Chemical Analysis Report

SO-DIST-2022-07-27-01

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

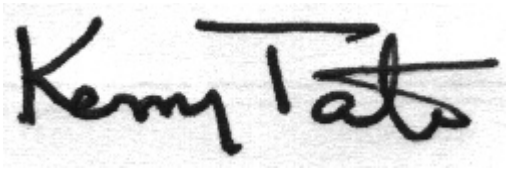
Event Description: **2022 SMP : Phyto Lakes**
Request ID: **RQ-2022-07-25-29**
Customer: **SO-DIST**
Project ID: **SMP**

Send Reports to:
FL Dept. of Environmental Protection
FLDEP South District Office
2295 Victoria Ave. Suite 364
Fort Myers, FL 33901-3381
Attn: William Mullen

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: 17-AUG-2022 11:08



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: Little Bonnet Lake @ Middle **Collection Date/Time: 07/26/2022 10:00**

Field ID: G4SD0169 Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2344107	DEP SOP: NU-094-1	Color (true)	7.1	A	PCU	P417254	
	EPA 180.1 Rev. 2.0	Turbidity	18		NTU	P417268	
	EPA 300.0 Rev. 2.1	Chloride	20		mg Cl/L	P417635	
		Sulfate	41		mg SO4/L	P417640	
	SM 2320 B-2011	Total Alkalinity	36	A	mg CaCO3/L	P417437	
	SM 2540 C-2011	TDS	177		mg/L	P417661	
	SM 2540 D-2011	TSS	14		mg/L	P417664	
	SM 4500-F- C-2011	Fluoride	0.080	I	mg F/L	P417442	
2344110	EPA 350.1 Rev. 2.0	Ammonia-N	0.011		mg N/L	P417388	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	2.8		mg N/L	P417282	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	I	mg N/L	P417403	
	EPA 365.1 Rev. 2.0	Total-P	0.029		mg P/L	P417377	
	SM 5310 B-2011	Organic Carbon	15		mg C/L	P417392	
2344113	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P417247	

Sample Location: Little Red Water Lake @ Middle **Collection Date/Time: 07/26/2022 10:55**

Field ID: G4SD0171 Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2344108	DEP SOP: NU-094-1	Color (true)	62		PCU	P417253	
	EPA 180.1 Rev. 2.0	Turbidity	2.4		NTU	P417268	
	EPA 300.0 Rev. 2.1	Chloride	20	A	mg Cl/L	P417635	
		Sulfate	11	A	mg SO4/L	P417640	
	SM 2320 B-2011	Total Alkalinity	11		mg CaCO3/L	P417438	
	SM 2540 C-2011	TDS	89		mg/L	P417661	
	SM 2540 D-2011	TSS	3	I	mg/L	P417664	
	SM 4500-F- C-2011	Fluoride	0.063	I	mg F/L	P417951	
2344111	EPA 350.1 Rev. 2.0	Ammonia-N	0.032		mg N/L	P417388	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.80		mg N/L	P417282	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.043		mg N/L	P417403	
	EPA 365.1 Rev. 2.0	Total-P	0.038		mg P/L	P417377	
	SM 5310 B-2011	Organic Carbon	9.6		mg C/L	P417392	
2344114	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P417247	

Sample Location: Bonnet Lake @ Middle **Collection Date/Time: 07/26/2022 11:40**

Field ID: G4SD0170 Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2344109	DEP SOP: NU-094-1	Color (true)	14		PCU	P417254	
	EPA 180.1 Rev. 2.0	Turbidity	20		NTU	P417268	
	EPA 300.0 Rev. 2.1	Chloride	21		mg Cl/L	P417635	
		Sulfate	41		mg SO4/L	P417640	
	SM 2320 B-2011	Total Alkalinity	35		mg CaCO3/L	P417438	
	SM 2540 C-2011	TDS	174		mg/L	P417661	
	SM 2540 D-2011	TSS	12		mg/L	P417664	
	SM 4500-F- C-2011	Fluoride	0.091	I	mg F/L	P417951	
2344112	EPA 350.1 Rev. 2.0	Ammonia-N	0.004	I	mg N/L	P417388	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.7		mg N/L	P417282	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P417403	
	EPA 365.1 Rev. 2.0	Total-P	0.033		mg P/L	P417377	
	SM 5310 B-2011	Organic Carbon	8.8		mg C/L	P417392	
2344115	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P417247	

Quality Assurance Report
Method Blank Results

Reference Method: DEP SOP: NU-094-1
Batch ID: P417253

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: DEP SOP: NU-094-1
Batch ID: P417254

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P417268

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P417635

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P417640

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P417388

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P417282

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P417403

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P417377

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

Quality Assurance Report
Method Blank Results

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P417247

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

Reference Method: SM 2320 B-2011
Batch ID: P417437

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

Reference Method: SM 2320 B-2011
Batch ID: P417438

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

Reference Method: SM 2540 C-2011
Batch ID: P417661

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-2011
Batch ID: P417664

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500-F- C-2011
Batch ID: P417442

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 4500-F- C-2011
Batch ID: P417951

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-2011
Batch ID: P417392

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: P417253

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

Reference Method: DEP SOP: NU-094-1
Batch ID: P417254

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Color (true)	103		P	90 - 110

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P417268

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Turbidity	96.9		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P417635

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Chloride	95.7		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P417640

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Sulfate	95.6		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P417388

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P417282

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: P417403

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: P417377

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

Quality Assurance Report
Laboratory Control Sample Accuracy

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P417247

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

Reference Method: SM 2320 B-2011
Batch ID: P417437

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	99.7		P	94 - 106

Reference Method: SM 2320 B-2011
Batch ID: P417438

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	100		P	94 - 106

Reference Method: SM 4500-F- C-2011
Batch ID: P417442

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

Reference Method: SM 4500-F- C-2011
Batch ID: P417951

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	102		P	96 - 104

Reference Method: SM 5310 B-2011
Batch ID: P417392

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	96.7		P	85 - 115

Quality Assurance Report
Matrix Spike Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P417635

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2344108	Chloride	93.2		P	90 - 110
2344177	Chloride	92.8		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P417640

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2344108	Sulfate	93.1		P	90 - 110
2344177	Sulfate	94.4		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P417388

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2344111	Ammonia-N	98.4	99.8	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P417282

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2344159	Kjeldahl Nitrogen	106	102	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P417403

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2344111	NO2NO3-N	102	102	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P417377

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2343987	Total-P	106	104	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P417247

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2343974	O-Phosphate-P	101	106	P/P	90 - 110

Reference Method: SM 4500-F- C-2011
Batch ID: P417442

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2344107	Fluoride	104	103	P/P	94 - 104

Reference Method: SM 4500-F- C-2011
Batch ID: P417951

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2344109	Fluoride	99.8	100	P/P	94 - 104

Quality Assurance Report
Matrix Spike Accuracy

Reference Method: SM 5310 B-2011
Batch ID: P417392

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2344199	Organic Carbon	98.0	98.3	P/P	85 - 115

Quality Assurance Report
Precision

Reference Method: DEP SOP: NU-094-1
Batch ID: P417253

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2344201	Color (true)	7.19	Sample	P	0 - 20

Reference Method: DEP SOP: NU-094-1
Batch ID: P417254

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2344107	Color (true)	8.49	Sample	P	0 - 20

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P417268

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2344198	Turbidity	11.6	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P417635

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2344108	Chloride	0.0	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P417640

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2344108	Sulfate	0.275	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P417388

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2344111	Ammonia-N	0.857	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P417282

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2344159	Kjeldahl Nitrogen	2.07	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P417403

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2344111	NO2NO3-N	0.0	Spike	P	0 - 20

Quality Assurance Report
Precision

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P417377

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2343987	Total-P	1.93	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P417247

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2343974	O-Phosphate-P	4.75	Spike	P	0 - 20

Reference Method: SM 2320 B-2011
Batch ID: P417437

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2344107	Total Alkalinity	0.908	Sample	P	0 - 3.8

Reference Method: SM 2320 B-2011
Batch ID: P417438

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2344433	Total Alkalinity	0.833	Sample	P	0 - 3.8

Reference Method: SM 2540 C-2011
Batch ID: P417661

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2344023	TDS	7.43	Sample	P	0 - 10

Reference Method: SM 2540 D-2011
Batch ID: P417664

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2344023	TSS	3.92	Sample	P	0 - 10

Reference Method: SM 4500-F- C-2011
Batch ID: P417442

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2344107	Fluoride	1.01	Spike	P	0 - 1.6

Reference Method: SM 4500-F- C-2011
Batch ID: P417951

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2344109	Fluoride	0.525	Spike	P	0 - 1.6

Quality Assurance Report
Precision

Reference Method: SM 5310 B-2011
Batch ID: P417392

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2344199	Organic Carbon	0.154	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: A113732
Included Lab Sample IDs: 2344113, 2344114, 2344115

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

Reference Method: DEP SOP: NU-094-1
Run ID: A113737
Included Lab Sample IDs: 2344107, 2344108, 2344109

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	100	102	P/P	90 - 110
Color (true)	102	102	P/P	90 - 110

Reference Method: EPA 180.1 Rev. 2.0
Run ID: A113742
Included Lab Sample IDs: 2344107, 2344108, 2344109

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

Reference Method: EPA 350.1 Rev. 2.0
Run ID: A113790
Included Lab Sample IDs: 2344110, 2344111, 2344112

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	99.4	98.9	P/P	90 - 110

Reference Method: SM 5310 B-2011
Run ID: A113791
Included Lab Sample IDs: 2344110, 2344111, 2344112

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	98.1	98.2	P/P	90 - 110
Organic Carbon	98.2	96.8	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Run ID: A113795
Included Lab Sample IDs: 2344110, 2344111, 2344112

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

Reference Method: EPA 351.2 Rev. 2.0
Run ID: A113807
Included Lab Sample IDs: 2344110, 2344111, 2344112

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	104	105	P/P	90 - 110

Reference Method: SM 2320 B-2011
Run ID: A113811
Included Lab Sample IDs: 2344107, 2344108, 2344109

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

Quality Assurance Report
Calibration Verification

Reference Method: SM 2320 B-2011
Run ID: A113811
Included Lab Sample IDs: 2344107, 2344108, 2344109

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	99.4	97.8	P/P	90 - 110
Total Alkalinity	99.9	97.6	P/P	90 - 110

Reference Method: SM 4500-F- C-2011
Run ID: A113811
Included Lab Sample IDs: 2344107

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

Reference Method: EPA 365.1 Rev. 2.0
Run ID: A113829
Included Lab Sample IDs: 2344110, 2344111, 2344112

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

Reference Method: EPA 300.0 Rev. 2.1
Run ID: A113902
Included Lab Sample IDs: 2344107, 2344108, 2344109

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	94.7	95.5	P/P	90 - 110
Sulfate	93.6	94.0	P/P	90 - 110

Reference Method: SM 4500-F- C-2011
Run ID: A114020
Included Lab Sample IDs: 2344108, 2344109

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	101	102	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)	102				7.19	
	Color (true)	103				8.49	
EPA 180.1 Rev. 2.0	Turbidity	96.9				11.6	
EPA 300.0 Rev. 2.1	Chloride	95.7	93.2	92.8		0.0	
	Sulfate	95.6	93.1	94.4		0.275	
EPA 350.1 Rev. 2.0	Ammonia-N	97.6	98.4	99.8			0.857
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	103	106	102			2.07
EPA 353.2 Rev. 2.0	NO2NO3-N	100	102	102			0.0
EPA 365.1 Rev. 2.0	Total-P	105	106	104			1.93
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	101	101	106			4.75
SM 2320 B-2011	Total Alkalinity	99.7				0.908	
	Total Alkalinity	100				0.833	
SM 2540 C-2011	TDS					7.43	
SM 2540 D-2011	TSS					3.92	
SM 4500-F- C-2011	Fluoride	104	104	103			1.01
	Fluoride	102	99.8	100			0.525
SM 5310 B-2011	Organic Carbon	96.7	98.0	98.3			0.154

Reference Method Descriptions

Method	Description	Associated Samples
DEP SOP: NU-094-1	True Color measured at 450 nm (not valid for NPDES monitoring)	2344107, 2344108, 2344109
EPA 180.1 Rev. 2.0	Turbidity in aqueous matrices	2344107, 2344108, 2344109
EPA 300.0 Rev. 2.1	Chloride in aqueous matrices	2344107, 2344108, 2344109
EPA 300.0 Rev. 2.1	Sulfate in aqueous matrices	2344107, 2344108, 2344109
EPA 350.1 Rev. 2.0	Ammonia in aqueous matrices as mg N/L	2344110, 2344111, 2344112
EPA 351.2 Rev. 2.0	Total Kjeldahl Nitrogen in aqueous matrices	2344110, 2344111, 2344112
EPA 353.2 Rev. 2.0	Nitrite/Nitrate in aqueous matrices as mg N/L	2344110, 2344111, 2344112
EPA 365.1 Rev. 2.0	Total Phosphorus in aqueous matrices as mg P/L	2344110, 2344111, 2344112
EPA 365.1 Rev. 2.0 dissolved	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	2344113, 2344114, 2344115
SM 2320 B-2011	Alkalinity in aqueous matrices as mg CaCO3/L	2344107, 2344108, 2344109
SM 2540 C-2011	Total Dissolved Solids in aqueous matrices	2344107, 2344108, 2344109
SM 2540 D-2011	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2344107, 2344108, 2344109
SM 4500-F- C-2011	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2344107, 2344108, 2344109
SM 5310 B-2011	Nonpurgeable Organic Carbon in aqueous matrices	2344110, 2344111, 2344112

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	07/27/2022			07/27/2022 14:43	Anna M. Plaviak	2344108
	07/27/2022			07/27/2022 14:52	Anna M. Plaviak	2344107
	07/27/2022			07/27/2022 14:53	Anna M. Plaviak	2344109
EPA 180.1 Rev. 2.0	07/27/2022			07/27/2022 13:54	Khloe J Berg	2344107
	07/27/2022			07/27/2022 13:56	Khloe J Berg	2344108
	07/27/2022			07/27/2022 13:57	Khloe J Berg	2344109
EPA 300.0 Rev. 2.1	07/27/2022			08/03/2022 19:54	Anna M. Plaviak	2344108
	07/27/2022			08/03/2022 21:54	Anna M. Plaviak	2344107
	07/27/2022			08/03/2022 22:06	Anna M. Plaviak	2344109
EPA 350.1 Rev. 2.0	07/27/2022			07/29/2022 09:45	Ping Hua	2344110
	07/27/2022			07/29/2022 09:46	Ping Hua	2344111
	07/27/2022			07/29/2022 09:48	Ping Hua	2344112
EPA 351.2 Rev. 2.0	07/27/2022	07/28/2022 16:20	Simonne.V. Calhoun	07/29/2022 14:40	Samantha L Bates	2344110
	07/27/2022	07/28/2022 16:20	Simonne.V. Calhoun	07/29/2022 14:42	Samantha L Bates	2344111
	07/27/2022	07/28/2022 16:20	Simonne.V. Calhoun	07/29/2022 14:44	Samantha L Bates	2344112
EPA 353.2 Rev. 2.0	07/27/2022			07/29/2022 10:39	Beverly Y. Sanders	2344111
	07/27/2022			07/29/2022 10:48	Beverly Y. Sanders	2344110
	07/27/2022			07/29/2022 10:49	Beverly Y. Sanders	2344112
EPA 365.1 Rev. 2.0	07/27/2022	07/29/2022 15:30	Simonne.V. Calhoun	08/01/2022 14:14	James L Waggerby	2344110
	07/27/2022	07/29/2022 15:30	Simonne.V. Calhoun	08/01/2022 14:15	James L Waggerby	2344111
	07/27/2022	07/29/2022 15:30	Simonne.V. Calhoun	08/01/2022 14:16	James L Waggerby	2344112
EPA 365.1 Rev. 2.0 dissolved	07/27/2022			07/27/2022 12:30	Chandler E Cox	2344113
	07/27/2022			07/27/2022 12:31	Chandler E Cox	2344114
	07/27/2022			07/27/2022 12:32	Chandler E Cox	2344115
SM 2320 B-2011	07/27/2022			07/30/2022 09:44	Adam P Silver	2344107
	07/27/2022			07/30/2022 16:23	Adam P Silver	2344108
	07/27/2022			07/30/2022 16:49	Adam P Silver	2344109
SM 2540 C-2011	07/27/2022			07/29/2022 15:04	Yijie Li	2344107, 2344108, 2344109
SM 2540 D-2011	07/27/2022			07/29/2022 15:04	Yijie Li	2344107, 2344108, 2344109
SM 4500-F- C-2011	07/27/2022			07/30/2022 09:34	Adam P Silver	2344107
	07/27/2022			08/10/2022 12:39	Adam P Silver	2344109
	07/27/2022			08/10/2022 12:58	Adam P Silver	2344108
SM 5310 B-2011	07/27/2022			07/28/2022 16:45	Khloe J Berg	2344110
	07/27/2022			07/28/2022 20:13	Khloe J Berg	2344111
	07/27/2022			07/28/2022 20:27	Khloe J Berg	2344112