Chemical Analysis Report

SW-DIST-2022-09-15-01

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

Event Description: **Run 13**
Request ID: **RQ-2022-09-19-60**
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
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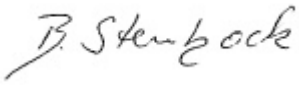
Certified by: Dr. rer. nat. Bettina Steinbock, Environmental Administrator Date Certified: 04-OCT-2022 17:20



NON-CONFORMANCE REPORT INCLUDED

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: 09/14/2022 10:30**

Field ID: G3SW0100 Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2356919	DEP SOP: NU-094-1	Color (true)	15		PCU	P419686	
	EPA 180.1 Rev. 2.0	Turbidity	2.8		NTU	P419658	
	EPA 300.0 Rev. 2.1	Chloride	31		mg Cl/L	P420088	
		Sulfate	33		mg SO4/L	P420093	
	SM 2320 B-2011	Total Alkalinity	18	Q	mg CaCO3/L	P420275	
	SM 2540 C-2011	TDS	118		mg/L	P419891	
	SM 2540 D-2011	TSS	3	I	mg/L	P419847	
	SM 4500-F- C-2011	Fluoride	0.20		mg F/L	P420214	MS
2356922	EPA 350.1 Rev. 2.0	Ammonia-N	0.004	I	mg N/L	P420111	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.75		mg N/L	P419873	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P420320	
	EPA 365.1 Rev. 2.0	Total-P	0.020		mg P/L	P419834	
	SM 5310 B-2011	Organic Carbon	6.2		mg C/L	P419800	
2356925	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P419655	

Ref. Method and Comment:
SM 2320 B-2011: The sample was analyzed out of holding time because of analytical difficulties.
SM 2540 D-2011: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.

Sample Location: Lake Van @ Center **Collection Date/Time: 09/14/2022 11:30**

Field ID: G4SW0106 Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2356920	DEP SOP: NU-094-1	Color (true)	50		PCU	P419686	
	EPA 180.1 Rev. 2.0	Turbidity	3.6		NTU	P419658	
	EPA 300.0 Rev. 2.1	Chloride	22		mg Cl/L	P420088	
		Sulfate	14		mg SO4/L	P420093	
	SM 2320 B-2011	Total Alkalinity	32	Q	mg CaCO3/L	P420275	
	SM 2540 C-2011	TDS	122		mg/L	P419891	
	SM 2540 D-2011	TSS	6	I	mg/L	P419847	
	SM 4500-F- C-2011	Fluoride	0.26		mg F/L	P420214	MS
2356923	EPA 350.1 Rev. 2.0	Ammonia-N	0.005		mg N/L	P420111	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.1		mg N/L	P419874	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P420320	
	EPA 365.1 Rev. 2.0	Total-P	0.052		mg P/L	P419834	
	SM 5310 B-2011	Organic Carbon	11		mg C/L	P419800	
2356926	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P419655	

Ref. Method and Comment:
SM 2320 B-2011: The sample was analyzed out of holding time because of analytical difficulties.
SM 2540 D-2011: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.

Sample Location: Lake Ida @ Center **Collection Date/Time: 09/14/2022 12:20**

Field ID: G3SW0043 Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2356921	DEP SOP: NU-094-1	Color (true)	28	A	PCU	P419687	
	EPA 180.1 Rev. 2.0	Turbidity	0.75	I	NTU	P419658	
	EPA 300.0 Rev. 2.1	Chloride	28		mg Cl/L	P420088	
		Sulfate	15		mg SO4/L	P420093	
	SM 2320 B-2011	Total Alkalinity	80	Q	mg CaCO3/L	P420275	
	SM 2540 C-2011	TDS	148		mg/L	P419891	
	SM 2540 D-2011	TSS	2	I	mg/L	P419847	
	SM 4500-F- C-2011	Fluoride	0.13		mg F/L	P420214	MS
2356924	EPA 350.1 Rev. 2.0	Ammonia-N	0.020	Y	mg N/L	P420111	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.82	Y	mg N/L	P419874	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.016	Y	mg N/L	P420162	
	EPA 365.1 Rev. 2.0	Total-P	0.042	Y	mg P/L	P419838	
	SM 5310 B-2011	Organic Carbon	8.4	Y	mg C/L	P419800	
2356927	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P419655	

Ref. Method and Comment:
SM 2320 B-2011: The sample was analyzed out of holding time because of analytical difficulties.
SM 2540 D-2011: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.
EPA 350.1 Rev. 2.0: The sample was received unpreserved: pH > 2. Sample preserved in laboratory.
EPA 351.2 Rev. 2.0: The sample was received unpreserved: pH > 2. Sample preserved in laboratory.
EPA 353.2 Rev. 2.0: The sample was received unpreserved: pH > 2. Sample preserved in laboratory.
EPA 365.1 Rev. 2.0: Total-P: The sample was received unpreserved: pH > 2. Sample preserved in laboratory.
SM 5310 B-2011: The sample was received unpreserved: pH > 2. Sample preserved in laboratory.

Non-Conformance Report

NCR ID: 9551

Event(s)	Job(s)	Sample(s)	Test(s)
SW-DIST-2022-09-15-01	TLH-2022-09-15-96	2356924	

NCR Type: SHIPPING/RECEIVING **NCR Category: Preservation Not Intact**

Observation: Sample not preserved to pH < 2.

Resolution: Preserved in Lab on 09/15/2022 at 12:32

H2SO4 Lot# SA2145160 | Expiration Date: 06/02/2023

Authorized by/Date: Kyle Klug 9/21/2022

The Non-Conformance Report details exceptions or problems encountered with the events/jobs/samples/test.
Please address questions to:

Chemistry	Colin Wright	(850) 245-8085
Biology	Cheryl Swanson	(850) 245-8177

Quality Assurance Report
Method Blank Results

Reference Method: DEP SOP: NU-094-1
Batch ID: P419686

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: DEP SOP: NU-094-1
Batch ID: P419687

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P419658

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P420088

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P420093

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P420111

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P419873

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P419874

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P420162

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

Quality Assurance Report
Method Blank Results

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P420320

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P419834

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P419838

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P419655

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

Reference Method: SM 2320 B-2011
Batch ID: P420275

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

Reference Method: SM 2540 C-2011
Batch ID: P419891

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-2011
Batch ID: P419847

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500-F- C-2011
Batch ID: P420214

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-2011
Batch ID: P419800

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: P419686

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

Reference Method: DEP SOP: NU-094-1
Batch ID: P419687

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Color (true)	99.7		P	90 - 110

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P419658

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P420088

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P420093

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Sulfate	99.5		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P420111

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Ammonia-N	103		P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P419873

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P419874

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P420162

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

Quality Assurance Report
Laboratory Control Sample Accuracy

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P420320

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
NO2NO3-N	99.0		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P419834

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P419838

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P419655

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

Reference Method: SM 2320 B-2011
Batch ID: P420275

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	98.5		P	94 - 106

Reference Method: SM 4500-F- C-2011
Batch ID: P420214

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	99.9		P	94 - 104

Reference Method: SM 5310 B-2011
Batch ID: P419800

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: P420088

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2356905	Chloride	99.1		P	90 - 110
2356920	Chloride	99.0		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P420093

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2356905	Sulfate	97.4		P	90 - 110
2356920	Sulfate	99.2		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P420111

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2357150	Ammonia-N	99.4	103	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P419873

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2356589	Kjeldahl Nitrogen	94.6	97.5	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P419874

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2356590	Kjeldahl Nitrogen	104	97.1	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P420162

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2356924	NO2NO3-N	94.6	95.2	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P420320

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2356872	NO2NO3-N	99.2	98.7	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P419834

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2356922	Total-P	103	103	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P419838

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2357083	Total-P	108	104	P/P	90 - 110

Quality Assurance Report
Matrix Spike Accuracy

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P419655

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2356925	O-Phosphate-P	97.2	101	P/P	90 - 110

Reference Method: SM 4500-F- C-2011
Batch ID: P420214

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2357377	Fluoride	105	106	F/F	94 - 104

Reference Method: SM 5310 B-2011
Batch ID: P419800

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2356813	Organic Carbon	96.0	95.3	P/P	85 - 115

Quality Assurance Report
Precision

Reference Method: DEP SOP: NU-094-1
Batch ID: P419686

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2356807	Color (true)	0.775	Sample	P	0 - 20

Reference Method: DEP SOP: NU-094-1
Batch ID: P419687

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2356921	Color (true)	1.18	Sample	P	0 - 20

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P419658

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2356799	Turbidity	1.58	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P420088

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2356905	Chloride	0.124	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P420093

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2356905	Sulfate	0.116	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P420111

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2357150	Ammonia-N	2.95	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P419873

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2356589	Kjeldahl Nitrogen	1.89	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P419874

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2356590	Kjeldahl Nitrogen	4.12	Spike	P	0 - 20

Quality Assurance Report
Precision

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P420162

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2356924	NO2NO3-N	0.487	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P420320

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2356872	NO2NO3-N	0.402	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P419834

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2356922	Total-P	0.0918	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P419838

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2357083	Total-P	2.93	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P419655

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2356925	O-Phosphate-P	3.64	Spike	P	0 - 20

Reference Method: SM 2320 B-2011
Batch ID: P420275

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2357236	Total Alkalinity	1.79	Sample	P	0 - 3.8

Reference Method: SM 2540 C-2011
Batch ID: P419891

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2356409	TDS	6.84	Sample	P	0 - 10

Reference Method: SM 4500-F- C-2011
Batch ID: P420214

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2357377	Fluoride	0.519	Spike	P	0 - 1.6

Quality Assurance Report
Precision

Reference Method: SM 5310 B-2011
Batch ID: P419800

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2356813	Organic Carbon	0.644	Spike	P	0 - 20

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

Quality Assurance Report
Calibration Verification

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Run ID: A114751
Included Lab Sample IDs: 2356925, 2356926, 2356927

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	97.7	97.8	P/P	90 - 110

Reference Method: EPA 180.1 Rev. 2.0
Run ID: A114754
Included Lab Sample IDs: 2356919, 2356920, 2356921

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

Reference Method: DEP SOP: NU-094-1
Run ID: A114769
Included Lab Sample IDs: 2356919, 2356920, 2356921

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	102	101	P/P	90 - 110
Color (true)	102	102	P/P	90 - 110

Reference Method: SM 5310 B-2011
Run ID: A114813
Included Lab Sample IDs: 2356922, 2356923, 2356924

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	96.1	95.5	P/P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Run ID: A114857
Included Lab Sample IDs: 2356919, 2356920, 2356921

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	99.5	100	P/P	90 - 110
Chloride	100	100	P/P	90 - 110
Sulfate	100	100	P/P	90 - 110
Sulfate	99.4	100	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Run ID: A114861
Included Lab Sample IDs: 2356923

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

Reference Method: EPA 365.1 Rev. 2.0
Run ID: A114864
Included Lab Sample IDs: 2356922

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	98.8	99.5	P/P	90 - 110

Quality Assurance Report
Calibration Verification

Reference Method: EPA 351.2 Rev. 2.0
Run ID: A114892
Included Lab Sample IDs: 2356922, 2356923, 2356924

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	94.2	97.8	P/P	90 - 110
Kjeldahl Nitrogen	97.8	96.8	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Run ID: A114915
Included Lab Sample IDs: 2356924

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	98.5	103	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Run ID: A114942
Included Lab Sample IDs: 2356922, 2356923, 2356924

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	98.0	97.6	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Run ID: A114960
Included Lab Sample IDs: 2356924

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	100	95.5	P/P	90 - 110

Reference Method: SM 4500-F- C-2011
Run ID: A114980
Included Lab Sample IDs: 2356919, 2356920, 2356921

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

Reference Method: SM 2320 B-2011
Run ID: A115007
Included Lab Sample IDs: 2356919, 2356920, 2356921

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	96.7	101	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Run ID: A115032
Included Lab Sample IDs: 2356922, 2356923

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	99.5	98.0	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		Precision		
					LCS	SMP	MS
DEP SOP: NU-094-1	Color (true)	101				0.775	
	Color (true)	99.7				1.18	
EPA 180.1 Rev. 2.0	Turbidity	101				1.58	
EPA 300.0 Rev. 2.1	Chloride	102	99.1	99.0		0.124	
	Sulfate	99.5	97.4	99.2		0.116	
EPA 350.1 Rev. 2.0	Ammonia-N	103	99.4	103			2.95
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	98.7	94.6	97.5			1.89
	Kjeldahl Nitrogen	103	104	97.1			4.12
EPA 353.2 Rev. 2.0	NO2NO3-N	97.0	94.6	95.2			0.487
	NO2NO3-N	99.0	99.2	98.7			0.402
EPA 365.1 Rev. 2.0	Total-P	102	103	103			0.0918
	Total-P	106	108	104			2.93
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	99.1	97.2	101			3.64
SM 2320 B-2011	Total Alkalinity	98.5				1.79	
SM 2540 C-2011	TDS					6.84	
SM 4500-F- C-2011	Fluoride	99.9	105	106			0.519
SM 5310 B-2011	Organic Carbon	95.4	96.0	95.3			0.644

Reference Method Descriptions

Method	Description	Associated Samples
DEP SOP: NU-094-1	True Color measured at 450 nm (not valid for NPDES monitoring)	2356919, 2356920, 2356921
EPA 180.1 Rev. 2.0	Turbidity in aqueous matrices	2356919, 2356920, 2356921
EPA 300.0 Rev. 2.1	Chloride in aqueous matrices	2356919, 2356920, 2356921
EPA 300.0 Rev. 2.1	Sulfate in aqueous matrices	2356919, 2356920, 2356921
EPA 350.1 Rev. 2.0	Ammonia in aqueous matrices as mg N/L	2356922, 2356923, 2356924
EPA 351.2 Rev. 2.0	Total Kjeldahl Nitrogen in aqueous matrices	2356922, 2356923, 2356924
EPA 353.2 Rev. 2.0	Nitrite/Nitrate in aqueous matrices as mg N/L	2356922, 2356923, 2356924
EPA 365.1 Rev. 2.0	Total Phosphorus in aqueous matrices as mg P/L	2356922, 2356923, 2356924
EPA 365.1 Rev. 2.0 dissolved	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	2356925, 2356926, 2356927
SM 2320 B-2011	Alkalinity in aqueous matrices as mg CaCO3/L	2356919, 2356920, 2356921
SM 2540 C-2011	Total Dissolved Solids in aqueous matrices	2356919, 2356920, 2356921
SM 2540 D-2011	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2356919, 2356920, 2356921
SM 4500-F- C-2011	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2356919, 2356920, 2356921
SM 5310 B-2011	Nonpurgeable Organic Carbon in aqueous matrices	2356922, 2356923, 2356924

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	09/15/2022			09/15/2022 15:47	Anna M. Plaviak	2356919, 2356920
	09/15/2022			09/15/2022 15:50	Anna M. Plaviak	2356921
EPA 180.1 Rev. 2.0	09/15/2022			09/15/2022 14:47	Chandler E Cox	2356919
	09/15/2022			09/15/2022 14:48	Chandler E Cox	2356920
	09/15/2022			09/15/2022 14:50	Chandler E Cox	2356921
EPA 300.0 Rev. 2.1	09/15/2022			09/22/2022 19:47	Anna M. Plaviak	2356920
	09/15/2022			09/23/2022 00:34	Anna M. Plaviak	2356919
	09/15/2022			09/23/2022 00:49	Anna M. Plaviak	2356921
EPA 350.1 Rev. 2.0	09/15/2022			09/26/2022 12:57	Judith K. Clark	2356922
	09/15/2022			09/26/2022 12:58	Judith K. Clark	2356923
	09/15/2022			09/26/2022 13:00	Judith K. Clark	2356924
EPA 351.2 Rev. 2.0	09/15/2022	09/21/2022 13:07	Samantha L Bates	09/22/2022 12:07	Samantha L Bates	2356922
	09/15/2022	09/21/2022 13:07	Samantha L Bates	09/22/2022 12:33	Samantha L Bates	2356923
	09/15/2022	09/21/2022 13:07	Samantha L Bates	09/22/2022 12:34	Samantha L Bates	2356924
EPA 353.2 Rev. 2.0	09/15/2022			09/27/2022 11:13	Beverly Y. Sanders	2356924
	09/15/2022			09/29/2022 14:46	Judith K. Clark	2356922
	09/15/2022			09/29/2022 14:47	Judith K. Clark	2356923
EPA 365.1 Rev. 2.0	09/15/2022	09/21/2022 08:40	Adam P Silver	09/21/2022 14:20	Simonne.V. Calhoun	2356923
	09/15/2022	09/21/2022 08:40	Adam P Silver	09/21/2022 16:20	Simonne.V. Calhoun	2356922
	09/15/2022	09/21/2022 08:40	Adam P Silver	09/23/2022 12:54	James L Waggerby	2356924
EPA 365.1 Rev. 2.0 dissolved	09/15/2022			09/15/2022 15:04	Elise M. Gillis	2356925
	09/15/2022			09/15/2022 15:07	Elise M. Gillis	2356926
	09/15/2022			09/15/2022 15:08	Elise M. Gillis	2356927
SM 2320 B-2011	09/15/2022			09/28/2022 18:47	Adam P Silver	2356919
	09/15/2022			09/28/2022 18:56	Adam P Silver	2356920
	09/15/2022			09/28/2022 19:05	Adam P Silver	2356921
SM 2540 C-2011	09/15/2022			09/16/2022 15:56	Yijie Li	2356919, 2356920, 2356921
SM 2540 D-2011	09/15/2022			09/16/2022 15:56	Yijie Li	2356919, 2356920, 2356921
SM 4500-F- C-2011	09/15/2022			09/27/2022 22:18	Adam P Silver	2356919
	09/15/2022			09/27/2022 22:30	Adam P Silver	2356920
	09/15/2022			09/27/2022 22:41	Adam P Silver	2356921
SM 5310 B-2011	09/15/2022			09/19/2022 19:32	Khloe J Berg	2356922
	09/15/2022			09/19/2022 19:48	Khloe J Berg	2356923
	09/15/2022			09/19/2022 20:02	Khloe J Berg	2356924