

Chemical Analysis Report

SW-DIST-2018-09-13-01

Florida Department of Environmental Protection
Central Laboratory
2600 Blair Stone Road
Tallahassee, FL 32399-2400
DOH Accreditation E31780

Event Description: **Neff, Tooke, Thomas**

Request ID: **RQ-2018-09-10-13**

Customer: **SW-DIST**

Project ID: **SMP**

Send Reports to:

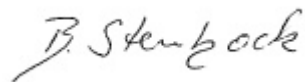
FL Dept. of Environmental Protection
FL Dept. of Environmental Protection
13051 N. Telecom Parkway
Temple Terrace, FL 33637-0926
Attn: Ben Paswater

For additional information please contact

Colin Wright, Ph.D.
Liang-Tsair Lin, Ph.D.
Kerry Tate, Ph.D.
Dr. rer. nat. Bettina Steinbock
Thekkekalathil Chandrasekhar, Ph.D, QA Officer
Phone (850) 245-8085

Certified by: Dr. rer. nat. Bettina Steinbock, Environmental Administrator

Date Certified: 03-OCT-2018 16:23



Case Narrative

Unless otherwise noted, all samples included in this report were received in accordance with protocols referenced in Chapter 62-160, Florida Administrative Code (F.A.C.). Results published in this report pertain only to the samples as submitted to, and received by the laboratory. All times in this report are adjusted to the applicable Eastern Time Zone (EST or EDT).

Results for the following analytical group are included in this report: Nutrients.

Scientific notation may be used in reporting very large or small values. Values reported using scientific notation will take the form of the following example: 1.3E+03, which is equivalent to 1.3×10^3 or 1300.

Unless otherwise noted, analytical values for soil and sediment samples are reported on a dry weight basis, and analytical values for waste and tissue samples are reported on a wet weight basis.

Results for TNI accredited tests met requirements established by The NELAC Institute. A double asterisk (**) is used to indicate an analyte/matrix/method for which the laboratory is not TNI accredited or where accreditation for that field of testing is not applicable.

Any significant anomalies or deviations from established protocols are documented in Non-Conformance Reports, which, where appropriate, are included within this analytical report. Additional comments related to specific analytical tests may be included as remarks following the analytical results for each sample. Such comments and remarks are for informational purposes only and are not intended to convey judgement about the usability of the reported data.

A quality control report on the performance of the test method for the submitted samples is included. Uncertainty associated with the analytical results contained in this report can be estimated from the reported quality assurance results and from published quality control acceptance limits for each analytical test. Matrix quality control results (matrix spike recoveries and matrix sample precision) pertain only to the matrix sample tested and do not necessarily reflect test method performance for other samples.

Typical matrix quality control (QC) measurements may include matrix spike recovery, matrix spike duplicate recovery, matrix spike precision and matrix sample precision. Not all matrix QC results may be available or reportable; where they are not an explanation is provided. Typical reasons for unavailable QC results include, but are not limited to, a) insufficient matrix sample to perform some or all QC measurements; b) analyte concentration in the sample replicated was too low for a meaningful measurement of precision and c) analyte concentration in the matrix sample spiked was too high (relative to the amount of analyte spiked) for a meaningful measurement of recovery. Where matrix QC results are unavailable, other method performance metrics (e.g., LCS recovery, LCS precision, surrogate recovery) may be used to assess performance of the method. Comments explaining any missing QC measurements are not intended to convey any adverse conclusions about the quality of the reported data.

Precision is reported as relative percent difference unless otherwise noted.

Quality Control codes as defined below may be used in this report to indicate results that are associated with one or more quality control elements which did not fall within established test method criteria. Such results may be qualified as estimates using a J qualifier as required by 62-160 F.A.C. Explanations are included in the report for any results that were reported as estimates for other reasons.

QC Codes used in this report may include:

- LCS – Recovery for the batch Laboratory Control Sample (LCS) was outside existing control limits;
- MS – Recovery for the batch matrix spike (MS) was outside existing control limits;
- CCV – Recovery for a continuing calibration verification (CCV) standard was outside existing control limits;
- SUR – Recovery of a surrogate (SUR) for associated analytes was outside existing control limits;
- RPD – The precision, measured as relative percent difference (RPD), of batch replicate measurements was outside existing control limits;
- RSD – The precision, measured as relative standard deviation (RSD), of batch replicate measurements was outside existing control limits;
- SMP – Sample - used precision derived from replicate analyses of a sample;

The following data qualifiers are used, where applicable, in this report as specified in 62-160 F.A.C.

- A - Value reported is the mean of two or more determinations.
- B - Results based on colony counts outside the acceptable range.
- I - The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.
- J - Estimated value and/or the analysis did not meet established quality control criteria.
- K - Actual value is known to be less than value given.
- L - Actual value is known to be greater than value given.
- N - Presumptive evidence of presence of material.
- O - Sampled, but analysis lost or not performed.
- Q - Sample held beyond normal holding time.
- T - Value reported is less than the criterion of detection.
- U - Material was analyzed for but not detected. The reported value is the method detection limit for the sample analyzed.
- V - Analyte was detected in both sample and method blank.
- X - Too few individuals to calculate SCI value.
- Y - The laboratory analysis was from an unpreserved or improperly preserved sample. The data may not be accurate.
- Z - Colonies were too numerous to count (TNTC).

Quality control information from overflow laboratories may not be included in this report. Please refer to the associated report from the overflow laboratory for additional information.

Sample Location: Tooke Lake North

Collection Date/Time: 09/12/2018 11:30

Field ID: G5SW0122

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2025036	EPA 180.1 Rev. 2.0	Turbidity	2.4		NTU	P351647	
	EPA 300.0 Rev. 2.1	Chloride	5.3		mg Cl/L	P352241	
		Sulfate	3.1		mg SO4/L	P352244	
	SM 2120 B	Color (true)	26		PCU	P351592	
	SM 2320 B-97	Total Alkalinity	5.8		mg CaCO3/L	P351714	
	SM 2540 C-97	TDS	41		mg/L	P352187	
	SM 2540 D-97	TSS	2	I	mg/L	P351884	
	SM 4500 F-C-97	Fluoride	0.038	I	mg F/L	P351718	
	EPA 350.1 Rev. 2.0	Ammonia-N	0.004	I	mg N/L	P351822	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.81		mg N/L	P351810	
2025039	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P351831	
	EPA 365.1 Rev. 2.0	Total-P	0.013		mg P/L	P351751	
	SM 5310 B-00	Organic Carbon	8.4		mg C/L	P351909	
	EPA 365.1 Rev. 2.0	O-Phosphate-P	0.004	U	mg P/L	P351615	
	dissolved						

Ref. Method and Comment:

SM 2540 D-97: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.

EPA 351.2 Rev. 2.0: Batch matrix spike recoveries are unavailable because of high analyte concentration in the QC sample.

Sample Location: Neff Center

Collection Date/Time: 09/12/2018 13:00

Field ID: G4SW0087

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2025037	EPA 180.1 Rev. 2.0	Turbidity	1.4		NTU	P351647	
	EPA 300.0 Rev. 2.1	Chloride	7.1		mg Cl/L	P352241	
		Sulfate	0.69		mg SO4/L	P352244	
	SM 2120 B	Color (true)	200		PCU	P351592	
	SM 2320 B-97	Total Alkalinity	23		mg CaCO3/L	P351714	
	SM 2540 C-97	TDS	82		mg/L	P352187	
	SM 2540 D-97	TSS	2	U	mg/L	P351884	
	SM 4500 F-C-97	Fluoride	0.065	I	mg F/L	P351718	
2025040	EPA 350.1 Rev. 2.0	Ammonia-N	0.22		mg N/L	P351822	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.4		mg N/L	P351810	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P351831	
	EPA 365.1 Rev. 2.0	Total-P	0.13		mg P/L	P351751	
	SM 5310 B-00	Organic Carbon	20		mg C/L	P351910	
2025043	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.067		mg P/L	P351615	

Ref. Method and Comment:

SM 2540 D-97: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.

EPA 351.2 Rev. 2.0: Batch matrix spike recoveries are unavailable because of high analyte concentration in the QC sample.

Sample Location: Lake Thomas @ Center

Collection Date/Time: 09/12/2018 14:15

Field ID: G5SW0111

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2025038	EPA 180.1 Rev. 2.0	Turbidity	1.9		NTU	P351647	
	EPA 300.0 Rev. 2.1	Chloride	21	A	mg Cl/L	P352241	
		Sulfate	7.7	A	mg SO4/L	P352244	
	SM 2120 B	Color (true)	29		PCU	P351592	
	SM 2320 B-97	Total Alkalinity	5.1		mg CaCO3/L	P351714	
	SM 2540 C-97	TDS	63		mg/L	P352187	
	SM 2540 D-97	TSS	3	I	mg/L	P351884	
	SM 4500 F-C-97	Fluoride	0.072	I	mg F/L	P351718	
2025041	EPA 350.1 Rev. 2.0	Ammonia-N	0.002	I	mg N/L	P351822	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.66		mg N/L	P351810	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P351831	
	EPA 365.1 Rev. 2.0	Total-P	0.022		mg P/L	P351751	
	SM 5310 B-00	Organic Carbon	7.7		mg C/L	P351910	
2025044	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P351615	

Ref. Method and Comment:

SM 2540 D-97: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.

EPA 351.2 Rev. 2.0: Batch matrix spike recoveries are unavailable because of high analyte concentration in the QC sample.

Quality Assurance Report Method Blank Results

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P351647

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P352241

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P352244

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P351822

Component	Result	Code	Units
Ammonia-N	0.002	U	mg N/L

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P351810

Component	Result	Code	Units
Kjeldahl Nitrogen	0.080	U	mg N/L

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P351831

Component	Result	Code	Units
NO2NO3-N	0.004	U	mg N/L

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P351751

Component	Result	Code	Units
Total-P	0.002	U	mg P/L

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P351615

Component	Result	Code	Units
O-Phosphate-P	0.004	U	mg P/L

Reference Method: SM 2120 B
Batch ID: P351592

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Quality Assurance Report

Method Blank Results

Reference Method: SM 2320 B-97
Batch ID: P351714

Component	Result	Code	Units
Total Alkalinity	0.65	U	mg CaCO ₃ /L

Reference Method: SM 2540 C-97
Batch ID: P352187

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-97
Batch ID: P351884

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500 F-C-97
Batch ID: P351718

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-00
Batch ID: P351909

Component	Result	Code	Units
Organic Carbon	0.50	U	mg C/L

Reference Method: SM 5310 B-00
Batch ID: P351910

Component	Result	Code	Units
Organic Carbon	0.50	U	mg C/L

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P352241

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Chloride	101		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P352244

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Sulfate	100		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P351822

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Ammonia-N	98.8		P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P351810

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Kjeldahl Nitrogen	104		P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P351831

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
NO2NO3-N	102		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P351751

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total-P	101		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P351615

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
O-Phosphate-P	99.2		P	90 - 110

Reference Method: SM 2120 B
Batch ID: P351592

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Color (true)	97.5		P	85 - 115

Reference Method: SM 2320 B-97
Batch ID: P351714

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	103		P	98 - 107

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: SM 4500 F-C-97
Batch ID: P351718

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	97.2		P	91 - 105

Reference Method: SM 5310 B-00
Batch ID: P351909

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	102		P	85 - 115

Reference Method: SM 5310 B-00
Batch ID: P351910

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	101		P	85 - 115

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P352241

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2025038	Chloride	97.7		P	90 - 110
2025199	Chloride	102		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P352244

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2025038	Sulfate	98.2		P	90 - 110
2025199	Sulfate	100		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P351822

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2025041	Ammonia-N	102	104	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P351831

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2025009	NO2NO3-N	101		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P351751

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2025041	Total-P	99.0	97.8	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P351615

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2025042	O-Phosphate-P	96.9	97.6	P/P	90 - 110

Reference Method: SM 4500 F-C-97
Batch ID: P351718

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2024833	Fluoride	98.7	98.7	P/P	91 - 105

Reference Method: SM 5310 B-00
Batch ID: P351909

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2024928	Organic Carbon	97.2	98.0	P/P	85 - 115

Reference Method: SM 5310 B-00
Batch ID: P351910

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2025040	Organic Carbon	102		P	85 - 115

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P351647

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2024886	Turbidity	3.00	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P352241

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2025038	Chloride	0.231	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P352244

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2025038	Sulfate	0.0520	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P351822

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2025041	Ammonia-N	1.26	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P351810

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2025006	Kjeldahl Nitrogen	2.13	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P351831

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2025009	NO2NO3-N	0.619	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P351751

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2025041	Total-P	1.13	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P351615

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2025042	O-Phosphate-P	0.720	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: SM 2120 B
Batch ID: P351592

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2024886	Color (true)	0.182	Sample	P	0 - 20

Reference Method: SM 2320 B-97
Batch ID: P351714

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2024833	Total Alkalinity	1.13	Sample	P	0 - 1.6

Reference Method: SM 2540 C-97
Batch ID: P352187

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2024885	TDS	2.76	Sample	P	0 - 10

Reference Method: SM 4500 F-C-97
Batch ID: P351718

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2024833	Fluoride	0.0	Spike	P	0 - 3.5

Reference Method: SM 5310 B-00
Batch ID: P351909

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2024928	Organic Carbon	0.450	Spike	P	0 - 20

Reference Method: SM 5310 B-00
Batch ID: P351910

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2025040	Organic Carbon	0.610	Spike	P	0 - 20

* Sample, spike and/or laboratory control sample precision (LCS) is reported.
Replicate spike precision may be reported when sample results are below quantifiable levels.

Quality Assurance Report Calibration Verification

Reference Method: SM 2120 B

Run ID: A86461

Included Lab Sample IDs: 2025036, 2025037, 2025038

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	98.3	97.7	P/P	90 - 115
Color (true)	99.0	100	P/P	90 - 115

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Run ID: A86464

Included Lab Sample IDs: 2025042, 2025043, 2025044

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	98.4	97.5	P/P	90 - 110
O-Phosphate-P	98.5	98.6	P/P	90 - 110

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A86479

Included Lab Sample IDs: 2025036, 2025037, 2025038

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Turbidity	103	103	P/P	95 - 105

Reference Method: SM 2320 B-97

Run ID: A86512

Included Lab Sample IDs: 2025036, 2025037, 2025038

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	101	103	P/P	90 - 110

Reference Method: SM 4500 F-C-97

Run ID: A86512

Included Lab Sample IDs: 2025036, 2025037, 2025038

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	100	101	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A86540

Included Lab Sample IDs: 2025040

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	102	103	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A86545

Included Lab Sample IDs: 2025039, 2025041

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	98.2	97.8	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A86557

Included Lab Sample IDs: 2025039, 2025040, 2025041

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
-----------	---------	---------	------------	----------------

Quality Assurance Report Calibration Verification

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A86557

Included Lab Sample IDs: 2025039, 2025040, 2025041

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	101	104	P/P	90 - 110
Ammonia-N	102	104	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A86558

Included Lab Sample IDs: 2025039, 2025040, 2025041

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	102	102	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A86582

Included Lab Sample IDs: 2025039, 2025040, 2025041

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	102	99.7	P/P	90 - 110

Reference Method: SM 5310 B-00

Run ID: A86587

Included Lab Sample IDs: 2025039, 2025040, 2025041

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	98.5	98.8	P/P	90 - 110
Organic Carbon	98.9	98.5	P/P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A86718

Included Lab Sample IDs: 2025036, 2025037, 2025038

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	100	100	P/P	90 - 110
Sulfate	100	100	P/P	90 - 110

* Pass/Fail determinations are made for each bracketing calibration verification check.

Control limits for initial calibration checks may be different from those for continuing checks, depending on method requirements.

Where they are different, both control limits are provided.

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery		LCS	Precision	MS
						SMP	
EPA 180.1 Rev. 2.0	Turbidity					3.00	
EPA 300.0 Rev. 2.1	Chloride	101	97.7	102		0.231	
	Sulfate	100	98.2	100		0.0520	
EPA 350.1 Rev. 2.0	Ammonia-N	98.8	102	104			1.26
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	104					2.13
EPA 353.2 Rev. 2.0	NO ₂ NO ₃ -N	102	101				0.619
EPA 365.1 Rev. 2.0	Total-P	101	99.0	97.8			1.13
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	99.2	96.9	97.6			0.720
SM 2120 B	Color (true)	97.5				0.182	
SM 2320 B-97	Total Alkalinity	103				1.13	
SM 2540 C-97	TDS					2.76	
SM 4500 F-C-97	Fluoride	97.2	98.7	98.7			0.0
SM 5310 B-00	Organic Carbon	102	97.2	98.0			0.450
	Organic Carbon	101	102				0.610

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 180.1 Rev. 2.0 / E31780	Turbidity in aqueous matrices	2025036, 2025037, 2025038
EPA 300.0 Rev. 2.1 / E31780	Chloride in aqueous matrices	2025036, 2025037, 2025038
EPA 300.0 Rev. 2.1 / E31780	Sulfate in aqueous matrices	2025036, 2025037, 2025038
EPA 350.1 Rev. 2.0 / E31780	Ammonia in aqueous matrices as mg N/L	2025039, 2025040, 2025041
EPA 351.2 Rev. 2.0 / E31780	Total Kjeldahl Nitrogen in aqueous matrices	2025039, 2025040, 2025041
EPA 353.2 Rev. 2.0 / E31780	Nitrite/Nitrate in aqueous matrices as mg N/L	2025039, 2025040, 2025041
EPA 365.1 Rev. 2.0 / E31780	Total Phosphorus in aqueous matrices as mg P/L	2025039, 2025040, 2025041
EPA 365.1 Rev. 2.0 dissolved / E31780	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	2025042, 2025043, 2025044
SM 2120 B / E31780	True Color measured at 450 nm	2025036, 2025037, 2025038
SM 2320 B-97 / E31780	Alkalinity in aqueous matrices as mg CaCO ₃ /L	2025036, 2025037, 2025038
SM 2540 C-97 / E31780	Total Dissolved Solids in aqueous matrices	2025036, 2025037, 2025038
SM 2540 D-97 / E31780	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2025036, 2025037, 2025038
SM 4500 F-C-97 / E31780	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2025036, 2025037, 2025038
SM 5310 B-00 / E31780	Nonpurgeable Organic Carbon in aqueous matrices	2025039, 2025040, 2025041

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
EPA 180.1 Rev. 2.0	09/13/2018			09/13/2018 16:38	Megan Treadwell	2025036, 2025037, 2025038
EPA 300.0 Rev. 2.1	09/13/2018			09/24/2018 19:23	Lipi Saha	2025038
	09/13/2018			09/24/2018 20:11	Lipi Saha	2025036
	09/13/2018			09/24/2018 20:24	Lipi Saha	2025037
EPA 350.1 Rev. 2.0	09/13/2018			09/18/2018 12:37	Ping Hua	2025039
	09/13/2018			09/18/2018 13:54	Ping Hua	2025041
	09/13/2018			09/18/2018 13:58	Ping Hua	2025040
EPA 351.2 Rev. 2.0	09/13/2018	09/18/2018 14:10	Adrian Shelby	09/19/2018 13:22	Joseph Suarez	2025039
	09/13/2018	09/18/2018 14:10	Adrian Shelby	09/19/2018 13:24	Joseph Suarez	2025040
	09/13/2018	09/18/2018 14:10	Adrian Shelby	09/19/2018 13:25	Joseph Suarez	2025041
EPA 353.2 Rev. 2.0	09/13/2018			09/18/2018 14:16	Lauren Bottorf	2025039
	09/13/2018			09/18/2018 14:17	Lauren Bottorf	2025040
	09/13/2018			09/18/2018 14:18	Lauren Bottorf	2025041
EPA 365.1 Rev. 2.0	09/13/2018	09/17/2018 13:00	Sima Feizi	09/18/2018 08:20	Beverly Y. Sanders	2025040
	09/13/2018	09/17/2018 13:00	Sima Feizi	09/18/2018 10:48	Beverly Y. Sanders	2025039
	09/13/2018	09/17/2018 13:00	Sima Feizi	09/18/2018 10:49	Beverly Y. Sanders	2025041
EPA 365.1 Rev. 2.0 dissolved	09/13/2018			09/13/2018 15:19	Julia Storbeck	2025042
	09/13/2018			09/13/2018 16:01	Julia Storbeck	2025043
	09/13/2018			09/13/2018 16:02	Julia Storbeck	2025044
SM 2120 B	09/13/2018			09/13/2018 14:13	DeAsia Armster	2025036
	09/13/2018			09/13/2018 14:14	DeAsia Armster	2025038
	09/13/2018			09/13/2018 14:36	DeAsia Armster	2025037
SM 2320 B-97	09/13/2018			09/15/2018 05:18	Dale L. Simmons	2025036
	09/13/2018			09/15/2018 05:28	Dale L. Simmons	2025037
	09/13/2018			09/15/2018 05:38	Dale L. Simmons	2025038
SM 2540 C-97	09/13/2018			09/17/2018 11:30	DeAsia Armster	2025036, 2025037, 2025038
SM 2540 D-97	09/13/2018			09/17/2018 11:30	DeAsia Armster	2025036, 2025037, 2025038
SM 4500 F-C-97	09/13/2018			09/15/2018 05:18	Dale L. Simmons	2025036
	09/13/2018			09/15/2018 05:28	Dale L. Simmons	2025037
	09/13/2018			09/15/2018 05:38	Dale L. Simmons	2025038
SM 5310 B-00	09/13/2018			09/19/2018 07:53	Megan Treadwell	2025039
	09/13/2018			09/19/2018 08:30	Megan Treadwell	2025040
	09/13/2018			09/19/2018 09:31	Megan Treadwell	2025041