

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:	Q1061	OrderDate:	1/10/2025 9:58:27 AM
Client:	Dewberry Engineers Inc.	Project:	PennDOT - Onvo Travel Plaza #50040379
Contact:	Bill Pendexter	Location:	M11

LabID	ClientID	Matrix	Test	Method	Sample Date	Prep Date	Anal Date	Received
Q1061-01	MW-1	WATER			01/09/25 11:00			01/09/25
			Anions Group7	300.0			01/10/25 10:34	
			Phosphorus-Total	365.3		01/15/25	01/15/25 14:06	
			TDS	SM2540 C			01/10/25 12:30	
Q1061-01DL	MW-1DL	WATER			01/09/25 11:00			01/09/25
			Anions Group7	300.0			01/10/25 15:35	
Q1061-02	MW-2	WATER			01/09/25 11:20			01/09/25
			Anions Group7	300.0			01/10/25 11:38	
			Phosphorus-Total	365.3		01/15/25	01/15/25 14:08	
			TDS	SM2540 C			01/10/25 12:30	
Q1061-02DL	MW-2DL	WATER			01/09/25 11:20			01/09/25
			Anions Group7	300.0			01/10/25 15:56	
Q1061-03	MW-3	WATER			01/09/25 11:41			01/09/25
			Anions Group7	300.0			01/10/25 12:00	

LAB CHRONICLE

			Phosphorus-Total	365.3		01/15/25	01/15/25 14:09	
			TDS	SM2540 C			01/10/25 12:30	
Q1061-03DL	MW-3DL	WATER			01/09/25 11:41			01/09/25
			Anions Group7	300.0			01/10/25 16:18	
Q1061-04	MW-4	WATER			01/09/25 12:02			01/09/25
			Anions Group7	300.0			01/10/25 12:21	
			Phosphorus-Total	365.3		01/15/25	01/15/25 14:09	
			TDS	SM2540 C			01/10/25 12:30	
Q1061-04DL	MW-4DL	WATER			01/09/25 12:02			01/09/25
			Anions Group7	300.0			01/10/25 16:39	
Q1061-05	MW-5	WATER			01/09/25 12:26			01/09/25
			Anions Group7	300.0			01/10/25 12:43	
			Phosphorus-Total	365.3		01/15/25	01/15/25 14:10	
			TDS	SM2540 C			01/10/25 12:30	
Q1061-05DL	MW-5DL	WATER			01/09/25 12:26			01/09/25
			Anions Group7	300.0			01/10/25 17:01	
			Phosphorus-Total	365.3		01/15/25	01/15/25 14:14	
Q1061-05DL 2	MW-5DL2	WATER			01/09/25 12:26			01/09/25

LAB CHRONICLE

Q1061-06	MW-6	WATER	Anions Group7	300.0		01/10/25 17:22	01/09/25
					01/09/25 12:52		
			Anions Group7	300.0		01/10/25 13:05	
			Phosphorus-Total	365.3	01/15/25	01/15/25 14:11	
Q1061-06DL	MW-6DL	WATER	TDS	SM2540 C		01/10/25 12:30	01/09/25
					01/09/25 12:52		
			Anions Group7	300.0		01/10/25 18:27	
					01/09/25 13:42		
Q1061-07	MW-7	WATER	Anions Group7	300.0		01/10/25 14:09	01/09/25
			Phosphorus-Total	365.3	01/15/25	01/15/25 14:12	
			TDS	SM2540 C		01/10/25 12:30	
					01/09/25 13:42		
Q1061-07DL	MW-7DL	WATER	Anions Group7	300.0		01/10/25 18:48	01/09/25
					01/09/25 13:42		
			Anions Group7	300.0		01/10/25 19:09	
					01/09/25 13:14		
Q1061-07DL 2	MW-7DL2	WATER	Anions Group7	300.0		01/10/25 14:30	01/09/25
			Phosphorus-Total	365.3	01/15/25	01/15/25 14:12	
Q1061-08	MW-8	WATER					01/09/25
			Anions Group7	300.0		01/10/25 14:30	
			Phosphorus-Total	365.3	01/15/25	01/15/25 14:12	

LAB CHRONICLE

TDS

SM2540 C

01/10/25
12:30

Q1061-08DL

MW-8DL

WATER

**01/09/25
13:14**

01/09/25

Anions Group7

300.0

01/10/25
19:31

**Q1061-08DL
2**

MW-8DL2

WATER

**01/09/25
13:14**

01/09/25

Anions Group7

300.0

01/10/25
19:53

Q1061-09

MW-9

WATER

**01/09/25
14:06**

01/09/25

Anions Group7

300.0

01/10/25
14:52

Phosphorus-Total

365.3

01/15/25

01/15/25
14:13

TDS

SM2540 C

01/10/25
12:30

Q1061-09DL

MW-9DL

WATER

**01/09/25
14:06**

01/09/25

Anions Group7

300.0

01/10/25
20:14

**Q1061-09DL
2**

MW-9DL2

WATER

**01/09/25
14:06**

01/09/25

Anions Group7

300.0

01/10/25
20:36

Q1061-10

MW-10

WATER

**01/09/25
14:20**

01/09/25

Anions Group7

300.0

01/10/25
15:13

Phosphorus-Total

365.3

01/15/25

01/15/25
14:13

TDS

SM2540 C

01/10/25
12:30

Q1061-10DL

MW-10DL

WATER

**01/09/25
14:20**

01/09/25

LAB CHRONICLE

Anions Group7	300.0		01/10/25 20:57
Phosphorus-Total	365.3	01/15/25	01/15/25 14:15

**Q1061-10DL
2**

MW-10DL2

WATER

**01/09/25
14:20**

01/09/25

Anions Group7	300.0		01/10/25 22:02
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SAMPLE DATA

Report of Analysis

Client:	Dewberry Engineers Inc.	Date Collected:	01/09/25 11:00
Project:	PennDOT - Onvo Travel Plaza #50040379	Date Received:	01/09/25
Client Sample ID:	MW-1	SDG No.:	Q1061
Lab Sample ID:	Q1061-01	Matrix:	WATER
		% Solid:	0

Parameter	Conc.	Qua.	DF	MDL	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
Chloride	32.4	OR	1	0.011	0.60	mg/L		01/10/25 10:34	300.0
Nitrite	0.011	U	1	0.011	0.60	mg/L		01/10/25 10:34	300.0
Nitrate	0.0034	U	1	0.0034	0.50	mg/L		01/10/25 10:34	300.0
Sulfate	10.1		1	0.032	3.00	mg/L		01/10/25 10:34	300.0
Phosphorus, Total	0.26		1	0.0050	0.050	mg/L	01/15/25 11:45	01/15/25 14:06	365.3
TDS	251		1	1.00	10.0	mg/L		01/10/25 12:30	SM 2540 C-15

Comments: _____

U = Not Detected
 LOQ = Limit of Quantitation
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 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:	Dewberry Engineers Inc.	Date Collected:	01/09/25 11:00
Project:	PennDOT - Onvo Travel Plaza #50040379	Date Received:	01/09/25
Client Sample ID:	MW-1DL	SDG No.:	Q1061
Lab Sample ID:	Q1061-01DL	Matrix:	WATER
		% Solid:	0

Parameter	Conc.	Qua.	DF	MDL	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
Chloride	27.7	D	10	0.11	6.00	mg/L		01/10/25 15:35	300.0

Comments: _____

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J = Estimated Value

B = Analyte Found in Associated Method Blank

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OR = Over Range

N =Spiked sample recovery not within control limits

Report of Analysis

Client:	Dewberry Engineers Inc.	Date Collected:	01/09/25 11:20
Project:	PennDOT - Onvo Travel Plaza #50040379	Date Received:	01/09/25
Client Sample ID:	MW-2	SDG No.:	Q1061
Lab Sample ID:	Q1061-02	Matrix:	WATER
		% Solid:	0

Parameter	Conc.	Qua.	DF	MDL	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
Chloride	43.9	OR	1	0.011	0.60	mg/L		01/10/25 11:38	300.0
Nitrite	0.011	U	1	0.011	0.60	mg/L		01/10/25 11:38	300.0
Nitrate	0.0034	U	1	0.0034	0.50	mg/L		01/10/25 11:38	300.0
Sulfate	9.80		1	0.032	3.00	mg/L		01/10/25 11:38	300.0
Phosphorus, Total	0.28		1	0.0050	0.050	mg/L	01/15/25 11:45	01/15/25 14:08	365.3
TDS	187		1	1.00	10.0	mg/L		01/10/25 12:30	SM 2540 C-15

Comments:

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 H = Sample Analysis Out Of Hold Time

J = Estimated Value
 B = Analyte Found in Associated Method Blank
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 OR = Over Range
 N = Spiked sample recovery not within control limits

Report of Analysis

Client:	Dewberry Engineers Inc.	Date Collected:	01/09/25 11:20
Project:	PennDOT - Onvo Travel Plaza #50040379	Date Received:	01/09/25
Client Sample ID:	MW-2DL	SDG No.:	Q1061
Lab Sample ID:	Q1061-02DL	Matrix:	WATER
		% Solid:	0

Parameter	Conc.	Qua.	DF	MDL	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
Chloride	38.2	D	10	0.11	6.00	mg/L		01/10/25 15:56	300.0

Comments: _____

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LOD = Limit of Detection

D = Dilution

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H = Sample Analysis Out Of Hold Time

J = Estimated Value

B = Analyte Found in Associated Method Blank

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OR = Over Range

N = Spiked sample recovery not within control limits

Report of Analysis

Client:	Dewberry Engineers Inc.	Date Collected:	01/09/25 11:41
Project:	PennDOT - Onvo Travel Plaza #50040379	Date Received:	01/09/25
Client Sample ID:	MW-3	SDG No.:	Q1061
Lab Sample ID:	Q1061-03	Matrix:	WATER
		% Solid:	0

Parameter	Conc.	Qua.	DF	MDL	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
Chloride	159	OR	1	0.011	0.60	mg/L		01/10/25 12:00	300.0
Nitrite	0.011	U	1	0.011	0.60	mg/L		01/10/25 12:00	300.0
Nitrate	0.0034	U	1	0.0034	0.50	mg/L		01/10/25 12:00	300.0
Sulfate	16.9		1	0.032	3.00	mg/L		01/10/25 12:00	300.0
Phosphorus, Total	0.24		1	0.0050	0.050	mg/L	01/15/25 11:45	01/15/25 14:09	365.3
TDS	595		1	1.00	10.0	mg/L		01/10/25 12:30	SM 2540 C-15

Comments: _____

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LOD = Limit of Detection

D = Dilution

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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:	Dewberry Engineers Inc.	Date Collected:	01/09/25 11:41
Project:	PennDOT - Onvo Travel Plaza #50040379	Date Received:	01/09/25
Client Sample ID:	MW-3DL	SDG No.:	Q1061
Lab Sample ID:	Q1061-03DL	Matrix:	WATER
		% Solid:	0

Parameter	Conc.	Qua.	DF	MDL	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
Chloride	122	D	50	0.55	30.0	mg/L		01/10/25 16:18	300.0

Comments: _____

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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:	Dewberry Engineers Inc.	Date Collected:	01/09/25 12:02
Project:	PennDOT - Onvo Travel Plaza #50040379	Date Received:	01/09/25
Client Sample ID:	MW-4	SDG No.:	Q1061
Lab Sample ID:	Q1061-04	Matrix:	WATER
		% Solid:	0

Parameter	Conc.	Qua.	DF	MDL	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
Chloride	145	OR	1	0.011	0.60	mg/L		01/10/25 12:21	300.0
Nitrite	0.22	J	1	0.011	0.60	mg/L		01/10/25 12:21	300.0
Nitrate	0.21	J	1	0.0034	0.50	mg/L		01/10/25 12:21	300.0
Sulfate	22.3		1	0.032	3.00	mg/L		01/10/25 12:21	300.0
Phosphorus, Total	1.01		1	0.0050	0.050	mg/L	01/15/25 11:45	01/15/25 14:09	365.3
TDS	482		1	1.00	10.0	mg/L		01/10/25 12:30	SM 2540 C-15

Comments: _____

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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:	Dewberry Engineers Inc.	Date Collected:	01/09/25 12:02
Project:	PennDOT - Onvo Travel Plaza #50040379	Date Received:	01/09/25
Client Sample ID:	MW-4DL	SDG No.:	Q1061
Lab Sample ID:	Q1061-04DL	Matrix:	WATER
		% Solid:	0

Parameter	Conc.	Qua.	DF	MDL	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
Chloride	114	D	50	0.55	30.0	mg/L		01/10/25 16:39	300.0

Comments: _____

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J = Estimated Value

B = Analyte Found in Associated Method Blank

* = indicates the duplicate analysis is not within control limits.

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OR = Over Range

N = Spiked sample recovery not within control limits

Report of Analysis

Client:	Dewberry Engineers Inc.	Date Collected:	01/09/25 12:26
Project:	PennDOT - Onvo Travel Plaza #50040379	Date Received:	01/09/25
Client Sample ID:	MW-5	SDG No.:	Q1061
Lab Sample ID:	Q1061-05	Matrix:	WATER
		% Solid:	0

Parameter	Conc.	Qua.	DF	MDL	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
Chloride	335	OR	1	0.011	0.60	mg/L		01/10/25 12:43	300.0
Nitrite	0.33	J	1	0.011	0.60	mg/L		01/10/25 12:43	300.0
Nitrate	16.9	OR	1	0.0034	0.50	mg/L		01/10/25 12:43	300.0
Sulfate	46.5	OR	1	0.032	3.00	mg/L		01/10/25 12:43	300.0
Phosphorus, Total	2.06	OR	1	0.0050	0.050	mg/L	01/15/25 11:45	01/15/25 14:10	365.3
TDS	288		1	1.00	10.0	mg/L		01/10/25 12:30	SM 2540 C-15

Comments: _____

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H = Sample Analysis Out Of Hold Time

J = Estimated Value

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* = indicates the duplicate analysis is not within control limits.

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OR = Over Range

N =Spiked sample recovery not within control limits

Report of Analysis

Client:	Dewberry Engineers Inc.	Date Collected:	01/09/25 12:26
Project:	PennDOT - Onvo Travel Plaza #50040379	Date Received:	01/09/25
Client Sample ID:	MW-5DL	SDG No.:	Q1061
Lab Sample ID:	Q1061-05DL	Matrix:	WATER
		% Solid:	0

Parameter	Conc.	Qua.	DF	MDL	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
Chloride	277	OR	5	0.055	3.00	mg/L		01/10/25 17:01	300.0
Nitrate	16.0	D	5	0.017	2.50	mg/L		01/10/25 17:01	300.0
Sulfate	48.6	D	5	0.16	15.0	mg/L		01/10/25 17:01	300.0
Phosphorus, Total	5.66	D	20	0.094	1.00	mg/L	01/15/25 11:45	01/15/25 14:14	365.3

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Report of Analysis

Client:	Dewberry Engineers Inc.	Date Collected:	01/09/25 12:26
Project:	PennDOT - Onvo Travel Plaza #50040379	Date Received:	01/09/25
Client Sample ID:	MW-5DL2	SDG No.:	Q1061
Lab Sample ID:	Q1061-05DL2	Matrix:	WATER
		% Solid:	0

Parameter	Conc.	Qua.	DF	MDL	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
Chloride	234	D	100	1.10	60.0	mg/L		01/10/25 17:22	300.0

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Report of Analysis

Client:	Dewberry Engineers Inc.	Date Collected:	01/09/25 12:52
Project:	PennDOT - Onvo Travel Plaza #50040379	Date Received:	01/09/25
Client Sample ID:	MW-6	SDG No.:	Q1061
Lab Sample ID:	Q1061-06	Matrix:	WATER
		% Solid:	0

Parameter	Conc.	Qua.	DF	MDL	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
Chloride	146	OR	1	0.011	0.60	mg/L		01/10/25 13:05	300.0
Nitrite	0.26	J	1	0.011	0.60	mg/L		01/10/25 13:05	300.0
Nitrate	0.0034	U	1	0.0034	0.50	mg/L		01/10/25 13:05	300.0
Sulfate	31.5		1	0.032	3.00	mg/L		01/10/25 13:05	300.0
Phosphorus, Total	0.20		1	0.0050	0.050	mg/L	01/15/25 11:45	01/15/25 14:11	365.3
TDS	527		1	1.00	10.0	mg/L		01/10/25 12:30	SM 2540 C-15

Comments: _____

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Report of Analysis

Client:	Dewberry Engineers Inc.	Date Collected:	01/09/25 12:52
Project:	PennDOT - Onvo Travel Plaza #50040379	Date Received:	01/09/25
Client Sample ID:	MW-6DL	SDG No.:	Q1061
Lab Sample ID:	Q1061-06DL	Matrix:	WATER
		% Solid:	0

Parameter	Conc.	Qua.	DF	MDL	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
Chloride	112	D	50	0.55	30.0	mg/L		01/10/25 18:27	300.0

Comments:

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Report of Analysis

Client:	Dewberry Engineers Inc.	Date Collected:	01/09/25 13:42
Project:	PennDOT - Onvo Travel Plaza #50040379	Date Received:	01/09/25
Client Sample ID:	MW-7	SDG No.:	Q1061
Lab Sample ID:	Q1061-07	Matrix:	WATER
		% Solid:	0

Parameter	Conc.	Qua.	DF	MDL	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
Chloride	153	OR	1	0.011	0.60	mg/L		01/10/25 14:09	300.0
Nitrite	0.011	U	1	0.011	0.60	mg/L		01/10/25 14:09	300.0
Nitrate	0.0034	U	1	0.0034	0.50	mg/L		01/10/25 14:09	300.0
Sulfate	40.0	OR	1	0.032	3.00	mg/L		01/10/25 14:09	300.0
Phosphorus, Total	0.39		1	0.0050	0.050	mg/L	01/15/25 11:45	01/15/25 14:12	365.3
TDS	742		1	1.00	10.0	mg/L		01/10/25 12:30	SM 2540 C-15

Comments:

U = Not Detected
 LOQ = Limit of Quantitation
 MDL = Method Detection Limit
 LOD = Limit of Detection
 D = Dilution
 Q = indicates LCS control criteria did not meet requirements
 H = Sample Analysis Out Of Hold Time

J = Estimated Value
 B = Analyte Found in Associated Method Blank
 * = indicates the duplicate analysis is not within control limits.
 E = Indicates the reported value is estimated because of the presence of interference.
 OR = Over Range
 N = Spiked sample recovery not within control limits

Report of Analysis

Client:	Dewberry Engineers Inc.	Date Collected:	01/09/25 13:42
Project:	PennDOT - Onvo Travel Plaza #50040379	Date Received:	01/09/25
Client Sample ID:	MW-7DL	SDG No.:	Q1061
Lab Sample ID:	Q1061-07DL	Matrix:	WATER
		% Solid:	0

Parameter	Conc.	Qua.	DF	MDL	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
Chloride	140	OR	2	0.022	1.20	mg/L		01/10/25 18:48	300.0
Sulfate	39.9	D	2	0.064	6.00	mg/L		01/10/25 18:48	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

Report of Analysis

Client:	Dewberry Engineers Inc.	Date Collected:	01/09/25 13:42
Project:	PennDOT - Onvo Travel Plaza #50040379	Date Received:	01/09/25
Client Sample ID:	MW-7DL2	SDG No.:	Q1061
Lab Sample ID:	Q1061-07DL2	Matrix:	WATER
		% Solid:	0

Parameter	Conc.	Qua.	DF	MDL	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
Chloride	116	D	50	0.55	30.0	mg/L		01/10/25 19:09	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

Report of Analysis

Client:	Dewberry Engineers Inc.	Date Collected:	01/09/25 13:14
Project:	PennDOT - Onvo Travel Plaza #50040379	Date Received:	01/09/25
Client Sample ID:	MW-8	SDG No.:	Q1061
Lab Sample ID:	Q1061-08	Matrix:	WATER
		% Solid:	0

Parameter	Conc.	Qua.	DF	MDL	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
Chloride	131	OR	1	0.011	0.60	mg/L		01/10/25 14:30	300.0
Nitrite	0.30	J	1	0.011	0.60	mg/L		01/10/25 14:30	300.0
Nitrate	2.00		1	0.0034	0.50	mg/L		01/10/25 14:30	300.0
Sulfate	48.7	OR	1	0.032	3.00	mg/L		01/10/25 14:30	300.0
Phosphorus, Total	0.20		1	0.0050	0.050	mg/L	01/15/25 11:45	01/15/25 14:12	365.3
TDS	483		1	1.00	10.0	mg/L		01/10/25 12:30	SM 2540 C-15

Comments:

U = Not Detected

LOQ = Limit of Quantitation

MDL = Method Detection Limit

LOD = Limit of Detection

D = Dilution

Q = indicates LCS control criteria did not meet requirements

H = Sample Analysis Out Of Hold Time

J = Estimated Value

B = Analyte Found in Associated Method Blank

* = indicates the duplicate analysis is not within control limits.

E = Indicates the reported value is estimated because of the presence of interference.

OR = Over Range

N =Spiked sample recovery not within control limits

Report of Analysis

Client:	Dewberry Engineers Inc.	Date Collected:	01/09/25 13:14
Project:	PennDOT - Onvo Travel Plaza #50040379	Date Received:	01/09/25
Client Sample ID:	MW-8DL	SDG No.:	Q1061
Lab Sample ID:	Q1061-08DL	Matrix:	WATER
		% Solid:	0

Parameter	Conc.	Qua.	DF	MDL	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
Chloride	119	OR	2	0.022	1.20	mg/L		01/10/25 19:31	300.0
Sulfate	47.9	D	2	0.064	6.00	mg/L		01/10/25 19:31	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

Report of Analysis

Client:	Dewberry Engineers Inc.	Date Collected:	01/09/25 13:14
Project:	PennDOT - Onvo Travel Plaza #50040379	Date Received:	01/09/25
Client Sample ID:	MW-8DL2	SDG No.:	Q1061
Lab Sample ID:	Q1061-08DL2	Matrix:	WATER
		% Solid:	0

Parameter	Conc.	Qua.	DF	MDL	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
Chloride	103	D	50	0.55	30.0	mg/L		01/10/25 19:53	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

Report of Analysis

Client:	Dewberry Engineers Inc.	Date Collected:	01/09/25 14:06
Project:	PennDOT - Onvo Travel Plaza #50040379	Date Received:	01/09/25
Client Sample ID:	MW-9	SDG No.:	Q1061
Lab Sample ID:	Q1061-09	Matrix:	WATER
		% Solid:	0

Parameter	Conc.	Qua.	DF	MDL	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
Chloride	214	OR	1	0.011	0.60	mg/L		01/10/25 14:52	300.0
Nitrite	0.34	J	1	0.011	0.60	mg/L		01/10/25 14:52	300.0
Nitrate	0.0034	U	1	0.0034	0.50	mg/L		01/10/25 14:52	300.0
Sulfate	38.2	OR	1	0.032	3.00	mg/L		01/10/25 14:52	300.0
Phosphorus, Total	0.24		1	0.0050	0.050	mg/L	01/15/25 11:45	01/15/25 14:13	365.3
TDS	577		1	1.00	10.0	mg/L		01/10/25 12:30	SM 2540 C-15

Comments: _____

U = Not Detected
LOQ = Limit of Quantitation
MDL = Method Detection Limit
LOD = Limit of Detection
D = Dilution
Q = indicates LCS control criteria did not meet requirements
H = Sample Analysis Out Of Hold Time

J = Estimated Value
B = Analyte Found in Associated Method Blank
* = indicates the duplicate analysis is not within control limits.
E = Indicates the reported value is estimated because of the presence of interference.
OR = Over Range
N = Spiked sample recovery not within control limits

Report of Analysis

Client:	Dewberry Engineers Inc.	Date Collected:	01/09/25 14:06
Project:	PennDOT - Onvo Travel Plaza #50040379	Date Received:	01/09/25
Client Sample ID:	MW-9DL	SDG No.:	Q1061
Lab Sample ID:	Q1061-09DL	Matrix:	WATER
		% Solid:	0

Parameter	Conc.	Qua.	DF	MDL	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
Chloride	198	OR	2	0.022	1.20	mg/L		01/10/25 20:14	300.0
Sulfate	38.4	D	2	0.064	6.00	mg/L		01/10/25 20:14	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

Report of Analysis

Client:	Dewberry Engineers Inc.	Date Collected:	01/09/25 14:06
Project:	PennDOT - Onvo Travel Plaza #50040379	Date Received:	01/09/25
Client Sample ID:	MW-9DL2	SDG No.:	Q1061
Lab Sample ID:	Q1061-09DL2	Matrix:	WATER
		% Solid:	0

Parameter	Conc.	Qua.	DF	MDL	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
Chloride	155	D	50	0.55	30.0	mg/L		01/10/25 20:36	300.0

Comments: _____

U = Not Detected

LOQ = Limit of Quantitation

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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

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OR = Over Range

N =Spiked sample recovery not within control limits

Report of Analysis

Client:	Dewberry Engineers Inc.	Date Collected:	01/09/25 14:20
Project:	PennDOT - Onvo Travel Plaza #50040379	Date Received:	01/09/25
Client Sample ID:	MW-10	SDG No.:	Q1061
Lab Sample ID:	Q1061-10	Matrix:	WATER
		% Solid:	0

Parameter	Conc.	Qua.	DF	MDL	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
Chloride	232	OR	1	0.011	0.60	mg/L		01/10/25 15:13	300.0
Nitrite	0.30	J	1	0.011	0.60	mg/L		01/10/25 15:13	300.0
Nitrate	29.0	OR	1	0.0034	0.50	mg/L		01/10/25 15:13	300.0
Sulfate	49.3	OR	1	0.032	3.00	mg/L		01/10/25 15:13	300.0
Phosphorus, Total	1.31	OR	1	0.0050	0.050	mg/L	01/15/25 11:45	01/15/25 14:13	365.3
TDS	725		1	1.00	10.0	mg/L		01/10/25 12:30	SM 2540 C-15

Comments:

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 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:	Dewberry Engineers Inc.	Date Collected:	01/09/25 14:20
Project:	PennDOT - Onvo Travel Plaza #50040379	Date Received:	01/09/25
Client Sample ID:	MW-10DL	SDG No.:	Q1061
Lab Sample ID:	Q1061-10DL	Matrix:	WATER
		% Solid:	0

Parameter	Conc.	Qua.	DF	MDL	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
Chloride	186	OR	5	0.055	3.00	mg/L		01/10/25 20:57	300.0
Nitrate	25.5	D	5	0.017	2.50	mg/L		01/10/25 20:57	300.0
Sulfate	51.0	D	5	0.16	15.0	mg/L		01/10/25 20:57	300.0
Phosphorus, Total	2.56	D	5	0.024	0.25	mg/L	01/15/25 11:45	01/15/25 14:15	365.3

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:	Dewberry Engineers Inc.	Date Collected:	01/09/25 14:20
Project:	PennDOT - Onvo Travel Plaza #50040379	Date Received:	01/09/25
Client Sample ID:	MW-10DL2	SDG No.:	Q1061
Lab Sample ID:	Q1061-10DL2	Matrix:	WATER
		% Solid:	0

Parameter	Conc.	Qua.	DF	MDL	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
Chloride	167	D	50	0.55	30.0	mg/L		01/10/25 22:02	300.0

Comments: _____

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LOQ = Limit of Quantitation

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LOD = Limit of Detection

D = Dilution

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H = Sample Analysis Out Of Hold Time

J = Estimated Value

B = Analyte Found in Associated Method Blank

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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: Dewberry Engineers Inc.

SDG No.: Q1061

Project: PennDOT - Onvo Travel Plaza #50040379

RunNo.: LB134248

Analyte	Units	Result	True Value	% Recovery	Acceptance Window (%R)	Analysis Date
Sample ID: CCV1						
Bromide	mg/L	10.5	10	105	90-110	01/10/2025
Chloride	mg/L	3.1	3	103	90-110	01/10/2025
Fluoride	mg/L	2.1	2	105	90-110	01/10/2025
Nitrite	mg/L	3.1	3	103	90-110	01/10/2025
Nitrate	mg/L	2.6	2.5	104	90-110	01/10/2025
Sulfate	mg/L	15.9	15	106	90-110	01/10/2025
Orthophosphate as P	mg/L	5.5	5	110	90-110	01/10/2025
Sample ID: CCV2						
Bromide	mg/L	10.5	10	105	90-110	01/10/2025
Chloride	mg/L	3.1	3	103	90-110	01/10/2025
Fluoride	mg/L	2.1	2	105	90-110	01/10/2025
Nitrite	mg/L	3.1	3	103	90-110	01/10/2025
Nitrate	mg/L	2.6	2.5	104	90-110	01/10/2025
Sulfate	mg/L	15.6	15	104	90-110	01/10/2025
Orthophosphate as P	mg/L	5.4	5	108	90-110	01/10/2025
Sample ID: CCV3						
Bromide	mg/L	10.4	10	104	90-110	01/10/2025
Chloride	mg/L	3.1	3	103	90-110	01/10/2025
Fluoride	mg/L	2.1	2	105	90-110	01/10/2025
Nitrite	mg/L	3.1	3	103	90-110	01/10/2025
Nitrate	mg/L	2.6	2.5	104	90-110	01/10/2025
Sulfate	mg/L	15.4	15	103	90-110	01/10/2025
Orthophosphate as P	mg/L	5.4	5	108	90-110	01/10/2025
Sample ID: CCV4						
Bromide	mg/L	10.4	10	104	90-110	01/10/2025
Chloride	mg/L	3.1	3	103	90-110	01/10/2025
Fluoride	mg/L	2.1	2	105	90-110	01/10/2025
Nitrite	mg/L	3.1	3	103	90-110	01/10/2025
Nitrate	mg/L	2.6	2.5	104	90-110	01/10/2025
Sulfate	mg/L	15.5	15	103	90-110	01/10/2025
Orthophosphate as P	mg/L	5.5	5	110	90-110	01/10/2025
Sample ID: ICV1						
Bromide	mg/L	10.3	10	103	90-110	12/18/2024
Chloride	mg/L	3.1	3	103	90-110	12/18/2024
Fluoride	mg/L	2	2	100	90-110	12/18/2024
Nitrite	mg/L	3.1	3	103	90-110	12/18/2024
Nitrate	mg/L	2.6	2.5	104	90-110	12/18/2024
Sulfate	mg/L	15.3	15	102	90-110	12/18/2024

Initial and Continuing Calibration Verification

Client: Dewberry Engineers Inc.

SDG No.: Q1061

Project: PennDOT - Onvo Travel Plaza #50040379

RunNo.: LB134248

Analyte	Units	Result	True Value	% Recovery	Acceptance Window (%R)	Analysis Date
Orthophosphate as P	mg/L	5.1	5	102	90-110	12/18/2024

Initial and Continuing Calibration Verification

Client: Dewberry Engineers Inc.

SDG No.: Q1061

Project: PennDOT - Onvo Travel Plaza #50040379

RunNo.: LB134293

Analyte	Units	Result	True Value	% Recovery	Acceptance Window (%R)	Analysis Date
Sample ID: ICV Phosphorus, Total	mg/L	0.482	0.50	96	90-110	01/15/2025
Sample ID: CCV1 Phosphorus, Total	mg/L	0.488	0.50	98	90-110	01/15/2025
Sample ID: CCV2 Phosphorus, Total	mg/L	0.482	0.50	96	90-110	01/15/2025
Sample ID: CCV3 Phosphorus, Total	mg/L	0.488	0.50	98	90-110	01/15/2025

Initial and Continuing Calibration Blank Summary

Client: Dewberry Engineers Inc.

SDG No.: Q1061

Project: PennDOT - Onvo Travel Plaza #50040379

RunNo.: LB134248

Analyte	Units	Result	Acceptance Limits	Conc Qual	MDL	RDL	Analysis Date
Sample ID: CCB1							
Bromide	mg/L	< 1.0000	1.0000	U	0.034	2	01/10/2025
Chloride	mg/L	< 0.3000	0.3000	U	0.011	0.6	01/10/2025
Fluoride	mg/L	< 0.2000	0.2000	U	0.057	0.4	01/10/2025
Nitrite	mg/L	< 0.3000	0.3000	U	0.011	0.6	01/10/2025
Nitrate	mg/L	< 0.2500	0.2500	U	0.0034	0.5	01/10/2025
Sulfate	mg/L	< 1.5000	1.5000	U	0.032	3	01/10/2025
Orthophosphate as P	mg/L	< 0.5000	0.5000	U	0.079	1	01/10/2025
Sample ID: CCB2							
Bromide	mg/L	< 1.0000	1.0000	U	0.034	2	01/10/2025
Chloride	mg/L	< 0.3000	0.3000	U	0.011	0.6	01/10/2025
Fluoride	mg/L	< 0.2000	0.2000	U	0.057	0.4	01/10/2025
Nitrite	mg/L	< 0.3000	0.3000	U	0.011	0.6	01/10/2025
Nitrate	mg/L	< 0.2500	0.2500	U	0.0034	0.5	01/10/2025
Sulfate	mg/L	< 1.5000	1.5000	U	0.032	3	01/10/2025
Orthophosphate as P	mg/L	< 0.5000	0.5000	U	0.079	1	01/10/2025
Sample ID: CCB3							
Bromide	mg/L	< 1.0000	1.0000	U	0.034	2	01/10/2025
Chloride	mg/L	< 0.3000	0.3000	U	0.011	0.6	01/10/2025
Fluoride	mg/L	< 0.2000	0.2000	U	0.057	0.4	01/10/2025
Nitrite	mg/L	< 0.3000	0.3000	U	0.011	0.6	01/10/2025
Nitrate	mg/L	< 0.2500	0.2500	U	0.0034	0.5	01/10/2025
Sulfate	mg/L	< 1.5000	1.5000	U	0.032	3	01/10/2025
Orthophosphate as P	mg/L	< 0.5000	0.5000	U	0.079	1	01/10/2025
Sample ID: CCB4							
Bromide	mg/L	< 1.0000	1.0000	U	0.034	2	01/10/2025
Chloride	mg/L	< 0.3000	0.3000	U	0.011	0.6	01/10/2025
Fluoride	mg/L	< 0.2000	0.2000	U	0.057	0.4	01/10/2025
Nitrite	mg/L	< 0.3000	0.3000	U	0.011	0.6	01/10/2025
Nitrate	mg/L	< 0.2500	0.2500	U	0.0034	0.5	01/10/2025
Sulfate	mg/L	< 1.5000	1.5000	U	0.032	3	01/10/2025
Orthophosphate as P	mg/L	< 0.5000	0.5000	U	0.079	1	01/10/2025
Sample ID: ICB1							
Bromide	mg/L	< 1.0000	1.0000	U	0.034	2	12/18/2024
Chloride	mg/L	< 0.3000	0.3000	U	0.011	0.6	12/18/2024
Fluoride	mg/L	< 0.2000	0.2000	U	0.057	0.4	12/18/2024
Nitrite	mg/L	< 0.3000	0.3000	U	0.011	0.6	12/18/2024
Nitrate	mg/L	< 0.2500	0.2500	U	0.0034	0.5	12/18/2024
Sulfate	mg/L	< 1.5000	1.5000	U	0.032	3	12/18/2024
Orthophosphate as P	mg/L	< 0.5000	0.5000	U	0.079	1	12/18/2024

Initial and Continuing Calibration Blank Summary

Client: Dewberry Engineers Inc.

SDG No.: Q1061

Project: PennDOT - Onvo Travel Plaza #50040379

RunNo.: LB134293

Analyte	Units	Result	Acceptance Limits	Conc Qual	MDL	RDL	Analysis Date
Sample ID: ICB Phosphorus, Total	mg/L	0.011	0.0250	J	0.0047	0.05	01/15/2025
Sample ID: CCB1 Phosphorus, Total	mg/L	0.011	0.0250	J	0.0047	0.05	01/15/2025
Sample ID: CCB2 Phosphorus, Total	mg/L	0.011	0.0250	J	0.0047	0.05	01/15/2025
Sample ID: CCB3 Phosphorus, Total	mg/L	0.011	0.0250	J	0.0047	0.05	01/15/2025

Preparation Blank Summary

Client: Dewberry Engineers Inc.

SDG No.: Q1061

Project: PennDOT - Onvo Travel Plaza #50040379

Analyte	Units	Result	Acceptance Limits	Conc Qual	MDL	RDL	Analysis Date
Sample ID:	LB134233BL						
TDS	mg/L	1	5.0000	J	1.0	10	01/10/2025
Sample ID:	LB134248BLW						
Bromide	mg/L	< 1.0000	1.0000	U	0.034	2	01/10/2025
Chloride	mg/L	< 0.3000	0.3000	U	0.011	0.6	01/10/2025
Fluoride	mg/L	< 0.2000	0.2000	U	0.057	0.4	01/10/2025
Nitrite	mg/L	< 0.3000	0.3000	U	0.011	0.6	01/10/2025
Nitrate	mg/L	< 0.2500	0.2500	U	0.0034	0.5	01/10/2025
Sulfate	mg/L	< 1.5000	1.5000	U	0.032	3	01/10/2025
Orthophosphate as P	mg/L	< 0.5000	0.5000	U	0.079	1	01/10/2025
Sample ID:	PB166041BL						
Phosphorus, Total	mg/L	0.011	0.0250	J	0.005	0.05	01/15/2025

Matrix Spike Summary

Client:	Dewberry Engineers Inc.	SDG No.:	Q1061
Project:	PennDOT - Onvo Travel Plaza #50040379	Sample ID:	Q1061-01
Client ID:	MW-1MS	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		0.034	U	10	1	101		01/10/2025
Phosphorus, Total	mg/L	90-110	0.73		0.26		0.5	1	94		01/15/2025
Chloride	mg/L	80-120	32.1	OR	32.4	OR	3	1	-10	*	01/10/2025
Fluoride	mg/L	80-120	2.20		0.057	U	2	1	110		01/10/2025
Nitrite	mg/L	80-120	3.00		0.011	U	3	1	100		01/10/2025
Nitrate	mg/L	80-120	2.50		0.0034	U	2.5	1	100		01/10/2025
Sulfate	mg/L	80-120	24.2		10.1		15	1	94		01/10/2025
Orthophosphate as P	mg/L	80-120	4.90		0.079	U	5	1	98		01/10/2025

Matrix Spike Summary

Client:	Dewberry Engineers Inc.	SDG No.:	Q1061
Project:	PennDOT - Onvo Travel Plaza #50040379	Sample ID:	Q1061-01
Client ID:	MW-1MSD	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		0.034	U	10	1	100		01/10/2025
Phosphorus, Total	mg/L	90-110	0.72		0.26		0.5	1	93		01/15/2025
Chloride	mg/L	80-120	32.1	OR	32.4	OR	3	1	-10	*	01/10/2025
Fluoride	mg/L	80-120	2.20		0.057	U	2	1	110		01/10/2025
Nitrite	mg/L	80-120	3.00		0.011	U	3	1	100		01/10/2025
Nitrate	mg/L	80-120	2.50		0.0034	U	2.5	1	100		01/10/2025
Sulfate	mg/L	80-120	24.0		10.1		15	1	93		01/10/2025
Orthophosphate as P	mg/L	80-120	4.70		0.079	U	5	1	94		01/10/2025

Duplicate Sample Summary

Client:	Dewberry Engineers Inc.	SDG No.:	Q1061
Project:	PennDOT - Onvo Travel Plaza #50040379	Sample ID:	Q1061-01
Client ID:	MW-1DUP	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
Phosphorus, Total	mg/L	+/-20	0.26		0.26		1	0.39		01/15/2025

Duplicate Sample Summary

Client: Dewberry Engineers Inc.	SDG No.: Q1061
Project: PennDOT - Onvo Travel Plaza #50040379	Sample ID: Q1061-01
Client ID: MW-1MSD	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	2.20		2.20		1	0		01/10/2025
Nitrate	mg/L	+/-20	2.50		2.50		1	0		01/10/2025
Nitrite	mg/L	+/-20	3.00		3.00		1	0		01/10/2025
Chloride	mg/L	+/-20	32.1	OR	32.1	OR	1	0		01/10/2025
Bromide	mg/L	+/-20	10.1		10.0		1	1		01/10/2025
Sulfate	mg/L	+/-20	24.2		24.0		1	1		01/10/2025
Orthophosphate as P	mg/L	+/-20	4.90		4.70		1	4		01/10/2025
Phosphorus, Total	mg/L	+/-20	0.73		0.72		1	0.41		01/15/2025

Duplicate Sample Summary

Client: Dewberry Engineers Inc.	SDG No.: Q1061
Project: PennDOT - Onvo Travel Plaza #50040379	Sample ID: Q1070-01
Client ID: 1 EFFLUENT COMPOSITEDUP	Percent Solids for Spike Sample: 0

Analyte	Units	Acceptance Limit	Sample Result	Conc. Qualifier	Duplicate Result	Conc. Qualifier	Dilution Factor	RPD/ AD	Qual	Analysis Date
TDS	mg/L	+/-5	4120		4210		1	2.19		01/10/2025

Laboratory Control Sample Summary

Client: Dewberry Engineers Inc.

SDG No.: Q1061

Project: PennDOT - Onvo Travel Plaza #50040379

Run No.: LB134233

Analyte	Units	True Value	Result	Conc. Qualifier	% Recovery	Dilution Factor	Acceptance Limit %R	Analysis Date
Sample ID	LB134233BS							
TDS	mg/L	100	95.0		95	1	90-110	01/10/2025

Laboratory Control Sample Summary

Client: Dewberry Engineers Inc.

SDG No.: Q1061

Project: PennDOT - Onvo Travel Plaza #50040379

Run No.: LB134248

Analyte	Units	True Value	Result	Conc. Qualifier	% Recovery	Dilution Factor	Acceptance Limit %R	Analysis Date
Sample ID	LB134248BSW							
Bromide	mg/L	10	10.2		102	1	90-110	01/10/2025
Chloride	mg/L	3	3.00		100	1	90-110	01/10/2025
Fluoride	mg/L	2	2.00		100	1	90-110	01/10/2025
Nitrite	mg/L	3	3.00		100	1	90-110	01/10/2025
Nitrate	mg/L	2.5	2.60		104	1	90-110	01/10/2025
Sulfate	mg/L	15	15.5		103	1	90-110	01/10/2025
Orthophosphate as P	mg/L	5	5.30		106	1	90-110	01/10/2025

Laboratory Control Sample Summary

Client: Dewberry Engineers Inc.

SDG No.: Q1061

Project: PennDOT - Onvo Travel Plaza #50040379

Run No.: LB134293

Analyte	Units	True Value	Result	Conc. Qualifier	% Recovery	Dilution Factor	Acceptance Limit %R	Analysis Date
Sample ID	PB166041BS							
Phosphorus, Total	mg/L	0.50	0.48		96	1	90-110	01/15/2025



RAW DATA

TOTAL Dissolved Solids - SM2540C

Run Number: LB134233

SUPERVISOR: Iwona

ANALYST: jignesh

Date: 01/11/2025

BalanceID: WC SC-5

Filter ID: 50223706

EMPTY DISH				EMPTY DISH				OvenID:	WC OVEN-1	Thermo ID:	WET OVNE#1
TEMP IN:	103 °C	01/10/2025	11:00	TEMP OUT:	103 °C	01/10/2025	12:00				
TEMP1 IN:	104 °C	01/10/2025	12:30	TEMP1 OUT:	104 °C	01/10/2025	13:30	OvenID1:	WC OVEN-1	Thermo ID1:	WET OVEN#1
TEMP2 IN:	104 °C	01/10/2025	17:00	TEMP2 OUT:	103 °C	01/11/2025	08:00	OvenID2:	WC OVEN-2	Thermo ID2:	WET OVEN#2
TEMP3 IN:	180 °C	01/11/2025	08:30	TEMP3 OUT:	180 °C	01/11/2025	10:00	OvenID3:	WC OVEN#2	Thermo ID3:	WET OVEN#2

Dish #	Lab ID	Client ID	Empty Dish Weight (g)	Final Empty Dish Weight (g)	Sample Volume (ml)	1st Empty Dish+Sample weight after 1.5hr drying @180(±2) °C (g)	2nd Empty Dish+Sample weight after 1.5hr drying @180(±2) °C (g)	Final Empty Dish+Sample weight after 1.5hr drying @180(±2) °C (g)	Weight (g)	Result mg/L
1	LB134233BL	LB134233BL	89.6743	89.6743	100	89.6744	89.6744	89.6744	0.0001	1
2	LB134233BS	LB134233BS	105.2369	105.2369	100	105.2464	105.2464	105.2464	0.0095	95
3	Q1061-01	MW-1	106.1377	106.1377	100	106.1628	106.1628	106.1628	0.0251	251
4	Q1061-02	MW-2	91.0478	91.0478	100	91.0665	91.0665	91.0665	0.0187	187
5	Q1061-03	MW-3	110.2130	110.2130	100	110.2725	110.2725	110.2725	0.0595	595
6	Q1061-04	MW-4	157.5335	157.5335	100	157.5817	157.5817	157.5817	0.0482	482
7	Q1061-05	MW-5	147.5020	147.5020	100	147.5308	147.5308	147.5308	0.0288	288
8	Q1061-06	MW-6	142.7669	142.7669	100	142.8196	142.8196	142.8196	0.0527	527
9	Q1061-07	MW-7	152.1679	152.1679	100	152.2421	152.2421	152.2421	0.0742	742
10	Q1061-08	MW-8	151.2297	151.2297	100	151.2780	151.2780	151.2780	0.0483	483
11	Q1061-09	MW-9	152.7686	152.7686	100	152.8263	152.8263	152.8263	0.0577	577
12	Q1061-10	MW-10	143.6054	143.6054	100	143.6779	143.6779	143.6779	0.0725	725
13	Q1070-01	1 EFFLUENT COMPOSITE	156.5626	156.5626	100	156.9742	156.9742	156.9742	0.4116	4116
14	Q1070-01DUP	1 EFFLUENT COMPOSITEDUP	80.5237	80.5237	100	80.9444	80.9444	80.9444	0.4207	4207

A = Sample Volume (ml)

B = Empty Dish Weight (g)

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

D = Weight (g)

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

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

WORKLIST(Hardcopy Internal Chain)

134233

WorkList Name : tds q1061

WorkList ID : 186873

Department : Wet-Chemistry

Date : 01-10-2025 15:00:01

Sample	Customer Sample	Matrix	Test	Preservative	Customer	Raw Sample Storage Location	Collect Date	Method
Q1061-01	C MW-1	Water	TDS	Cool 4 deg C	DEWB01	M11	01/09/2025	SM2540 C
Q1061-02	C MW-2	Water	TDS	Cool 4 deg C	DEWB01	M11	01/09/2025	SM2540 C
Q1061-03	C MW-3	Water	TDS	Cool 4 deg C	DEWB01	M11	01/09/2025	SM2540 C
Q1061-04	C MW-4	Water	TDS	Cool 4 deg C	DEWB01	M11	01/09/2025	SM2540 C
Q1061-05	C MW-5	Water	TDS	Cool 4 deg C	DEWB01	M11	01/09/2025	SM2540 C
Q1061-06	C MW-6	Water	TDS	Cool 4 deg C	DEWB01	M11	01/09/2025	SM2540 C
Q1061-07	C MW-7	Water	TDS	Cool 4 deg C	DEWB01	M11	01/09/2025	SM2540 C
Q1061-08	C MW-8	Water	TDS	Cool 4 deg C	DEWB01	M11	01/09/2025	SM2540 C
Q1061-09	C MW-9	Water	TDS	Cool 4 deg C	DEWB01	M11	01/09/2025	SM2540 C
Q1061-10	C MW-10	Water	TDS	Cool 4 deg C	DEWB01	M11	01/09/2025	SM2540 C
Q1070-01	C 1 EFFLUENT COMPOSITE	Water	TDS	Cool 4 deg C	M&MM01	M11	01/10/2025	SM2540 C

Date/Time 01-10-25 15:10

Raw Sample Received by: [Signature]

Raw Sample Relinquished by: [Signature]

Date/Time 01-10-25

Raw Sample Received by: [Signature]

Raw Sample Relinquished by: [Signature]

Instrument II		IC-1	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	IC1-121824	12/18/2024 10:39	10	NF/IZ
STD2	0.319	0.475	0.485	1.586	0.405	0.794	2.525	IC1-121824	12/18/2024 11:00	10	NF/IZ
STD3	0.867	1.29	1.286	4.307	1.073	2.153	6.454	IC1-121824	12/18/2024 11:22	10	NF/IZ
STD4	1.065	1.59	1.587	5.29	1.327	2.68	7.947	IC1-121824	12/18/2024 11:43	10	NF/IZ
STD5	1.968	2.98	2.975	9.935	2.472	4.928	14.761	IC1-121824	12/18/2024 12:04	10	NF/IZ
STD6	3.929	5.897	5.891	19.654	4.906	9.805	29.16	IC1-121824	12/18/2024 12:26	10	NF/IZ
STD7	5.052	7.568	7.575	25.229	6.317	12.641	37.652	IC1-121824	12/18/2024 12:47	10	NF/IZ
ICV	2.021	3.088	3.087	10.28	2.565	5.117	15.271	IC1-121824	12/18/2024 13:09	10	NF/IZ
ICB	0	0	0	0	0	0	0	IC1-121824	12/18/2024 13:30	10	NF/IZ
CCV	2.109	3.132	3.123	10.484	2.607	5.455	15.917	IC1-121824	1/10/2025 9:08	10	NF/IZ
CCB	0	0	0	0	0	0	0	IC1-121824	1/10/2025 9:29	10	NF/IZ
LB134248BLW	0	0	0	0	0	0	0	IC1-121824	1/10/2025 9:51	10	NF/IZ
LB134248BSW	1.996	2.976	2.956	10.163	2.577	5.345	15.501	IC1-121824	1/10/2025 10:12	10	NF/IZ
Q1061-01	0	32.397	0	0	0	0	10.142	IC1-121824	1/10/2025 10:34	10	NF/IZ
Q1061-01MS	2.191	32.055	2.995	10.069	2.502	4.868	24.159	IC1-121824	1/10/2025 10:55	10	NF/IZ
Q1061-01MSD	2.181	32.088	2.968	10.008	2.481	4.676	24.024	IC1-121824	1/10/2025 11:17	10	NF/IZ
Q1061-02	0.237	43.923	0	0	0	0	9.808	IC1-121824	1/10/2025 11:38	10	NF/IZ
Q1061-03	0.241	159.092	0	0.921	0	0	16.883	IC1-121824	1/10/2025 12:00	10	NF/IZ
Q1061-04	0.289	145.024	0.223	1.328	0.213	0	22.323	IC1-121824	1/10/2025 12:21	10	NF/IZ
Q1061-05	0.247	334.68	0.329	2.753	16.871	3.111	46.466	IC1-121824	1/10/2025 12:43	10	NF/IZ
Q1061-06	0.269	145.62	0.262	1.406	0	0	31.534	IC1-121824	1/10/2025 13:05	10	NF/IZ
CCV	2.109	3.138	3.131	10.516	2.614	5.395	15.571	IC1-121824	1/10/2025 13:26	10	NF/IZ
CCB	0	0	0	0	0	0	0	IC1-121824	1/10/2025 13:47	10	NF/IZ
Q1061-07	0.229	153.006	0	1.302	0	0	39.951	IC1-121824	1/10/2025 14:09	10	NF/IZ
Q1061-08	0.223	131.38	0.301	1.043	2.006	0	48.712	IC1-121824	1/10/2025 14:30	10	NF/IZ
Q1061-09	0.275	213.689	0.342	1.327	0	0	38.245	IC1-121824	1/10/2025 14:52	10	NF/IZ
Q1061-10	0.252	231.583	0.295	1.454	29.019	0.966	49.331	IC1-121824	1/10/2025 15:13	10	NF/IZ
Q1061-01DLX10	0.151	2.772	0	0	0	0	2.042	IC1-121824	1/10/2025 15:35	10	NF/IZ
Q1061-02DLX10	0.144	3.815	0	0	0	0	1.999	IC1-121824	1/10/2025 15:56	10	NF/IZ

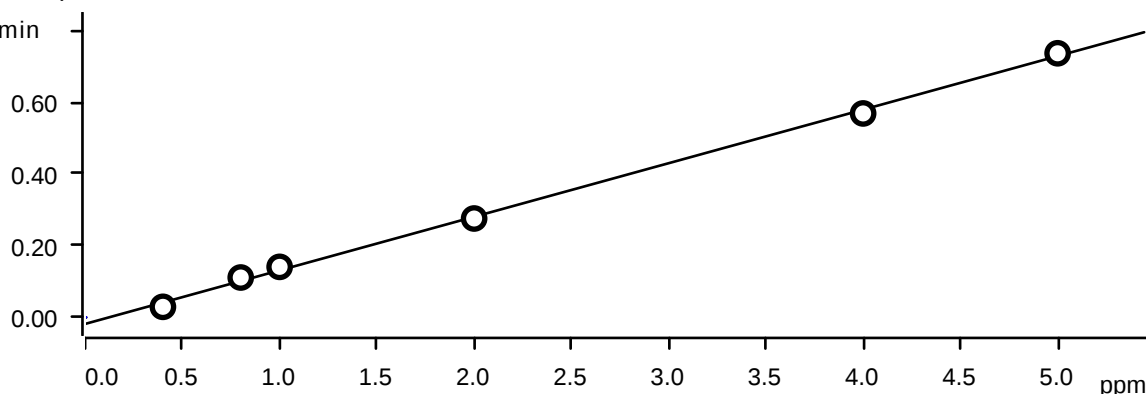
Q1061-03DLX50	0	2.446	0	0	0	0	1.482	IC1-121824	1/10/2025 16:18	10	NF/IZ
Q1061-04DLX50	0	2.271	0	0	0	0	1.566	IC1-121824	1/10/2025 16:39	10	NF/IZ
Q1061-05DLX5	0.157	55.382	0.211	1.033	3.198	1.066	9.718	IC1-121824	1/10/2025 17:01	10	NF/IZ
Q1061-05DL2X100	0	2.339	0	0	0.307	0	1.571	IC1-121824	1/10/2025 17:22	10	NF/IZ
CCV	2.085	3.113	3.098	10.398	2.586	5.351	15.413	IC1-121824	1/10/2025 17:44	10	NF/IZ
CCB	0	0	0	0	0	0	0	IC1-121824	1/10/2025 18:05	10	NF/IZ
Q1061-06DLX50	0	2.235	0	0	0	0	1.729	IC1-121824	1/10/2025 18:27	10	NF/IZ
Q1061-07DLX2	0.182	69.972	0	0.885	0	0	19.926	IC1-121824	1/10/2025 18:48	10	NF/IZ
Q1061-07DL2X50	0	2.313	0	0	0	0	1.861	IC1-121824	1/10/2025 19:09	10	NF/IZ
Q1061-08DLX2	0.186	59.608	0.246	0.798	1.079	0	23.969	IC1-121824	1/10/2025 19:31	10	NF/IZ
Q1061-08DL2X50	0	2.052	0	0	0.202	0	2.022	IC1-121824	1/10/2025 19:53	10	NF/IZ
Q1061-09DLX2	0.215	99.224	0.272	0.669	0	0	19.187	IC1-121824	1/10/2025 20:14	10	NF/IZ
Q1061-09DL2X50	0	3.105	0	0	0	0	1.843	IC1-121824	1/10/2025 20:36	10	NF/IZ
Q1061-10DLX5	0.156	37.29	0.206	0	5.106	0.613	10.203	IC1-121824	1/10/2025 20:57	10	NF/IZ
Q1061-10DL2X50	0	3.339	0	0	0.637	0	2.047	IC1-121824	1/10/2025 22:02	10	NF/IZ
CCV	2.09	3.116	3.1	10.374	2.592	5.47	15.514	IC1-121824	1/10/2025 22:45	10	NF/IZ
CCB	0	0	0	0	0	0	0	IC1-121824	1/10/2025 23:06	10	NF/IZ

Clear table

Instrument ID: IC-2									
Analyst :				IZ		Method:		300.0 / 9056A	
ident	concentra tion F-	concentratio n CL-	concentrati on NO2	concentrati on BR-	concentrati on NO3	concentrati on HPO4	concentrati on SO4	file name	Initial wt/ Final
STD1	0	0	0	0	0	0	0	0 IC1-121824	10 NF/IZ
STD2	0.319	0.475	0.485	1.586	0.405	0.794	2.525	IC1-121824	10 NF/IZ
STD3	0.867	1.29	1.286	4.307	1.073	2.153	6.454	IC1-121824	10 NF/IZ
STD4	1.065	1.59	1.587	5.29	1.327	2.68	7.947	IC1-121824	10 NF/IZ
STD5	1.968	2.98	2.975	9.935	2.472	4.928	14.761	IC1-121824	10 NF/IZ
STD6	3.929	5.897	5.891	19.654	4.906	9.805	29.16	IC1-121824	10 NF/IZ
STD7	5.052	7.568	7.575	25.229	6.317	12.641	37.652	IC1-121824	10 NF/IZ
ident	True Value F-	True Value CL-	True Value NO2	True Value BR-	True Value NO3	True Value HPO4	True Value SO4		
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	-20.2500	-20.8333	-19.1667	-20.7000	-19.0000	-20.6000	-15.8333		
STD3	8.3750	7.5000	7.1667	7.6750	7.3000	7.6500	7.5667		
STD4	6.5000	6.0000	5.8000	5.8000	6.1600	7.2000	5.9600		
STD5	-1.6000	-0.6667	-0.8333	-0.6500	-1.1200	-1.4400	-1.5933		
STD6	-1.7750	-1.7167	-1.8167	-1.7300	-1.8800	-1.9500	-2.8000		
STD7	1.0400	0.9067	1.0000	0.9160	1.0720	1.1280	1.7622		

Fluoride (Anions)

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



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

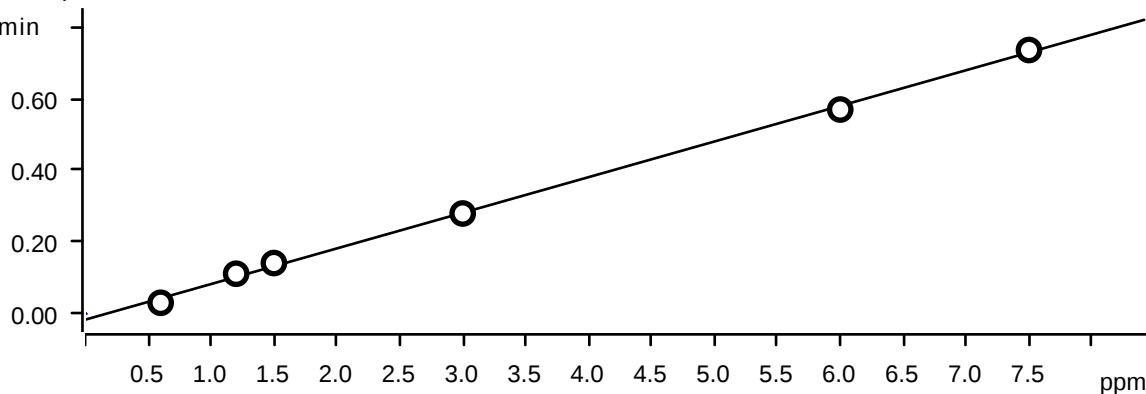
Relative standard deviation 3.731557 %

Correlation coefficient 0.999324

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

Chloride (Anions)

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

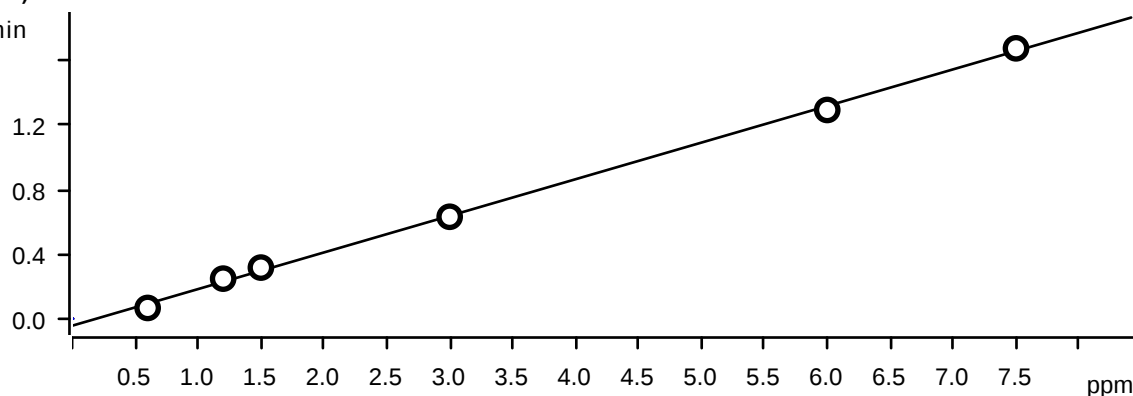


Function: $A = -0.0165562 + 9.93613E-3 \times Q$

Relative standard deviation 3.466087 %

Correlation coefficient 0.999410

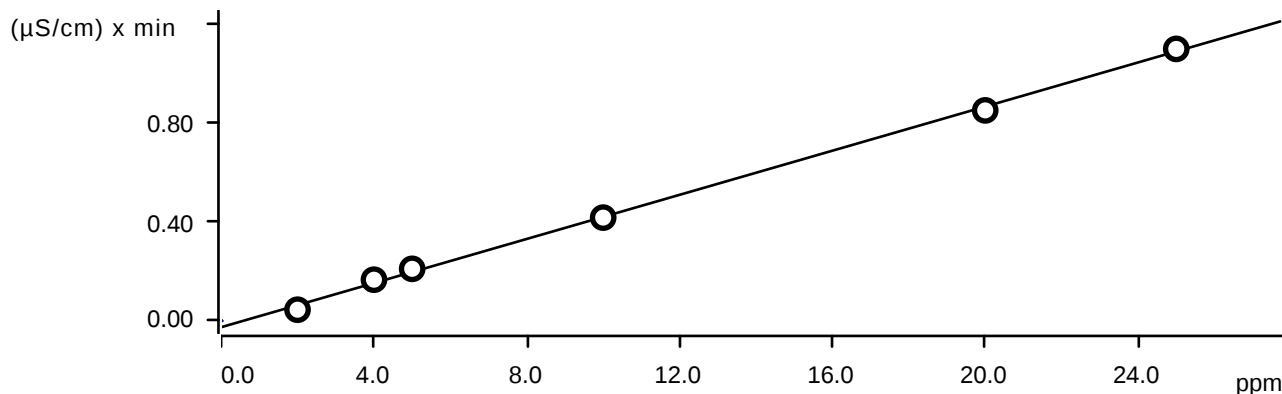
Sample type	Index	Conc.	Volume	Dilution	Sample amount	Area	Ident	Date	Used
Standard 2	1	0.600	10.0	1.0	1.0	0.031	STD2	2024-12-18 11:00:37 UTC-5	used
Standard 3	1	1.200	10.0	1.0	1.0	0.112	STD3	2024-12-18 11:22:01 UTC-5	used
Standard 4	1	1.500	10.0	1.0	1.0	0.141	STD4	2024-12-18 11:43:26 UTC-5	used
Standard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

Nitrite (Anions) $(\mu\text{S/cm}) \times \text{min}$ Function: $A = -0.0434679 + 0.0226901 \times Q$

Relative standard deviation 3.455351 %

Correlation coefficient 0.999423

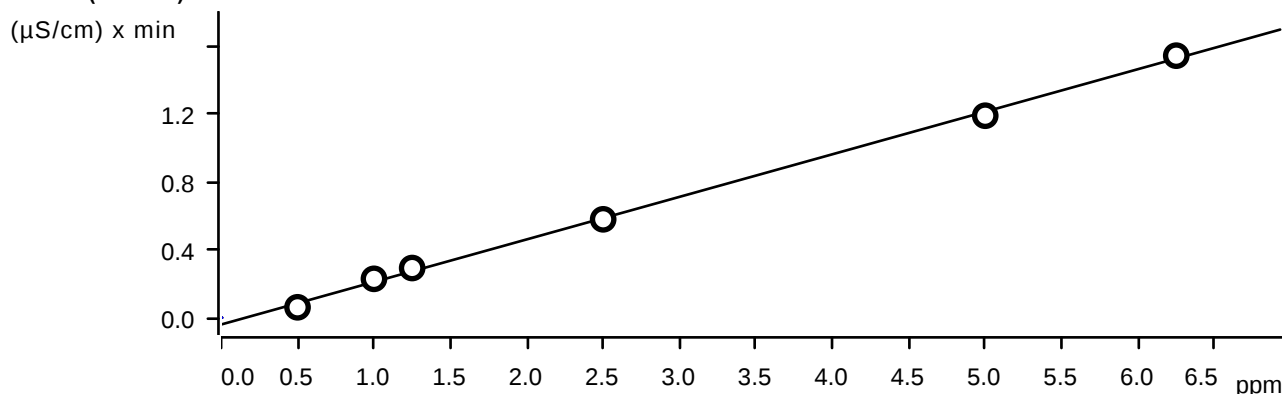
Sample type	Index	Conc.	Volume	Dilution	Sample amount	Area	Ident	Date	Used
Standard 2	1	0.600	10.0	1.0	1.0	0.067	STD2	2024-12-18 11:00:37 UTC-5	used
Standard 3	1	1.200	10.0	1.0	1.0	0.248	STD3	2024-12-18 11:22:01 UTC-5	used
Standard 4	1	1.500	10.0	1.0	1.0	0.317	STD4	2024-12-18 11:43:26 UTC-5	used
Standard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

Bromide (Anions)Function: $A = -0.0255661 + 4.44233E-3 \times Q$

Relative standard deviation 3.478545 %

Correlation coefficient 0.999408

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

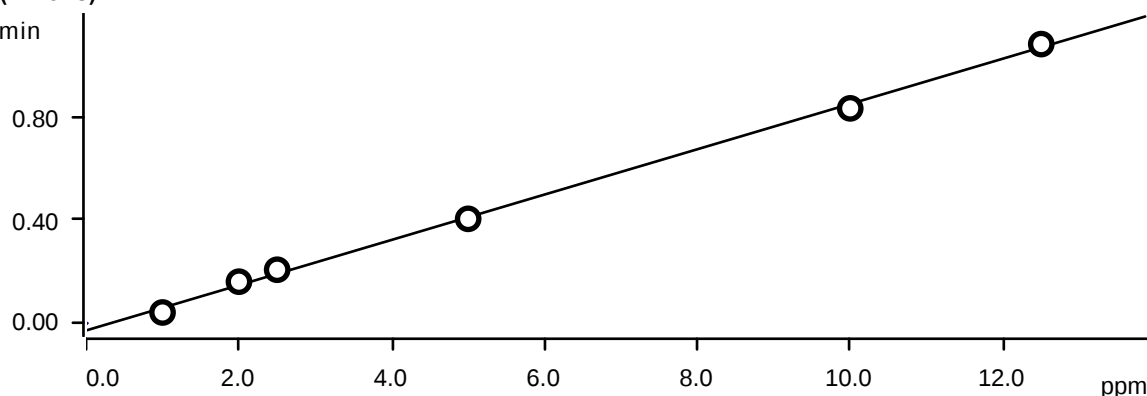
Nitrate (Anions)Function: $A = -0.0400484 + 0.0250507 \times Q$

Relative standard deviation 3.586984 %

Correlation coefficient 0.999378

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

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

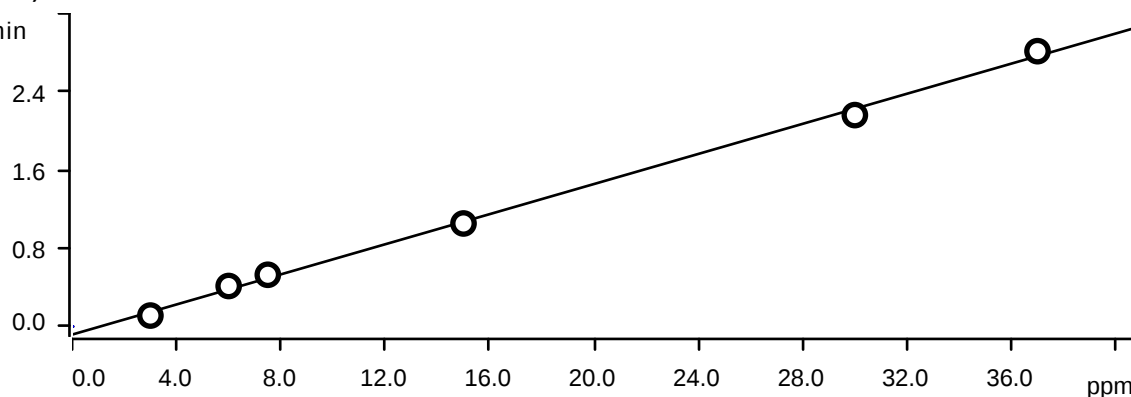
Phosphate (Anions) $(\mu\text{S}/\text{cm}) \times \text{min}$ Function: $A = -0.0282076 + 8.77175E-3 \times Q$

Relative standard deviation 3.880200 %

Correlation coefficient 0.999273

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

Sulfate (Anions)

 $(\mu\text{S}/\text{cm}) \times \text{min}$ Function: $A = -0.0827937 + 7.69466E-3 \times Q$

Relative standard deviation 4.394299 %

Correlation coefficient 0.999072

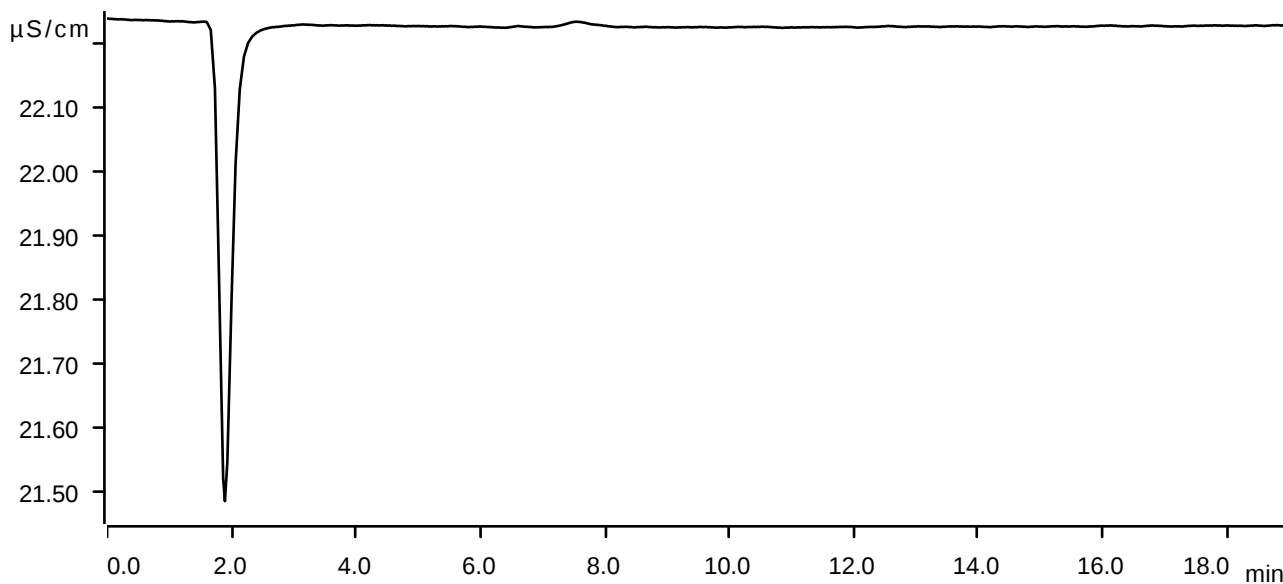
Sample type	Index	Conc.	Volume	Dilution	Sample amount	Area	Ident	Date	Used
Standard 2	1	3.000	10.0	1.0	1.0	0.112	STD2	2024-12-18 11:00:37 UTC-5	used
Standard 3	1	6.000	10.0	1.0	1.0	0.414	STD3	2024-12-18 11:22:01 UTC-5	used
Standard 4	1	7.500	10.0	1.0	1.0	0.529	STD4	2024-12-18 11:43:26 UTC-5	used
Standard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

Sample data

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

Anions

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

Anions

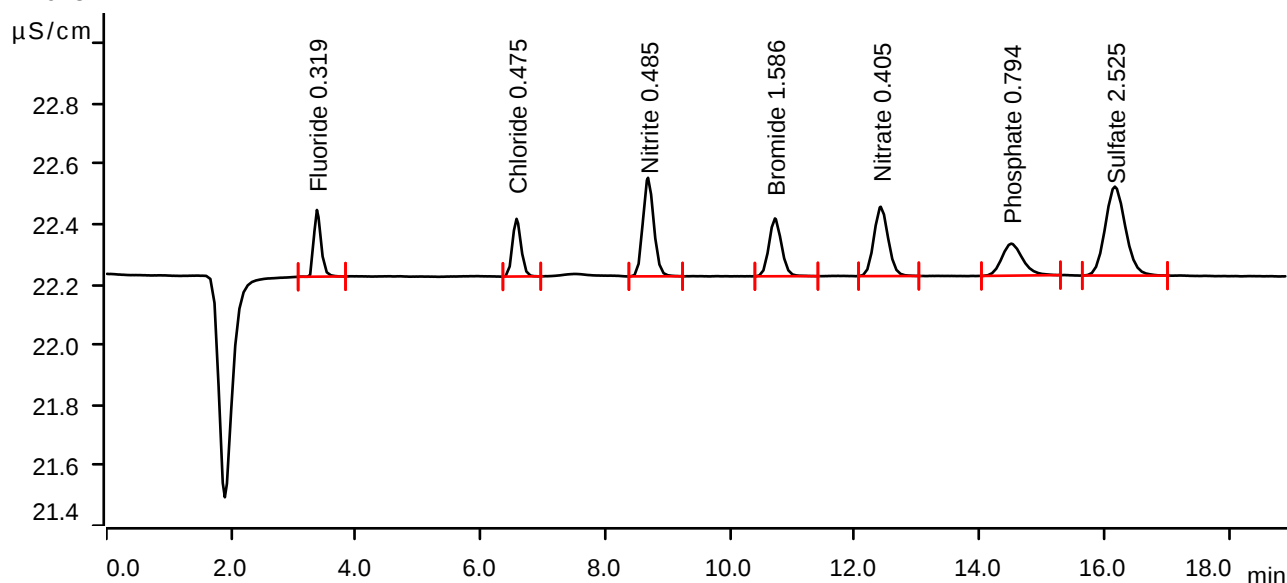
Sample data

Ident STD2
Sample type Standard 2
Determination start 2024-12-18 11:00:37 UTC-5
Method IC1-121824
Operator

Anions

Data source Conductivity detector 1 (Eco IC 1)
Channel Conductivity
Recording time 19.0 min
Integration Automatically
Column type Metrosep A Supp 19 - 150/4.0
Eluent composition not defined
Flow 0.700 mL/min
Maximum flow monitored yes
Pressure 11.26 MPa
Maximum pressure monitored yes
Temperature ---- °C

Anions



Peak number	Retention time min	Area (µS/cm) x min	Height µS/cm	Concentration ppm	Component name
1	3.377	0.0293	0.221	0.319	Fluoride
2	6.577	0.0307	0.191	0.475	Chloride
3	8.685	0.0666	0.327	0.485	Nitrite
4	10.720	0.0449	0.192	1.586	Bromide
5	12.415	0.0613	0.230	0.405	Nitrate
6	14.510	0.0414	0.106	0.794	Phosphate
7	16.170	0.1115	0.295	2.525	Sulfate

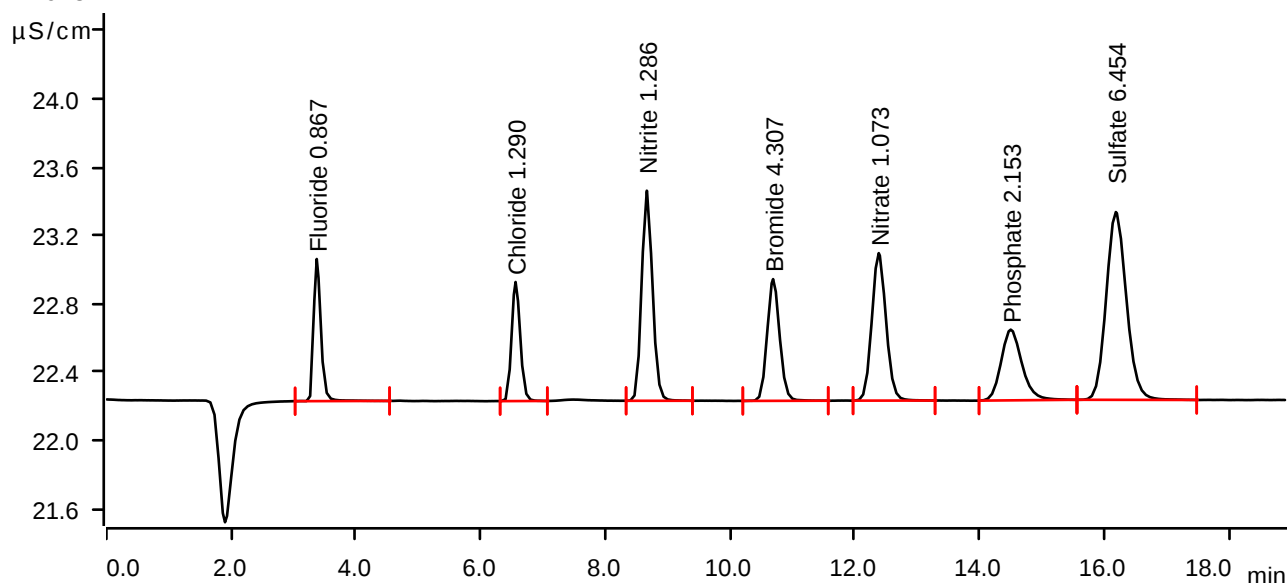
Sample data

Ident STD3
Sample type Standard 3
Determination start 2024-12-18 11:22:01 UTC-5
Method IC1-121824
Operator

Anions

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

Anions



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

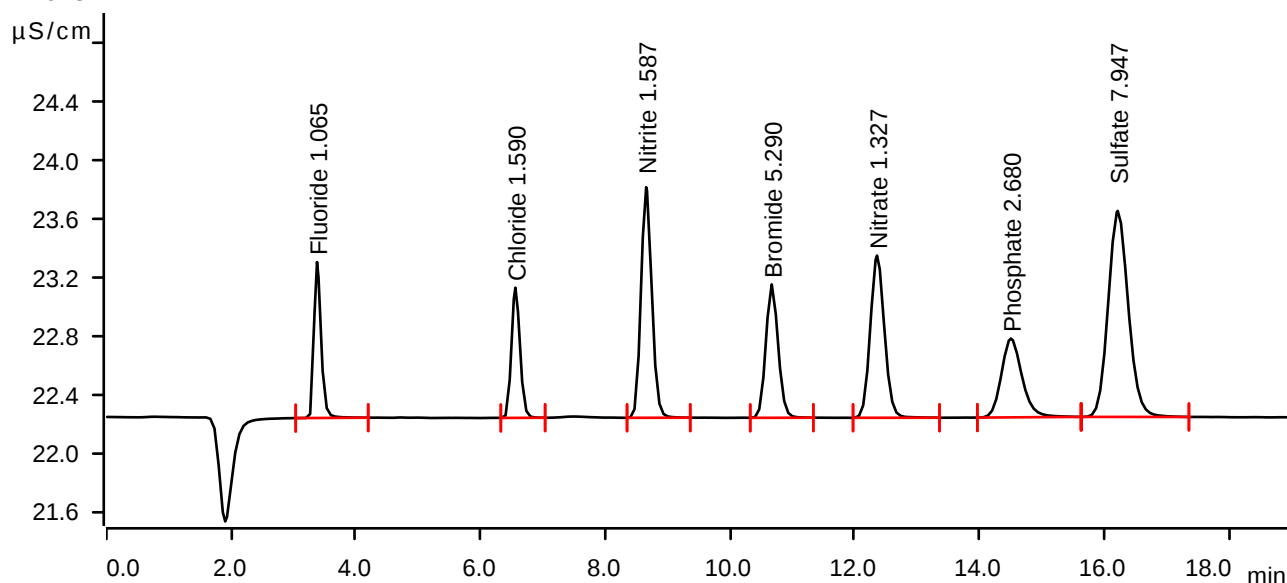
Sample data

Ident STD4
Sample type Standard 4
Determination start 2024-12-18 11:43:26 UTC-5
Method IC1-121824
Operator

Anions

Data source Conductivity detector 1 (Eco IC 1)
Channel Conductivity
Recording time 19.0 min
Integration Automatically
Column type Metrosep A Supp 19 - 150/4.0
Eluent composition not defined
Flow 0.700 mL/min
Maximum flow monitored yes
Pressure 10.87 MPa
Maximum pressure monitored yes
Temperature ---- °C

Anions



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

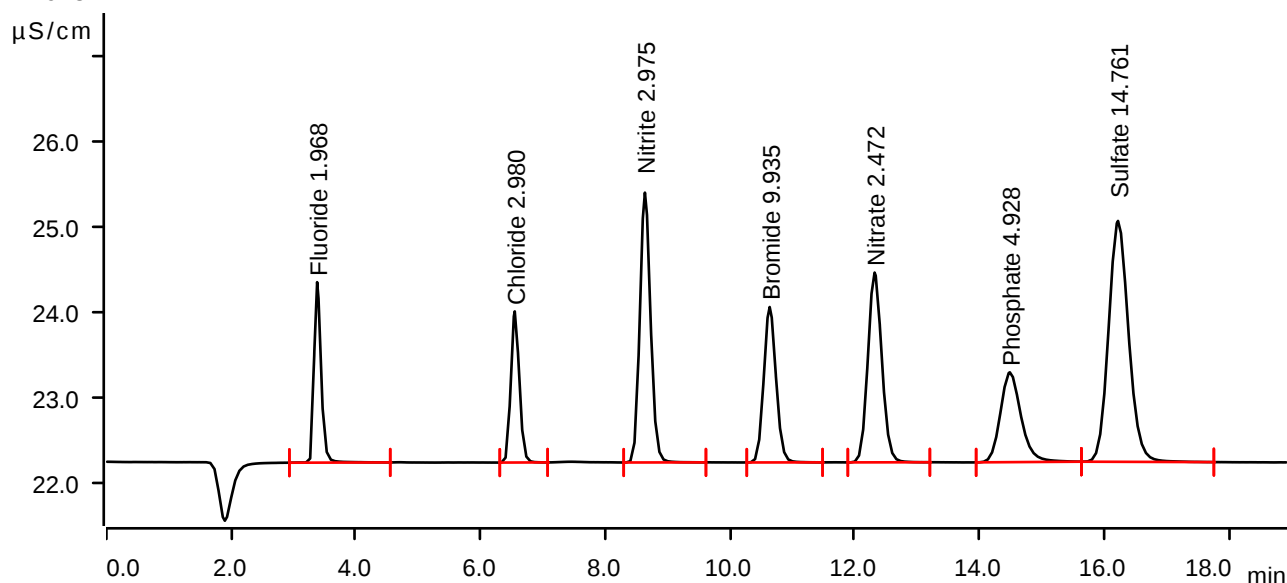
Sample data

Ident STD5
Sample type Standard 5
Determination start 2024-12-18 12:04:52 UTC-5
Method IC1-121824
Operator

Anions

Data source Conductivity detector 1 (Eco IC 1)
Channel Conductivity
Recording time 19.0 min
Integration Automatically
Column type Metrosep A Supp 19 - 150/4.0
Eluent composition not defined
Flow 0.700 mL/min
Maximum flow monitored yes
Pressure 11.04 MPa
Maximum pressure monitored yes
Temperature ---- °C

Anions



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

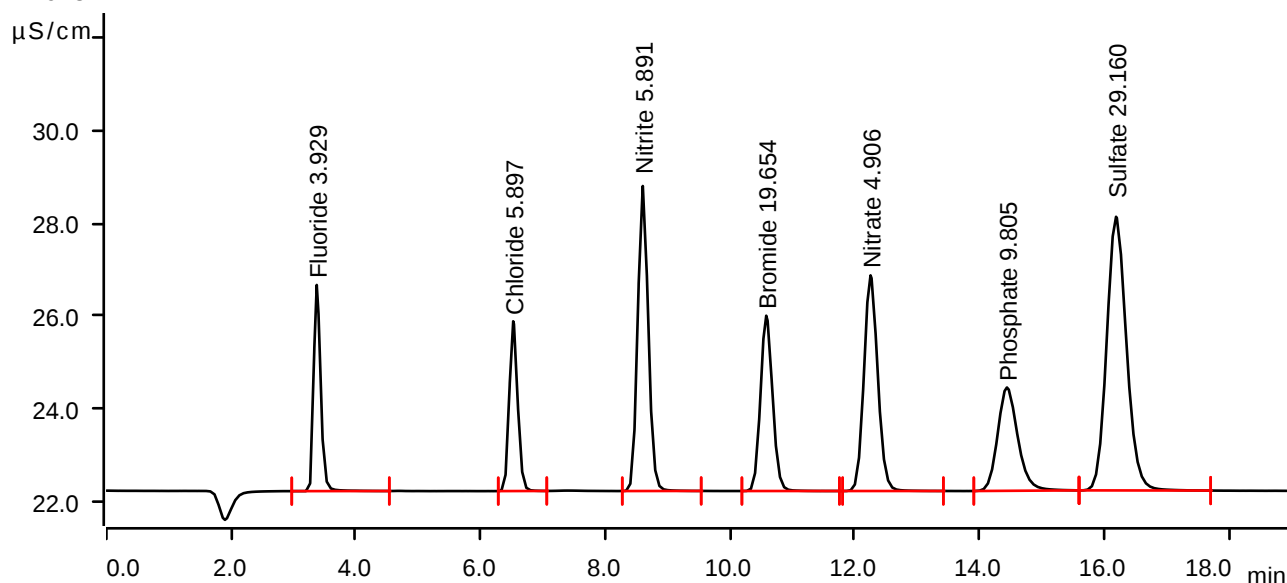
Sample data

Ident STD6
Sample type Standard 6
Determination start 2024-12-18 12:26:18 UTC-5
Method IC1-121824
Operator

Anions

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

Anions



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

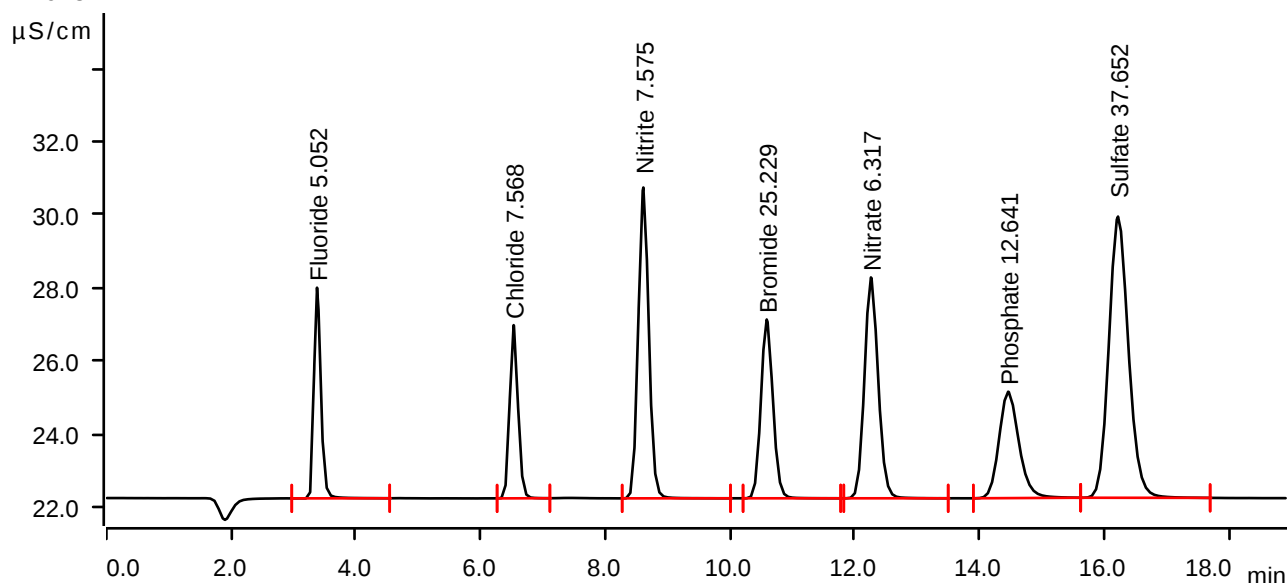
Sample data

Ident STD7
Sample type Standard 7
Determination start 2024-12-18 12:47:45 UTC-5
Method IC1-121824
Operator

Anions

Data source Conductivity detector 1 (Eco IC 1)
Channel Conductivity
Recording time 19.0 min
Integration Automatically
Column type Metrosep A Supp 19 - 150/4.0
Eluent composition not defined
Flow 0.700 mL/min
Maximum flow monitored yes
Pressure 10.75 MPa
Maximum pressure monitored yes
Temperature ---- °C

Anions



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

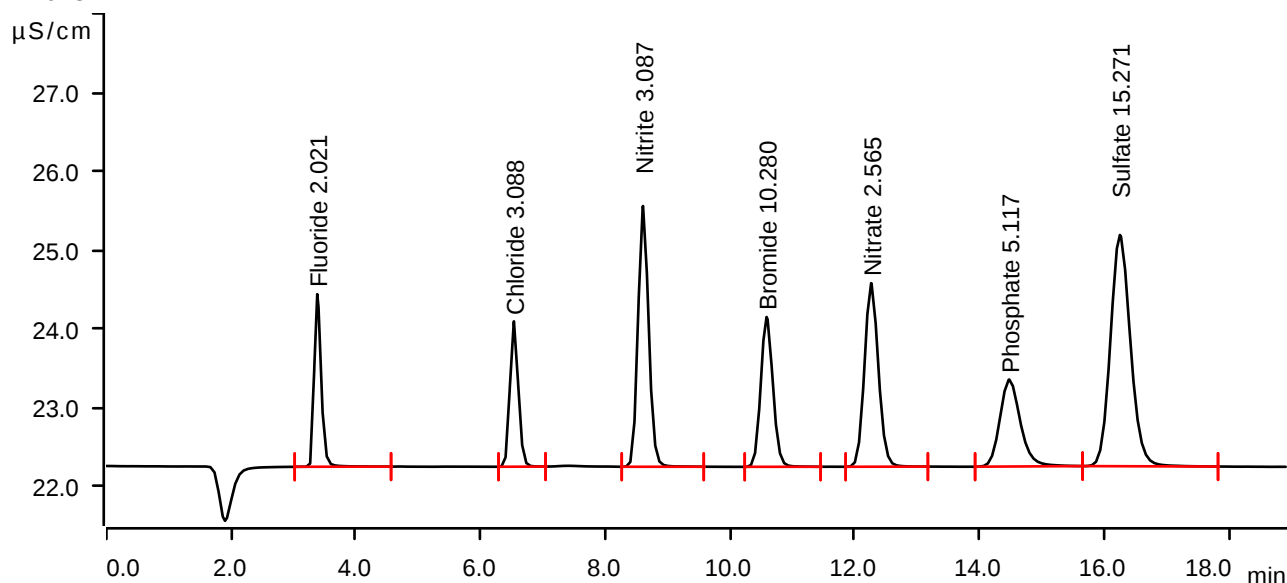
Sample data

Ident ICV
Sample type Check standard 1
Determination start 2024-12-18 13:09:13 UTC-5
Method IC1-121824
Operator

Anions

Data source Conductivity detector 1 (Eco IC 1)
Channel Conductivity
Recording time 19.0 min
Integration Automatically
Column type Metrosep A Supp 19 - 150/4.0
Eluent composition not defined
Flow 0.700 mL/min
Maximum flow monitored yes
Pressure 10.87 MPa
Maximum pressure monitored yes
Temperature ---- °C

Anions



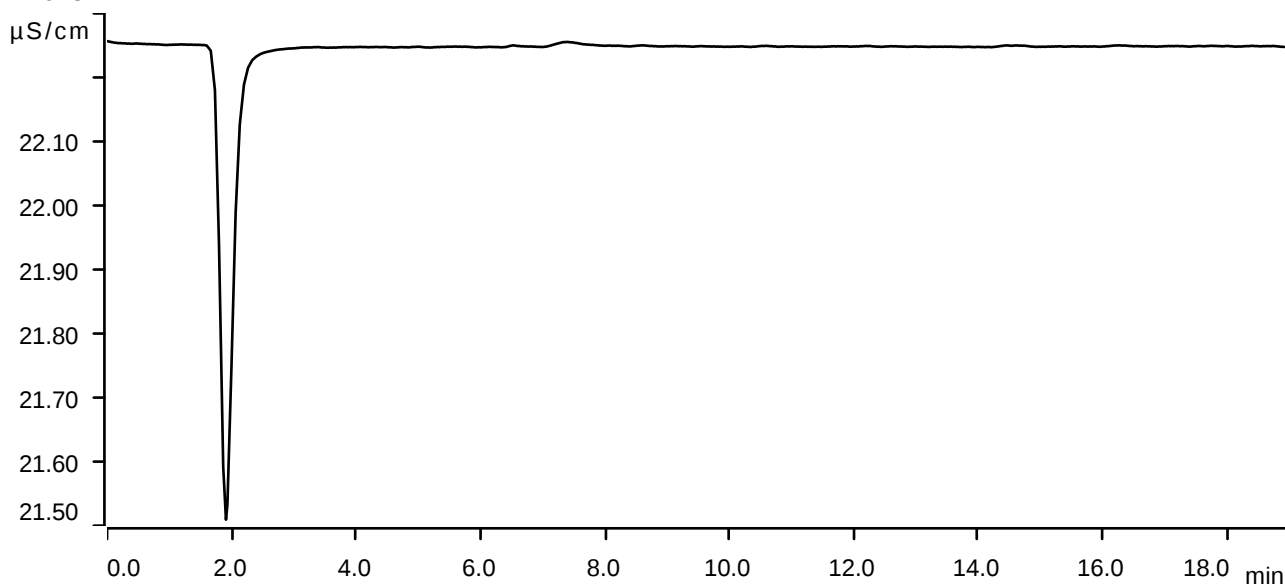
Peak number	Retention time min	Area (µS/cm) x min	Height µS/cm	Concentration ppm	Component name
1	3.382	0.2835	2.190	2.021	Fluoride
2	6.533	0.2903	1.845	3.088	Chloride
3	8.605	0.6571	3.309	3.087	Nitrite
4	10.585	0.4311	1.902	10.280	Bromide
5	12.262	0.6024	2.329	2.565	Nitrate
6	14.477	0.4207	1.104	5.117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

Sample data

Ident ICB
Sample type Sample
Determination start 2024-12-18 13:30:41 UTC-5
Method IC1-121824
Operator

Anions

Data source Conductivity detector 1 (Eco IC 1)
Channel Conductivity
Recording time 19.0 min
Integration Automatically
Column type Metrosep A Supp 19 - 150/4.0
Eluent composition not defined
Flow 0.700 mL/min
Maximum flow monitored yes
Pressure 10.64 MPa
Maximum pressure monitored yes
Temperature ---- °C

Anions

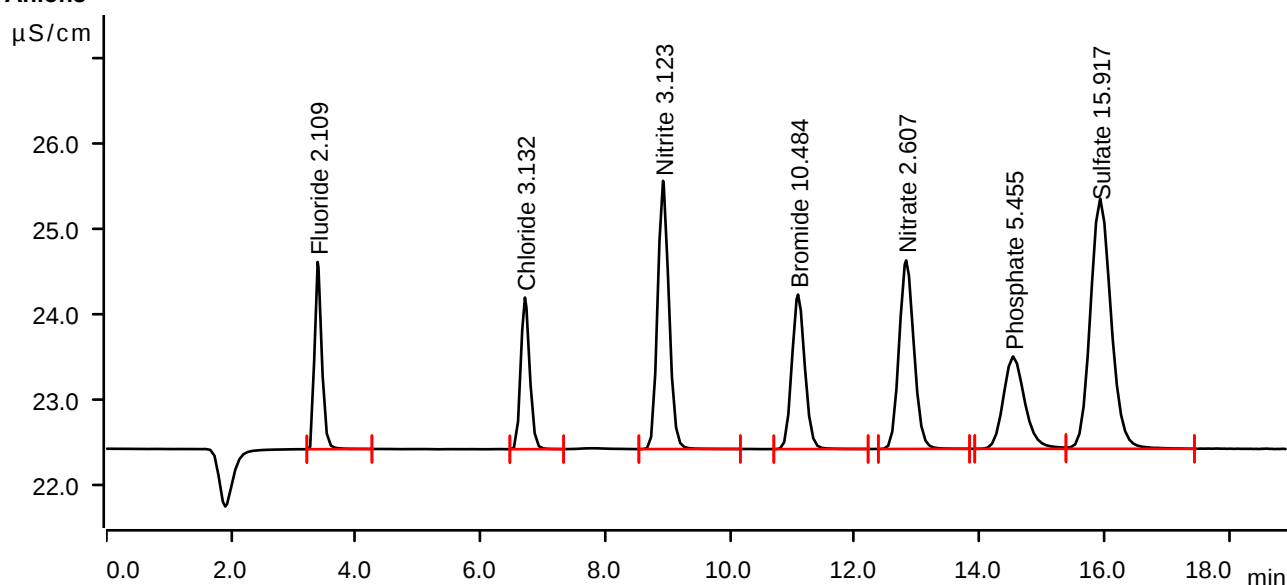
Sample data

Ident CCV
Sample type Check standard 1
Determination start 2025-01-10 09:08:09 UTC-5
Method IC1-121824
Operator

Anions

Data source Conductivity detector 1 (Eco IC 1)
Channel Conductivity
Recording time 19.0 min
Integration Automatically
Column type Metrosep A Supp 19 - 150/4.0
Eluent composition not defined
Flow 0.700 mL/min
Maximum flow monitored yes
Pressure 12.27 MPa
Maximum pressure monitored yes
Temperature ---- °C

Anions



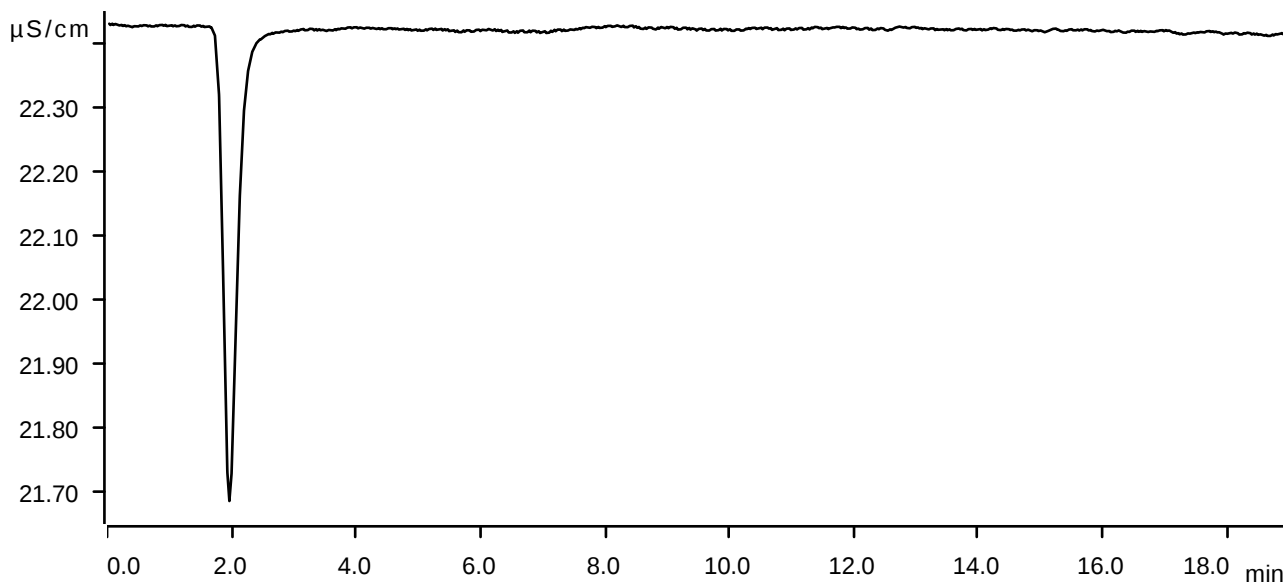
Peak number	Retention time min	Area (µS/cm) x min	Height µS/cm	Concentration ppm	Component name
1	3.388	0.2916	2.193	2.109	Fluoride
2	6.712	0.2936	1.776	3.132	Chloride
3	8.925	0.6616	3.142	3.123	Nitrite
4	11.090	0.4367	1.810	10.484	Bromide
5	12.823	0.6083	2.209	2.607	Nitrate
6	14.538	0.4324	1.082	5.455	Phosphate
7	15.933	1.1301	2.930	15.917	Sulfate

Sample data

Ident CCB
Sample type Sample
Determination start 2025-01-10 09:29:32 UTC-5
Method IC1-121824
Operator

Anions

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

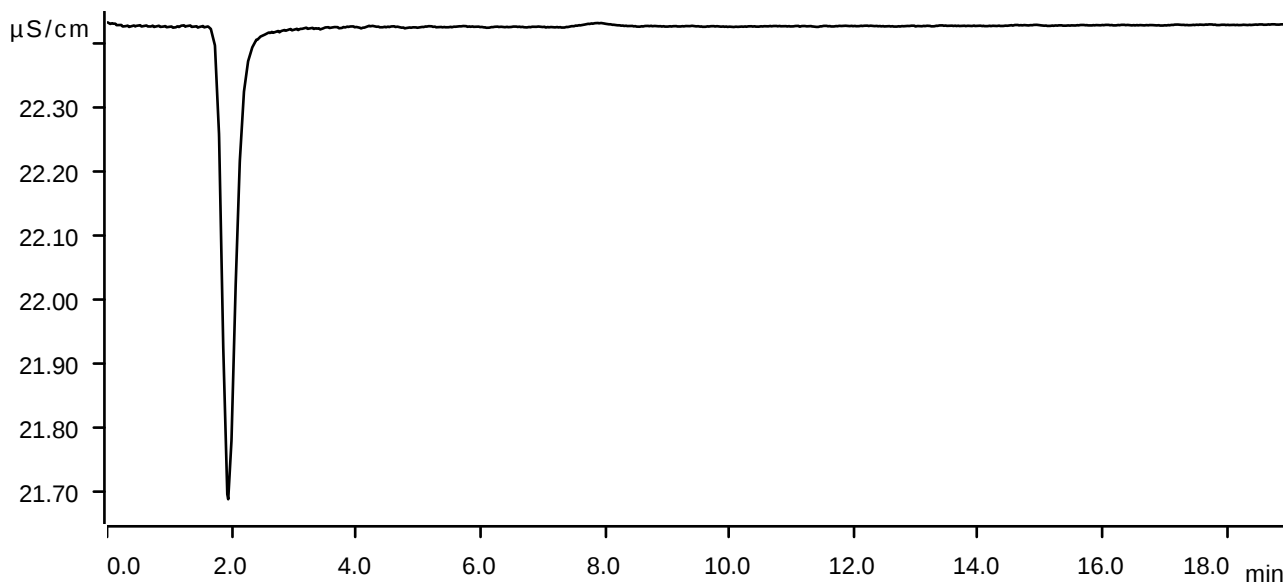
Anions

Sample data

Ident LB134248BLW
Sample type Sample
Determination start 2025-01-10 09:51:02 UTC-5
Method IC1-121824
Operator

Anions

Data source Conductivity detector 1 (Eco IC 1)
Channel Conductivity
Recording time 19.0 min
Integration Automatically
Column type Metrosep A Supp 19 - 150/4.0
Eluent composition not defined
Flow 0.700 mL/min
Maximum flow monitored yes
Pressure 12.05 MPa
Maximum pressure monitored yes
Temperature ---- °C

Anions

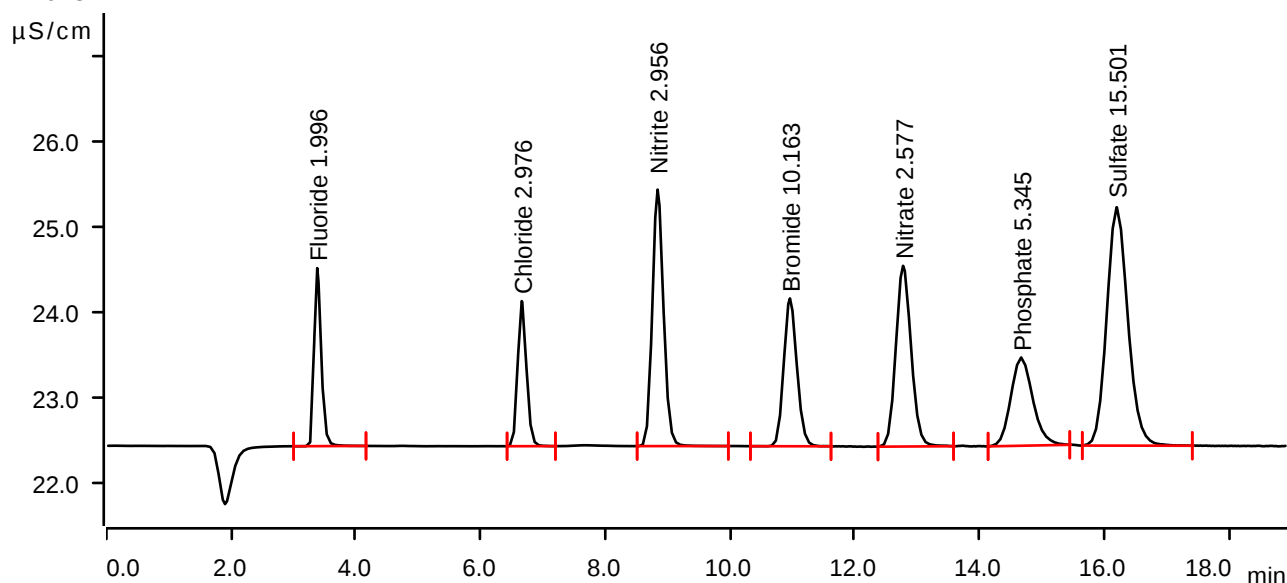
Sample data

Ident LB134248BSW
Sample type Check standard 1
Determination start 2025-01-10 10:12:32 UTC-5
Method IC1-121824
Operator

Anions

Data source Conductivity detector 1 (Eco IC 1)
Channel Conductivity
Recording time 19.0 min
Integration Automatically
Column type Metrosep A Supp 19 - 150/4.0
Eluent composition not defined
Flow 0.700 mL/min
Maximum flow monitored yes
Pressure 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	3.382	0.2750	2.086	1.996	Fluoride
2	6.660	0.2781	1.700	2.976	Chloride
3	8.838	0.6239	3.005	2.956	Nitrite
4	10.960	0.4225	1.732	10.163	Bromide
5	12.773	0.6009	2.117	2.577	Nitrate
6	14.667	0.4227	1.033	5.345	Phosphate
7	16.197	1.0983	2.793	15.501	Sulfate

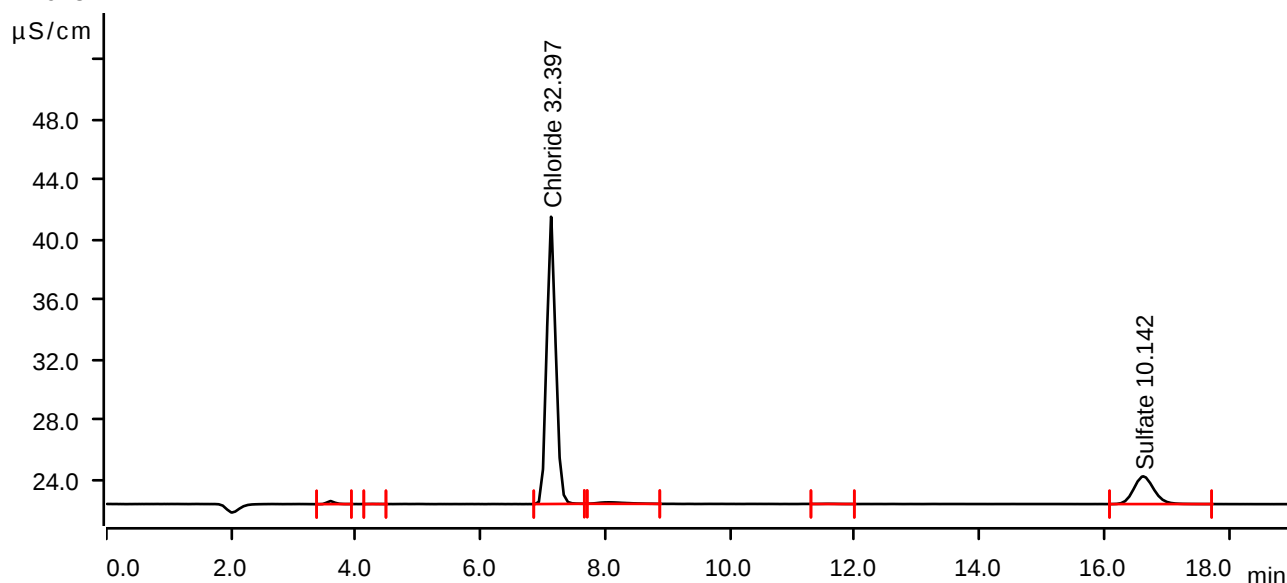
Sample data

Ident Q1061-01
Sample type Sample
Determination start 2025-01-10 10:34:05 UTC-5
Method IC1-121824
Operator

Anions

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

Anions



Peak number	Retention time min	Area (µS/cm) x min	Height µS/cm	Concentration ppm	Component name
1	3.592	0.0295	0.201	invalid	
2	4.263	0.0018	0.010	invalid	
3	7.130	3.1934	19.067	32.397	Chloride
4	8.047	0.0523	0.099	invalid	
5	11.578	0.0032	0.013	invalid	
6	16.625	0.6880	1.840	10.142	Sulfate

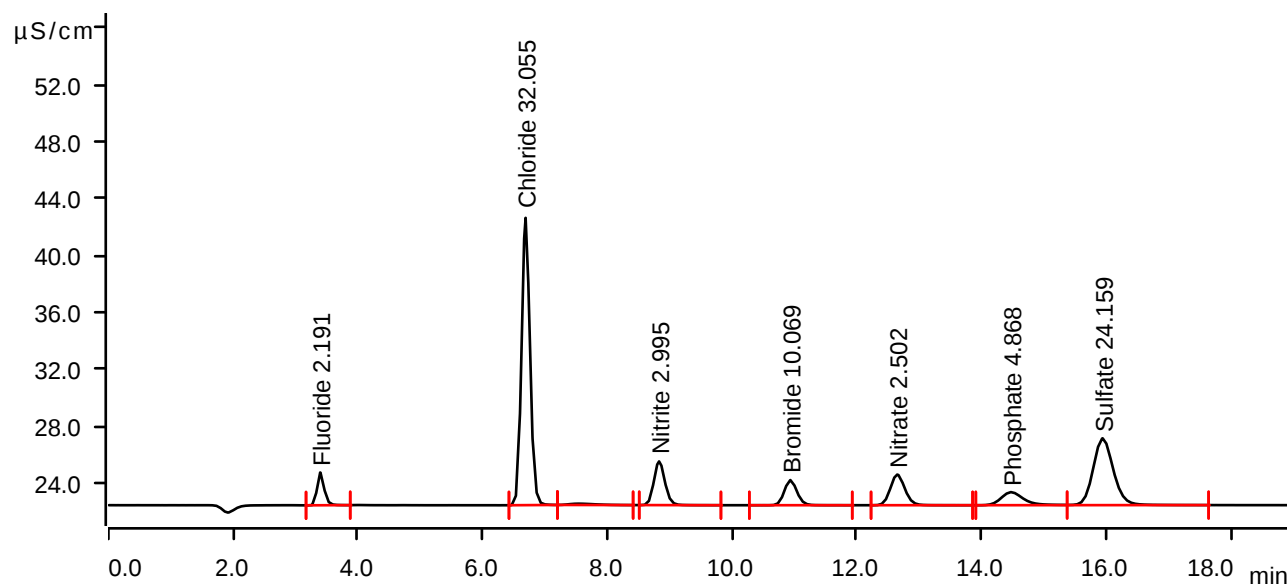
Sample data

Ident Q1061-01MS
Sample type Sample
Determination start 2025-01-10 10:55:38 UTC-5
Method IC1-121824
Operator

Anions

Data source Conductivity detector 1 (Eco IC 1)
Channel Conductivity
Recording time 19.0 min
Integration Automatically
Column type Metrosep A Supp 19 - 150/4.0
Eluent composition not defined
Flow 0.700 mL/min
Maximum flow monitored yes
Pressure 11.66 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	3.397	0.3038	2.304	2.191	Fluoride
2	6.690	3.1595	20.192	32.055	Chloride
3	7.545	0.0440	0.091	invalid	
4	8.830	0.6326	3.072	2.995	Nitrite
5	10.935	0.4184	1.768	10.069	Bromide
6	12.648	0.5822	2.156	2.502	Nitrate
7	14.475	0.3809	0.916	4.868	Phosphate
8	15.942	1.7610	4.697	24.159	Sulfate

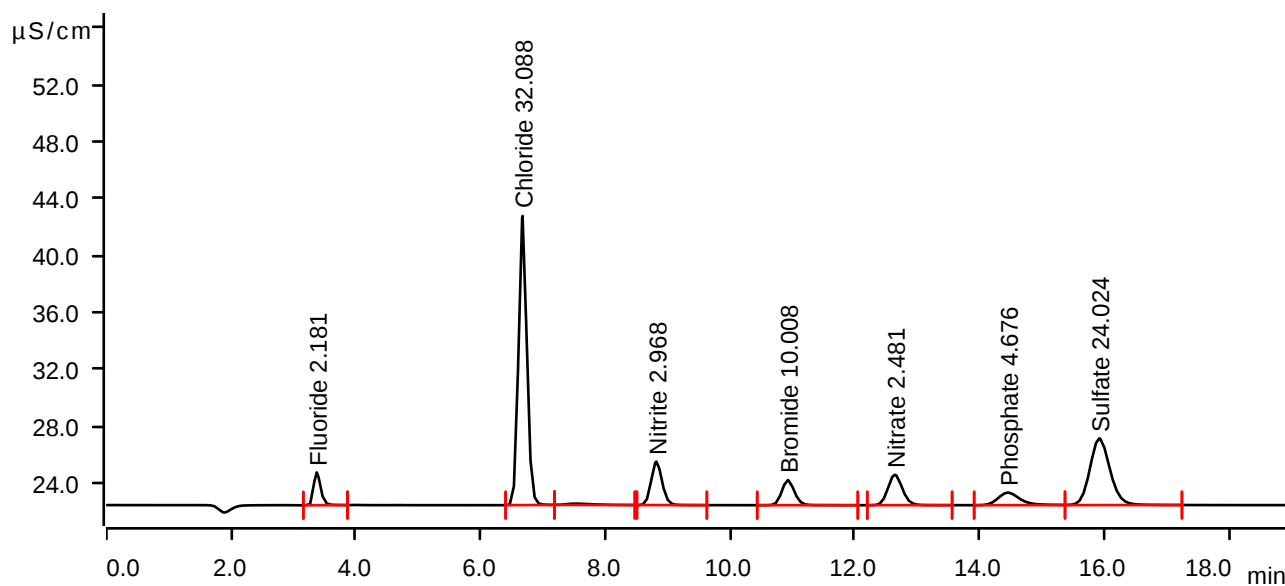
Sample data

Ident Q1061-01MSD
Sample type Sample
Determination start 2025-01-10 11:17:11 UTC-5
Method IC1-121824
Operator

Anions

Data source Conductivity detector 1 (Eco IC 1)
Channel Conductivity
Recording time 19.0 min
Integration Automatically
Column type Metrosep A Supp 19 - 150/4.0
Eluent composition not defined
Flow 0.700 mL/min
Maximum flow monitored yes
Pressure 11.77 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	3.373	0.3023	2.306	2.181	Fluoride
2	6.673	3.1627	20.322	32.088	Chloride
3	7.530	0.0463	0.092	invalid	
4	8.818	0.6265	3.057	2.968	Nitrite
5	10.927	0.4157	1.760	10.008	Bromide
6	12.642	0.5769	2.142	2.481	Nitrate
7	14.453	0.3640	0.883	4.676	Phosphate
8	15.920	1.7507	4.689	24.024	Sulfate

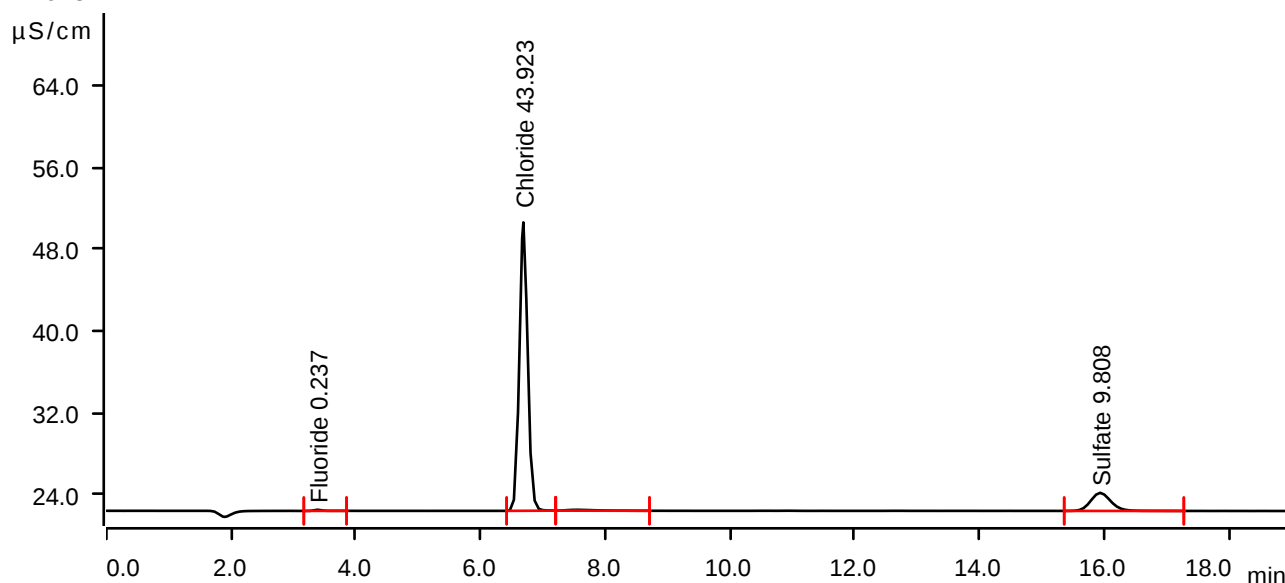
Sample data

Ident Q1061-02
Sample type Sample
Determination start 2025-01-10 11:38:46 UTC-5
Method IC1-121824
Operator

Anions

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

Anions



Peak number	Retention time min	Area (µS/cm) x min	Height µS/cm	Concentration ppm	Component name
1	3.383	0.0153	0.110	0.237	Fluoride
2	6.687	4.3354	28.149	43.923	Chloride
3	7.540	0.0419	0.082	invalid	
4	15.933	0.6625	1.766	9.808	Sulfate

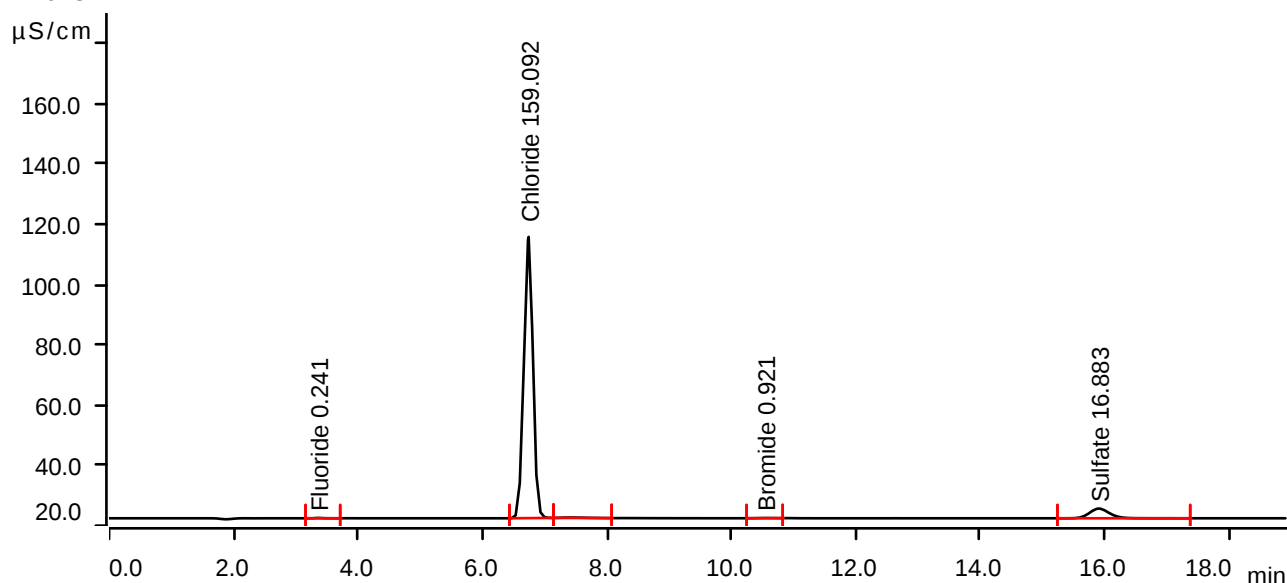
Sample data

Ident Q1061-03
Sample type Sample
Determination start 2025-01-10 12:00:20 UTC-5
Method IC1-121824
Operator

Anions

Data source Conductivity detector 1 (Eco IC 1)
Channel Conductivity
Recording time 19.0 min
Integration Automatically
Column type Metrosep A Supp 19 - 150/4.0
Eluent composition not defined
Flow 0.700 mL/min
Maximum flow monitored yes
Pressure 11.88 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	3.363	0.0158	0.115	0.241	Fluoride
2	6.743	15.7471	93.340	159.092	Chloride
3	7.410	0.0630	0.143	invalid	
4	10.575	0.0138	0.050	0.921	Bromide
5	15.905	1.2040	3.225	16.883	Sulfate

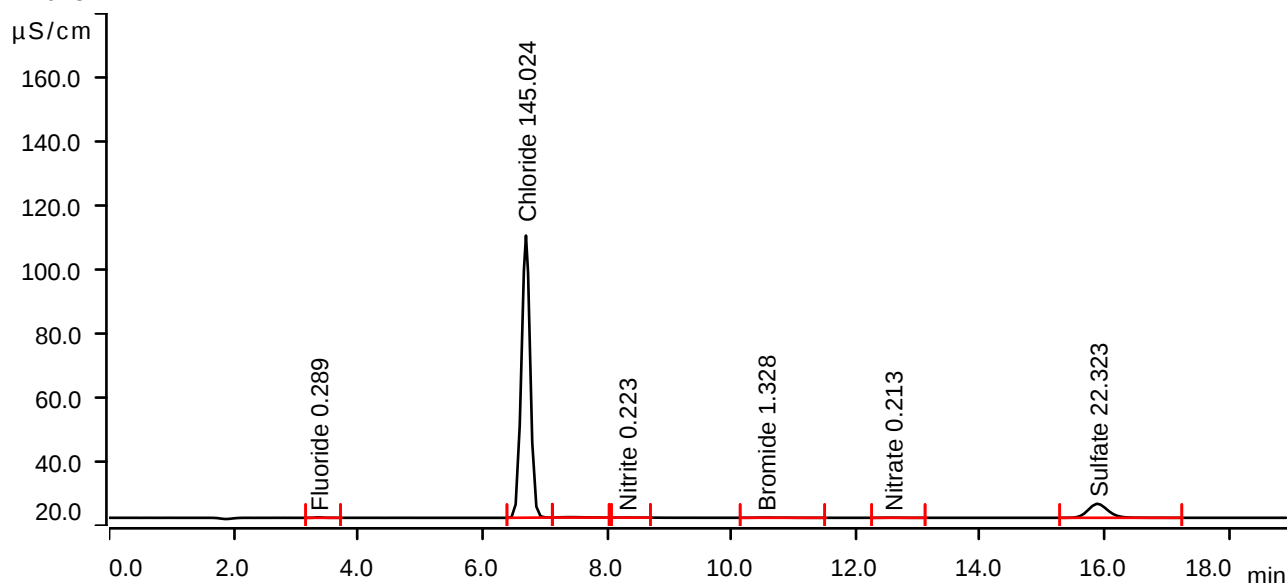
Sample data

Ident Q1061-04
Sample type Sample
Determination start 2025-01-10 12:21:55 UTC-5
Method IC1-121824
Operator

Anions

Data source Conductivity detector 1 (Eco IC 1)
Channel Conductivity
Recording time 19.0 min
Integration Automatically
Column type Metrosep A Supp 19 - 150/4.0
Eluent composition not defined
Flow 0.700 mL/min
Maximum flow monitored yes
Pressure 11.94 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	3.360	0.0228	0.167	0.289	Fluoride
2	6.700	14.3532	88.141	145.024	Chloride
3	7.403	0.0559	0.130	invalid	
4	8.315	0.0060	0.019	0.223	Nitrite
5	10.550	0.0318	0.065	1.328	Bromide
6	12.588	0.0121	0.044	0.213	Nitrate
7	15.882	1.6204	4.368	22.323	Sulfate

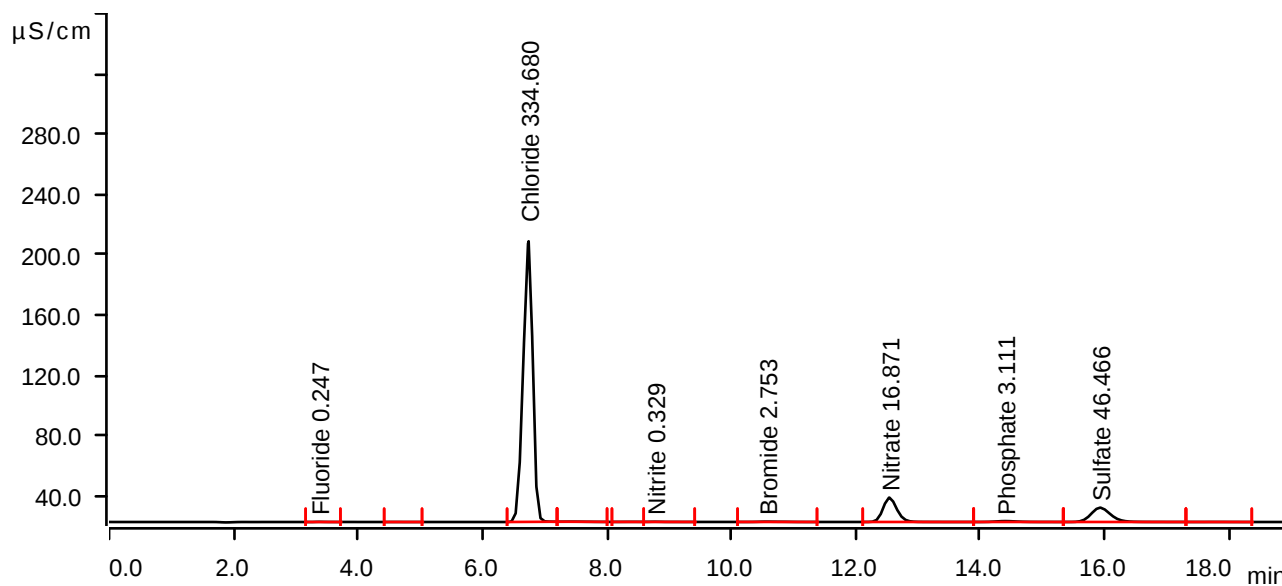
Sample data

Ident Q1061-05
Sample type Sample
Determination start 2025-01-10 12:43:28 UTC-5
Method IC1-121824
Operator

Anions

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

Anions



Peak number	Retention time min	Area (µS/cm) x min	Height µS/cm	Concentration ppm	Component name
1	3.378	0.0167	0.121	0.247	Fluoride
2	4.583	0.0027	0.017	invalid	
3	6.743	33.1456	186.257	334.680	Chloride
4	7.415	0.0354	0.090	invalid	
5	8.388	0.0179	0.052	invalid	
6	8.778	0.0302	0.121	0.329	Nitrite
7	10.577	0.0949	0.211	2.753	Bromide
8	12.540	4.1614	16.188	16.871	Nitrate
9	14.402	0.2268	0.578	3.111	Phosphate
10	15.925	3.4685	9.492	46.466	Sulfate
11	17.812	0.0126	0.027	invalid	

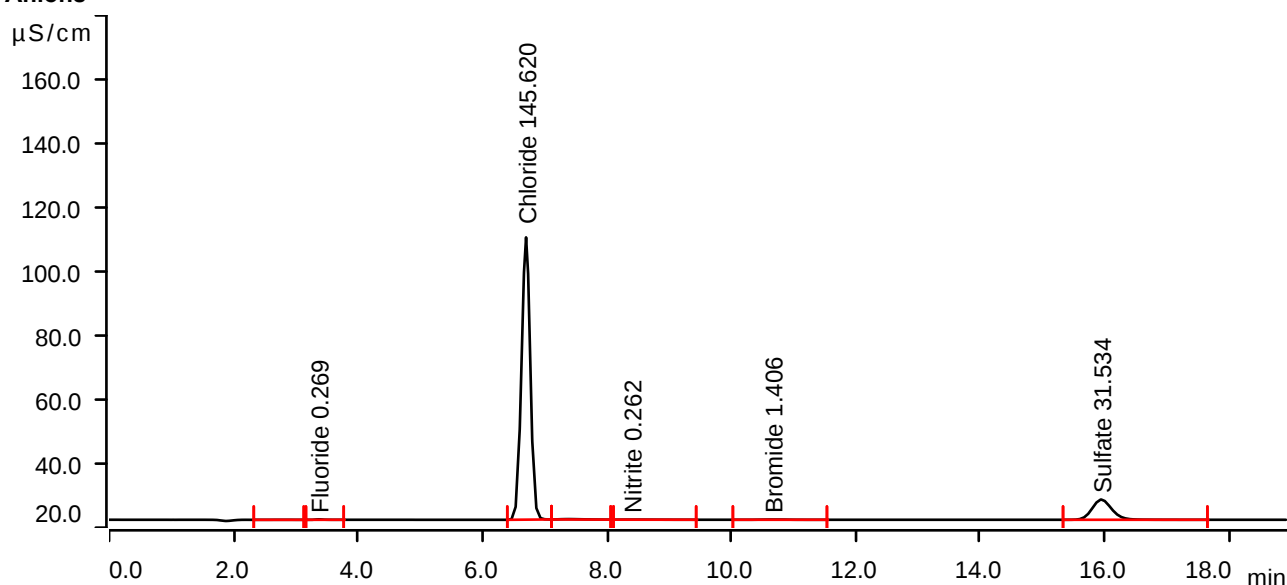
Sample data

Ident Q1061-06
Sample type Sample
Determination start 2025-01-10 13:05:02 UTC-5
Method IC1-121824
Operator

Anions

Data source Conductivity detector 1 (Eco IC 1)
Channel Conductivity
Recording time 19.0 min
Integration Automatically
Column type Metrosep A Supp 19 - 150/4.0
Eluent composition not defined
Flow 0.700 mL/min
Maximum flow monitored yes
Pressure 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	2.747	0.0061	0.012	invalid	
2	3.370	0.0200	0.144	0.269	Fluoride
3	6.702	14.4122	88.173	145.620	Chloride
4	7.382	0.0578	0.133	invalid	
5	8.393	0.0149	0.029	0.262	Nitrite
6	10.658	0.0353	0.074	1.406	Bromide
7	15.945	2.3256	6.320	31.534	Sulfate

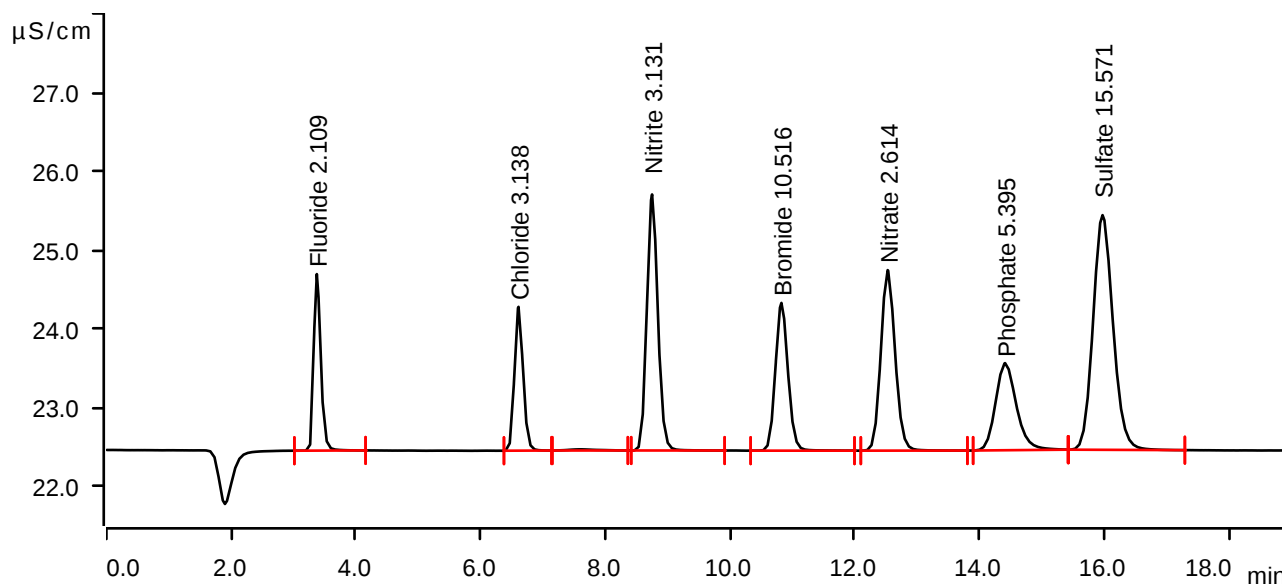
Sample data

Ident CCV
Sample type Check standard 1
Determination start 2025-01-10 13:26:25 UTC-5
Method IC1-121824
Operator

Anions

Data source Conductivity detector 1 (Eco IC 1)
Channel Conductivity
Recording time 19.0 min
Integration Automatically
Column type Metrosep A Supp 19 - 150/4.0
Eluent composition not defined
Flow 0.700 mL/min
Maximum flow monitored yes
Pressure 11.54 MPa
Maximum pressure monitored yes
Temperature ---- °C

Anions



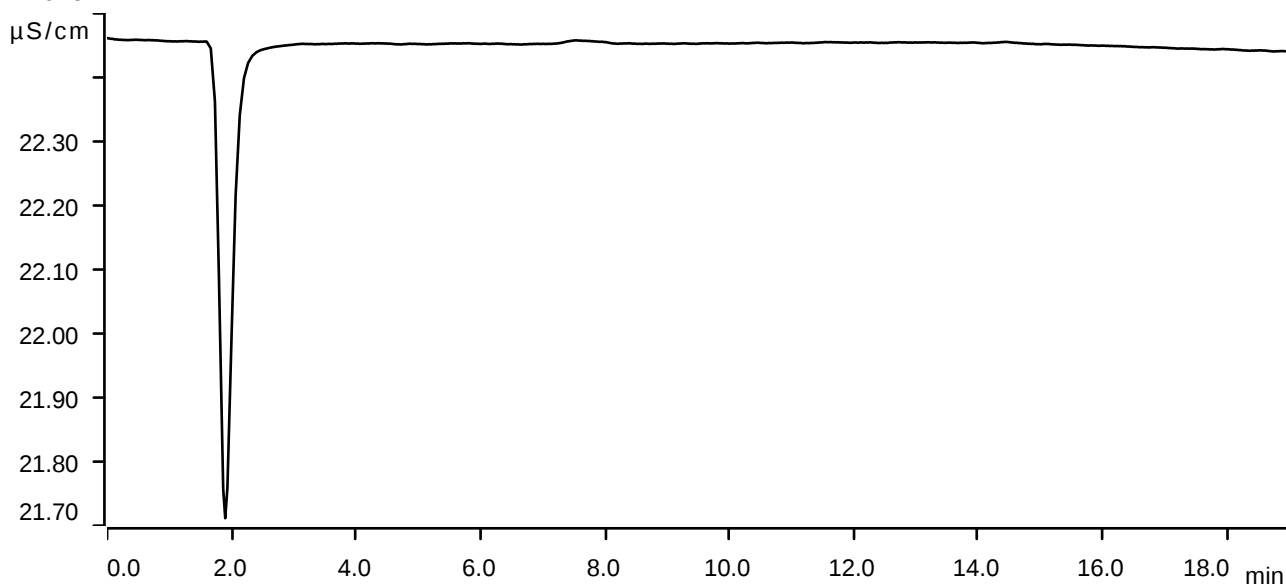
Peak number	Retention time min	Area (µS/cm) x min	Height µS/cm	Concentration ppm	Component name
1	3.375	0.2916	2.241	2.109	Fluoride
2	6.608	0.2942	1.825	3.138	Chloride
3	7.598	0.0075	0.014	invalid	
4	8.750	0.6634	3.249	3.131	Nitrite
5	10.823	0.4382	1.875	10.516	Bromide
6	12.527	0.6100	2.291	2.614	Nitrate
7	14.410	0.4271	1.105	5.395	Phosphate
8	15.972	1.1036	2.978	15.571	Sulfate

Sample data

Ident CCB
Sample type Sample
Determination start 2025-01-10 13:47:55 UTC-5
Method IC1-121824
Operator

Anions

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

Anions

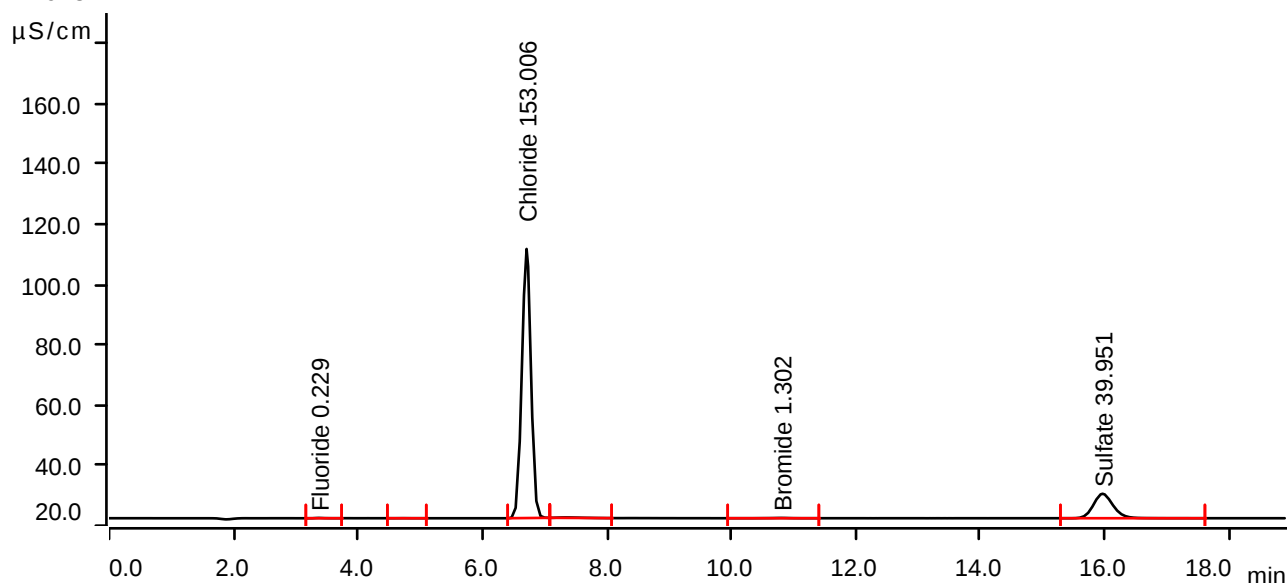
Sample data

Ident Q1061-07
Sample type Sample
Determination start 2025-01-10 14:09:24 UTC-5
Method IC1-121824
Operator

Anions

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

Anions



Peak number	Retention time min	Area (µS/cm) x min	Height µS/cm	Concentration ppm	Component name
1	3.370	0.0141	0.101	0.229	Fluoride
2	4.717	0.0041	0.020	invalid	
3	6.710	15.1441	89.317	153.006	Chloride
4	7.337	0.0653	0.148	invalid	
5	10.803	0.0307	0.095	1.302	Bromide
6	15.965	2.9698	8.123	39.951	Sulfate

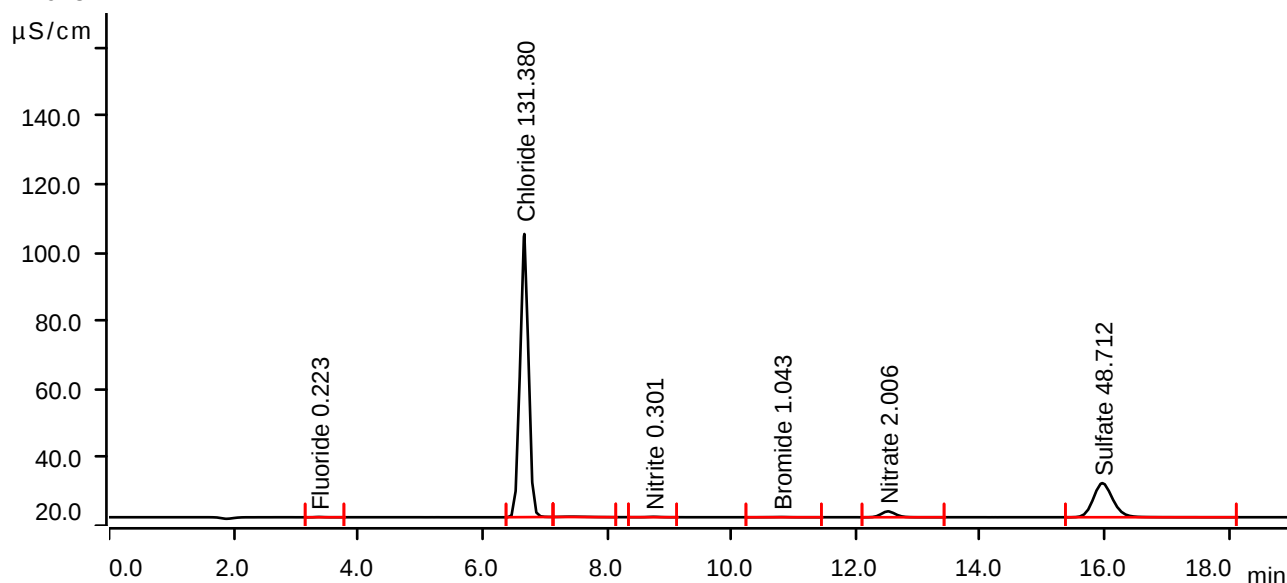
Sample data

Ident Q1061-08
Sample type Sample
Determination start 2025-01-10 14:30:56 UTC-5
Method IC1-121824
Operator

Anions

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

Anions



Peak number	Retention time min	Area (µS/cm) x min	Height µS/cm	Concentration ppm	Component name
1	3.373	0.0132	0.092	0.223	Fluoride
2	6.675	13.0013	82.924	131.380	Chloride
3	7.425	0.0509	0.114	invalid	
4	8.747	0.0237	0.118	0.301	Nitrite
5	10.807	0.0192	0.060	1.043	Bromide
6	12.517	0.4586	1.727	2.006	Nitrate
7	15.962	3.6405	10.002	48.712	Sulfate

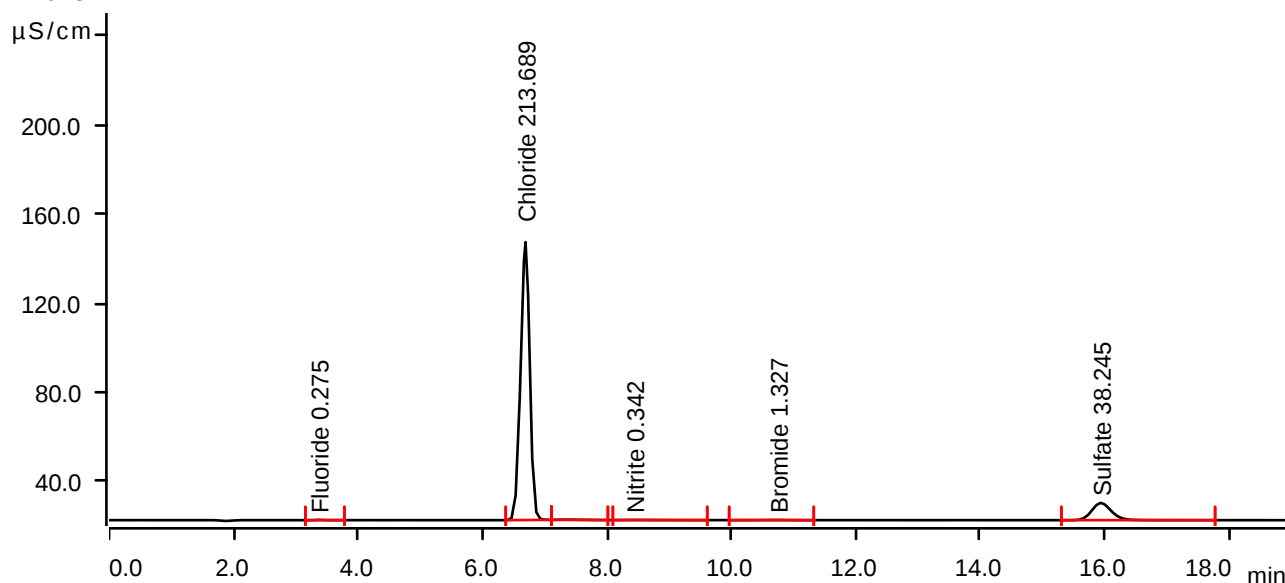
Sample data

Ident Q1061-09
Sample type Sample
Determination start 2025-01-10 14:52:26 UTC-5
Method IC1-121824
Operator

Anions

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

Anions



Peak number	Retention time min	Area (µS/cm) x min	Height µS/cm	Concentration ppm	Component name
1	3.368	0.0208	0.149	0.275	Fluoride
2	6.693	21.1569	124.794	213.689	Chloride
3	7.350	0.0466	0.112	invalid	
4	8.433	0.0330	0.058	0.342	Nitrite
5	10.737	0.0318	0.075	1.327	Bromide
6	15.938	2.8393	7.764	38.245	Sulfate

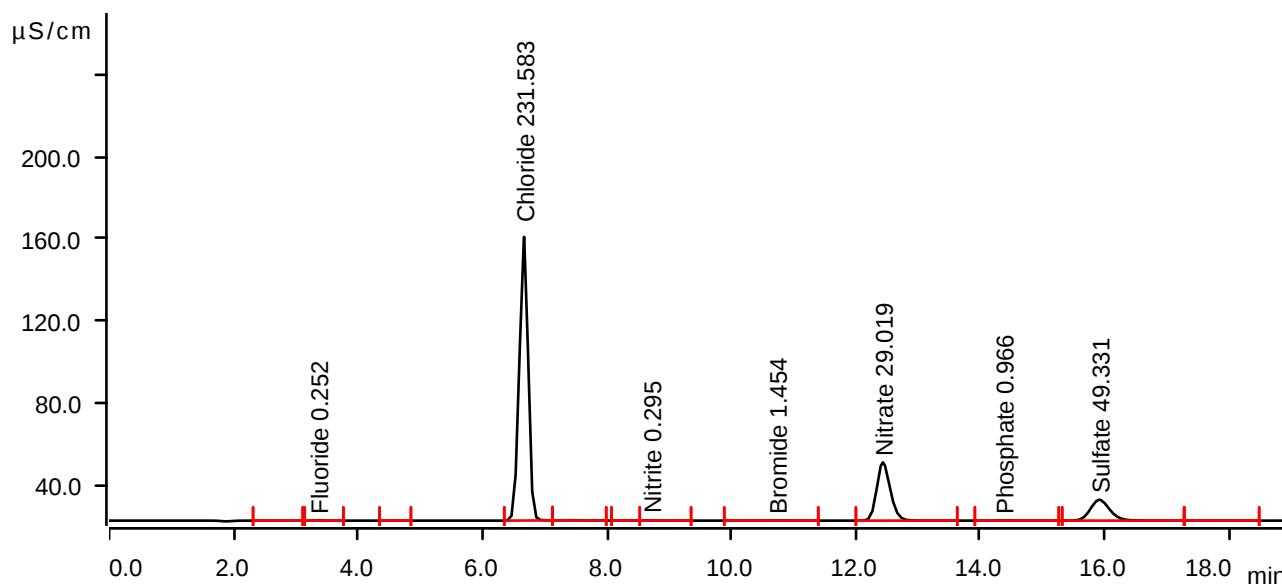
Sample data

Ident Q1061-10
Sample type Sample
Determination start 2025-01-10 15:13:56 UTC-5
Method IC1-121824
Operator

Anions

Data source Conductivity detector 1 (Eco IC 1)
Channel Conductivity
Recording time 19.0 min
Integration Automatically
Column type Metrosep A Supp 19 - 150/4.0
Eluent composition not defined
Flow 0.700 mL/min
Maximum flow monitored yes
Pressure 11.82 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	2.803	0.0060	0.011	invalid	
2	3.362	0.0174	0.125	0.252	Fluoride
3	4.543	0.0029	0.018	invalid	
4	6.672	22.9300	138.463	231.583	Chloride
5	7.358	0.0378	0.094	invalid	
6	8.412	0.0117	0.042	invalid	
7	8.710	0.0223	0.082	0.295	Nitrite
8	10.732	0.0374	0.088	1.454	Bromide
9	12.435	7.1874	28.443	29.019	Nitrate
10	14.370	0.0386	0.095	0.966	Phosphate
11	15.913	3.6878	10.216	49.331	Sulfate
12	17.810	0.0219	0.046	invalid	

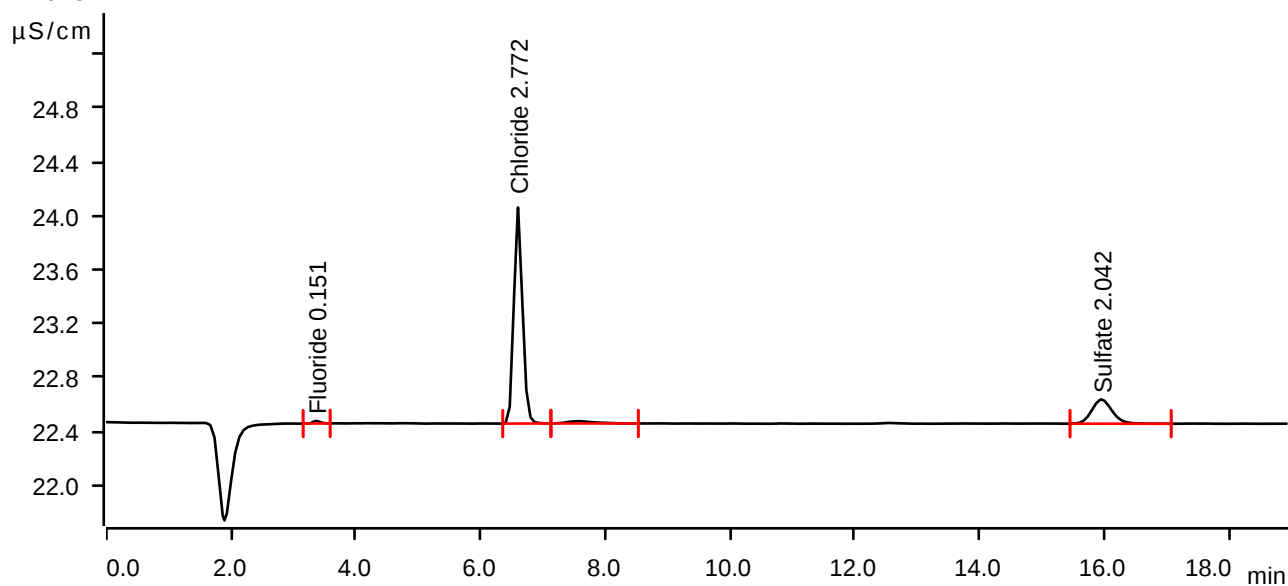
Sample data

Ident Q1061-01DLX10
Sample type Sample
Determination start 2025-01-10 15:35:25 UTC-5
Method IC1-121824
Operator

Anions

Data source Conductivity detector 1 (Eco IC 1)
Channel Conductivity
Recording time 19.0 min
Integration Automatically
Column type Metrosep A Supp 19 - 150/4.0
Eluent composition not defined
Flow 0.700 mL/min
Maximum flow monitored yes
Pressure 11.99 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	3.365	0.0025	0.019	0.151	Fluoride
2	6.598	0.2579	1.603	2.772	Chloride
3	7.553	0.0084	0.017	invalid	
4	15.953	0.0680	0.180	2.042	Sulfate

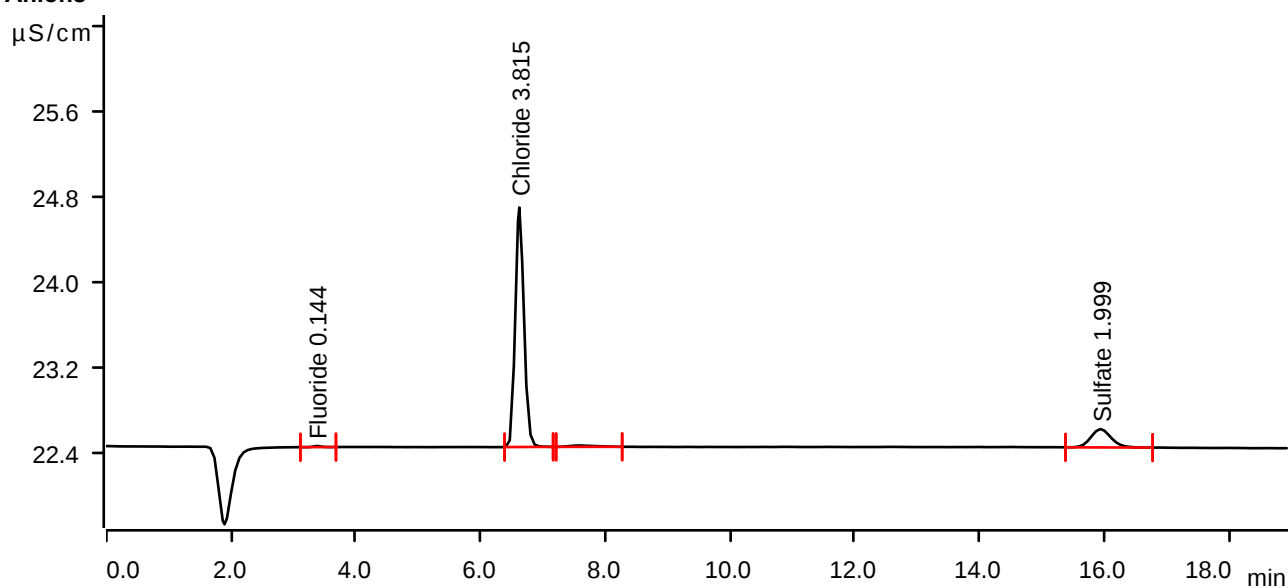
Sample data

Ident Q1061-02DLX10
Sample type Sample
Determination start 2025-01-10 15:56:53 UTC-5
Method IC1-121824
Operator

Anions

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

Anions



Peak number	Retention time min	Area (µS/cm) x min	Height µS/cm	Concentration ppm	Component name
1	3.372	0.0015	0.010	0.144	Fluoride
2	6.622	0.3613	2.244	3.815	Chloride
3	7.582	0.0061	0.012	invalid	
4	15.942	0.0647	0.171	1.999	Sulfate

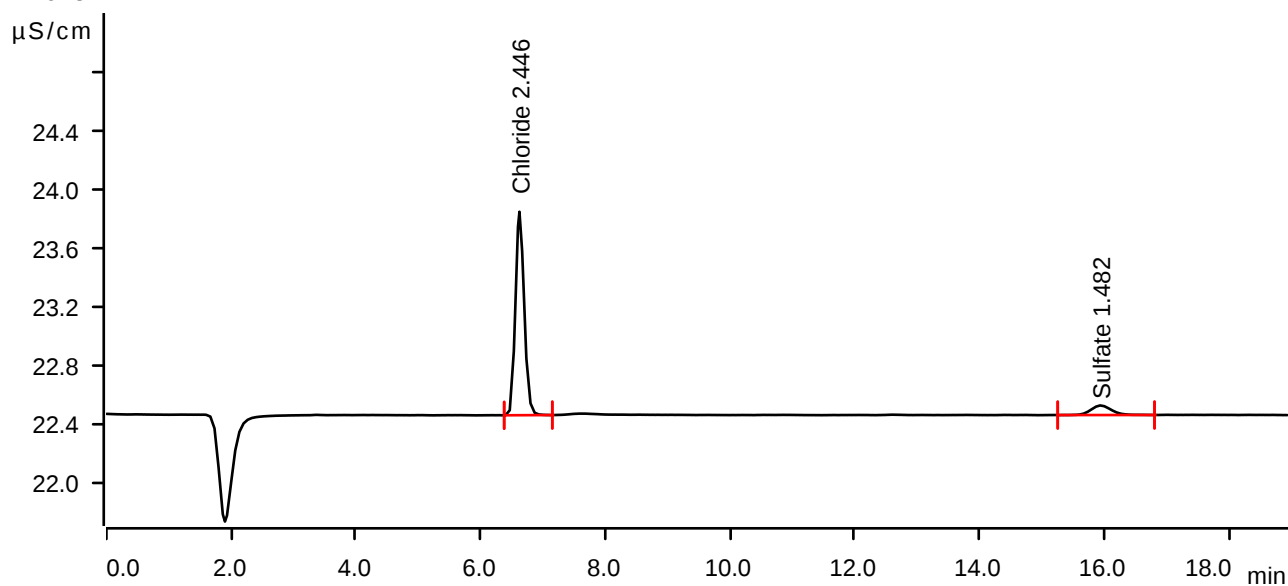
Sample data

Ident Q1061-03DLX50
Sample type Sample
Determination start 2025-01-10 16:18:21 UTC-5
Method IC1-121824
Operator

Anions

Data source Conductivity detector 1 (Eco IC 1)
Channel Conductivity
Recording time 19.0 min
Integration Automatically
Column type Metrosep A Supp 19 - 150/4.0
Eluent composition not defined
Flow 0.700 mL/min
Maximum flow monitored yes
Pressure 11.66 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	6.623	0.2257	1.390	2.446	Chloride
2	15.933	0.0251	0.065	1.482	Sulfate

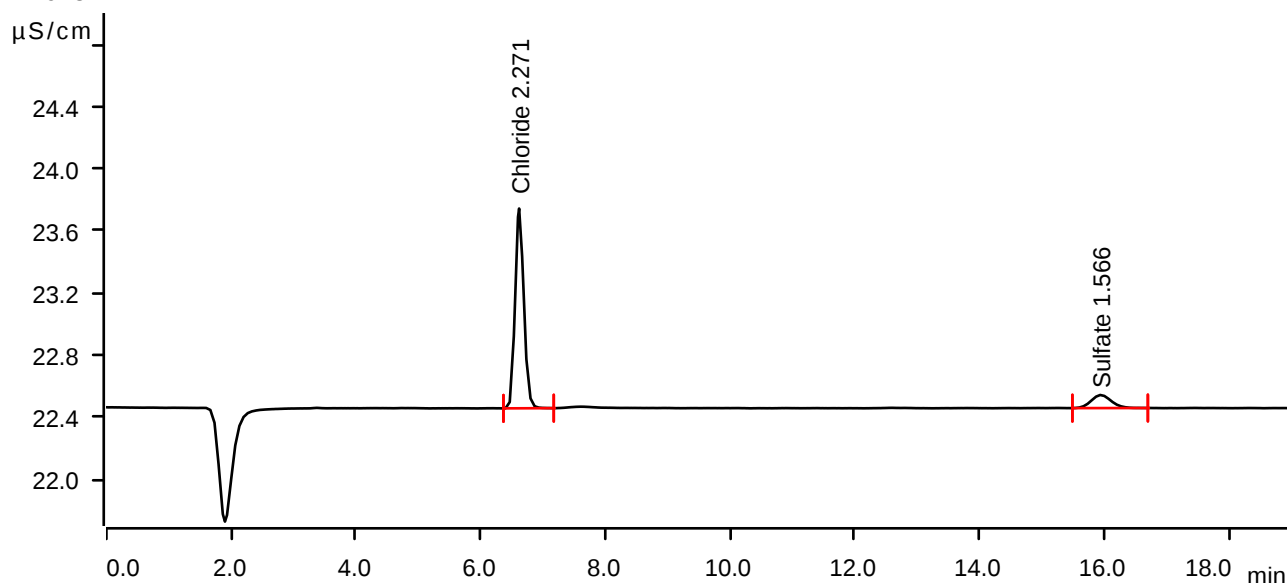
Sample data

Ident Q1061-04DLX50
Sample type Sample
Determination start 2025-01-10 16:39:47 UTC-5
Method IC1-121824
Operator

Anions

Data source Conductivity detector 1 (Eco IC 1)
Channel Conductivity
Recording time 19.0 min
Integration Automatically
Column type Metrosep A Supp 19 - 150/4.0
Eluent composition not defined
Flow 0.700 mL/min
Maximum flow monitored yes
Pressure 11.66 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	6.618	0.2083	1.287	2.271	Chloride
2	15.935	0.0315	0.084	1.566	Sulfate

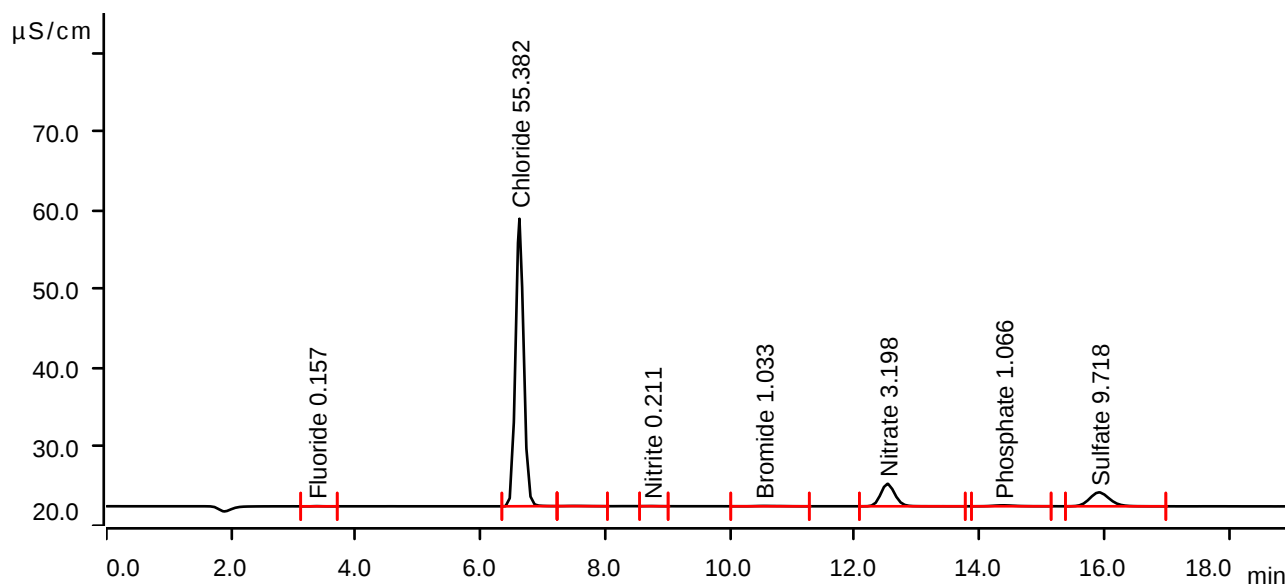
Sample data

Ident Q1061-05DLX5
Sample type Sample
Determination start 2025-01-10 17:01:13 UTC-5
Method IC1-121824
Operator

Anions

Data source Conductivity detector 1 (Eco IC 1)
Channel Conductivity
Recording time 19.0 min
Integration Automatically
Column type Metrosep A Supp 19 - 150/4.0
Eluent composition not defined
Flow 0.700 mL/min
Maximum flow monitored yes
Pressure 12.73 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	3.370	0.0034	0.025	0.157	Fluoride
2	6.623	5.4708	36.483	55.382	Chloride
3	7.513	0.0106	0.028	invalid	
4	8.740	0.0035	0.018	0.211	Nitrite
5	10.538	0.0188	0.042	1.033	Bromide
6	12.523	0.7556	2.854	3.198	Nitrate
7	14.377	0.0475	0.119	1.066	Phosphate
8	15.915	0.6556	1.768	9.718	Sulfate

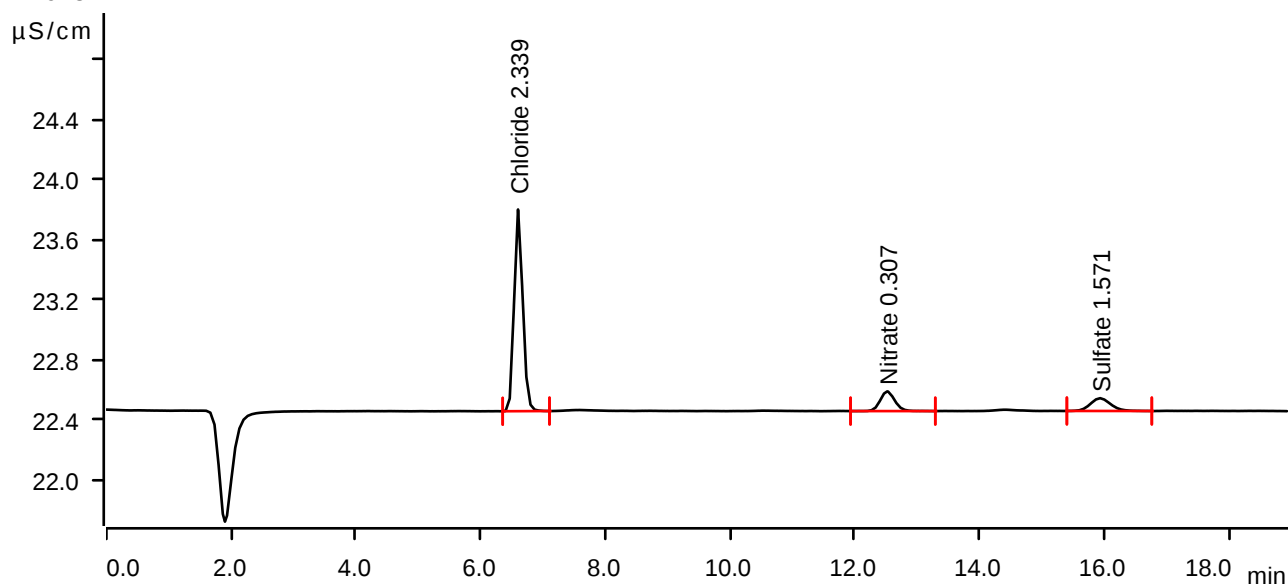
Sample data

Ident Q1061-05DL2X100
Sample type Sample
Determination start 2025-01-10 17:22:38 UTC-5
Method IC1-121824
Operator

Anions

Data source Conductivity detector 1 (Eco IC 1)
Channel Conductivity
Recording time 19.0 min
Integration Automatically
Column type Metrosep A Supp 19 - 150/4.0
Eluent composition not defined
Flow 0.700 mL/min
Maximum flow monitored yes
Pressure 12.61 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	6.602	0.2151	1.339	2.339	Chloride
2	12.520	0.0354	0.131	0.307	Nitrate
3	15.935	0.0320	0.085	1.571	Sulfate

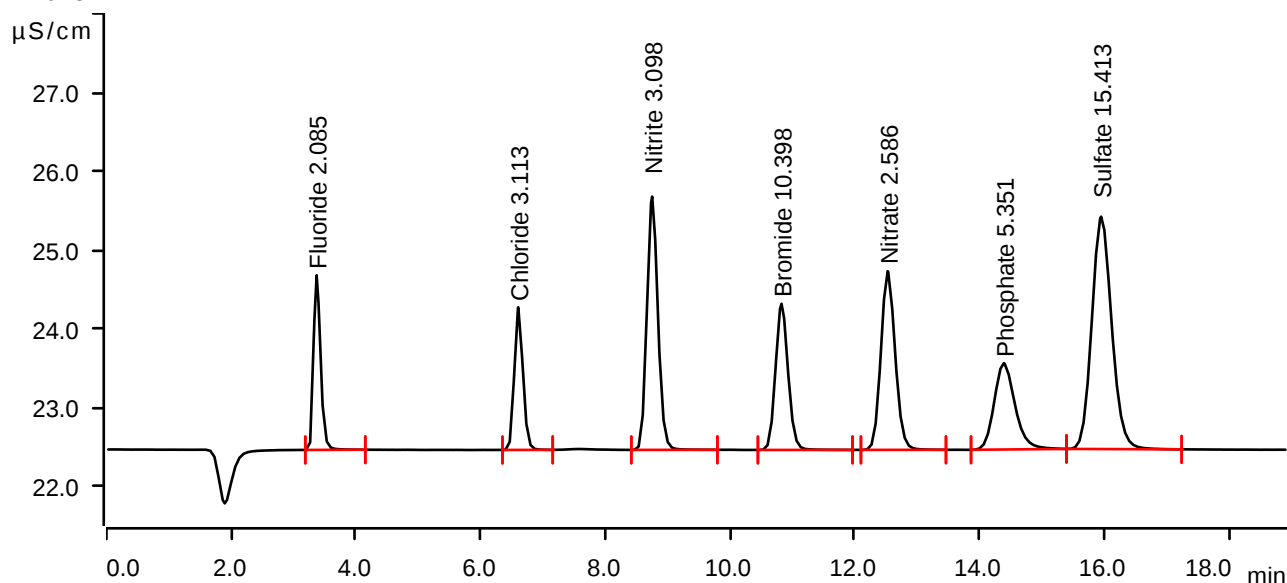
Sample data

Ident CCV
Sample type Check standard 1
Determination start 2025-01-10 17:44:03 UTC-5
Method IC1-121824
Operator

Anions

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

Anions



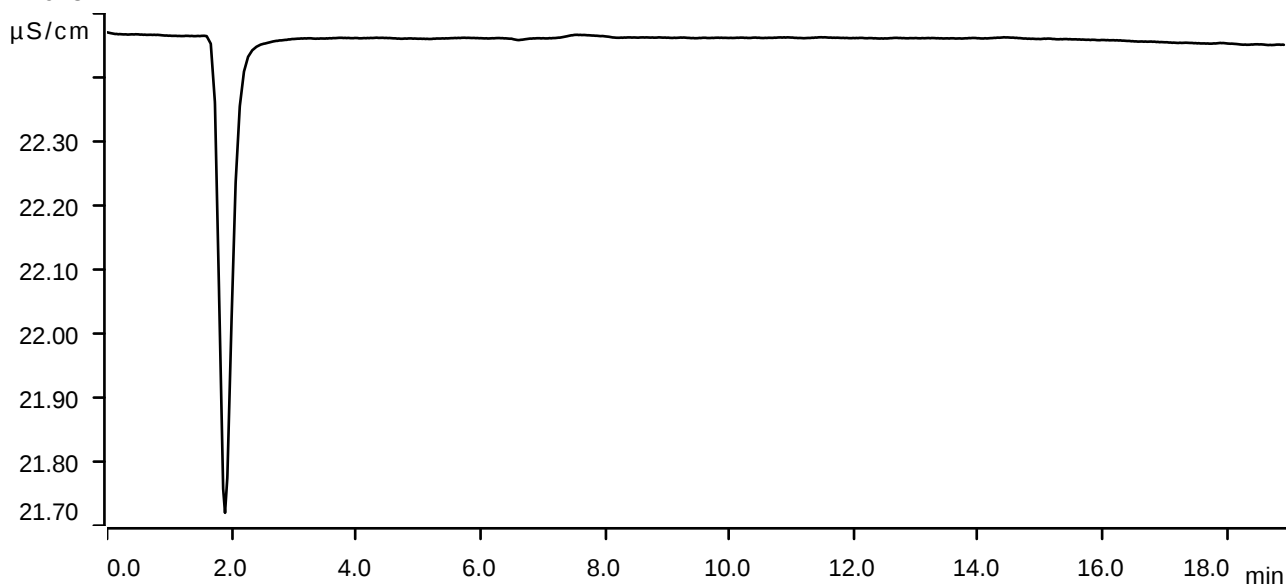
Peak number	Retention time min	Area (µS/cm) x min	Height µS/cm	Concentration ppm	Component name
1	3.372	0.2881	2.216	2.085	Fluoride
2	6.605	0.2917	1.810	3.113	Chloride
3	8.752	0.6559	3.214	3.098	Nitrite
4	10.825	0.4330	1.855	10.398	Bromide
5	12.527	0.6030	2.268	2.586	Nitrate
6	14.388	0.4233	1.095	5.351	Phosphate
7	15.950	1.0915	2.949	15.413	Sulfate

Sample data

Ident CCB
Sample type Sample
Determination start 2025-01-10 18:05:33 UTC-5
Method IC1-121824
Operator

Anions

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

Anions

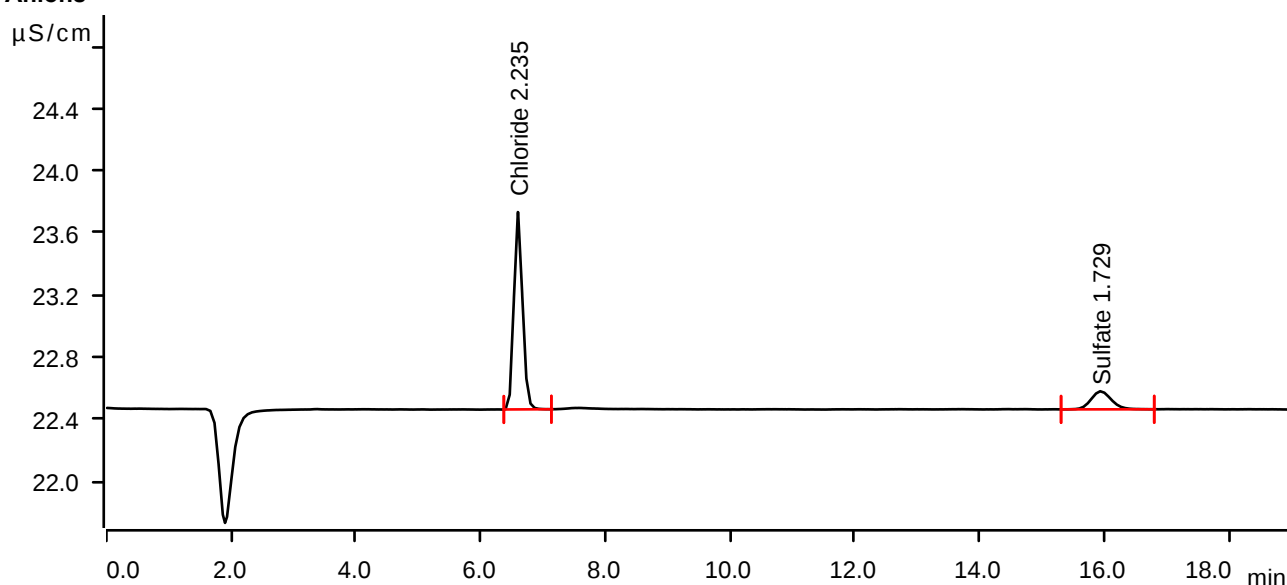
Sample data

Ident Q1061-06DLX50
Sample type Sample
Determination start 2025-01-10 18:27:02 UTC-5
Method IC1-121824
Operator

Anions

Data source Conductivity detector 1 (Eco IC 1)
Channel Conductivity
Recording time 19.0 min
Integration Automatically
Column type Metrosep A Supp 19 - 150/4.0
Eluent composition not defined
Flow 0.700 mL/min
Maximum flow monitored yes
Pressure 11.94 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	6.598	0.2048	1.271	2.235	Chloride
2	15.935	0.0440	0.116	1.729	Sulfate

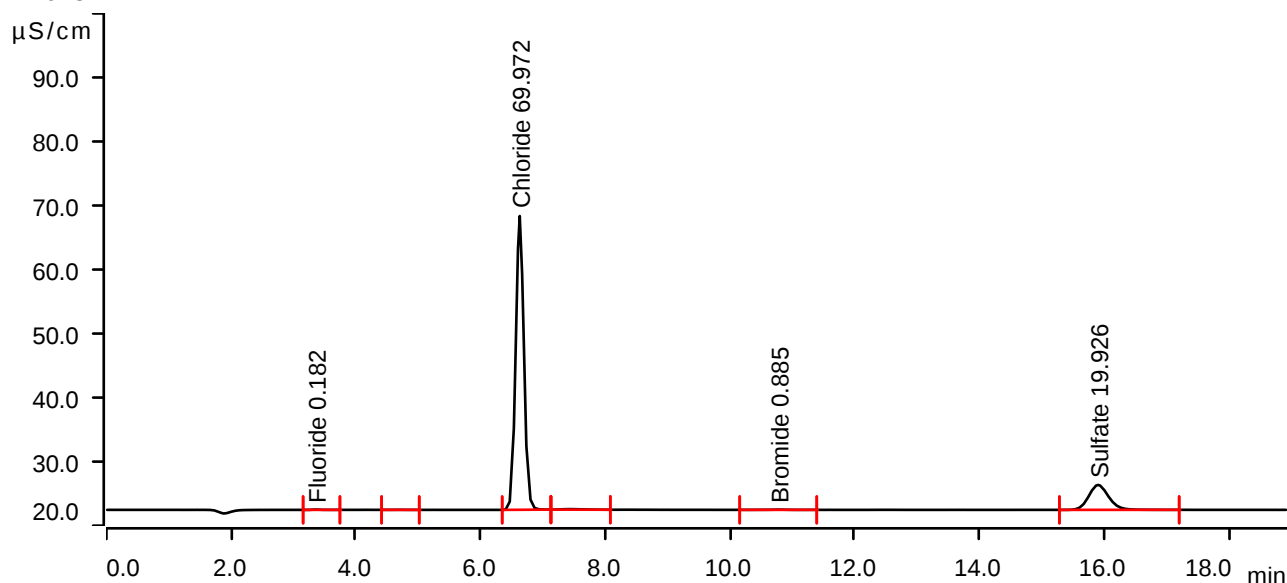
Sample data

Ident Q1061-07DLX2
Sample type Sample
Determination start 2025-01-10 18:48:26 UTC-5
Method IC1-121824
Operator

Anions

Data source Conductivity detector 1 (Eco IC 1)
Channel Conductivity
Recording time 19.0 min
Integration Automatically
Column type Metrosep A Supp 19 - 150/4.0
Eluent composition not defined
Flow 0.700 mL/min
Maximum flow monitored yes
Pressure 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	3.360	0.0071	0.051	0.182	Fluoride
2	4.698	0.0025	0.012	invalid	
3	6.628	6.9166	45.886	69.972	Chloride
4	7.438	0.0348	0.082	invalid	
5	10.777	0.0122	0.041	0.885	Bromide
6	15.900	1.4370	3.894	19.926	Sulfate

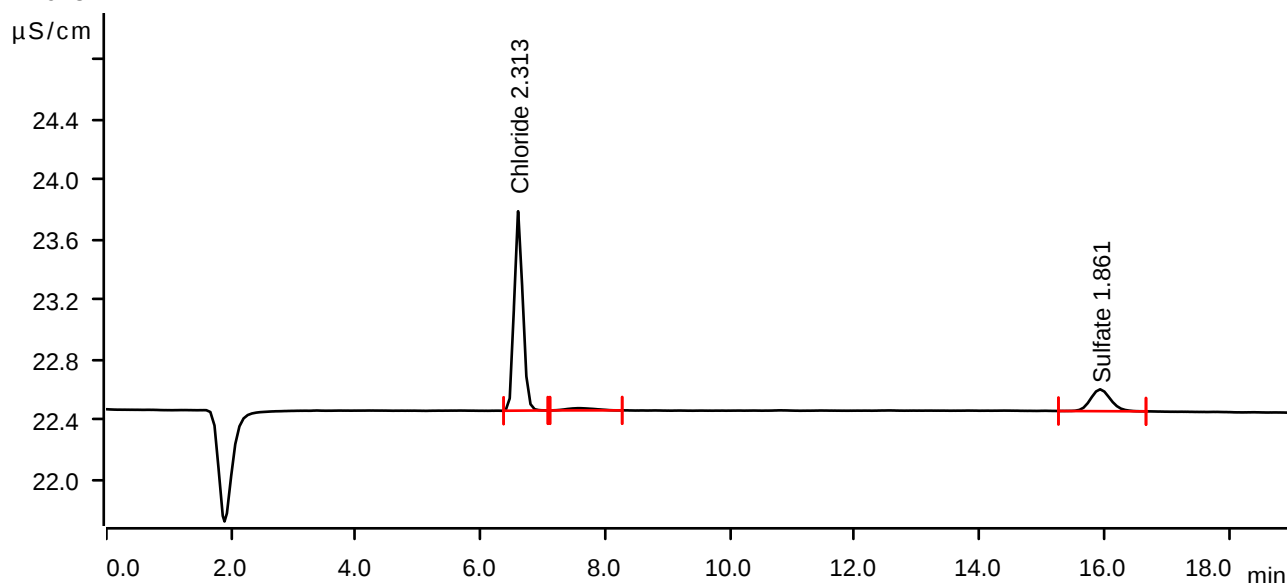
Sample data

Ident Q1061-07DL2X50
Sample type Sample
Determination start 2025-01-10 19:09:59 UTC-5
Method IC1-121824
Operator

Anions

Data source Conductivity detector 1 (Eco IC 1)
Channel Conductivity
Recording time 19.0 min
Integration Automatically
Column type Metrosep A Supp 19 - 150/4.0
Eluent composition not defined
Flow 0.700 mL/min
Maximum flow monitored yes
Pressure 11.88 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	6.603	0.2125	1.324	2.313	Chloride
2	7.572	0.0077	0.014	invalid	
3	15.933	0.0541	0.145	1.861	Sulfate

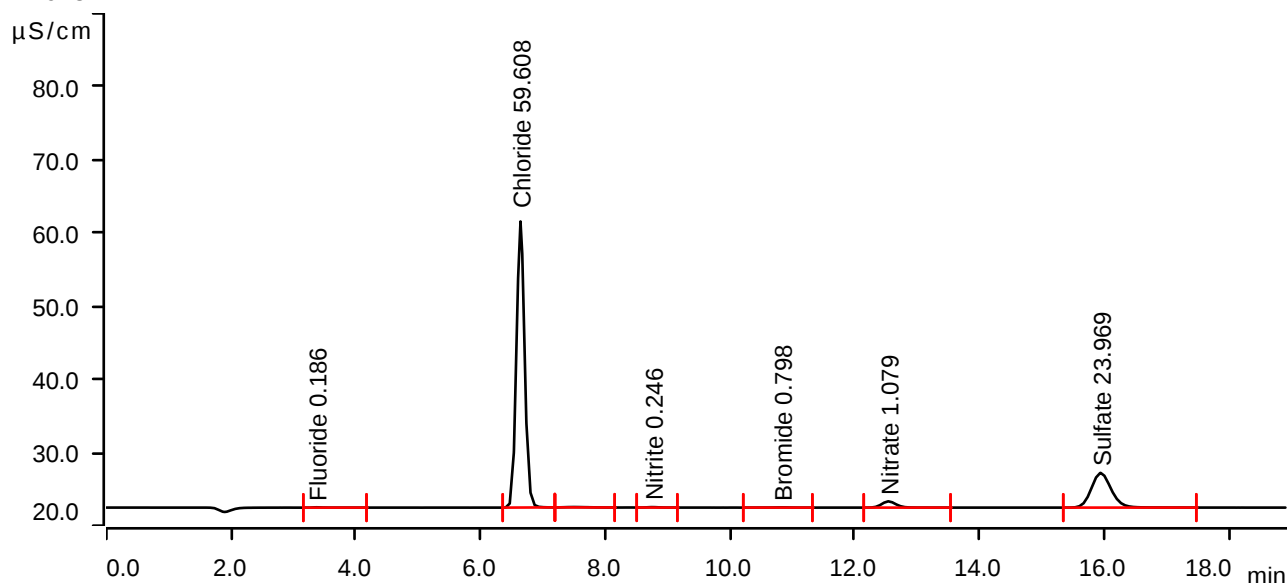
Sample data

Ident Q1061-08DLX2
Sample type Sample
Determination start 2025-01-10 19:31:32 UTC-5
Method IC1-121824
Operator

Anions

Data source Conductivity detector 1 (Eco IC 1)
Channel Conductivity
Recording time 19.0 min
Integration Automatically
Column type Metrosep A Supp 19 - 150/4.0
Eluent composition not defined
Flow 0.700 mL/min
Maximum flow monitored yes
Pressure 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	3.370	0.0076	0.047	0.186	Fluoride
2	6.640	5.8897	39.096	59.608	Chloride
3	7.500	0.0235	0.055	invalid	
4	8.758	0.0114	0.058	0.246	Nitrite
5	10.828	0.0084	0.027	0.798	Bromide
6	12.540	0.2278	0.853	1.079	Nitrate
7	15.942	1.7465	4.740	23.969	Sulfate

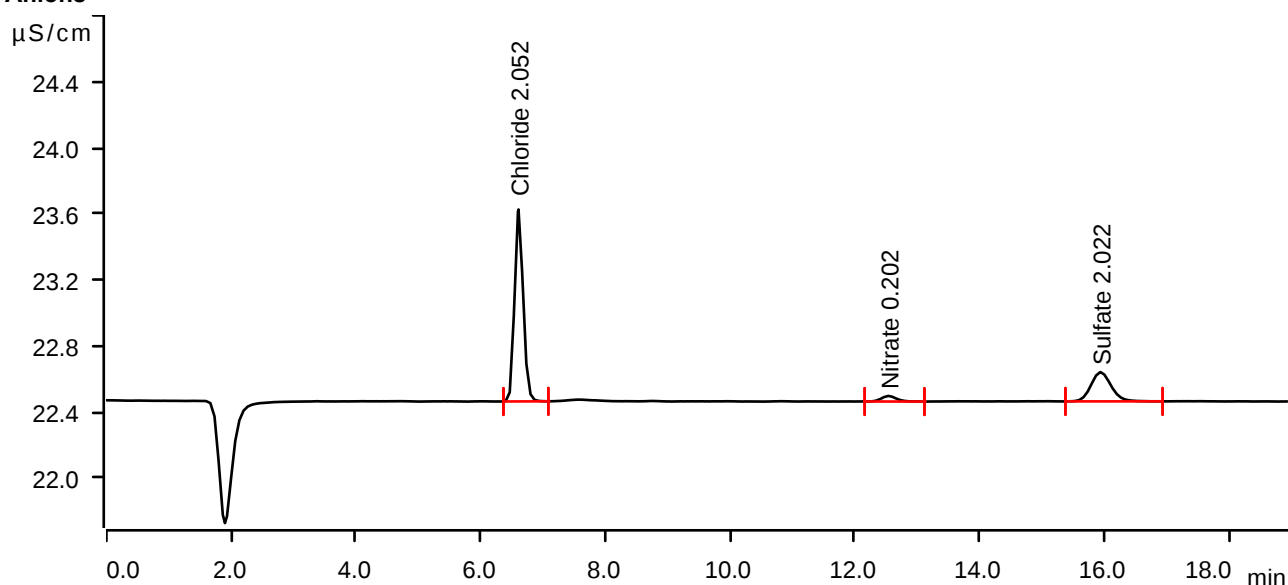
Sample data

Ident Q1061-08DL2X50
Sample type Sample
Determination start 2025-01-10 19:53:06 UTC-5
Method IC1-121824
Operator

Anions

Data source Conductivity detector 1 (Eco IC 1)
Channel Conductivity
Recording time 19.0 min
Integration Automatically
Column type Metrosep A Supp 19 - 150/4.0
Eluent composition not defined
Flow 0.700 mL/min
Maximum flow monitored yes
Pressure 11.77 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	6.608	0.1866	1.162	2.052	Chloride
2	12.542	0.0093	0.034	0.202	Nitrate
3	15.940	0.0665	0.177	2.022	Sulfate

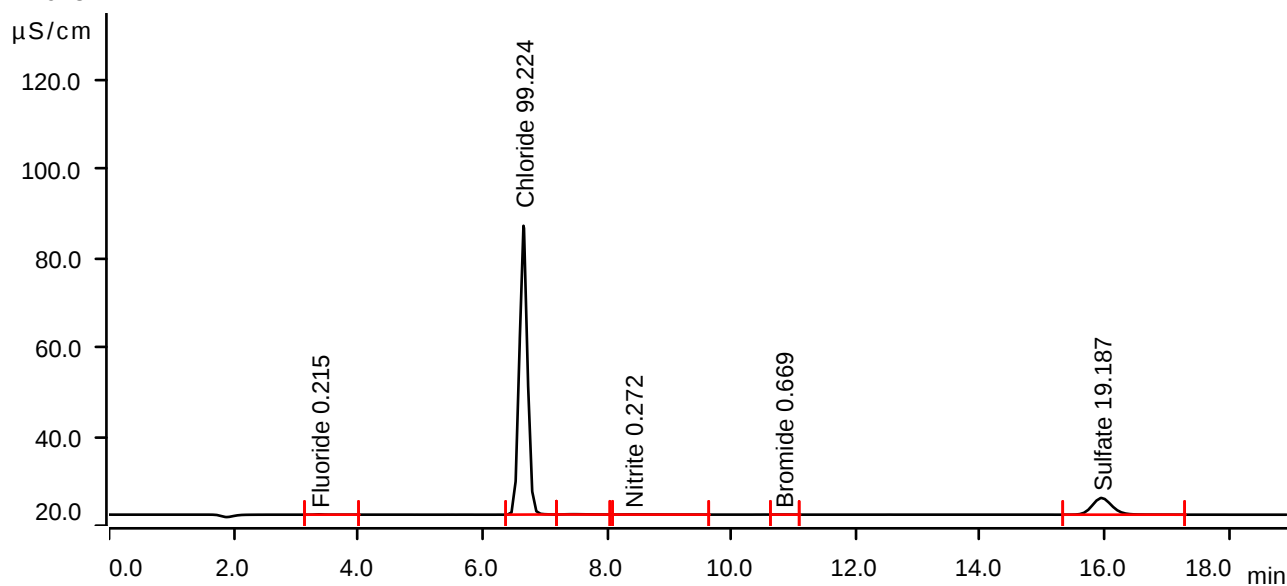
Sample data

Ident Q1061-09DLX2
Sample type Sample
Determination start 2025-01-10 20:14:40 UTC-5
Method IC1-121824
Operator

Anions

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

Anions



Peak number	Retention time min	Area (µS/cm) x min	Height µS/cm	Concentration ppm	Component name
1	3.375	0.0119	0.077	0.215	Fluoride
2	6.660	9.8150	64.843	99.224	Chloride
3	7.462	0.0260	0.064	invalid	
4	8.415	0.0171	0.031	0.272	Nitrite
5	10.827	0.0027	0.013	0.669	Bromide
6	15.948	1.3804	3.748	19.187	Sulfate

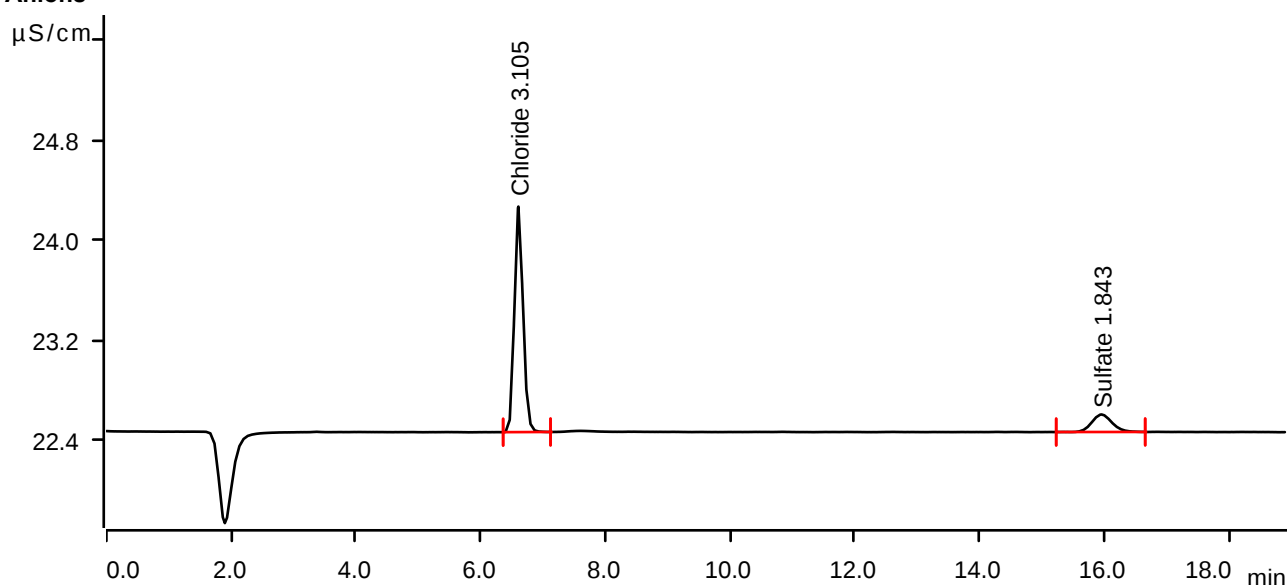
Sample data

Ident Q1061-09DL2X50
Sample type Sample
Determination start 2025-01-10 20:36:14 UTC-5
Method IC1-121824
Operator

Anions

Data source Conductivity detector 1 (Eco IC 1)
Channel Conductivity
Recording time 19.0 min
Integration Automatically
Column type Metrosep A Supp 19 - 150/4.0
Eluent composition not defined
Flow 0.700 mL/min
Maximum flow monitored yes
Pressure 11.99 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	6.607	0.2910	1.805	3.105	Chloride
2	15.957	0.0528	0.140	1.843	Sulfate

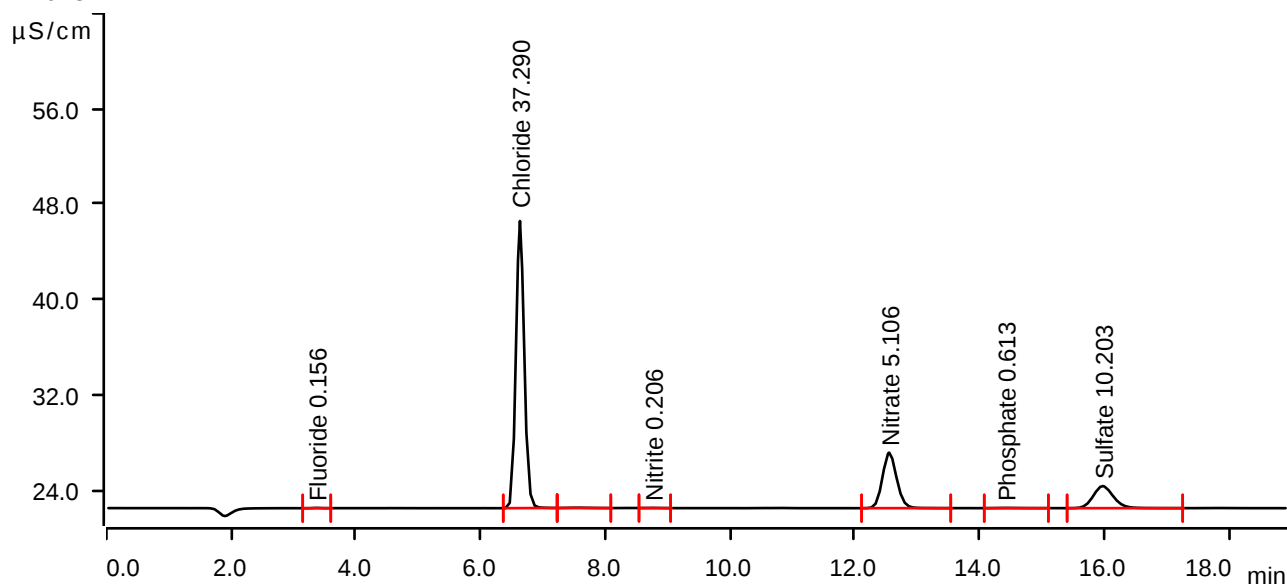
Sample data

Ident Q1061-10DLX5
Sample type Sample
Determination start 2025-01-10 20:57:47 UTC-5
Method IC1-121824
Operator

Anions

Data source Conductivity detector 1 (Eco IC 1)
Channel Conductivity
Recording time 19.0 min
Integration Automatically
Column type Metrosep A Supp 19 - 150/4.0
Eluent composition not defined
Flow 0.700 mL/min
Maximum flow monitored yes
Pressure 11.54 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	3.370	0.0032	0.024	0.156	Fluoride
2	6.632	3.6782	24.103	37.290	Chloride
3	7.550	0.0104	0.027	invalid	
4	8.762	0.0023	0.011	0.206	Nitrite
5	12.552	1.2309	4.662	5.106	Nitrate
6	14.417	0.0077	0.019	0.613	Phosphate
7	15.975	0.6927	1.852	10.203	Sulfate

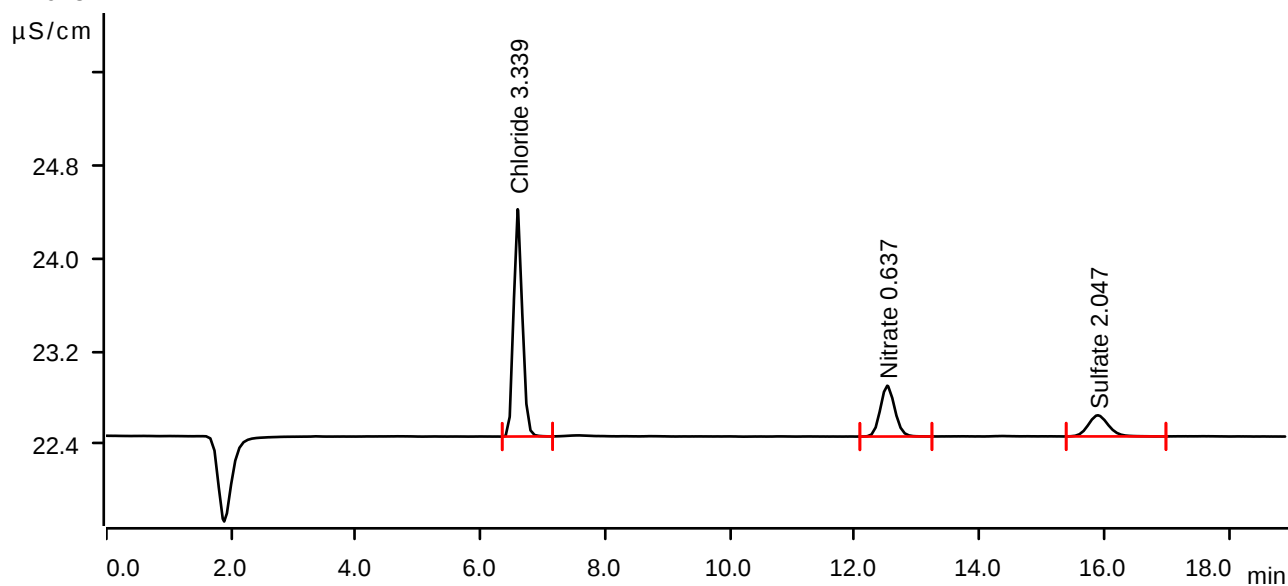
Sample data

Ident Q1061-10DL2X50
Sample type Sample
Determination start 2025-01-10 22:02:14 UTC-5
Method IC1-121824
Operator

Anions

Data source Conductivity detector 1 (Eco IC 1)
Channel Conductivity
Recording time 19.0 min
Integration Automatically
Column type Metrosep A Supp 19 - 150/4.0
Eluent composition not defined
Flow 0.700 mL/min
Maximum flow monitored yes
Pressure 11.77 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	6.595	0.3141	1.953	3.339	Chloride
2	12.520	0.1175	0.436	0.637	Nitrate
3	15.898	0.0684	0.181	2.047	Sulfate

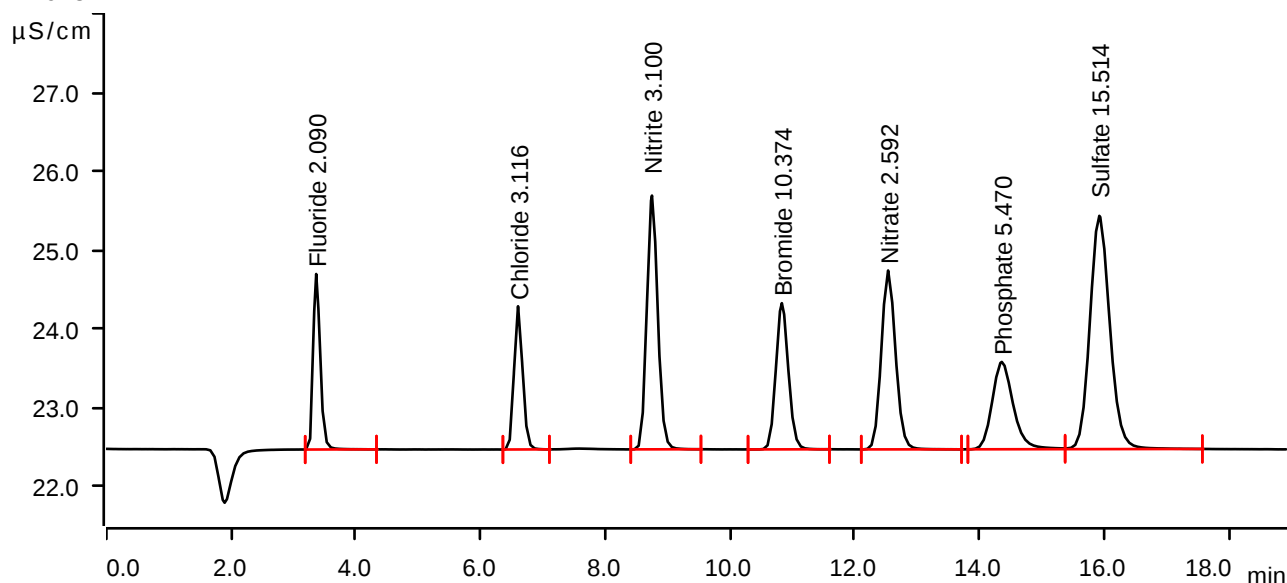
Sample data

Ident CCV
Sample type Check standard 1
Determination start 2025-01-10 22:45:06 UTC-5
Method IC1-121824
Operator

Anions

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

Anions



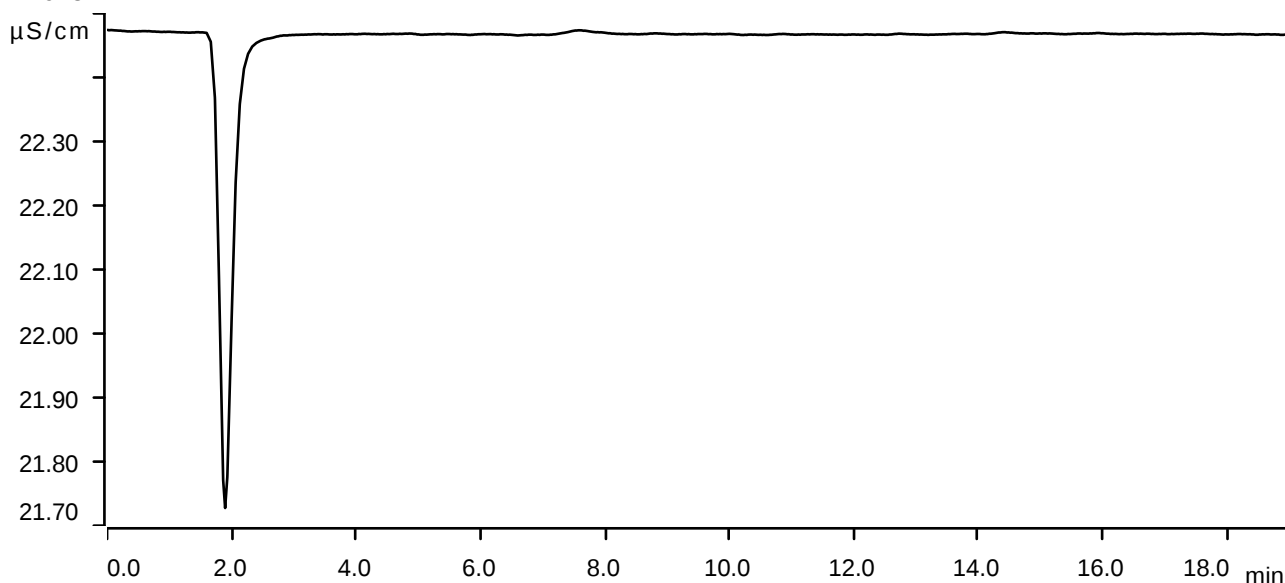
Peak number	Retention time min	Area (µS/cm) x min	Height µS/cm	Concentration ppm	Component name
1	3.365	0.2889	2.227	2.090	Fluoride
2	6.602	0.2920	1.817	3.116	Chloride
3	8.748	0.6563	3.220	3.100	Nitrite
4	10.830	0.4319	1.856	10.374	Bromide
5	12.533	0.6046	2.270	2.592	Nitrate
6	14.357	0.4337	1.109	5.470	Phosphate
7	15.920	1.0993	2.961	15.514	Sulfate

Sample data

Ident CCB
Sample type Sample
Determination start 2025-01-10 23:06:37 UTC-5
Method IC1-121824
Operator

Anions

Data source Conductivity detector 1 (Eco IC 1)
Channel Conductivity
Recording time 19.0 min
Integration Automatically
Column type Metrosep A Supp 19 - 150/4.0
Eluent composition not defined
Flow 0.700 mL/min
Maximum flow monitored yes
Pressure 14.41 MPa
Maximum pressure monitored yes
Temperature ---- °C

Anions

Analytical Summary Report

Analysis Method: 365.3
Parameter: Phosphorus-Total
Run Number: LB134293

ANALYST: Niha
SUPERVISOR REVIEW BY: Iwona

Reagent/Standard	Lot/Log #
calibration std. phosphate 1 ppm	WP111410
calibration std. phosphate 0.5 ppm	WP111408
calibration std. phosphate 0.3 ppm	WP111407
calibration std. phosphate 0.1 ppm	WP111406
calibration std. phosphate 0.05 ppm	WP111405
calibration std. 0 ppm	WP111404
phosphate CCV std.	WP111411
Combined reagent	WP111414
Phenolphthalein indicator	WP111415
Sodium hydroxide, 1N	WP111323
Phosphate ICV-LCS Std	WP111412

Intercept: -0.0074 Slope: 0.6875 Regression: 0.999207

Seq	Lab ID	True Value (mg/L)	DF	Initial Volume (mL)	Final Volume (mL)	Absorbance Reading at 880nm	Result (mg/L)	%D	AnalDate	AnalTime
1	CAL1	0.00	1	50	50	0.000	0.011		01/15/2025	14:00
2	CAL2	0.05	1	50	50	0.033	0.059	18	01/15/2025	14:00
3	CAL3	0.10	1	50	50	0.064	0.104	4	01/15/2025	14:01
4	CAL4	0.30	1	50	50	0.186	0.281	-6.3	01/15/2025	14:01
5	CAL5	0.50	1	50	50	0.323	0.481	-3.8	01/15/2025	14:02
6	CAL6	1.00	1	50	50	0.690	1.014	1.4	01/15/2025	14:02

Analytical Summary Report

Analysis Method: 365.3

ANALYST: Niha

Parameter: Phosphorus-Total

SUPERVISOR REVIEW BY: Iwona

Run Number: LB134293

Seq	Lab ID	True Value (mg/l)	DF	Initial Volume (mL)	Final Volume (mL)	Absorbance Reading at 880nm	Result (mg/L)	AnalDate	AnalTime
1	ICV	0.50	1	50	50	0.324	0.482	01/15/2025	14:03
2	ICB		1	50	50	0.000	0.011	01/15/2025	14:03
3	CCV1	0.50	1	50	50	0.328	0.488	01/15/2025	14:04
4	CCB1		1	50	50	0.000	0.011	01/15/2025	14:04
5	RL Check	0.01	1	50	50	0.032	0.057	01/15/2025	14:05
6	PB166041BL		1	50	50	0.000	0.011	01/15/2025	14:05
7	PB166041BS	0.50	1	50	50	0.324	0.482	01/15/2025	14:06
8	Q1061-01		1	50	50	0.170	0.258	01/15/2025	14:06
9	Q1061-01DUP		1	50	50	0.169	0.257	01/15/2025	14:07
10	Q1061-01MS	0.50	1	50	50	0.492	0.726	01/15/2025	14:07
11	Q1061-01MSD	0.50	1	50	50	0.490	0.723	01/15/2025	14:08
12	Q1061-02		1	50	50	0.188	0.284	01/15/2025	14:08
13	Q1061-03		1	50	50	0.160	0.243	01/15/2025	14:09
14	Q1061-04		1	50	50	0.687	1.010	01/15/2025	14:09
15	Q1061-05		1	50	50	1.408	2.059	01/15/2025	14:10
16	CCV2	0.50	1	50	50	0.324	0.482	01/15/2025	14:10
17	CCB2		1	50	50	0.000	0.011	01/15/2025	14:11
18	Q1061-06		1	50	50	0.129	0.198	01/15/2025	14:11
19	Q1061-07		1	50	50	0.258	0.386	01/15/2025	14:12
20	Q1061-08		1	50	50	0.127	0.195	01/15/2025	14:12
21	Q1061-09		1	50	50	0.156	0.238	01/15/2025	14:13
22	Q1061-10		1	50	50	0.892	1.308	01/15/2025	14:13
23	Q1070-01		1	50	50	1.054	1.544	01/15/2025	14:14
24	Q1061-05		20	50	50	0.187	0.283	01/15/2025	14:14
25	Q1061-10		5	50	50	0.344	0.511	01/15/2025	14:15
26	Q1070-01		5	50	50	0.495	0.731	01/15/2025	14:15
27	CCV3	0.50	1	50	50	0.328	0.488	01/15/2025	14:16
28	CCB3		1	50	50	0.000	0.011	01/15/2025	14:16

SOP ID : M365.3 & SM4500-P E-18

SDG No : N/A

Start Digest Date: 01/15/2025 Time : 11:45 Temp : 95 °C

Matrix : WATER

End Digest Date: 01/15/2025 Time : 12:45 Temp : 96 °C

Pipette ID : WC

Balance ID : N/A

Hood ID : HOOD#3

Digestion tube ID : M5595

Block Thermometer ID : WC-BLOCK#1

Block ID : WC S-1, WC S-2

Filter paper ID : 400213

Prep Technician Signature: NF

Weigh By : N/A

pH Meter ID : N/A

Supervisor Signature: 12

Standardized Name	MLS USED	STD REF. # FROM LOG
LCSW	0.5ML	WP110401
MS/MSD SPIKE SOL.	0.5ML	WP110400
PBW	50ML	W3112
N/A	N/A	N/A
N/A	N/A	N/A

Chemical Used	ML/SAMPLE USED	Lot Number
11N H2SO4	1ML	WP109922
AMMONIUM PERSULFATE	0.4g	W3035
pH Paper 0-14	N/A	W3140
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A

LAB SAMPLE ID	CLIENT SAMPLE ID	Wt(g)/Vol(ml)	Comment
CAL1	CAL1	50.0ML	WP111404
CAL2	CAL2	50.0ML	WP111405
CAL3	CAL3	50.0ML	WP111406
CAL4	CAL4	50.0ML	WP111407
CAL5	CAL5	50.0ML	WP111408
CAL6	CAL6	50.0ML	WP111410
ICV	ICV	50.0ML	WP111412
ICB	ICB	50.0ML	W3112
CCV	CCV	50.0ML	WP111411
CCB	CCB	50.0ML	W3112

Extraction Conformance/Non-Conformance Comments:

N/A

Date / Time	Prepped Sample Relinquished By/Location	Received By/Location
	Preparation Group	Analysis Group

NF

01.15.2025

Lab Sample ID	Client Sample ID	Initial Vol (ml)	Final Vol (ml)	pH	Sulfide	Oxidizing	Nitrate/ Nitrite	Comment	Prep Pos
PB166041BL	PBW041	50	50	<2	N/A	N/A	N/A	N/A	N/A
PB166041BS	LCS041	50	50	<2	N/A	N/A	N/A	N/A	N/A
Q1061-01DUP	MW-1DUP	50	50	<2	N/A	N/A	N/A	N/A	N/A
Q1061-01MS	MW-1MS	50	50	<2	N/A	N/A	N/A	N/A	N/A
Q1061-01MSD	MW-1MSD	50	50	<2	N/A	N/A	N/A	N/A	N/A
Q1061-01	MW-1	50	50	<2	N/A	N/A	N/A	N/A	N/A
Q1061-02	MW-2	50	50	<2	N/A	N/A	N/A	N/A	N/A
Q1061-03	MW-3	50	50	<2	N/A	N/A	N/A	N/A	N/A
Q1061-04	MW-4	50	50	<2	N/A	N/A	N/A	N/A	N/A
Q1061-05	MW-5	50	50	<2	N/A	N/A	N/A	N/A	N/A
Q1061-06	MW-6	50	50	<2	N/A	N/A	N/A	N/A	N/A
Q1061-07	MW-7	50	50	<2	N/A	N/A	N/A	N/A	N/A
Q1061-08	MW-8	50	50	<2	N/A	N/A	N/A	N/A	N/A
Q1061-09	MW-9	50	50	<2	N/A	N/A	N/A	N/A	N/A
Q1061-10	MW-10	50	50	<2	N/A	N/A	N/A	N/A	N/A
Q1070-01	1 EFFLUENT COMPOSITE	50	50	<2	N/A	N/A	N/A	N/A	N/A

WORKLIST(Hardcopy Internal Chain)

WorkList Name : TOTAL P-01132025

WorkList ID : 186887

Department : Distillation

Date : 01-13-2025 09:24:11

Sample	Customer Sample	Matrix	Test	Preservative	Customer	Raw Sample Storage Location	Collect Date	Method
Q1061-01	MW-1	Water	Phosphorus-Total	Conc H2SO4 to pH < 2	DEWB01	M11	01/09/2025	365.3
Q1061-02	MW-2	Water	Phosphorus-Total	Conc H2SO4 to pH < 2	DEWB01	M11	01/09/2025	365.3
Q1061-03	MW-3	Water	Phosphorus-Total	Conc H2SO4 to pH < 2	DEWB01	M11	01/09/2025	365.3
Q1061-04	MW-4	Water	Phosphorus-Total	Conc H2SO4 to pH < 2	DEWB01	M11	01/09/2025	365.3
Q1061-05	MW-5	Water	Phosphorus-Total	Conc H2SO4 to pH < 2	DEWB01	M11	01/09/2025	365.3
Q1061-06	MW-6	Water	Phosphorus-Total	Conc H2SO4 to pH < 2	DEWB01	M11	01/09/2025	365.3
Q1061-07	MW-7	Water	Phosphorus-Total	Conc H2SO4 to pH < 2	DEWB01	M11	01/09/2025	365.3
Q1061-08	MW-8	Water	Phosphorus-Total	Conc H2SO4 to pH < 2	DEWB01	M11	01/09/2025	365.3
Q1061-09	MW-9	Water	Phosphorus-Total	Conc H2SO4 to pH < 2	DEWB01	M11	01/09/2025	365.3
Q1061-10	MW-10	Water	Phosphorus-Total	Conc H2SO4 to pH < 2	DEWB01	M11	01/09/2025	365.3
Q1070-01	1 EFFLUENT COMPOSITE	Water	Phosphorus-Total	Conc H2SO4 to pH < 2	M&MM01	M11	01/10/2025	365.3

Date/Time 01.15.2024 , 09:00

Raw Sample Received by: NFWC

Raw Sample Relinquished by: NFWC

Date/Time 01.15.2024 , 11:00

Raw Sample Received by: NFWC

Raw Sample Relinquished by: NFWC

Instrument ID: WC SC-3

Daily Analysis Runlog For Sequence/QC Batch ID # LB134233

Review By	jignesh	Review On	1/13/2025 11:20:21 AM
Supervise By	Iwona	Supervise On	1/13/2025 12:00:30 PM
SubDirectory	LB134233	Test	TDS
STD. NAME	STD REF.#		
ICAL Standard	N/A		
ICV Standard	N/A		
CCV Standard	N/A		
ICSA Standard	N/A		
CRI Standard	N/A		
LCS Standard	N/A		
Chk Standard	N/A		

Sr#	SampleId	ClientID	QcType	Date	Comment	Operator	Status
1	LB134233BL	LB134233BL	MB	01/10/25 12:30		jignesh	OK
2	LB134233BS	LB134233BS	LCS	01/10/25 12:30		jignesh	OK
3	Q1061-01	MW-1	SAM	01/10/25 12:30		jignesh	OK
4	Q1061-02	MW-2	SAM	01/10/25 12:30		jignesh	OK
5	Q1061-03	MW-3	SAM	01/10/25 12:30		jignesh	OK
6	Q1061-04	MW-4	SAM	01/10/25 12:30		jignesh	OK
7	Q1061-05	MW-5	SAM	01/10/25 12:30		jignesh	OK
8	Q1061-06	MW-6	SAM	01/10/25 12:30		jignesh	OK
9	Q1061-07	MW-7	SAM	01/10/25 12:30		jignesh	OK
10	Q1061-08	MW-8	SAM	01/10/25 12:30		jignesh	OK
11	Q1061-09	MW-9	SAM	01/10/25 12:30		jignesh	OK
12	Q1061-10	MW-10	SAM	01/10/25 12:30		jignesh	OK
13	Q1070-01	1 EFFLUENT COMPO	SAM	01/10/25 12:30		jignesh	OK
14	Q1070-01DUP	1 EFFLUENT COMPO	DUP	01/10/25 12:30		jignesh	OK

Instrument ID: IC-2

Daily Analysis Runlog For Sequence/QC Batch ID # LB134248

Review By	Niha	Review On	1/14/2025 3:13:33 PM
Supervise By	Iwona	Supervise On	1/14/2025 3:35:35 PM
SubDirectory	LB134248	Test	Anions
STD. NAME	STD REF.#		
ICAL Standard	WP111131,WP111132,WP111133,WP111134,WP111135,WP111136,WP111137		
ICV Standard	WP111138		
CCV Standard	WP111363		
ICSA Standard	N/A		
CRI Standard	N/A		
LCS Standard	WP111364		
Chk Standard	WP111129,WP111130		

Sr#	SampleId	ClientID	QcType	Date	Comment	Operator	Status
1	STD1	STD1	CAL1	12/18/24 10:39	All standards, samples, and	NF/IZ	OK
2	STD2	STD2	CAL2	12/18/24 11:00	QC are filtered through	NF/IZ	OK
3	STD3	STD3	CAL3	12/18/24 11:22	0.45um, filter lot W3160	NF/IZ	OK
4	STD4	STD4	CAL4	12/18/24 11:43		NF/IZ	OK
5	STD5	STD5	CAL5	12/18/24 12:04		NF/IZ	OK
6	STD6	STD6	CAL6	12/18/24 12:26		NF/IZ	OK
7	STD7	STD7	CAL7	12/18/24 12:47		NF/IZ	OK
8	ICV1	ICV1	ICV	12/18/24 13:09		NF/IZ	OK
9	ICB1	ICB1	ICB	12/18/24 13:30		NF/IZ	OK
10	CCV1	CCV1	CCV	01/10/25 09:08		NF/IZ	OK
11	CCB1	CCB1	CCB	01/10/25 09:29		NF/IZ	OK
12	LB134248BLW	LB134248BLW	MB	01/10/25 09:51		NF/IZ	OK
13	LB134248BSW	LB134248BSW	LCS	01/10/25 10:12		NF/IZ	OK
14	Q1061-01	MW-1	SAM	01/10/25 10:34	Cl high	NF/IZ	Dilution
15	Q1061-01MS	MW-1MS	MS	01/10/25 10:55	9.5ml of sample, 0.5mL W3091	NF/IZ	OK
16	Q1061-01MSD	MW-1MSD	MSD	01/10/25 11:17	9.5ml of sample, 0.5mL W3091	NF/IZ	OK
17	Q1061-02	MW-2	SAM	01/10/25 11:38	Cl high	NF/IZ	Dilution
18	Q1061-03	MW-3	SAM	01/10/25 12:00	Cl high	NF/IZ	Dilution

Instrument ID: IC-2

Daily Analysis Runlog For Sequence/QC Batch ID # LB134248

Review By	Niha	Review On	1/14/2025 3:13:33 PM
Supervise By	Iwona	Supervise On	1/14/2025 3:35:35 PM
SubDirectory	LB134248	Test	Anions
STD. NAME	STD REF.#		
ICAL Standard	WP111131,WP111132,WP111133,WP111134,WP111135,WP111136,WP111137		
ICV Standard	WP111138		
CCV Standard	WP1111363		
ICSA Standard	N/A		
CRI Standard	N/A		
LCS Standard	WP1111364		
Chk Standard	WP111129,WP111130		

19	Q1061-04	MW-4	SAM	01/10/25 12:21	Cl high	NF/IZ	Dilution
20	Q1061-05	MW-5	SAM	01/10/25 12:43	Cl,No3,So4 high	NF/IZ	Dilution
21	Q1061-06	MW-6	SAM	01/10/25 13:05	Cl,So4 high	NF/IZ	Dilution
22	CCV2	CCV2	CCV	01/10/25 13:26		NF/IZ	OK
23	CCB2	CCB2	CCB	01/10/25 13:47		NF/IZ	OK
24	Q1061-07	MW-7	SAM	01/10/25 14:09	Cl,So4 high	NF/IZ	Dilution
25	Q1061-08	MW-8	SAM	01/10/25 14:30	Cl,So4 high	NF/IZ	Dilution
26	Q1061-09	MW-9	SAM	01/10/25 14:52	Cl,So4 high	NF/IZ	Dilution
27	Q1061-10	MW-10	SAM	01/10/25 15:13	Cl,No3,So4 high	NF/IZ	Dilution
28	Q1061-01DL	MW-1DL	SAM	01/10/25 15:35	10X for Cl	NF/IZ	Confirms
29	Q1061-02DL	MW-2DL	SAM	01/10/25 15:56	10X for Cl	NF/IZ	Confirms
30	Q1061-03DL	MW-3DL	SAM	01/10/25 16:18	50X for Cl	NF/IZ	Confirms
31	Q1061-04DL	MW-4DL	SAM	01/10/25 16:39	50X for Cl	NF/IZ	Confirms
32	Q1061-05DL	MW-5DL	SAM	01/10/25 17:01	5X for Cl,No3,So4,Still Cl high	NF/IZ	Dilution
33	Q1061-05DL2	MW-5DL2	SAM	01/10/25 17:22	100X for Cl	NF/IZ	Confirms
34	CCV3	CCV3	CCV	01/10/25 17:44		NF/IZ	OK
35	CCB3	CCB3	CCB	01/10/25 18:05		NF/IZ	OK
36	Q1061-06DL	MW-6DL	SAM	01/10/25 18:27	50X for Cl	NF/IZ	Confirms
37	Q1061-07DL	MW-7DL	SAM	01/10/25 18:48	2X for Cl,So4,Still Cl high	NF/IZ	Dilution

Instrument ID: IC-2

Daily Analysis Runlog For Sequence/QC Batch ID # LB134248

Review By	Niha	Review On	1/14/2025 3:13:33 PM
Supervise By	Iwona	Supervise On	1/14/2025 3:35:35 PM
SubDirectory	LB134248	Test	Anions
STD. NAME	STD REF.#		
ICAL Standard	WP111131,WP111132,WP111133,WP111134,WP111135,WP111136,WP111137		
ICV Standard	WP111138		
CCV Standard	WP111363		
ICSA Standard	N/A		
CRI Standard	N/A		
LCS Standard	WP111364		
Chk Standard	WP111129,WP111130		

38	Q1061-07DL2	MW-7DL2	SAM	01/10/25 19:09	50X for Cl	NF/IZ	Confirms
39	Q1061-08DL	MW-8DL	SAM	01/10/25 19:31	2X for Cl,So4,Still Cl high	NF/IZ	Dilution
40	Q1061-08DL2	MW-8DL2	SAM	01/10/25 19:53	50X for Cl	NF/IZ	Confirms
41	Q1061-09DL	MW-9DL	SAM	01/10/25 20:14	2X for Cl,So4,Still Cl high	NF/IZ	Dilution
42	Q1061-09DL2	MW-9DL2	SAM	01/10/25 20:36	50X for Cl	NF/IZ	Confirms
43	Q1061-10DL	MW-10DL	SAM	01/10/25 20:57	5X for Cl,No3,So4,Still Cl high	NF/IZ	Dilution
44	Q1061-10DL2	MW-10DL2	SAM	01/10/25 22:02	50X for Cl	NF/IZ	Confirms
45	CCV4	CCV4	CCV	01/10/25 22:45		NF/IZ	OK
46	CCB4	CCB4	CCB	01/10/25 23:06		NF/IZ	OK

Instrument ID: SPECTROPHOTOMETER-1

Daily Analysis Runlog For Sequence/QC Batch ID # LB134293

Review By	Niha	Review On	1/17/2025 11:28:59 AM
Supervise By	Iwona	Supervise On	1/17/2025 11:29:16 AM
SubDirectory	LB134293	Test	Phosphorus-Total
STD. NAME	STD REF.#		
ICAL Standard	N/A		
ICV Standard	N/A		
CCV Standard	N/A		
ICSA Standard	N/A		
CRI Standard	N/A		
LCS Standard	N/A		
Chk Standard	WP111410,WP111408,WP111407,WP111406,WP111405,WP111404,WP111411,WP111414,WP111415,WP111323,WF		

Sr#	SampleId	ClientID	QcType	Date	Comment	Operator	Status
1	CAL1	CAL1	CAL	01/15/25 14:00		Niha	OK
2	CAL2	CAL2	CAL	01/15/25 14:00		Niha	OK
3	CAL3	CAL3	CAL	01/15/25 14:01		Niha	OK
4	CAL4	CAL4	CAL	01/15/25 14:01		Niha	OK
5	CAL5	CAL5	CAL	01/15/25 14:02		Niha	OK
6	CAL6	CAL6	CAL	01/15/25 14:02		Niha	OK
7	ICV	ICV	ICV	01/15/25 14:03		Niha	OK
8	ICB	ICB	ICB	01/15/25 14:03		Niha	OK
9	CCV1	CCV1	CCV	01/15/25 14:04		Niha	OK
10	CCB1	CCB1	CCB	01/15/25 14:04		Niha	OK
11	RL Check	RL Check	SAM	01/15/25 14:05		Niha	OK
12	PB166041BL	PB166041BL	MB	01/15/25 14:05		Niha	OK
13	PB166041BS	PB166041BS	LCS	01/15/25 14:06		Niha	OK
14	Q1061-01	MW-1	SAM	01/15/25 14:06		Niha	OK
15	Q1061-01DUP	MW-1DUP	DUP	01/15/25 14:07		Niha	OK
16	Q1061-01MS	MW-1MS	MS	01/15/25 14:07		Niha	OK
17	Q1061-01MSD	MW-1MSD	MSD	01/15/25 14:08		Niha	OK
18	Q1061-02	MW-2	SAM	01/15/25 14:08		Niha	OK

Instrument ID: SPECTROPHOTOMETER-1

Daily Analysis Runlog For Sequence/QC Batch ID # LB134293

Review By	Niha	Review On	1/17/2025 11:28:59 AM
Supervise By	Iwona	Supervise On	1/17/2025 11:29:16 AM
SubDirectory	LB134293	Test	Phosphorus-Total
STD. NAME	STD REF.#		
ICAL Standard	N/A		
ICV Standard	N/A		
CCV Standard	N/A		
ICSA Standard	N/A		
CRI Standard	N/A		
LCS Standard	N/A		
Chk Standard	WP111410,WP111408,WP111407,WP111406,WP111405,WP111404,WP111411,WP111414,WP111415,WP111323,WF		

19	Q1061-03	MW-3	SAM	01/15/25 14:09		Niha	OK
20	Q1061-04	MW-4	SAM	01/15/25 14:09		Niha	OK
21	Q1061-05	MW-5	SAM	01/15/25 14:10		Niha	OK
22	CCV2	CCV2	CCV	01/15/25 14:10		Niha	OK
23	CCB2	CCB2	CCB	01/15/25 14:11		Niha	OK
24	Q1061-06	MW-6	SAM	01/15/25 14:11		Niha	OK
25	Q1061-07	MW-7	SAM	01/15/25 14:12		Niha	OK
26	Q1061-08	MW-8	SAM	01/15/25 14:12		Niha	OK
27	Q1061-09	MW-9	SAM	01/15/25 14:13		Niha	OK
28	Q1061-10	MW-10	SAM	01/15/25 14:13		Niha	OK
29	Q1070-01	1 EFFLUENT COMPO	SAM	01/15/25 14:14	High	Niha	Dilution
30	Q1061-05DL	MW-5DL	SAM	01/15/25 14:14		Niha	OK
31	Q1061-10DL	MW-10DL	SAM	01/15/25 14:15		Niha	OK
32	Q1070-01DL	1 EFFLUENT COMPO	SAM	01/15/25 14:15	5X	Niha	Confirms
33	CCV3	CCV3	CCV	01/15/25 14:16		Niha	OK
34	CCB3	CCB3	CCB	01/15/25 14:16		Niha	OK

Prep Standard - Chemical Standard Summary

Order ID : Q1061

Test : Anions Group7,Phosphorus-Total,TDS

Prepbatch ID : PB166041,

Sequence ID/Qc Batch ID: LB134233, LB134248, LB134293,

Standard ID :

WP109922, WP110259, WP110380, WP110400, WP110401, WP110587, WP110588, WP111129, WP111130, WP111131, WP111132, WP111133, WP111134, WP111135, WP111136, WP111137, WP111138, WP111323, WP111363, WP111364, WP111404, WP111405, WP111406, WP111407, WP111408, WP111410, WP111411, WP111412, WP111413, WP111414, WP111415,

Chemical ID :

M5673, M6041, W2306, W2647, W2650, W2664, W2699, W2708, W2788, W3035, W3058, W3062, W3063, W3074, W3112, W3113, W3140,

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>
1211	11 N sulfuric acid	WP109922	09/26/2024	03/26/2025	Iwona Zarych	None	None	Jignesh Parikh
								10/07/2024

FROM 306.00000ml of M5673 + 694.00000ml of W3112 = Final Quantity: 1000.000 ml

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
4035	IC ELUENT CONCENTRATE FOR IC-1	WP110259	10/16/2024	04/16/2025	Iwona Zarych	WETCHEM_SCALE_5 (WC SC-5)	None	Jignesh Parikh
								10/17/2024

FROM 2.10000gram of W2647 + 84.75000gram of W3058 + 913.15000ml of W3112 = Final Quantity: 1000.000 ml

Wet Chemistry STANDARD PREPARATION LOG

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
126	5N sulfuric acid	WP110380	10/24/2024	04/24/2025	Rubina Mughal	None	None	Iwona Zarych
								10/24/2024

FROM 140.00000ml of M5673 + 860.00000ml of W3112 = Final Quantity: 1.000 L

<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>
115	Phosphate Stock Std. (50 ppm)	WP110400	10/24/2024	04/23/2025	Rubina Mughal	WETCHEM_S CALE_5 (WC SC-5)	None	Iwona Zarych
								10/25/2024

FROM 0.11000gram of W2699 + 500.00000ml of W3112 = Final Quantity: 500.000 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>
2790	Phosphate Stock std, 50PPM-SS	WP110401	10/24/2024	04/24/2025	Rubina Mughal	WETCHEM_S CALE_5 (WC SC-5)	None	Iwona Zarych 10/25/2024
<u>FROM</u> 0.11000gram of W2708 + 500.00000ml of W3112 = Final Quantity: 500.000 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>
648	Ammonium molybdate solution	WP110587	11/07/2024	05/07/2025	Niha Farheen Shaik	WETCHEM_S CALE_5 (WC SC-5)	None	Jignesh Parikh 11/07/2024
<u>FROM</u>	20.00000gram of W2664 + 480.00000ml of W3112 = Final Quantity: 500.000 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>
588	Potassium Antimonyl Tartrate	WP110588	11/07/2024	05/07/2025	Niha Farheen Shaik	WETCHEM_SCALE_5 (WC SC-5)	None	Jignesh Parikh 11/07/2024

FROM 1.37150gram of W2306 + 500.00000ml of W3112 = Final Quantity: 500.000 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	WP111129	12/18/2024	01/18/2025	Niha Farheen Shaik	None	None	Iwona Zarych 12/18/2024

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

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

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

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
2487	Anions 300/9056 calibration standard 1	WP111131	12/18/2024	12/19/2024	Niha Farheen Shaik	None	None	Iwona Zarych 12/18/2024

FROM 10.00000ml of W3112 = Final Quantity: 10.000 ml



<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
24	Anions 300/9056 calibration standard 2	WP111132	12/18/2024	12/19/2024	Niha Farheen Shaik	None	WETCHEM_PIPETTE_3	Iwona Zarych 12/18/2024
FROM 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	WP111133	12/18/2024	12/19/2024	Niha Farheen Shaik	None	WETCHEM_PIPETTE_3 (WC)	Iwona Zarych 12/18/2024
<u>FROM</u> 0.40000ml of W3063 + 9.60000ml of W3112 = Final Quantity: 10.000 ml								



<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
26	Anions 300/9056 calibration standard 4	WP111134	12/18/2024	12/19/2024	Niha Farheen Shaik	None	WETCHEM_PIPETTE_3	Iwona Zarych 12/18/2024
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	WP111135	12/18/2024	12/19/2024	Niha Farheen Shaik	None	WETCHEM_PIPETTE_3 (WC)	Iwona Zarych 12/18/2024
<u>FROM</u> 45.00000ml of W3112 + 5.00000ml of W3063 = Final Quantity: 50.000 ml								



<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
3679	Anions 300/9056 calibration standard 6	WP111136	12/18/2024	12/19/2024	Niha Farheen Shaik	None	WETCHEM_FIPETTE_3 (WC)	Iwona Zarych 12/18/2024
<u>FROM</u> 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	WP111137	12/18/2024	12/19/2024	Niha Farheen Shaik	None	WETCHEM_FIPETTE_3 (WC)	Iwona Zarych 12/18/2024
<u>FROM</u>	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	WP111138	12/18/2024	12/19/2024	Niha Farheen Shaik	None	Glass Pipette-A	Iwona Zarych 12/18/2024

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

<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>
1571	Sodium hydroxide, 1N	WP111323	01/09/2025	07/09/2025	Rubina Mughal	WETCHEM_S CALE_8 (WC SC-7)	None	Iwona Zarych 01/09/2025

FROM 4.00000gram of W3113 + 96.00000ml of W3112 = Final Quantity: 100.000 ml

Wet Chemistry STANDARD PREPARATION LOG

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
3680	Anions 300/9056 calibration standard 5-CCV	WP111363	01/10/2025	01/11/2025	Niha Farheen Shaik	None	Glass Pipette-A	Iwona Zarych 01/13/2025

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

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
3233	Anions 300/9056 ICV-LCS std	WP111364	01/10/2025	01/11/2025	Niha Farheen Shaik	None	Glass Pipette-A	Iwona Zarych 01/13/2025

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

Wet Chemistry STANDARD PREPARATION LOG

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
122	calibration std. 0 ppm	WP111404	01/15/2025	01/22/2025	Niha Farheen Shaik	None	None	Iwona Zarych
								01/16/2025

FROM 50.00000ml of W3112 = Final Quantity: 100.000 ml

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
121	calibration std. phosphate 0.05 ppm	WP111405	01/15/2025	01/22/2025	Niha Farheen Shaik	None	WETCHEM_FIPETTE_3	Iwona Zarych
							(WC)	01/16/2025

FROM 99.90000ml of W3112 + 0.10000ml of WP110400 = Final Quantity: 100.000 ml



<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
120	calibration std. phosphate 0.1 ppm	WP111406	01/15/2025	01/22/2025	Niha Farheen Shaik	None	WETCHEM_PIPETTE_3	Iwona Zarych
(WC) FROM 99.80000ml of W3112 + 0.20000ml of WP110400 = Final Quantity: 100.000 ml								

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
119	calibration std. phosphate 0.3 ppm	WP111407	01/15/2025	01/22/2025	Niha Farheen Shaik	None	WETCHEM_FIPETTE_3 (WC)	Iwona Zarych 01/16/2025
<u>FROM</u> 99.40000ml of W3112 + 0.60000ml of WP110400 = Final Quantity: 100.000 ml								



<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
118	calibration std. phosphate 0.5 ppm	WP111408	01/15/2025	01/22/2025	Niha Farheen Shaik	None	WETCHEM_PIPETTE_3 (WC)	Iwona Zarych 01/16/2025
<u>FROM</u> 99.00000ml of W3112 + 1.00000ml of WP110400 = Final Quantity: 100.000 ml								

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
117	calibration std. phosphate 1 ppm	WP111410	01/15/2025	01/22/2025	Niha Farheen Shaik	None	WETCHEM_PIPETTE_3 (WC)	Iwona Zarych 01/16/2025
<u>FROM</u> 98.00000ml of W3112 + 2.00000ml of WP110400 = Final Quantity: 100.000 ml								

Wet Chemistry STANDARD PREPARATION LOG

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
124	phosphate CCV std.	WP111411	01/15/2025	01/22/2025	Niha Farheen Shaik	None	WETCHEM_F IPETTE_3 (WC)	Iwona Zarych 01/16/2025
FROM 99.00000ml of W3112 + 1.00000ml of WP110400 = Final Quantity: 100.000 ml								

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
3805	Phosphate ICV-LCS Std	WP111412	01/15/2025	01/22/2025	Niha Farheen Shaik	None	WETCHEM_F IPETTE_3 (WC)	Iwona Zarych 01/16/2025
FROM 99.00000ml of W3112 + 1.00000ml of WP110401 = Final Quantity: 100.000 ml								



<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
590	Ascorbic Acid	WP111413	01/15/2025	01/22/2025	Niha Farheen Shaik	WETCHEM_SCALE_5 (WCS-5)	None	Iwona Zarych 01/16/2025
<u>FROM</u>	0.52800gram of W3074 + 30.00000ml of W3112 = Final Quantity: 30.000 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>
658	Combined reagent	WP111414	01/15/2025	01/16/2025	Niha Farheen Shaik	None	Glass Pipette-A	Iwona Zarych 01/16/2025
<u>FROM</u>	15.00000ml of WP110587 + 30.00000ml of WP111413 + 5.00000ml of WP110588 + 50.00000ml of WP110380 = Final Quantity: 100.000 ml							



<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
1213	Phenolphthalein indicator	WP111415	01/15/2025	06/04/2025	Niha Farheen Shaik	WETCHEM_SCALE_5 (WCS)	None	Iwona Zarych 01/16/2025
<u>FROM</u>	0.10000gram of W2650 + 50.00000ml of W2788 + 50.00000ml of W3112 = Final Quantity: 100.000 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	09/21/2023 / mohan	09/05/2023 / mohan	M5673

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.	A1561-500GM / POTASSIUM ANTIMONY TARTRATE TRIHYDRATE, 500G	2GH0057	12/11/2027	12/11/2017 / apatel	12/11/2017 / apatel	W2306

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.	J2870-1 / PHENOLPHTHALEIN, INDICATOR F/TITRATION, 500G	0000235350	06/04/2025	01/31/2020 / AMANDEEP	01/20/2020 / apatel	W2650

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
PCI Scientific Supply, Inc.	J07716-1 / Ammonium Molybdate 500G	0000234410	02/11/2026	02/10/2020 / AMANDEEP	01/31/2020 / apatel	W2664

CHEMICAL RECEIPT LOG BOOK

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
PCI Scientific Supply, Inc.	J3246-1 / POTAS PHOSPHATE, MONO, CRYST, ACS, 500G	04/2019-20	04/23/2025	04/23/2020 / apatel	03/11/2020 / apatel	W2699

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
PCI Scientific Supply, Inc.	J3246-1 / POTAS PHOSPHATE, MONO, CRYST, ACS, 500G	99/2019-20	05/05/2025	05/05/2020 / apatel	05/05/2020 / apatel	W2708

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
PCI Scientific Supply, Inc.	PC16721-3 / Isopropanol, 99%	C20F23007	06/23/2025	12/30/2020 / apatel	12/30/2020 / apatel	W2788

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
PCI Scientific Supply, Inc.	BDH0214-500G / Ammonium Persulfate Crystal, 500g	MKCR9319	06/30/2028	03/05/2024 / lwona	06/06/2023 / lwona	W3035

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

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

CHEMICAL RECEIPT LOG BOOK

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Inorganic Ventures	300-CAL-A-500ML / 300.0 Calibration Standard, 500 ml	U2-MEB735684	04/09/2025	04/09/2024 / lwona	11/16/2023 / lwona	W3063

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
PCI Scientific Supply, Inc.	J0938-7 / Ascorbic Acid, 500 gms	MKCS4627	09/30/2025	01/16/2024 / lwona	01/16/2024 / lwona	W3074

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.	PC19510-7 / Sodium Hydroxide Pellets 12 Kg	23B1556310	12/31/2025	07/08/2024 / lwona	07/08/2024 / lwona	W3113

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
PCI Scientific Supply, Inc.	140444 / TEST PAPERS,PH 0-14,.5 SENSI,100PK	10D0142	09/17/2029	09/17/2024 / lwona	09/17/2024 / lwona	W3140



CERTIFICATE OF ANALYSIS

Printed: 12/8/2017

Page 1 of 1

Customer No : 30017
Order Number : 3008126
Catalog : A1561

Customer : PCI SCIENTIFIC
Delivery # : 58495347
Potassium Antimony Tartrate Trihydrate,
Reagent, ACS

Customer PO : 6035343
Lot : 2GH0057

Chemical Formula : $C_8H_4K_2O_{12}Sb_2 \cdot 3H_2O$
CAS# : 28300-74-5

Formula Weight : 667.87

W2306
received
12/11/17
AB

Test

Limit
Min. Max.

Results

ASSAY ($C_8H_4K_2O_{12}Sb_2 \cdot 3HO$)	99.0 - 103.0 %	101.0 %
TITRATABLE ACID OR BASE	-- 0.020 meq/g	<0.020 meq/g
LOSS ON DRYING	-- 2.7 %	<2.7 %
ARSENIC (As)	-- 0.015 %	<0.015 %
APPEARANCE		WHITE POWDER
DATE OF MANUFACTURE		29-DEC-2015

All pharmaceutical ingredients are tested using current edition of applicable pharmacopeia.

Read and understand label and MSDS/SDS before handling any chemical. All Spectrum's chemicals are for manufacturing, processing, repacking or research purposes by experienced personnel only. The customer must ensure to provide its users adequate hazardous material training and appropriate protective gears before handling our chemicals.

Certificate of Analysis Results Certified By:

Subject to Vadodara Jurisdiction



CHAMPA PURIE-CHEM INDUSTRIES

ISO 9001 : 2015 CERTIFIED COMPANY

Importers Exporters Manufacturers & Marketing of Fine Chemicals & Pharmaceuticals

262-263, G.I.D.C. Estate,
Makarpura,
Vadodara - 390 010.
Gujarat - INDIA.

Phone : (F) +91-265-2633314 / 2643723
Fax : (F) +91-265-2638038
E-mail : info@cpcindia.com
Web : www.cpcindia.com

CERTIFICATE OF ANALYSIS

PRODUCT : POTASSIUM PHOSPHATE MONOBASIC Anhy. - ACS		
CERTIFICATE NO	: 04/2019-20	DATE 13-05-2019
Date of receipt of sample	: 29.04.2019	Quantity : 1000 KGS.
Batch No. /Lot No.	: 04/2019-20	
Mfg. Date	: April-2019	
1. Characteristic : A White powder		
2. Identification : Positive		
	RESULT OBTAINED	LIMITS
3. Clarity and colour of solution : 10% solution is clear and colourless		
4. Assay (on dry basis)	99.35%	Min.99.00%
5. PH (5% solution)	4.28	4.1-4.5
6. Loss on Drying	0.06%	Max 0.2%
7. Heavy Metals	0.0004%	Max.0.001%
8. iron	0.001%	Max 0.002%
9. Sulphate	0.0015%	Max. 0.003%
10. Chloride	0.0005%	Max.0.001%
11. Insoluble Matter	0.002%	Max. 0.01%
12. Sodium	0.0038%	Max. 0.005%
The sample does comply with specification as per Above.		
Analysed by <u>J. A. PATHAK</u>		Quality Control Department

Ammonium Molybdate, 4-Hydrate, Crystal
BAKER ANALYZED® A.C.S. Reagent

(ammonium heptamolybdate, tetrahydrate)



Material No.: 0716-01
Batch No.: 0000234410
Manufactured Date: 2019/02/13
Retest Date: 2026/02/11
Revision No: 1

Certificate of Analysis

Meets ACS Reagent Chemical Requirements,

Test	Specification	Result
Assay (as MoO ₃)	81.0 – 83.0 %	81.4
ACS – Insoluble Matter	<= 0.005 %	< 0.001
Chloride (Cl)	<= 0.002 %	< 0.002
Nitrate (NO ₃)	Passes Test	PT
Arsenate, Phosphate and Silicate (as SiO ₂)	<= 0.001 %	< 0.001
ACS – Phosphate (PO ₄)	<= 5 ppm	< 5
Sulfate (SO ₄)	<= 0.02 %	< 0.02
Heavy Metals (as Pb)	<= 0.001 %	< 0.001
Magnesium (Mg)	<= 0.005 %	< 0.001
Potassium (K)	<= 0.01 %	< 0.01
Sodium (Na)	<= 0.01 %	<0.001

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

Phenolphthalein, Powder
BAKER ANALYZED® A.C.S. Reagent



Material No.: 2870-01
Batch No.: 0000235350
Manufactured Date: 2018/06/06
Retest Date: 2025/06/04
Revision No: 1

Certificate of Analysis

Meets ACS Reagent Chemical Requirements,

Test	Specification	Result
ACS – Clarity of Solution	Passes Test	PT
Visual Transition Interval – pH...8.0 (Colorless)	Passes Test	PT
Visual Transition Interval – pH...10.0 (Red)	Passes Test	PT

For Laboratory, Research or Manufacturing Use

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


Jamie Ethier
Vice President Global Quality

For questions on this Certificate of Analysis please contact Technical Services at 855.282.6867 or +1.610.386.1700
Avantor Performance Materials, LLC
100 Matsonford Rd, Suite 200, Radnor, PA 19087. U.S.A. Phone: 610.386.1700

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

Product Name ISOPROPYL ALCOHOL, 99%
Grade Meets ACS/USP/NF Monographs
Catalog # 231000099, zp231000099
Lot # C20F23007
Date of Manufacture: 06/23/20 **W2788 Received on 12/30/2020 by AP**
Recommended Retest Date: Five Years from Date of Manufacture

TEST	MONO GRAPH	SPECIFICATION	RESULT
Assay (corrected for water)	USP	99.0% min	99.92%
Assay (corrected for water)	ACS	99.5% min	
Solubility in water	ACS ⁺	To Pass Test	Pass
Appearance	ACS ⁺	Clear, colorless liquid	Pass
Color, APHA	ACS	10 max	1
Limit of Nonvolatile Residue	USP ⁺	NMT 2.5 mg (0.005%)	0.1 mg
Residue after Evaporation	ACS ⁺	0.001% max	< 0.001%
Specific Gravity	USP	0.783 - 0.787 @25°C	0.783
Identification A - Infrared Absorption	USP	To Pass Test	Pass
Identification B	USP	To Pass Test	Pass
Refractive Index @ 20°C	USP	1.376-1.378	1.377
Acidity	USP ⁺	NMT 0.70 ml of 0.020N NaOH is required	0.30 mL
Titration Acid or Base	ACS ⁺	0.0001 meq/g max	0.0001 meq/g
Carbonyl Compounds	ACS	Propionaldehyde 0.002% max	< 0.002%
		Acetone 0.002% max	None Detected
Limit of Volatile Impurities	USP	Diethyl Ether NMT 0.1%	< 0.1%
		Acetone NMT 0.1%	None Detected
		Diisopropyl Ether NMT 0.1%	< 0.1%
		n-Propyl Alcohol NMT 0.1%	< 0.1%
		2-Butanol NMT 0.1%	< 0.1%
		Total NMT 1.0%	< 0.1%
Water, wt%	ACS	NMT 0.2%	0.05%
Water Determination	USP	NMT 0.5%	

⁺This test is performed quarterly

Certification and Compliance Statements

This lot of Isopropyl Alcohol complies with all of the current requirements listed in the United States Pharmacopeia, American Chemical Society monographs and the National Formulary.

No chemicals whatsoever are used as solvents at any point in the manufacture, processing or packaging of Isopropyl Alcohol. Only Class 2 and Class 3 residual solvents may appear as impurities / related substances / low level contaminants in IPA. Concentration of Class 2 Option 1 and Class 3 residual solvents is below limits in the current USP/NF General Chapter <467>.

This product is not derived, nor does it come in contact with, any materials derived from bovine or other animal sources.

This product is for further commercial manufacturing, laboratory or research use, and may be used as an excipient or a process solvent for pharmaceutical purposes. It is not intended for use as an active ingredient in drug manufacturing nor as a medical device or disinfectant. Appropriate/legal use of this product is the responsibility of the user.

Approved by: D. Simoncelli, Quality Control Chemist

Date of Approval: 06/23/2020



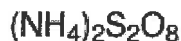
W 3035
rec. 6/6/23 12

Product Name:

Certificate of Analysis

Ammonium persulfate - ACS reagent, $\geq 98.0\%$

Product Number: 248614
Batch Number: MKCR9319
Brand: SIGALD
CAS Number: 7727-54-0
MDL Number: MFCD00003390
Formula Weight: 228.20 g/mol
Quality Release Date: 13 OCT 2022



Test	Specification	Result
Appearance (Color)	White to Off White	White
Appearance (Form)	Powder or Crystals or Granules or Chunks	Crystals
ICP Major Analysis	Confirmed	Confirmed
Confirms Sulfur Component		
Titration by KMNO ₄	$\geq 98.0 \%$	100.0 %
Residue on ignition (Ash)	$\leq 0.05 \%$	< 0.05 %
Insoluble Matter	$\leq 0.005 \%$	0.002 %
c = 10 %; In Water		
Chloride and Chlorate (as Cl)	$\leq 0.001 \%$	< 0.001 %
Iron (Fe)	$\leq 0.001 \%$	< 0.001 %
Heavy Metal	$\leq 0.005 \%$	< 0.001 %
as Lead		
Manganese (Mn)	$\leq 0.5 \text{ ppm}$	< 0.1 ppm
Titrateable Acid (meq/g)	≤ 0.04	< 0.04
Meets ACS Requirements	Current ACS Specification	Conforms


Larry Coers, Director
Quality Control
Milwaukee, WI US

Sigma-Aldrich warrants, that at the time of the quality release or subsequent retest date this product conformed to the information contained in this publication. The current Specification sheet may be available at Sigma-Aldrich.com. For further inquiries, please contact Technical Service. Purchaser must determine the suitability of the product for its particular use. See reverse side of invoice or packing slip for additional terms and conditions of sale.



Certificate Of Analysis



W 3058

Re. 10/19/23 12

Date of Release: 1/27/2023

Name: **Sodium Carbonate, Anhydrous**

Powder, ACS

Item No: **SX0395 All Sizes**

Lot / Batch No: **2023012653**

Country of Origin: **India**

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

Joe Schoellkopf

Quality Control Manager

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

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

EMD Millipore Corporation

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

Form number: 00005624CA, Rev. 2.0

Certificate of Analysis

300 Technology Drive
Christiansburg, VA 24073 USA
inorganicventures.com

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

F: 540-585-3012

info@inorganicventures.com

N 3062

rec on 10/30/23
12

1.0 ACCREDITATION / REGISTRATION

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



2.0 PRODUCT DESCRIPTION

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

3.0 CERTIFIED VALUES AND UNCERTAINTIES

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

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

Assay Information:

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

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

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

Characterization of CRM/RM by Two or More Methods

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

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

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

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

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

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

k = coverage factor = 2

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

u_{bb} = bottle to bottle homogeneity standard uncertainty

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

u_{ts} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

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

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

X_a = mean of Assay Method A with

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

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

k = coverage factor = 2

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

u_{bb} = bottle to bottle homogeneity standard uncertainty

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

u_{ts} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

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

4.1 Thermometer Calibration

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

4.2 Balance Calibration

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

4.3 Glassware Calibration

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

5.0 CHROMATOGRAM

N/A

6.0 INTENDED USE

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

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

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

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

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

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

8.0 HAZARDOUS INFORMATION

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

9.0 HOMOGENEITY

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

10.0 QUALITY STANDARD DOCUMENTATION

10.1 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

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

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

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

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

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

11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

March 17, 2022

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

11.2 Lot Expiration Date

- **March 17, 2027**

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

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

11.3 Period of Validity

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

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Approved By:

Thomas Kozikowski
Manager, Quality Control



Certifying Officer:

Paul Gaines
Chairman / Senior Technical Director



Certificate of Analysis

300 Technology Drive
Christiansburg, VA 24073 USA
inorganicventures.com

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

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

Assay Information:

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

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

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

Characterization of CRM/RM by Two or More Methods

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

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

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

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

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

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

k = coverage factor = 2

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

u_{bb} = bottle to bottle homogeneity standard uncertainty

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

u_{ts} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

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

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

X_a = mean of Assay Method A with

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

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

k = coverage factor = 2

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

u_{bb} = bottle to bottle homogeneity standard uncertainty

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

u_{ts} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

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

4.1 Thermometer Calibration

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

4.2 Balance Calibration

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

4.3 Glassware Calibration

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

5.0 CHROMATOGRAM

N/A

6.0 INTENDED USE

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

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

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

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

8.0 HAZARDOUS INFORMATION

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

9.0 HOMOGENEITY

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

10.0 QUALITY STANDARD DOCUMENTATION

10.1 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

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

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

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

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

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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

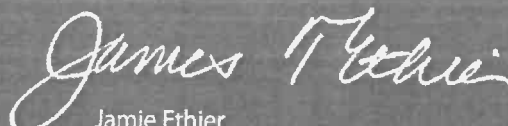


Material No.: 9673-33
Batch No.: 23D2462010

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

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™**

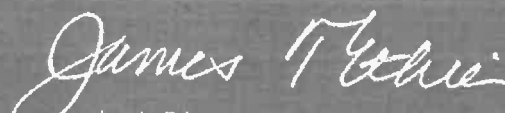


Material No.: 9673-33
Batch No.: 23D2462010

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



CHAMPA PURIE-CHEM INDUSTRIES

ISO 9001 : 2015 CERTIFIED COMPANY

Importers Exporters Manufacturers & Marketing of Fine Chemicals & Pharmaceuticals

262-263, G.I.D.C. Estate,

Makarpura,

Vadodara - 390 010.

Gujarat - INDIA.

Phone : (F) +91-265-2633314 / 2643723

Fax : (F) +91-265-2638036

E-mail : info@cpcindia.com

Web : www.cpcindia.com

W2708 Received on 05/05/20 by AP

CERTIFICATE OF ANALYSIS

PRODUCT	: POTASSIUM PHOSPHATE MONOBASIC Anhy. - ACS	
CERTIFICATE NO	: 99/2019- 20	DATE 26-08-2019
Date of receipt of sample	: 22.08.2019	Quantity : 1000 KGS
Batch No. /Lot No	: 99/2019- 20	
Mfg. Date	: Aug-2019	
1. Characteristic	: A White powder	
2. Identification	: Positive	
	RESULT OBTAINED	LIMITS
3. Clarity and colour of solution	: 10% solution is clear and colourless	
4. Assay (on dry basis)	: 99.27%	Min.99.00%
5. PH (5% solution)	: 4.4	4.1-4.5
6. Loss on Drying	: 0.1%	Max 0.2%
7. Heavy Metals	: 0.0003%	Max.0.001%
8. Iron	: 0.001%	Max 0.002%
9. Sulphate	: 0.001%	Max. 0.003%
10. Chloride	: 0.0005%	Max.0.001%
11. Insoluble Matter	: 0.003%	Max. 0.01%
12. Sodium	: 0.004%	Max. 0.005%
The sample does comply with specification as per Above.		
Analysed by	<u>J.A. PATHAK</u>	Quality Control Department

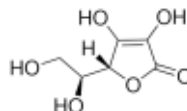
W3074 Rec. on 01/16/24 by IZ

Certificate of Analysis

Product Name:

L-Ascorbic acid - ACS reagent, ≥99%

Product Number: 255564
Batch Number: MKCS4627
Brand: SIAL
CAS Number: 50-81-7
MDL Number: MFCD00064328
Formula: C₆H₈O₆
Formula Weight: 176.12 g/mol
Quality Release Date: 21 NOV 2022
Recommended Retest Date: SEP 2025



Test	Specification	Result
Appearance (Color)	White	White
Appearance (Form)	Conforms to Requirements	Powder
Powder, Crystals, Crystalline Powder, Granules and/or Chunks		
Infrared Spectrum	Conforms to Structure	Conforms
Optical Rotation (+); c = 10%; Water	20.5 - 21.5 deg	20.7 deg
Titration by Iodine	≥ 99.0 %	99.4 %
Residue on Ignition	≤ 0.10 %	0.03 %
Iron (Fe)	≤ 0.001 %	< 0.001 %
Heavy Metals by ICP-OES	≤ 0.002 %	0.001 %
Recommended Retest Period 3 Years	-----	-----
Meets ACS Requirements	Current ACS Specification	Conforms

Larry Coers, Director
Quality Control
Milwaukee, WI US

Sigma-Aldrich warrants, that at the time of the quality release or subsequent retest date this product conformed to the information contained in this publication. The current Specification sheet may be available at Sigma-Aldrich.com. For further inquiries, please contact Technical Service. Purchaser must determine the suitability of the product for its particular use. See reverse side of invoice or packing slip for additional terms and conditions of sale.





Certificate of Analysis



Sodium Hydroxide (Pellets)

Material: 0583
Grade: ACS GRADE
Batch Number: 23B1556310

Chemical Formula: NaOH
Molecular Weight: 40
CAS #: 1310-73-2
Appearance:

Manufacture Date: 12/14/2022
Expiration Date: 12/31/2025

Storage: Room Temperature

Pellets

TEST	SPECIFICATION	ANALYSIS	DISPOSITION
Calcium	<= 0.005 %	<0.005 %	PASS
Chloride	<= 0.005 %	0.002 %	PASS
Heavy Metals	<= 0.002 %	<0.002 %	PASS
Iron	<= 0.001 %	<0.001 %	PASS
Magnesium	<= 0.002 %	<0.002 %	PASS
Mercury	<= 0.1 ppm	<0.1 ppm	PASS
Nickel	<= 0.001 %	<0.001 %	PASS
Nitrogen Compounds	<= 0.001 %	<0.001 %	PASS
Phosphate	<= 0.001 %	<0.001 %	PASS
Potassium	<= 0.02 %	<0.02 %	PASS
Purity	>= 97.0 %	99.2 %	PASS
Sodium Carbonate	<= 1.0 %	0.5 %	PASS
Sulfate	<= 0.003 %	<0.003 %	PASS

Internal ID #: 710

Signature

We certify that this batch conforms to the specifications listed.

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

Leona Edwardson, Quality Control Sr. Manager - Solon
VWR Chemicals, LLC.
28600 Fountain Parkway, Solon OH 44139 USA

Additional Information

Analysis may have been rounded to significant digits in specification limits.

Product meets analytical specifications of the grades listed.



Sodium Hydroxide (Pellets)

Material: 0583
Grade: ACS GRADE
Batch Number: 23B1556310

Chemical Formula: NaOH
Molecular Weight: 40
CAS #: 1310-73-2
Appearance:

Manufacture Date: 12/14/2022
Expiration Date: 12/31/2025

Storage: Room Temperature

Pellets

Spec Set: 0583ACS

Internal ID #: 710

Signature

We certify that this batch conforms to the specifications listed.

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

Leona Edwardson, Quality Control Sr. Manager - Solon
VWR Chemicals, LLC.
28600 Fountain Parkway, Solon OH 44139 USA

Additional Information

Analysis may have been rounded to significant digits in specification limits.

Product meets analytical specifications of the grades listed.



SHIPPING DOCUMENTS

CHEMTECH
CHAIN OF CUSTODY RECORD

284 Sheffield Street, Mountainside, NJ 07092
(908) 789-8900 • Fax (908) 789-8922
www.chemtech.net

CHEMTECH PROJECT NO. Q1056/Q1061
QUOTE NO. _____
COC Number 2041662

CLIENT INFORMATION			CLIENT PROJECT INFORMATION			CLIENT BILLING INFORMATION											
REPORT TO BE SENT TO: COMPANY: <u>Denberry Engineers Inc.</u> ADDRESS: <u>600 Parsippany Rd.</u> CITY: <u>Parsippany</u> STATE: <u>NJ</u> ZIP: <u>07054</u> ATTENTION: <u>Bill Pendexter</u> PHONE: <u>973-576-9648</u> FAX: _____			PROJECT NAME: <u>PennDOT ONVO Tunnel Plaza</u> PROJECT NO.: <u>50040379</u> LOCATION: <u>Gibson PA.</u> PROJECT MANAGER: <u>Bill Pendexter</u> e-mail: <u>wpendexter@denberry.com</u> PHONE: <u>973-576-9648</u> FAX: _____			BILL TO: <u>same as client</u> PO#: _____ ADDRESS: _____ CITY: _____ STATE: _____ ZIP: _____ ATTENTION: _____ PHONE: _____											
DATA TURNAROUND INFORMATION			DATA DELIVERABLE INFORMATION			ANALYSIS											
FAX (RUSH) _____ DAYS* HARDCOPY (DATA PACKAGE): <u>Standard</u> DAYS* EDD: _____ DAYS* *TO BE APPROVED BY CHEMTECH STANDARD HARDCOPY TURNAROUND TIME IS 10 BUSINESS DAYS			☐ Level 1 (Results Only) ☐ Level 4 (QC + Full Raw Data) ☒ Level 2 (Results + QC) ☐ NJ Reduced ☐ US EPA CLP ☐ Level 3 (Results + QC + Raw Data) ☐ NYS ASP A ☐ NYS ASP B ☐ EDD FORMAT _____			1 <u>Total Phosphorus</u> 2 <u>TDS</u> 3 <u>Nitrate-Nitrogen</u> 4 <u>Chloride-Sulfate</u> 5 <u>Selenium</u> 6 <u>Total Coliforms</u> 7 <u>Fecal Coliforms</u> 8 9											
CHEMTECH 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		C	E	E	E	B	F	F			
1.	MW-1	GW		✓	1-9-05	1100	7	✓	✓	✓	✓	✓	✓	✓			
2.	MW-2					1120	7	✓	✓	✓	✓	✓	✓	✓			
3.	MW-3					1141	7										
4.	MW-4					1200	7										
5.	MW-5					1226	7										
6.	MW-6					1252	7										
7.	MW-7					1342	7										
8.	MW-8					1344	7										
9.	MW-9					1406	7										
10.	MW-10					1420	7										
SAMPLE CUSTODY MUST BE DOCUMENTED BELOW EACH TIME SAMPLES CHANGE POSSESSION INCLUDING COURIER DELIVERY																	
RELINQUISHED BY SAMPLER: <u>[Signature]</u>		DATE/TIME: <u>1-9-05 17:13</u>		RECEIVED BY: <u>M A</u>		DATE/TIME: <u>1-9-05 17:13</u>		Conditions of bottles or coolers at receipt: ☐ COMPLIANT ☐ NON COMPLIANT ☐ COOLER TEMP <u>3.5, 2.6, 4.8</u> Comments: <u>Short hold on Total/Fecal coliforms</u> <u>48 hr hold on Nitrate-Nitrite</u>									
RELINQUISHED BY SAMPLER:		DATE/TIME:		RECEIVED BY:													
RELINQUISHED BY SAMPLER:		DATE/TIME:		RECEIVED BY:													
3.				3.		Page <u>1</u> of <u>1</u>		CLIENT: ☐ Hand Delivered ☐ Other _____ CHEMTECH: ☐ Picked Up ☐ Field Sampling						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