

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

LAB CHRONICLE

OrderID: Q1355	OrderDate: 2/11/2025 1:38:32 PM
Client: G Environmental	Project: Amsterdam
Contact: Gary Landis	Location: N41,VOA Ref. #3 Water

LabID	ClientID	Matrix	Test	Method	Sample Date	Prep Date	Anal Date	Received
Q1355-01	RW1	WATER	Anions Group1	9056A	02/11/25 12:25		02/11/25 14:49	02/11/25
Q1355-01DL	RW1DL	WATER	Anions Group1	9056A	02/11/25 12:25		02/11/25 15:54	02/11/25



SAMPLE DATA

Report of Analysis

Client:	G Environmental	Date Collected:	02/11/25 12:25
Project:	Amsterdam	Date Received:	02/11/25
Client Sample ID:	RW1	SDG No.:	Q1355
Lab Sample ID:	Q1355-01	Matrix:	WATER
		% Solid:	0

Parameter	Conc.	Qua.	DF	MDL	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
Sulfate	103	OR	1	0.032	3.00	mg/L		02/11/25 14:49	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:	G Environmental	Date Collected:	02/11/25 12:25
Project:	Amsterdam	Date Received:	02/11/25
Client Sample ID:	RW1DL	SDG No.:	Q1355
Lab Sample ID:	Q1355-01DL	Matrix:	WATER
		% Solid:	0

Parameter	Conc.	Qua.	DF	MDL	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
Sulfate	91.9	D	5	0.16	15.0	mg/L		02/11/25 15:54	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



QC RESULT SUMMARY

Initial and Continuing Calibration Verification

Client: G Environmental

SDG No.: Q1355

Project: Amsterdam

RunNo.: LB134705

Analyte	Units	Result	True Value	% Recovery	Acceptance Window (%R)	Analysis Date
Sample ID: ICV1						
Bromide	mg/L	10.3	10	103	90-110	01/20/2025
Chloride	mg/L	3.1	3	103	90-110	01/20/2025
Fluoride	mg/L	2.1	2	105	90-110	01/20/2025
Nitrite	mg/L	3.1	3	103	90-110	01/20/2025
Nitrate	mg/L	2.6	2.5	104	90-110	01/20/2025
Sulfate	mg/L	15.4	15	103	90-110	01/20/2025
Orthophosphate as P	mg/L	5.2	5	104	90-110	01/20/2025
Sample ID: CCV1						
Bromide	mg/L	10.1	10	101	90-110	02/11/2025
Chloride	mg/L	3	3	100	90-110	02/11/2025
Fluoride	mg/L	2	2	100	90-110	02/11/2025
Nitrite	mg/L	3	3	100	90-110	02/11/2025
Nitrate	mg/L	2.5	2.5	100	90-110	02/11/2025
Sulfate	mg/L	15	15	100	90-110	02/11/2025
Orthophosphate as P	mg/L	5	5	100	90-110	02/11/2025
Sample ID: CCV2						
Bromide	mg/L	10.2	10	102	90-110	02/11/2025
Chloride	mg/L	3.1	3	103	90-110	02/11/2025
Fluoride	mg/L	2	2	100	90-110	02/11/2025
Nitrite	mg/L	3.1	3	103	90-110	02/11/2025
Nitrate	mg/L	2.6	2.5	104	90-110	02/11/2025
Sulfate	mg/L	15.1	15	101	90-110	02/11/2025
Orthophosphate as P	mg/L	5.2	5	104	90-110	02/11/2025

Initial and Continuing Calibration Verification

Client: G Environmental

SDG No.: Q1355

Project: Amsterdam

RunNo.: LB134705

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

Client: G Environmental

SDG No.: Q1355

Project: Amsterdam

RunNo.: LB134705

Analyte	Units	Result	Acceptance Limits	Conc Qual	MDL	RDL	Analysis Date
Sample ID: ICB1							
Bromide	mg/L	< 1.0000	1.0000	U	0.034	2	01/20/2025
Chloride	mg/L	< 0.3000	0.3000	U	0.011	0.6	01/20/2025
Fluoride	mg/L	< 0.2000	0.2000	U	0.057	0.4	01/20/2025
Nitrite	mg/L	< 0.3000	0.3000	U	0.011	0.6	01/20/2025
Nitrate	mg/L	< 0.2500	0.2500	U	0.0034	0.5	01/20/2025
Sulfate	mg/L	< 1.5000	1.5000	U	0.032	3	01/20/2025
Orthophosphate as P	mg/L	< 0.5000	0.5000	U	0.079	1	01/20/2025
Sample ID: CCB1							
Bromide	mg/L	< 1.0000	1.0000	U	0.034	2	02/11/2025
Chloride	mg/L	< 0.3000	0.3000	U	0.011	0.6	02/11/2025
Fluoride	mg/L	< 0.2000	0.2000	U	0.057	0.4	02/11/2025
Nitrite	mg/L	< 0.3000	0.3000	U	0.011	0.6	02/11/2025
Nitrate	mg/L	< 0.2500	0.2500	U	0.0034	0.5	02/11/2025
Sulfate	mg/L	< 1.5000	1.5000	U	0.032	3	02/11/2025
Orthophosphate as P	mg/L	< 0.5000	0.5000	U	0.079	1	02/11/2025
Sample ID: CCB2							
Bromide	mg/L	< 1.0000	1.0000	U	0.034	2	02/11/2025
Chloride	mg/L	0.065	0.3000	J	0.011	0.6	02/11/2025
Fluoride	mg/L	< 0.2000	0.2000	U	0.057	0.4	02/11/2025
Nitrite	mg/L	< 0.3000	0.3000	U	0.011	0.6	02/11/2025
Nitrate	mg/L	< 0.2500	0.2500	U	0.0034	0.5	02/11/2025
Sulfate	mg/L	< 1.5000	1.5000	U	0.032	3	02/11/2025
Orthophosphate as P	mg/L	< 0.5000	0.5000	U	0.079	1	02/11/2025

Initial and Continuing Calibration Blank Summary

Client: G Environmental

SDG No.: Q1355

Project: Amsterdam

RunNo.: LB134705

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

Client: G Environmental

SDG No.: Q1355

Project: Amsterdam

Analyte	Units	Result	Acceptance Limits	Conc Qual	MDL	RDL	Analysis Date
Sample ID: LB134705BLW							
Bromide	mg/L	< 1.0000	1.0000	U	0.034	2	02/11/2025
Chloride	mg/L	< 0.3000	0.3000	U	0.011	0.6	02/11/2025
Fluoride	mg/L	< 0.2000	0.2000	U	0.057	0.4	02/11/2025
Nitrite	mg/L	< 0.3000	0.3000	U	0.011	0.6	02/11/2025
Nitrate	mg/L	< 0.2500	0.2500	U	0.0034	0.5	02/11/2025
Sulfate	mg/L	< 1.5000	1.5000	U	0.032	3	02/11/2025
Orthophosphate as P	mg/L	< 0.5000	0.5000	U	0.079	1	02/11/2025

Matrix Spike Summary

Client:	G Environmental	SDG No.:	Q1355
Project:	Amsterdam	Sample ID:	Q1355-01
Client ID:	RW1MS	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		0.56	J	10	1	94		02/11/2025
Chloride	mg/L	80-120	323	OR	336	OR	3	1	-433	*	02/11/2025
Fluoride	mg/L	80-120	1.10		0.29	J	2	1	41	*	02/11/2025
Nitrite	mg/L	80-120	2.90		0.011	U	3	1	97		02/11/2025
Nitrate	mg/L	80-120	2.40		0.0034	U	2.5	1	96		02/11/2025
Sulfate	mg/L	80-120	115	OR	103	OR	15	1	80		02/11/2025
Orthophosphate as P	mg/L	80-120	0.57	J	0.079	U	5	1	11	*	02/11/2025

Matrix Spike Summary

Client:	G Environmental	SDG No.:	Q1355
Project:	Amsterdam	Sample ID:	Q1355-01
Client ID:	RW1MSD	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	9.80		0.56	J	10	1	92		02/11/2025
Chloride	mg/L	80-120	323	OR	336	OR	3	1	-433	*	02/11/2025
Fluoride	mg/L	80-120	2.20		0.29	J	2	1	96		02/11/2025
Nitrite	mg/L	80-120	2.80		0.011	U	3	1	93		02/11/2025
Nitrate	mg/L	80-120	2.40		0.0034	U	2.5	1	96		02/11/2025
Sulfate	mg/L	80-120	115	OR	103	OR	15	1	80		02/11/2025
Orthophosphate as P	mg/L	80-120	2.70		0.079	U	5	1	54	*	02/11/2025

Duplicate Sample Summary

Client: G Environmental Project: Amsterdam Client ID: RW1MSD	SDG No.: Q1355 Sample ID: Q1355-01 Percent Solids for Spike Sample: 0
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Analyte	Units	Acceptance Limit	Sample Result	Conc. Qualifier	Duplicate Result	Conc. Qualifier	Dilution Factor	RPD/ AD	Qual	Analysis Date
Nitrate	mg/L	+/-15	2.40		2.40		1	0		02/11/2025
Chloride	mg/L	+/-15	323	OR	323	OR	1	0		02/11/2025
Sulfate	mg/L	+/-15	115	OR	115	OR	1	0		02/11/2025
Bromide	mg/L	+/-15	10.0		9.80		1	2		02/11/2025
Nitrite	mg/L	+/-15	2.90		2.80		1	4		02/11/2025
Orthophosphate as P	mg/L	+/-15	0.57	J	2.70		1	130	*	02/11/2025
Fluoride	mg/L	+/-15	1.10		2.20		1	67	*	02/11/2025

Laboratory Control Sample Summary

Client: G Environmental

SDG No.: Q1355

Project: Amsterdam

Run No.: LB134705

Analyte	Units	True Value	Result	Conc. Qualifier	% Recovery	Dilution Factor	Acceptance Limit %R	Analysis Date
Sample ID	LB134705BSW							
Bromide	mg/L	10	10.2		102	1	90-110	02/11/2025
Chloride	mg/L	3	3.10		103	1	90-110	02/11/2025
Fluoride	mg/L	2	2.00		100	1	90-110	02/11/2025
Nitrite	mg/L	3	3.10		103	1	90-110	02/11/2025
Nitrate	mg/L	2.5	2.60		104	1	90-110	02/11/2025
Sulfate	mg/L	15	15.1		101	1	90-110	02/11/2025
Orthophosphate as P	mg/L	5	5.00		100	1	90-110	02/11/2025



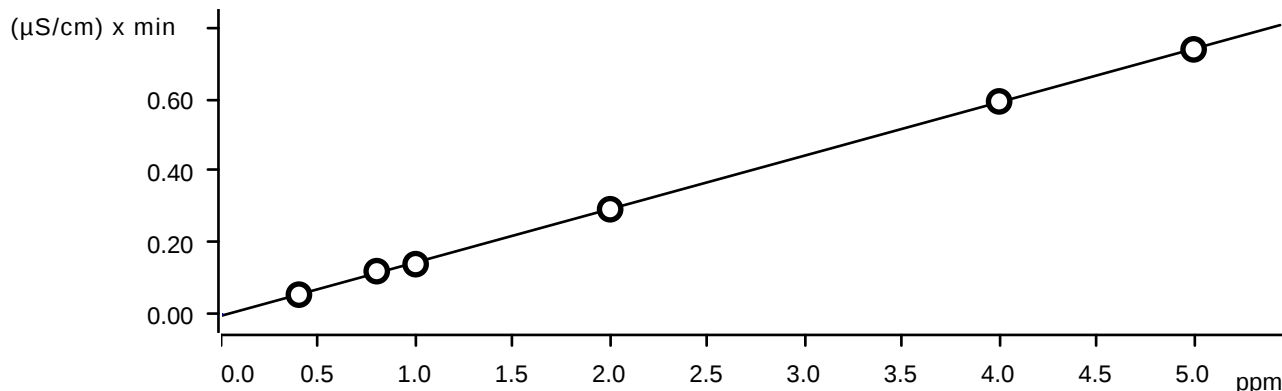
RAW DATA

Instrument IIC				Analyst :		NF		Method: :00.0 / 9056A			
Ident	Con F-	Con CL-	Con NO2	Con BR-	Con NO3	Con HPO4	Con SO4	Method name	date time	wt/Fir	Analyst
STD1	0	0	0	0	0	0	0	IC1-012025	1/20/2025 11:14	10	NF/IZ
STD2	0.396	0.602	0.613	2.019	0.511	0.994	3.09	IC1-012025	1/20/2025 11:36	10	NF/IZ
STD3	0.835	1.258	1.254	4.184	1.047	2.089	6.324	IC1-012025	1/20/2025 11:57	10	NF/IZ
STD4	0.967	1.463	1.466	4.879	1.221	2.469	7.299	IC1-012025	1/20/2025 12:18	10	NF/IZ
STD5	1.996	2.973	2.959	9.912	2.468	4.936	14.741	IC1-012025	1/20/2025 12:40	10	NF/IZ
STD6	4.016	5.977	5.973	19.887	4.964	9.97	29.788	IC1-012025	1/20/2025 13:01	10	NF/IZ
STD7	4.99	7.527	7.535	25.119	6.289	12.542	37.258	IC1-012025	1/20/2025 13:23	10	NF/IZ
ICV	2.059	3.086	3.062	10.267	2.569	5.158	15.361	IC1-012025	1/20/2025 13:44	10	NF/IZ
ICB	0	0	0	0	0	0	0	IC1-012025	1/20/2025 14:06	10	NF/IZ
CCV	2.022	3.038	3.027	10.116	2.536	4.999	15.036	IC1-012025	2/11/2025 11:07	10	NF/IZ
CCB	0	0	0	0	0	0	0	IC1-012025	2/11/2025 11:29	10	NF/IZ
LB134705BLW	0	0	0	0	0	0	0	IC1-012025	2/11/2025 11:50	10	NF/IZ
LB134705BSW	2.031	3.065	3.051	10.198	2.553	5.035	15.104	IC1-012025	2/11/2025 12:12	10	NF/IZ
Q1355-01	0.29	335.648	0	0.56	0	0	103.314	IC1-012025	2/11/2025 14:49	10	NF/IZ
Q1355-01MS	1.071	322.702	2.87	9.952	2.405	0.567	115.268	IC1-012025	2/11/2025 15:10	10	NF/IZ
Q1355-01MSD	2.203	322.879	2.839	9.846	2.365	2.653	115.013	IC1-012025	2/11/2025 15:32	10	NF/IZ
Q1355-01DLX5	0.08	53.651	0	0.279	0	0	18.384	IC1-012025	2/11/2025 15:54	10	NF/IZ
CCV	2.035	3.063	3.054	10.198	2.554	5.174	15.127	IC1-012025	2/11/2025 16:15	10	NF/IZ
CCB	0	0.065	0	0	0	0	0	IC1-012025	2/11/2025 16:37	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	date time	Initial wt/ Final	Analyst
STD1	0	0	0	0	0	0	0	0 IC1-012025	1/20/2025 11:14	10	NF/IZ
STD2	0.396	0.602	0.613	2.019	0.511	0.994	3.09	IC1-012025	1/20/2025 11:36	10	NF/IZ
STD3	0.835	1.258	1.254	4.184	1.047	2.089	6.324	IC1-012025	1/20/2025 11:57	10	NF/IZ
STD4	0.967	1.463	1.466	4.879	1.221	2.469	7.299	IC1-012025	1/20/2025 12:18	10	NF/IZ
STD5	1.996	2.973	2.959	9.912	2.468	4.936	14.741	IC1-012025	1/20/2025 12:40	10	NF/IZ
STD6	4.016	5.977	5.973	19.887	4.964	9.97	29.788	IC1-012025	1/20/2025 13:01	10	NF/IZ
STD7	4.99	7.527	7.535	25.119	6.289	12.542	37.258	IC1-012025	1/20/2025 13:23	10	NF/IZ
ident	True Value F-	True Value CL-	True Value NO2	True Value BR-	True Value NO3	True Value HPO4	True Value SO4				
STD1	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000				
STD2	0.4000	0.6000	0.6000	2.0000	0.5000	1.0000	3.0000				
STD3	0.8000	1.2000	1.2000	4.0000	1.0000	2.0000	6.0000				
STD4	1.0000	1.5000	1.5000	5.0000	1.2500	2.5000	7.5000				
STD5	2.0000	3.0000	3.0000	10.0000	2.5000	5.0000	15.0000				
STD6	4.0000	6.0000	6.0000	20.0000	5.0000	10.0000	30.0000				
STD7	5.0000	7.5000	7.5000	25.0000	6.2500	12.5000	37.0000				
ident	Relative Error F-	Relative Error CL-	Relative Error NO2	Relative Error BR-	Relative Error NO3	Relative Error HPO4	Relative Error SO4				
STD1											
STD2	-1.0000	0.3333	2.1667	0.9500	2.2000	-0.6000	3.0000				
STD3	4.3750	4.8333	4.5000	4.6000	4.7000	4.4500	5.4000				
STD4	-3.3000	-2.4667	-2.2667	-2.4200	-2.3200	-1.2400	-2.6800				
STD5	-0.2000	-0.9000	-1.3667	-0.8800	-1.2800	-1.2800	-1.7267				
STD6	0.4000	-0.3833	-0.4500	-0.5650	-0.7200	-0.3000	-0.7067				
STD7	-0.2000	0.3600	0.4667	0.4760	0.6240	0.3360	0.6973				

Fluoride (Anions)



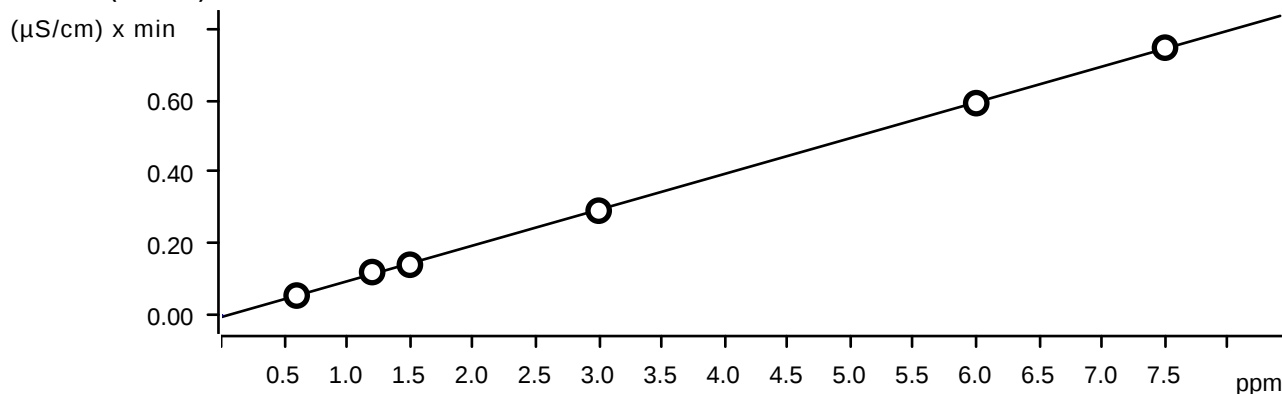
Function: $A = -4.02271E-3 + 0.0148839 \times Q$

Relative standard deviation 1.203859 %

Correlation coefficient 0.999923

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

Chloride (Anions)



Function: $A = -4.62538E-3 + 9.98029E-3 \times Q$

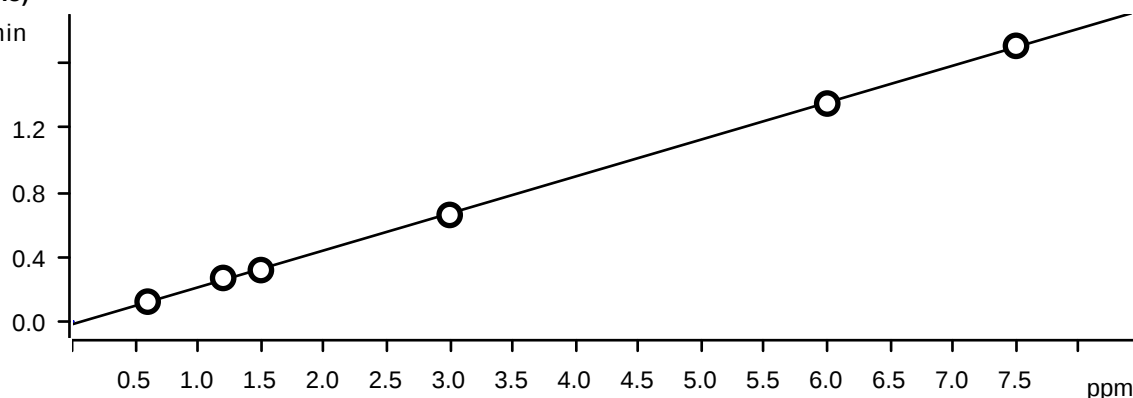
Relative standard deviation 1.261416 %

Correlation coefficient 0.999916

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

Nitrite (Anions)

(μS/cm) x min

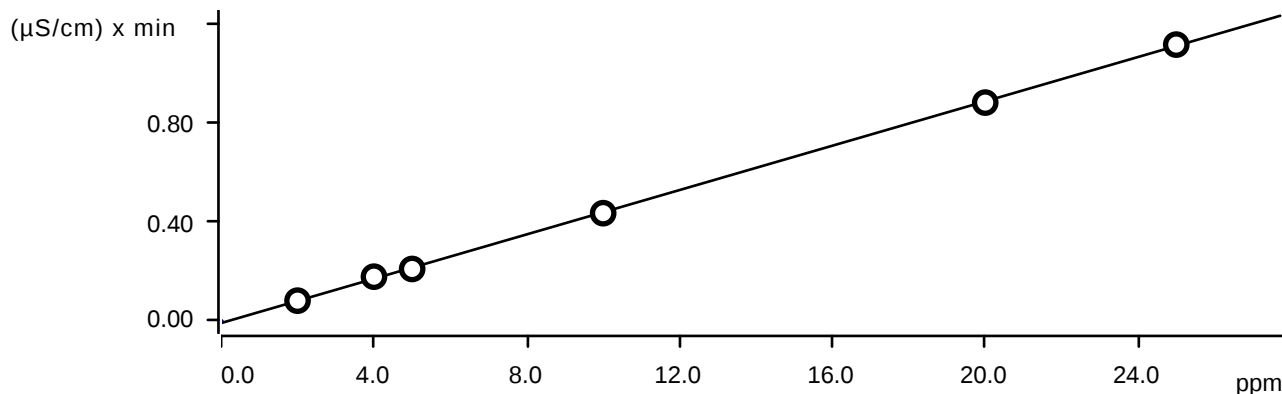
Function: $A = -0.0179856 + 0.0228967 \times Q$

Relative standard deviation 1.369596 %

Correlation coefficient 0.999903

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

Bromide (Anions)



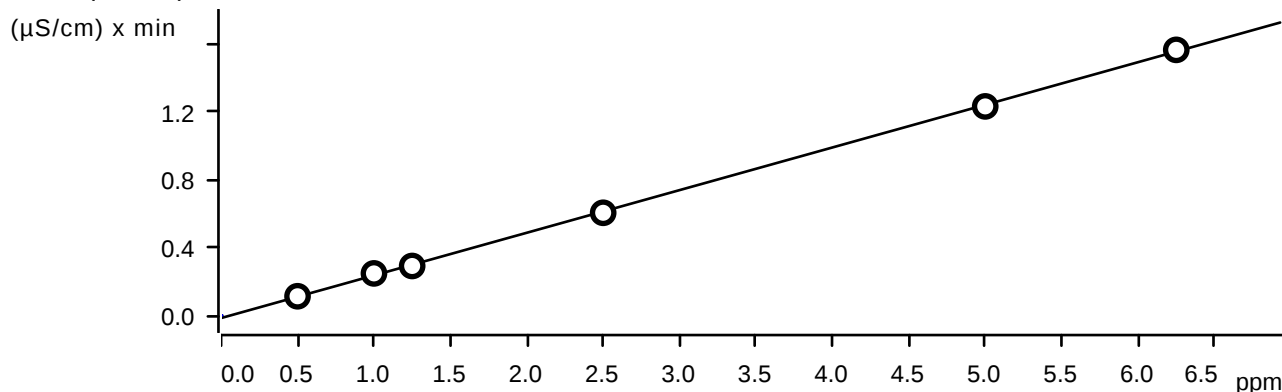
Function: $A = -8.89651E-3 + 4.46429E-3 \times Q$

Relative standard deviation: 1.338167 %

Correlation coefficient: 0.999906

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

Nitrate (Anions)

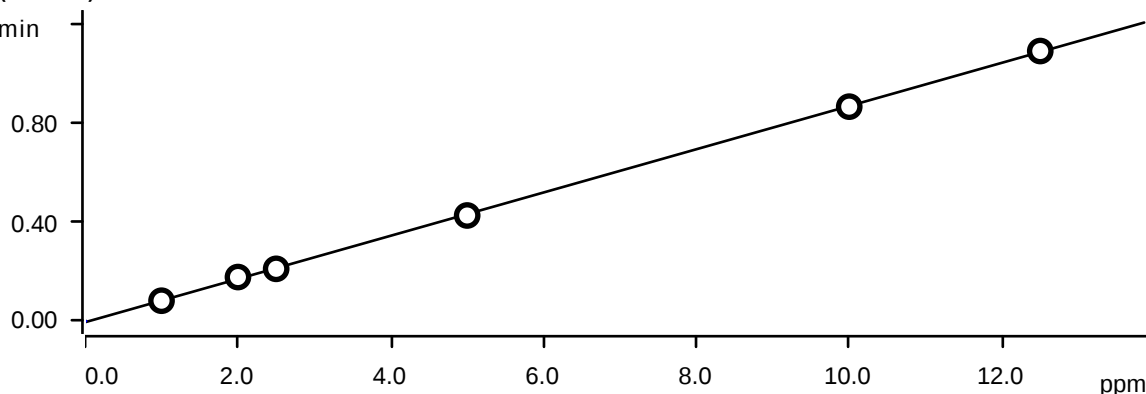


Function: $A = -0.0155875 + 0.0250988 \times Q$

Relative standard deviation: 1.561944 %

Correlation coefficient 0.999873

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

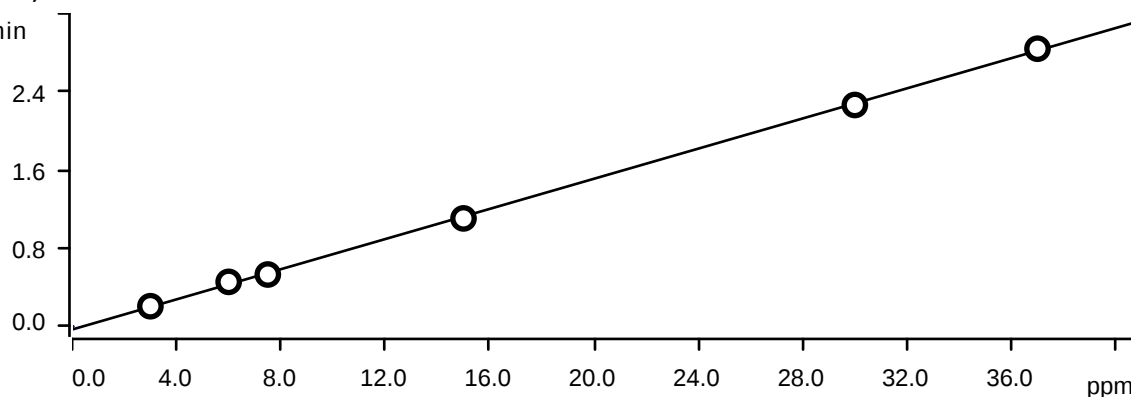
Phosphate (Anions) $(\mu\text{S}/\text{cm}) \times \text{min}$ Function: $A = -4.38887E-3 + 8.70711E-3 \times Q$

Relative standard deviation 1.148005 %

Correlation coefficient 0.999929

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

Sulfate (Anions)

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

Relative standard deviation 1.797524 %

Correlation coefficient 0.999831

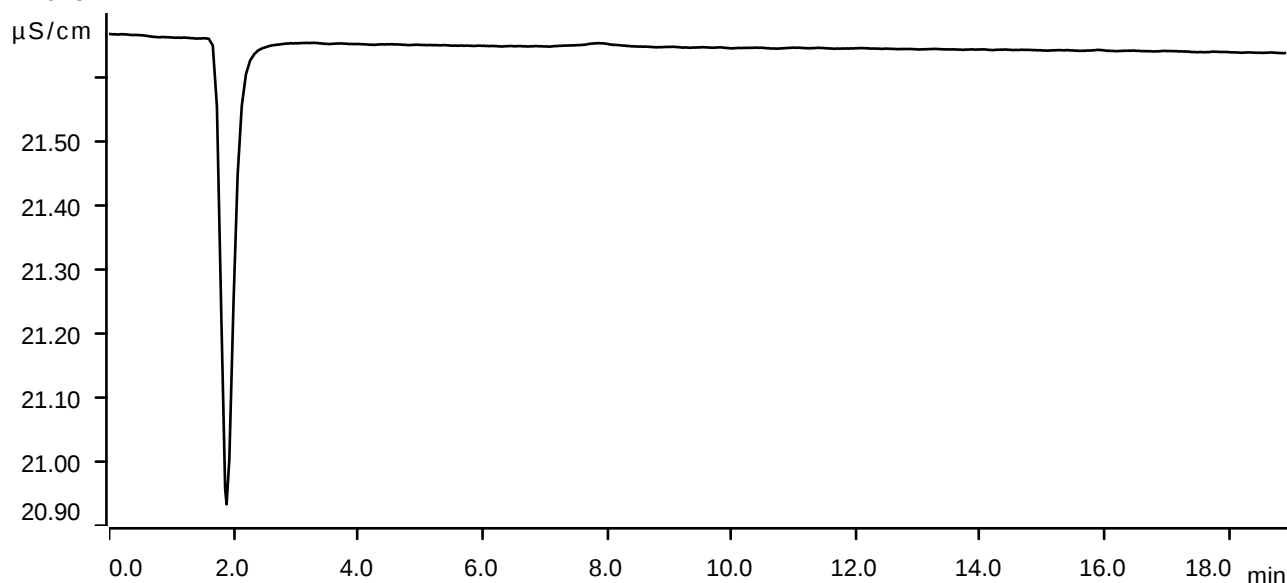
Sample type	Index	Conc.	Volume	Dilution	Sample amount	Area	Ident	Date	Used
Standard 1	1	0.000	10.0	1.0	1.0	n. d.	STD1	2025-01-20 11:14:39 UTC-5	used
Standard 2	1	3.000	10.0	1.0	1.0	0.207	STD2	2025-01-20 11:36:02 UTC-5	used
Standard 3	1	6.000	10.0	1.0	1.0	0.456	STD3	2025-01-20 11:57:26 UTC-5	used
Standard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

Sample data

Ident STD1
Sample type Standard 1
Determination start 2025-01-20 11:14:39 UTC-5
Method IC1-012025
Operator

Anions

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

Anions

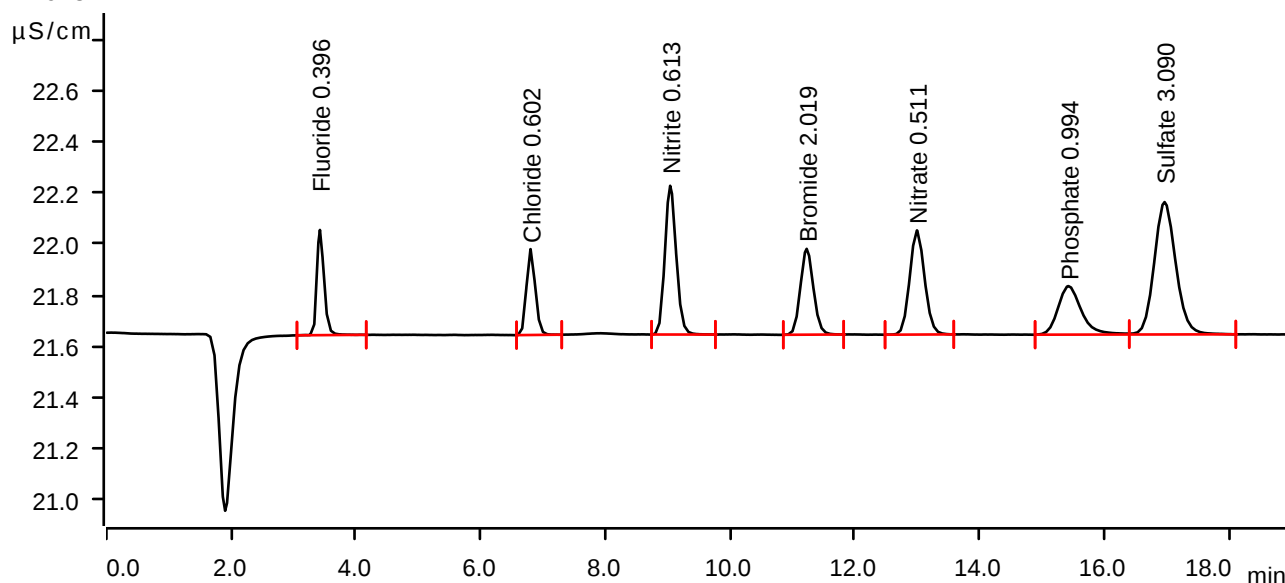
Sample data

Ident STD2
Sample type Standard 2
Determination start 2025-01-20 11:36:02 UTC-5
Method IC1-012025
Operator

Anions

Data source Conductivity detector 1 (Eco IC 1)
Channel Conductivity
Recording time 19.0 min
Integration Automatically
Column type Metrosep A Supp 19 - 150/4.0
Eluent composition not defined
Flow 0.700 mL/min
Maximum flow monitored yes
Pressure 12.11 MPa
Maximum pressure monitored yes
Temperature ---- °C

Anions



Peak number	Retention time min	Area (µS/cm) x min	Height µS/cm	Concentration ppm	Component name
1	3.425	0.0549	0.411	0.396	Fluoride
2	6.802	0.0555	0.335	0.602	Chloride
3	9.040	0.1223	0.581	0.613	Nitrite
4	11.228	0.0813	0.335	2.019	Bromide
5	12.995	0.1126	0.407	0.511	Nitrate
6	15.423	0.0822	0.190	0.994	Phosphate
7	16.967	0.2070	0.517	3.090	Sulfate

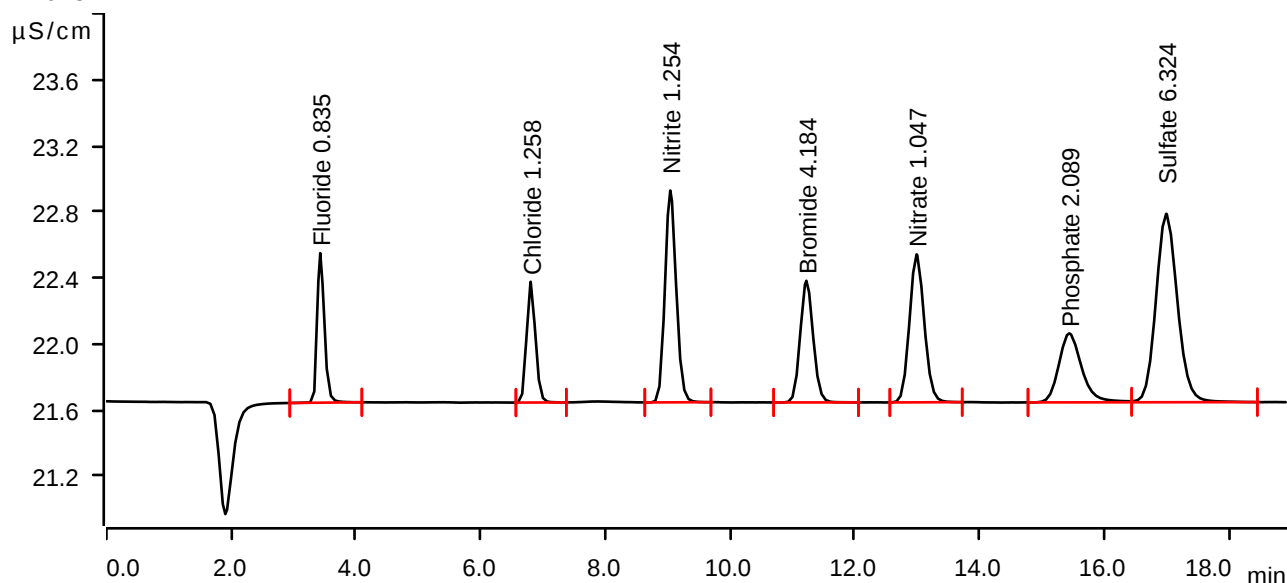
Sample data

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

Anions

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

Anions



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

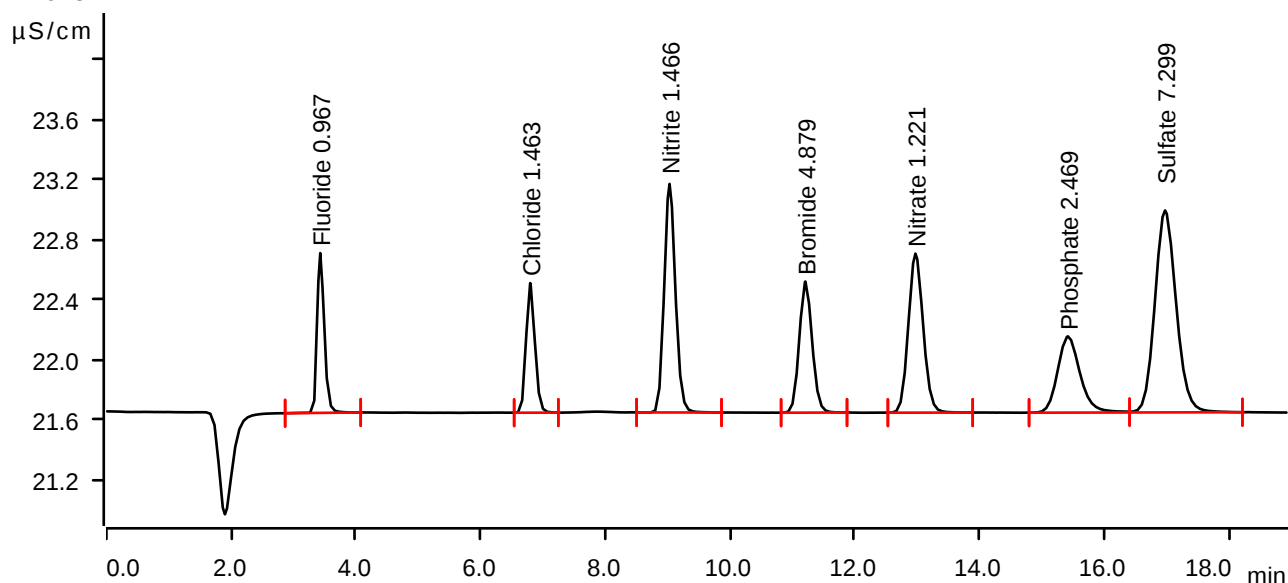
Sample data

Ident STD4
Sample type Standard 4
Determination start 2025-01-20 12:18:50 UTC-5
Method IC1-012025
Operator

Anions

Data source Conductivity detector 1 (Eco IC 1)
Channel Conductivity
Recording time 19.0 min
Integration Automatically
Column type Metrosep A Supp 19 - 150/4.0
Eluent composition not defined
Flow 0.700 mL/min
Maximum flow monitored yes
Pressure 12.11 MPa
Maximum pressure monitored yes
Temperature ---- °C

Anions



Peak number	Retention time min	Area (µS/cm) x min	Height µS/cm	Concentration ppm	Component name
1	3.430	0.1399	1.061	0.967	Fluoride
2	6.795	0.1414	0.860	1.463	Chloride
3	9.030	0.3178	1.517	1.466	Nitrite
4	11.208	0.2089	0.870	4.879	Bromide
5	12.972	0.2908	1.056	1.221	Nitrate
6	15.417	0.2105	0.506	2.469	Phosphate
7	16.973	0.5314	1.341	7.299	Sulfate

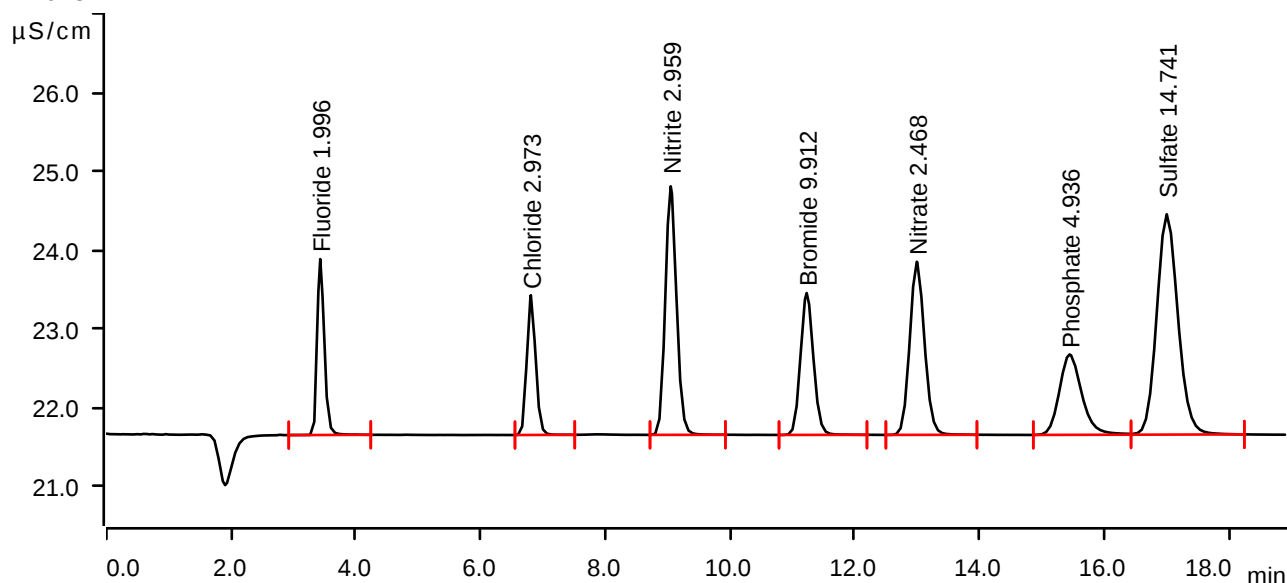
Sample data

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

Anions

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

Anions



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

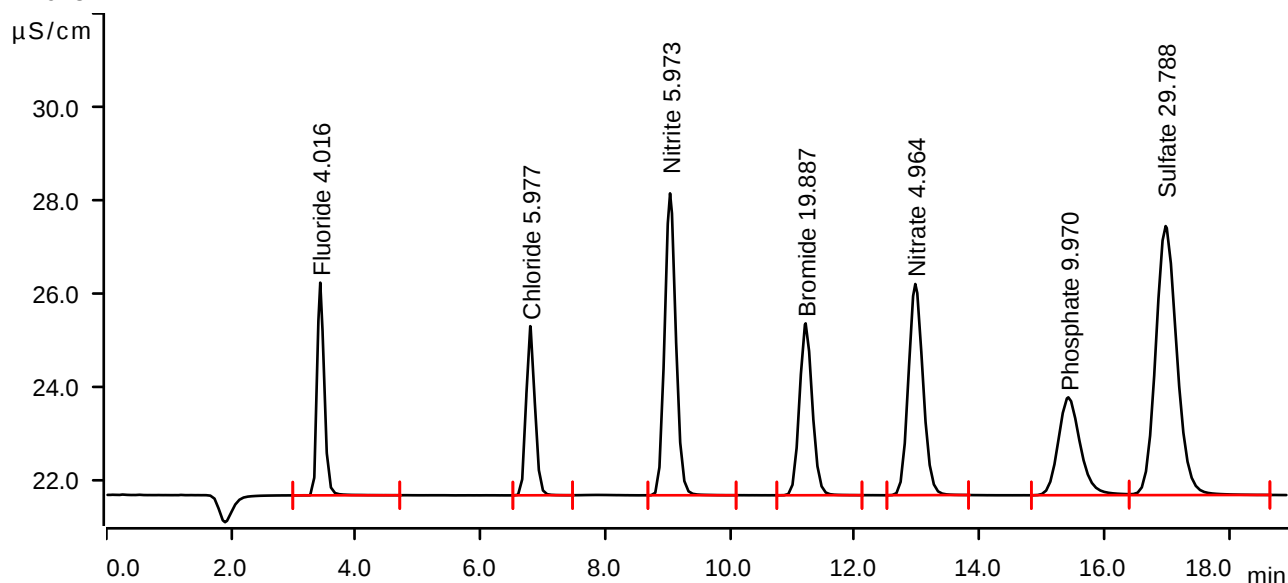
Sample data

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

Anions

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

Anions



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

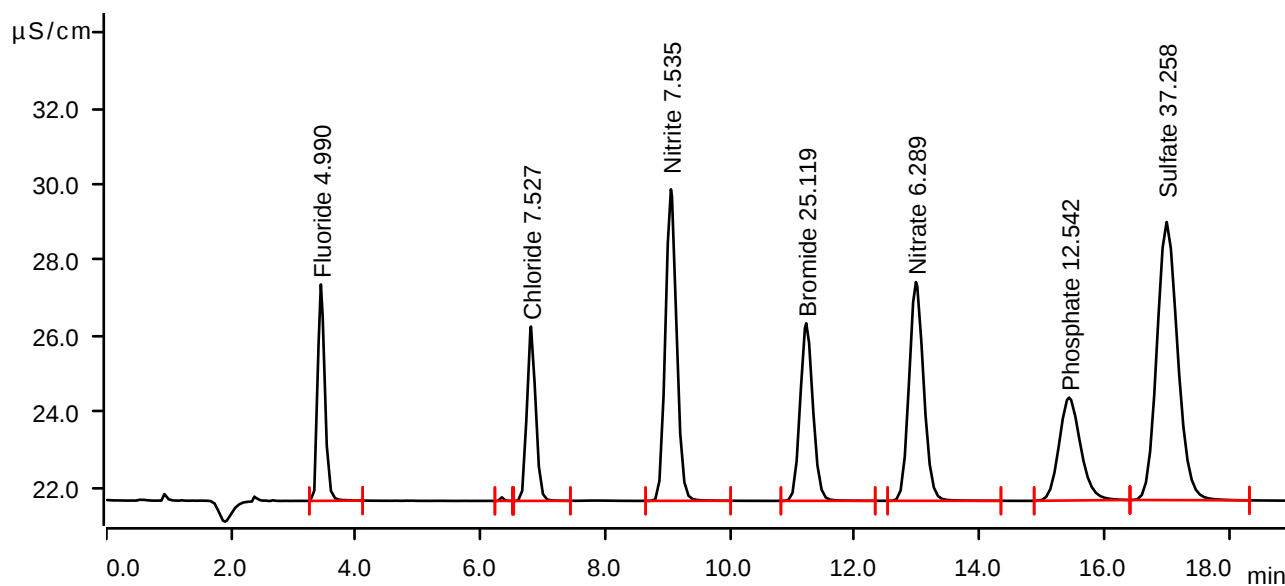
Sample data

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

Anions

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

Anions



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

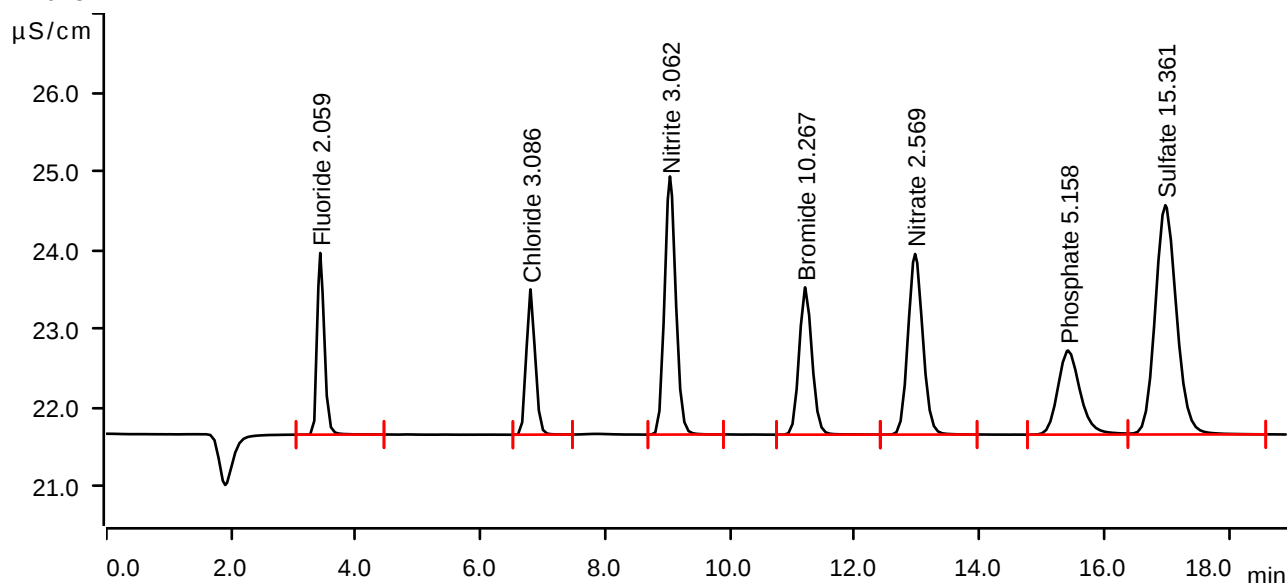
Sample data

Ident ICV
Sample type Check standard 1
Determination start 2025-01-20 13:44:36 UTC-5
Method IC1-012025
Operator

Anions

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

Anions



Peak number	Retention time min	Area (µS/cm) x min	Height µS/cm	Concentration ppm	Component name
1	3.430	0.3025	2.306	2.059	Fluoride
2	6.798	0.3033	1.843	3.086	Chloride
3	9.037	0.6832	3.276	3.062	Nitrite
4	11.205	0.4495	1.869	10.267	Bromide
5	12.967	0.6293	2.293	2.569	Nitrate
6	15.418	0.4447	1.067	5.158	Phosphate
7	16.978	1.1525	2.909	15.361	Sulfate

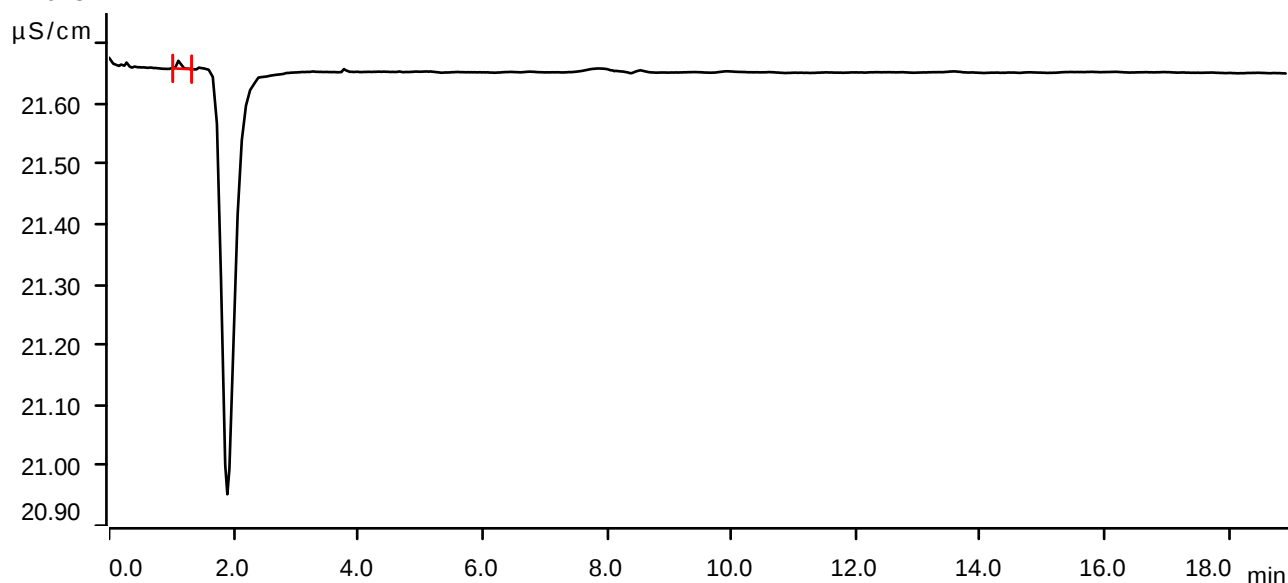
Sample data

Ident ICB
Sample type Sample
Determination start 2025-01-20 14:06:05 UTC-5
Method IC1-012025
Operator

Anions

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

Anions



Peak number	Retention time	Area	Height	Concentration	Component name
	min	(µS/cm) x min	µS/cm	ppm	
1	1.115	0.0010	0.013	invalid	

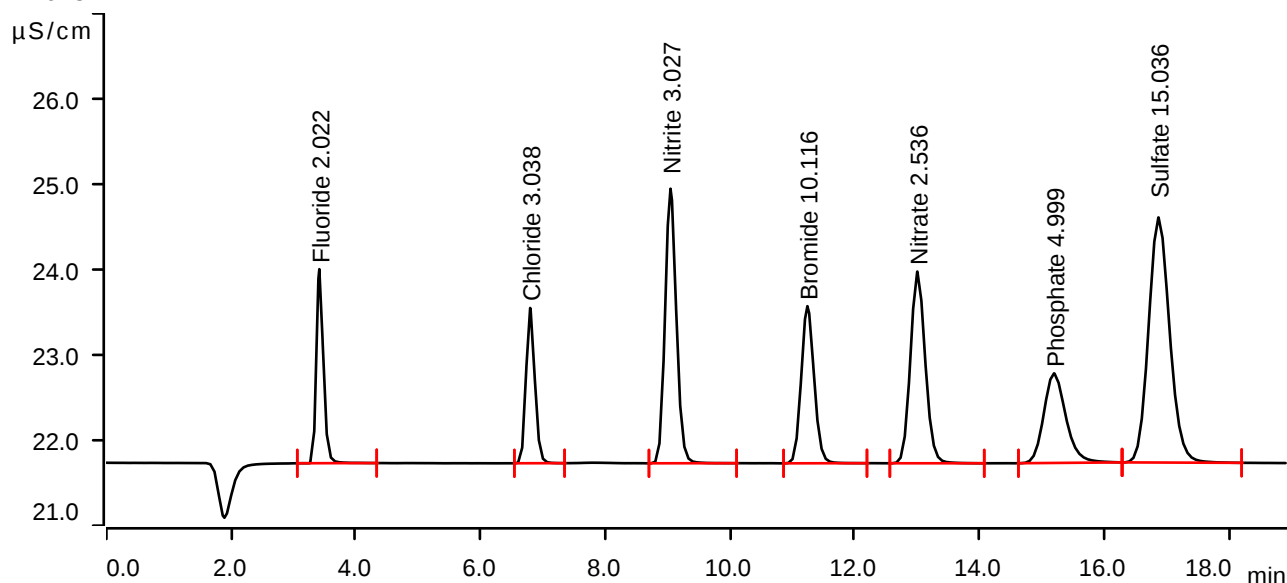
Sample data

Ident CCV
Sample type Check standard 1
Determination start 2025-02-11 11:07:44 UTC-5
Method IC1-012025
Operator

Anions

Data source Conductivity detector 1 (Eco IC 1)
Channel Conductivity
Recording time 19.0 min
Integration Automatically
Column type Metrosep A Supp 19 - 150/4.0
Eluent composition not defined
Flow 0.700 mL/min
Maximum flow monitored yes
Pressure 12.61 MPa
Maximum pressure monitored yes
Temperature ---- °C

Anions



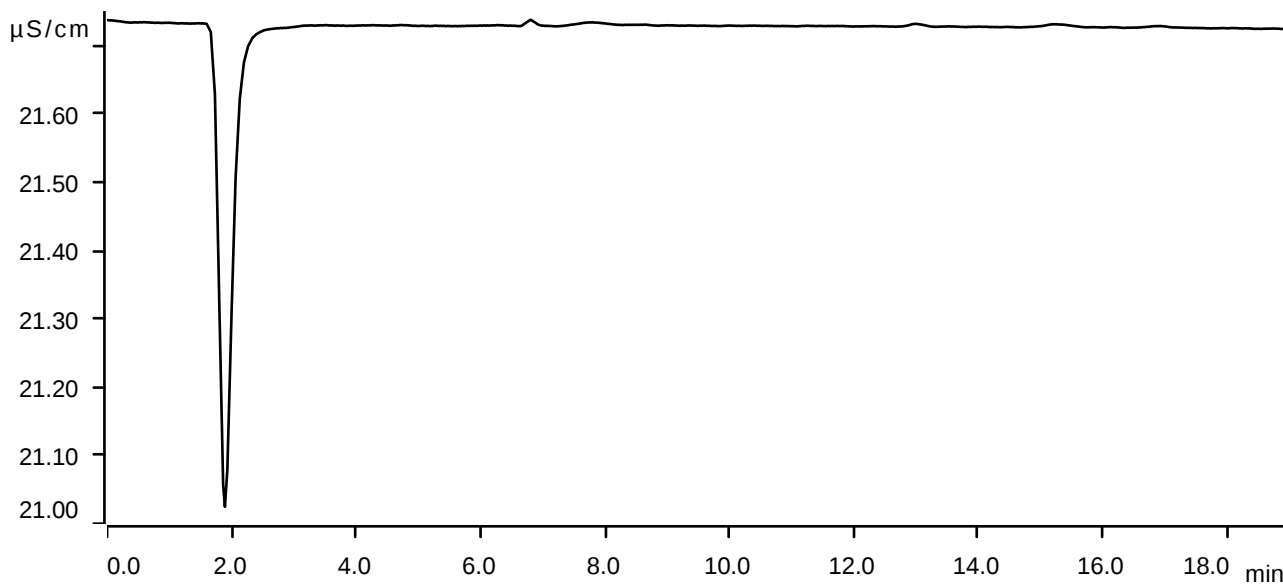
Peak number	Retention time min	Area (µS/cm) x min	Height µS/cm	Concentration ppm	Component name
1	3.415	0.2970	2.273	2.022	Fluoride
2	6.795	0.2986	1.819	3.038	Chloride
3	9.045	0.6750	3.216	3.027	Nitrite
4	11.240	0.4427	1.841	10.116	Bromide
5	13.003	0.6209	2.246	2.536	Nitrate
6	15.193	0.4309	1.049	4.999	Phosphate
7	16.870	1.1275	2.871	15.036	Sulfate

Sample data

Ident CCB
Sample type Sample
Determination start 2025-02-11 11:29:14 UTC-5
Method IC1-012025
Operator

Anions

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

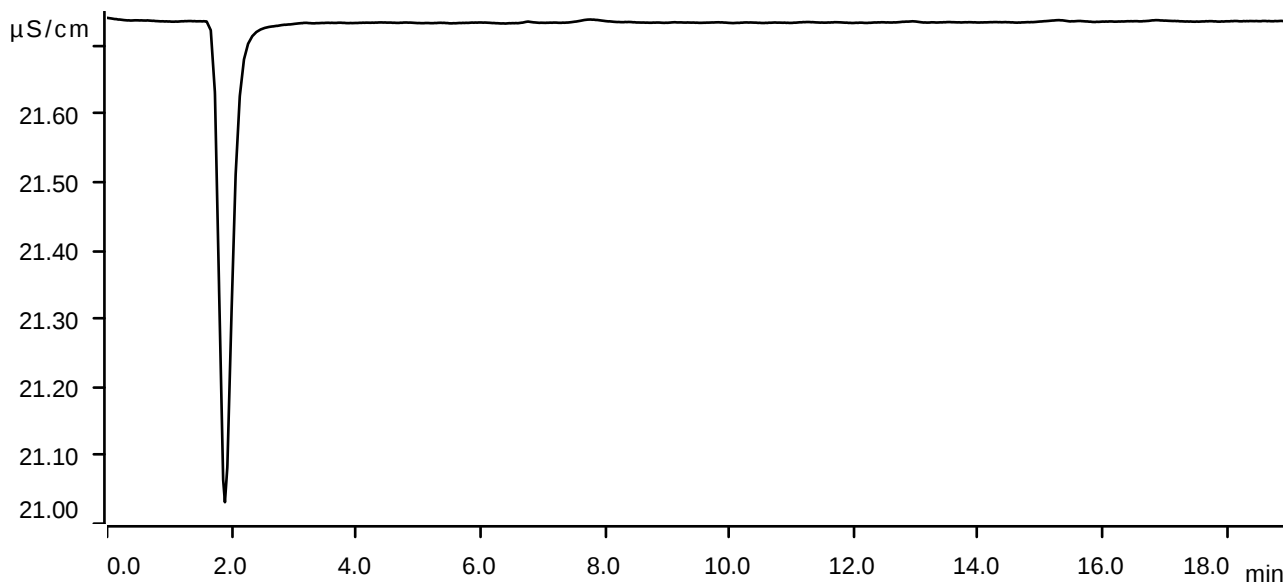
Anions

Sample data

Ident LB134705BLW
Sample type Sample
Determination start 2025-02-11 11:50:45 UTC-5
Method IC1-012025
Operator

Anions

Data source Conductivity detector 1 (Eco IC 1)
Channel Conductivity
Recording time 19.0 min
Integration Automatically
Column type Metrosep A Supp 19 - 150/4.0
Eluent composition not defined
Flow 0.700 mL/min
Maximum flow monitored yes
Pressure 12.73 MPa
Maximum pressure monitored yes
Temperature ---- °C

Anions

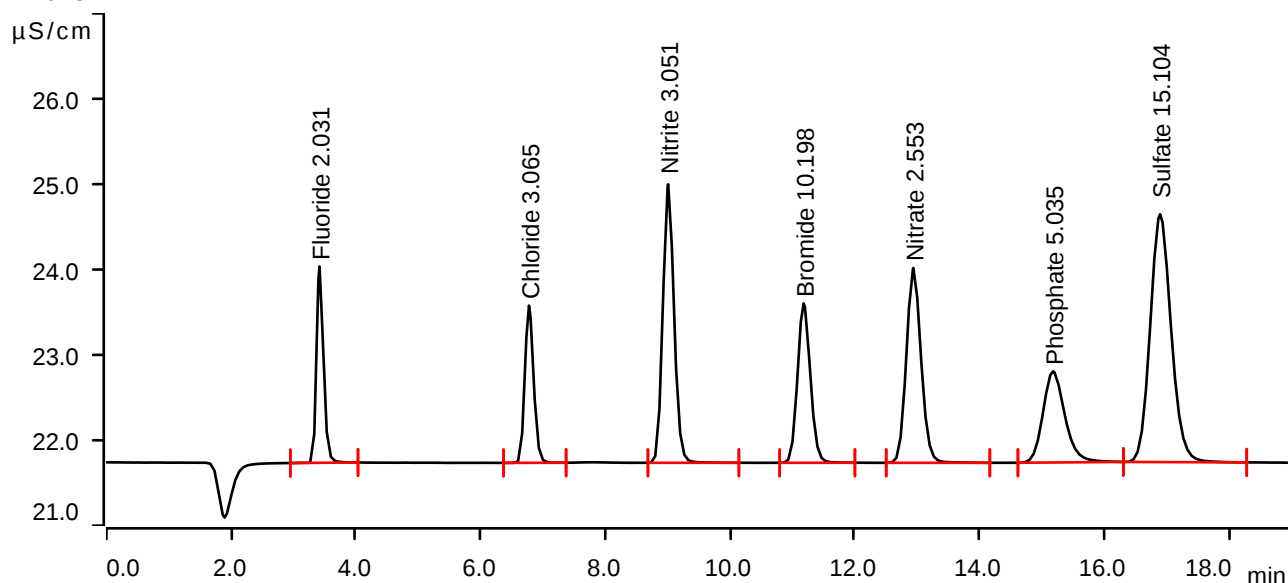
Sample data

Ident LB134705BSW
Sample type Check standard 1
Determination start 2025-02-11 12:12:16 UTC-5
Method IC1-012025
Operator

Anions

Data source Conductivity detector 1 (Eco IC 1)
Channel Conductivity
Recording time 19.0 min
Integration Automatically
Column type Metrosep A Supp 19 - 150/4.0
Eluent composition not defined
Flow 0.700 mL/min
Maximum flow monitored yes
Pressure 12.22 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	3.418	0.2982	2.299	2.031	Fluoride
2	6.777	0.3013	1.842	3.065	Chloride
3	9.008	0.6807	3.262	3.051	Nitrite
4	11.180	0.4464	1.867	10.198	Bromide
5	12.938	0.6253	2.282	2.553	Nitrate
6	15.178	0.4341	1.067	5.035	Phosphate
7	16.895	1.1328	2.902	15.104	Sulfate

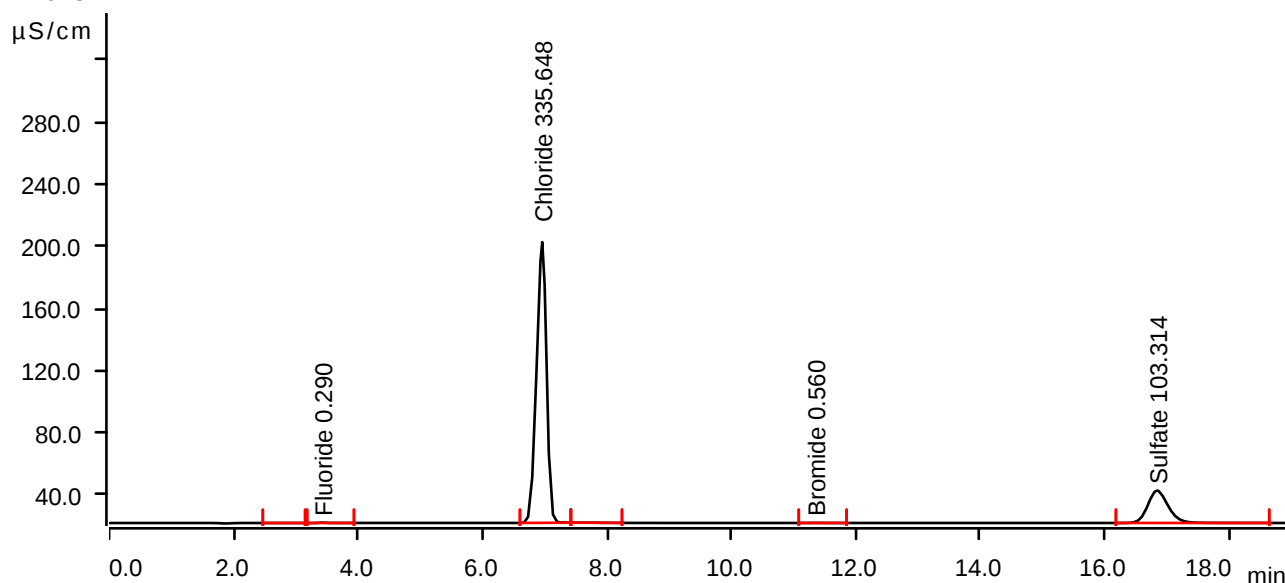
Sample data

Ident Q1355-01
Sample type Sample
Determination start 2025-02-11 14:49:16 UTC-5
Method IC1-012025
Operator

Anions

Data source Conductivity detector 1 (Eco IC 1)
Channel Conductivity
Recording time 19.0 min
Integration Automatically
Column type Metrosep A Supp 19 - 150/4.0
Eluent composition not defined
Flow 0.700 mL/min
Maximum flow monitored yes
Pressure 12.78 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	2.940	0.0054	0.017	invalid	
2	3.423	0.0391	0.254	0.290	Fluoride
3	6.962	33.4940	180.841	335.648	Chloride
4	7.620	0.0289	0.072	invalid	
5	11.347	0.0161	0.068	0.560	Bromide
6	16.842	7.9298	20.892	103.314	Sulfate

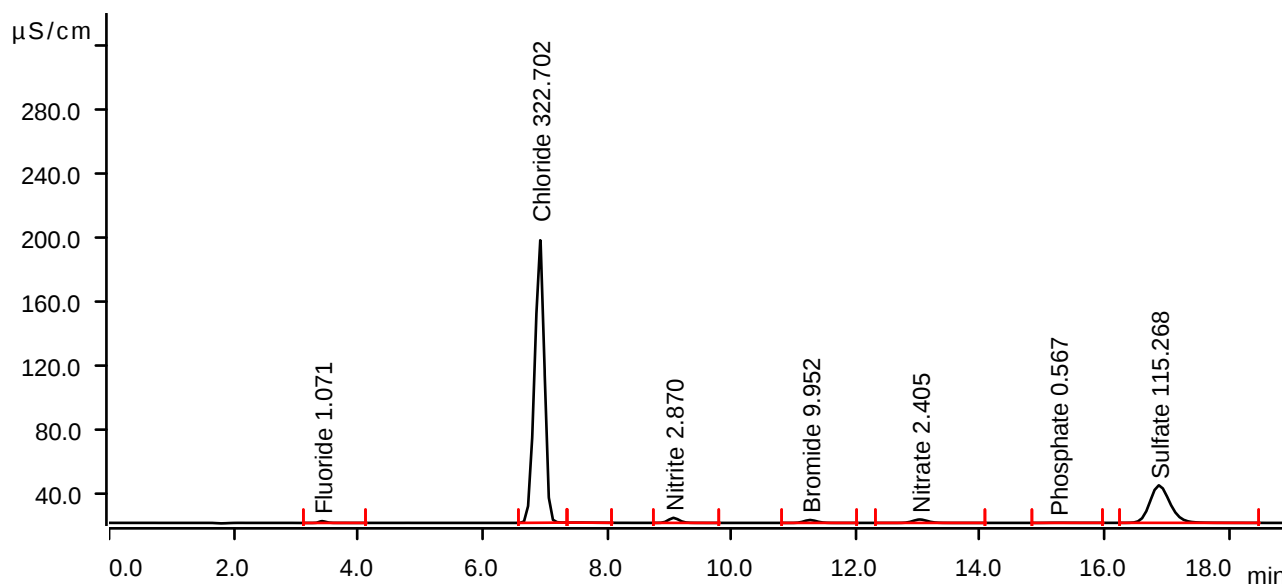
Sample data

Ident Q1355-01MS
Sample type Sample
Determination start 2025-02-11 15:10:54 UTC-5
Method IC1-012025
Operator

Anions

Data source Conductivity detector 1 (Eco IC 1)
Channel Conductivity
Recording time 19.0 min
Integration Automatically
Column type Metrosep A Supp 19 - 150/4.0
Eluent composition not defined
Flow 0.700 mL/min
Maximum flow monitored yes
Pressure 12.33 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	3.425	0.1554	1.137	1.071	Fluoride
2	6.930	32.2020	176.495	322.702	Chloride
3	7.512	0.0206	0.056	invalid	
4	9.072	0.6391	3.138	2.870	Nitrite
5	11.265	0.4354	1.813	9.952	Bromide
6	13.030	0.5879	2.131	2.405	Nitrate
7	15.252	0.0450	0.096	0.567	Phosphate
8	16.872	8.8508	23.415	115.268	Sulfate

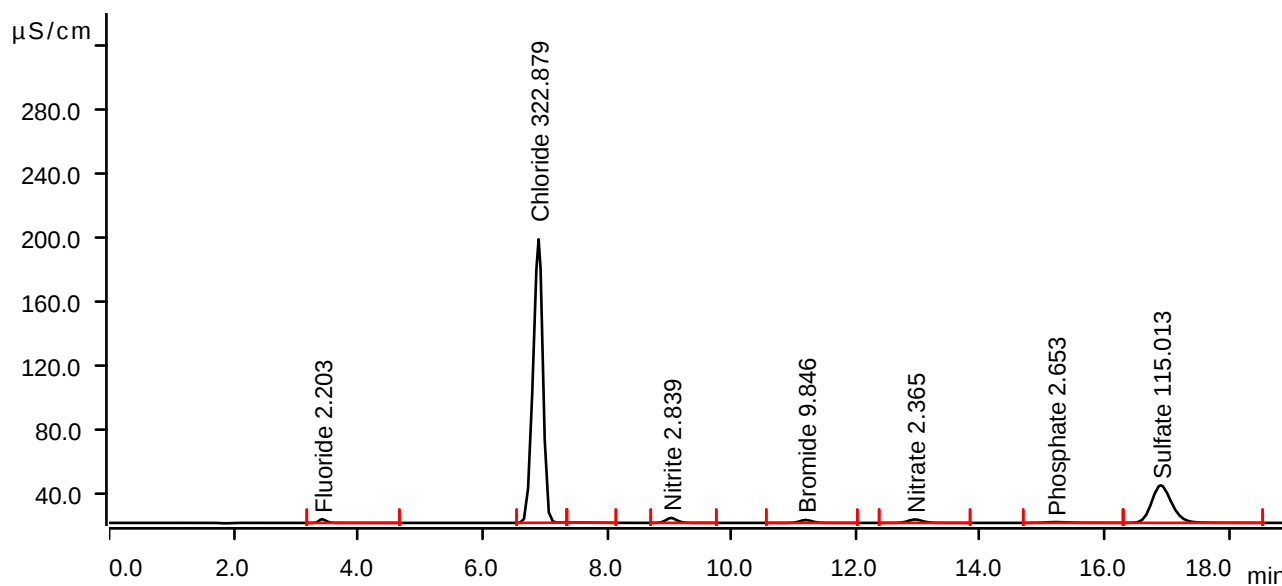
Sample data

Ident Q1355-01MSD
Sample type Sample
Determination start 2025-02-11 15:32:28 UTC-5
Method IC1-012025
Operator

Anions

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

Anions



Peak number	Retention time min	Area (µS/cm) x min	Height µS/cm	Concentration ppm	Component name
1	3.425	0.3239	2.356	2.203	Fluoride
2	6.903	32.2196	177.140	322.879	Chloride
3	7.558	0.0273	0.071	invalid	
4	9.032	0.6319	3.075	2.839	Nitrite
5	11.195	0.4307	1.810	9.846	Bromide
6	12.950	0.5779	2.124	2.365	Nitrate
7	15.210	0.2266	0.500	2.653	Phosphate
8	16.900	8.8312	23.472	115.013	Sulfate

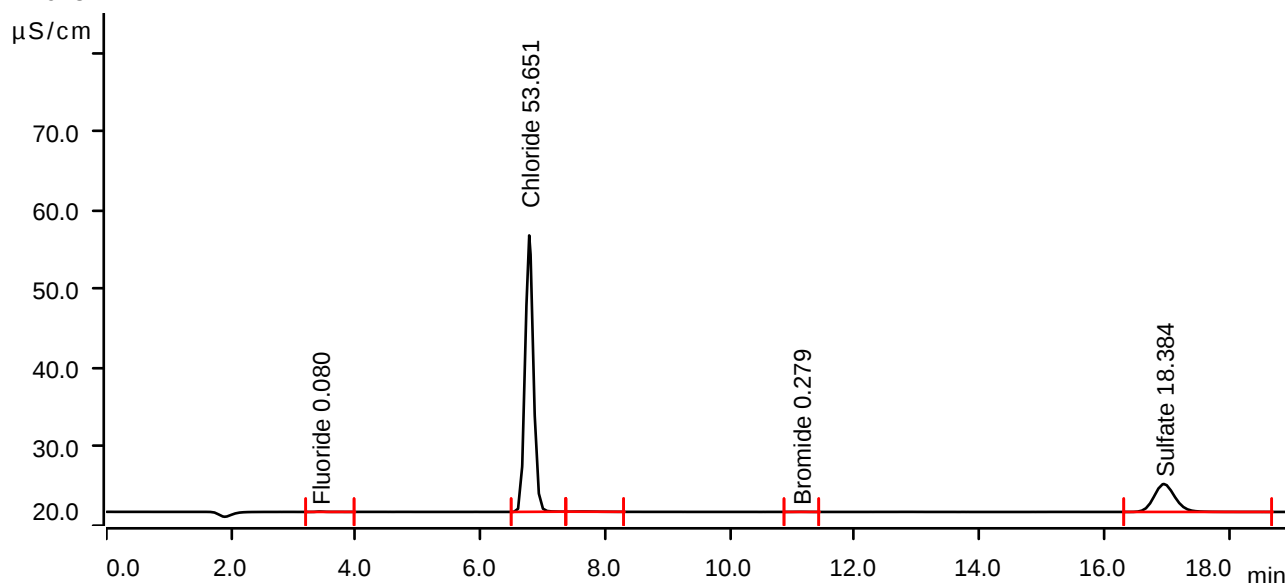
Sample data

Ident Q1355-01DLX5
Sample type Sample
Determination start 2025-02-11 15:54:03 UTC-5
Method IC1-012025
Operator

Anions

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

Anions



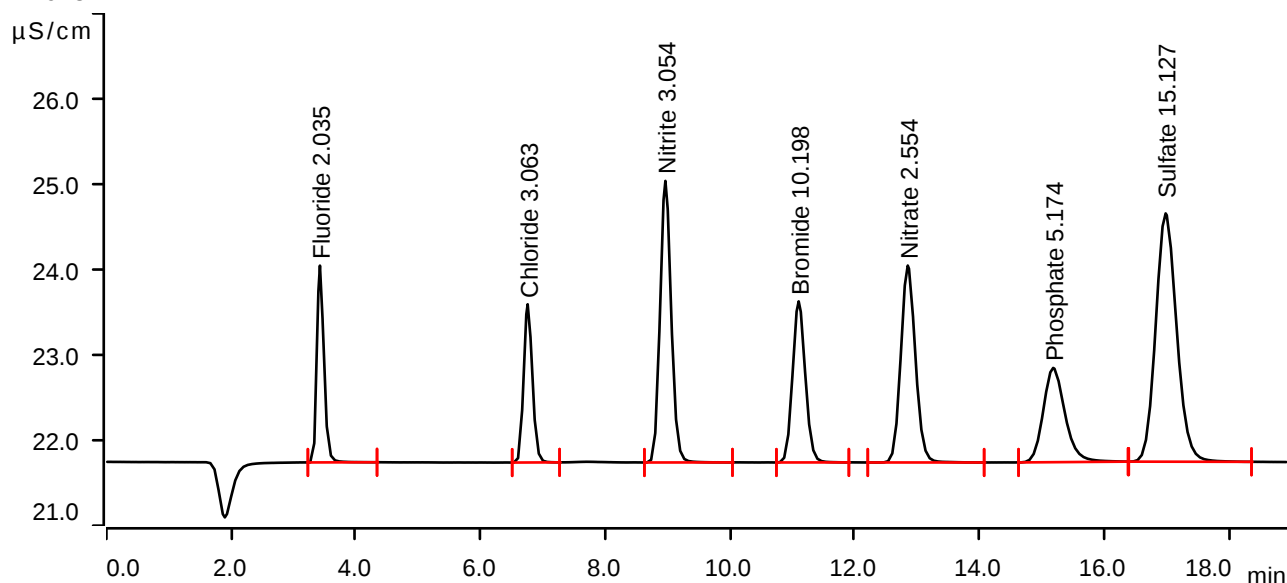
Peak number	Retention time min	Area (µS/cm) x min	Height µS/cm	Concentration ppm	Component name
1	3.422	0.0078	0.051	0.080	Fluoride
2	6.780	5.3499	35.076	53.651	Chloride
3	7.653	0.0107	0.027	invalid	
4	11.132	0.0036	0.015	0.279	Bromide
5	16.955	1.3855	3.546	18.384	Sulfate

Sample data

Ident CCV
 Sample type Check standard 1
 Determination start 2025-02-11 16:15:38 UTC-5
 Method IC1-012025
 Operator

Anions

Data source Conductivity detector 1 (Eco IC 1)
 Channel Conductivity
 Recording time 19.0 min
 Integration Automatically
 Column type Metrosep A Supp 19 - 150/4.0
 Eluent composition not defined
 Flow 0.700 mL/min
 Maximum flow monitored yes
 Pressure 11.71 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	3.425	0.2988	2.305	2.035	Fluoride
2	6.755	0.3011	1.853	3.063	Chloride
3	8.963	0.6813	3.298	3.054	Nitrite
4	11.100	0.4464	1.887	10.198	Bromide
5	12.848	0.6254	2.307	2.554	Nitrate
6	15.180	0.4461	1.104	5.174	Phosphate
7	16.983	1.1346	2.908	15.127	Sulfate

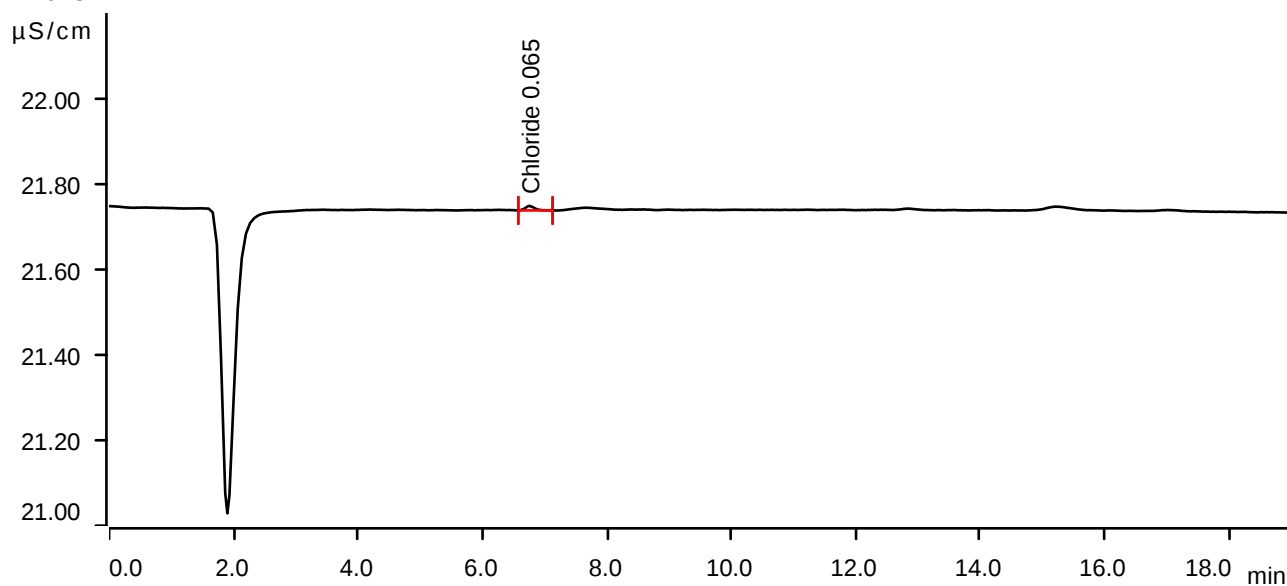
Sample data

Ident CCB
Sample type Sample
Determination start 2025-02-11 16:37:09 UTC-5
Method IC1-012025
Operator

Anions

Data source Conductivity detector 1 (Eco IC 1)
Channel Conductivity
Recording time 19.0 min
Integration Automatically
Column type Metrosep A Supp 19 - 150/4.0
Eluent composition not defined
Flow 0.700 mL/min
Maximum flow monitored yes
Pressure 11.54 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	6.752	0.0019	0.011	0.065	Chloride

Instrument ID: IC-2

Daily Analysis Runlog For Sequence/QC Batch ID # LB134705

Review By	Niha	Review On	2/14/2025 9:39:38 AM
Supervise By	Iwona	Supervise On	2/14/2025 1:05:32 PM
SubDirectory	LB134705	Test	Anions
STD. NAME	STD REF.#		
ICAL Standard	WP111484,WP111485,WP111486,WP111487,WP111488,WP111489,WP111490		
ICV Standard	WP111491		
CCV Standard	WP111887		
ICSA Standard	N/A		
CRI Standard	N/A		
LCS Standard	WP111888		
Chk Standard	WP111492,WP111493		

Sr#	SampleId	ClientID	QcType	Date	Comment	Operator	Status
1	STD1	STD1	CAL1	01/20/25 11:14	All standards, samples, and	NF/IZ	OK
2	STD2	STD2	CAL2	01/20/25 11:36	QC are filtered through	NF/IZ	OK
3	STD3	STD3	CAL3	01/20/25 11:57	0.45um, filter lot W3160	NF/IZ	OK
4	STD4	STD4	CAL4	01/20/25 12:18		NF/IZ	OK
5	STD5	STD5	CAL5	01/20/25 12:40		NF/IZ	OK
6	STD6	STD6	CAL6	01/20/25 13:01		NF/IZ	OK
7	STD7	STD7	CAL7	01/20/25 13:23		NF/IZ	OK
8	ICV1	ICV1	ICV	01/20/25 13:44		NF/IZ	OK
9	ICB1	ICB1	ICB	01/20/25 14:06		NF/IZ	OK
10	CCV1	CCV1	CCV	02/11/25 11:07		NF/IZ	OK
11	CCB1	CCB1	CCB	02/11/25 11:29		NF/IZ	OK
12	LB134705BLW	LB134705BLW	MB	02/11/25 11:50		NF/IZ	OK
13	LB134705BSW	LB134705BSW	LCS	02/11/25 12:12		NF/IZ	OK
14	Q1355-01	RW1	SAM	02/11/25 14:49	So4 high	NF/IZ	Dilution
15	Q1355-01MS	RW1MS	MS	02/11/25 15:10	Water - 9.5ml of sample, 0.5mL W3092	NF/IZ	OK
16	Q1355-01MSD	RW1MSD	MSD	02/11/25 15:32	Water - 9.5ml of sample, 0.5mL W3092	NF/IZ	OK
17	Q1355-01DL	RW1DL	SAM	02/11/25 15:54	5X for So4	NF/IZ	Confirms
18	CCV2	CCV2	CCV	02/11/25 16:15		NF/IZ	OK

Instrument ID: IC-2

Daily Analysis Runlog For Sequence/QC Batch ID # LB134705

Review By	Niha	Review On	2/14/2025 9:39:38 AM
Supervise By	Iwona	Supervise On	2/14/2025 1:05:32 PM
SubDirectory	LB134705	Test	Anions
STD. NAME	STD REF.#		
ICAL Standard	WP111484,WP111485,WP111486,WP111487,WP111488,WP111489,WP111490		
ICV Standard	WP111491		
CCV Standard	WP111887		
ICSA Standard	N/A		
CRI Standard	N/A		
LCS Standard	WP111888		
Chk Standard	WP111492,WP111493		

19	CCB2	CCB2	CCB	02/11/25 16:37		NF/IZ	OK
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Prep Standard - Chemical Standard Summary

Order ID : Q1355

Test : Anions Group1

Prepbatch ID :

Sequence ID/Qc Batch ID: LB134705,

Standard ID :

WP110259,WP111484,WP111485,WP111486,WP111487,WP111488,WP111489,WP111490,WP111491,WP111492,WP111493,WP111887,WP111888,

Chemical ID :

M6041,W2647,W3058,W3062,W3063,W3112,



<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 (WCS-5)	None	Jignesh Parikh 10/17/2024
<u>FROM</u> 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	WP111484	01/20/2025	01/21/2025	Niha Farheen Shaik	None	None	Iwona Zarych 01/20/2025
<u>FROM</u> 100.00000ml of W3112 = Final Quantity: 10.000 ml								



<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
24	Anions 300/9056 calibration standard 2	WP111485	01/20/2025	01/21/2025	Niha Farheen Shaik	None	WETCHEM_PIPETTE_3	Iwona Zarych 01/20/2025
<u>FROM</u> 0.20000ml of W3063 + 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	WP111486	01/20/2025	01/21/2025	Niha Farheen Shaik	None	WETCHEM_PIPETTE_3	Iwona Zarych 01/20/2025
FROM 0.40000ml of W3063 + 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	WP111487	01/20/2025	01/21/2025	Niha Farheen Shaik	None	WETCHEM_FIPETTE_3 (WC)	Iwona Zarych 01/20/2025
FROM 0.50000ml of W3063 + 9.50000ml of W3112 = Final Quantity: 10.000 ml								

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
3680	Anions 300/9056 calibration standard 5-CCV	WP111488	01/20/2025	01/21/2025	Niha Farheen Shaik	None	Glass Pipette-A	Iwona Zarych 01/20/2025
FROM 45.00000ml of W3112 + 5.00000ml of W3063 = Final Quantity: 50.000 ml								

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

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

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
3681	Anions 300/9056 calibration standard 7	WP111490	01/20/2025	01/21/2025	Niha Farheen Shaik	None	Glass Pipette-A	Iwona Zarych 01/20/2025

FROM 2.50000ml of W3063 + 7.50000ml of W3112 = Final Quantity: 10.000 ml

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

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

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

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

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

FROM 5.60000ml of M6041 + 994.40000ml of W3112 = Final Quantity: 1000.000 ml

<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	WP111887	02/11/2025	02/12/2025	Niha Farheen Shaik	None	Glass Pipette-A	Iwona Zarych 02/14/2025

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

Wet Chemistry STANDARD PREPARATION LOG

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
3233	Anions 300/9056 ICV-LCS std	WP111888	02/11/2025	02/12/2025	Niha Farheen Shaik	None	Glass Pipette-A	Iwona Zarych 02/14/2025
FROM 45.00000ml of W3112 + 5.00000ml of W3062 = Final Quantity: 50.000 ml								

CHEMICAL RECEIPT LOG BOOK

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Seidler Chemical	BA-9673-33 / Sulfuric Acid, Instra-Analyzed (cs/6c2.5L)	23D2462010	03/20/2028	08/16/2024 / mohan	08/16/2024 / mohan	M6041

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

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

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

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 #
Seidler Chemical	DIW / DI Water	Daily Lab-Certified	07/03/2029	07/03/2024 / lwona	07/03/2024 / lwona	W3112

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

(sodium hydrogen carbonate)



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

Certificate of Analysis

Meets ACS Reagent Chemical Requirements,

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

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

Country of Origin: US
Packaging Site: Paris Mfg Ctr & DC

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

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

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U.S.A.

Form number: 00005624CA, Rev. 2.0

Certificate of Analysis

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F: 540-585-3012

info@inorganicventures.com

N 3062

rec on 10/30/23
12

1.0 ACCREDITATION / REGISTRATION

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



2.0 PRODUCT DESCRIPTION

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

3.0 CERTIFIED VALUES AND UNCERTAINTIES

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

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

Assay Information:

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

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

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

Characterization of CRM/RM by Two or More Methods

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

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

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

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

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

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

k = coverage factor = 2

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

u_{bb} = bottle to bottle homogeneity standard uncertainty

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

u_{ts} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

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

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

X_a = mean of Assay Method A with

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

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

k = coverage factor = 2

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

u_{bb} = bottle to bottle homogeneity standard uncertainty

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

u_{ts} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

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

4.1 Thermometer Calibration

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

4.2 Balance Calibration

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

4.3 Glassware Calibration

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

5.0 CHROMATOGRAM

N/A

6.0 INTENDED USE

- For the calibration of analytical instruments and validation of analytical methods as appropriate.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

- Store between approximately 4° - 30° C while in sealed TCT bag.

- While stored in the sealed TCT bag, transpiration of this CRM/RM is negligible. After opening the sealed TCT bag transpiration of the CRM/RM will occur, resulting in a gradual increase in the analyte concentration(s). It is the responsibility of the user to account for this effect. When the bottle is weighed both before and after being placed in storage, the mass difference observed will be a measure of transpiration mass loss.

- After opening the sealed TCT bag, keep cap tightly sealed when not in use and store between 4° - 24° C to minimize the effects of transpiration. Use at 20° ± 4° C to minimize volumetric dilution error when using the reported density. Do not pipette from the container. Do not return removed aliquots to container.

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

8.0 HAZARDOUS INFORMATION

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

9.0 HOMOGENEITY

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

10.0 QUALITY STANDARD DOCUMENTATION

10.1 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

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

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

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

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

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

11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

March 17, 2022

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

11.2 Lot Expiration Date

- **March 17, 2027**

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

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

11.3 Period of Validity

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

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Approved By:

Thomas Kozikowski
Manager, Quality Control



Certifying Officer:

Paul Gaines
Chairman / Senior Technical Director



Certificate of Analysis

300 Technology Drive
Christiansburg, VA 24073 USA
inorganicventures.com

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

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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™



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™**

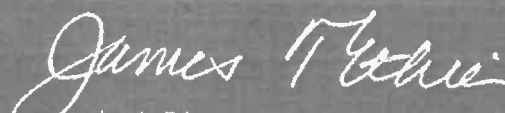


Material No.: 9673-33
Batch No.: 23D2462010

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



SHIPPING DOCUMENTS

CLIENT INFORMATION

REPORT TO BE SENT TO:
COMPANY: Geac Inc
ADDRESS: 8 CARRIAGE
CITY: Successville STATE: NJ ZIP: 07876
ATTENTION: GARY L
PHONE: _____ FAX: _____

CLIENT PROJECT INFORMATION

PROJECT NAME: Amsterdam
PROJECT NO.: _____ LOCATION: _____
PROJECT MANAGER: GL
e-mail: _____
PHONE: _____ FAX: _____

CLIENT BILLING INFORMATION

BILL TO: GenVironment PO#: _____
ADDRESS: 8 CARRIAGE
CITY: Successville STATE: NJ ZIP: 07876
ATTENTION: _____ PHONE: _____

ANALYSIS

DATA TURNAROUND INFORMATION

FAX (RUSH) _____ DAYS*
HARDCOPY (DATA PACKAGE): Standard 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 100% full pdf excel

TEL Volatiles
TAL Metals
Sulfate

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	B	E							
								1	2	3	4	5	6	7	8	9	
1.	<u>RW1</u>	<u>GW</u>		<u>X</u>	<u>2/11/25</u>	<u>1225</u>		<u>X</u>	<u>X</u>	<u>X</u>							
2.	<u>MW2</u>	<u>GW</u>		<u>X</u>	<u>2/11/25</u>	<u>1245</u>		<u>X</u>	<u>X</u>								
3.																	
4.																	
5.																	
6.																	
7.																	
8.																	
9.																	
10.																	

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

RELINQUISHED BY SAMPLER: _____ DATE/TIME: 1:33 RECEIVED BY: _____
1. [Signature] 2-11-25 [Signature] 2-11-25
RELINQUISHED BY SAMPLER: _____ DATE/TIME: _____ RECEIVED BY: _____
2. _____
RELINQUISHED BY SAMPLER: _____ DATE/TIME: _____ RECEIVED BY: _____
3. _____

Conditions of bottles or coolers at receipt: ☐ COMPLIANT ☐ NON COMPLIANT ☐ COOLER TEMP 4.6 °C

Comments: _____

Page _____ of _____ CLIENT: ☐ Hand Delivered ☐ Other

Shipment Complete
☐ YES ☐ NO



284 Sheffield Street, Mountainside NJ 07092 (908)-789-8900 Fax : 908 789 8922

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 : Q1355 GENV01

Order Date : 2/11/2025 1:38:32 PM

Project Mgr : Yazmeen

Client Name : G Environmental

Project Name : Amsterdam

Report Type : NJ Reduced

Client Contact : Gary Landis

Receive DateTime : 2/11/2025 1:35:00 PM

EDD Type : Excel NJ

Invoice Name : G Environmental

Purchase Order :

Hard Copy Date :

Invoice Contact : Gary Landis

Date Signoff : 2/11/2025 2:31:16 PM

LAB ID	CLIENT ID	MATRIX	SAMPLE DATE	SAMPLE TIME	TEST	TEST GROUP	METHOD	FAX DATE	DUE DATES
Q1355-01	RW1	Water	02/11/2025	12:25					
					VOCMS Group1		8260-Low	10 Bus. Days	
Q1355-02	MW2	Water	02/11/2025	12:45					
					VOCMS Group1		8260-Low	10 Bus. Days	

Relinquished By : 

Date / Time : 2/11/25 1440

Received By : 

Date / Time : 2/11/25 14:40

Storage Area : VOA Refridgerator Room