

DATA PACKAGE GENERAL CHEMISTRY

PROJECT NAME : FT MEADE TIPTON AIRFIELD PARCEL RI - PO 0111169

WESTON SOLUTIONS

1400 Weston Way

PO Box 2653

West Chester, PA - 19380

Phone No: 610-701-7400

ORDER ID : P4986

ATTENTION : Nathan Fretz



Laboratory Certification ID # 20012



1) GENERAL CHEMISTRY DATA	2
2) Signature Page	3
3) Case Narrative	4
4) Qualifier Page	5
5) Conformance/Non Conformance	6
6) QA Checklist	7
7) Chronicle	8
8) Sample Data	9
8.1) TAPIAL1-SB04D-9-112224-00-T1	10
8.2) TAPIAL1-SB04D-4-112224-00-T1	11
9) QC Data Summary For Genchem	12
9.1) Initial and Continuing Calibration Verification	13
9.2) Initial and Continuing Calibration Blank Summary	16
9.3) Preparation Blank Summary	18
9.4) Matrix Spike Summary	19
9.5) Duplicate Sample Summary	23
9.6) Laboratory Control Sample Summary	26
10) GENCHEM RAW DATA	28
10.1) GENCHEM RAW DATA - ANALYTICAL	29
10.1.1) LB133607	29
10.1.2) LB133628	56
10.1.3) LB133629	58
11) Analytical Runlogs	76
12) Standard Prep Logs	81
13) Percent Solid	124
14) Shipping Document	128
14.1) Chain Of Custody	129
14.2) ROC	130
14.3) Lab Certificate	131

Cover Page

Order ID : P4986

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

Client : Weston Solutions

Lab Sample Number

P4986-01
P4986-02

Client Sample Number

TAPIAL1-SB04D-9-112224-00-T1
TAPIAL1-SB04D-4-112224-00-T1

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

Signature :

N. N. Pandya

APPROVED

Date: 12/11/2024
By Nimisha Pandya, QA/QC Supervisor at 9:44 am, Dec 12, 2024

NYDOH CERTIFICATION NO - 11376

NJDEP CERTIFICATION NO - 20012



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

CASE NARRATIVE

Weston Solutions

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

Project # N/A

Chemtech Project # P4986

Test Name: pH,TOC,Anions Group1

A. Number of Samples and Date of Receipt:

2 Solid samples were received on 11/23/2024.

B. Parameters:

According to the Chain of Custody document, the following analyses were requested: Anions Group1, Mercury, Metals ICP-TAL, METALS-TAL, pH and TOC. This data package contains results for pH,TOC,Anions Group1.

C. Analytical Techniques:

The analysis of pH was based on method 9045D, The analysis of Anions Group1 was based on method 9056A and The analysis of TOC was based on method 9060A.

D. QA/ QC Samples:

The Holding Times were met for all samples except for TAPIAL1-SB04D-4-112224-00-T1 of pH, for TAPIAL1-SB04D-9-112224-00-T1 of pH as sample were receive out of holding time.

The Blank Spike met requirements for all samples.

The Duplicate analysis met criteria for all samples.

The Matrix Spike analysis met criteria for all samples.

The Matrix Spike Duplicate analysis met criteria for all samples.

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

The Calibration met the requirements.

E. Additional Comments:

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

Signature N. N. Pandya

APPROVED

By Nimisha Pandya, QA/QC Supervisor at 9:44 am, Dec 12, 2024

DATA REPORTING QUALIFIERS- INORGANIC

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

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

GENERAL CHEMISTRY CONFORMANCE/NON-CONFORMANCE SUMMARY

CHEMTECH PROJECT NUMBER: P4986

MATRIX: Solid

METHOD: 9045D,9056A,9060A

	NA	NO	YES
1. Blank Contamination - If yes, list compounds and concentrations in each blank:		✓	
2. Matrix Spike Duplicate Recoveries Met Criteria If not met, list those compounds and their recoveries which fall outside the acceptable range. The Blank Spike met requirements for all samples.			✓
3. Sample Duplicate Analysis Met QC Criteria If not met, list those compounds and their recoveries which fall outside the acceptable range.			✓
4. Digestion Holding Time Met If not met, list number of days exceeded for each sample: The Holding Times were met for all samples except for TAPIAL1-SB04D-4-112224-00-T1 of pH, for TAPIAL1-SB04D-9-112224-00-T1 of pH as sample were receive out of holding time.		✓	

ADDITIONAL COMMENTS:

S. M. Jodhani
QA REVIEW

REVIEWED

By Sohil Jodhani, QA/QC Director at 8:53 am, Dec 12, 2024

APPENDIX A

QA REVIEW GENERAL DOCUMENTATION

Project #: P4986

Completed

For thorough review, the report must have the following:

GENERAL:

Are all original paperwork present (chain of custody, record of communication,airbill, sample management lab chronicle, login page)

✓

Check chain-of-custody for proper relinquish/return of samples

✓

Is the chain of custody signed and complete

✓

Check internal chain-of-custody for proper relinquish/return of samples /sample extracts

✓

Collect information for each project id from server. Were all requirements followed

✓

COVER PAGE:

Do numbers of samples correspond to the number of samples in the Chain of Custody on login page

✓

Do lab numbers and client Ids on cover page agree with the Chain of Custody

✓

CHAIN OF CUSTODY:

Do requested analyses on Chain of Custody agree with form I results

✓

Do requested analyses on Chain of Custody agree with the log-in page

✓

Were the correct method log-in for analysis according to the Analytical Request and Chain of Custody

✓

Were the samples received within hold time

✓

Were any problems found with the samples at arrival recorded in the Sample Management Laboratory Chronicle

✓

ANALYTICAL:

Was method requirement followed?

✓

Was client requirement followed?

✓

Does the case narrative summarize all QC failure?

✓

All runlogs and manual integration are reviewed for requirements

✓

All manual calculations and /or hand notations verified

✓

QA Review Signature: SOHIL JODHANI

Date: 12/11/2024

LAB CHRONICLE

OrderID:	P4986	OrderDate:	11/25/2024 10:06:13 AM
Client:	Weston Solutions	Project:	Ft Meade Tipton Airfield Parcel RI - PO 0111169
Contact:	Nathan Fretz	Location:	L51

LabID	ClientID	Matrix	Test	Method	Sample Date	Prep Date	Anal Date	Received
P4986-01	TAPIAL1-SB04D-9-11 2224-00-T1	SOIL			11/22/24 11:35			11/23/24
			Anions Group1	9056A			11/25/24 13:11	
			pH	9045D			11/26/24 09:40	
			TOC	9060A			11/26/24 14:11	
P4986-02	TAPIAL1-SB04D-4-11 2224-00-T1	SOIL			11/22/24 12:50			11/23/24
			pH	9045D			11/26/24 09:45	
			TOC	9060A			11/26/24 14:29	



SAMPLE DATA

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14

Report of Analysis

Client:	Weston Solutions	Date Collected:	11/22/24 11:35
Project:	Ft Meade Tipton Airfield Parcel RI - PO 0111169	Date Received:	11/23/24
Client Sample ID:	TAPIAL1-SB04D-9-112224-00-T1	SDG No.:	P4986
Lab Sample ID:	P4986-01	Matrix:	SOIL
		% Solid:	93.9

Parameter	Conc.	Qua.	DF	MDL	LOD	LOQ / CRQL	Units(Dry Weight)	Prep Date	Date Ana.	Ana Met.
Bromide	21.3	U	1	0.52	21.3	42.5	mg/Kg		11/25/24 13:11	9056A
Chloride	2.00	J	1	0.10	6.40	12.8	mg/Kg		11/25/24 13:11	9056A
Fluoride	1.00	J	1	0.40	4.30	8.50	mg/Kg		11/25/24 13:11	9056A
Nitrite	6.40	U	1	0.20	6.40	12.8	mg/Kg		11/25/24 13:11	9056A
Nitrate	5.30	U	1	0.095	5.30	10.6	mg/Kg		11/25/24 13:11	9056A
Sulfate	19.8	J	1	0.65	31.9	63.8	mg/Kg		11/25/24 13:11	9056A
pH	6.56	H	1	0	0	0	pH		11/26/24 09:40	9045D
TOC	962		1	19.8	50.0	250	mg/Kg		11/26/24 14:11	9060A

Comments: pH result reported at temperature 23.7 °C

U = Not Detected

LOQ = Limit of Quantitation

MDL = Method Detection Limit

LOD = Limit of Detection

D = Dilution

Q = indicates LCS control criteria did not meet requirements

H = Sample Analysis Out Of Hold Time

J = Estimated Value

B = Analyte Found in Associated Method Blank

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

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

OR = Over Range

N =Spiked sample recovery not within control limits

Report of Analysis

Client:	Weston Solutions	Date Collected:	11/22/24 12:50
Project:	Ft Meade Tipton Airfield Parcel RI - PO 0111169	Date Received:	11/23/24
Client Sample ID:	TAPIAL1-SB04D-4-112224-00-T1	SDG No.:	P4986
Lab Sample ID:	P4986-02	Matrix:	SOIL
		% Solid:	92.8

Parameter	Conc.	Qua.	DF	MDL	LOD	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
pH	6.12	H	1	0	0	0	pH		11/26/24 09:45	9045D
TOC	1210		1	19.8	50.0	250	mg/Kg		11/26/24 14:29	9060A

Comments: pH result reported at temperature 23.7 °C

U = Not Detected

LOQ = Limit of Quantitation

MDL = Method Detection Limit

LOD = Limit of Detection

D = Dilution

Q = indicates LCS control criteria did not meet requirements

H = Sample Analysis Out Of Hold Time

J = Estimated Value

B = Analyte Found in Associated Method Blank

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

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

OR = Over Range

N =Spiked sample recovery not within control limits



QC RESULT SUMMARY

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14

Initial and Continuing Calibration Verification

Client: Weston Solutions

SDG No.: P4986

Project: Ft Meade Tipton Airfield Parcel RI - PO 0111169

RunNo.: LB133607

Analyte	Units	Result	True Value	% Recovery	Acceptance Window (%R)	Analysis Date
Sample ID: ICV1						
Bromide	mg/L	10	10	100	90-110	11/18/2024
Chloride	mg/L	3	3	100	90-110	11/18/2024
Fluoride	mg/L	2	2	100	90-110	11/18/2024
Nitrite	mg/L	3	3	100	90-110	11/18/2024
Nitrate	mg/L	2.5	2.5	100	90-110	11/18/2024
Sulfate	mg/L	14.6	15	97	90-110	11/18/2024
Orthophosphate as P	mg/L	5	5	100	90-110	11/18/2024
Sample ID: CCV1						
Bromide	mg/L	10	10	100	90-110	11/25/2024
Chloride	mg/L	3	3	100	90-110	11/25/2024
Fluoride	mg/L	1.9	2	95	90-110	11/25/2024
Nitrite	mg/L	3	3	100	90-110	11/25/2024
Nitrate	mg/L	2.5	2.5	100	90-110	11/25/2024
Sulfate	mg/L	14.3	15	95	90-110	11/25/2024
Orthophosphate as P	mg/L	5	5	100	90-110	11/25/2024
Sample ID: CCV2						
Bromide	mg/L	10	10	100	90-110	11/25/2024
Chloride	mg/L	3	3	100	90-110	11/25/2024
Fluoride	mg/L	2	2	100	90-110	11/25/2024
Nitrite	mg/L	3	3	100	90-110	11/25/2024
Nitrate	mg/L	2.5	2.5	100	90-110	11/25/2024
Sulfate	mg/L	14.3	15	95	90-110	11/25/2024
Orthophosphate as P	mg/L	5.1	5	102	90-110	11/25/2024

Initial and Continuing Calibration Verification

Client: Weston Solutions

SDG No.: P4986

Project: Ft Meade Tipton Airfield Parcel RI - PO 0111169

RunNo.: LB133628

Analyte	Units	Result	True Value	% Recovery	Acceptance Window (%R)	Analysis Date
Sample ID: ICV pH	pH	7.00	7	100	90-110	11/26/2024
Sample ID: CCV1 pH	pH	2.01	2.00	101	90-110	11/26/2024
Sample ID: CCV2 pH	pH	12.02	12.00	100	90-110	11/26/2024

Initial and Continuing Calibration Verification

Client: Weston Solutions

SDG No.: P4986

Project: Ft Meade Tipton Airfield Parcel RI - PO 0111169

RunNo.: LB133629

Analyte	Units	Result	True Value	% Recovery	Acceptance Window (%R)	Analysis Date
Sample ID: ICV1 TOC	mg/L	934	1000	93	90-110	11/12/2024
Sample ID: CCV1 TOC	mg/L	944	1000	94	90-110	11/26/2024
Sample ID: CCV2 TOC	mg/L	982	1000	98	90-110	11/26/2024

Initial and Continuing Calibration Blank Summary

Client: Weston Solutions

SDG No.: P4986

Project: Ft Meade Tipton Airfield Parcel RI - PO 0111169

RunNo.: LB133607

Analyte	Units	Result	Acceptance Limits	Conc Qual	MDL	RDL	Analysis Date
Sample ID: ICB1							
Bromide	mg/L	< 1.0000	1.0000	U	0.034	2	11/18/2024
Chloride	mg/L	< 0.3000	0.3000	U	0.011	0.6	11/18/2024
Fluoride	mg/L	< 0.2000	0.2000	U	0.057	0.4	11/18/2024
Nitrite	mg/L	< 0.3000	0.3000	U	0.011	0.6	11/18/2024
Nitrate	mg/L	< 0.2500	0.2500	U	0.0034	0.5	11/18/2024
Sulfate	mg/L	< 1.5000	1.5000	U	0.032	3	11/18/2024
Orthophosphate as P	mg/L	< 0.5000	0.5000	U	0.079	1	11/18/2024
Sample ID: CCB1							
Bromide	mg/L	< 1.0000	1.0000	U	0.034	2	11/25/2024
Chloride	mg/L	< 0.3000	0.3000	U	0.011	0.6	11/25/2024
Fluoride	mg/L	< 0.2000	0.2000	U	0.057	0.4	11/25/2024
Nitrite	mg/L	< 0.3000	0.3000	U	0.011	0.6	11/25/2024
Nitrate	mg/L	< 0.2500	0.2500	U	0.0034	0.5	11/25/2024
Sulfate	mg/L	< 1.5000	1.5000	U	0.032	3	11/25/2024
Orthophosphate as P	mg/L	< 0.5000	0.5000	U	0.079	1	11/25/2024
Sample ID: CCB2							
Bromide	mg/L	< 1.0000	1.0000	U	0.034	2	11/25/2024
Chloride	mg/L	< 0.3000	0.3000	U	0.011	0.6	11/25/2024
Fluoride	mg/L	< 0.2000	0.2000	U	0.057	0.4	11/25/2024
Nitrite	mg/L	< 0.3000	0.3000	U	0.011	0.6	11/25/2024
Nitrate	mg/L	< 0.2500	0.2500	U	0.0034	0.5	11/25/2024
Sulfate	mg/L	< 1.5000	1.5000	U	0.032	3	11/25/2024
Orthophosphate as P	mg/L	< 0.5000	0.5000	U	0.079	1	11/25/2024

Initial and Continuing Calibration Blank Summary

Client: Weston Solutions	SDG No.: P4986
Project: Ft Meade Tipton Airfield Parcel RI - PO 0111169	RunNo.: LB133629

Analyte	Units	Result	Acceptance Limits	Conc Qual	MDL	RDL	Analysis Date
Sample ID: ICB1 TOC	mg/L	< 125.0000	125.0000	U	22.3	250	11/12/2024
Sample ID: CCB1 TOC	mg/L	< 125.0000	125.0000	U	22.3	250	11/26/2024
Sample ID: CCB2 TOC	mg/L	< 125.0000	125.0000	U	22.3	250	11/26/2024

Preparation Blank Summary

Client: Weston Solutions

SDG No.: P4986

Project: Ft Meade Tipton Airfield Parcel RI - PO 0111169

Analyte	Units	Result	Acceptance Limits	Conc Qual	MDL	RDL	Analysis Date
Sample ID: LB133607BLS							
Bromide	mg/Kg	< 20.0000	20.0000	U	0.49	40	11/25/2024
Chloride	mg/Kg	< 6.0000	6.0000	U	0.096	12	11/25/2024
Fluoride	mg/Kg	< 4.0000	4.0000	U	0.38	8	11/25/2024
Nitrite	mg/Kg	< 6.0000	6.0000	U	0.19	12	11/25/2024
Nitrate	mg/Kg	< 5.0000	5.0000	U	0.089	10	11/25/2024
Sulfate	mg/Kg	< 30.0000	30.0000	U	0.61	60	11/25/2024
Orthophosphate as P	mg/Kg	< 10.0000	10.0000	U	0.24	20	11/25/2024
Sample ID: LB133629BLS							
TOC	mg/Kg	< 125.0000	125.0000	U	19.8	250	11/26/2024

Matrix Spike Summary

Client:

Weston Solutions

SDG No.:

P4986

Project:

Ft Meade Tipton Airfield Parcel RI - PO 0111169

Sample ID:

P4894-02

Client ID:

FES-SB401-6062MS

Percent Solids for Spike Sample:

75.1

Analyte	Units	Acceptance Limit %R	Spiked Result	Conc. Qualifier	Sample Result	Conc. Qualifier	Spike Added	Dilution Factor	% Rec	Qual	Analysis Date
TOC	mg/Kg	75-125	4830		3930		1000	1	90		11/26/2024

Matrix Spike Summary

Client:	Weston Solutions	SDG No.:	P4986
Project:	Ft Meade Tipton Airfield Parcel RI - PO 0111169	Sample ID:	P4894-02
Client ID:	FES-SB401-6062MSD	Percent Solids for Spike Sample:	75.1

Analyte	Units	Acceptance Limit %R	Spiked Result	Conc. Qualifier	Sample Result	Conc. Qualifier	Spike Added	Dilution Factor	% Rec	Qual	Analysis Date
TOC	mg/Kg	75-125	4950		3930		1000	1	102		11/26/2024

Matrix Spike Summary

Client:	Weston Solutions	SDG No.:	P4986
Project:	Ft Meade Tipton Airfield Parcel RI - PO 0111169	Sample ID:	P4986-02
Client ID:	TAPIAL1-SB04D-4-112224-00-T1MS	Percent Solids for Spike Sample:	92.8

Analyte	Units	Acceptance Limit %R	Spiked Result	Conc. Qualifier	Sample Result	Conc. Qualifier	Spike Added	Dilution Factor	% Rec	Qual	Analysis Date
Bromide	mg/Kg	80-120	218		0.53	U	210	1	104		11/25/2024
Chloride	mg/Kg	80-120	68.0		0.88	J	64.4	1	104		11/25/2024
Fluoride	mg/Kg	80-120	40.3		1.50	J	42.9	1	90		11/25/2024
Nitrite	mg/Kg	80-120	65.5		0.20	U	64.4	1	102		11/25/2024
Nitrate	mg/Kg	80-120	54.2		0.096	U	53.7	1	101		11/25/2024
Sulfate	mg/Kg	80-120	319		13.9	J	320	1	95		11/25/2024
Orthophosphate as P	mg/Kg	80-120	95.4		0.26	U	110	1	87		11/25/2024

Matrix Spike Summary

Client:	Weston Solutions	SDG No.:	P4986
Project:	Ft Meade Tipton Airfield Parcel RI - PO 0111169	Sample ID:	P4986-02
Client ID:	TAPIAL1-SB04D-4-112224-00-T1MSD	Percent Solids for Spike Sample:	92.8

Analyte	Units	Acceptance Limit %R	Spiked Result	Conc. Qualifier	Sample Result	Conc. Qualifier	Spike Added	Dilution Factor	% Rec	Qual	Analysis Date
Bromide	mg/Kg	80-120	218		0.53	U	210	1	104		11/25/2024
Chloride	mg/Kg	80-120	67.9		0.88	J	64.4	1	104		11/25/2024
Fluoride	mg/Kg	80-120	40.0		1.50	J	42.9	1	90		11/25/2024
Nitrite	mg/Kg	80-120	65.6		0.20	U	64.4	1	102		11/25/2024
Nitrate	mg/Kg	80-120	54.2		0.096	U	53.7	1	101		11/25/2024
Sulfate	mg/Kg	80-120	322		13.9	J	320	1	96		11/25/2024
Orthophosphate as P	mg/Kg	80-120	98.9		0.26	U	110	1	90		11/25/2024

Duplicate Sample Summary

Client:	Weston Solutions	SDG No.:	P4986
Project:	Ft Meade Tipton Airfield Parcel RI - PO 0111169	Sample ID:	P4894-02
Client ID:	FES-SB401-6062MSD	Percent Solids for Spike Sample:	75.1

Analyte	Units	Acceptance Limit	Sample Result	Conc. Qualifier	Duplicate Result	Conc. Qualifier	Dilution Factor	RPD/AD	Qual	Analysis Date
TOC	mg/Kg	+/-20	4830		4950		1	2		11/26/2024

Duplicate Sample Summary

Client:	Weston Solutions	SDG No.:	P4986
Project:	Ft Meade Tipton Airfield Parcel RI - PO 0111169	Sample ID:	P4986-01
Client ID:	TAPIAL1-SB04D-9-112224-00-T1DUP	Percent Solids for Spike Sample:	93.9

Analyte	Units	Acceptance Limit	Sample Result	Conc. Qualifier	Duplicate Result	Conc. Qualifier	Dilution Factor	RPD/AD	Qual	Analysis Date
pH	pH	+/-20	6.56		6.57		1	0.15		11/26/2024

Duplicate Sample Summary

Client:	Weston Solutions	SDG No.:	P4986
Project:	Ft Meade Tipton Airfield Parcel RI - PO 0111169	Sample ID:	P4986-02
Client ID:	TAPIAL1-SB04D-4-112224-00-T1MSD	Percent Solids for Spike Sample:	92.8

Analyte	Units	Acceptance Limit	Sample Result	Conc. Qualifier	Duplicate Result	Conc. Qualifier	Dilution Factor	RPD/AD	Qual	Analysis Date
Bromide	mg/Kg	+/-15	218		218		1	0		11/25/2024
Chloride	mg/Kg	+/-15	68.0		67.9		1	0		11/25/2024
Nitrate	mg/Kg	+/-15	54.2		54.2		1	0		11/25/2024
Nitrite	mg/Kg	+/-15	65.5		65.6		1	0		11/25/2024
Fluoride	mg/Kg	+/-15	40.3		40.0		1	1		11/25/2024
Sulfate	mg/Kg	+/-15	319		322		1	1		11/25/2024
Orthophosphate as P	mg/Kg	+/-15	95.4		98.9		1	4		11/25/2024

Laboratory Control Sample Summary

Client:	Weston Solutions	SDG No.:	P4986
Project:	Ft Meade Tipton Airfield Parcel RI - PO 0111169	Run No.:	LB133607

Analyte	Units	True Value	Result	Conc. Qualifier	% Recovery	Dilution Factor	Acceptance Limit %R	Analysis Date
Sample ID	LB133607BSS							
Bromide	mg/Kg	200	200		100	1	90-110	11/25/2024
Chloride	mg/Kg	60	59.1		98	1	90-110	11/25/2024
Fluoride	mg/Kg	40	38.9		97	1	90-110	11/25/2024
Nitrite	mg/Kg	60	59.9		100	1	90-110	11/25/2024
Nitrate	mg/Kg	50	49.4		99	1	90-110	11/25/2024
Sulfate	mg/Kg	300	285		95	1	90-110	11/25/2024
Orthophosphate as P	mg/Kg	100	102		102	1	90-110	11/25/2024

Laboratory Control Sample Summary

Client:	Weston Solutions	SDG No.:	P4986
Project:	Ft Meade Tipton Airfield Parcel RI - PO 0111169	Run No.:	LB133629

Analyte	Units	True Value	Result	Conc. Qualifier	% Recovery	Dilution Factor	Acceptance Limit %R	Analysis Date
Sample ID	LB133629BSS							
TOC	mg/Kg	1000	952		95	1	90-110	11/26/2024



RAW DATA

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14

Instrument I			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	initial wt/Final Vc	Analyst	
STD1	0	0	0	0	0	0	0	IC1-111824	11/18/2024 11:24	10	NF/IZ	
STD2	0.402	0.571	0.601	1.961	0.489	1.025	3.062	IC1-111824	11/18/2024 11:46	10	NF/IZ	
STD3	0.794	1.185	1.175	3.939	0.997	1.928	6.062	IC1-111824	11/18/2024 12:07	10	NF/IZ	
STD4	1.023	1.554	1.535	5.128	1.284	2.665	7.843	IC1-111824	11/18/2024 12:29	10	NF/IZ	
STD5	1.997	3.009	2.993	9.997	2.488	4.96	14.679	IC1-111824	11/18/2024 12:50	10	NF/IZ	
STD6	3.936	5.952	5.978	19.928	4.964	9.645	28.993	IC1-111824	11/18/2024 13:11	10	NF/IZ	
STD7	5.049	7.529	7.517	25.045	6.279	12.776	37.863	IC1-111824	11/18/2024 13:33	10	NF/IZ	
ICV	1.966	3.006	2.997	9.98	2.49	4.979	14.594	IC1-111824	11/18/2024 13:54	10	NF/IZ	
ICB	0	0	0	0	0	0	0	IC1-111824	11/18/2024 14:16	10	NF/IZ	
CCV	1.926	2.971	2.974	10.004	2.473	4.986	14.286	IC1-111824	11/25/2024 11:01	10	NF/IZ	
CCB	0	0	0	0	0	0	0	IC1-111824	11/25/2024 11:22	10	NF/IZ	
LB133607BLW	0	0	0	0	0	0	0	IC1-111824	11/25/2024 11:44	5.00g/100ML	NF/IZ	
LB133607BSW	1.947	2.956	2.995	9.982	2.469	5.119	14.269	IC1-111824	11/25/2024 12:05	5.00g/100ML	NF/IZ	
P4986-01	0.047	0.096	0	0	0	0	0.932	IC1-111824	11/25/2024 13:11	5.01g/100ML	NF/IZ	
P4986-02	0.07	0.041	0	0	0	0	0.648	IC1-111824	11/25/2024 13:33	5.02g/100ML	NF/IZ	
P4986-02MS	1.876	3.17	3.05	10.136	2.524	4.443	14.867	IC1-111824	11/25/2024 13:55	5.02g/100ML	NF/IZ	
P4986-02MSD	1.864	3.163	3.057	10.149	2.524	4.605	15.021	IC1-111824	11/25/2024 14:16	5.02g/100ML	NF/IZ	
CCV	1.979	2.983	3.002	10.045	2.487	5.108	14.335	IC1-111824	11/25/2024 14:38	10	NF/IZ	
CCB	0	0	0	0	0	0	0	IC1-111824	11/25/2024 14:59	10	NF/IZ	

Clear table

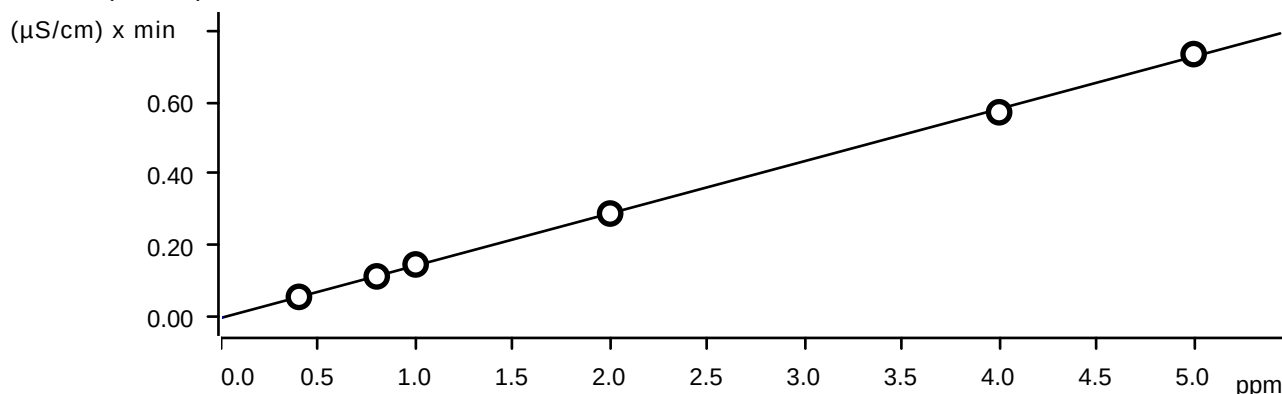
Instrument ID: IC-2 Analyst : IZ Method: 300.0 / 9056A

ident	concentra tion F-	concentratio n CL-	concentrati on NO2	concentrati on BR-	concentrati on NO3	concentrati on HPO4	concentrati on SO4	file name	date time	Initial wt/ Final	Analyst
STD1	0.000	0.000	0.000	0.000	0.000	0.000	0.000	IC1-111824	11/18/2024 11:24	10	NF/IZ
STD2	0.402	0.571	0.601	1.961	0.489	1.025	3.062	IC1-111824	11/18/2024 11:46	10	NF/IZ
STD3	0.794	1.185	1.175	3.939	0.997	1.928	6.062	IC1-111824	11/18/2024 12:07	10	NF/IZ
STD4	1.023	1.554	1.535	5.128	1.284	2.665	7.843	IC1-111824	11/18/2024 12:29	10	NF/IZ
STD5	1.997	3.009	2.993	9.997	2.488	4.960	14.679	IC1-111824	11/18/2024 12:50	10	NF/IZ
STD6	3.936	5.952	5.978	19.928	4.964	9.645	28.993	IC1-111824	11/18/2024 13:11	10	NF/IZ
STD7	5.049	7.529	7.517	25.045	6.279	12.776	37.863	IC1-111824	11/18/2024 13:33	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	0.5000	-4.8333	0.1667	-1.9500	-2.2000	2.5000	2.0667
STD3	-0.7500	-1.2500	-2.0833	-1.5250	-0.3000	-3.6000	1.0333
STD4	2.3000	3.6000	2.3333	2.5600	2.7200	6.6000	4.5733
STD5	-0.1500	0.3000	-0.2333	-0.0300	-0.4800	-0.8000	-2.1400
STD6	-1.6000	-0.8000	-0.3667	-0.3600	-0.7200	-3.5500	-3.3567
STD7	0.9800	0.3667	0.2267	0.1800	0.4640	2.2080	2.3324

Fluoride (Anions)

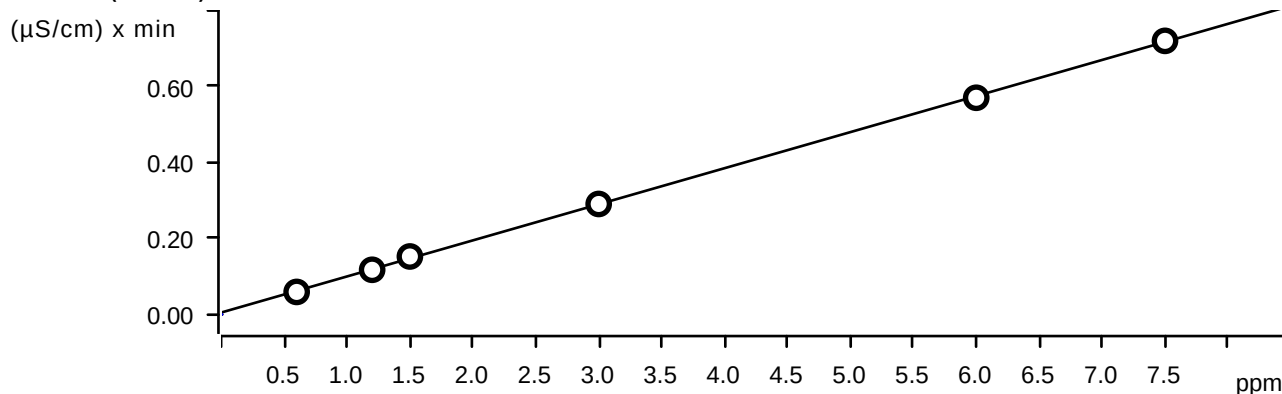
Function: $A = -1.48773\text{E-}3 + 0.0145652 \times Q$

Relative standard deviation 1.923523 %

Correlation coefficient 0.999800

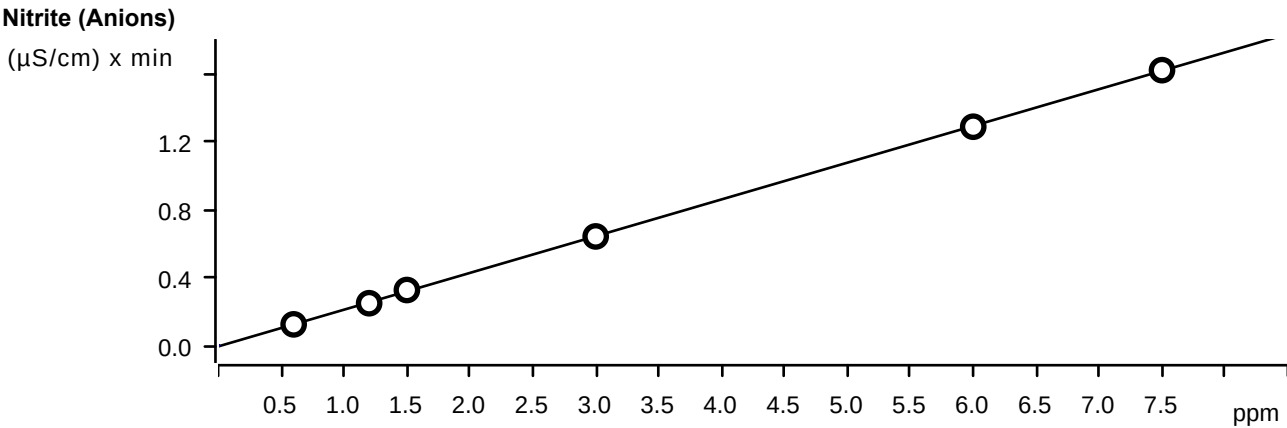
Sample type	Index	Conc.	Volume	Dilution	Sample amount	Area	Ident	Date	Used
Standard 1	1	0.000	10.0	1.0	1.0	n. d.	STD1	2024-11-18 11:24:52 UTC-5	used
Standard 2	1	0.400	10.0	1.0	1.0	0.057	STD2	2024-11-18 11:46:16 UTC-5	used
Standard 3	1	0.800	10.0	1.0	1.0	0.114	STD3	2024-11-18 12:07:40 UTC-5	used
Standard 4	1	1.000	10.0	1.0	1.0	0.147	STD4	2024-11-18 12:29:05 UTC-5	used
Standard 5	1	2.000	10.0	1.0	1.0	0.289	STD5	2024-11-18 12:50:30 UTC-5	used
Standard 6	1	4.000	10.0	1.0	1.0	0.572	STD6	2024-11-18 13:11:57 UTC-5	used
Standard 7	1	5.000	10.0	1.0	1.0	0.734	STD7	2024-11-18 13:33:24 UTC-5	used

Chloride (Anions)

Function: $A = 4.85841\text{E-}3 + 9.50243\text{E-}3 \times Q$

Relative standard deviation 1.265280 %
Correlation coefficient 0.999910

Sample type	Index	Conc.	Volume	Dilution	Sample amount	Area	Ident	Date	Used
Standard 1	1	0.000	10.0	1.0	1.0	n. d.	STD1	2024-11-18 11:24:52 UTC-5	used
Standard 2	1	0.600	10.0	1.0	1.0	0.059	STD2	2024-11-18 11:46:16 UTC-5	used
Standard 3	1	1.200	10.0	1.0	1.0	0.117	STD3	2024-11-18 12:07:40 UTC-5	used
Standard 4	1	1.500	10.0	1.0	1.0	0.153	STD4	2024-11-18 12:29:05 UTC-5	used
Standard 5	1	3.000	10.0	1.0	1.0	0.291	STD5	2024-11-18 12:50:30 UTC-5	used
Standard 6	1	6.000	10.0	1.0	1.0	0.570	STD6	2024-11-18 13:11:57 UTC-5	used
Standard 7	1	7.500	10.0	1.0	1.0	0.720	STD7	2024-11-18 13:33:24 UTC-5	used

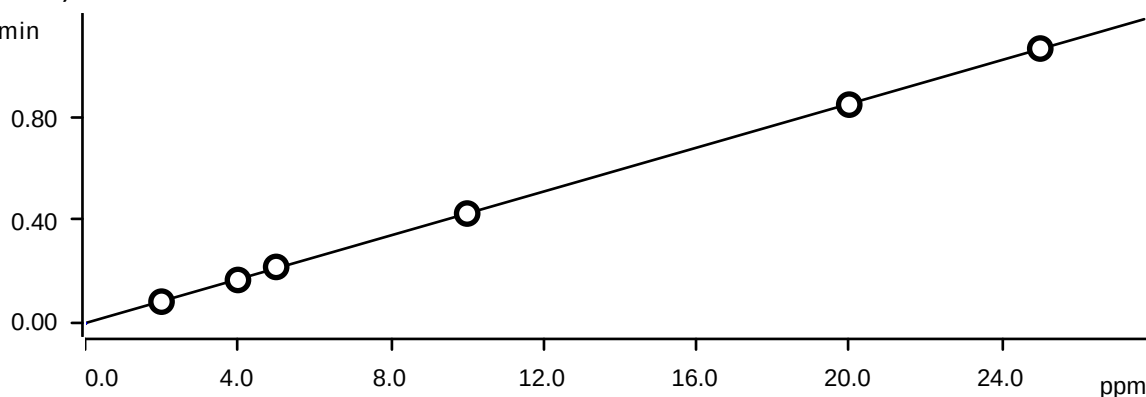


Function: $A = -5.27414E-3 + 0.0216316 \times Q$
Relative standard deviation 0.783603 %
Correlation coefficient 0.999967

Sample type	Index	Conc.	Volume	Dilution	Sample amount	Area	Ident	Date	Used
Standard 1	1	0.000	10.0	1.0	1.0	n. d.	STD1	2024-11-18 11:24:52 UTC-5	used
Standard 2	1	0.600	10.0	1.0	1.0	0.125	STD2	2024-11-18 11:46:16 UTC-5	used
Standard 3	1	1.200	10.0	1.0	1.0	0.249	STD3	2024-11-18 12:07:40 UTC-5	used
Standard 4	1	1.500	10.0	1.0	1.0	0.327	STD4	2024-11-18 12:29:05 UTC-5	used
Standard 5	1	3.000	10.0	1.0	1.0	0.642	STD5	2024-11-18 12:50:30 UTC-5	used
Standard 6	1	6.000	10.0	1.0	1.0	1.288	STD6	2024-11-18 13:11:57 UTC-5	used
Standard 7	1	7.500	10.0	1.0	1.0	1.621	STD7	2024-11-18 13:33:24 UTC-5	used

Bromide (Anions)

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



Function: $A = 7.64331E-4 + 4.24604E-3 \times Q$

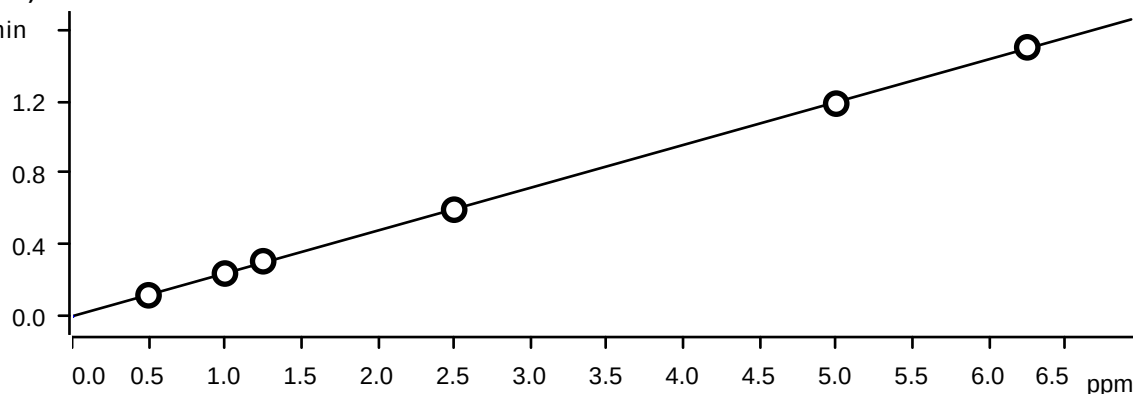
Relative standard deviation: 0.771268 %

Correlation coefficient: 0.999967

Sample type	Index	Conc.	Volume	Dilution	Sample amount	Area	Ident	Date	Used
Standard 1	1	0.000	10.0	1.0	1.0	n. d.	STD1	2024-11-18 11:24:52 UTC-5	used
Standard 2	1	2.000	10.0	1.0	1.0	0.084	STD2	2024-11-18 11:46:16 UTC-5	used
Standard 3	1	4.000	10.0	1.0	1.0	0.168	STD3	2024-11-18 12:07:40 UTC-5	used
Standard 4	1	5.000	10.0	1.0	1.0	0.219	STD4	2024-11-18 12:29:05 UTC-5	used
Standard 5	1	10.000	10.0	1.0	1.0	0.425	STD5	2024-11-18 12:50:30 UTC-5	used
Standard 6	1	20.000	10.0	1.0	1.0	0.847	STD6	2024-11-18 13:11:57 UTC-5	used
Standard 7	1	25.000	10.0	1.0	1.0	1.064	STD7	2024-11-18 13:33:24 UTC-5	used

Nitrate (Anions)

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

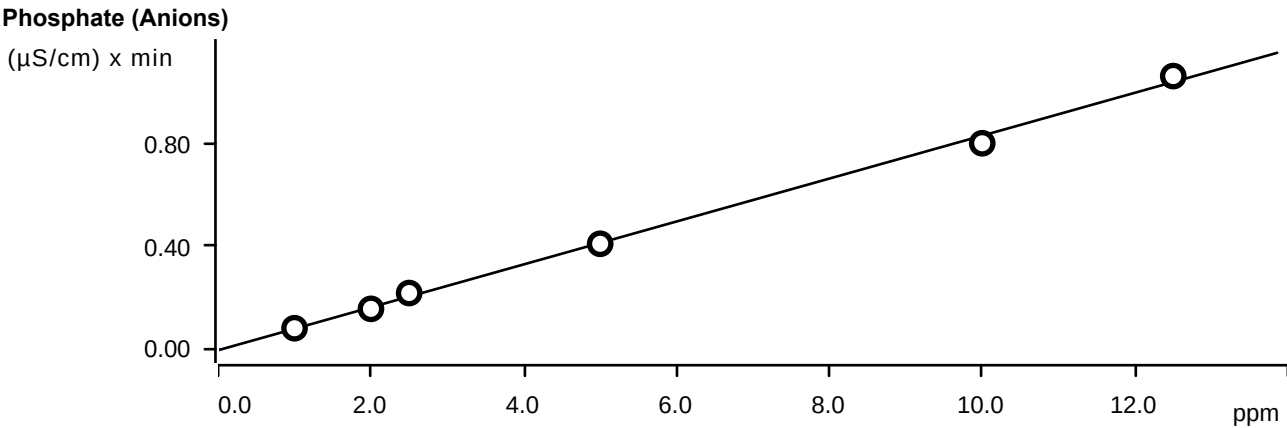


Function: $A = 1.14484E-3 + 0.0238833 \times Q$

Relative standard deviation: 1.085494 %

Correlation coefficient 0.999936

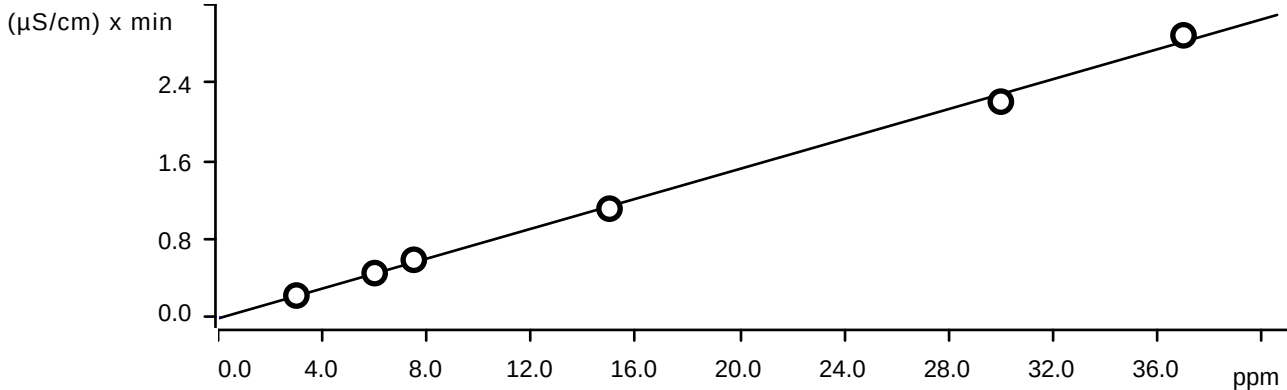
Sample type	Index	Conc.	Volume	Dilution	Sample amount	Area	Ident	Date	Used
Standard 1	1	0.000	10.0	1.0	1.0	n. d.	STD1	2024-11-18 11:24:52 UTC-5	used
Standard 2	1	0.500	10.0	1.0	1.0	0.118	STD2	2024-11-18 11:46:16 UTC-5	used
Standard 3	1	1.000	10.0	1.0	1.0	0.239	STD3	2024-11-18 12:07:40 UTC-5	used
Standard 4	1	1.250	10.0	1.0	1.0	0.308	STD4	2024-11-18 12:29:05 UTC-5	used
Standard 5	1	2.500	10.0	1.0	1.0	0.595	STD5	2024-11-18 12:50:30 UTC-5	used
Standard 6	1	5.000	10.0	1.0	1.0	1.187	STD6	2024-11-18 13:11:57 UTC-5	used
Standard 7	1	6.250	10.0	1.0	1.0	1.501	STD7	2024-11-18 13:33:24 UTC-5	used



Function: $A = - 2.33576E-3 + 8.30878E-3 \times Q$
Relative standard deviation 4.444706 %
Correlation coefficient 0.998936

Sample type	Index	Conc.	Volume	Dilution	Sample amount	Area	Ident	Date	Used
Standard 1	1	0.000	10.0	1.0	1.0	n. d.	STD1	2024-11-18 11:24:52 UTC-5	used
Standard 2	1	1.000	10.0	1.0	1.0	0.083	STD2	2024-11-18 11:46:16 UTC-5	used
Standard 3	1	2.000	10.0	1.0	1.0	0.158	STD3	2024-11-18 12:07:40 UTC-5	used
Standard 4	1	2.500	10.0	1.0	1.0	0.219	STD4	2024-11-18 12:29:05 UTC-5	used
Standard 5	1	5.000	10.0	1.0	1.0	0.410	STD5	2024-11-18 12:50:30 UTC-5	used
Standard 6	1	10.000	10.0	1.0	1.0	0.799	STD6	2024-11-18 13:11:57 UTC-5	used
Standard 7	1	12.500	10.0	1.0	1.0	1.059	STD7	2024-11-18 13:33:24 UTC-5	used

Sulfate (Anions)



Function: $A = -9.71222E-3 + 7.64397E-3 \times Q$

Relative standard deviation 4.327283 %

Correlation coefficient 0.998986

Sample type	Index	Conc.	Volume	Dilution	Sample amount	Area	Ident	Date	Used
Standard 1	1	0.000	10.0	1.0	1.0	n. d.	STD1	2024-11-18 11:24:52 UTC-5	used
Standard 2	1	3.000	10.0	1.0	1.0	0.224	STD2	2024-11-18 11:46:16 UTC-5	used
Standard 3	1	6.000	10.0	1.0	1.0	0.454	STD3	2024-11-18 12:07:40 UTC-5	used
Standard 4	1	7.500	10.0	1.0	1.0	0.590	STD4	2024-11-18 12:29:05 UTC-5	used
Standard 5	1	15.000	10.0	1.0	1.0	1.112	STD5	2024-11-18 12:50:30 UTC-5	used
Standard 6	1	30.000	10.0	1.0	1.0	2.206	STD6	2024-11-18 13:11:57 UTC-5	used
Standard 7	1	37.000	10.0	1.0	1.0	2.884	STD7	2024-11-18 13:33:24 UTC-5	used

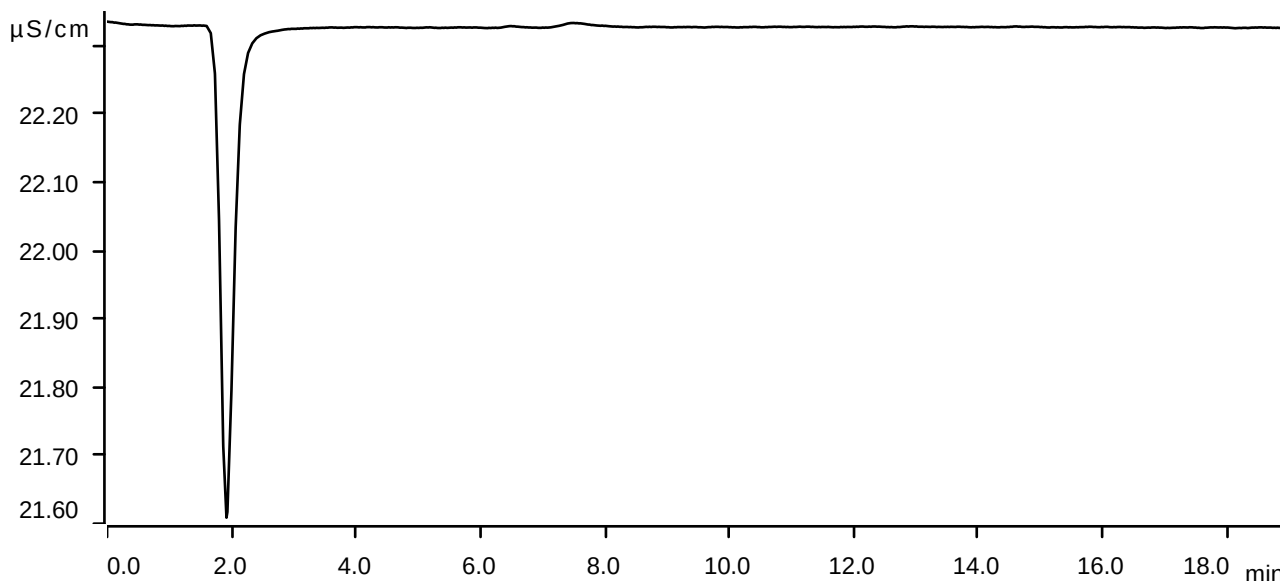
Sample data

Ident STD1
Sample type Standard 1
Determination start 2024-11-18 11:24:52 UTC-5
Method IC1-111824
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



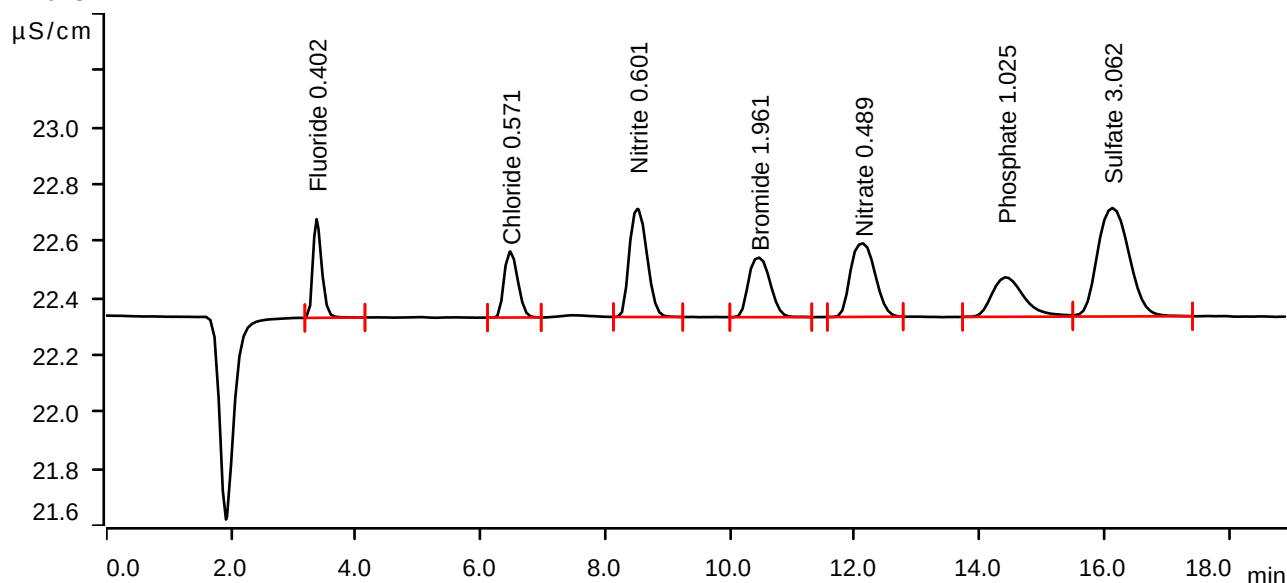
Sample data

Ident STD2
Sample type Standard 2
Determination start 2024-11-18 11:46:16 UTC-5
Method IC1-111824
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	3.372	0.0570	0.347	0.402	Fluoride
2	6.477	0.0592	0.232	0.571	Chloride
3	8.515	0.1247	0.380	0.601	Nitrite
4	10.463	0.0840	0.209	1.961	Bromide
5	12.127	0.1179	0.258	0.489	Nitrate
6	14.418	0.0829	0.139	1.025	Phosphate
7	16.130	0.2243	0.381	3.062	Sulfate

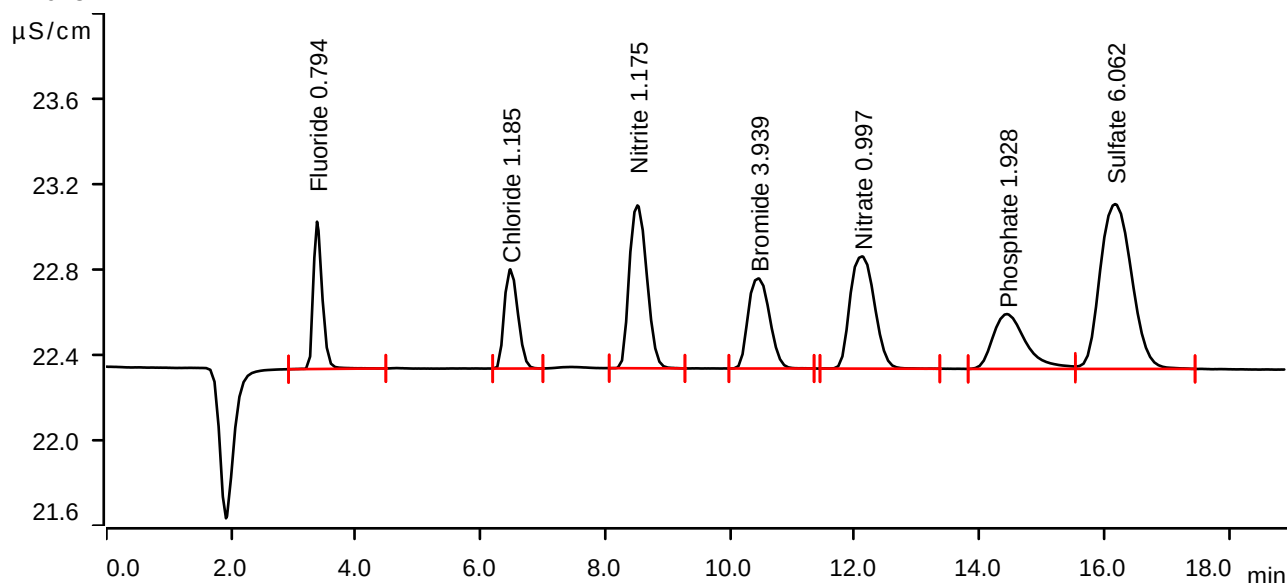
Sample data

Ident STD3
Sample type Standard 3
Determination start 2024-11-18 12:07:40 UTC-5
Method IC1-111824
Operator

Anions

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

Anions



Peak number	Retention time min	Area (µS/cm) x min	Height µS/cm	Concentration ppm	Component name
1	3.378	0.1141	0.690	0.794	Fluoride
2	6.478	0.1175	0.465	1.185	Chloride
3	8.515	0.2490	0.763	1.175	Nitrite
4	10.453	0.1680	0.422	3.939	Bromide
5	12.117	0.2394	0.526	0.997	Nitrate
6	14.440	0.1579	0.257	1.928	Phosphate
7	16.173	0.4537	0.772	6.062	Sulfate

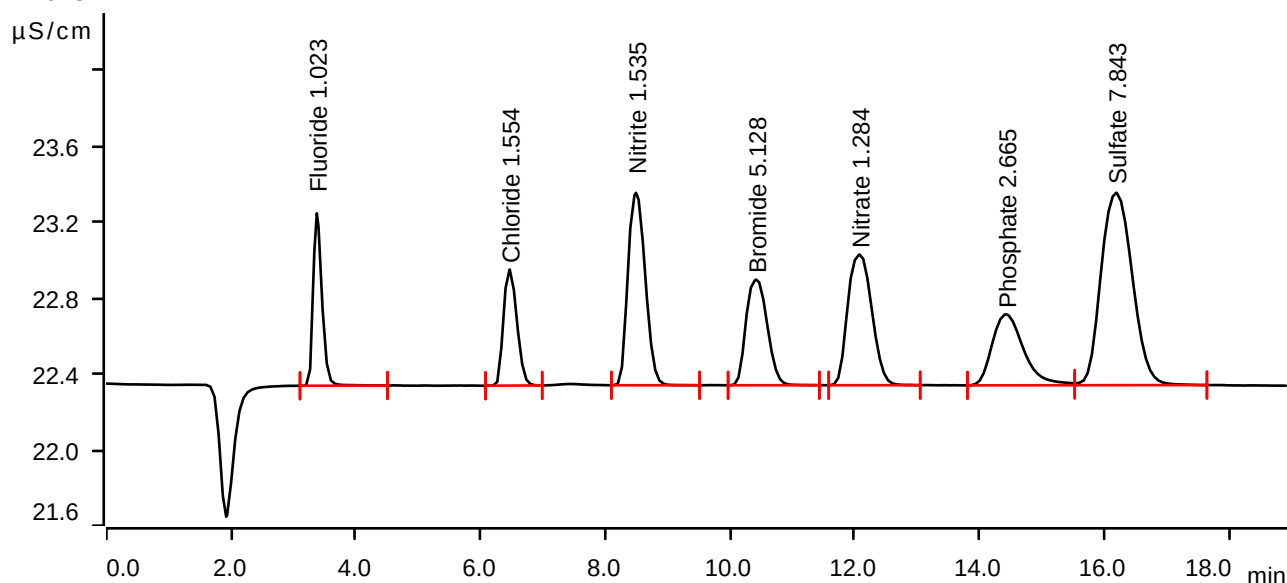
Sample data

Ident STD4
Sample type Standard 4
Determination start 2024-11-18 12:29:05 UTC-5
Method IC1-111824
Operator

Anions

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

Anions



Peak number	Retention time min	Area (µS/cm) x min	Height µS/cm	Concentration ppm	Component name
1	3.375	0.1475	0.909	1.023	Fluoride
2	6.465	0.1525	0.612	1.554	Chloride
3	8.493	0.3268	1.014	1.535	Nitrite
4	10.420	0.2185	0.557	5.128	Bromide
5	12.077	0.3078	0.689	1.284	Nitrate
6	14.427	0.2191	0.375	2.665	Phosphate
7	16.192	0.5898	1.014	7.843	Sulfate

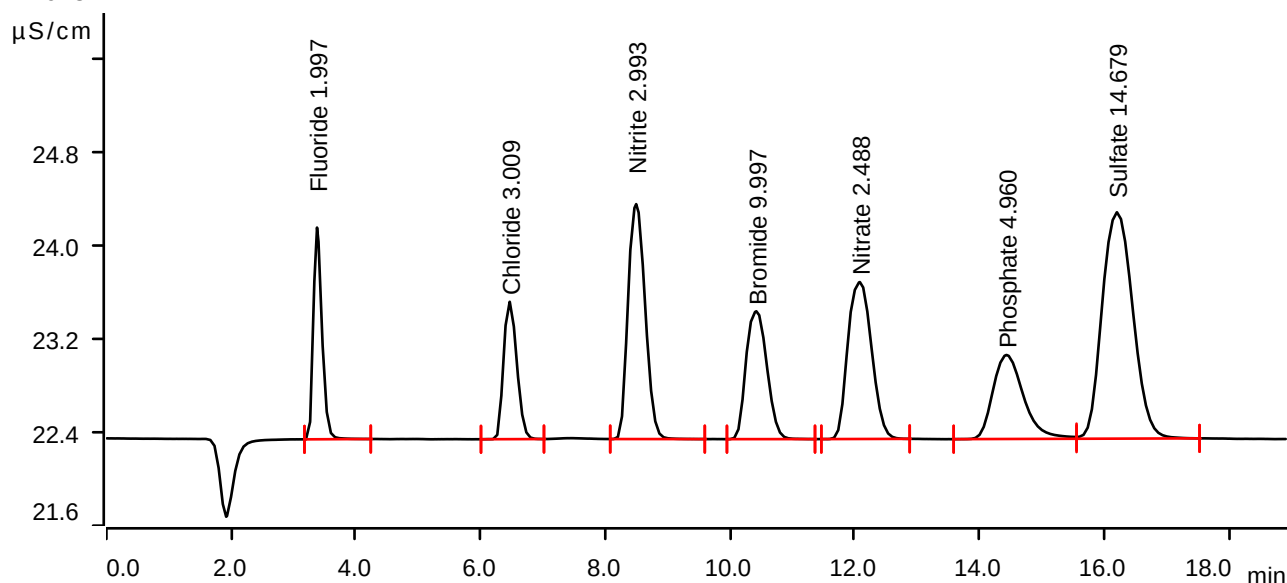
Sample data

Ident STD5
Sample type Standard 5
Determination start 2024-11-18 12:50:30 UTC-5
Method IC1-111824
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	3.378	0.2894	1.819	1.997	Fluoride
2	6.467	0.2908	1.180	3.009	Chloride
3	8.495	0.6422	2.018	2.993	Nitrite
4	10.422	0.4253	1.098	9.997	Bromide
5	12.082	0.5953	1.348	2.488	Nitrate
6	14.432	0.4098	0.722	4.960	Phosphate
7	16.203	1.1123	1.944	14.679	Sulfate

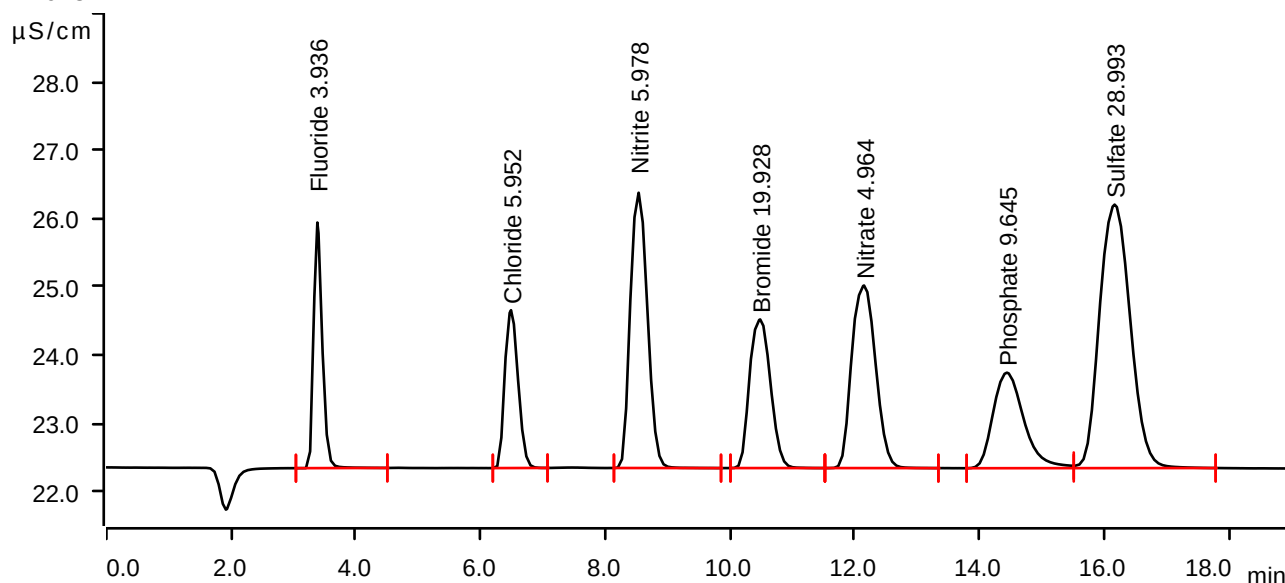
Sample data

Ident STD6
Sample type Standard 6
Determination start 2024-11-18 13:11:57 UTC-5
Method IC1-111824
Operator

Anions

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

Anions



Peak number	Retention time min	Area (µS/cm) x min	Height µS/cm	Concentration ppm	Component name
1	3.383	0.5717	3.596	3.936	Fluoride
2	6.488	0.5704	2.311	5.952	Chloride
3	8.533	1.2879	4.031	5.978	Nitrite
4	10.483	0.8469	2.176	19.928	Bromide
5	12.148	1.1866	2.673	4.964	Nitrate
6	14.438	0.7991	1.399	9.645	Phosphate
7	16.165	2.2065	3.859	28.993	Sulfate

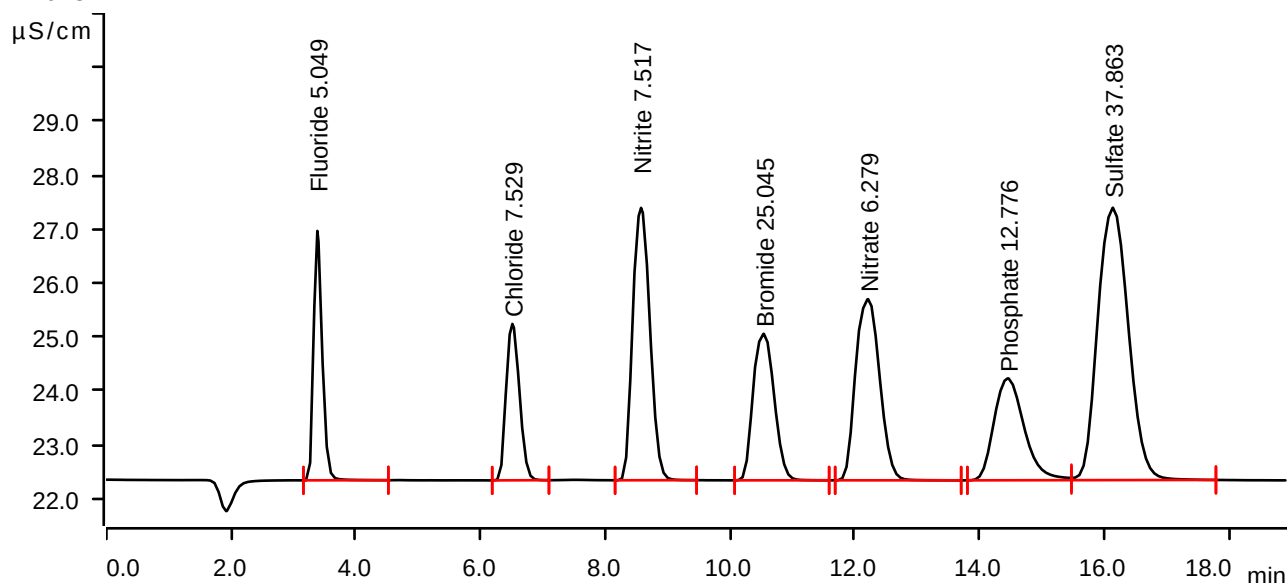
Sample data

Ident STD7
Sample type Standard 7
Determination start 2024-11-18 13:33:24 UTC-5
Method IC1-111824
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	3.383	0.7339	4.626	5.049	Fluoride
2	6.510	0.7203	2.901	7.529	Chloride
3	8.573	1.6208	5.052	7.517	Nitrite
4	10.542	1.0642	2.717	25.045	Bromide
5	12.213	1.5007	3.361	6.279	Nitrate
6	14.452	1.0592	1.891	12.776	Phosphate
7	16.138	2.8845	5.052	37.863	Sulfate

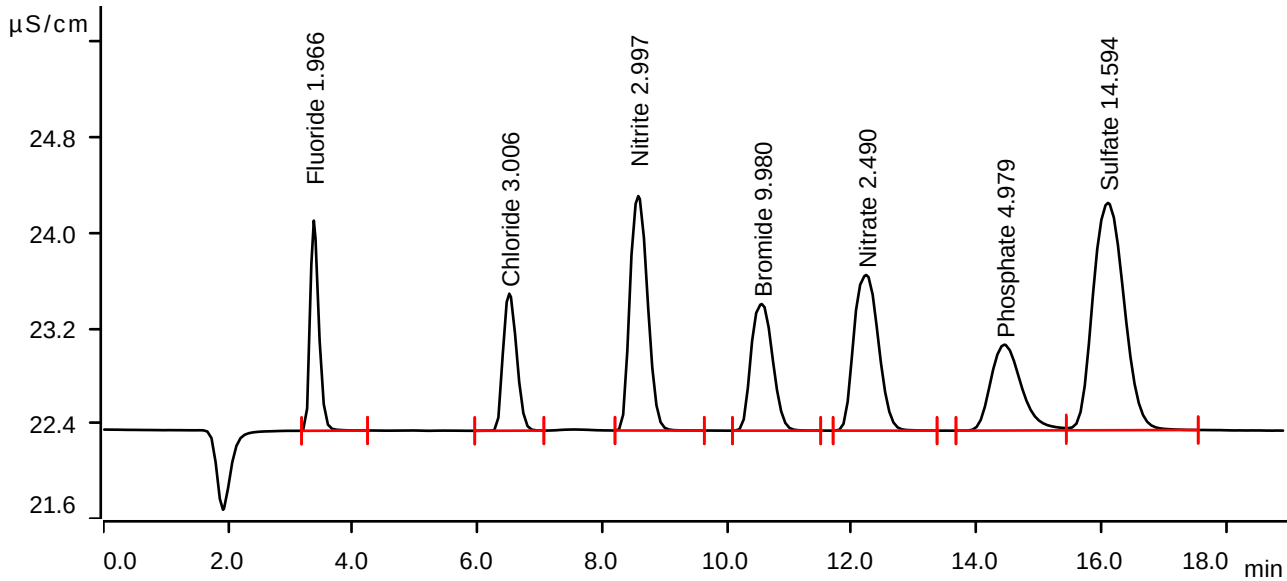
Sample data

Ident ICV
Sample type Check standard 1
Determination start 2024-11-18 13:54:44 UTC-5
Method IC1-111824
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	3.375	0.2848	1.764	1.966	Fluoride
2	6.508	0.2905	1.150	3.006	Chloride
3	8.577	0.6430	1.968	2.997	Nitrite
4	10.557	0.4245	1.063	9.980	Bromide
5	12.230	0.5959	1.307	2.490	Nitrate
6	14.447	0.4114	0.721	4.979	Phosphate
7	16.107	1.1058	1.909	14.594	Sulfate

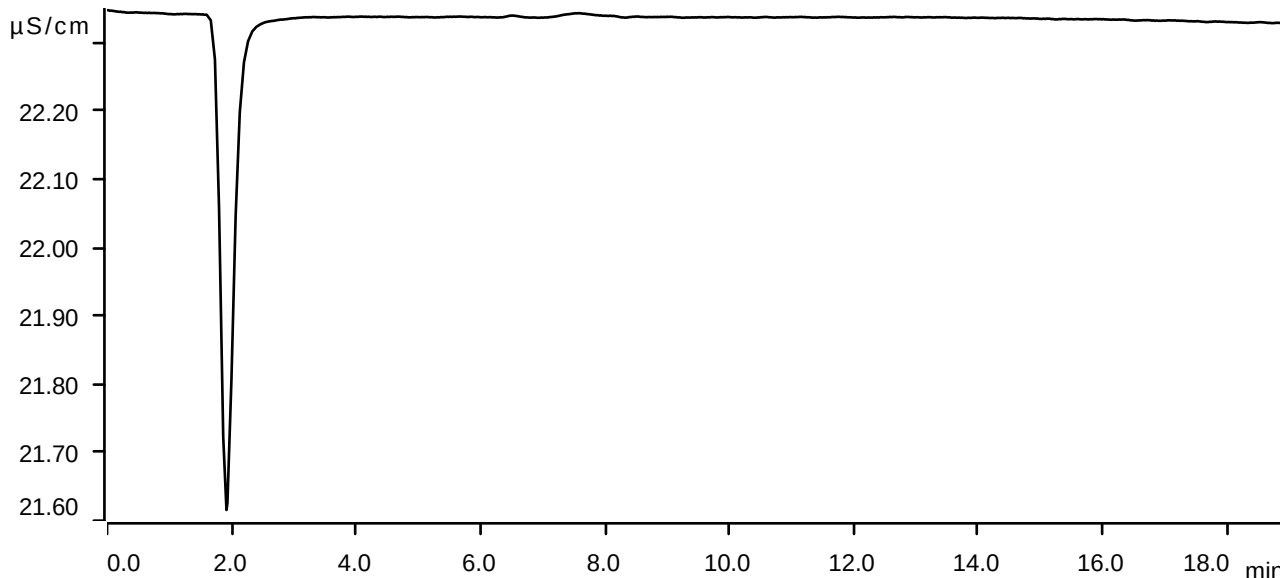
Sample data

Ident ICB
Sample type Sample
Determination start 2024-11-18 14:16:12 UTC-5
Method IC1-111824
Operator

Anions

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

Anions



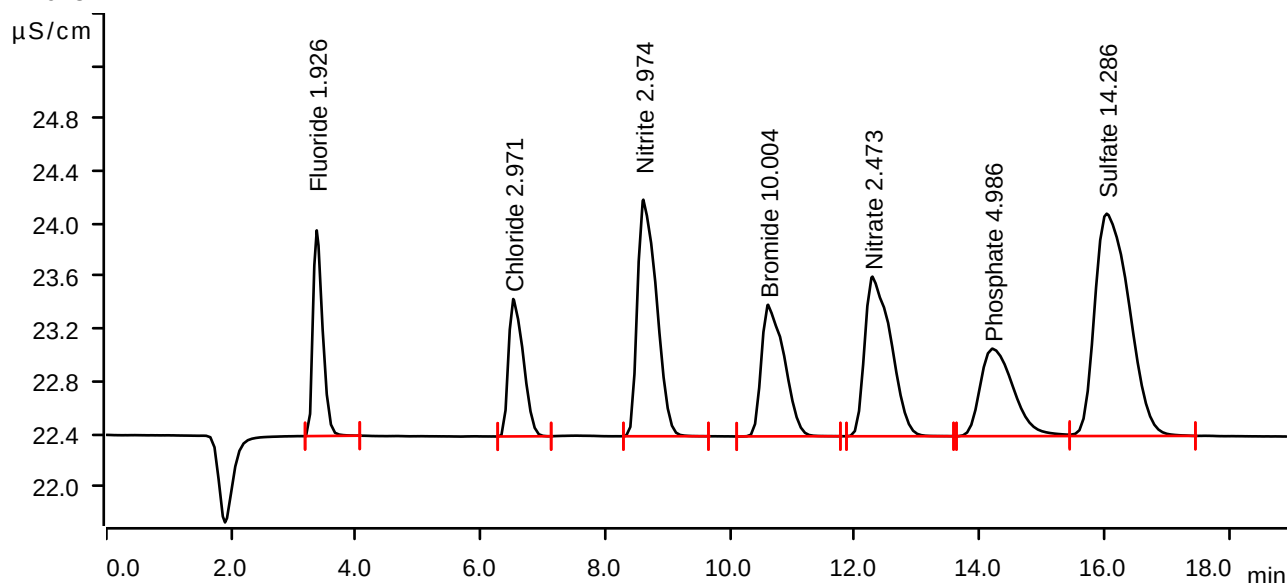
Sample data

Ident CCV
Sample type Check standard 1
Determination start 2024-11-25 11:01:03 UTC-5
Method IC1-111824
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	3.373	0.2791	1.566	1.926	Fluoride
2	6.523	0.2872	1.046	2.971	Chloride
3	8.610	0.6380	1.801	2.974	Nitrite
4	10.610	0.4255	1.002	10.004	Bromide
5	12.283	0.5918	1.215	2.473	Nitrate
6	14.208	0.4120	0.666	4.986	Phosphate
7	16.038	1.0823	1.693	14.286	Sulfate

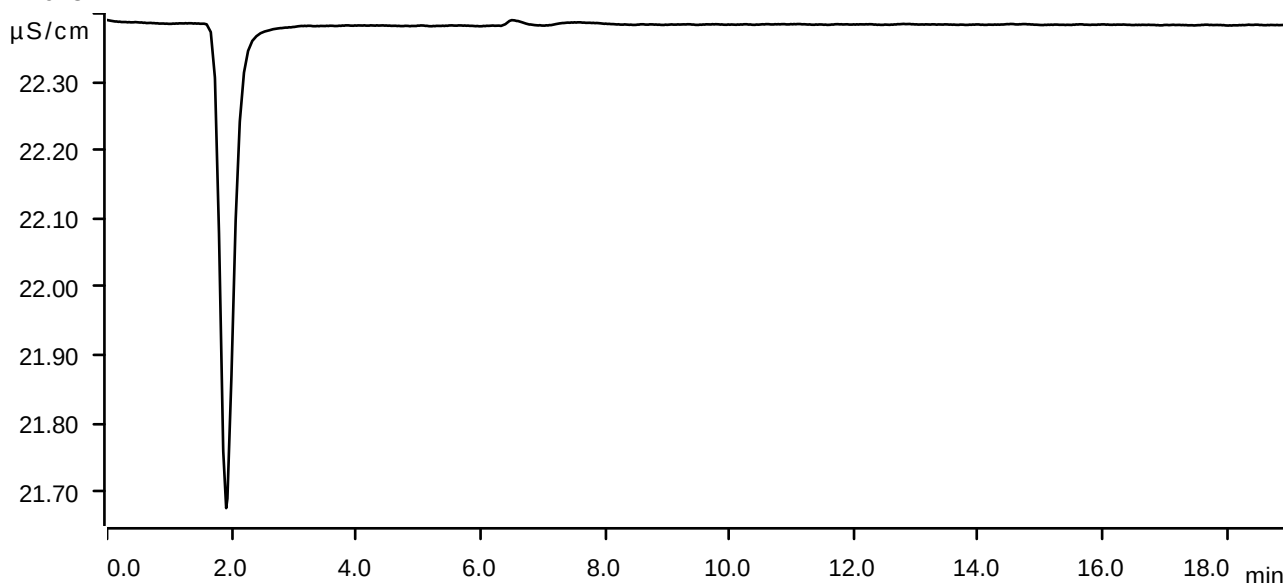
Sample data

Ident CCB
Sample type Sample
Determination start 2024-11-25 11:22:33 UTC-5
Method IC1-111824
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



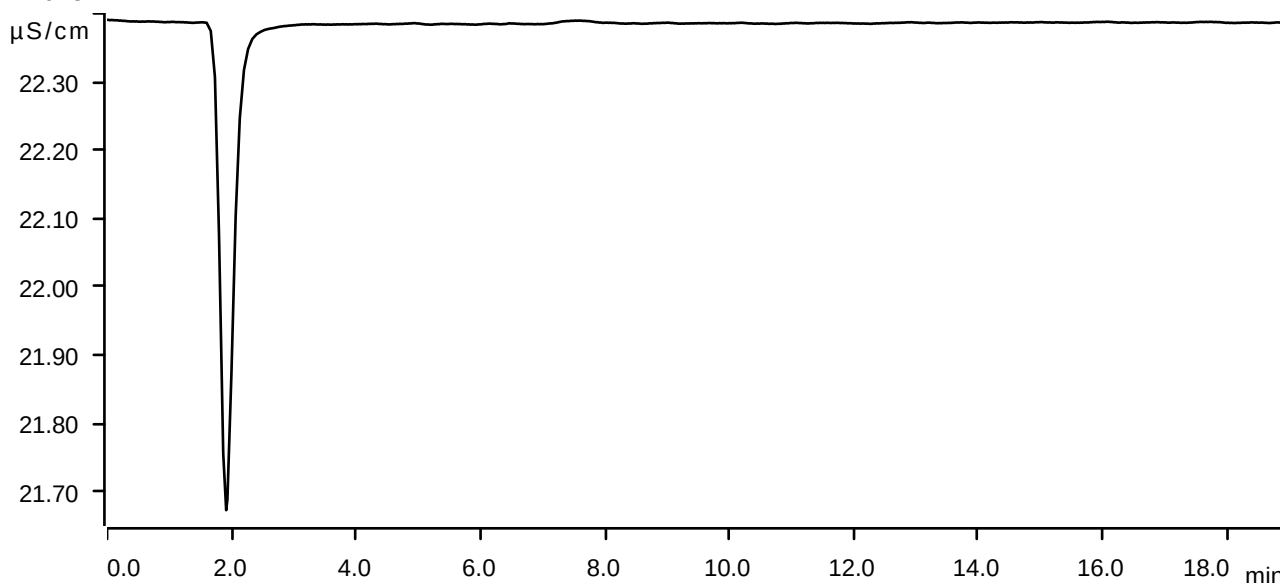
Sample data

Ident LB133607BLW
Sample type Sample
Determination start 2024-11-25 11:44:03 UTC-5
Method IC1-111824
Operator

Anions

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

Anions



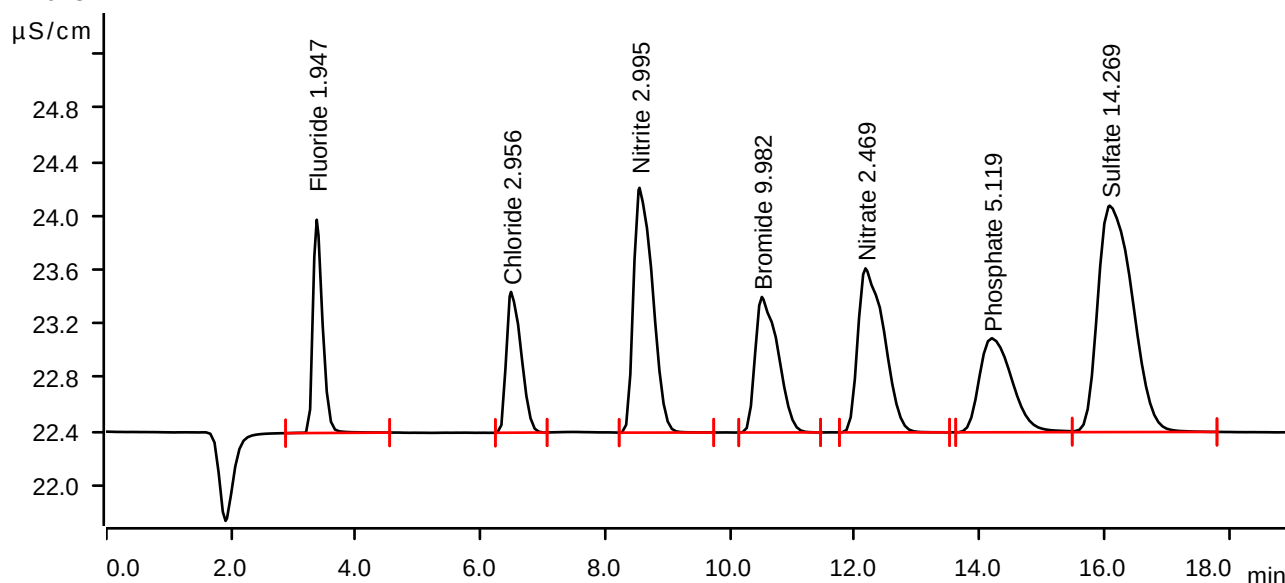
Sample data

Ident LB133607BSW
Sample type Check standard 1
Determination start 2024-11-25 12:05:33 UTC-5
Method IC1-111824
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	0.2822	1.582	1.947	Fluoride
2	6.488	0.2858	1.044	2.956	Chloride
3	8.548	0.6425	1.816	2.995	Nitrite
4	10.510	0.4246	1.006	9.982	Bromide
5	12.172	0.5908	1.217	2.469	Nitrate
6	14.195	0.4230	0.698	5.119	Phosphate
7	16.087	1.0810	1.680	14.269	Sulfate

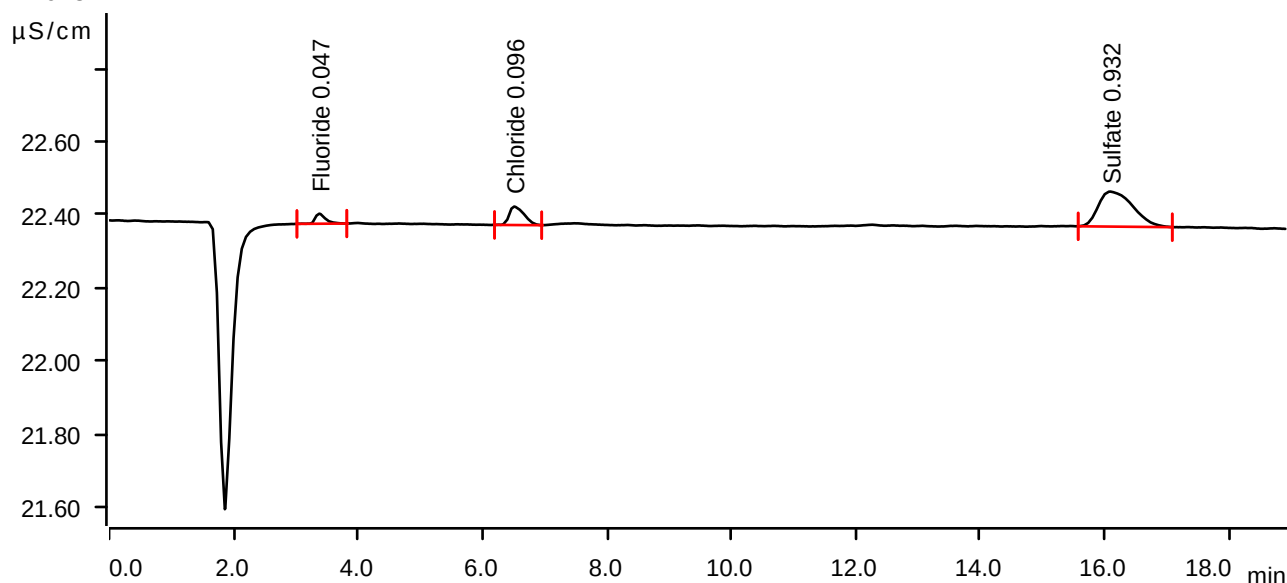
Sample data

Ident P4986-01
Sample type Sample
Determination start 2024-11-25 13:11:53 UTC-5
Method IC1-111824
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	3.380	0.0053	0.028	0.047	Fluoride
2	6.512	0.0140	0.051	0.096	Chloride
3	16.093	0.0615	0.096	0.932	Sulfate

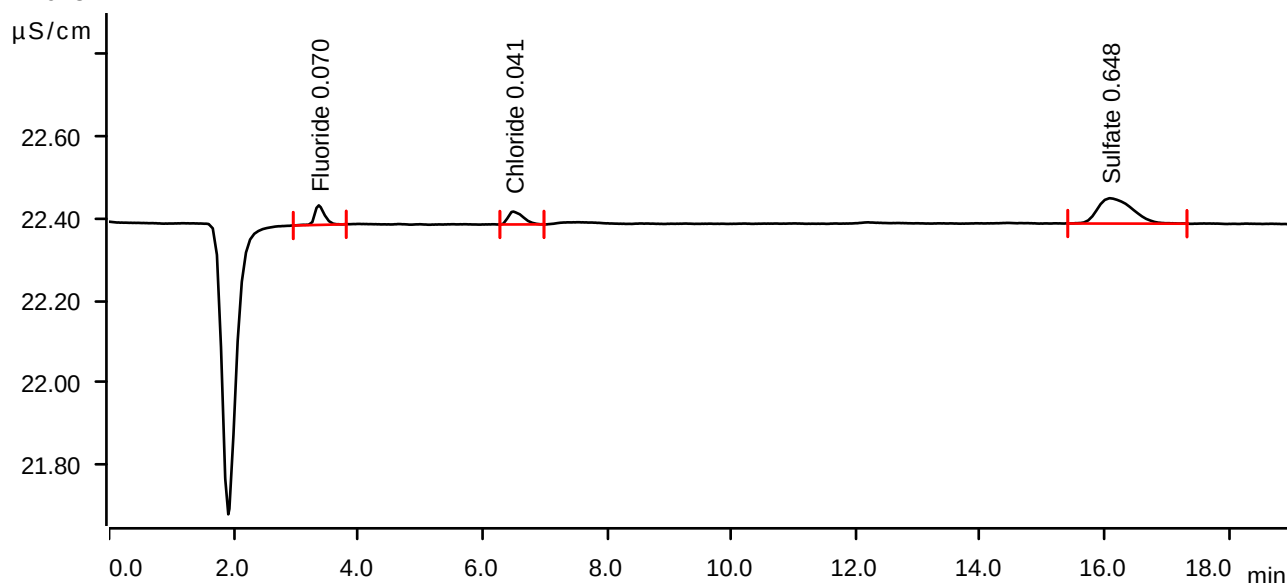
Sample data

Ident P4986-02
Sample type Sample
Determination start 2024-11-25 13:33:29 UTC-5
Method IC1-111824
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	0.0088	0.048	0.070	Fluoride
2	6.498	0.0088	0.031	0.041	Chloride
3	16.082	0.0398	0.062	0.648	Sulfate

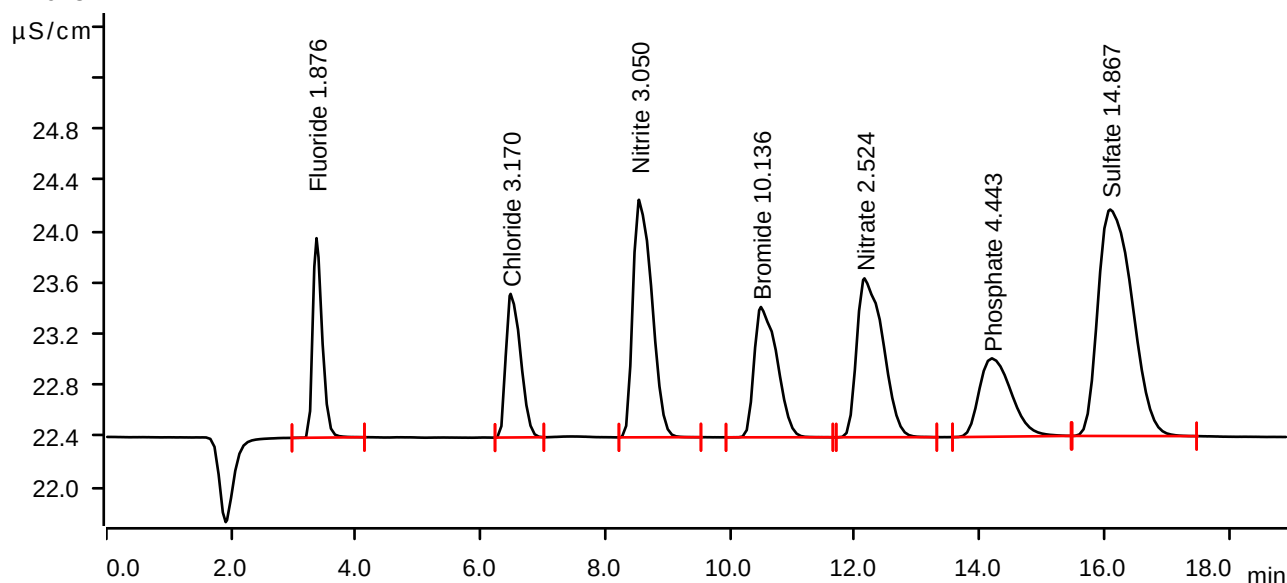
Sample data

Ident P4986-02MS
Sample type Sample
Determination start 2024-11-25 13:55:02 UTC-5
Method IC1-111824
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	3.370	0.2717	1.558	1.876	Fluoride
2	6.482	0.3061	1.121	3.170	Chloride
3	8.540	0.6545	1.855	3.050	Nitrite
4	10.495	0.4312	1.018	10.136	Bromide
5	12.155	0.6040	1.241	2.524	Nitrate
6	14.195	0.3668	0.612	4.443	Phosphate
7	16.095	1.1267	1.768	14.867	Sulfate

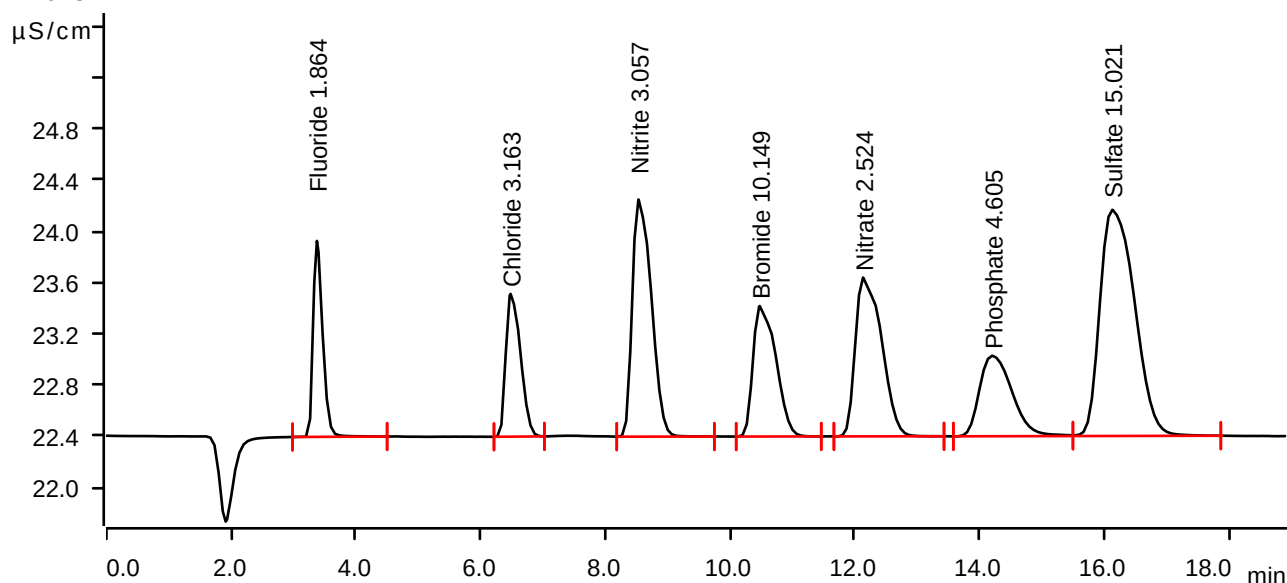
Sample data

Ident P4986-02MSD
Sample type Sample
Determination start 2024-11-25 14:16:36 UTC-5
Method IC1-111824
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	3.377	0.2700	1.531	1.864	Fluoride
2	6.482	0.3054	1.115	3.163	Chloride
3	8.530	0.6560	1.852	3.057	Nitrite
4	10.475	0.4317	1.019	10.149	Bromide
5	12.132	0.6038	1.240	2.524	Nitrate
6	14.205	0.3803	0.629	4.605	Phosphate
7	16.128	1.1385	1.766	15.021	Sulfate

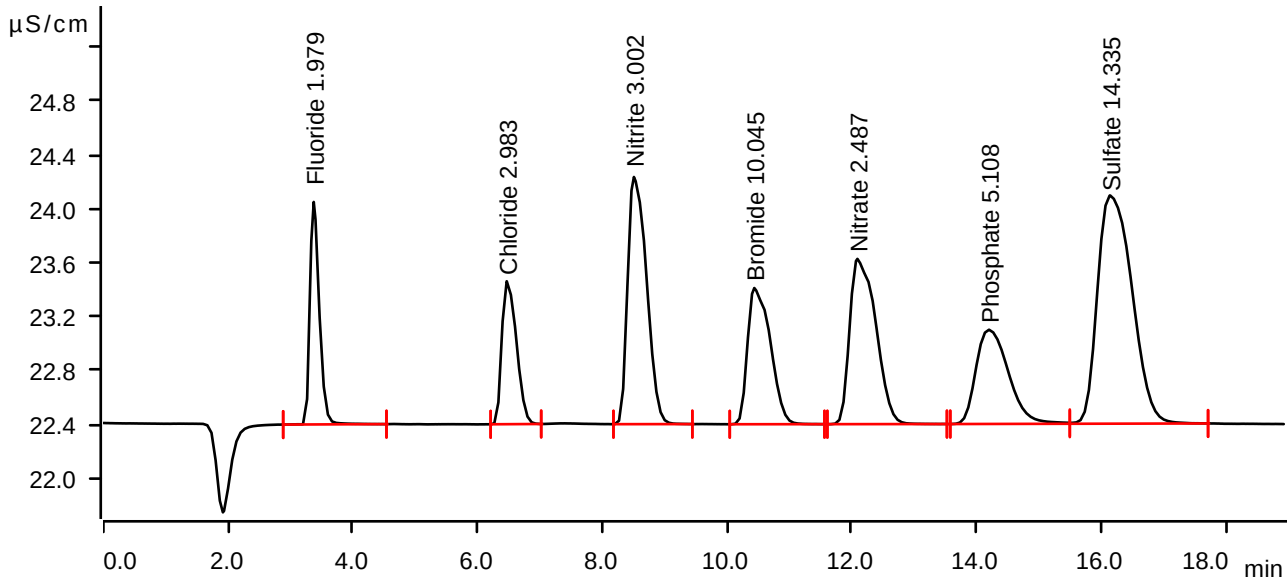
Sample data

Ident CCV
Sample type Check standard 1
Determination start 2024-11-25 14:38:10 UTC-5
Method IC1-111824
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	3.373	0.2867	1.651	1.979	Fluoride
2	6.467	0.2883	1.060	2.983	Chloride
3	8.507	0.6440	1.834	3.002	Nitrite
4	10.437	0.4273	1.011	10.045	Bromide
5	12.090	0.5951	1.226	2.487	Nitrate
6	14.198	0.4221	0.699	5.108	Phosphate
7	16.142	1.0860	1.693	14.335	Sulfate

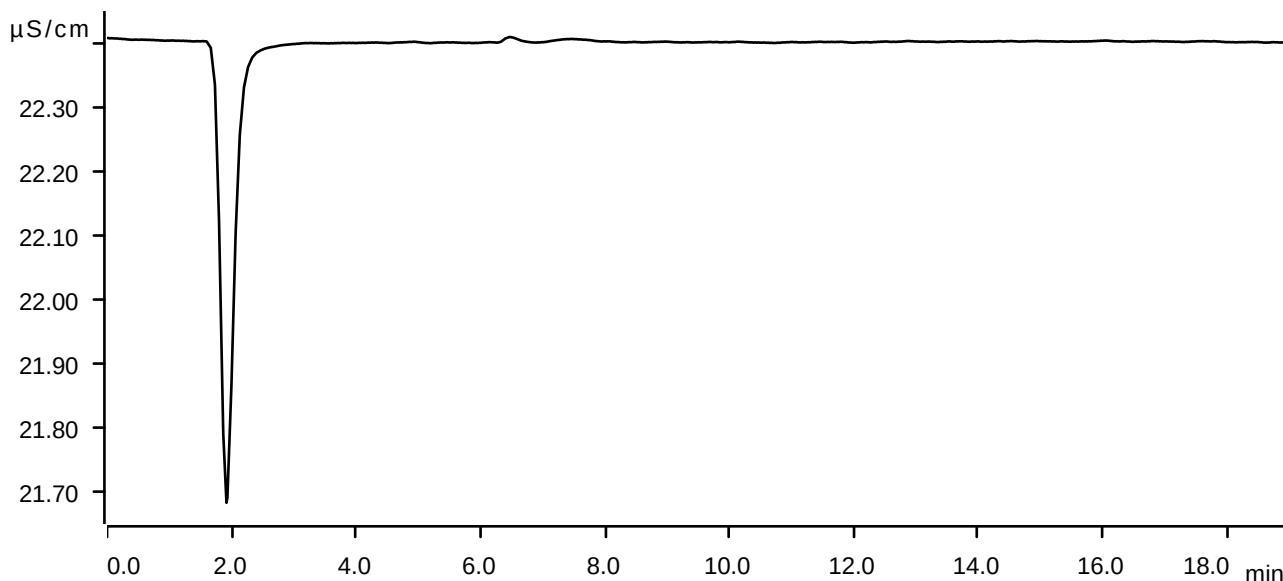
Sample data

Ident CCB
Sample type Sample
Determination start 2024-11-25 14:59:40 UTC-5
Method IC1-111824
Operator

Anions

Data source Conductivity detector 1 (Eco IC 1)
Channel Conductivity
Recording time 19.0 min
Integration Automatically
Column type Metrosep A Supp 19 - 150/4.0
Eluent composition not defined
Flow 0.700 mL/min
Maximum flow monitored yes
Pressure 11.43 MPa
Maximum pressure monitored yes
Temperature ---- °C

Anions



WORKLIST(Hardcopy Internal Chain)

LB133607

WorkList Name : ANIONS S-11252024

WorkList ID : 185759

Department : Wet-Chemistry

Date : 11-25-2024 12:18:46

Sample	Customer Sample	Matrix	Test	Preservative	Customer	Raw Sample Storage Location	Collect Date	Method
P4986-01	5.01 g TAPIAL-SB04D-9-112224-00-T1	Solid	Anions Group1	Cool 4 deg C	WEST04	L51	11/22/2024	9056A
P4986-02	5.02 g TAPIAL1-SB04D-4-112224-00-T1	Solid	Anions Group1	Cool 4 deg C	WEST04	L51	11/22/2024	9056A

P4986-02 MS 5.02 g

P4986-02 MS 5.02 g

BL 5.00 g

BS 5.00 g

Final volume 100 ml with DI water

Balance ID: WC SC-7

NF

11.26.2024

Date/Time 11-25-2024 12:30
Raw Sample Received by: NF (WC)
Raw Sample Relinquished by: NF (WC)

Date/Time 11-25-2024 15:00
Raw Sample Received by: NF (WC)
Raw Sample Relinquished by: NF (WC)

Analytical Summary Report

Analysis Method: 9045D

Analyst By : jignesh

Parameter: pH

Supervisor Review By : Iwona

Run Number: LB133628

Slope : 97.5

BalanceID: WC SC-7

pH Meter ID : WC PH METER-1

Calibration Standards	Chemtech Log#
PH 4 BUFFER SOLUTION	W3107
BUFFER PH 7.00 GREEN 1PINT PK6	W3093
PH 10.01 BUFFER, COLOR CD 475ML	W3094
buffer solution pH 7 yellow	W3071
Buffer Solution, PH2 (500ml)	W3005
Buffer Solution, PH12 (500ml)	W3072

True Value of ICV = 7.00 Control Limits[+/- 0.1].

True Value of CCV1 = 2.00 Control Limits[+/- 0.1].

True Value of CCV2 = 12.00 Control Limits[+/- 0.1].

Seq	LabID	DF	Matrix	Weight (gm)	Volume (ml)	Temperature (°C)	Result (pH)	Anal Date	Anal Time
1	CAL1	1	Water	NA	NA	20.3	4.01	11/26/2024	09:25
2	CAL2	1	Water	NA	NA	20.3	7.01	11/26/2024	09:26
3	CAL3	1	Water	NA	NA	20.3	10.02	11/26/2024	09:28
4	ICV	1	Water	NA	NA	20.3	7.00	11/26/2024	09:30
5	CCV1	1	Water	NA	NA	20.3	2.01	11/26/2024	09:33
6	P4986-01	1	Solid	20.02	20	23.7	6.56	11/26/2024	09:40
7	P4986-01DUP	1	Solid	20.03	20	23.8	6.57	11/26/2024	09:41
8	P4986-02	1	Solid	20.03	20	23.7	6.12	11/26/2024	09:45
9	CCV2	1	Water	NA	NA	20.3	12.02	11/26/2024	09:50

WORKLIST(Hardcopy Internal Chain)

WB 133628

WorkList Name : ph s p4986

WorkList ID : 185784

Department : Wet-Chemistry

Date : 11-26-2024 08:38:10

Sample	Customer Sample	Matrix	Test	Preservative	Customer	Raw Sample Storage Location	Collect Date	Method
P4986-01	<i>A</i> TAPIAL 1-SB04D-9-112224-00-T	Solid	pH	Cool 4 deg C	WEST04	L51	11/22/2024	9045D
P4986-02	<i>A</i> TAPIAL 1-SB04D-4-112224-00-T	Solid	pH	Cool 4 deg C	WEST04	L51	11/22/2024	9045D

12624 08:45

Date/Time

Raw Sample Received by: *to wcc*

Raw Sample Relinquished by: *CSB*

Date/Time

Raw Sample Received by: *CSB*

Raw Sample Relinquished by: *CSB*

Sample ID	Result	Std. Dev.	RSD	Mode	ALT
CCV1	929.1347			TOC	
CCV1	945.6541			TOC	
CCV1	945.1391			TOC	
CCV1.....	956.6167...	..	...	TOC	..
CCB1	0.9819			TOC	
CCB1	6.0313			TOC	
CCB1.....	5.6781...	..	...	TOC	..
CCB1	6.3473			TOC	
LB133629BLS	12.9822			TOC	
LB133629BLS.....	1.3880...	..	...	TOC	..
LB133629BLS	0.7994			TOC	
LB133629BLS	0.3721			TOC	
LB133629BSS.....	921.1989...	..	...	TOC	..
LB133629BSS	957.0540			TOC	
LB133629BSS	958.4287			TOC	
LB133629BSS.....	973.1016...	..	...	TOC	..
P4894-01	187.3332			TOC	
P4894-01	230.5980			TOC	
P4894-01.....	198.2315...	..	...	TOC	..
P4894-01	282.3604			TOC	
P4894-02	3637.4790			TOC	
P4894-02.....	3578.6956...	..	...	TOC	..
P4894-02	4452.2373			TOC	
P4894-02	4052.7830			TOC	
P4894-02MS.....	5548.3438...	..	...	TOC	..
P4894-02MS	4090.6279			TOC	
P4894-02MS	5098.8037			TOC	
P4894-02MS.....	4572.1245...	..	...	TOC	..
P4894-02MSD	5197.1982			TOC	
P4894-02MSD	4185.5811			TOC	
P4894-02MSD.....	5092.1353...	..	...	TOC	..
P4894-02MSD	5329.3872			TOC	
P4894-03	189.0514			TOC	
P4894-03.....	182.9550...	..	...	TOC	..
P4894-03	164.3194			TOC	
P4894-03	192.4332			TOC	
P4986-01.....	1077.9619...	..	...	TOC	..
P4986-01	907.7037			TOC	
P4986-01	839.5995			TOC	
P4986-01.....	1021.4278...	..	...	TOC	..
P4986-02	972.0780			TOC	
P4986-02	1348.1398			TOC	
P4986-02.....	1392.4557...	..	...	TOC	..
P4986-02	1135.4882			TOC	
CCV2	994.9572			TOC	
CCV2.....	1007.1017...	..	...	TOC	..
CCV2	963.0897			TOC	
CCV2	962.8291			TOC	
CCB2.....	1.3858...	..	...	TOC	..
CCB2	4.8917			TOC	
CCB2	11.1355			TOC	
CCB2.....	8.2497...	..	...	TOC	..

1
2
3
4
5
6
7
8
9
10
11
12
13
14

Method ID		Sample Type	Vial Timestamp		Message		
Boat	Sampler	Sample	2024/11/26	10:01			
Boat	Sampler	Sample	2024/11/26	10:03			
Boat	Sampler	Sample	2024/11/26	10:06			
Boat	Sampler	...Sample	..	..2024/11/26	10:08	..	
Boat	Sampler	Sample	2024/11/26	10:12	Low Sample	Detected	
Boat	Sampler	Sample	2024/11/26	10:17	Low Sample	Detected	
Boat	Sampler	...Sample	..	..2024/11/26	10:21	..Low Sample	Detected
Boat	Sampler	Sample	2024/11/26	10:24	Low Sample	Detected	
Boat	Sampler	Sample	2024/11/26	10:30	Low Sample	Detected	
Boat	Sampler	...Sample	..	..2024/11/26	10:34	..Low Sample	Detected
Boat	Sampler	Sample	2024/11/26	10:37	Low Sample	Detected	
Boat	Sampler	Sample	2024/11/26	10:40	Low Sample	Detected	
Boat	Sampler	...Sample	..	..2024/11/26	10:47	..	
Boat	Sampler	Sample	2024/11/26	10:49			
Boat	Sampler	Sample	2024/11/26	10:51			
Boat	Sampler	...Sample	..	..2024/11/26	10:54	..	
Boat	Sampler	Sample	2024/11/26	11:11			
Boat	Sampler	Sample	2024/11/26	11:20			
Boat	Sampler	...Sample	..	..2024/11/26	11:23	..	
Boat	Sampler	Sample	2024/11/26	11:27			
Boat	Sampler	Sample	2024/11/26	11:36			
Boat	Sampler	...Sample	..	..2024/11/26	11:44	..	
Boat	Sampler	Sample	2024/11/26	12:00			
Boat	Sampler	Sample	2024/11/26	12:07			
Boat	Sampler	...Sample	..	..2024/11/26	12:18	..	
Boat	Sampler	Sample	2024/11/26	12:24			
Boat	Sampler	Sample	2024/11/26	12:43			
Boat	Sampler	...Sample	..	..2024/11/26	12:49	..	
Boat	Sampler	Sample	2024/11/26	12:55			
Boat	Sampler	Sample	2024/11/26	13:03			
Boat	Sampler	...Sample	..	..2024/11/26	13:09	..	
Boat	Sampler	Sample	2024/11/26	13:16			
Boat	Sampler	Sample	2024/11/26	13:23			
Boat	Sampler	...Sample	..	..2024/11/26	13:30	..	
Boat	Sampler	Sample	2024/11/26	13:40			
Boat	Sampler	Sample	2024/11/26	13:50			
Boat	Sampler	...Sample	..	..2024/11/26	14:02	..	
Boat	Sampler	Sample	2024/11/26	14:05			
Boat	Sampler	Sample	2024/11/26	14:09			
Boat	Sampler	...Sample	..	..2024/11/26	14:11	..	
Boat	Sampler	Sample	2024/11/26	14:15			
Boat	Sampler	Sample	2024/11/26	14:22			
Boat	Sampler	...Sample	..	..2024/11/26	14:26	..	
Boat	Sampler	Sample	2024/11/26	14:29			
Boat	Sampler	Sample	2024/11/26	14:34			
Boat	Sampler	...Sample	..	..2024/11/26	14:37	..	
Boat	Sampler	Sample	2024/11/26	14:39			
Boat	Sampler	Sample	2024/11/26	14:41			
Boat	Sampler	...Sample	..	..2024/11/26	14:45	..Low Sample	Detected
Boat	Sampler	Sample	2024/11/26	14:49	Low Sample	Detected	
Boat	Sampler	Sample	2024/11/26	14:50			
Boat	Sampler	...Sample	..	..2024/11/26	14:54	..Low Sample	Detected

1
2
3
4
5
6
7
8
9
10
11
12
13
14

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14

Last Message: Low Sample Detected
=====

Sample ID: CCB1 Mode: TOC
Method: Boat Sampler Filename: 11261018
Cal. Curve: TOC SOIL Timestamp: 2024/11/26 10:21
Operator ID: NF IZ Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	5.6781	0.2271	16083	-1.313	-1.398	120

Last Message: Low Sample Detected
=====

Sample ID: CCB1 Mode: TOC
Method: Boat Sampler Filename: 11261022
Cal. Curve: TOC SOIL Timestamp: 2024/11/26 10:24
Operator ID: NF IZ Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	6.3473	0.2539	17979	-1.267	-1.409	120

Last Message: Low Sample Detected
=====

Sample ID: LB133629BLS Mode: TOC
Method: Boat Sampler Filename: 11261027
Cal. Curve: TOC SOIL Timestamp: 2024/11/26 10:30
Operator ID: NF IZ Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	12.9822	0.5193	36771	-1.478	-1.524	120

Last Message: Low Sample Detected
=====

Sample ID: LB133629BLS Mode: TOC
Method: Boat Sampler Filename: 11261031
Cal. Curve: TOC SOIL Timestamp: 2024/11/26 10:34
Operator ID: NF IZ Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	1.3880	0.0555	3931	-1.537	-1.638	120

Last Message: Low Sample Detected
=====

Sample ID: LB133629BLS Mode: TOC
Method: Boat Sampler Filename: 11261034
Cal. Curve: TOC SOIL Timestamp: 2024/11/26 10:37
Operator ID: NF IZ Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	0.7994	0.0320	2264	-1.629	-1.693	120

Last Message: Low Sample Detected
=====

Sample ID: LB133629BLS Mode: TOC
Method: Boat Sampler Filename: 11261037
Cal. Curve: TOC SOIL Timestamp: 2024/11/26 10:40
Operator ID: NF IZ Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	0.3721	0.0149	1054	-1.712	-1.791	120

Last Message: Low Sample Detected
=====

Sample ID: LB133629BSS Mode: TOC
Method: Boat Sampler Filename: 11261045
Cal. Curve: TOC SOIL Timestamp: 2024/11/26 10:47
Operator ID: NF IZ Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	921.1989	36.8480	2609255	-1.888	-0.893	69

Sample ID: LB133629BSS Mode: TOC
Method: Boat Sampler Filename: 11261048
Cal. Curve: TOC SOIL Timestamp: 2024/11/26 10:49
Operator ID: NF IZ Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	957.0540	38.2822	2710813	-1.730	-0.730	68

Sample ID: LB133629BSS Mode: TOC
Method: Boat Sampler Filename: 11261050
Cal. Curve: TOC SOIL Timestamp: 2024/11/26 10:51
Operator ID: NF IZ Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	958.4287	38.3371	2714707	-1.652	-0.652	63

Sample ID: LB133629BS Mode: TOC
S Method: Boat Sampler Filename: 11261052
Cal. Curve: TOC SOIL Timestamp: 2024/11/26 10:54
Operator ID: NF IZ Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	973.1016	38.9241	2756267	-1.721	-0.723	66

Sample ID: P4894-01 Mode: TOC
Method: Boat Sampler Filename: 11261109
Cal. Curve: TOC SOIL Timestamp: 2024/11/26 11:11
Operator ID: NF IZ Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	187.3332	1.2177	86225	-2.149	-1.150	34

Sample ID: P4894-01 Mode: TOC
Method: Boat Sampler Filename: 11261119
Cal. Curve: TOC SOIL Timestamp: 2024/11/26 11:20
Operator ID: NF IZ Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	230.5980	1.4066	99607	-2.193	-1.197	32

Sample ID: P4894-01 Mode: TOC
Method: Boat Sampler Filename: 11261122
Cal. Curve: TOC SOIL Timestamp: 2024/11/26 11:23
Operator ID: NF IZ Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	198.2315	1.0705	75800	-2.195	-1.199	30

Sample ID: P4894-01 Mode: TOC
Method: Boat Sampler Filename: 11261126
Cal. Curve: TOC SOIL Timestamp: 2024/11/26 11:27
Operator ID: NF IZ Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	282.3604	1.6659	117967	-2.309	-1.317	40

Sample ID: P4894-02 Mode: TOC
Method: Boat Sampler Filename: 11261132
Cal. Curve: TOC SOIL Timestamp: 2024/11/26 11:36
Operator ID: NF IZ Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	3637.4790	20.7336	1468177	-2.388	-1.388	192

Sample ID: P4894-02 Mode: TOC
Method: Boat Sampler Filename: 11261140
Cal. Curve: TOC SOIL Timestamp: 2024/11/26 11:44
Operator ID: NF IZ Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	3578.6956	19.3250	1368427	-2.350	-1.351	194

Sample ID: P4894-02 Mode: TOC
Method: Boat Sampler Filename: 11261156
Cal. Curve: TOC SOIL Timestamp: 2024/11/26 12:00
Operator ID: NF IZ Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	4452.2373	24.0421	1702453	-2.214	-1.205	240

Sample ID: P4894-02 Mode: TOC
Method: Boat Sampler Filename: 11261203
Cal. Curve: TOC SOIL Timestamp: 2024/11/26 12:07
Operator ID: NF IZ Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	4052.7830	21.8850	1549709	-2.134	-1.137	220

Sample ID: P4894-02MS Mode: TOC
Method: Boat Sampler Filename: 11261214
Cal. Curve: TOC SOIL Timestamp: 2024/11/26 12:18
Operator ID: NF IZ Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	5548.3438	29.9611	2121584	-2.056	-1.057	220

Sample ID: P4894-02MS Mode: TOC
Method: Boat Sampler Filename: 11261220
Cal. Curve: TOC SOIL Timestamp: 2024/11/26 12:24
Operator ID: NF IZ Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	4090.6279	21.6803	1535214	-2.048	-1.050	204

Sample ID: P4894-02MS Mode: TOC
Method: Boat Sampler Filename: 11261239
Cal. Curve: TOC SOIL Timestamp: 2024/11/26 12:43
Operator ID: NF IZ Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	5098.8037	28.0434	1985794	-1.902	-0.903	191

Sample ID: P4894-02MS Mode: TOC
Method: Boat Sampler Filename: 11261245
Cal. Curve: TOC SOIL Timestamp: 2024/11/26 12:49
Operator ID: NF IZ Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	4572.1245	26.5183	1877799	-2.004	-1.006	204

Sample ID: P4894-02MSD Mode: TOC
Method: Boat Sampler Filename: 11261251
Cal. Curve: TOC SOIL Timestamp: 2024/11/26 12:55
Operator ID: NF IZ Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	5197.1982	30.1438	2134521	-2.005	-1.008	224

Sample ID: P4894-02MSD
Method: Boat Sampler
Cal. Curve: TOC SOIL
Operator ID: NF IZ

Mode: TOC
Filename: 11261258
Timestamp: 2024/11/26 13:03
Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	4185.5811	22.6021	1600489	-1.997	-0.941	240

Sample ID: P4894-02MSD
Method: Boat Sampler
Cal. Curve: TOC SOIL
Operator ID: NF IZ

Mode: TOC
Filename: 11261304
Timestamp: 2024/11/26 13:09
Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	5092.1353	28.0067	1983197	-2.024	-1.025	238

Sample ID: P4894-02MSD
Method: Boat Sampler
Cal. Curve: TOC SOIL
Operator ID: NF IZ
Sample

Mode: TOC
Filename: 11261311
Timestamp: 2024/11/26 13:16
Sample Type:

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	5329.3872	29.3116	2075597	-1.895	-0.896	227

Sample ID: P4894-03
Method: Boat Sampler
Cal. Curve: TOC SOIL
Operator ID: NF IZ

Mode: TOC
Filename: 11261322
Timestamp: 2024/11/26 13:23
Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	189.0514	1.2288	87015	-1.944	-0.956	35

Sample ID: P4894-03
Method: Boat Sampler
Cal. Curve: TOC SOIL
Operator ID: NF IZ

Mode: TOC
Filename: 11261329
Timestamp: 2024/11/26 13:30
Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	182.9550	1.0245	72550	-1.988	-0.993	34

Sample ID: P4894-03
Method: Boat Sampler
Cal. Curve: TOC SOIL
Operator ID: NF IZ

Mode: TOC
Filename: 11261339
Timestamp: 2024/11/26 13:40
Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	164.3194	1.1338	80286	-1.960	-0.970	35

Sample ID: P4894-03 Mode: TOC
Method: Boat Sampler Filename: 11261349
Cal. Curve: TOC SOIL Timestamp: 2024/11/26 13:50
Operator ID: NF IZ Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	192.4332	1.1931	84484	-1.900	-0.902	33

Sample ID: P4986-01 Mode: TOC
Method: Boat Sampler Filename: 11261401
Cal. Curve: TOC SOIL Timestamp: 2024/11/26 14:02
Operator ID: NF IZ Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	1077.9619	6.5756	465625	-1.964	-0.975	44

Sample ID: P4986-01 Mode: TOC
Method: Boat Sampler Filename: 11261404
Cal. Curve: TOC SOIL Timestamp: 2024/11/26 14:05
Operator ID: NF IZ Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	907.7037	5.7185	404937	-1.900	-0.908	44

Sample ID: P4986-01 Mode: TOC
Method: Boat Sampler Filename: 11261407
Cal. Curve: TOC SOIL Timestamp: 2024/11/26 14:09
Operator ID: NF IZ Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	839.5995	4.6178	326993	-1.888	-0.895	43

Sample ID: P4986-01 Mode: TOC
Method: Boat Sampler Filename: 11261410
Cal. Curve: TOC SOIL Timestamp: 2024/11/26 14:11
Operator ID: NF IZ Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	1021.4278	6.0264	426740	-1.877	-0.877	45

Sample ID: P4986-02 Mode: TOC
Method: Boat Sampler Filename: 11261414
Cal. Curve: TOC SOIL Timestamp: 2024/11/26 14:15
Operator ID: NF IZ Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	972.0780	5.4436	385472	-1.900	-0.905	44

Sample ID: P4986-02
Method: Boat Sampler
Cal. Curve: TOC SOIL
Operator ID: NF IZ

Mode: TOC
Filename: 11261421
Timestamp: 2024/11/26 14:22
Sample Type: Sample

Reviewed By:Iwona
On:11/26/2024 4:15:58 PM
Inst Id :Appolo-9000
LB :LB133629

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	1348.1398	7.4148	525050	-1.848	-0.858	45

Sample ID: P4986-02
Method: Boat Sampler
Cal. Curve: TOC SOIL
Operator ID: NF IZ

Mode: TOC
Filename: 11261424
Timestamp: 2024/11/26 14:26
Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	1392.4557	7.6585	542310	-1.792	-0.804	47

Sample ID: P4986-02
Method: Boat Sampler
Cal. Curve: TOC SOIL
Operator ID: NF IZ

Mode: TOC
Filename: 11261427
Timestamp: 2024/11/26 14:29
Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	1135.4882	6.5858	466352	-1.795	-0.801	45

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

Mode: TOC
Filename: 11261432
Timestamp: 2024/11/26 14:34
Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	994.9572	39.7983	2818172	-1.808	-0.814	74

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

Mode: TOC
Filename: 11261435
Timestamp: 2024/11/26 14:37
Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	1007.1017	40.2841	2852571	-1.603	-0.605	71

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

Mode: TOC
Filename: 11261437
Timestamp: 2024/11/26 14:39
Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	963.0897	38.5236	2727909	-1.515	-0.516	66

Sample ID: CCV2
Method: Boat Sampler

Mode: TOC
Filename: 11261440

Cal. Curve: TOC SOIL
Operator ID: NF IZ

Timestamp: 2024/11/26 14:41
Sample Type: Sample

Reviewed By:Iwona
On:11/26/2024 4:15:58
PM
Inst Id :Appolo-9000
LB :LB133629

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	962.8291	38.5132	2727171	-1.471	-0.477	65

Sample ID: CCB2
Method: Boat Sampler
Cal. Curve: TOC SOIL
Timestamp: 2024/11/26 14:45
Operator ID: NF IZ
Mode: TOC
Filename: 11261443
Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	1.3858	0.0554	3925	-1.615	-1.745	120

Last Message: Low Sample Detected

Sample ID: CCB2
Method: Boat Sampler
Cal. Curve: TOC SOIL
Operator ID: NF IZ
Mode: TOC
Filename: 11261446
Timestamp: 2024/11/26 14:49
Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	4.8917	0.1957	13856	-1.772	-1.792	120

Last Message: Low Sample Detected

Sample ID: CCB2
Method: Boat Sampler
Cal. Curve: TOC SOIL
Operator ID: NF IZ
Mode: TOC
Filename: 11261449
Timestamp: 2024/11/26 14:50
Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	11.1355	0.4454	31541	-1.764	-0.776	29

Sample ID: CCB2
Method: Boat Sampler
Cal. Curve: TOC SOIL
Operator ID: NF IZ
Mode: TOC
Filename: 11261451
Timestamp: 2024/11/26 14:54
Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	8.2497	0.3300	23367	-1.776	-1.781	120

Last Message: Low Sample Detected

Sample ID	Result	Std. Dev.	RSD	Mode	ALT
BLANK	9263	5695	61.48	TOC	
250mg/l	813930	31881	3.92	TOC	
500mg/l	1580916	138813	8.78	TOC	
1000mg/l.....	2797885...	74757..	2.67...	TOC	..
2000mg/l	5752648	21216	0.37	TOC	
ICV	943.9813			TOC	
ICV.....	919.2893...	..	...	TOC	..
ICV	940.0988			TOC	
ICV	933.3373			TOC	
ICB.....	4.4514...	..	...	TOC	..
ICB	9.3085			TOC	
ICB	6.7305			TOC	
ICB.....	7.5078...	..	...	TOC	..

1

2

3

4

5

6

7

8

9

10

11

12

13

14

Method ID	Sample Type	Vial Timestamp		Message
Boat Sampler	TOC Standard	2024/11/12	11:01	Low Sample Detected
Boat Sampler	TOC Standard	2024/11/12	11:15	
Boat Sampler	TOC Standard	2024/11/12	11:27	
Boat Sampler	...TOC Standard	..	..2024/11/12 11:36	..
Boat Sampler	TOC Standard	2024/11/12	12:05	
Boat Sampler	Sample	2024/11/12	12:12	
Boat Sampler	...Sample	..	..2024/11/12 12:14	..
Boat Sampler	Sample	2024/11/12	12:16	
Boat Sampler	Sample	2024/11/12	12:18	
Boat Sampler	...Sample	..	..2024/11/12 12:23	..Low Sample Detected
Boat Sampler	Sample	2024/11/12	12:26	Low Sample Detected
Boat Sampler	Sample	2024/11/12	12:29	Low Sample Detected
Boat Sampler	...Sample	..	..2024/11/12 12:32	..Low Sample Detected

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

Mode: TOC
Filename: 11121049
Timestamp: 2024/11/12 11:01
Sample Type: TOC Standard

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1			15553	-2.075	-2.098	120
2			1727	-2.021	-2.147	120
3			9608	-2.149	-2.198	120
4			10164	-2.127	-2.213	120

Last Message: Low Sample Detected

<<<Statistics>>> Mean: 9263 Std Dev: 5695 RSD: 61.48

Sample ID: 250mg/l
Method: Boat Sampler
Cal. Curve: TOC SOIL
Operator ID: NF IZ

Mode: TOC
Filename: 11121108
Timestamp: 2024/11/12 11:15
Sample Type: TOC Standard

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1			804219	-2.222	-1.226	44
2			860284	-2.138	-1.145	79
3			803824	-2.215	-1.219	58
4			787394	-2.222	-1.224	54

<<<Statistics>>> Mean: 813930 Std Dev: 31881 RSD: 3.92

Sample ID: 500mg/l
Method: Boat Sampler
Cal. Curve: TOC SOIL
Operator ID: NF IZ

Mode: TOC
Filename: 11121119
Timestamp: 2024/11/12 11:27
Sample Type: TOC Standard

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1			1530483	-2.276	-1.281	53
2			1492472	-2.156	-1.157	95
3			1787829	-2.254	-1.256	63
4			1512882	-2.186	-1.194	55

<<<Statistics>>> Mean: 1580916 Std Dev: 138813 RSD: 8.78

Sample ID: 1000mg/l
Method: Boat Sampler
Cal. Curve: TOC SOIL
Operator ID: NF IZ

Mode: TOC
Filename: 11121128
Timestamp: 2024/11/12 11:36
Sample Type: TOC Standard

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1			2717535	-2.380	-1.381	63
2			2887558	-2.069	-1.076	61
3			2826578	-1.987	-0.990	62
4			2759868	-2.106	-1.108	63

<<<Statistics>>> Mean: 2797885 Std Dev: 74757 RSD: 2.67

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1			5772363	-2.492	-1.493	116
2			5763448	-2.138	-1.139	91
3			5723617	-0.015	0.979	57
4			5751163	-0.355	0.644	62

<<<Statistics>>> Mean: 5752648 Std Dev: 21216 RSD: 0.37

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

Mode: TOC
Filename: 11121210
Timestamp: 2024/11/12 12:12
Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	943.9813	37.7593	2673786	-2.569	-1.574	83

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

Mode: TOC
Filename: 11121212
Timestamp: 2024/11/12 12:14
Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	919.2893	36.7716	2603846	-2.379	-1.380	64

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

Mode: TOC
Filename: 11121214
Timestamp: 2024/11/12 12:16
Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	940.0988	37.6040	2662788	-2.346	-1.346	61

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

Mode: TOC
Filename: 11121217
Timestamp: 2024/11/12 12:18
Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	933.3373	37.3335	2643637	-2.443	-1.445	63

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

Mode: TOC
Filename: 11121220
Timestamp: 2024/11/12 12:23
Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	4.4514	0.1781	12608	-2.598	-2.685	120

Last Message: Low Sample Detected
=====

Sample ID: ICB Mode: TOC
Method: Boat Sampler Filename: 11121223
Cal. Curve: TOC SOIL Timestamp: 2024/11/12 12:26
Operator ID: NF IZ Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	9.3085	0.3723	26366	-2.661	-2.693	120

Last Message: Low Sample Detected
=====

Sample ID: ICB Mode: TOC
Method: Boat Sampler Filename: 11121226
Cal. Curve: TOC SOIL Timestamp: 2024/11/12 12:29
Operator ID: NF IZ Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	6.7305	0.2692	19064	-2.649	-2.682	120

Last Message: Low Sample Detected
=====

Sample ID: ICB Mode: TOC
Method: Boat Sampler Filename: 11121230
Cal. Curve: TOC SOIL Timestamp: 2024/11/12 12:32
Operator ID: NF IZ Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	7.5078	0.3003	2			
1266	-2.657	-2.679	120			

Last Message: Low Sample Detected
=====

Calibration Report Print Date/Time: 2024/11/12 12:05:31

Cal. Curve ID: TOC SOIL
Created: 2024/11/12 12:05
Calibration Factor (m): 7.081e+04
Y Intercept (b): 66586
r-squared: 0.99875

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

12
11/12/24

WORKLIST(Hardcopy Internal Chain)

LB133629

WorkList Name : TOC SOIL-11252024

WorkList ID : 185775

Department : Wet-Chemistry

Date : 11-25-2024 17:07:17

Sample	Customer Sample	Matrix	Test	Preservative	Customer	Raw Sample Storage Location	Collect Date	Method
P4894-01	FES-SB401-1921	Solid	TOC	Cool 4 deg C	TETR06	L51	11/14/2024	9060A
P4894-02	FES-SB401-8062	Solid	TOC	Cool 4 deg C	TETR06	L51	11/15/2024	9060A
P4894-03	FES-DUP02-20241114	Solid	TOC	Cool 4 deg C	TETR06	L51	11/14/2024	9060A
P4986-01	TAPIAL 1-SB04D-9-112224-00-1	Solid	TOC	Cool 4 deg C	WEST04	L51	11/22/2024	9060A
P4986-02	TAPIAL 1-SB04D-4-112224-00-1	Solid	TOC	Cool 4 deg C	WEST04	L51	11/22/2024	9060A

Date/Time 11-26-2024, 08:45
Raw Sample Received by: NFw
Raw Sample Relinquished by: NFw

Date/Time 11-26-2024, 14:00
Raw Sample Received by: NFw
Raw Sample Relinquished by: NFw

Instrument ID: IC-2

Daily Analysis Runlog For Sequence/QC Batch ID # LB133607

Review By	Niha	Review On	11/26/2024 4:17:18 PM
Supervise By	Iwona	Supervise On	11/26/2024 4:17:55 PM
SubDirectory	LB133607	Test	Anions
STD. NAME	STD REF.#		
ICAL Standard	WP110752,WP110753,WP110754,WP110755,WP110756,WP110757,WP110758		
ICV Standard	WP110759		
CCV Standard	WP110855		
ICSA Standard	N/A		
CRI Standard	N/A		
LCS Standard	WP110856		
Chk Standard	WP110760,WP110761		

Sr#	SampleId	ClientID	QcType	Date	Comment	Operator	Status
1	STD1	STD1	CAL1	11/18/24 11:24	All standards, samples, and	NF/IZ	OK
2	STD2	STD2	CAL2	11/18/24 11:46	QC are filtered through	NF/IZ	OK
3	STD3	STD3	CAL3	11/18/24 12:07	0.45um, filter lot W2865	NF/IZ	OK
4	STD4	STD4	CAL4	11/18/24 12:29		NF/IZ	OK
5	STD5	STD5	CAL5	11/18/24 12:50		NF/IZ	OK
6	STD6	STD6	CAL6	11/18/24 13:11		NF/IZ	OK
7	STD7	STD7	CAL7	11/18/24 13:33		NF/IZ	OK
8	ICV1	ICV1	ICV	11/18/24 13:54		NF/IZ	OK
9	ICB1	ICB1	ICB	11/18/24 14:16		NF/IZ	OK
10	CCV1	CCV1	CCV	11/25/24 11:01		NF/IZ	OK
11	CCB1	CCB1	CCB	11/25/24 11:22		NF/IZ	OK
12	LB133607BLS	LB133607BLS	MB	11/25/24 11:44		NF/IZ	OK
13	LB133607BSS	LB133607BSS	LCS	11/25/24 12:05		NF/IZ	OK
14	P4986-01	TAPIAL1-SB04D-9-11	SAM	11/25/24 13:11		NF/IZ	OK
15	P4986-02	TAPIAL1-SB04D-4-11	SAM	11/25/24 13:33		NF/IZ	OK
16	P4986-02MS	TAPIAL1-SB04D-4-11	MS	11/25/24 13:55	5ml W3091	NF/IZ	OK
17	P4986-02MSD	TAPIAL1-SB04D-4-11	MSD	11/25/24 14:16	5ml W3091	NF/IZ	OK
18	CCV2	CCV2	CCV	11/25/24 14:38		NF/IZ	OK

Instrument ID: IC-2

Daily Analysis Runlog For Sequence/QC Batch ID # LB133607

Review By	Niha	Review On	11/26/2024 4:17:18 PM
Supervise By	Iwona	Supervise On	11/26/2024 4:17:55 PM
SubDirectory	LB133607	Test	Anions
STD. NAME	STD REF.#		
ICAL Standard	WP110752,WP110753,WP110754,WP110755,WP110756,WP110757,WP110758		
ICV Standard	WP110759		
CCV Standard	WP110855		
ICSA Standard	N/A		
CRI Standard	N/A		
LCS Standard	WP110856		
Chk Standard	WP110760,WP110761		

19	CCB2	CCB2	CCB	11/25/24 14:59		NF/IZ	OK
----	------	------	-----	----------------	--	-------	----

Instrument ID: WC PH METER-1

Daily Analysis Runlog For Sequence/QC Batch ID # LB133628

Review By	jignesh	Review On	11/26/2024 8:50:07 AM
Supervise By	Iwona	Supervise On	11/26/2024 10:24:38 AM
SubDirectory	LB133628	Test	pH
STD. NAME	STD REF.#		
ICAL Standard	N/A		
ICV Standard	N/A		
CCV Standard	N/A		
ICSA Standard	N/A		
CRI Standard	N/A		
LCS Standard	N/A		
Chk Standard	W3107,W3093,W3094,W3071,W3005,W3072		

Sr#	SampleId	ClientID	QcType	Date	Comment	Operator	Status
1	CAL1	CAL1	CAL	11/26/24 09:25			OK
2	CAL2	CAL2	CAL	11/26/24 09:26			OK
3	CAL3	CAL3	CAL	11/26/24 09:28			OK
4	ICV	ICV	ICV	11/26/24 09:30			OK
5	CCV1	CCV1	CCV	11/26/24 09:33			OK
6	P4986-01	TAPIAL1-SB04D-9-11	SAM	11/26/24 09:40			OK
7	P4986-01DUP	TAPIAL1-SB04D-9-11	DUP	11/26/24 09:41			OK
8	P4986-02	TAPIAL1-SB04D-4-11	SAM	11/26/24 09:45			OK
9	CCV2	CCV2	CCV	11/26/24 09:50			OK

Instrument ID: TOC

Daily Analysis Runlog For Sequence/QC Batch ID # LB133629

Review By	Niha	Review On	11/26/2024 4:13:47 PM
Supervise By	Iwona	Supervise On	11/26/2024 4:15:58 PM
SubDirectory	LB133629	Test	TOC
STD. NAME	STD REF.#		
ICAL Standard	WP110667,WP110662,WP110663,WP110664,WP110665		
ICV Standard	WP110666		
CCV Standard	WP110878		
ICSA Standard	N/A		
CRI Standard	N/A		
LCS Standard	WP110879		
Chk Standard	WP109225		

Sr#	SampleId	ClientID	QcType	Date	Comment	Operator	Status
1	BLANK	BLANK	CAL1	11/12/24 11:01		NF IZ	OK
2	250mg/l	250mg/l	CAL2	11/12/24 11:15		NF IZ	OK
3	500mg/l	500mg/l	CAL3	11/12/24 11:27		NF IZ	OK
4	1000mg/l	1000mg/l	CAL4	11/12/24 11:36		NF IZ	OK
5	2000mg/l	2000mg/l	CAL5	11/12/24 12:05		NF IZ	OK
6	ICV1	ICV1	ICV	11/12/24 12:18		NF IZ	OK
7	ICB1	ICB1	ICB	11/12/24 12:32		NF IZ	OK
8	CCV1	CCV1	CCV	11/26/24 10:08		NF IZ	OK
9	CCB1	CCB1	CCB	11/26/24 10:24		NF IZ	OK
10	LB133629BLS	LB133629BLS	MB	11/26/24 10:40		NF IZ	OK
11	LB133629BSS	LB133629BSS	LCS	11/26/24 10:54		NF IZ	OK
12	P4894-01	FES-SB401-1921	SAM	11/26/24 11:27		NF IZ	OK
13	P4894-02	FES-SB401-6062	SAM	11/26/24 12:07		NF IZ	OK
14	P4894-02MS	FES-SB401-6062MS	MS	11/26/24 12:49		NF IZ	OK
15	P4894-02MSD	FES-SB401-6062MSD	MSD	11/26/24 13:16		NF IZ	OK
16	P4894-03	FES-DUP02-20241114	SAM	11/26/24 13:50		NF IZ	OK
17	P4986-01	TAPIAL1-SB04D-9-11	SAM	11/26/24 14:11		NF IZ	OK
18	P4986-02	TAPIAL1-SB04D-4-11	SAM	11/26/24 14:29		NF IZ	OK

Instrument ID: TOC

Daily Analysis Runlog For Sequence/QC Batch ID # LB133629

Review By	Niha	Review On	11/26/2024 4:13:47 PM
Supervise By	Iwona	Supervise On	11/26/2024 4:15:58 PM
SubDirectory	LB133629	Test	TOC
STD. NAME	STD REF.#		
ICAL Standard	WP110667,WP110662,WP110663,WP110664,WP110665		
ICV Standard	WP110666		
CCV Standard	WP110878		
ICSA Standard	N/A		
CRI Standard	N/A		
LCS Standard	WP110879		
Chk Standard	WP109225		

19	CCV2	CCV2	CCV	11/26/24 14:41		NF IZ	OK
20	CCB2	CCB2	CCB	11/26/24 14:54		NF IZ	OK

Prep Standard - Chemical Standard Summary

Order ID : P4986

Test : Anions Group1,Percent Solids,pH,TOC

Prepbatch ID :

Sequence ID/Qc Batch ID: LB133607,LB133628,LB133629,

Standard ID :

WP109217,WP109218,WP109225,WP110259,WP110662,WP110663,WP110664,WP110665,WP110666,WP110667,W
P110752,WP110753,WP110754,WP110755,WP110756,WP110757,WP110758,WP110759,WP110760,WP110761,WP11
0855,WP110856,WP110878,WP110879,

Chemical ID :

M5673,W2647,W2784,W2860,W3005,W3058,W3062,W3063,W3071,W3072,W3093,W3094,W3107,W3111,W3112,

Wet Chemistry STANDARD PREPARATION LOG

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
2050	TOC STOCK STD, 4000PPM	WP109217	08/07/2024	01/18/2025	Iwona Zarych	WETCHEM_SCALE_5 (WC)	WETCHEM_FIPETTE_3 (WC)	Mohan Bera 08/16/2024
FROM 5.00000ml of W2860 + 8.51200gram of W3111 + 990.00000ml of W3112 = Final Quantity: 1000.000 ml								

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
2051	TOC STOCK STD-SS, 4000PPM	WP109218	08/07/2024	02/07/2025	Iwona Zarych	WETCHEM_SCALE_5 (WC)	WETCHEM_FIPETTE_3 (WC)	Mohan Bera 08/16/2024
FROM 5.00000ml of W2860 + 8.51200gram of W2784 + 990.00000ml of W3112 = Final Quantity: 1000.000 ml								

Wet Chemistry STANDARD PREPARATION LOG

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
2435	1:1 PHOSPHORIC ACID FOR TOC SOILS	WP109225	08/07/2024	02/07/2025	Iwona Zarych	None	WETCHEM_FIPETTE_3 (WC)	Mohan Bera 08/16/2024
FROM 50.00000ml of W2860 + 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>
4035	IC ELUENT CONCENTRATE FOR IC-1	WP110259	10/16/2024	04/16/2025	Iwona Zarych	WETCHEM_SCALE_5 (WC SC-5)	None	Jignesh Parikh 10/17/2024
FROM 2.10000gram of W2647 + 84.75000gram of W3058 + 913.15000ml of W3112 = Final Quantity: 1000.000 ml								

Wet Chemistry STANDARD PREPARATION LOG

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
712	TOC SOIL cal 250ppm	WP110662	11/12/2024	11/19/2024	Niha Farheen Shaik	None	None	Iwona Zarych 11/14/2024
FROM 15.00000ml of W3112 + 1.00000ml of WP109217 = Final Quantity: 16.000 ml								

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
710	TOC SOIL cal 500ppm	WP110663	11/12/2024	11/19/2024	Niha Farheen Shaik	None	None	Iwona Zarych 11/14/2024
FROM 14.00000ml of W3112 + 2.00000ml of WP109217 = Final Quantity: 16.000 ml								

Wet Chemistry STANDARD PREPARATION LOG

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
3544	TOC SOIL Cal- CCV 1000PPM	WP110664	11/12/2024	11/19/2024	Niha Farheen Shaik	None	None	Iwona Zarych
								11/14/2024

FROM 15.00000ml of W3112 + 5.00000ml of WP109217 = Final Quantity: 20.000 ml

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
713	TOC SOIL cal 2000ppm	WP110665	11/12/2024	11/19/2024	Niha Farheen Shaik	None	None	Iwona Zarych
								11/14/2024

FROM 5.00000ml of W3112 + 5.00000ml of WP109217 = Final Quantity: 10.000 ml

Wet Chemistry STANDARD PREPARATION LOG

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
2819	TOC ICV-LCSS, 1000PPM	WP110666	11/12/2024	11/19/2024	Niha Farheen Shaik	None	None	Iwona Zarych
								11/14/2024

FROM 15.00000ml of W3112 + 5.00000ml of WP109218 = Final Quantity: 20.000 ml

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
304	TOC CAL 0.00ppm	WP110667	11/12/2024	11/19/2024	Niha Farheen Shaik	None	None	Iwona Zarych
								11/14/2024

FROM 100.00000ml of W3112 = Final Quantity: 100.000 ml

Wet Chemistry STANDARD PREPARATION LOG

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
2487	Anions 300/9056 calibration standard 1	WP110752	11/18/2024	11/19/2024	Niha Farheen Shaik	None	None	Iwona Zarych 11/19/2024

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	WP110753	11/18/2024	11/19/2024	Niha Farheen Shaik	None	WETCHEM_FIPETTE_3 (WC)	Iwona Zarych 11/19/2024

FROM 0.20000ml of W3063 + 9.80000ml of W3112 = Final Quantity: 10.000 ml

Wet Chemistry STANDARD PREPARATION LOG

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
25	Anions 300/9056 calibration standard 3	WP110754	11/18/2024	11/19/2024	Niha Farheen Shaik	None	WETCHEM_FIPETTE_3 (WC)	Iwona Zarych 11/19/2024
FROM 0.40000ml of W3063 + 9.60000ml of W3112 = Final Quantity: 10.000 ml								

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
26	Anions 300/9056 calibration standard 4	WP110755	11/18/2024	11/19/2024	Niha Farheen Shaik	None	WETCHEM_FIPETTE_3 (WC)	Iwona Zarych 11/19/2024
FROM 0.50000ml of W3063 + 9.50000ml of W3112 = Final Quantity: 10.000 ml								

Wet Chemistry STANDARD PREPARATION LOG

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
3680	Anions 300/9056 calibration standard 5-CCV	WP110756	11/18/2024	11/19/2024	Niha Farheen Shaik	None	None	Iwona Zarych 11/19/2024

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

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
3679	Anions 300/9056 calibration standard 6	WP110757	11/18/2024	11/19/2024	Niha Farheen Shaik	None	None	Iwona Zarych 11/19/2024

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

Wet Chemistry STANDARD PREPARATION LOG

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
3681	Anions 300/9056 calibration standard 7	WP110758	11/18/2024	11/19/2024	Niha Farheen Shaik	None	None	Iwona Zarych 11/19/2024

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

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
3233	Anions 300/9056 ICV-LCS std	WP110759	11/18/2024	11/19/2024	Niha Farheen Shaik	None	None	Iwona Zarych 11/19/2024

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

Wet Chemistry STANDARD PREPARATION LOG

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
4036	IC ELUENT FOR IC-1	WP110760	11/18/2024	12/18/2024	Niha Farheen Shaik	None	None	Iwona Zarych
								11/19/2024

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

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
4037	IC H2SO4 FOR IC-1	WP110761	11/18/2024	12/18/2024	Niha Farheen Shaik	None	None	Iwona Zarych
								11/19/2024

FROM 5.60000ml of M5673 + 994.40000ml of W3112 = Final Quantity: 1000.000 ml

Wet Chemistry STANDARD PREPARATION LOG

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
3680	Anions 300/9056 calibration standard 5-CCV	WP110855	11/25/2024	11/26/2024	Niha Farheen Shaik	None	None	Iwona Zarych 11/25/2024

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	WP110856	11/25/2024	11/26/2024	Niha Farheen Shaik	None	None	Iwona Zarych 11/25/2024

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>
3544	TOC SOIL Cal- CCV 1000PPM	WP110878	11/26/2024	12/03/2024	Niha Farheen Shaik	None	None	Mohan Bera
								11/26/2024

FROM 15.00000ml of W3112 + 5.00000ml of WP109217 = Final Quantity: 20.000 ml

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
2819	TOC ICV-LCSS, 1000PPM	WP110879	11/26/2024	12/03/2024	Niha Farheen Shaik	None	None	Mohan Bera
								11/26/2024

FROM 15.00000ml of W3112 + 5.00000ml of WP109218 = Final Quantity: 20.000 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 #
PCI Scientific Supply, Inc.	J3506-5 / SODIUM BICARBONATE, PWD, ACS, 2.5KG	0000240594	06/03/2026	02/24/2020 / AMANDEEP	01/20/2020 / apatel	W2647

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
PCI Scientific Supply, Inc.	P243-500 / Potassium Hydrogen Phthalate, 500 gms	201089	06/30/2025	12/23/2020 / apatel	12/16/2020 / apatel	W2784

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
PCI Scientific Supply, Inc.	J0260-3 / Phosphoric Acid, 2.5 L	0000278313	01/31/2026	07/12/2021 / apatel	07/12/2021 / apatel	W2860

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
PCI Scientific Supply, Inc.	AL13850-1 / Buffer Solution, PH2 (500ml)	4212E45	12/31/2024	01/31/2023 / lwona	01/31/2023 / lwona	W3005

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

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	T2-MEB716667	02/12/2025	02/12/2024 / lwona	10/30/2023 / lwona	W3062

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

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
PCI Scientific Supply, Inc.	AL14455-3 / buffer solution pH 7 yellow	4308H30	07/31/2025	01/02/2024 / JIGNESH	12/06/2023 / lwona	W3071

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
PCI Scientific Supply, Inc.	AL14940-1 / Buffer Solution, PH12 (500ml)	2310P21	04/30/2025	01/02/2024 / JIGNESH	12/07/2023 / lwona	W3072

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
PCI Scientific Supply, Inc.	566002 / BUFFER PH 7.00 GREEN 1PINT PK6	44001f99	12/31/2025	04/03/2024 / jignesh	04/02/2024 / jignesh	W3093

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
PCI Scientific Supply, Inc.	1601-1 / PH 10.01 BUFFER,COLOR CD 475ML	4310g83	03/31/2025	04/03/2024 / jignesh	04/02/2024 / jignesh	W3094

CHEMICAL RECEIPT LOG BOOK

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
PCI Scientific Supply, Inc.	AL14055-3 / PH 4 BUFFER SOLUTION	AL14055-3	02/27/2026	09/05/2024 / jignesh	05/13/2024 / jignesh	W3107

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
PCI Scientific Supply, Inc.	P243-500 / Potassium Hydrogen Phthalate, 500 gms	24A1956910	01/18/2025	06/26/2024 / lwona	06/26/2024 / lwona	W3111

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Seidler Chemical	DIW / DI Water	Daily Lab-Certified	07/03/2029	07/03/2024 / lwona	07/03/2024 / lwona	W3112

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

(sodium hydrogen carbonate)



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

Certificate of Analysis

Meets ACS Reagent Chemical Requirements,

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

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

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

James Ethier
Jamie Ethier
Vice President Global Quality

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

Phosphoric Acid
BAKER ANALYZED® A.C.S. Reagent

(orthophosphoric acid)



Material No.: 0260-03
Batch No.: 0000278313
Manufactured Date: 2021/02/01
Retest Date: 2026/01/31
Revision No: 2

Certificate of Analysis

Meets ACS Reagent Chemical Requirements,

Test	Specification	Result
Assay (H_3PO_4) (by acidimetry)	85.0 – 87.0 %	85.8
Calcium (Ca)	≤ 0.002 %	< 0.001
Color (APHA)	≤ 10	5
Insoluble Matter	≤ 0.001 %	< 0.001
ACS – Magnesium (Mg)	≤ 0.002 %	< 0.002
Sulfate (SO_4)	≤ 12 ppm	< 4
Volatile Acids (as CH_3COOH)	≤ 0.001 %	0.001
Reducing Substances	Passes Test	PT
Chloride (Cl)	≤ 3 ppm	< 1
Nitrate (NO_3)	≤ 5 ppm	< 2
Trace Impurities – Antimony (Sb)	≤ 20.000 ppm	0.007
Trace Impurities – Arsenic (As)	≤ 0.500 ppm	< 0.001
Trace Impurities – Iron (Fe)	≤ 10.000 ppm	< 1.000
Heavy Metals (as Pb)	≤ 8 ppm	< 3
Trace Impurities – Manganese (Mn)	≤ 0.500 ppm	0.005
Trace Impurities – Potassium (K)	≤ 40.000 ppm	< 0.001
Trace Impurities – Sodium (Na)	≤ 200.000 ppm	0.082

For Laboratory, Research or Manufacturing Use

Exceeds A.C.S. Specifications

Meets Reagent Specifications for testing USP/NF monographs

Country of Origin: US

Packaging Site: Phillipsburg Mfg Ctr & DC


Jamie Ethier
Vice President Global Quality

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


W3071
Rec 12/6/23

Certificate of Analysis 12

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

Lot Number: 4308H30

Product Number: 1551

Manufacture Date: AUG 09, 2023

Expiration Date: JUL 2025

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

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

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

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

Test	Specification	Result
Appearance	Yellow liquid	Passed

*Not a certified value.

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

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

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

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

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



Paul Brandon (08/09/2023)

Production Manager

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

This product was tested in an ISO 17025 Accredited Laboratory

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

Certificate Of Analysis



W 3058

Re. 10/19/23 12

Date of Release: 1/27/2023

Name: **Sodium Carbonate, Anhydrous**

Powder, ACS

Item No: **SX0395 All Sizes**

Lot / Batch No: **2023012653**

Country of Origin: **India**

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

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

11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

August 10, 2023

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

11.2 Lot Expiration Date

- **August 10, 2028**

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

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

11.3 Period of Validity

- Sealed TCT Bag Open Date: _____

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

12.0

NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Prepared By:

Justin Dirico
Stock Processing Supervisor



Certificate Approved By:

Nicholas Plymale
Custom VSM Coordinator



Certifying Officer:

Paul Gaines
Chairman / Senior Technical Director



**RICCA CHEMICAL COMPANY®**

1841 Broad Street
Pocomoke City, MD 21851
<http://www.riccachemical.com>
1-888-GO-RICCA
customerservice@riccachemical.com

W 3072
REC. 12/01/23
12

Certificate of Analysis

Buffer, Reference Standard, pH 12.00 ± 0.01 at 25°C**Lot Number: 2310P21****Product Number: 1615****Manufacture Date: OCT 24, 2023****Expiration Date: APR 2025**

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

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

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

Test	Specification	Result
Appearance	Colorless liquid	Passed

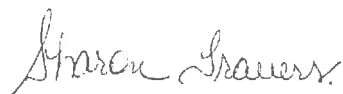
*Not a certified value.

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

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

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

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



Sharon Travers (10/24/2023)

Operations Manager

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

This product was tested in an ISO 17025 Accredited Laboratory

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

Certificate of Analysis

ThermoFisher
SCIENTIFIC

Certificate of Analysis

1 Reagent Lane
Fair Lawn, NJ 07410
201.796.7100 tel
201.796.1329 faxThermo Fisher Scientific's Quality System has been found to conform to Quality Management System
Standard ISO9001:2015 by SAI Global Certificate Number CERT – 0120632

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

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

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



Julian Burton - Quality Control Manager – Fair Lawn

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

*Based on suggested storage condition.

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

avantor™



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

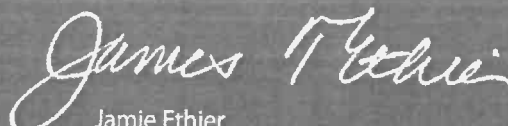


Material No.: 9673-33
Batch No.: 23D2462010

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



RICCA CHEMICAL COMPANY®

W 3005

REC- 1/31/23

12

1490 Lammers Pike
Batesville, IN 47006

<http://www.riccachemical.com>

1-888-GO-RICCA

customerservice@riccachemical.com

Certificate of Analysis

Buffer, Reference Standard, pH 2.00 ± 0.01 at 25°C

Lot Number: 4212E45

Product Number: 1493

Manufacture Date: DEC 20, 2022

Expiration Date: DEC 2024

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

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

°C	10	15	20	25	30	35	40	45	50
pH	1.93	1.98	1.98	2.00	2.01	2.03	2.03	2.04	2.04

Name	CAS#	Grade
Water	7732-18-5	ACS/ASTM/USP/EP
Potassium Chloride	7447-40-7	ACS
Hydrochloric Acid	7647-01-0	ACS

Test	Specification	Result
Appearance	Colorless liquid	Passed

*Not a certified value.

Test	Certified Value	Uncertainty	NIST SRM#
pH at 25°C (Method: SQCP027, SQCP033)	2.000	0.02	185i, 186-I-g, 186-II-g

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

Part Number	Size / Package Type	Shelf Life (Unopened Container)
1493-1	4 L natural poly	24 months
1493-16	500 mL natural poly	24 months
1493-32	1 L natural poly	24 months
1493-5	20 L Cubitainer®	24 months

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



Paul Brandon (12/20/2022)

Production Manager

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

This product was tested in an ISO 17025 Accredited Laboratory

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



Certificate of Analysis

W3093
094121
04/03/2024
16

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

Lot Number: 4401F99

Product Number: 1551

Manufacture Date: JAN 08, 2024

Expiration Date: DEC 2025

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

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

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

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

Test	Specification	Result
Appearance	Yellow liquid	Passed

*Not a certified value.

Test	Certified Value	Uncertainty	NIST SRM#
pH at 25°C (Method: SQCP027, SQCP033)	7.004	0.02	186-I-g, 186-II-g, 191d

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

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

Part Number	Size / Package Type	Shelf Life (Unopened Container)
1551-1	4 L natural poly	24 months
1551-1CT	4 L Cubitainer®	24 months
1551-2.5	10 L Cubitainer®	24 months
1551-5	20 L Cubitainer®	24 months

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



Paul Brandon (01/08/2024)

Production Manager

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

This product was tested in an ISO 17025 Accredited Laboratory

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



Certificate of Analysis

Buffer, Reference Standard, pH 10.00 ± 0.01 at 25°C (Color Coded Blue)

Lot Number: 4310G83

Product Number: 1601

Manufacture Date: OCT 09, 2023

Expiration Date: MAR 2025

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

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

°C	0	5	10	15	20	25	30	35	40	50
pH	10.31	10.23	10.17	10.11	10.05	10.00	9.95	9.91	9.87	9.81

Name	CAS#	Grade
Water	7732-18-5	ACS/ASTM/USP/EP
Sodium Carbonate	497-19-8	ACS
Sodium Bicarbonate	144-55-8	ACS
Sodium Hydroxide	1310-73-2	Reagent
Preservative	Proprietary	
Blue Dye	Proprietary	

Test	Specification	Result
Appearance	Blue liquid	Passed

*Not a certified value.

Test	Certified Value	Uncertainty	NIST SRM#
pH at 25°C (Method: SQCP027, SQCP033)	10.003	0.02	186-I-g, 186-II-g, 191d

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

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

Part Number	Size / Package Type	Shelf Life (Unopened Container)
1601-16	500 mL natural poly	18 months
1601-5	20 L Cubitainer®	18 months

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



Paul Brandon (10/09/2023)

Production Manager

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

This product was tested in an ISO 17025 Accredited Laboratory

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



Certificate of Analysis

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

Lot Number: 4403F90

Product Number: 1501

Manufacture Date: MAR 09, 2024

Expiration Date: FEB 2026

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

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

°C	0	5	10	15	20	25	30	35	40	45	50
pH	4.00	4.00	4.00	4.00	4.00	4.00	4.01	4.02	4.03	4.04	4.06

Name	CAS#	Grade
Water	7732-18-5	ACS/ASTM/USP/EP
Potassium Acid Phthalate	877-24-7	Buffer
Preservative	Proprietary	Commercial
Red Dye	Proprietary	Purified

Test	Specification	Result
Appearance	Red liquid	Passed

*Not a certified value.

Test	Certified Value	Uncertainty	NIST SRM#
pH at 25°C (Method: SQCP027, SQCP033)	4.000	0.02	185i, 186-I-g, 186-II-g

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

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

Part Number	Size / Package Type	Shelf Life (Unopened Container)
1501-2.5	10 L Cubitainer®	24 months
1501-32	1 L natural poly	24 months
1501-5	20 L Cubitainer®	24 months

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

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14



Paul Brandon (03/09/2024)

Production Manager

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

This product was tested in an ISO 17025 Accredited Laboratory

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



POTASSIUM HYDROGEN PHTHALATE

Material: N983
Grade: ACS GRADE
Batch Number: 24A1956910

Chemical Formula: HOCC6H4COOK
Molecular Weight: 204.22
CAS #: 877-24-7
Appearance:

Manufacture Date: 01/19/2022
Reassay Date: 01/18/2025

Storage: Room Temperature

White crystals.

TEST	SPECIFICATION	ANALYSIS	DISPOSITION
Assay (dried basis)	99.95 - 100.05 %	99.97 %	PASS
Chlorine Compounds	<= 0.003 %	<0.003 %	PASS
Heavy Metals (as Pb)	<= 5 ppm	<5 ppm	PASS
Insoluble Matter	<= 0.005 %	0.003 %	PASS
Iron	<= 5 ppm	<5 ppm	PASS
pH (0.05M, Water) @25C	4.00 - 4.02	4.00	PASS
Sodium	<= 0.005 %	<0.005 %	PASS
Sulfur Compounds	<= 0.002 %	<0.002 %	PASS

Spec Set: N983ACS

Internal ID #: 710

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

PERCENT SOLID

Supervisor: Iwona
Analyst: jignesh
Date: 11/26/2024

OVENTEMP IN Celsius(°C): 107
Time IN: 16:45
In Date: 11/25/2024
Weight Check 1.0g: 1.00
Weight Check 10g: 10.00
OvenID: M OVEN#1

OVENTEMP OUT Celsius(°C): 103
Time OUT: 08:15
Out Date: 11/26/2024
Weight Check 1.0g: 1.00
Weight Check 10g: 10.00
BalanceID: M SC-4
Thermometer ID: % SOLID- OVEN

QC:LB133600

Lab ID	Client SampleID	Dish #	Dish Wt(g) (A)	Sample Wt(g)	Dish + Sample Wt(g) (B)	Dish+Dry Sample Wt(g) (C)	% Solid	Comments
P4985-01	MH-756-WC	1	1.16	8.80	9.96	8.91	88.1	
P4985-02	MH-756-EPH	2	1.18	8.50	9.68	8.66	88.0	
P4985-03	MH-756-VOC	3	1.15	8.82	9.97	9.15	90.7	
P4985-05	MH-740-WC	4	1.12	8.74	9.86	8.93	89.4	
P4985-06	MH-740-EPH	5	1.16	8.74	9.9	8.99	89.6	
P4985-07	MH-740-VOC	6	1.15	8.84	9.99	9.02	89.0	
P4986-01	TAPIAL1-SB04D-9-112224-00-T1	7	1.19	8.62	9.81	9.28	93.9	
P4986-02	TAPIAL1-SB04D-4-112224-00-T1	8	1.17	8.70	9.87	9.24	92.8	
P4994-01	33218	9	1.00	1.00	2.00	2.00	100.0	debris
P4998-01	FCA546C-1-1	10	1.00	1.00	2.00	2.00	100.0	oilc
P4998-02	FCA546C-1-2	11	1.00	1.00	2.00	2.00	100.0	oilc
P4998-03	CABLE-1-1	12	1.00	1.00	2.00	2.00	100.0	oilc
P4998-04	CABLE-1-2	13	1.00	1.00	2.00	2.00	100.0	oilc
P4999-01	Y2309-0009-1-1	14	1.00	1.00	2.00	2.00	100.0	oilc
P4999-02	Y2309-0009-1-2	15	1.00	1.00	2.00	2.00	100.0	oilc
P4999-03	Y2308-0012-1-1	16	1.00	1.00	2.00	2.00	100.0	oilc
P4999-04	Y2308-0012-1-2	17	1.00	1.00	2.00	2.00	100.0	oilc
P4999-05	HIH407T-1-1	18	1.00	1.00	2.00	2.00	100.0	oilc
P4999-06	HIH407T-1-2	19	1.00	1.00	2.00	2.00	100.0	oilc
P4999-07	EDA834Y-1-1	20	1.00	1.00	2.00	2.00	100.0	oilc
P4999-08	EDA834Y-1-2	21	1.00	1.00	2.00	2.00	100.0	oilc
P4999-09	HEC991Z-1-1	22	1.00	1.00	2.00	2.00	100.0	oilc
P4999-10	HEC991Z-1-1	23	1.00	1.00	2.00	2.00	100.0	oilc
P5000-01	MH-745	24	1.15	8.63	9.78	8.29	82.7	
P5000-02	MH-745-EPH	25	1.11	8.68	9.79	8.43	84.3	
P5000-03	MH-745-VOC	26	1.16	8.48	9.64	8.15	82.4	
P5000-05	MH-733	27	1.18	8.58	9.76	8.68	87.4	



PERCENT SOLID

Supervisor: Iwona
Analyst: jignesh
Date: 11/26/2024

OVENTEMP IN Celsius(°C): 107
Time IN: 16:45
In Date: 11/25/2024
Weight Check 1.0g: 1.00
Weight Check 10g: 10.00
OvenID: M OVEN#1

OVENTEMP OUT Celsius(°C): 103
Time OUT: 08:15
Out Date: 11/26/2024
Weight Check 1.0g: 1.00
Weight Check 10g: 10.00
BalanceID: M SC-4
Thermometer ID: % SOLID- OVEN

QC:LB133600

Lab ID	Client SampleID	Dish #	Dish Wt (g) (A)	Sample Wt (g)	Dish + Sample Wt (g) (B)	Dish+Dry Sample Wt (g) (C)	% Solid	Comments
P5000-06	MH-733-EPH	28	1.18	8.52	9.7	8.54	86.4	
P5000-07	MH-733-VOC	29	1.15	8.84	9.99	9.1	89.9	
P5002-01	EX-7-TPH-1	30	1.18	8.81	9.99	8.63	84.6	

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

WORKLIST(Hardcopy Internal Chain)

193600

WorkList Name : %1-112524

WorkList ID : 185724

Department : Wet-Chemistry

Date : 11-25-2024 08:13:31

Sample	Customer Sample	Matrix	Test	Preservative	Customer	Raw Sample Storage Location	Collect Date	Method
P4985-01	MH-756-WC	Solid	Percent Solids	Cool 4 deg C	PSEG03	L61	11/23/2024	Chemtech -SO
P4985-02	MH-756-EPH	Solid	Percent Solids	Cool 4 deg C	PSEG03	L61	11/23/2024	Chemtech -SO
P4985-03	MH-756-VOC	Solid	Percent Solids	Cool 4 deg C	PSEG03	L61	11/23/2024	Chemtech -SO
P4985-05	MH-740-WC	Solid	Percent Solids	Cool 4 deg C	PSEG03	L61	11/23/2024	Chemtech -SO
P4985-06	MH-740-EPH	Solid	Percent Solids	Cool 4 deg C	PSEG03	L61	11/23/2024	Chemtech -SO
P4985-07	MH-740-VOC	Solid	Percent Solids	Cool 4 deg C	PSEG03	L61	11/23/2024	Chemtech -SO
P4986-01	TAPIAL1-SB04D-9-112224-00-1	Solid	Percent Solids	Cool 4 deg C	WEST04	L51	11/22/2024	Chemtech -SO
P4986-02	TAPIAL1-SB04D-4-112224-00-1	Solid	Percent Solids	Cool 4 deg C	WEST04	L51	11/22/2024	Chemtech -SO
P4994-01	33218	Solid	Percent Solids	Cool 4 deg C	PSEG03	L51	11/25/2024	Chemtech -SO
P4998-01	FCA546C-1-1	Solid	Percent Solids	Cool 4 deg C	PSEG03	L41	11/25/2024	Chemtech -SO
P4998-02	FCA546C-1-2	Solid	Percent Solids	Cool 4 deg C	PSEG03	L41	11/25/2024	Chemtech -SO
P4998-03	CABLE-1-1	Solid	Percent Solids	Cool 4 deg C	PSEG03	L41	11/25/2024	Chemtech -SO
P4998-04	CABLE-1-2	Solid	Percent Solids	Cool 4 deg C	PSEG03	L41	11/25/2024	Chemtech -SO
P4999-01	Y2309-0009-1-1	Solid	Percent Solids	Cool 4 deg C	PSEG03	L11	11/25/2024	Chemtech -SO
P4999-02	Y2309-0009-1-2	Solid	Percent Solids	Cool 4 deg C	PSEG03	L11	11/25/2024	Chemtech -SO
P4999-03	Y2308-0012-1-1	Solid	Percent Solids	Cool 4 deg C	PSEG03	L11	11/25/2024	Chemtech -SO
P4999-04	Y2308-0012-1-2	Solid	Percent Solids	Cool 4 deg C	PSEG03	L11	11/25/2024	Chemtech -SO
P4999-05	HIH407T-1-1	Solid	Percent Solids	Cool 4 deg C	PSEG03	L11	11/25/2024	Chemtech -SO
P4999-06	HIH407T-1-2	Solid	Percent Solids	Cool 4 deg C	PSEG03	L11	11/25/2024	Chemtech -SO
P4999-07	EDA834Y-1-1	Solid	Percent Solids	Cool 4 deg C	PSEG03	L11	11/25/2024	Chemtech -SO
P4999-08	EDA834Y-1-2	Solid	Percent Solids	Cool 4 deg C	PSEG03	L11	11/25/2024	Chemtech -SO

Date/Time

11-25-24 15:30

Raw Sample Received by:

78 WLC

Raw Sample Relinquished by:

EJG

Date/Time

11-25-24

Raw Sample Received by:

EJG

Raw Sample Relinquished by:

78 WLC

WORKLIST(Hardcopy Internal Chain)

133600

WorkList Name : %1-112524 WorkList ID : 185724 Department : Wet-Chemistry Date : 11-25-2024 08:13:31

Sample	Customer Sample	Matrix	Test	Preservative	Customer	Raw Sample Storage Location	Collect Date	Method
P4999-09	HEC991Z-1-1	Solid	Percent Solids	Cool 4 deg C	PSEG03	L11	11/25/2024	Chemtech -SO
P4999-10	HEC991Z-1-1	Solid	Percent Solids	Cool 4 deg C	PSEG03	L11	11/25/2024	Chemtech -SO
P5000-01	MH-745	Solid	Percent Solids	Cool 4 deg C	PSEG03	L61	11/25/2024	Chemtech -SO
P5000-02	MH-745-EPH	Solid	Percent Solids	Cool 4 deg C	PSEG03	L61	11/25/2024	Chemtech -SO
P5000-03	MH-745-VOC	Solid	Percent Solids	Cool 4 deg C	PSEG03	L61	11/25/2024	Chemtech -SO
P5000-05	MH-733	Solid	Percent Solids	Cool 4 deg C	PSEG03	L61	11/25/2024	Chemtech -SO
P5000-06	MH-733-EPH	Solid	Percent Solids	Cool 4 deg C	PSEG03	L61	11/25/2024	Chemtech -SO
P5000-07	MH-733-VOC	Solid	Percent Solids	Cool 4 deg C	PSEG03	L61	11/25/2024	Chemtech -SO
P5002-01	EX-7-TPH-1	Solid	Percent Solids	Cool 4 deg C	ENTA05	L61	11/25/2024	Chemtech -SO

Date/Time 11/25/24 15:30
Raw Sample Received by: JH woc
Raw Sample Relinquished by: JH woc

Date/Time 11/25/24 17:30
Raw Sample Received by: JH woc
Raw Sample Relinquished by: JH woc



SHIPPING DOCUMENTS

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14

P4986



Weston COC ID
Weston_20241122_1439

Chain of Custody Record/Lab Work Request

Client:	Weston Solutions, Inc.		
Project Manager:	David Sembrot		
Street Address:	1400 Weston Way	City:	West Chester
Phone:	610-314-5456	ST, ZIP:	PA, 19038
e-mail:	david.sembrot@westonsolutions.com		
Sampled By:	Cheyenne Harrington		

Project Name:	Fort Meade RI	Project POC:	Nathan Fretz
PO Number	0111169	Phone:	484-524-5665
W.O. #:		POC e-mail:	nathan.fretz@westonsolutions.com
Lab:	Chemtech	Lab POC:	Jordan Hedvat
TAT (days):	21	Lab Phone:	908-728-3148
Lab Address:	284 Sheffield Street Mountainside, NJ 07092		

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

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

Analyses Requested:	TAL Metals by EPA 8020B/7471B	pH by EPA 9045D	Anions by EPA 9056A	TOC by EPA 9060A													
	Container Type:	Glass	Glass	Glass	Glass												
	Container Size:	8 oz	8 oz	8 oz	8 oz												
	Preservative:	Ice to 0-6	Ice to 0-6	Ice to 0-6	Ice to 0-6												

#	Sample ID	G/C	Matrix	# Cont	MS/MSD	Date Collected	Time Collected											Special Instructions/Comments
1	TAPIAL1-SB04D-9-112224-00-T1	g	SB		no	11/22/2024	11:35	X	X	X	X							TOL pH in 1 8oz jar 7/12
2	TAPIAL1-SB04I-4-112224-00-T1	g	SB		no	11/22/2024	12:50	X	X		X							TOL pH in 1 8oz jar 7/12
3																		
4																		
5																		
6																		
7																		
8																		
9																		
10																		
11																		
12																		

Shipping Airbill Number: 7701 648 1829					Cooler Number: of				
Relinquished By	Date	Time	Received By	Date	Time	Additional Comments			
1.) [Signature]	11/28/24	1620	[Signature]	11/23/24	10:00	QSM 6.0 Compliant			
2.)					1:30 ^c	Deliverable Requirements: DoD Level IV report, EnviroData EDD, and ERIS-compatible EDD			
3.)									

From: Harrington, Cheyenne <Cheyenne.Harrington@WestonSolutions.com>
Sent: Saturday, November 23, 2024 3:49 PM
To: Jordan Hedvat; ProjectManagers@chemtech.net
Cc: Sembrot, David; Sollenberger, Christopher; Fretz, Nathan
Subject: Ft Meade Sample Shipment 11.22.24
Attachments: 11.22.24 COC.pdf

Hi there,

We shipped one sample cooler yesterday via FedEx that was delivered this morning. Please correct the sample ID for sample number 2 on all three chains to TAPIAL1-SB04D-4-112224-00-T1. Note that the sample container column was accidentally left blank on all chains, but the sample containers will be clearly labeled. A copy of the COCs is attached.

Please confirm this sample cooler was received.

Thank you,
Cheyenne

Get [Outlook for iOS](#)

From: Budnovitch, Joe <Joe.Budnovitch@WestonSolutions.com>
Sent: Friday, November 22, 2024 5:15:16 PM
To: Harrington, Cheyenne <Cheyenne.Harrington@WestonSolutions.com>
Subject: 11.22.24 Shipping Docs

Attached is the shipping label, receipt, and COCs.

Joe

Get [Outlook for iOS](#)

CONFIDENTIALITY: This email and attachments may contain information which is confidential and proprietary. Disclosure or use of any such confidential or proprietary information without the written permission of Weston Solutions, Inc. is strictly prohibited. If you received this email in error, please notify the sender by return e-mail and delete this email from your system. Thank you.

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