5400	-2.6000	-3.5067				
STD7	1.5000	1.6667	1.7600	1.6800	1.7600	1.7280	2.4946				

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Fluoride (Anions)

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



Function: $A = -3.58174E-3 + 0.0143356 \times Q$

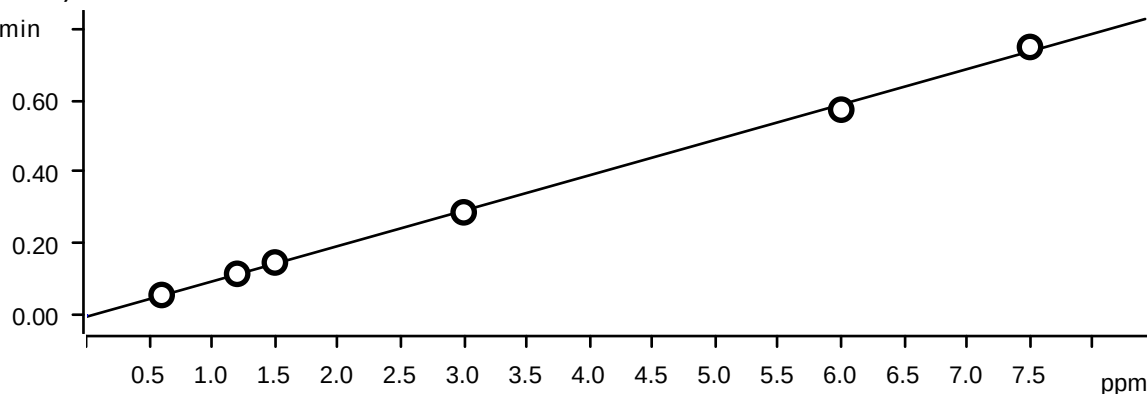
Relative standard deviation 2.796546 %

Correlation coefficient 0.999584

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	2025-07-22 09:56:27 UTC-4	used
Standard 2	1	0.400	10.0	1.0	1.0	0.055	STD2	2025-07-22 10:17:50 UTC-4	used
Standard 3	1	0.800	10.0	1.0	1.0	0.113	STD3	2025-07-22 10:39:14 UTC-4	used
Standard 4	1	1.000	10.0	1.0	1.0	0.142	STD4	2025-07-22 11:00:38 UTC-4	used
Standard 5	1	2.000	10.0	1.0	1.0	0.279	STD5	2025-07-22 11:22:04 UTC-4	used
Standard 6	1	4.000	10.0	1.0	1.0	0.557	STD6	2025-07-22 11:43:30 UTC-4	used
Standard 7	1	5.000	10.0	1.0	1.0	0.724	STD7	2025-07-22 12:04:57 UTC-4	used

Chloride (Anions)

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



Function: $A = -3.86940E-3 + 9.86796E-3 \times Q$

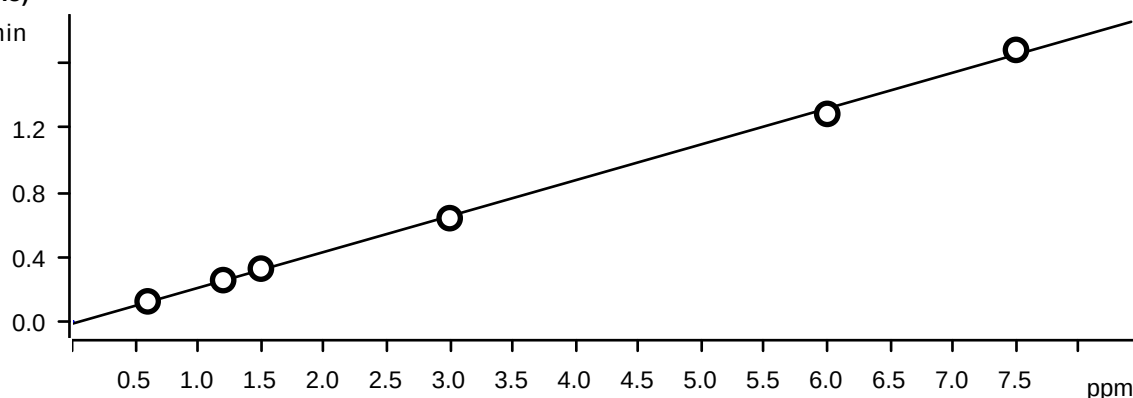
Relative standard deviation 3.106817 %

Correlation coefficient 0.999487

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	2025-07-22 09:56:27 UTC-4	used
Standard 2	1	0.600	10.0	1.0	1.0	0.057	STD2	2025-07-22 10:17:50 UTC-4	used
Standard 3	1	1.200	10.0	1.0	1.0	0.116	STD3	2025-07-22 10:39:14 UTC-4	used
Standard 4	1	1.500	10.0	1.0	1.0	0.148	STD4	2025-07-22 11:00:38 UTC-4	used
Standard 5	1	3.000	10.0	1.0	1.0	0.288	STD5	2025-07-22 11:22:04 UTC-4	used
Standard 6	1	6.000	10.0	1.0	1.0	0.574	STD6	2025-07-22 11:43:30 UTC-4	used
Standard 7	1	7.500	10.0	1.0	1.0	0.749	STD7	2025-07-22 12:04:57 UTC-4	used

Nitrite (Anions)

(μS/cm) x min

Function: $A = -0.0146099 + 0.0222310 \times Q$

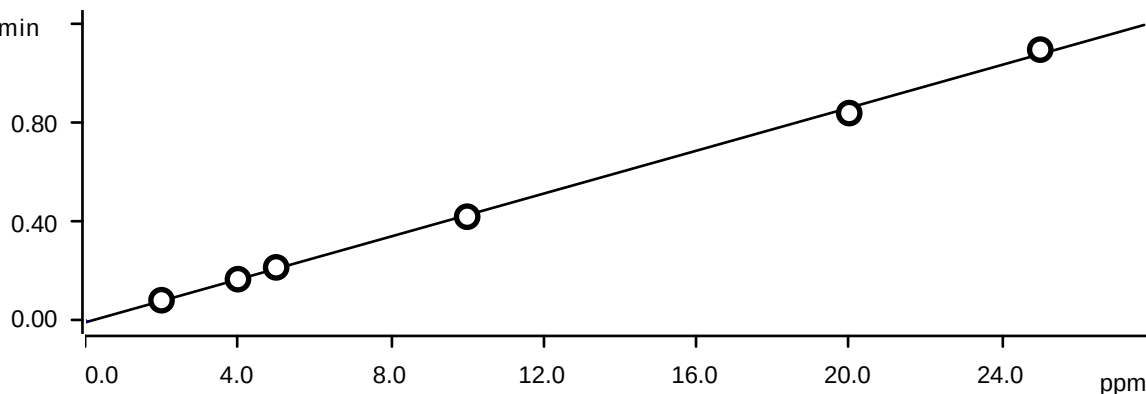
Relative standard deviation 3.309342 %

Correlation coefficient 0.999427

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	2025-07-22 09:56:27 UTC-4	used
Standard 2	1	0.600	10.0	1.0	1.0	0.124	STD2	2025-07-22 10:17:50 UTC-4	used
Standard 3	1	1.200	10.0	1.0	1.0	0.256	STD3	2025-07-22 10:39:14 UTC-4	used
Standard 4	1	1.500	10.0	1.0	1.0	0.327	STD4	2025-07-22 11:00:38 UTC-4	used
Standard 5	1	3.000	10.0	1.0	1.0	0.639	STD5	2025-07-22 11:22:04 UTC-4	used
Standard 6	1	6.000	10.0	1.0	1.0	1.286	STD6	2025-07-22 11:43:30 UTC-4	used
Standard 7	1	7.500	10.0	1.0	1.0	1.682	STD7	2025-07-22 12:04:57 UTC-4	used

Bromide (Anions)

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



Function: $A = -6.30685E-3 + 4.32181E-3 \times Q$

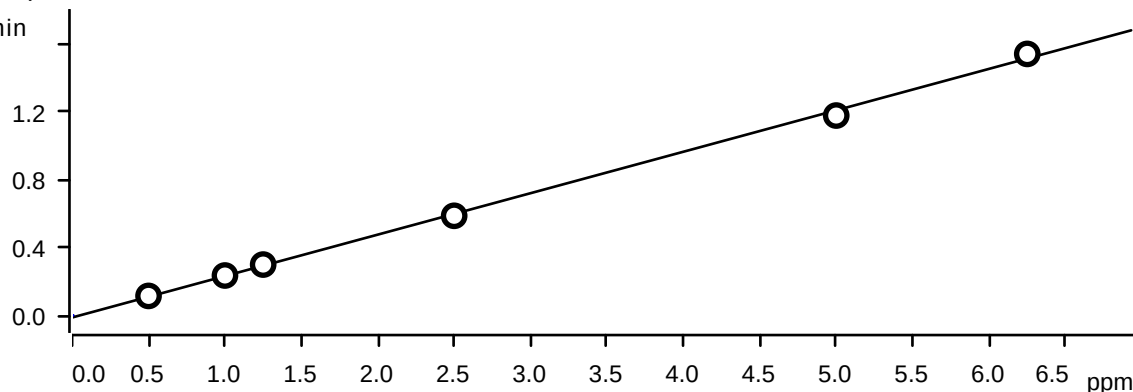
Relative standard deviation: 3.140470 %

Correlation coefficient: 0.999477

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	2025-07-22 09:56:27 UTC-4	used
Standard 2	1	2.000	10.0	1.0	1.0	0.083	STD2	2025-07-22 10:17:50 UTC-4	used
Standard 3	1	4.000	10.0	1.0	1.0	0.168	STD3	2025-07-22 10:39:14 UTC-4	used
Standard 4	1	5.000	10.0	1.0	1.0	0.215	STD4	2025-07-22 11:00:38 UTC-4	used
Standard 5	1	10.000	10.0	1.0	1.0	0.419	STD5	2025-07-22 11:22:04 UTC-4	used
Standard 6	1	20.000	10.0	1.0	1.0	0.837	STD6	2025-07-22 11:43:30 UTC-4	used
Standard 7	1	25.000	10.0	1.0	1.0	1.092	STD7	2025-07-22 12:04:57 UTC-4	used

Nitrate (Anions)

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

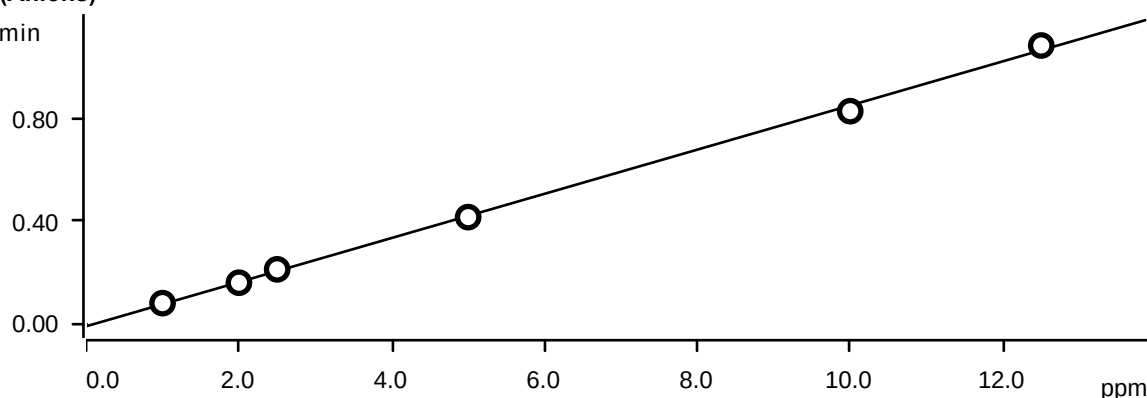


Function: $A = -0.0124015 + 0.0243912 \times Q$

Relative standard deviation: 3.299301 %

Correlation coefficient 0.999429

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	2025-07-22 09:56:27 UTC-4	used
Standard 2	1	0.500	10.0	1.0	1.0	0.115	STD2	2025-07-22 10:17:50 UTC-4	used
Standard 3	1	1.000	10.0	1.0	1.0	0.235	STD3	2025-07-22 10:39:14 UTC-4	used
Standard 4	1	1.250	10.0	1.0	1.0	0.299	STD4	2025-07-22 11:00:38 UTC-4	used
Standard 5	1	2.500	10.0	1.0	1.0	0.586	STD5	2025-07-22 11:22:04 UTC-4	used
Standard 6	1	5.000	10.0	1.0	1.0	1.176	STD6	2025-07-22 11:43:30 UTC-4	used
Standard 7	1	6.250	10.0	1.0	1.0	1.539	STD7	2025-07-22 12:04:57 UTC-4	used

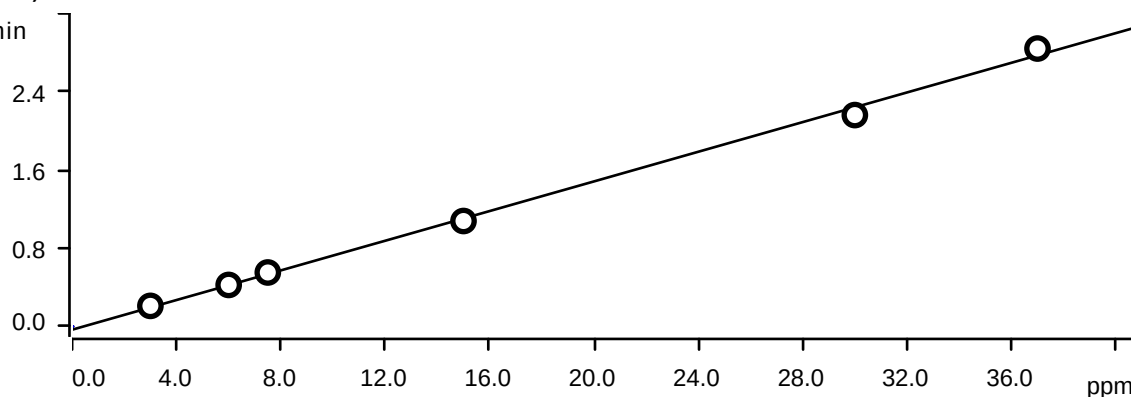
Phosphate (Anions) $(\mu\text{S}/\text{cm}) \times \text{min}$ Function: $A = -6.54124E-3 + 8.55235E-3 \times Q$

Relative standard deviation 3.281294 %

Correlation coefficient 0.999430

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	2025-07-22 09:56:27 UTC-4	used
Standard 2	1	1.000	10.0	1.0	1.0	0.083	STD2	2025-07-22 10:17:50 UTC-4	used
Standard 3	1	2.000	10.0	1.0	1.0	0.162	STD3	2025-07-22 10:39:14 UTC-4	used
Standard 4	1	2.500	10.0	1.0	1.0	0.214	STD4	2025-07-22 11:00:38 UTC-4	used
Standard 5	1	5.000	10.0	1.0	1.0	0.416	STD5	2025-07-22 11:22:04 UTC-4	used
Standard 6	1	10.000	10.0	1.0	1.0	0.826	STD6	2025-07-22 11:43:30 UTC-4	used
Standard 7	1	12.500	10.0	1.0	1.0	1.081	STD7	2025-07-22 12:04:57 UTC-4	used

Sulfate (Anions)

 $(\mu\text{S}/\text{cm}) \times \text{min}$ Function: $A = -0.0328648 + 7.57930E-3 \times Q$

Relative standard deviation 4.607752 %

Correlation coefficient 0.998893

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	2025-07-22 09:56:27 UTC-4	used
Standard 2	1	3.000	10.0	1.0	1.0	0.211	STD2	2025-07-22 10:17:50 UTC-4	used
Standard 3	1	6.000	10.0	1.0	1.0	0.425	STD3	2025-07-22 10:39:14 UTC-4	used
Standard 4	1	7.500	10.0	1.0	1.0	0.552	STD4	2025-07-22 11:00:38 UTC-4	used
Standard 5	1	15.000	10.0	1.0	1.0	1.078	STD5	2025-07-22 11:22:04 UTC-4	used
Standard 6	1	30.000	10.0	1.0	1.0	2.161	STD6	2025-07-22 11:43:30 UTC-4	used
Standard 7	1	37.000	10.0	1.0	1.0	2.841	STD7	2025-07-22 12:04:57 UTC-4	used

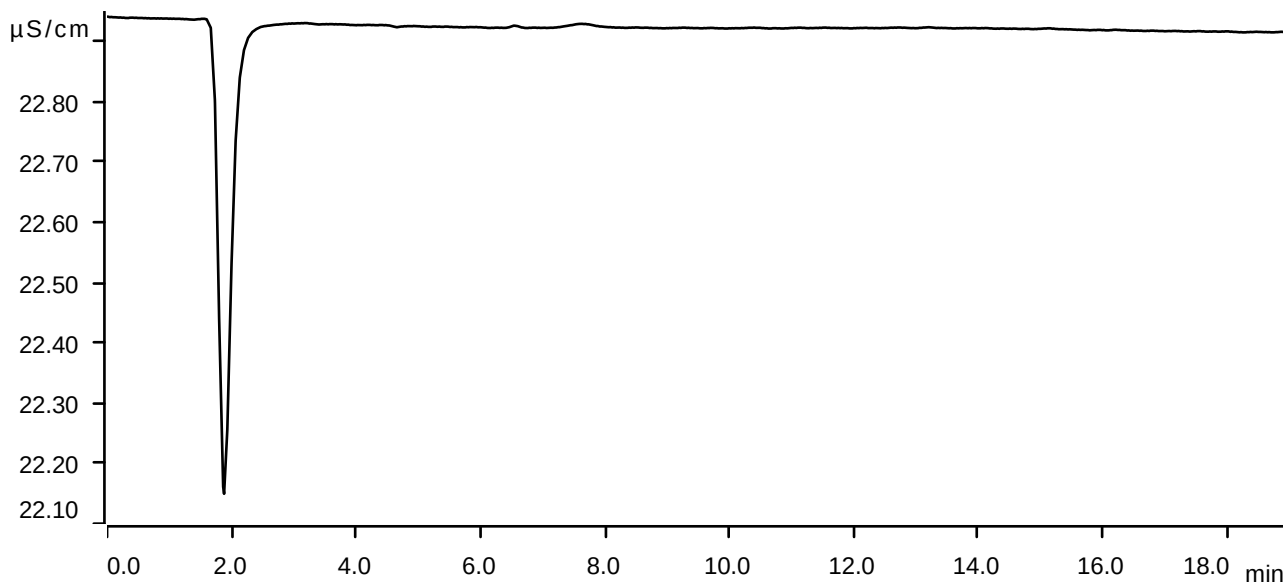
Sample data

Ident STD1
Sample type Standard 1
Determination start 2025-07-22 09:56:27 UTC-4
Method IC1-072225
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 12.95 MPa
Maximum pressure monitored yes
Temperature ---- °C

Anions



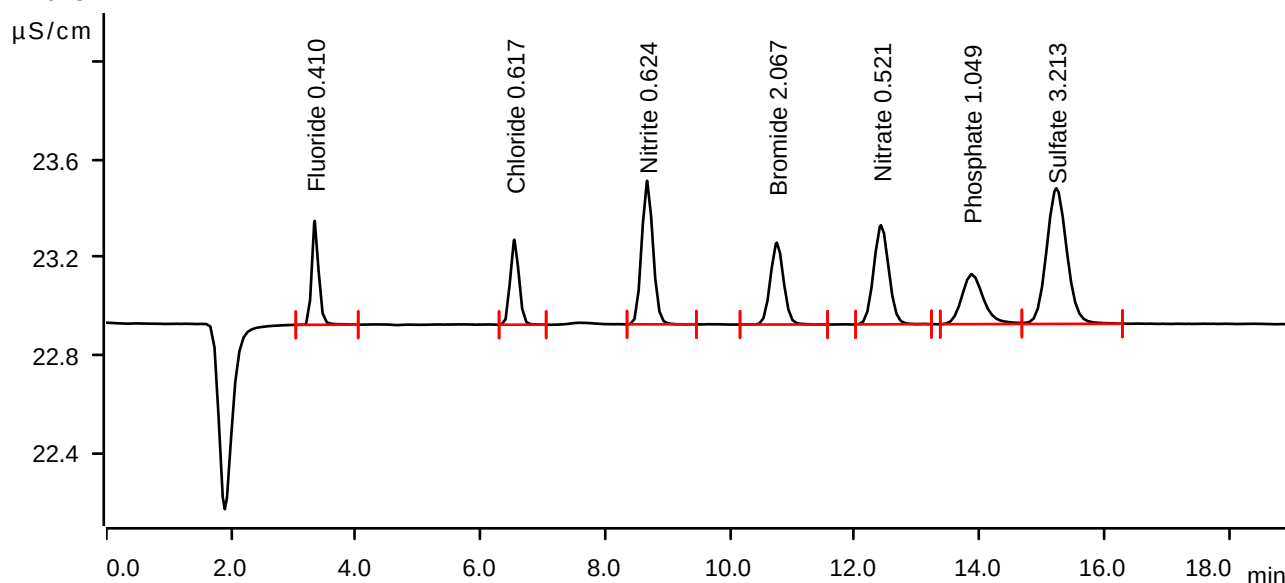
Sample data

Ident STD2
Sample type Standard 2
Determination start 2025-07-22 10:17:50 UTC-4
Method IC1-072225
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 12.78 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	3.342	0.0552	0.426	0.410	Fluoride
2	6.543	0.0570	0.349	0.617	Chloride
3	8.672	0.1241	0.588	0.624	Nitrite
4	10.750	0.0830	0.336	2.067	Bromide
5	12.420	0.1146	0.406	0.521	Nitrate
6	13.872	0.0831	0.205	1.049	Phosphate
7	15.230	0.2106	0.556	3.213	Sulfate

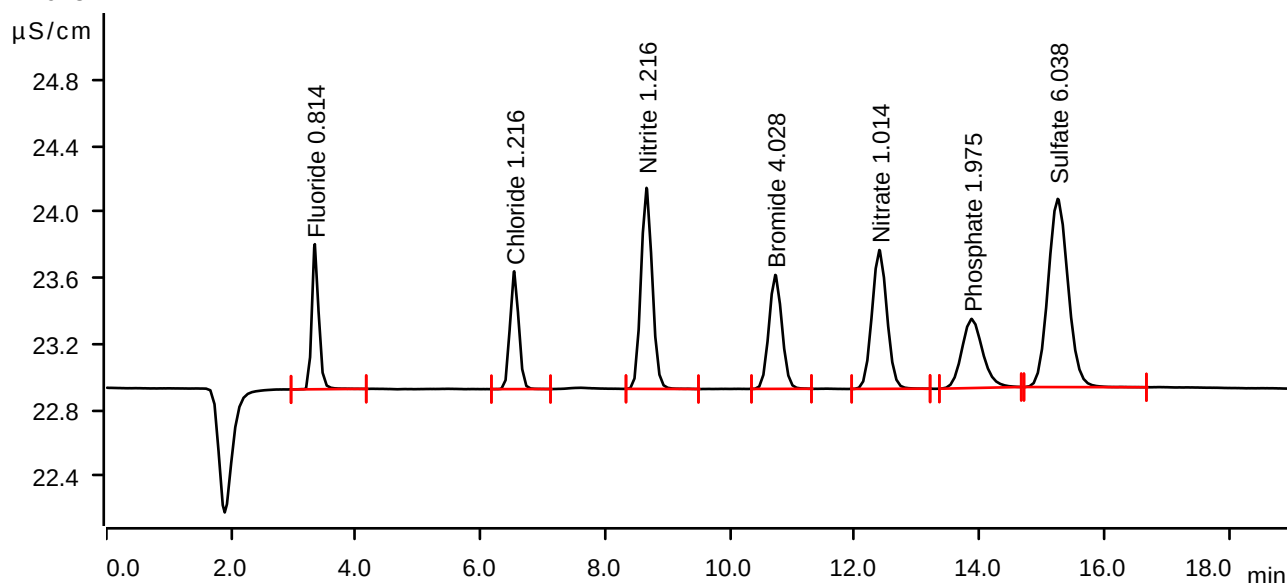
Sample data

Ident STD3
Sample type Standard 3
Determination start 2025-07-22 10:39:14 UTC-4
Method IC1-072225
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 12.61 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	3.343	0.1132	0.878	0.814	Fluoride
2	6.540	0.1161	0.713	1.216	Chloride
3	8.660	0.2557	1.217	1.216	Nitrite
4	10.725	0.1678	0.690	4.028	Bromide
5	12.393	0.2349	0.840	1.014	Nitrate
6	13.875	0.1623	0.418	1.975	Phosphate
7	15.253	0.4248	1.139	6.038	Sulfate

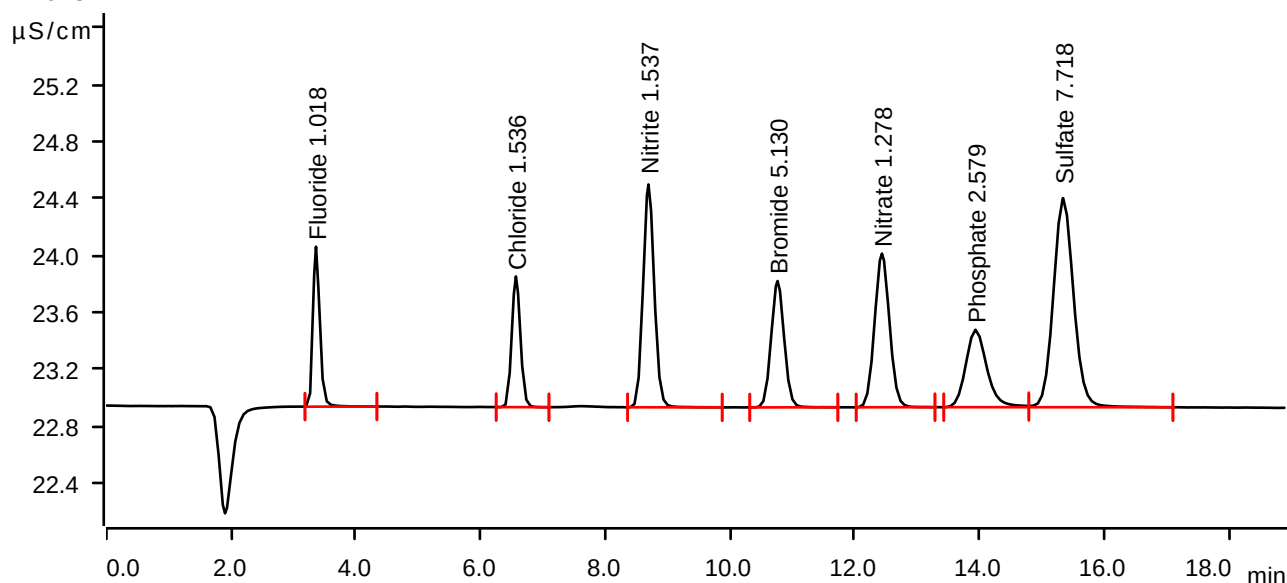
Sample data

Ident STD4
Sample type Standard 4
Determination start 2025-07-22 11:00:38 UTC-4
Method IC1-072225
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 12.61 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	3.362	0.1423	1.123	1.018	Fluoride
2	6.567	0.1477	0.919	1.536	Chloride
3	8.692	0.3270	1.566	1.537	Nitrite
4	10.762	0.2154	0.888	5.130	Bromide
5	12.435	0.2992	1.080	1.278	Nitrate
6	13.935	0.2140	0.544	2.579	Phosphate
7	15.340	0.5521	1.470	7.718	Sulfate

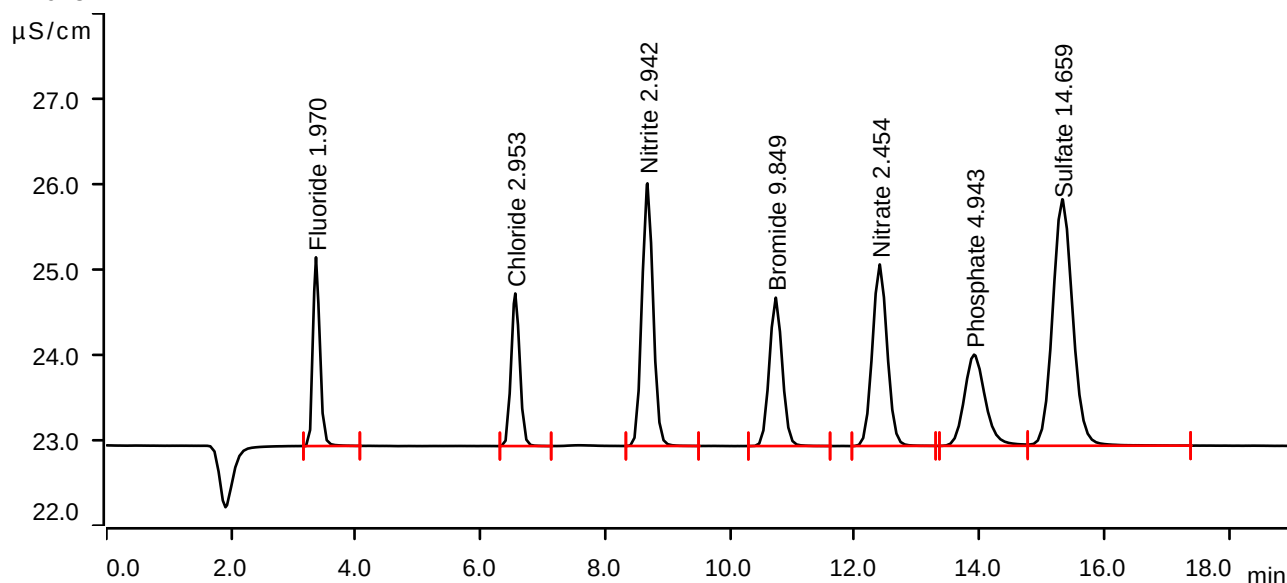
Sample data

Ident STD5
Sample type Standard 5
Determination start 2025-07-22 11:22:04 UTC-4
Method IC1-072225
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 12.50 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	3.362	0.2788	2.210	1.970	Fluoride
2	6.557	0.2875	1.787	2.953	Chloride
3	8.675	0.6394	3.077	2.942	Nitrite
4	10.732	0.4194	1.738	9.849	Bromide
5	12.398	0.5862	2.127	2.454	Nitrate
6	13.912	0.4162	1.068	4.943	Phosphate
7	15.327	1.0782	2.887	14.659	Sulfate

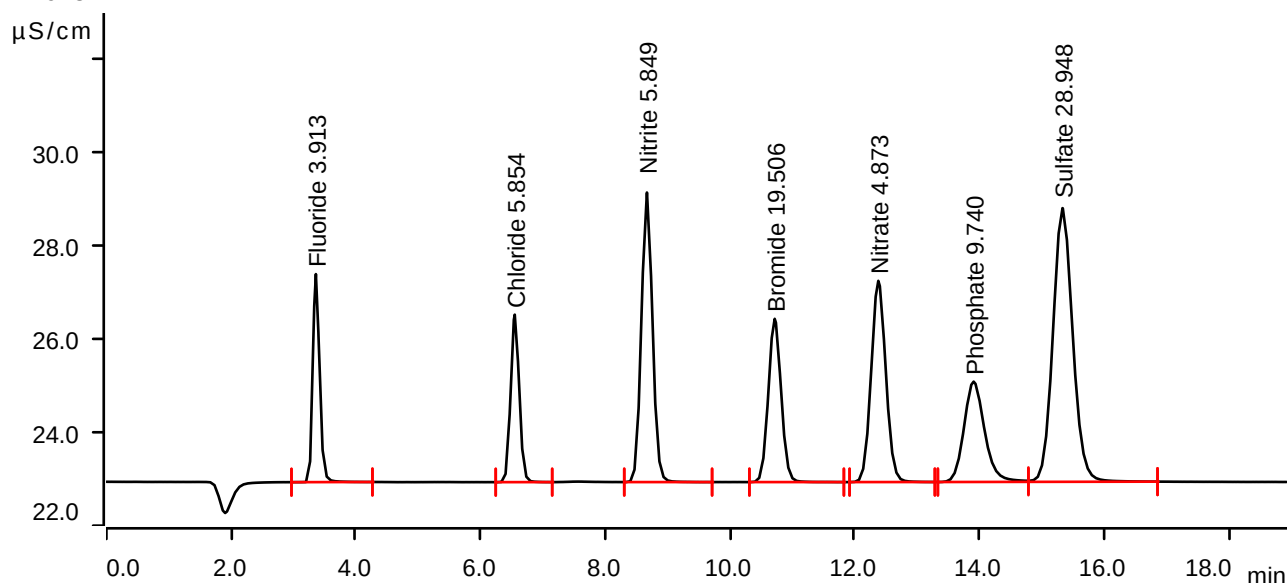
Sample data

Ident STD6
Sample type Standard 6
Determination start 2025-07-22 11:43:30 UTC-4
Method IC1-072225
Operator

Anions

Data source Conductivity detector 1 (Eco IC 1)
Channel Conductivity
Recording time 19.0 min
Integration Automatically
Column type Metrosep A Supp 19 - 150/4.0
Eluent composition not defined
Flow 0.700 mL/min
Maximum flow monitored yes
Pressure 12.44 MPa
Maximum pressure monitored yes
Temperature ---- °C

Anions



Peak number	Retention time min	Area (µS/cm) x min	Height µS/cm	Concentration ppm	Component name
1	3.360	0.5573	4.466	3.913	Fluoride
2	6.548	0.5738	3.596	5.854	Chloride
3	8.667	1.2857	6.219	5.849	Nitrite
4	10.715	0.8367	3.507	19.506	Bromide
5	12.377	1.1762	4.321	4.873	Nitrate
6	13.905	0.8264	2.155	9.740	Phosphate
7	15.330	2.1612	5.877	28.948	Sulfate

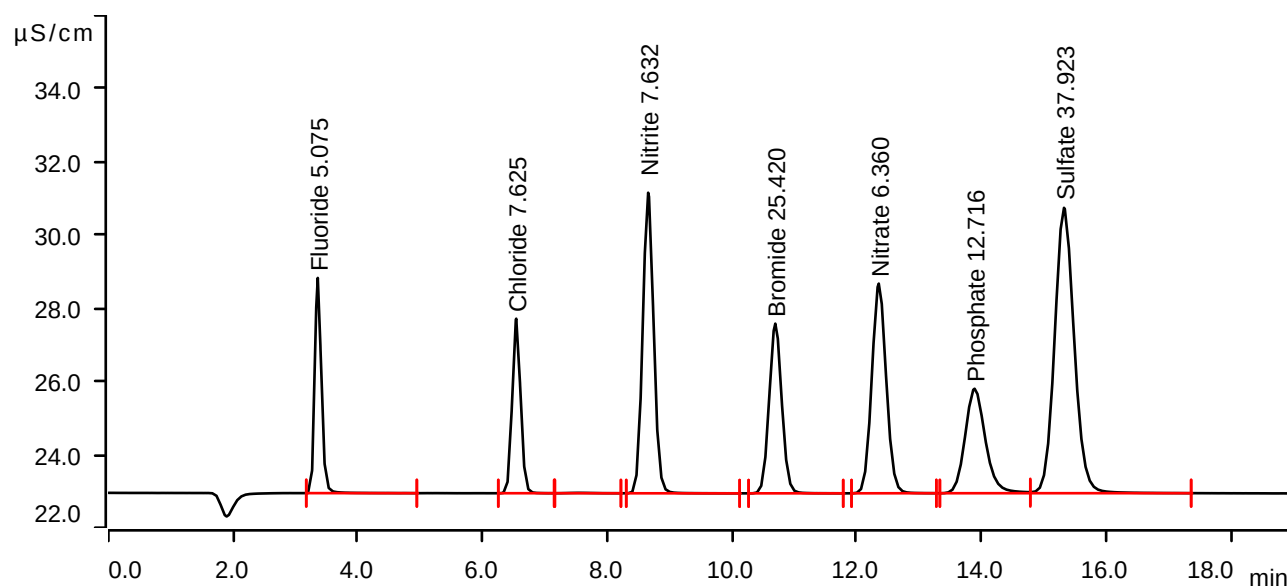
Sample data

Ident STD7
Sample type Standard 7
Determination start 2025-07-22 12:04:57 UTC-4
Method IC1-072225
Operator

Anions

Data source Conductivity detector 1 (Eco IC 1)
Channel Conductivity
Recording time 19.0 min
Integration Automatically
Column type Metrosep A Supp 19 - 150/4.0
Eluent composition not defined
Flow 0.700 mL/min
Maximum flow monitored yes
Pressure 12.44 MPa
Maximum pressure monitored yes
Temperature ---- °C

Anions



Peak number	Retention time	Area	Height	Concentration	Component name
	min	($\mu\text{S/cm}$) x min	$\mu\text{S/cm}$	ppm	
1	3.358	0.7240	5.880	5.075	Fluoride
2	6.540	0.7486	4.770	7.625	Chloride
3	7.532	0.0048	0.011	invalid	
4	8.655	1.6821	8.216	7.632	Nitrite
5	10.693	1.0923	4.639	25.420	Bromide
6	12.352	1.5390	5.732	6.360	Nitrate
7	13.888	1.0809	2.856	12.716	Phosphate
8	15.322	2.8415	7.800	37.923	Sulfate

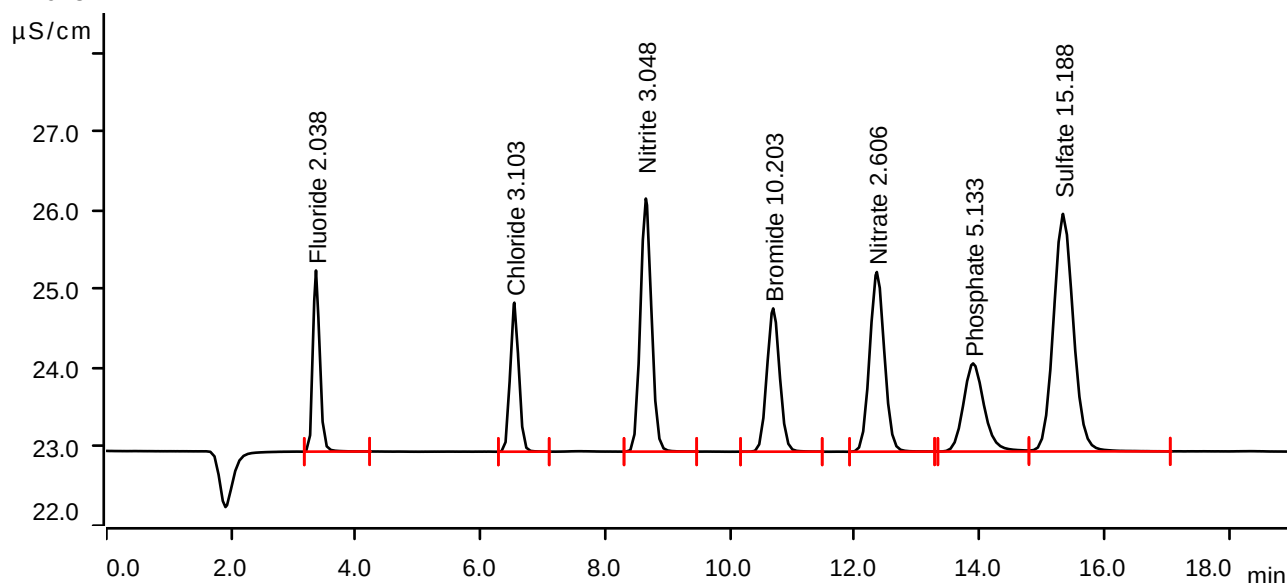
Sample data

Ident ICV
Sample type Check standard 1
Determination start 2025-07-22 12:26:25 UTC-4
Method IC1-072225
Operator

Anions

Data source Conductivity detector 1 (Eco IC 1)
Channel Conductivity
Recording time 19.0 min
Integration Automatically
Column type Metrosep A Supp 19 - 150/4.0
Eluent composition not defined
Flow 0.700 mL/min
Maximum flow monitored yes
Pressure 12.39 MPa
Maximum pressure monitored yes
Temperature ---- °C

Anions



Peak number	Retention time min	Area (µS/cm) x min	Height µS/cm	Concentration ppm	Component name
1	3.362	0.2885	2.298	2.038	Fluoride
2	6.542	0.3023	1.891	3.103	Chloride
3	8.650	0.6629	3.211	3.048	Nitrite
4	10.692	0.4347	1.818	10.203	Bromide
5	12.353	0.6232	2.280	2.606	Nitrate
6	13.897	0.4324	1.119	5.133	Phosphate
7	15.338	1.1182	3.014	15.188	Sulfate

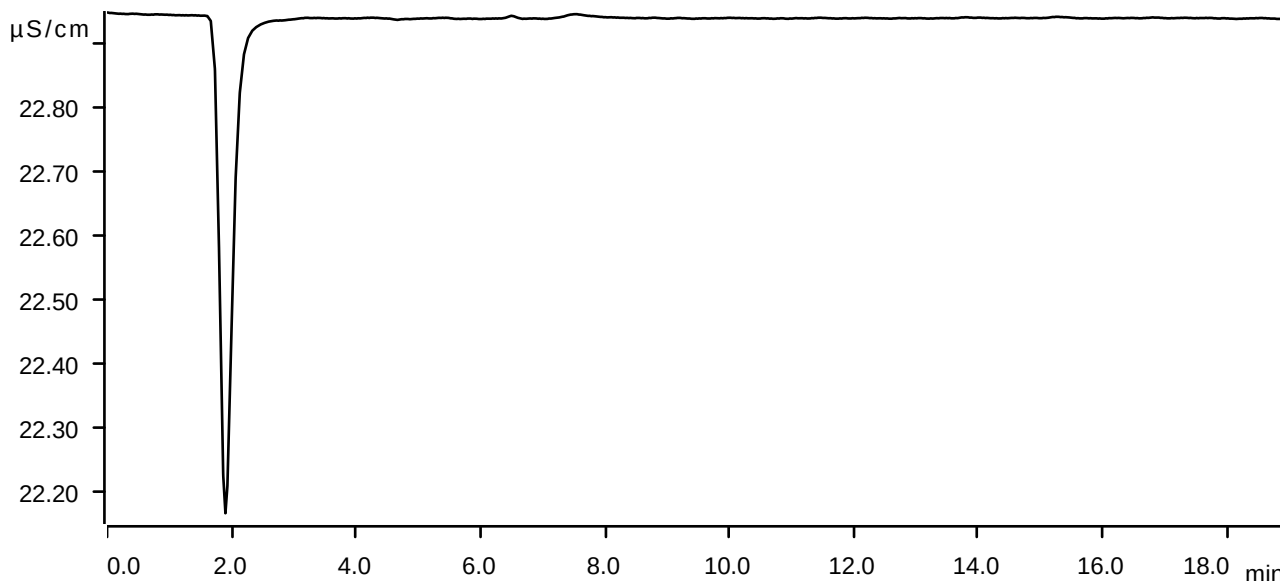
Sample data

Ident ICB
Sample type Sample
Determination start 2025-07-22 12:47:54 UTC-4
Method IC1-072225
Operator

Anions

Data source Conductivity detector 1 (Eco IC 1)
Channel Conductivity
Recording time 19.0 min
Integration Automatically
Column type Metrosep A Supp 19 - 150/4.0
Eluent composition not defined
Flow 0.700 mL/min
Maximum flow monitored yes
Pressure 12.39 MPa
Maximum pressure monitored yes
Temperature ---- °C

Anions



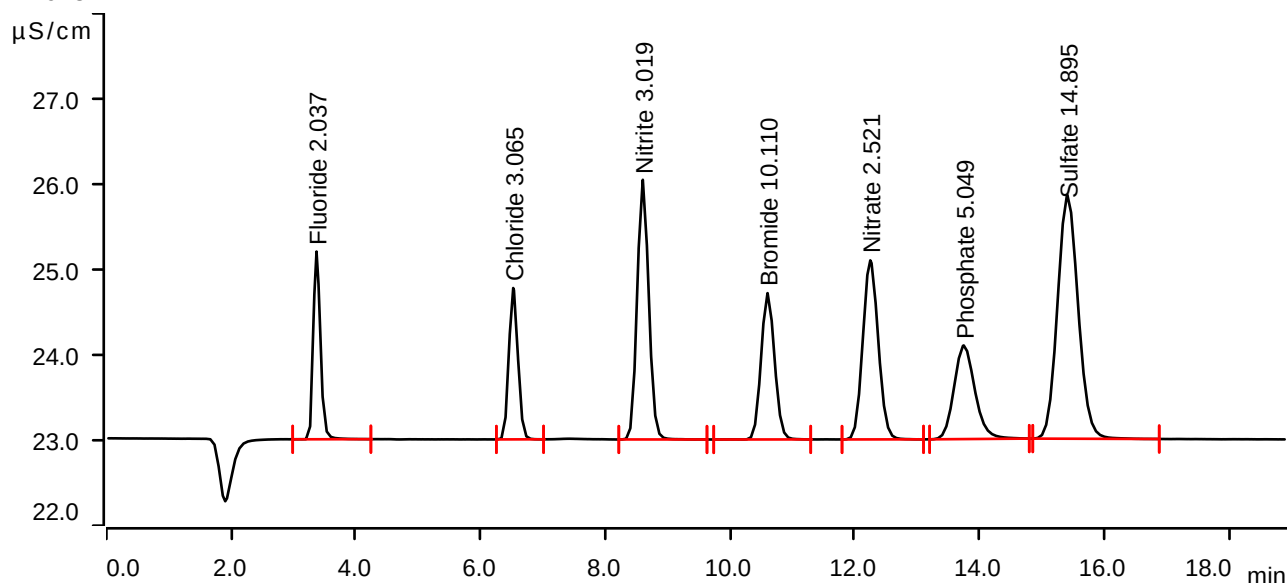
Sample data

Ident CCV
Sample type Check standard 1
Determination start 2025-07-25 11:50:52 UTC-4
Method IC1-072225
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	3.370	0.2884	2.199	2.037	Fluoride
2	6.523	0.2986	1.773	3.065	Chloride
3	8.600	0.6566	3.042	3.019	Nitrite
4	10.602	0.4306	1.714	10.110	Bromide
5	12.248	0.6025	2.097	2.521	Nitrate
6	13.747	0.4253	1.097	5.049	Phosphate
7	15.408	1.0961	2.854	14.895	Sulfate

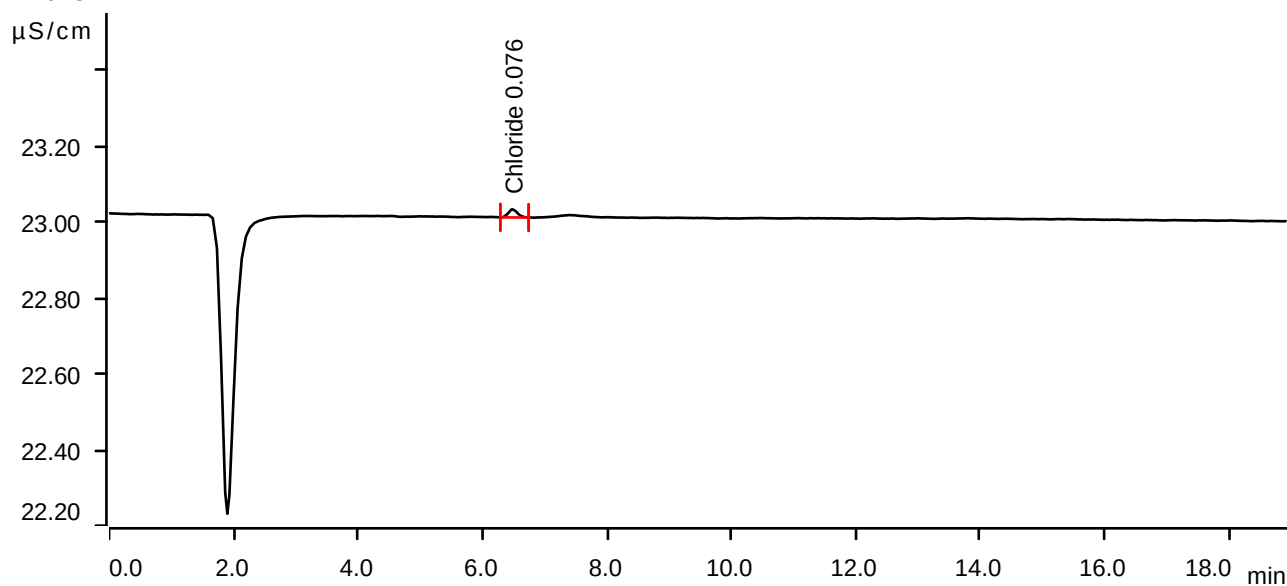
Sample data

Ident CCB
Sample type Sample
Determination start 2025-07-25 12:12:22 UTC-4
Method IC1-072225
Operator

Anions

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

Anions



Peak number	Retention time min	Area (µS/cm) x min	Height µS/cm	Concentration ppm	Component name
1	6.483	0.0036	0.021	0.076	Chloride

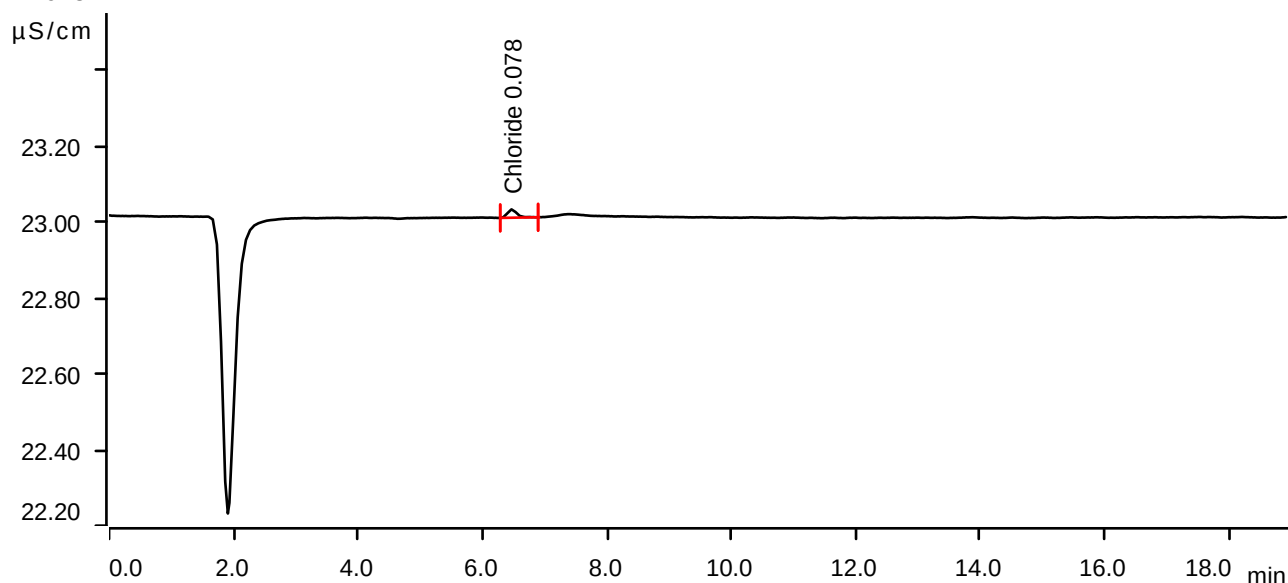
Sample data

Ident LB136635BLW
Sample type Sample
Determination start 2025-07-25 12:33:52 UTC-4
Method IC1-072225
Operator

Anions

Data source Conductivity detector 1 (Eco IC 1)
Channel Conductivity
Recording time 19.0 min
Integration Automatically
Column type Metrosep A Supp 19 - 150/4.0
Eluent composition not defined
Flow 0.700 mL/min
Maximum flow monitored yes
Pressure 11.88 MPa
Maximum pressure monitored yes
Temperature ---- °C

Anions



Peak number	Retention time min	Area (µS/cm) x min	Height µS/cm	Concentration ppm	Component name
1	6.468	0.0038	0.022	0.078	Chloride

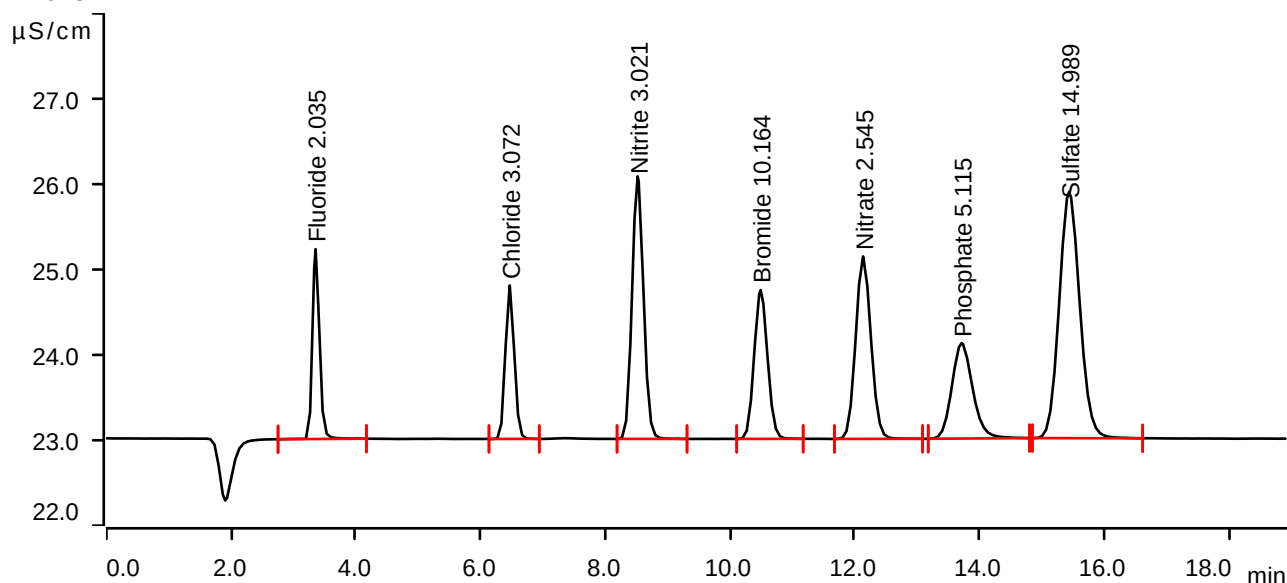
Sample data

Ident LB136635BSW
Sample type Check standard 1
Determination start 2025-07-25 12:55:23 UTC-4
Method IC1-072225
Operator

Anions

Data source Conductivity detector 1 (Eco IC 1)
Channel Conductivity
Recording time 19.0 min
Integration Automatically
Column type Metrosep A Supp 19 - 150/4.0
Eluent composition not defined
Flow 0.700 mL/min
Maximum flow monitored yes
Pressure 11.88 MPa
Maximum pressure monitored yes
Temperature ---- °C

Anions



Peak number	Retention time min	Area (µS/cm) x min	Height µS/cm	Concentration ppm	Component name
1	3.355	0.2881	2.224	2.035	Fluoride
2	6.467	0.2992	1.798	3.072	Chloride
3	8.518	0.6570	3.076	3.021	Nitrite
4	10.490	0.4330	1.744	10.164	Bromide
5	12.132	0.6085	2.137	2.545	Nitrate
6	13.712	0.4309	1.118	5.115	Phosphate
7	15.435	1.1032	2.883	14.989	Sulfate

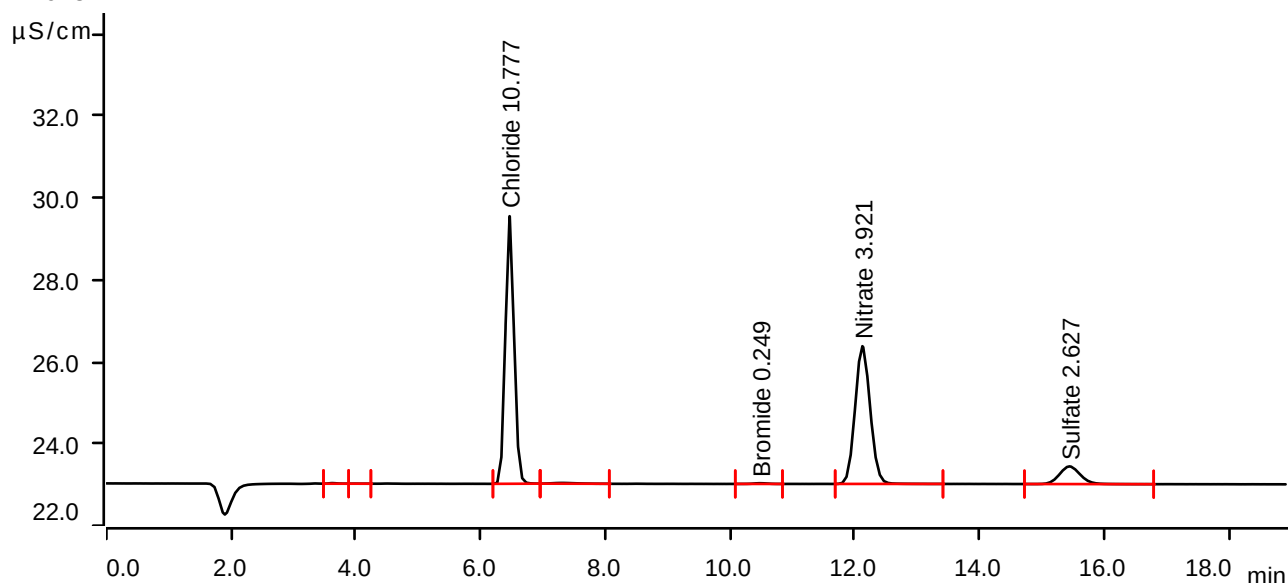
Sample data

Ident Q2695-01
Sample type Sample
Determination start 2025-07-25 13:16:56 UTC-4
Method IC1-072225
Operator

Anions

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

Anions



Peak number	Retention time min	Area (µS/cm) x min	Height µS/cm	Concentration ppm	Component name
1	3.625	0.0023	0.015	invalid	
2	3.958	0.0002	0.001	invalid	
3	6.465	1.0596	6.530	10.777	Chloride
4	7.285	0.0083	0.018	invalid	
5	10.480	0.0045	0.017	0.249	Bromide
6	12.122	0.9439	3.361	3.921	Nitrate
7	15.442	0.1663	0.431	2.627	Sulfate

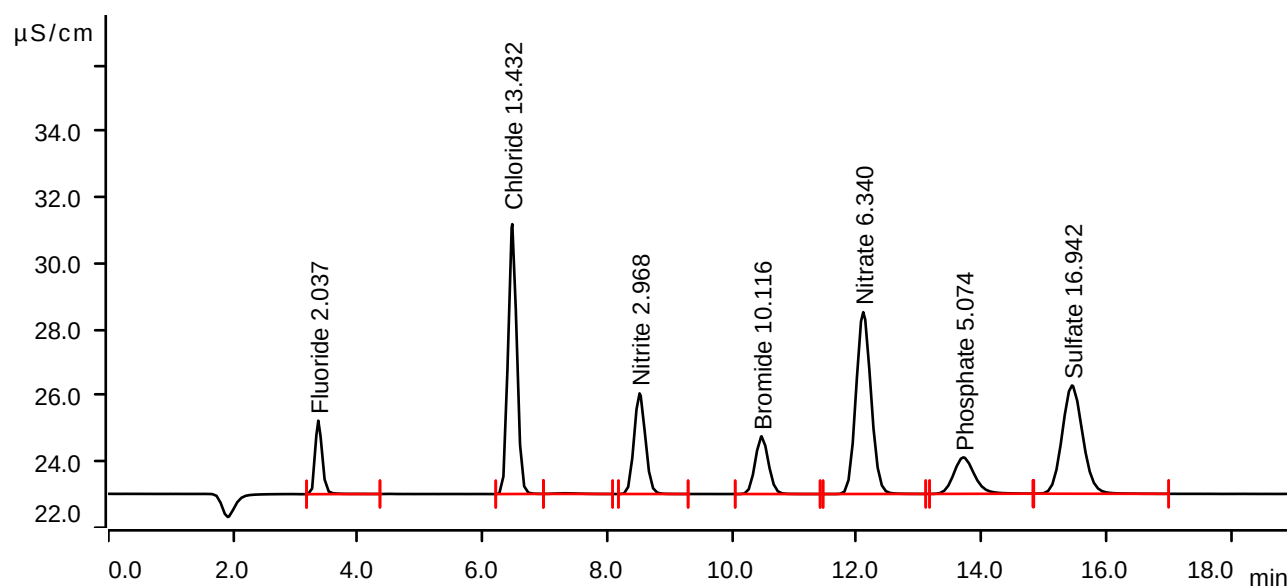
Sample data

Ident Q2695-01MS
Sample type Sample
Determination start 2025-07-25 13:38:29 UTC-4
Method IC1-072225
Operator

Anions

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

Anions



Peak number	Retention time min	Area ($\mu\text{S/cm}$) x min	Height $\mu\text{S/cm}$	Concentration ppm	Component name
1	3.367	0.2884	2.223	2.037	Fluoride
2	6.477	1.3216	8.165	13.432	Chloride
3	7.300	0.0083	0.019	invalid	
4	8.517	0.6451	3.045	2.968	Nitrite
5	10.473	0.4309	1.746	10.116	Bromide
6	12.103	1.5340	5.503	6.340	Nitrate
7	13.708	0.4274	1.105	5.074	Phosphate
8	15.450	1.2512	3.276	16.942	Sulfate

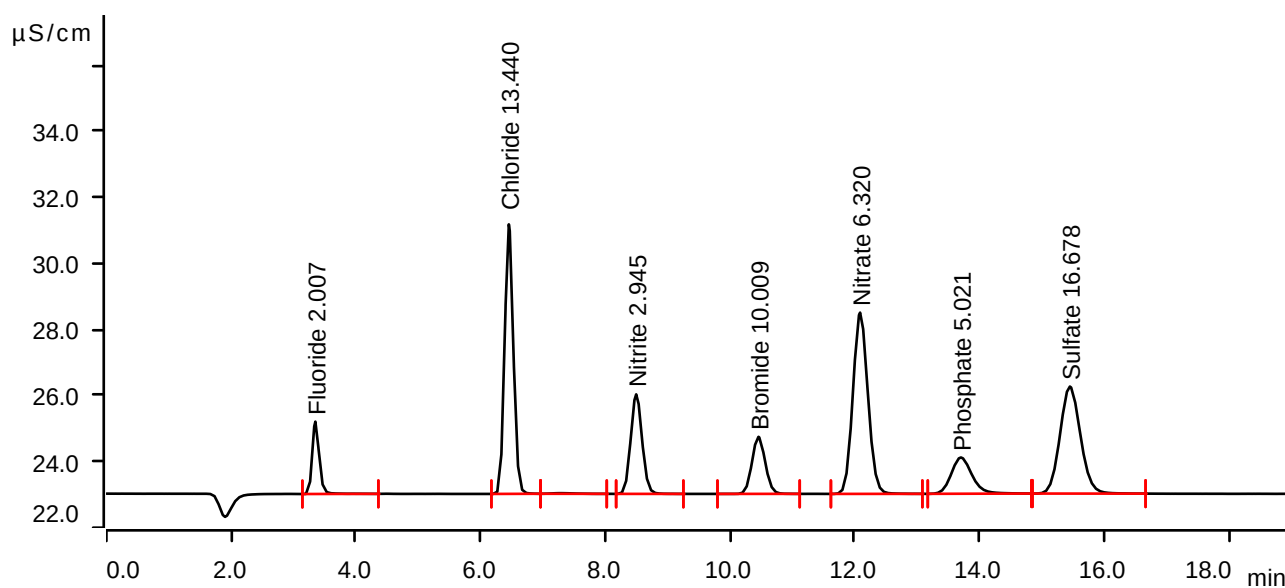
Sample data

Ident Q2695-01MSD
Sample type Sample
Determination start 2025-07-25 14:00:02 UTC-4
Method IC1-072225
Operator

Anions

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

Anions



Peak number	Retention time min	Area ($\mu\text{S/cm}$) x min	Height $\mu\text{S/cm}$	Concentration ppm	Component name
1	3.352	0.2841	2.189	2.007	Fluoride
2	6.453	1.3224	8.155	13.440	Chloride
3	7.302	0.0077	0.019	invalid	
4	8.495	0.6401	3.012	2.945	Nitrite
5	10.455	0.4263	1.727	10.009	Bromide
6	12.085	1.5290	5.486	6.320	Nitrate
7	13.702	0.4229	1.098	5.021	Phosphate
8	15.448	1.2312	3.240	16.678	Sulfate

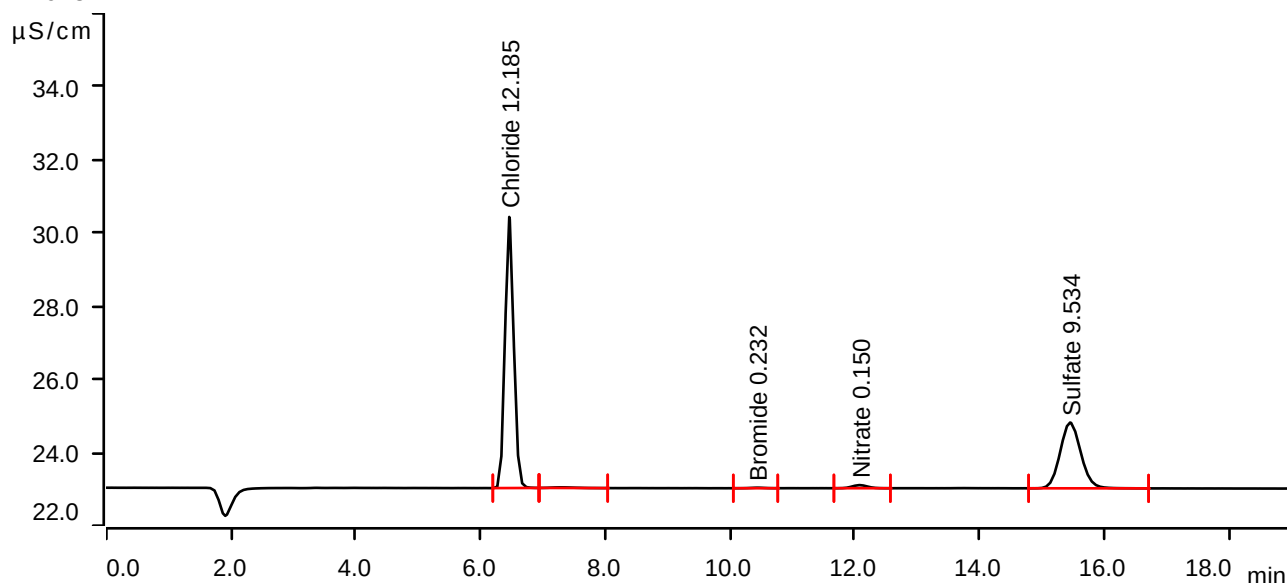
Sample data

Ident Q2696-01
Sample type Sample
Determination start 2025-07-25 14:21:37 UTC-4
Method IC1-072225
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	6.460	1.1985	7.409	12.185	Chloride
2	7.300	0.0074	0.017	invalid	
3	10.432	0.0037	0.015	0.232	Bromide
4	12.080	0.0242	0.085	0.150	Nitrate
5	15.452	0.6898	1.798	9.534	Sulfate

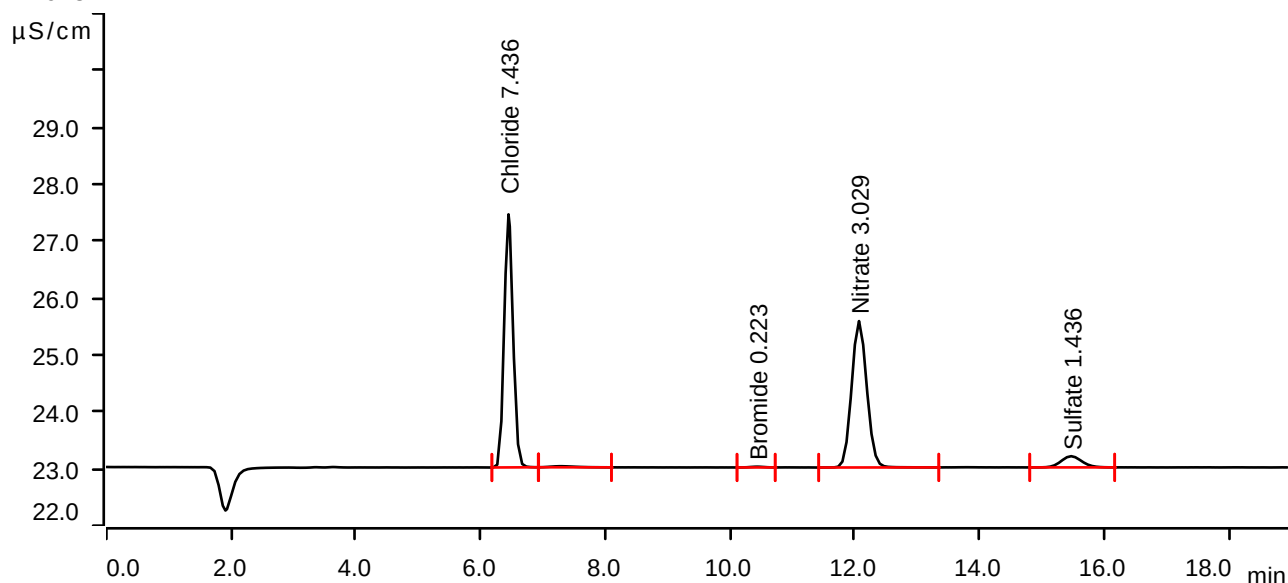
Sample data

Ident Q2697-01
Sample type Sample
Determination start 2025-07-25 14:43:11 UTC-4
Method IC1-072225
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	6.448	0.7299	4.446	7.436	Chloride
2	7.265	0.0086	0.019	invalid	
3	10.437	0.0033	0.013	0.223	Bromide
4	12.067	0.7263	2.572	3.029	Nitrate
5	15.472	0.0760	0.196	1.436	Sulfate

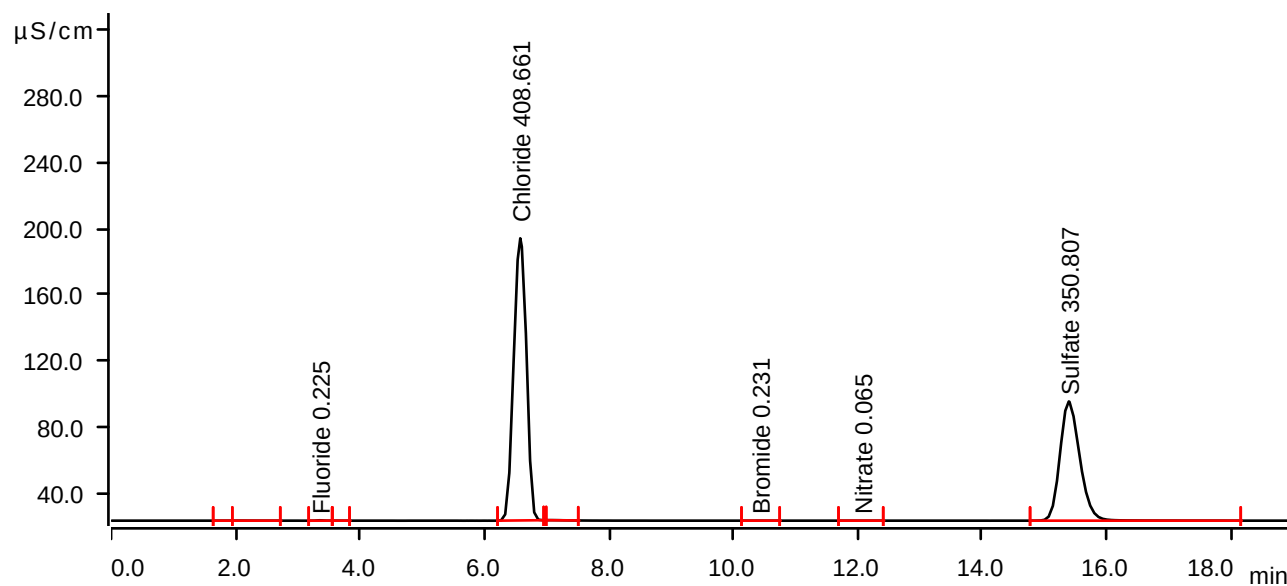
Sample data

Ident Q2704-01
Sample type Sample
Determination start 2025-07-25 15:04:46 UTC-4
Method IC1-072225
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	Area	Height	Concentration	Component name
	min	($\mu\text{S/cm}$) x min	$\mu\text{S/cm}$	ppm	
1	1.833	0.0047	0.029	invalid	
2	2.092	0.0092	0.033	invalid	
3	3.355	0.0287	0.225	0.225	Fluoride
4	3.648	0.0011	0.008	invalid	
5	6.577	40.3227	170.758	408.661	Chloride
6	7.075	0.0164	0.057	invalid	
7	10.425	0.0037	0.015	0.231	Bromide
8	12.070	0.0034	0.012	0.065	Nitrate
9	15.390	26.5558	72.161	350.807	Sulfate

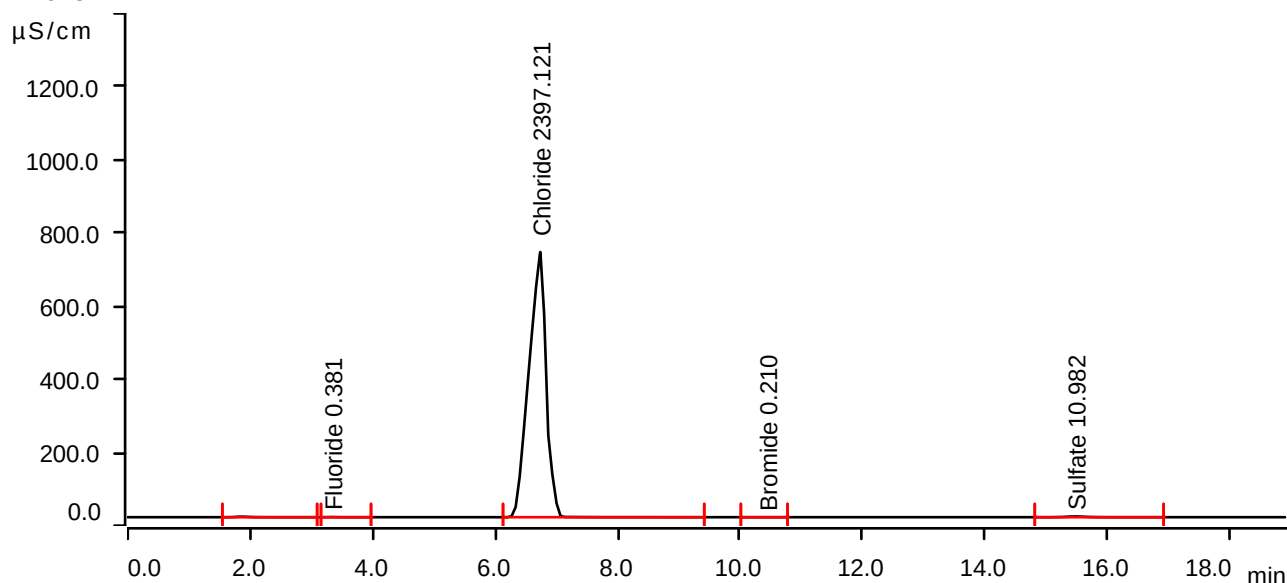
Sample data

Ident Q2704-02
Sample type Sample
Determination start 2025-07-25 15:26:20 UTC-4
Method IC1-072225
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	1.857	0.3886	1.531	invalid	
2	3.338	0.0510	0.365	0.381	Fluoride
3	6.738	236.5432	724.889	2397.121	Chloride
4	10.440	0.0028	0.011	0.210	Bromide
5	15.473	0.7995	2.100	10.982	Sulfate

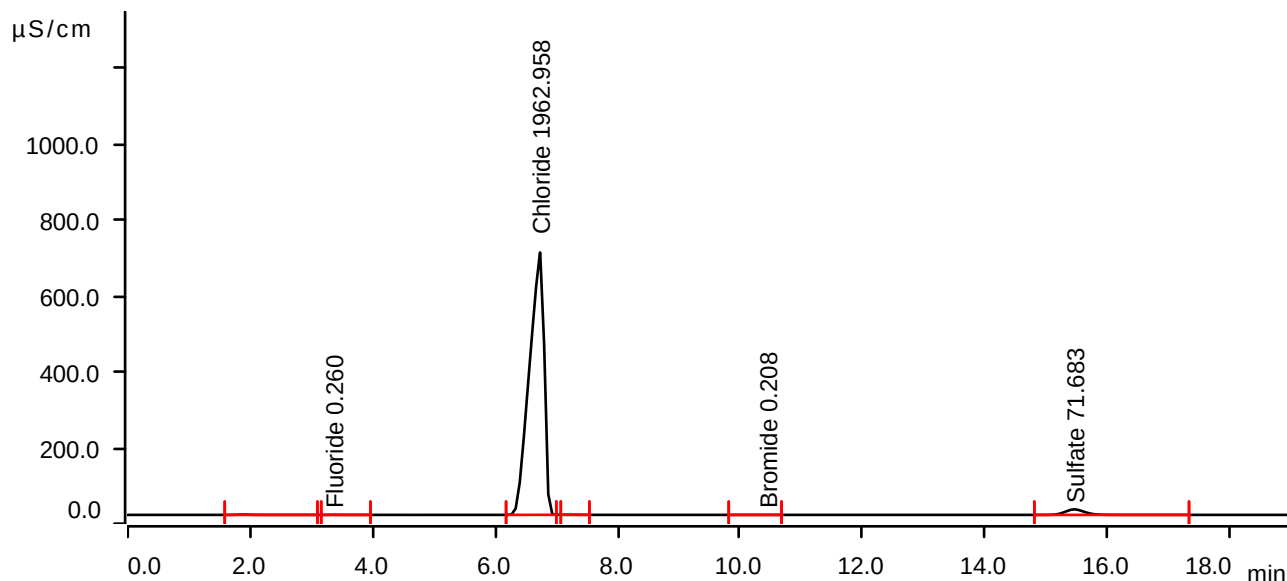
Sample data

Ident Q2704-03
Sample type Sample
Determination start 2025-07-25 15:47:52 UTC-4
Method IC1-072225
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	1.880	0.2183	0.874	invalid	
2	3.353	0.0337	0.245	0.260	Fluoride
3	6.732	193.7001	691.411	1962.958	Chloride
4	7.138	0.0165	0.066	invalid	
5	10.410	0.0027	0.010	0.208	Bromide
6	15.455	5.4002	14.626	71.683	Sulfate

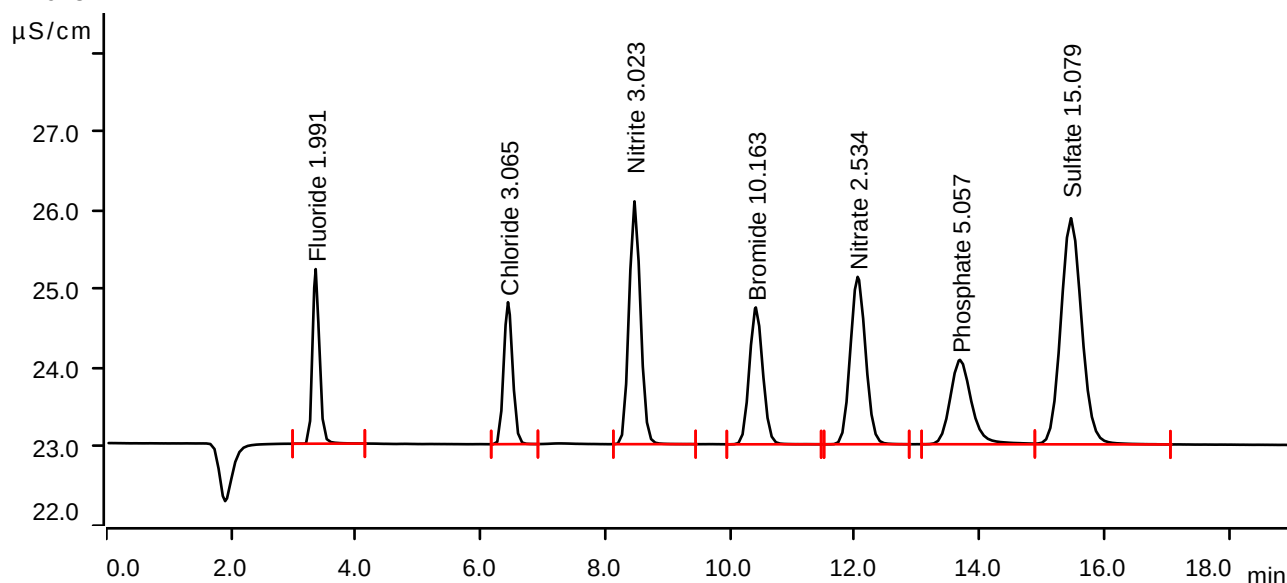
Sample data

Ident CCV
Sample type Check standard 1
Determination start 2025-07-25 16:30:41 UTC-4
Method IC1-072225
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	3.357	0.2819	2.215	1.991	Fluoride
2	6.440	0.2986	1.801	3.065	Chloride
3	8.468	0.6575	3.081	3.023	Nitrite
4	10.413	0.4329	1.737	10.163	Bromide
5	12.045	0.6057	2.124	2.534	Nitrate
6	13.687	0.4260	1.071	5.057	Phosphate
7	15.465	1.1100	2.870	15.079	Sulfate

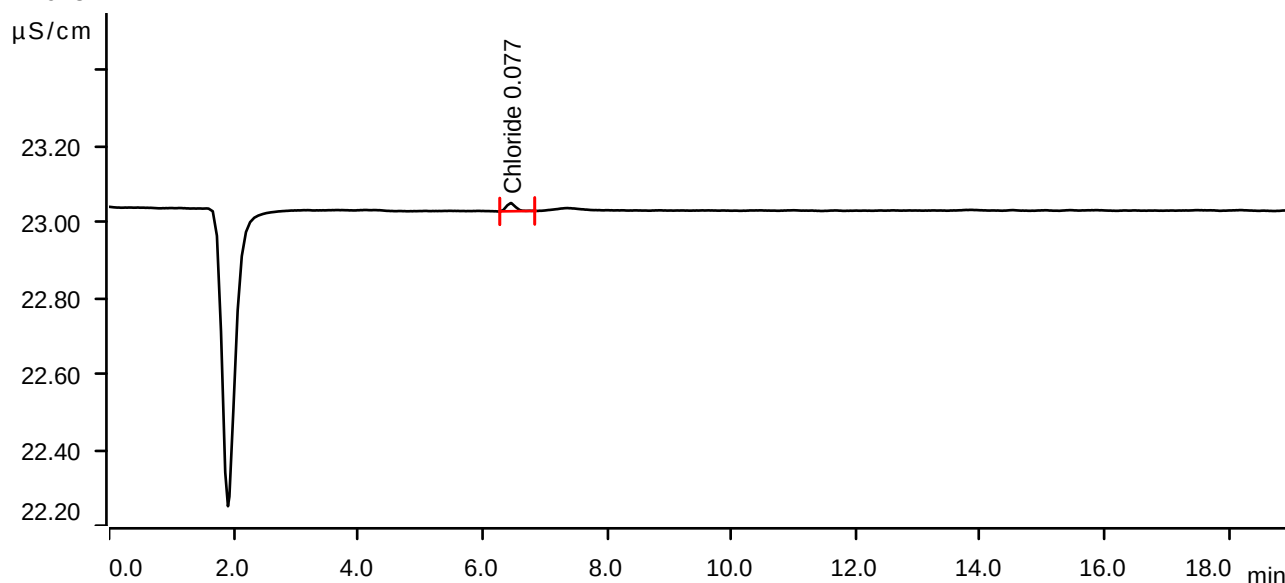
Sample data

Ident CCB
Sample type Sample
Determination start 2025-07-25 16:52:00 UTC-4
Method IC1-072225
Operator

Anions

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

Anions



Peak number	Retention time min	Area ($\mu\text{S/cm}$) x min	Height $\mu\text{S/cm}$	Concentration ppm	Component name
1	6.457	0.0037	0.022	0.077	Chloride

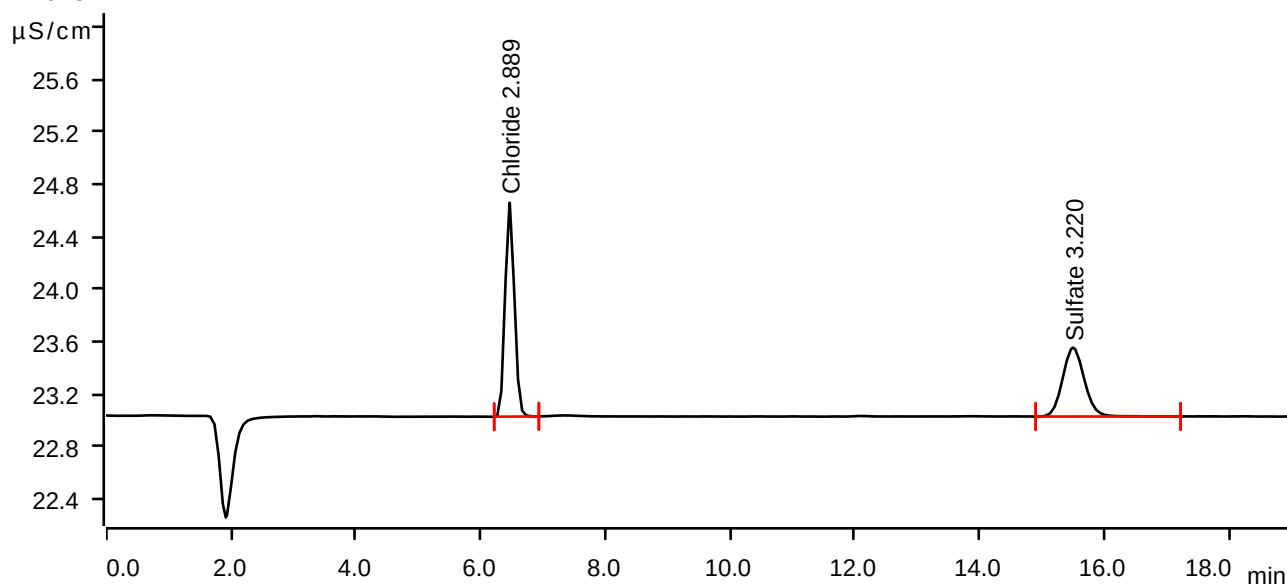
Sample data

Ident Q2704-01DLX100
Sample type Sample
Determination start 2025-07-25 17:56:29 UTC-4
Method IC1-072225
Operator

Anions

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

Anions



Peak number	Retention time min	Area (µS/cm) x min	Height µS/cm	Concentration ppm	Component name
1	6.465	0.2812	1.629	2.889	Chloride
2	15.498	0.2112	0.524	3.220	Sulfate

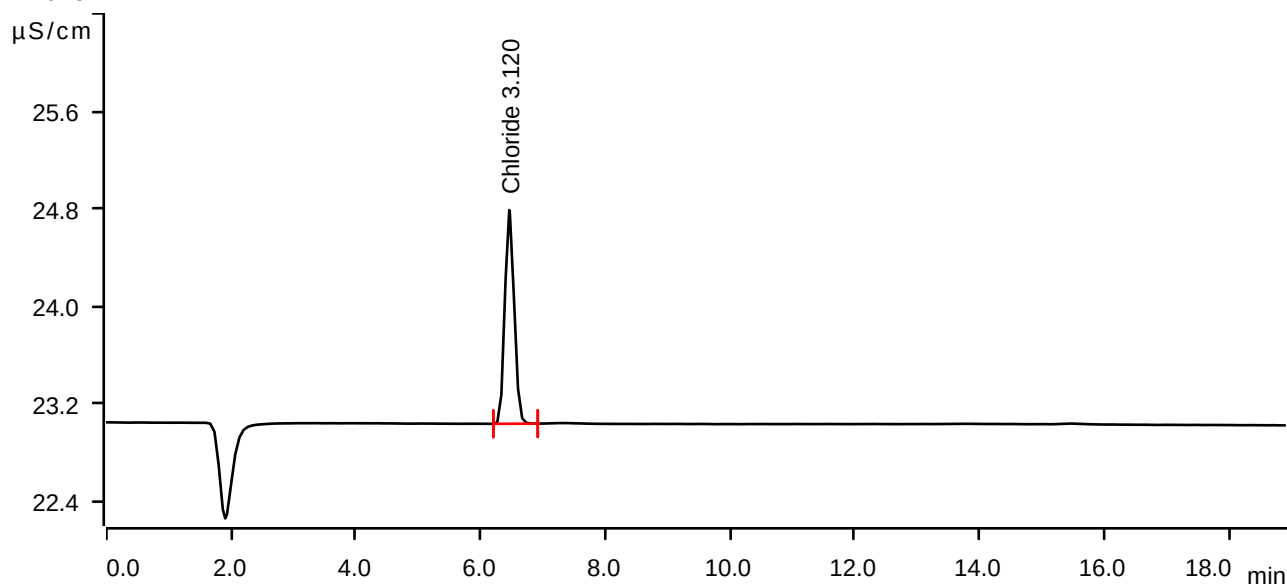
Sample data

Ident Q2704-02DLX500
Sample type Sample
Determination start 2025-07-25 18:39:30 UTC-4
Method IC1-072225
Operator

Anions

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

Anions



Peak number	Retention time	Area	Height	Concentration	Component name
	min	(µS/cm) x min	µS/cm	ppm	
1	6.460	0.3040	1.752	3.120	Chloride

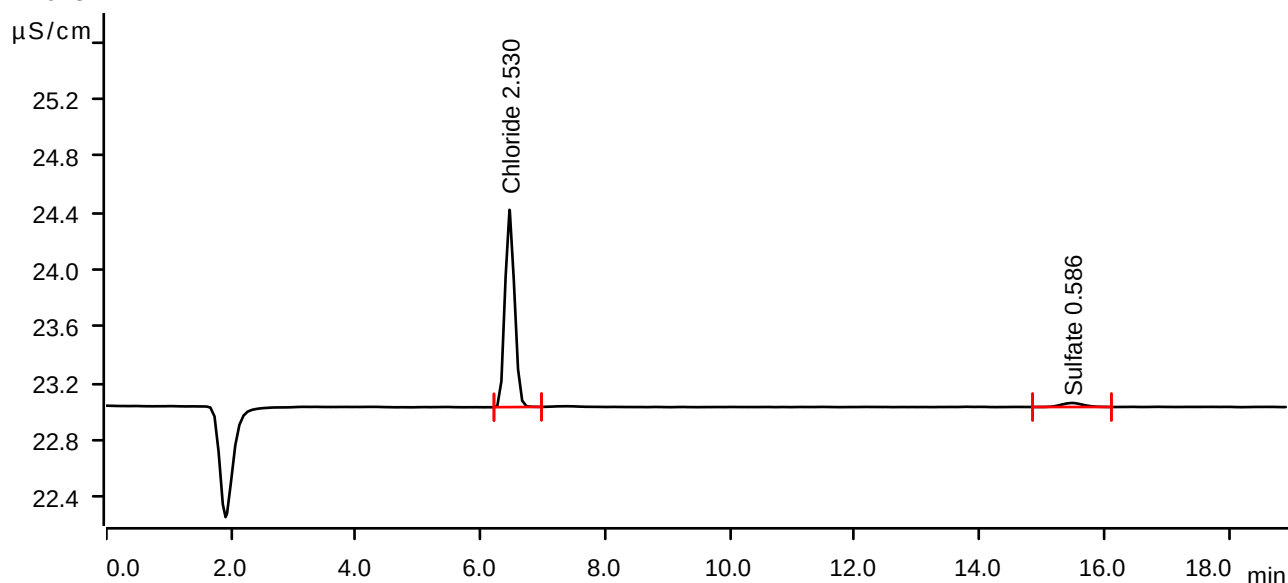
Sample data

Ident Q2704-03DLX500
Sample type Sample
Determination start 2025-07-25 19:22:27 UTC-4
Method IC1-072225
Operator

Anions

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

Anions



Peak number	Retention time min	Area (µS/cm) x min	Height µS/cm	Concentration ppm	Component name
1	6.463	0.2458	1.387	2.530	Chloride
2	15.480	0.0116	0.028	0.586	Sulfate

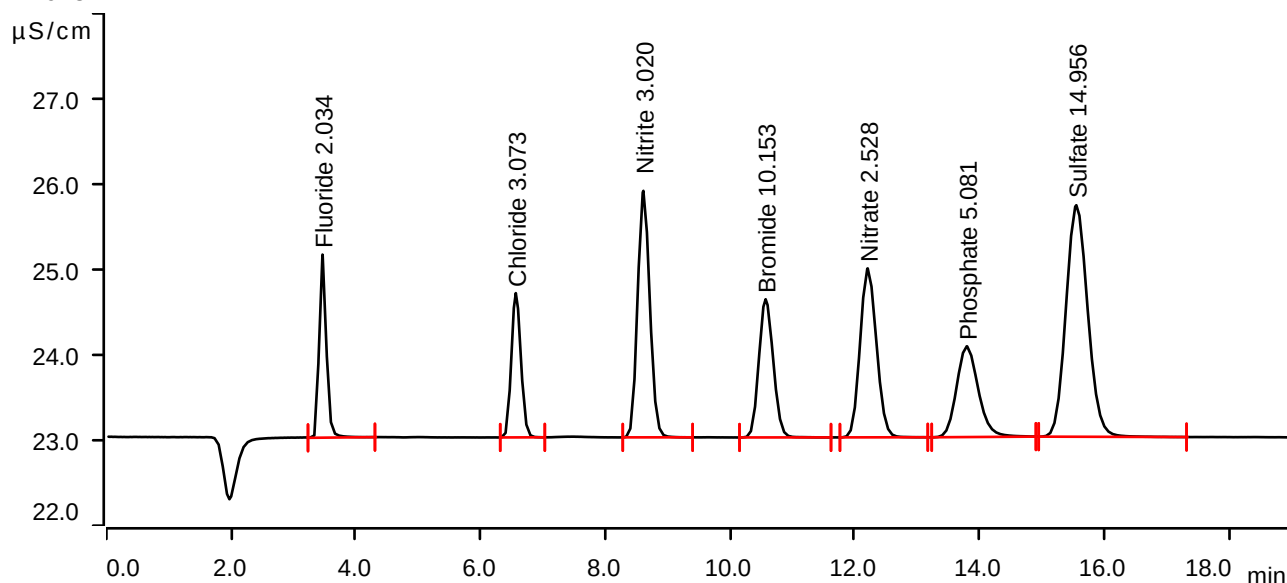
Sample data

Ident CCV
Sample type Check standard 1
Determination start 2025-07-25 20:05:20 UTC-4
Method IC1-072225
Operator

Anions

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

Anions



Peak number	Retention time min	Area (µS/cm) x min	Height µS/cm	Concentration ppm	Component name
1	3.465	0.2880	2.144	2.034	Fluoride
2	6.565	0.2994	1.690	3.073	Chloride
3	8.610	0.6569	2.888	3.020	Nitrite
4	10.570	0.4325	1.619	10.153	Bromide
5	12.207	0.6042	1.979	2.528	Nitrate
6	13.795	0.4280	1.064	5.081	Phosphate
7	15.552	1.1007	2.712	14.956	Sulfate

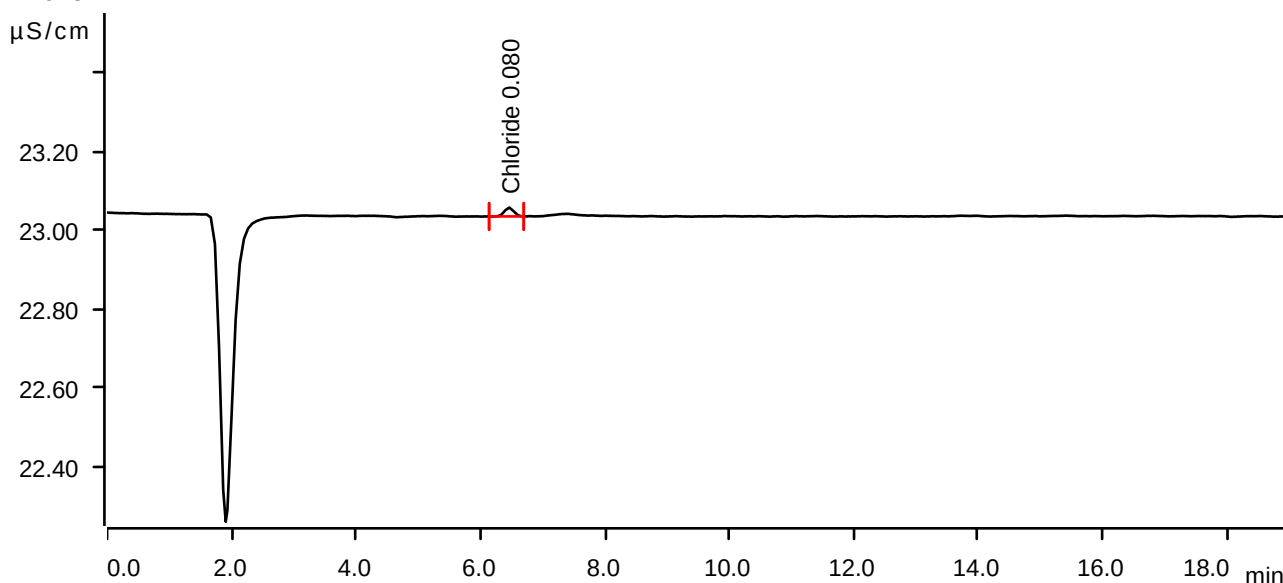
Sample data

Ident CCB
Sample type Sample
Determination start 2025-07-25 20:26:50 UTC-4
Method IC1-072225
Operator

Anions

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

Anions



Peak number	Retention time min	Area ($\mu\text{S/cm}$) x min	Height $\mu\text{S/cm}$	Concentration ppm	Component name
1	6.463	0.0040	0.022	0.080	Chloride

WORKLIST(Hardcopy Internal Chain)

LB136635

WorkList Name : Anions-072525

WorkList ID : 190958

Department : Wet-Chemistry

Date : 07-25-2025 11:08:05

Sample	Customer Sample	Matrix	Test	Preservative	Customer	Raw Sample Storage Location	Collect Date	Method
Q2695-01	RW5-SP100-20250725	Water	Anions Group4	Cool 4 deg C	TETR06	D31	07/24/2025	300.0
Q2696-01	RW8-SP100-20250724	Water	Anions Group4	Cool 4 deg C	TETR06	D31	07/24/2025	300.0
Q2697-01	RW7-SP100-20250724	Water	Anions Group4	Cool 4 deg C	TETR06	D51	07/24/2025	300.0

Date/Time 07/25/25 12:20
 Raw Sample Received by: 12(WC)
 Raw Sample Relinquished by: 28(WC)

Date/Time 07/25/25 13:35
 Raw Sample Received by: 28(WC)
 Raw Sample Relinquished by: 12(WC)

WORKLIST(Hardcopy Internal Chain)

LB136635

WorkList Name : Anions-072525-2

WorkList ID : 190963

Department : Wet-Chemistry

Date : 07-25-2025 13:56:46

Sample	Customer Sample	Matrix	Test	Preservative	Customer	Raw Sample Storage Location	Collect Date	Method
Q2704-01	MW3	Water	Anions Group1	Cool 4 deg C	GENV01	D31	07/23/2025	300.0
Q2704-02	MW4	Water	Anions Group1	Cool 4 deg C	GENV01	D31	07/23/2025	300.0
Q2704-03	MW2D	Water	Anions Group1	Cool 4 deg C	GENV01	D31	07/23/2025	300.0

Date/Time 07/25/25 14:30
Raw Sample Received by: 12(20)
Raw Sample Relinquished by: 28(20)

Date/Time 07/25/25 15:25
Raw Sample Received by: 28(20)
Raw Sample Relinquished by: 12(20)

Instrument ID: IC-1

Daily Analysis Runlog For Sequence/QC Batch ID # LB136635

Review By	rubina	Review On	7/29/2025 1:27:38 PM
Supervise By	Iwona	Supervise On	7/29/2025 1:29:58 PM
SubDirectory	LB136635	Test	Anions
STD. NAME	STD REF.#		
ICAL Standard	WP114024,WP114025,WP114026,WP114027,WP114028,WP114029,WP114030		
ICV Standard	WP114031		
CCV Standard	WP114091		
ICSA Standard	N/A		
CRI Standard	N/A		
LCS Standard	WP114092		
Chk Standard	WP114032,WP114033		

Sr#	SampleId	ClientID	QcType	Date	Comment	Operator	Status
1	STD1	STD1	CAL1	07/21/25 15:51	All standards, samples, and	RM/IZ	OK
2	STD2	STD2	CAL2	07/21/25 16:12	QC are filtered through	RM/IZ	OK
3	STD3	STD3	CAL3	07/21/25 16:34	0.45um, filter lot W3160	RM/IZ	OK
4	STD4	STD4	CAL4	07/21/25 16:55		RM/IZ	OK
5	STD5	STD5	CAL5	07/21/25 17:17		RM/IZ	OK
6	STD6	STD6	CAL6	07/21/25 17:38		RM/IZ	OK
7	STD7	STD7	CAL7	07/21/25 18:00		RM/IZ	OK
8	ICV1	ICV1	ICV	07/21/25 18:21		RM/IZ	OK
9	ICB1	ICB1	ICB	07/21/25 18:42		RM/IZ	OK
10	CCV1	CCV1	CCV	07/25/25 11:50		RM/IZ	OK
11	CCB1	CCB1	CCB	07/25/25 12:12		RM/IZ	OK
12	LB136635BLW	LB136635BLW	MB	07/25/25 12:33		RM/IZ	OK
13	LB136635BSW	LB136635BSW	LCS	07/25/25 12:55		RM/IZ	OK
14	Q2695-01	RW5-SP100-2025072	SAM	07/25/25 13:16		RM/IZ	OK
15	Q2695-01MS	RW5-SP100-2025072	MS	07/25/25 13:38	9.5ml of sample, 0.5mL W3092	RM/IZ	OK
16	Q2695-01MSD	RW5-SP100-2025072	MSD	07/25/25 14:00	9.5ml of sample, 0.5mL W3092	RM/IZ	OK
17	Q2696-01	RW8-SP100-2025072	SAM	07/25/25 14:21		RM/IZ	OK
18	Q2697-01	RW7-SP100-2025072	SAM	07/25/25 14:43		RM/IZ	OK

Instrument ID: IC-1

Daily Analysis Runlog For Sequence/QC Batch ID # LB136635

Review By	rubina	Review On	7/29/2025 1:27:38 PM
Supervise By	Iwona	Supervise On	7/29/2025 1:29:58 PM
SubDirectory	LB136635	Test	Anions
STD. NAME	STD REF.#		
ICAL Standard	WP114024,WP114025,WP114026,WP114027,WP114028,WP114029,WP114030		
ICV Standard	WP114031		
CCV Standard	WP114091		
ICSA Standard	N/A		
CRI Standard	N/A		
LCS Standard	WP114092		
Chk Standard	WP114032,WP114033		

19	Q2704-01	MW3	SAM	07/25/25 15:04	Cl is high	RM/IZ	Dilution
20	Q2704-02	MW4	SAM	07/25/25 15:26	Cl is high	RM/IZ	Dilution
21	Q2704-03	MW2D	SAM	07/25/25 15:47	Cl is high	RM/IZ	Dilution
22	CCV2	CCV2	CCV	07/25/25 16:30		RM/IZ	OK
23	CCB2	CCB2	CCB	07/25/25 16:52		RM/IZ	OK
24	Q2704-01DL	MW3DL	SAM	07/25/25 17:56	100X For Cl	RM/IZ	Confirms
25	Q2704-02DL	MW4DL	SAM	07/25/25 18:39	500X For Cl	RM/IZ	Confirms
26	Q2704-03DL	MW2DDL	SAM	07/25/25 19:22	500X For Cl	RM/IZ	Confirms
27	CCV3	CCV3	CCV	07/25/25 20:05		RM/IZ	OK
28	CCB3	CCB3	CCB	07/25/25 20:26		RM/IZ	OK

Prep Standard - Chemical Standard Summary

Order ID : Q2695

Test : Anions Group4

Prepbatch ID :

Sequence ID/Qc Batch ID: LB136635,

Standard ID :

WP112796,WP114024,WP114025,WP114026,WP114027,WP114028,WP114029,WP114030,WP114031,WP114032,WP114033,WP114091,WP114092,

Chemical ID :

M6041,W2647,W3112,W3163,W3180,W3197,

1
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4
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13

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	WP112796	04/22/2025	10/22/2025	Iwona Zarych	WETCHEM_SCALE_5 (WC SC-5)	None	Jignesh Parikh 04/22/2025
FROM 2.10000gram of W2647 + 84.75000gram of W3163 + 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	WP114024	07/22/2025	07/23/2025	Iwona Zarych	None	None	Jignesh Parikh 07/22/2025
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	WP114025	07/22/2025	07/23/2025	Iwona Zarych	None	WETCHEM_F IPETTE_3 (WC)	Jignesh Parikh 07/22/2025
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	WP114026	07/22/2025	07/23/2025	Iwona Zarych	None	WETCHEM_F IPETTE_3 (WC)	Jignesh Parikh 07/22/2025
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	WP114027	07/22/2025	02/19/2026	Iwona Zarych	None	WETCHEM_FIPETTE_3 (WC)	Jignesh Parikh 07/22/2025
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	WP114028	07/22/2025	07/23/2025	Iwona Zarych	None	WETCHEM_FIPETTE_3 (WC)	Jignesh Parikh 07/22/2025
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	WP114029	07/22/2025	07/23/2025	Iwona Zarych	None	WETCHEM_F IPETTE_3 (WC)	Jignesh Parikh 07/22/2025
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	WP114030	07/22/2025	07/23/2025	Iwona Zarych	None	WETCHEM_F IPETTE_3 (WC)	Jignesh Parikh 07/22/2025
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	WP114031	07/22/2025	07/23/2025	Iwona Zarych	None	WETCHEM_F IPETTE_3 (WC)	Jignesh Parikh 07/22/2025
FROM 45.00000ml of W3112 + 5.00000ml of W3197 = 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	WP114032	07/22/2025	08/22/2025	Iwona Zarych	None	Glass Pipette-A	Jignesh Parikh 07/22/2025
FROM 1980.00000ml of W3112 + 20.00000ml of WP112796 = 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	WP114033	07/22/2025	08/22/2025	Iwona Zarych	None	Glass Pipette-A	Jignesh Parikh 07/22/2025

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>
3680	Anions 300/9056 calibration standard 5-CCV	WP114091	07/25/2025	07/26/2025	Iwona Zarych	None	WETCHEM_FIPETTE_3 (WC)	Jignesh Parikh 07/28/2025

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	WP114092	07/25/2025	07/26/2025	Iwona Zarych	None	WETCHEM_F IPETTE_3 (WC)	Jignesh Parikh 07/28/2025
FROM 45.00000ml of W3112 + 5.00000ml of W3197 = 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 #
Seidler Chemical	DIW / DI Water	Daily Lab-Certified	07/03/2029	07/03/2024 / lwona	07/03/2024 / lwona	W3112

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
PCI Scientific Supply, Inc.	EM-SX0395-3 / SODIUM CARBONATE ANHYDR 2.5KG	24E3156178	09/30/2027	12/10/2024 / lwona	12/10/2024 / lwona	W3163

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

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	040525	04/05/2027	04/08/2025 / lwona	04/08/2025 / lwona	W3197

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

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™**

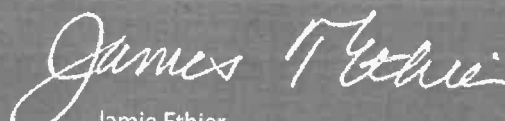


Material No.: 9673-33
Batch No.: 23D2462010

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



W3163 Rec. on 12/10/24 by IZ

Certificate of Analysis

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Material BDH9284-2.5KG
Material Description BDH SODIUM CARB ANHYD ACS 2.5KG
Grade U S P REAGENT (ACS GRADE)

Batch 24E3156178
Reassay Date 09/30/2027
CAS Number 497-19-8
Molecular Formula Na2CO3
Molecular Mass 105.99

Date of Manufacture 09/01/2023
Storage Room Temperature
Material is hygroscopic. Protect from Moisture.
Additional Product Description:

Characteristics	Specifications	Measured Values
Appearance	Fine white granular powder	Fine white granular powder
Calcium	<= 0.03 %	0.003 %
Chloride	<= 0.001 %	0.0003 %
Heavy Metals (as Pb)	<= 0.0005 %	0.0001 %
Insolubles	<= 0.01 %	0.001 %
Iron	<= 0.0005 %	0.0001 %
Loss on Heating	<= 1.0 %	0.03 %
Magnesium	<= 0.005 %	0.001 %
Phosphate	<= 0.001 %	0.001 %
Potassium	<= 0.005 %	0.003 %
Purity	>= 99.5 %	100.0 %
Silica	<= 0.005 %	0.001 %
Sulfur Compounds	<= 0.003 %	0.002 %
Extra Description:	Meets Reagent Specifications for testing USP/NF monographs	

Internal ID #: 710

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



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

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Specify Preservatives

A-HCl	B-HNO ₃
C-H ₂ SO ₄	D-NaOH
E-ICE	F-Other

Shipment Complete ☐ YES ☐ NO

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