

Chemical Analysis Report

NE-DIST-2018-09-12-02

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

Event Description: **Upper East Coast**

Request ID: **RQ-2018-09-10-20**

Customer: **NE-DIST**

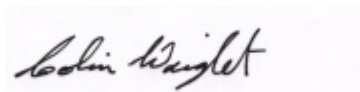
Project ID: **SMP**

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Certified by: Colin Wright, Program Administrator

Date Certified: 27-SEP-2018 16:23

A handwritten signature in black ink, appearing to read "Colin Wright", is displayed on a light gray rectangular background.

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: LAKE VEDRA AT SOLANA RD.

Collection Date/Time: 09/11/2018 09:05

Field ID: 27010180

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2024193	EPA 180.1 Rev. 2.0	Turbidity	5.2	A	NTU	P351634	
	EPA 300.0 Rev. 2.1	Chloride	120		mg Cl/L	P351985	
		Sulfate	94		mg SO4/L	P351989	
	SM 2120 B	Color (true)	45		PCU	P351515	
	SM 2320 B-97	Total Alkalinity	129		mg CaCO3/L	P351706	
	SM 2540 C-97	TDS	535		mg/L	P351933	
	SM 2540 D-97	TSS	7	I	mg/L	P351975	
	SM 4500 F-C-97	Fluoride	0.28		mg F/L	P351709	
2024197	EPA 350.1 Rev. 2.0	Ammonia-N	0.007		mg N/L	P351683	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.5		mg N/L	P351701	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P351694	
	EPA 365.1 Rev. 2.0	Total-P	0.16		mg P/L	P351600	
	SM 5310 B-00	Organic Carbon	16		mg C/L	P351876	
2024201	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.051		mg P/L	P351519	

Ref. Method and Comment:

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

Sample Location: PONTE VEDRA LAKE @ SAWGRASS DR.

Collection Date/Time: 09/11/2018 09:25

Field ID: 27010182

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2024194	EPA 180.1 Rev. 2.0	Turbidity	1.2		NTU	P351634	
	EPA 300.0 Rev. 2.1	Chloride	110		mg Cl/L	P351985	
		Sulfate	70		mg SO4/L	P351989	
	SM 2120 B	Color (true)	76		PCU	P351515	
	SM 2320 B-97	Total Alkalinity	140		mg CaCO3/L	P351706	
	SM 2540 C-97	TDS	493		mg/L	P351933	
	SM 2540 D-97	TSS	2	I	mg/L	P351975	
	SM 4500 F-C-97	Fluoride	0.24		mg F/L	P351709	
2024198	EPA 350.1 Rev. 2.0	Ammonia-N	0.13		mg N/L	P351686	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.1		mg N/L	P351701	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P351694	
	EPA 365.1 Rev. 2.0	Total-P	0.15		mg P/L	P351600	
	SM 5310 B-00	Organic Carbon	19		mg C/L	P351876	
2024202	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.11		mg P/L	P351519	

Ref. Method and Comment:

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

EPA 350.1 Rev. 2.0: Batch matrix spike recoveries are unavailable because of high analyte concentration in the QC sample.

Sample Location: MOSES CR AT US 1

Collection Date/Time: 09/11/2018 10:25

Field ID: 27010050

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2024195	EPA 180.1 Rev. 2.0	Turbidity	4.4		NTU	P351634	
	EPA 300.0 Rev. 2.1	Chloride	55		mg Cl/L	P351985	
		Sulfate	11		mg SO4/L	P351989	
	SM 2120 B	Color (true)	120	A	PCU	P351515	
	SM 2320 B-97	Total Alkalinity	123	A	mg CaCO3/L	P351706	
	SM 2540 C-97	TDS	270		mg/L	P351933	
	SM 2540 D-97	TSS	6	I	mg/L	P351975	
	SM 4500 F-C-97	Fluoride	0.13		mg F/L	P351709	
2024199	EPA 350.1 Rev. 2.0	Ammonia-N	0.036		mg N/L	P351686	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.95		mg N/L	P351701	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.11		mg N/L	P351694	
	EPA 365.1 Rev. 2.0	Total-P	0.11		mg P/L	P351600	
	SM 5310 B-00	Organic Carbon	17		mg C/L	P351876	
2024203	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.066		mg P/L	P351519	

Ref. Method and Comment:

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

EPA 350.1 Rev. 2.0: Batch matrix spike recoveries are unavailable because of high analyte concentration in the QC sample.

Sample Location: PALM COAST CANAL AT OLD KINGS RD.

Collection Date/Time: 09/11/2018 11:10

Field ID: g5ne0005

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2024196	EPA 180.1 Rev. 2.0	Turbidity	2.0		NTU	P351634	
	EPA 300.0 Rev. 2.1	Chloride	35		mg Cl/L	P351985	
		Sulfate	11		mg SO4/L	P351989	
	SM 2120 B	Color (true)	170		PCU	P351515	
	SM 2320 B-97	Total Alkalinity	80		mg CaCO3/L	P351706	
	SM 2540 C-97	TDS	213	A	mg/L	P351934	
	SM 2540 D-97	TSS	3	IA	mg/L	P351976	
	SM 4500 F-C-97	Fluoride	0.10		mg F/L	P351709	
2024200	EPA 350.1 Rev. 2.0	Ammonia-N	0.11		mg N/L	P351686	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.86		mg N/L	P351701	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.020		mg N/L	P351694	
	EPA 365.1 Rev. 2.0	Total-P	0.12		mg P/L	P351600	
	SM 5310 B-00	Organic Carbon	19		mg C/L	P351876	
2024204	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.073		mg P/L	P351519	

Ref. Method and Comment:

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

EPA 350.1 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: P351634

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P351985

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P351989

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P351683

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P351686

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P351701

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P351694

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P351600

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P351519

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

Quality Assurance Report

Method Blank Results

Reference Method: SM 2120 B
Batch ID: P351515

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2320 B-97
Batch ID: P351706

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

Reference Method: SM 2540 C-97
Batch ID: P351933

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 C-97
Batch ID: P351934

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-97
Batch ID: P351975

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 2540 D-97
Batch ID: P351976

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500 F-C-97
Batch ID: P351709

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-00
Batch ID: P351876

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: P351985

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P351989

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Sulfate	99.9		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P351683

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Ammonia-N	97.2		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P351686

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Ammonia-N	106		P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P351701

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P351694

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
NO ₂ NO ₃ -N	99.5		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P351600

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P351519

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

Reference Method: SM 2120 B
Batch ID: P351515

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Color (true)	97.6		P	85 - 115

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: SM 2320 B-97
Batch ID: P351706

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	102		P	98 - 107

Reference Method: SM 4500 F-C-97
Batch ID: P351709

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	97.9		P	91 - 105

Reference Method: SM 5310 B-00
Batch ID: P351876

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	100		P	85 - 115

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P351985

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2023823	Chloride	98.6		P	90 - 110
2024371	Chloride	100		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P351989

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2023823	Sulfate	97.2		P	90 - 110
2024371	Sulfate	100		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P351683

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2024042	Ammonia-N	96.2	97.5	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P351701

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2024058	Kjeldahl Nitrogen	94.0	94.0	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P351694

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2024197	NO2NO3-N	100	102	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P351600

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2024163	Total-P	106	102	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P351519

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2024281	O-Phosphate-P	93.4	94.7	P/P	90 - 110

Reference Method: SM 4500 F-C-97
Batch ID: P351709

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2024195	Fluoride	97.9	97.3	P/P	91 - 105

Reference Method: SM 5310 B-00
Batch ID: P351876

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2023654	Organic Carbon	101	102	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P351634

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2024193	Turbidity	6.29	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P351985

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2023823	Chloride	0.658	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P351989

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2023823	Sulfate	0.702	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P351683

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2024042	Ammonia-N	0.934	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P351686

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2024198	Ammonia-N	1.22	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P351701

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2024058	Kjeldahl Nitrogen	0.0383	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P351694

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2024197	NO2NO3-N	1.48	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P351600

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2024163	Total-P	4.48	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P351519

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2024281	O-Phosphate-P	1.38	Spike	P	0 - 20

Reference Method: SM 2120 B
Batch ID: P351515

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2024195	Color (true)	0.513	Sample	P	0 - 20

Reference Method: SM 2320 B-97
Batch ID: P351706

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2024195	Total Alkalinity	1.10	Sample	P	0 - 1.6

Reference Method: SM 2540 C-97
Batch ID: P351933

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2024161	TDS	1.87	Sample	P	0 - 10

Reference Method: SM 2540 C-97
Batch ID: P351934

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2024196	TDS	8.45	Sample	P	0 - 10

Reference Method: SM 4500 F-C-97
Batch ID: P351709

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2024195	Fluoride	0.480	Spike	P	0 - 3.5

Reference Method: SM 5310 B-00
Batch ID: P351876

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2023654	Organic Carbon	0.403	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: A86442

Included Lab Sample IDs: 2024193, 2024194, 2024195, 2024196

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	96.5	99.4	P/P	90 - 115
Color (true)	97.1	97.7	P/P	90 - 115

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Run ID: A86443

Included Lab Sample IDs: 2024201, 2024202, 2024203, 2024204

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	98.9	99.2	P/P	90 - 110
O-Phosphate-P	99.2	98.9	P/P	90 - 110

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A86474

Included Lab Sample IDs: 2024193, 2024194, 2024195, 2024196

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Turbidity	100	103	P/P	95 - 105

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A86488

Included Lab Sample IDs: 2024197, 2024198, 2024199, 2024200

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	106	108	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A86500

Included Lab Sample IDs: 2024197, 2024198, 2024199, 2024200

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

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A86506

Included Lab Sample IDs: 2024197, 2024198, 2024199, 2024200

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

Reference Method: SM 2320 B-97

Run ID: A86511

Included Lab Sample IDs: 2024193, 2024194, 2024195, 2024196

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	100	103	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: SM 4500 F-C-97

Run ID: A86511

Included Lab Sample IDs: 2024193, 2024194, 2024195, 2024196

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	100	98.1	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A86551

Included Lab Sample IDs: 2024197, 2024198, 2024199, 2024200

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	97.0	98.4	P/P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A86566

Included Lab Sample IDs: 2024193, 2024194, 2024195, 2024196

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

Reference Method: SM 5310 B-00

Run ID: A86572

Included Lab Sample IDs: 2024197, 2024198, 2024199, 2024200

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	98.3	99.6	P/P	90 - 110
Organic Carbon	99.6	98.8	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					6.29	
EPA 300.0 Rev. 2.1	Chloride	100	98.6	100		0.658	
	Sulfate	99.9	97.2	100		0.702	
EPA 350.1 Rev. 2.0	Ammonia-N	97.2	96.2	97.5			0.934
	Ammonia-N	106					1.22
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	101	94.0	94.0			0.0383
EPA 353.2 Rev. 2.0	NO ₂ NO ₃ -N	99.5	100	102			1.48
EPA 365.1 Rev. 2.0	Total-P	104	106	102			4.48
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	98.6	93.4	94.7			1.38
SM 2120 B	Color (true)	97.6				0.513	
SM 2320 B-97	Total Alkalinity	102				1.10	
SM 2540 C-97	TDS					1.87	
	TDS					8.45	
SM 4500 F-C-97	Fluoride	97.9	97.9	97.3			0.480
SM 5310 B-00	Organic Carbon	100	101	102			0.403

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 180.1 Rev. 2.0 / E31780	Turbidity in aqueous matrices	2024193, 2024194, 2024195, 2024196
EPA 300.0 Rev. 2.1 / E31780	Chloride in aqueous matrices	2024193, 2024194, 2024195, 2024196
EPA 300.0 Rev. 2.1 / E31780	Sulfate in aqueous matrices	2024193, 2024194, 2024195, 2024196
EPA 350.1 Rev. 2.0 / E31780	Ammonia in aqueous matrices as mg N/L	2024197, 2024198, 2024199, 2024200
EPA 351.2 Rev. 2.0 / E31780	Total Kjeldahl Nitrogen in aqueous matrices	2024197, 2024198, 2024199, 2024200
EPA 353.2 Rev. 2.0 / E31780	Nitrite/Nitrate in aqueous matrices as mg N/L	2024197, 2024198, 2024199, 2024200
EPA 365.1 Rev. 2.0 / E31780	Total Phosphorus in aqueous matrices as mg P/L	2024197, 2024198, 2024199, 2024200
EPA 365.1 Rev. 2.0 dissolved / E31780	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	2024201, 2024202, 2024203, 2024204
SM 2120 B / E31780	True Color measured at 450 nm	2024193, 2024194, 2024195, 2024196
SM 2320 B-97 / E31780	Alkalinity in aqueous matrices as mg CaCO ₃ /L	2024193, 2024194, 2024195, 2024196
SM 2540 C-97 / E31780	Total Dissolved Solids in aqueous matrices	2024193, 2024194, 2024195, 2024196
SM 2540 D-97 / E31780	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2024193, 2024194, 2024195, 2024196
SM 4500 F-C-97 / E31780	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2024193, 2024194, 2024195, 2024196
SM 5310 B-00 / E31780	Nonpurgeable Organic Carbon in aqueous matrices	2024197, 2024198, 2024199, 2024200

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	09/12/2018			09/12/2018 17:42	Megan Treadwell	2024193, 2024194, 2024195, 2024196
EPA 300.0 Rev. 2.1	09/12/2018			09/19/2018 00:21	Lipi Saha	2024193
	09/12/2018			09/19/2018 00:33	Lipi Saha	2024194
	09/12/2018			09/19/2018 00:45	Lipi Saha	2024195
	09/12/2018			09/19/2018 00:58	Lipi Saha	2024196
EPA 350.1 Rev. 2.0	09/12/2018			09/14/2018 11:14	Adrian Shelby	2024197
	09/12/2018			09/14/2018 12:25	Adrian Shelby	2024198
	09/12/2018			09/14/2018 12:29	Adrian Shelby	2024199
	09/12/2018			09/14/2018 12:31	Adrian Shelby	2024200
EPA 351.2 Rev. 2.0	09/12/2018	09/17/2018 15:30	Adrian Shelby	09/18/2018 11:21	Joseph Suarez	2024197
	09/12/2018	09/17/2018 15:30	Adrian Shelby	09/18/2018 11:23	Joseph Suarez	2024198
	09/12/2018	09/17/2018 15:30	Adrian Shelby	09/18/2018 11:25	Joseph Suarez	2024199
	09/12/2018	09/17/2018 15:30	Adrian Shelby	09/18/2018 11:26	Joseph Suarez	2024200
EPA 353.2 Rev. 2.0	09/12/2018			09/14/2018 11:59	Lauren Bottorf	2024197
	09/12/2018			09/14/2018 12:11	Lauren Bottorf	2024198
	09/12/2018			09/14/2018 12:12	Lauren Bottorf	2024199
	09/12/2018			09/14/2018 12:13	Lauren Bottorf	2024200
EPA 365.1 Rev. 2.0	09/12/2018	09/13/2018 15:36	Sima Feizi	09/14/2018 10:36	Beverly Y. Sanders	2024197
	09/12/2018	09/13/2018 15:36	Sima Feizi	09/14/2018 10:37	Beverly Y. Sanders	2024198
	09/12/2018	09/13/2018 15:36	Sima Feizi	09/14/2018 10:38	Beverly Y. Sanders	2024199
	09/12/2018	09/13/2018 15:36	Sima Feizi	09/14/2018 10:39	Beverly Y. Sanders	2024200
EPA 365.1 Rev. 2.0 dissolved	09/12/2018			09/12/2018 15:54	Julia Storbeck	2024201
	09/12/2018			09/12/2018 15:59	Julia Storbeck	2024202
	09/12/2018			09/12/2018 16:00	Julia Storbeck	2024203
	09/12/2018			09/12/2018 16:01	Julia Storbeck	2024204
SM 2120 B	09/12/2018			09/12/2018 15:54	DeAsia Armster	2024193
	09/12/2018			09/12/2018 15:55	DeAsia Armster	2024194
	09/12/2018			09/12/2018 15:56	DeAsia Armster	2024195
	09/12/2018			09/12/2018 16:21	DeAsia Armster	2024196
SM 2320 B-97	09/12/2018			09/13/2018 22:21	Dale L. Simmons	2024195
	09/12/2018			09/13/2018 23:43	Dale L. Simmons	2024193
	09/12/2018			09/13/2018 23:54	Dale L. Simmons	2024194
	09/12/2018			09/14/2018 00:04	Dale L. Simmons	2024196
SM 2540 C-97	09/12/2018			09/14/2018 15:32	Yijie Li	2024193, 2024194, 2024195, 2024196
SM 2540 D-97	09/12/2018			09/14/2018 15:32	Yijie Li	2024193, 2024194, 2024195, 2024196
SM 4500 F-C-97	09/12/2018			09/13/2018 22:13	Dale L. Simmons	2024195
	09/12/2018			09/13/2018 23:43	Dale L. Simmons	2024193
	09/12/2018			09/13/2018 23:54	Dale L. Simmons	2024194
	09/12/2018			09/14/2018 00:04	Dale L. Simmons	2024196
SM 5310 B-00	09/12/2018			09/18/2018 07:08	Megan Treadwell	2024197

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
SM 5310 B-00	09/12/2018			09/18/2018 07:20	Megan Treadwell	2024198
	09/12/2018			09/18/2018 07:32	Megan Treadwell	2024199
	09/12/2018			09/18/2018 08:09	Megan Treadwell	2024200