

Chemical Analysis Report

SO-DIST-2022-05-25-03

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-2022-05-23-32**
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

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Certified by: Liang Lin, Environmental Administrator

Date Certified: 17-JUN-2022 13:19

A handwritten signature in black ink, appearing to read "Liang Lin", on a light-colored background.

Case Narrative

Unless otherwise noted, all samples included in this report were received in accordance with protocols referenced in Chapter 62-160, Florida Administrative Code (F.A.C.). Results published in this report pertain only to the samples as submitted to, and received by the laboratory. All times in this report are adjusted to the applicable Eastern Time Zone (EST or EDT).

Results for the following analytical group are included in this report: Nutrients.

Scientific notation may be used in reporting very large or small values. Values reported using scientific notation will take the form of the following example: 1.3E+03, which is equivalent to 1.3×10^3 or 1300.

Unless otherwise noted, analytical values for soil and sediment samples are reported on a dry weight basis, and analytical values for waste and tissue samples are reported on a wet weight basis.

Results for TNI accredited tests met requirements established by The NELAC Institute. A double asterisk (**) is used to indicate an analyte/matrix/method for which the laboratory is not TNI accredited 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: 05/24/2022 09:30

Field ID: G4SD0169

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2329882	DEP SOP: NU-094-1	Color (true)**	8.1	A	PCU	P414375	
	EPA 180.1 Rev. 2.0	Turbidity	16		NTU	P414378	
	EPA 300.0 Rev. 2.1	Chloride	20		mg Cl/L	P414632	
		Sulfate	40		mg SO4/L	P414635	
	SM 2320 B-2011	Total Alkalinity	35		mg CaCO3/L	P414539	
	SM 2540 C-2011	TDS	159		mg/L	P414669	
	SM 2540 D-2011	TSS	15	I	mg/L	P414673	
	SM 4500-F- C-2011	Fluoride	0.061	I	mg F/L	P415141	
2329885	EPA 350.1 Rev. 2.0	Ammonia-N	0.008		mg N/L	P415121	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	2.6		mg N/L	P414563	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P414641	
	EPA 365.1 Rev. 2.0	Total-P	0.026		mg P/L	P414410	
	SM 5310 B-2011	Organic Carbon	14		mg C/L	P414517	
2329888	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P414425	

Ref. Method and Comment:

SM 2540 D-2011: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample. The PQL was elevated because of sample matrix interference.

Sample Location: Bonnet Lake @ Middle

Collection Date/Time: 05/24/2022 10:20

Field ID: G4SD0170

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2329883	DEP SOP: NU-094-1	Color (true)**	9.5		PCU	P414375	
	EPA 180.1 Rev. 2.0	Turbidity	16		NTU	P414378	
	EPA 300.0 Rev. 2.1	Chloride	23		mg Cl/L	P414632	
		Sulfate	40		mg SO4/L	P414635	
	SM 2320 B-2011	Total Alkalinity	39		mg CaCO3/L	P414539	
	SM 2540 C-2011	TDS	162		mg/L	P414669	
	SM 2540 D-2011	TSS	14	I	mg/L	P414673	
	SM 4500-F- C-2011	Fluoride	0.081	I J	mg F/L	P415142	LCS
2329886	EPA 350.1 Rev. 2.0	Ammonia-N	0.007		mg N/L	P415146	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.5		mg N/L	P414563	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P414641	
	EPA 365.1 Rev. 2.0	Total-P	0.032		mg P/L	P414410	
	SM 5310 B-2011	Organic Carbon	7.8		mg C/L	P414517	
2329889	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P414425	

Ref. Method and Comment:

SM 2540 D-2011: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample. The PQL was elevated because of sample matrix interference.

SM 4500-F- C-2011: Refer to the Lab Analysis Report for an explanation of QC Codes.

Sample Location: Little Red Water Lake @ Middle

Collection Date/Time: 05/24/2022 11:00

Field ID: G4SD0171

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2329884	DEP SOP: NU-094-1	Color (true)**	75		PCU	P414373	
	EPA 180.1 Rev. 2.0	Turbidity	4.9	A	NTU	P414378	
	EPA 300.0 Rev. 2.1	Chloride	21		mg Cl/L	P414632	
		Sulfate	12		mg SO4/L	P414635	
	SM 2320 B-2011	Total Alkalinity	9.6		mg CaCO3/L	P414539	
	SM 2540 C-2011	TDS	86		mg/L	P414670	
	SM 2540 D-2011	TSS	5	I	mg/L	P414674	
	SM 4500-F- C-2011	Fluoride	0.047	I J	mg F/L	P415142	LCS
2329887	EPA 350.1 Rev. 2.0	Ammonia-N	0.012		mg N/L	P415146	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.77		mg N/L	P414563	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.005	I	mg N/L	P414641	
	EPA 365.1 Rev. 2.0	Total-P	0.053		mg P/L	P414411	
	SM 5310 B-2011	Organic Carbon	9.8		mg C/L	P414517	
2329890	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	I	mg P/L	P414425	

Ref. Method and Comment:

DEP SOP: NU-094-1: Batch relative percent difference is unavailable because of analytical difficulties.

SM 4500-F- C-2011: Refer to the Lab Analysis Report for an explanation of QC Codes.

Quality Assurance Report Method Blank Results

Reference Method: DEP SOP: NU-094-1
Batch ID: P414373

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: DEP SOP: NU-094-1
Batch ID: P414375

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P414378

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P414632

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P414635

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P415121

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P415146

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P414563

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P414641

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: P414410

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P414411

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P414425

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

Reference Method: SM 2320 B-2011
Batch ID: P414539

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

Reference Method: SM 2540 C-2011
Batch ID: P414669

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 C-2011
Batch ID: P414670

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-2011
Batch ID: P414673

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 2540 D-2011
Batch ID: P414674

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500-F- C-2011
Batch ID: P415141

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Quality Assurance Report

Method Blank Results

Reference Method: SM 4500-F- C-2011
Batch ID: P415142

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-2011
Batch ID: P414517

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: P414373

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Color (true)	99.8		P	85 - 115

Reference Method: DEP SOP: NU-094-1
Batch ID: P414375

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Color (true)	101		P	85 - 115

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P414378

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: P414632

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Chloride	95.3		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P414635

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Sulfate	97.1		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P415121

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Ammonia-N	96.6		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P415146

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Ammonia-N	98.2		P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P414563

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Kjeldahl Nitrogen	97.9		P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P414641

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
NO2NO3-N	97.5		P	90 - 110

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P414410

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: P414411

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P414425

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

Reference Method: SM 2320 B-2011
Batch ID: P414539

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	94.5		P	94 - 106

Reference Method: SM 4500-F- C-2011
Batch ID: P415141

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	96.2		P	96 - 104

Reference Method: SM 4500-F- C-2011
Batch ID: P415142

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	93.8		F	96 - 104

Reference Method: SM 5310 B-2011
Batch ID: P414517

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	94.6		P	85 - 115

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P414632

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2329409	Chloride	95.6		P	90 - 110
2329911	Chloride	94.8		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P414635

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2329409	Sulfate	96.1		P	90 - 110
2329911	Sulfate	94.4		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P415121

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2329410	Ammonia-N	96.6	97.2	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P415146

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2329886	Ammonia-N	96.0	95.6	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P414563

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2329701	Kjeldahl Nitrogen	91.5	92.2	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P414641

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2329857	NO2NO3-N	96.0	96.5	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P414410

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2329857	Total-P	103	105	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P414411

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2329939	Total-P	104	101	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P414425

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2329783	O-Phosphate-P	99.0	99.5	P/P	90 - 110

Quality Assurance Report

Matrix Spike Accuracy

Reference Method: SM 4500-F- C-2011
Batch ID: P415141

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2328785	Fluoride	98.8	99.4	P/P	94 - 104

Reference Method: SM 4500-F- C-2011
Batch ID: P415142

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2330089	Fluoride	96.3	97.4	P/P	94 - 104

Reference Method: SM 5310 B-2011
Batch ID: P414517

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2329782	Organic Carbon	94.0	94.8	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: DEP SOP: NU-094-1
Batch ID: P414375

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2329882	Color (true)	0.583	Sample	P	0 - 20

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P414378

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2329884	Turbidity	1.83	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P414632

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2329409	Chloride	0.438	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P414635

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2329409	Sulfate	0.403	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P415121

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2329410	Ammonia-N	0.567	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P415146

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2329886	Ammonia-N	0.362	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P414563

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2329701	Kjeldahl Nitrogen	0.685	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P414641

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2329857	NO2NO3-N	0.519	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P414410

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2329857	Total-P	1.79	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P414411

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2329939	Total-P	1.42	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P414425

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2329783	O-Phosphate-P	0.504	Spike	P	0 - 20

Reference Method: SM 2320 B-2011
Batch ID: P414539

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2330089	Total Alkalinity	0.261	Sample	P	0 - 3.8

Reference Method: SM 2540 C-2011
Batch ID: P414669

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2329690	TDS	0.355	Sample	P	0 - 10

Reference Method: SM 2540 C-2011
Batch ID: P414670

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2329935	TDS	5.38	Sample	P	0 - 10

Reference Method: SM 2540 D-2011
Batch ID: P414674

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2329935	TSS	3.45	Sample	P	0 - 10

Reference Method: SM 4500-F- C-2011
Batch ID: P415141

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2328785	Fluoride	0.495	Spike	P	0 - 1.6

Quality Assurance Report Precision

Reference Method: SM 4500-F- C-2011
Batch ID: P415142

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2330089	Fluoride	1.03	Spike	P	0 - 1.6

Reference Method: SM 5310 B-2011
Batch ID: P414517

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2329782	Organic Carbon	0.739	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: A112402

Included Lab Sample IDs: 2329882, 2329883, 2329884

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	101	102	P/P	85 - 115
Color (true)	105	114	P/P	85 - 115

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A112403

Included Lab Sample IDs: 2329882, 2329883, 2329884

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Run ID: A112422

Included Lab Sample IDs: 2329888, 2329889, 2329890

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	98.8	98.2	P/P	90 - 110

Reference Method: SM 5310 B-2011

Run ID: A112492

Included Lab Sample IDs: 2329885, 2329886, 2329887

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	94.6	96.2	P/P	90 - 110

Reference Method: SM 2320 B-2011

Run ID: A112501

Included Lab Sample IDs: 2329882, 2329883, 2329884

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	93.6	94.0	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A112529

Included Lab Sample IDs: 2329887

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	99.0	101	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A112531

Included Lab Sample IDs: 2329885, 2329886

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	97.8	96.2	P/P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A112552

Included Lab Sample IDs: 2329882, 2329883, 2329884

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	98.4	98.3	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A112552

Included Lab Sample IDs: 2329882, 2329883, 2329884

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Sulfate	99.2	99.1	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A112565

Included Lab Sample IDs: 2329885, 2329886, 2329887

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	98.5	98.5	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A112613

Included Lab Sample IDs: 2329885, 2329886, 2329887

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	98.7	96.6	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A112781

Included Lab Sample IDs: 2329885

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	99.1	97.0	P/P	90 - 110

Reference Method: SM 4500-F- C-2011

Run ID: A112796

Included Lab Sample IDs: 2329882, 2329883, 2329884

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	97.6	96.5	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A112802

Included Lab Sample IDs: 2329886, 2329887

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	99.2	97.9	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)	99.8					
	Color (true)	101				0.583	
EPA 180.1 Rev. 2.0	Turbidity	96.9				1.83	
EPA 300.0 Rev. 2.1	Chloride	95.3	95.6	94.8		0.438	
	Sulfate	97.1	96.1	94.4		0.403	
EPA 350.1 Rev. 2.0	Ammonia-N	96.6	96.6	97.2			0.567
	Ammonia-N	98.2	96.0	95.6			0.362
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	97.9	91.5	92.2			0.685
EPA 353.2 Rev. 2.0	NO2NO3-N	97.5	96.0	96.5			0.519
EPA 365.1 Rev. 2.0	Total-P	102	103	105			1.79
	Total-P	101	104	101			1.42
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	102	99.0	99.5			0.504
SM 2320 B-2011	Total Alkalinity	94.5				0.261	
SM 2540 C-2011	TDS					0.355	
	TDS					5.38	
SM 2540 D-2011	TSS					3.45	
SM 4500-F- C-2011	Fluoride	96.2	98.8	99.4			0.495
	Fluoride	93.8	96.3	97.4			1.03
SM 5310 B-2011	Organic Carbon	94.6	94.0	94.8			0.739

Reference Method Descriptions

Method	Description	Associated Samples
DEP SOP: NU-094-1	True Color measured at 450 nm (not valid for NPDES monitoring)	2329882, 2329883, 2329884
EPA 180.1 Rev. 2.0	Turbidity in aqueous matrices	2329882, 2329883, 2329884
EPA 300.0 Rev. 2.1	Chloride in aqueous matrices	2329882, 2329883, 2329884
EPA 300.0 Rev. 2.1	Sulfate in aqueous matrices	2329882, 2329883, 2329884
EPA 350.1 Rev. 2.0	Ammonia in aqueous matrices as mg N/L	2329885, 2329886, 2329887
EPA 351.2 Rev. 2.0	Total Kjeldahl Nitrogen in aqueous matrices	2329885, 2329886, 2329887
EPA 353.2 Rev. 2.0	Nitrite/Nitrate in aqueous matrices as mg N/L	2329885, 2329886, 2329887
EPA 365.1 Rev. 2.0	Total Phosphorus in aqueous matrices as mg P/L	2329885, 2329886, 2329887
EPA 365.1 Rev. 2.0 dissolved	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	2329888, 2329889, 2329890
SM 2320 B-2011	Alkalinity in aqueous matrices as mg CaCO3/L	2329882, 2329883, 2329884
SM 2540 C-2011	Total Dissolved Solids in aqueous matrices	2329882, 2329883, 2329884
SM 2540 D-2011	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2329882, 2329883, 2329884
SM 4500-F- C-2011	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2329882, 2329883, 2329884
SM 5310 B-2011	Nonpurgeable Organic Carbon in aqueous matrices	2329885, 2329886, 2329887

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	05/25/2022			05/25/2022 15:24	Samantha L Bates	2329884
	05/25/2022			05/25/2022 15:42	Samantha L Bates	2329882, 2329883
	05/25/2022			05/25/2022 14:50	Khloe J Berg	2329884
EPA 180.1 Rev. 2.0	05/25/2022			05/25/2022 14:55	Khloe J Berg	2329882
	05/25/2022			05/25/2022 14:57	Khloe J Berg	2329883
	05/25/2022			06/01/2022 20:25	Anna M. Plaviak	2329882
EPA 300.0 Rev. 2.1	05/25/2022			06/01/2022 20:37	Anna M. Plaviak	2329883
	05/25/2022			06/01/2022 20:49	Anna M. Plaviak	2329884
	05/25/2022			06/13/2022 14:14	Judith K. Clark	2329885
EPA 350.1 Rev. 2.0	05/25/2022			06/14/2022 09:54	Ping Hua	2329886
	05/25/2022			06/14/2022 10:05	Ping Hua	2329887
	05/25/2022	06/02/2022 15:43	Samantha L Bates	06/03/2022 14:46	Alexandra J Mattheus	2329885
EPA 351.2 Rev. 2.0	05/25/2022	06/02/2022 15:43	Samantha L Bates	06/03/2022 14:48	Alexandra J Mattheus	2329886
	05/25/2022	06/02/2022 15:43	Samantha L Bates	06/03/2022 14:50	Alexandra J Mattheus	2329887
	05/25/2022			06/01/2022 16:51	Nathaniel J Jones	2329885
EPA 353.2 Rev. 2.0	05/25/2022			06/01/2022 16:52	Nathaniel J Jones	2329886
	05/25/2022			06/01/2022 16:53	Nathaniel J Jones	2329887
	05/25/2022	05/27/2022 16:17	Adam P Silver	05/31/2022 12:21	James L Waggeberby	2329887
EPA 365.1 Rev. 2.0	05/25/2022	05/27/2022 16:17	Adam P Silver	05/31/2022 16:28	James L Waggeberby	2329885
	05/25/2022	05/27/2022 16:17	Adam P Silver	05/31/2022 16:29	James L Waggeberby	2329886
	05/25/2022			05/25/2022 18:26	Nathaniel J Jones	2329888
EPA 365.1 Rev. 2.0 dissolved	05/25/2022			05/25/2022 18:27	Nathaniel J Jones	2329889
	05/25/2022			05/25/2022 18:28	Nathaniel J Jones	2329890
	05/25/2022			05/27/2022 10:22	Dale L. Simmons	2329882
SM 2320 B-2011	05/25/2022			05/27/2022 10:32	Dale L. Simmons	2329883
	05/25/2022			05/27/2022 10:43	Dale L. Simmons	2329884
	05/25/2022			05/27/2022 14:56	Yijie Li	2329882, 2329883, 2329884
SM 2540 C-2011	05/25/2022			05/27/2022 14:56	Yijie Li	2329882, 2329883, 2329884
SM 2540 D-2011	05/25/2022			06/14/2022 06:16	Dale L. Simmons	2329882
	05/25/2022			06/14/2022 07:10	Dale L. Simmons	2329883
	05/25/2022			06/14/2022 07:16	Dale L. Simmons	2329884
SM 4500-F- C-2011	05/25/2022			05/28/2022 03:37	Khloe J Berg	2329885
	05/25/2022			05/28/2022 03:51	Khloe J Berg	2329886
	05/25/2022			05/28/2022 04:08	Khloe J Berg	2329887