

Chemical Analysis Report

SW-DIST-2023-01-10-01

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

Event Description: **Run 2**
Request ID: **RQ-2023-01-09-27**
Customer: **SW-DIST**
Project ID: **SMP**

Send Reports to:
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: Kerry Tate, Ph.D., Environmental Administrator

Date Certified: 02-FEB-2023 15:00

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 Lindsay @ Center

Collection Date/Time: 01/09/2023 10:35

Field ID: G4SW0124

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2379220	DEP SOP: NU-094-1	Color (true)	47	A	PCU	P424358	
	EPA 180.1 Rev. 2.0	Turbidity	0.60	I	NTU	P424362	
	EPA 300.0 Rev. 2.1	Chloride	5.2		mg Cl/L	P424624	
		Sulfate	0.20	U	mg SO4/L	P424627	
	SM 2320 B-2011	Total Alkalinity	8.8		mg CaCO3/L	P424709	
	SM 2540 C-2015	TDS	41		mg/L	P424910	
	SM 2540 D-2015	TSS	2	I	mg/L	P424819	
	SM 4500-F- C-2011	Fluoride	0.045	I	mg F/L	P425151	
2379223	EPA 350.1 Rev. 2.0	Ammonia-N	0.042		mg N/L	P424565	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.78		mg N/L	P424388	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.011		mg N/L	P424606	
	EPA 365.1 Rev. 2.0	Total-P	0.022		mg P/L	P424440	
	SM 5310 B-2011	Organic Carbon	8.9		mg C/L	P424545	
2379226	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P424364	

Ref. Method and Comment:

SM 2540 D-2015: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.

Sample Location: McKethan Lake

Collection Date/Time: 01/09/2023 11:40

Field ID: G4SW0021

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2379221	DEP SOP: NU-094-1	Color (true)	27	A	PCU	P424359	
	EPA 180.1 Rev. 2.0	Turbidity	3.2		NTU	P424362	
	EPA 300.0 Rev. 2.1	Chloride	2.8		mg Cl/L	P424624	
		Sulfate	0.20	U	mg SO4/L	P424627	
	SM 2320 B-2011	Total Alkalinity	8.3		mg CaCO3/L	P424709	
	SM 2540 C-2015	TDS	27		mg/L	P424910	
	SM 2540 D-2015	TSS	4	I	mg/L	P424819	
	SM 4500-F- C-2011	Fluoride	0.041	I	mg F/L	P425151	
2379224	EPA 350.1 Rev. 2.0	Ammonia-N	0.30		mg N/L	P424565	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.4		mg N/L	P424388	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.019		mg N/L	P424606	
	EPA 365.1 Rev. 2.0	Total-P	0.038		mg P/L	P424440	
	SM 5310 B-2011	Organic Carbon	6.9		mg C/L	P424545	
2379227	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P424364	

Ref. Method and Comment:

SM 2540 D-2015: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.

Sample Location: Sparkman Lake @ Center

Collection Date/Time: 01/09/2023 13:30

Field ID: G4SW0114

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2379222	DEP SOP: NU-094-1	Color (true)	250		PCU	P424359	
	EPA 180.1 Rev. 2.0	Turbidity	1.3		NTU	P424362	
	EPA 300.0 Rev. 2.1	Chloride	14		mg Cl/L	P424624	
		Sulfate	0.80		mg SO4/L	P424627	
	SM 2320 B-2011	Total Alkalinity	12		mg CaCO3/L	P424709	
	SM 2540 C-2015	TDS	88		mg/L	P424910	
	SM 2540 D-2015	TSS	2	I	mg/L	P424819	
2379225	SM 4500-F- C-2011	Fluoride	0.078	I	mg F/L	P425151	
	EPA 350.1 Rev. 2.0	Ammonia-N	0.005	I	mg N/L	P424565	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.93		mg N/L	P424390	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P424606	
	EPA 365.1 Rev. 2.0	Total-P	0.081		mg P/L	P424440	
2379228	SM 5310 B-2011	Organic Carbon	24		mg C/L	P424546	
	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.051		mg P/L	P424365	

Ref. Method and Comment:

SM 2540 D-2015: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.

Quality Assurance Report Method Blank Results

Reference Method: DEP SOP: NU-094-1
Batch ID: P424358

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: DEP SOP: NU-094-1
Batch ID: P424359

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P424362

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P424624

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P424627

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P424565

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P424388

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P424390

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P424606

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

Quality Assurance Report Method Blank Results

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P424440

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P424364

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P424365

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

Reference Method: SM 2320 B-2011
Batch ID: P424709

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

Reference Method: SM 2540 C-2015
Batch ID: P424910

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-2015
Batch ID: P424819

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500-F- C-2011
Batch ID: P425151

Component	Result	Code	Units
Fluoride	0.025	U	mg F/L

Reference Method: SM 5310 B-2011
Batch ID: P424545

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

Reference Method: SM 5310 B-2011
Batch ID: P424546

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: P424358

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Color (true)	102		P	90 - 110

Reference Method: DEP SOP: NU-094-1
Batch ID: P424359

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Color (true)	101		P	90 - 110

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P424362

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P424624

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Chloride	98.7		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P424627

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P424565

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: P424388

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P424390

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P424606

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
NO2NO3-N	93.5		P	90 - 110

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P424440

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P424364

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P424365

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

Reference Method: SM 2320 B-2011
Batch ID: P424709

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	96.1		P	94 - 106

Reference Method: SM 2540 C-2015
Batch ID: P424910

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
TDS	105		P	90 - 110

Reference Method: SM 2540 D-2015
Batch ID: P424819

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
TSS	98.1		P	85 - 106

Reference Method: SM 4500-F- C-2011
Batch ID: P425151

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

Reference Method: SM 5310 B-2011
Batch ID: P424545

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	97.6		P	85 - 115

Reference Method: SM 5310 B-2011
Batch ID: P424546

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	97.8		P	85 - 115

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P424624

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2379138	Chloride	95.1		P	90 - 110
2379142	Chloride	95.2		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P424627

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2379138	Sulfate	98.2		P	90 - 110
2379142	Sulfate	97.6		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P424565

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2379225	Ammonia-N	97.8	98.0	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P424388

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2378949	Kjeldahl Nitrogen	103	98.4	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P424390

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2379146	Kjeldahl Nitrogen	95.1	93.5	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P424606

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2379178	NO2NO3-N	96.8		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P424440

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2379202	Total-P	103	108	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P424364

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2378950	O-Phosphate-P	93.8	94.2	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P424365

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2379228	O-Phosphate-P	99.3	98.8	P/P	90 - 110

Quality Assurance Report

Matrix Spike Accuracy

Reference Method: SM 4500-F- C-2011
Batch ID: P425151

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2379229	Fluoride	98.8	99.4	P/P	94 - 104

Reference Method: SM 5310 B-2011
Batch ID: P424545

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2379122	Organic Carbon	96.8	97.2	P/P	85 - 115

Reference Method: SM 5310 B-2011
Batch ID: P424546

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2379689	Organic Carbon	100		P	85 - 115

Quality Assurance Report Precision

Reference Method: DEP SOP: NU-094-1
Batch ID: P424358

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2379220	Color (true)	0.0907	Sample	P	0 - 20

Reference Method: DEP SOP: NU-094-1
Batch ID: P424359

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2379221	Color (true)	1.61	Sample	P	0 - 20

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P424362

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2379173	Turbidity	4.65	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P424624

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2379138	Chloride	0.271	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P424627

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2379138	Sulfate	1.34	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P424565

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2379225	Ammonia-N	0.186	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P424388

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2378949	Kjeldahl Nitrogen	2.74	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P424390

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2379146	Kjeldahl Nitrogen	1.00	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 353.2 Rev. 2.0

Batch ID: P424606

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2379178	NO2NO3-N	0.585	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0

Batch ID: P424440

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2379202	Total-P	4.02	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Batch ID: P424364

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2378950	O-Phosphate-P	0.426	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Batch ID: P424365

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2379228	O-Phosphate-P	0.332	Spike	P	0 - 20

Reference Method: SM 2320 B-2011

Batch ID: P424709

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2379739	Total Alkalinity	1.55	Sample	P	0 - 3.8

Reference Method: SM 2540 C-2015

Batch ID: P424910

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2378760	TDS	0.342	Sample	P	0 - 10

Reference Method: SM 4500-F- C-2011

Batch ID: P425151

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2379229	Fluoride	0.487	Spike	P	0 - 1.6

Reference Method: SM 5310 B-2011

Batch ID: P424545

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2379122	Organic Carbon	0.256	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: SM 5310 B-2011
Batch ID: P424546

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2379689	Organic Carbon	0.385	Spike	P	0 - 20

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

Quality Assurance Report Calibration Verification

Reference Method: DEP SOP: NU-094-1

Run ID: A116827

Included Lab Sample IDs: 2379220, 2379221

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	100	101	P/P	90 - 110
Color (true)	101	100	P/P	90 - 110

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A116828

Included Lab Sample IDs: 2379220, 2379221, 2379222

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

Reference Method: DEP SOP: NU-094-1

Run ID: A116829

Included Lab Sample IDs: 2379222

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	101	99.3	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Run ID: A116831

Included Lab Sample IDs: 2379226, 2379227, 2379228

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	99.1	100	P/P	90 - 110
O-Phosphate-P	99.9	99.1	P/P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A116833

Included Lab Sample IDs: 2379220, 2379221, 2379222

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	98.8	99.0	P/P	90 - 110
Sulfate	98.9	99.3	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A116891

Included Lab Sample IDs: 2379225

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

Reference Method: SM 5310 B-2011

Run ID: A116895

Included Lab Sample IDs: 2379223, 2379224, 2379225

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	99.0	99.5	P/P	90 - 110
Organic Carbon	99.6	99.0	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A116899

Included Lab Sample IDs: 2379223, 2379224

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

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A116902

Included Lab Sample IDs: 2379223, 2379224, 2379225

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	98.9	98.8	P/P	90 - 110
Ammonia-N	99.0	98.4	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A116920

Included Lab Sample IDs: 2379223, 2379224, 2379225

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	104	93.5	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A116926

Included Lab Sample IDs: 2379223, 2379224, 2379225

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	104	100	P/P	90 - 110
Kjeldahl Nitrogen	99.1	102	P/P	90 - 110

Reference Method: SM 2320 B-2011

Run ID: A116966

Included Lab Sample IDs: 2379220, 2379221, 2379222

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	95.5	97.3	P/P	90 - 110
Total Alkalinity	96.7	95.5	P/P	90 - 110

Reference Method: SM 4500-F- C-2011

Run ID: A117157

Included Lab Sample IDs: 2379220, 2379221, 2379222

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	101	104	P/P	90 - 110
Fluoride	104	101	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	
DEP SOP: NU-094-1	Color (true)	102				0.0907	
	Color (true)	101				1.61	
EPA 180.1 Rev. 2.0	Turbidity	101				4.65	
EPA 300.0 Rev. 2.1	Chloride	98.7	95.1	95.2		0.271	
	Sulfate	99.0	98.2	97.6		1.34	
EPA 350.1 Rev. 2.0	Ammonia-N	98.8	97.8	98.0			0.186
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	104	103	98.4			2.74
	Kjeldahl Nitrogen	105	95.1	93.5			1.00
EPA 353.2 Rev. 2.0	NO2NO3-N	93.5	96.8				0.585
EPA 365.1 Rev. 2.0	Total-P	108	103	108			4.02
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	98.9	93.8	94.2			0.426
	O-Phosphate-P	98.8	99.3	98.8			0.332
SM 2320 B-2011	Total Alkalinity	96.1				1.55	
SM 2540 C-2015	TDS	105				0.342	
SM 2540 D-2015	TSS	98.1					
SM 4500-F- C-2011	Fluoride	99.8	98.8	99.4			0.487
SM 5310 B-2011	Organic Carbon	97.6	96.8	97.2			0.256
	Organic Carbon	97.8	100				0.385

Reference Method Descriptions

Method	Description	Associated Samples
DEP SOP: NU-094-1	True Color measured at 450 nm (not valid for NPDES monitoring)	2379220, 2379221, 2379222
EPA 180.1 Rev. 2.0	Turbidity in aqueous matrices	2379220, 2379221, 2379222
EPA 300.0 Rev. 2.1	Chloride in aqueous matrices	2379220, 2379221, 2379222
EPA 300.0 Rev. 2.1	Sulfate in aqueous matrices	2379220, 2379221, 2379222
EPA 350.1 Rev. 2.0	Ammonia in aqueous matrices as mg N/L	2379223, 2379224, 2379225
EPA 351.2 Rev. 2.0	Total Kjeldahl Nitrogen in aqueous matrices	2379223, 2379224, 2379225
EPA 353.2 Rev. 2.0	Nitrite/Nitrate in aqueous matrices as mg N/L	2379223, 2379224, 2379225
EPA 365.1 Rev. 2.0	Total Phosphorus in aqueous matrices as mg P/L	2379223, 2379224, 2379225
EPA 365.1 Rev. 2.0 dissolved	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	2379226, 2379227, 2379228
SM 2320 B-2011	Alkalinity in aqueous matrices as mg CaCO3/L	2379220, 2379221, 2379222
SM 2540 C-2015	Total Dissolved Solids in aqueous matrices	2379220, 2379221, 2379222
SM 2540 D-2015	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2379220, 2379221, 2379222
SM 4500-F- C-2011	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2379220, 2379221, 2379222
SM 5310 B-2011	Nonpurgeable Organic Carbon in aqueous matrices	2379223, 2379224, 2379225

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	01/10/2023			01/10/2023 15:18	Samantha L Bates	2379220
	01/10/2023			01/10/2023 15:21	Samantha L Bates	2379221
	01/10/2023			01/10/2023 16:15	Samantha L Bates	2379222
EPA 180.1 Rev. 2.0	01/10/2023			01/10/2023 14:21	Khloe J Berg	2379220
	01/10/2023			01/10/2023 14:22	Khloe J Berg	2379221
	01/10/2023			01/10/2023 14:23	Khloe J Berg	2379222
EPA 300.0 Rev. 2.1	01/10/2023			01/13/2023 17:25	Anna M. Plaviak	2379220
	01/10/2023			01/13/2023 17:40	Anna M. Plaviak	2379221
	01/10/2023			01/13/2023 17:55	Anna M. Plaviak	2379222
EPA 350.1 Rev. 2.0	01/10/2023			01/13/2023 13:38	Ping Hua	2379225
	01/10/2023			01/13/2023 13:49	Ping Hua	2379223
	01/10/2023			01/13/2023 15:21	Ping Hua	2379224
EPA 351.2 Rev. 2.0	01/10/2023	01/11/2023 13:19	Samantha L Bates	01/17/2023 12:28	Samantha L Bates	2379223
	01/10/2023	01/11/2023 13:19	Samantha L Bates	01/17/2023 12:30	Samantha L Bates	2379224
	01/10/2023	01/11/2023 13:19	Samantha L Bates	01/17/2023 12:56	Samantha L Bates	2379225
EPA 353.2 Rev. 2.0	01/10/2023			01/17/2023 10:50	Beverly Y. Sanders	2379223
	01/10/2023			01/17/2023 10:52	Beverly Y. Sanders	2379224
	01/10/2023			01/17/2023 10:53	Beverly Y. Sanders	2379225
EPA 365.1 Rev. 2.0	01/10/2023	01/12/2023 15:28	Adam P Silver	01/13/2023 10:49	James L Waggeberby	2379225
	01/10/2023	01/12/2023 15:28	Adam P Silver	01/13/2023 14:38	James L Waggeberby	2379223
	01/10/2023	01/12/2023 15:28	Adam P Silver	01/13/2023 14:39	James L Waggeberby	2379224
EPA 365.1 Rev. 2.0 dissolved	01/10/2023			01/10/2023 16:40	Elise M. Gillis	2379226
	01/10/2023			01/10/2023 16:41	Elise M. Gillis	2379227
	01/10/2023			01/10/2023 16:50	Elise M. Gillis	2379228
SM 2320 B-2011	01/10/2023			01/19/2023 06:00	Adam P Silver	2379220
	01/10/2023			01/19/2023 06:12	Adam P Silver	2379221
	01/10/2023			01/19/2023 06:53	Adam P Silver	2379222
SM 2540 C-2015	01/10/2023			01/13/2023 16:42	Yijie Li	2379220, 2379221, 2379222
SM 2540 D-2015	01/10/2023			01/13/2023 16:42	Yijie Li	2379220, 2379221, 2379222
SM 4500-F- C-2011	01/10/2023			01/28/2023 08:51	Dale L. Simmons	2379220
	01/10/2023			01/28/2023 09:31	Dale L. Simmons	2379221
	01/10/2023			01/28/2023 09:37	Dale L. Simmons	2379222
SM 5310 B-2011	01/10/2023			01/12/2023 22:37	Khloe J Berg	2379223
	01/10/2023			01/12/2023 22:51	Khloe J Berg	2379224
	01/10/2023			01/13/2023 01:12	Khloe J Berg	2379225