

Chemical Analysis Report

SW-DIST-2023-03-08-01

Florida DEP Laboratory
2600 Blair Stone Road
Tallahassee, FL 32399-2400
DOH Accreditation E31780

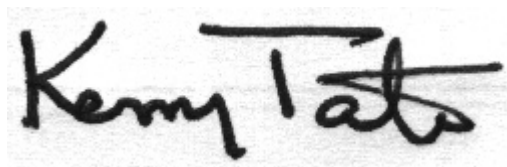
Event Description: **Run 5 - Polk Lakes**
Request ID: **RQ-2023-03-13-03**
Customer: **SW-DIST**
Project ID: **SMP**

Send Reports to:
FL Dept. of Environmental Protection
13051 N. Telecom Parkway
Temple Terrace, FL 33637-0926
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Certified by: Kerry Tate, Ph.D., Environmental Administrator

Date Certified: 29-MAR-2023 13:17

A handwritten signature in black ink that reads "Kerry Tate". The signature is written in a cursive, flowing style with a horizontal line extending from the end of the name.

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 by the Florida Department of Health Environmental Laboratory Certification Program 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 Whistler @ Center

Collection Date/Time: 03/07/2023 10:40

Field ID: G3SW0100

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2392889	DEP SOP: NU-094-1	Color (true)	13	A	PCU	P426886	
	EPA 180.1 Rev. 2.0	Turbidity	3.0		NTU	P426877	
	EPA 300.0 Rev. 2.1	Chloride	32		mg Cl/L	P427504	
		Sulfate	34		mg SO4/L	P427506	
	SM 2320 B-2011	Total Alkalinity	22	A	mg CaCO3/L	P427035	
	SM 2540 C-2015	TDS	124		mg/L	P427448	
	SM 2540 D-2015	TSS	2	I	mg/L	P427486	
	SM 4500-F- C-2011	Fluoride	0.19		mg F/L	P427162	
		Ammonia-N	0.005		mg N/L	P426949	
		Kjeldahl Nitrogen	0.65		mg N/L	P427158	
2392892	EPA 350.1 Rev. 2.0	Ammonia-N	0.005	I	mg N/L	P427125	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.65		mg N/L	P427158	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.005		mg N/L	P427125	
	EPA 365.1 Rev. 2.0	Total-P	0.020		mg P/L	P427221	
	SM 5310 B-2011	Organic Carbon	6.3		mg C/L	P427111	

Sample Location: FB

Collection Date/Time: 03/07/2023 10:30

Field ID: FB_03072023

Matrix: W-FIELD-BK

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2392890	DEP SOP: NU-094-1	Color (true)	2.5	U	PCU	P426886	
	EPA 180.1 Rev. 2.0	Turbidity	0.10	U	NTU	P426877	
	EPA 300.0 Rev. 2.1	Chloride	0.20	U	mg Cl/L	P427504	
		Sulfate	0.20	U	mg SO4/L	P427506	
	SM 2320 B-2011	Total Alkalinity	0.65	U	mg CaCO3/L	P427114	
	SM 2540 C-2015	TDS	15	U	mg/L	P427448	
	SM 2540 D-2015	TSS	2	U	mg/L	P427486	
	SM 4500-F- C-2011	Fluoride	0.025	U	mg F/L	P427294	
2392893	EPA 350.1 Rev. 2.0	Ammonia-N	0.002	U	mg N/L	P426949	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.080	U	mg N/L	P427158	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P427126	
	EPA 365.1 Rev. 2.0	Total-P	0.002	U	mg P/L	P427221	
	SM 5310 B-2011	Organic Carbon	0.50	U	mg C/L	P427111	

Sample Location: Lake Ida @ Center

Collection Date/Time: 03/07/2023 11:40

Field ID: G3SW0043

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2392891	DEP SOP: NU-094-1	Color (true)	25		PCU	P426886	
	EPA 180.1 Rev. 2.0	Turbidity	2.5	A	NTU	P426879	
	EPA 300.0 Rev. 2.1	Chloride	35		mg Cl/L	P427505	
		Sulfate	20		mg SO4/L	P427507	
	SM 2320 B-2011	Total Alkalinity	76		mg CaCO3/L	P427114	
	SM 2540 C-2015	TDS	176		mg/L	P427448	
	SM 2540 D-2015	TSS	5	I	mg/L	P427486	
	SM 4500-F- C-2011	Fluoride	0.14		mg F/L	P427294	
2392894	EPA 350.1 Rev. 2.0	Ammonia-N	0.004	I	mg N/L	P426949	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.84		mg N/L	P427158	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P427126	
	EPA 365.1 Rev. 2.0	Total-P	0.053		mg P/L	P427221	
	SM 5310 B-2011	Organic Carbon	8.6		mg C/L	P427111	

Quality Assurance Report Method Blank Results

Reference Method: DEP SOP: NU-094-1
Batch ID: P426886

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P426877

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P426879

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P427504

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P427505

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P427506

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P427507

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P426949

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P427158

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

Quality Assurance Report Method Blank Results

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P427125

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P427126

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P427221

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

Reference Method: SM 2320 B-2011
Batch ID: P427035

Component	Result	Code	Units
Total Alkalinity	0.65	U	mg CaCO3/L

Reference Method: SM 2320 B-2011
Batch ID: P427114

Component	Result	Code	Units
Total Alkalinity	0.65	U	mg CaCO3/L

Reference Method: SM 2540 C-2015
Batch ID: P427448

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-2015
Batch ID: P427486

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500-F- C-2011
Batch ID: P427162

Component	Result	Code	Units
Fluoride	0.025	U	mg F/L

Reference Method: SM 4500-F- C-2011
Batch ID: P427294

Component	Result	Code	Units
Fluoride	0.025	U	mg F/L

Quality Assurance Report

Method Blank Results

Reference Method: SM 5310 B-2011
Batch ID: P427111

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

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: DEP SOP: NU-094-1
Batch ID: P426886

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Color (true)	97.5		P	90 - 110

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P426877

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

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P426879

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P427504

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Chloride	99.7		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P427505

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P427506

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Sulfate	99.4		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P427507

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P426949

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P427158

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

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P427125

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P427126

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P427221

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

Reference Method: SM 2320 B-2011
Batch ID: P427035

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	95.1		P	94 - 106

Reference Method: SM 2320 B-2011
Batch ID: P427114

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	96.4		P	94 - 106

Reference Method: SM 2540 C-2015
Batch ID: P427448

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
TDS	97.4		P	90 - 110

Reference Method: SM 2540 D-2015
Batch ID: P427486

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
TSS	102		P	85 - 106

Reference Method: SM 4500-F- C-2011
Batch ID: P427162

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	99.8		P	96 - 104

Reference Method: SM 4500-F- C-2011
Batch ID: P427294

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	97.7		P	96 - 104

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: SM 5310 B-2011
Batch ID: P427111

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	95.4		P	85 - 115

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P427504

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2392734	Chloride	99.4		P	90 - 110
2392735	Chloride	98.2		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P427505

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2392998	Chloride	102		P	90 - 110
2393134	Chloride	99.9		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P427506

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2392734	Sulfate	98.5		P	90 - 110
2392735	Sulfate	95.6		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P427507

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2392998	Sulfate	100		P	90 - 110
2393134	Sulfate	98.6		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P426949

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2392846	Ammonia-N	97.2	97.2	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P427158

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2393191	Kjeldahl Nitrogen	105	97.7	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P427125

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2392736	NO2NO3-N	90.5		P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P427126

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2392894	NO2NO3-N	101	97.0	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P427221

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
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Quality Assurance Report

Matrix Spike Accuracy

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P427221

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2392892	Total-P	101	101	P/P	90 - 110

Reference Method: SM 4500-F- C-2011
Batch ID: P427162

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2392889	Fluoride	100	101	P/P	94 - 104

Reference Method: SM 4500-F- C-2011
Batch ID: P427294

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2393167	Fluoride	98.5	99.3	P/P	94 - 104

Reference Method: SM 5310 B-2011
Batch ID: P427111

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2393017	Organic Carbon	95.4	98.0	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: DEP SOP: NU-094-1
Batch ID: P426886

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2392889	Color (true)	3.46	Sample	P	0 - 20

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P426877

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2392733	Turbidity	0.247	Sample	P	0 - 20

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P426879

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2392891	Turbidity	0.810	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P427504

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2392734	Chloride	0.499	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P427505

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2392998	Chloride	1.08	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P427506

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2392734	Sulfate	0.920	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P427507

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2392998	Sulfate	1.46	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P426949

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2392846	Ammonia-N	0.0	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P427158

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2393191	Kjeldahl Nitrogen	4.38	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P427125

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2392736	NO2NO3-N	0.195	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P427126

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2392894	NO2NO3-N	4.04	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P427221

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2392892	Total-P	0.759	Spike	P	0 - 20

Reference Method: SM 2320 B-2011
Batch ID: P427035

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2392889	Total Alkalinity	0.840	Sample	P	0 - 3.8

Reference Method: SM 2320 B-2011
Batch ID: P427114

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2393556	Total Alkalinity	0.490	Sample	P	0 - 3.8

Reference Method: SM 2540 C-2015
Batch ID: P427448

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2392735	TDS	1.57	Sample	P	0 - 10

Reference Method: SM 2540 D-2015
Batch ID: P427486

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2392735	TSS	6.90	Sample	P	0 - 10

Quality Assurance Report Precision

Reference Method: SM 4500-F- C-2011
Batch ID: P427162

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2392889	Fluoride	0.467	Spike	P	0 - 1.6

Reference Method: SM 4500-F- C-2011
Batch ID: P427294

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2393167	Fluoride	0.524	Spike	P	0 - 1.6

Reference Method: SM 5310 B-2011
Batch ID: P427111

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2393017	Organic Carbon	2.09	Spike	P	0 - 20

* Sample, spike and/or laboratory control sample precision (LCS) is reported.

Quality Assurance Report Calibration Verification

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A117876

Included Lab Sample IDs: 2392889, 2392890, 2392891

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Turbidity	100	101	P/P	95 - 105
Turbidity	101	101	P/P	95 - 105

Reference Method: DEP SOP: NU-094-1

Run ID: A117877

Included Lab Sample IDs: 2392889, 2392890, 2392891

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	96.7	96.3	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A117903

Included Lab Sample IDs: 2392892, 2392893, 2392894

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	99.6	99.2	P/P	90 - 110

Reference Method: SM 2320 B-2011

Run ID: A117948

Included Lab Sample IDs: 2392889

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	94.0	96.8	P/P	90 - 110

Reference Method: SM 2320 B-2011

Run ID: A117971

Included Lab Sample IDs: 2392890, 2392891

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	93.7	95.9	P/P	90 - 110
Total Alkalinity	95.9	95.3	P/P	90 - 110

Reference Method: SM 5310 B-2011

Run ID: A117973

Included Lab Sample IDs: 2392892, 2392893, 2392894

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	94.8	97.0	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A117976

Included Lab Sample IDs: 2392892, 2392893, 2392894

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	102	99.5	P/P	90 - 110
NO2NO3-N	99.5	101	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: SM 4500-F- C-2011

Run ID: A117988

Included Lab Sample IDs: 2392889

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

Reference Method: SM 4500-F- C-2011

Run ID: A118053

Included Lab Sample IDs: 2392890, 2392891

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: A118054

Included Lab Sample IDs: 2392894

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	99.2	99.7	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A118064

Included Lab Sample IDs: 2392892, 2392893

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	99.0	98.8	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A118079

Included Lab Sample IDs: 2392892, 2392893, 2392894

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	95.4	95.8	P/P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A118124

Included Lab Sample IDs: 2392889, 2392890, 2392891

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	98.6	97.3	P/P	90 - 110
Chloride	99.2	98.6	P/P	90 - 110
Sulfate	100	99.3	P/P	90 - 110
Sulfate	99.3	98.3	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	
						SMP	MS
DEP SOP: NU-094-1	Color (true)	97.5				3.46	
EPA 180.1 Rev. 2.0	Turbidity	100				0.247	
	Turbidity	101				0.810	
EPA 300.0 Rev. 2.1	Chloride	99.7	99.4	98.2		0.499	
	Chloride	101	102	99.9		1.08	
	Sulfate	99.4	98.5	95.6		0.920	
	Sulfate	101	100	98.6		1.46	
EPA 350.1 Rev. 2.0	Ammonia-N	100	97.2	97.2			0.0
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	104	105	97.7			4.38
EPA 353.2 Rev. 2.0	NO2NO3-N	102	90.5				0.195
	NO2NO3-N	100	101	97.0			4.04
EPA 365.1 Rev. 2.0	Total-P	101	101	101			0.759
SM 2320 B-2011	Total Alkalinity	95.1				0.840	
	Total Alkalinity	96.4				0.490	
SM 2540 C-2015	TDS	97.4				1.57	
SM 2540 D-2015	TSS	102				6.90	
SM 4500-F- C-2011	Fluoride	99.8	100	101			0.467
	Fluoride	97.7	98.5	99.3			0.524
SM 5310 B-2011	Organic Carbon	95.4	95.4	98.0			2.09

Reference Method Descriptions

Method	Description	Associated Samples
DEP SOP: NU-094-1	True Color measured at 450 nm (not valid for NPDES monitoring)	2392889, 2392890, 2392891
EPA 180.1 Rev. 2.0	Turbidity in aqueous matrices	2392889, 2392890, 2392891
EPA 300.0 Rev. 2.1	Chloride in aqueous matrices	2392889, 2392890, 2392891
EPA 300.0 Rev. 2.1	Sulfate in aqueous matrices	2392889, 2392890, 2392891
EPA 350.1 Rev. 2.0	Ammonia in aqueous matrices as mg N/L	2392892, 2392893, 2392894
EPA 351.2 Rev. 2.0	Total Kjeldahl Nitrogen in aqueous matrices	2392892, 2392893, 2392894
EPA 353.2 Rev. 2.0	Nitrite/Nitrate in aqueous matrices as mg N/L	2392892, 2392893, 2392894
EPA 365.1 Rev. 2.0	Total Phosphorus in aqueous matrices as mg P/L	2392892, 2392893, 2392894
SM 2320 B-2011	Alkalinity in aqueous matrices as mg CaCO3/L	2392889, 2392890, 2392891
SM 2540 C-2015	Total Dissolved Solids in aqueous matrices	2392889, 2392890, 2392891
SM 2540 D-2015	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2392889, 2392890, 2392891
SM 4500-F- C-2011	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2392889, 2392890, 2392891
SM 5310 B-2011	Nonpurgeable Organic Carbon in aqueous matrices	2392892, 2392893, 2392894

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
DEP SOP: NU-094-1	03/08/2023			03/08/2023 15:07	Samantha L Bates	2392889, 2392890
	03/08/2023			03/08/2023 15:08	Samantha L Bates	2392891
	03/08/2023			03/08/2023 14:27	Anna M. Plaviak	2392889
EPA 180.1 Rev. 2.0	03/08/2023			03/08/2023 14:28	Anna M. Plaviak	2392890
	03/08/2023			03/08/2023 14:37	Anna M. Plaviak	2392891
	03/08/2023			03/21/2023 18:14	Anna M. Plaviak	2392889
EPA 300.0 Rev. 2.1	03/08/2023			03/21/2023 18:29	Anna M. Plaviak	2392890
	03/08/2023			03/21/2023 21:27	Anna M. Plaviak	2392891
	03/08/2023			03/09/2023 14:06	Khloe J Berg	2392892
EPA 350.1 Rev. 2.0	03/08/2023			03/09/2023 14:08	Khloe J Berg	2392893
	03/08/2023			03/09/2023 14:09	Khloe J Berg	2392894
	03/08/2023	03/15/2023 13:00	Simonne.V. Calhoun	03/20/2023 11:22	Samantha L Bates	2392892
EPA 351.2 Rev. 2.0	03/08/2023	03/15/2023 13:00	Simonne.V. Calhoun	03/20/2023 11:23	Samantha L Bates	2392893
	03/08/2023	03/15/2023 13:00	Simonne.V. Calhoun	03/20/2023 11:25	Samantha L Bates	2392894
	03/08/2023			03/14/2023 09:54	Beverly Y. Sanders	2392892
EPA 353.2 Rev. 2.0	03/08/2023			03/14/2023 10:02	Beverly Y. Sanders	2392894
	03/08/2023			03/14/2023 10:07	Beverly Y. Sanders	2392893
	03/08/2023	03/16/2023 16:36	Adam P Silver	03/17/2023 11:16	Simonne.V. Calhoun	2392894
EPA 365.1 Rev. 2.0	03/08/2023	03/16/2023 16:36	Adam P Silver	03/17/2023 16:05	James L Waggeberby	2392893
	03/08/2023	03/16/2023 16:36	Adam P Silver	03/17/2023 16:07	James L Waggeberby	2392892
	03/08/2023			03/11/2023 07:00	Dale L. Simmons	2392889
SM 2320 B-2011	03/08/2023			03/14/2023 01:37	Chandler E Cox	2392890
	03/08/2023			03/14/2023 02:27	Chandler E Cox	2392891
	03/08/2023			03/13/2023 16:21	Yijie Li	2392889, 2392890, 2392891
SM 2540 C-2015	03/08/2023			03/13/2023 16:21	Yijie Li	2392889, 2392890, 2392891
SM 4500-F- C-2011	03/08/2023			03/14/2023 21:30	Dale L. Simmons	2392889
	03/08/2023			03/16/2023 21:41	Dale L. Simmons	2392890
	03/08/2023			03/16/2023 21:46	Dale L. Simmons	2392891
SM 5310 B-2011	03/08/2023			03/13/2023 19:58	Elise M. Gillis	2392892
	03/08/2023			03/13/2023 20:16	Elise M. Gillis	2392893
	03/08/2023			03/13/2023 20:35	Elise M. Gillis	2392894