

Chemical Analysis Report

SO-DIST-2022-06-29-01

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

Event Description: **2022 SMP : Sebring Lakes**
Request ID: **RQ-2022-06-27-35**
Customer: **SO-DIST**
Project ID: **SMP**

Send Reports to:
FL Dept. of Environmental Protection
FLDEP South District Office
2295 Victoria Ave. Suite 364
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Certified by: Kerry Tate, Ph.D., Environmental Administrator

Date Certified: 20-JUL-2022 11:51

A handwritten signature in black ink that reads "Kerry Tate". The signature is written in a cursive, flowing style with a horizontal line above the "T" in "Tate".

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 Denton

Collection Date/Time: 06/28/2022 10:15

Field ID: G4SD0180

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2337906	DEP SOP: NU-094-1	Color (true)	2.5	U	PCU	P415985	
	EPA 180.1 Rev. 2.0	Turbidity	0.25	I	NTU	P415989	
	EPA 300.0 Rev. 2.1	Chloride	21		mg Cl/L	P416149	
		Sulfate	45		mg SO4/L	P416152	
	SM 2320 B-2011	Total Alkalinity	40		mg CaCO3/L	P416321	
	SM 2540 C-2011	TDS	152		mg/L	P416197	
	SM 2540 D-2011	TSS	2	U	mg/L	P416166	
	SM 4500-F- C-2011	Fluoride	0.23		mg F/L	P416325	
		Ammonia-N	0.017		mg N/L	P416265	
		Kjeldahl Nitrogen	0.40		mg N/L	P416177	
2337909	EPA 350.1 Rev. 2.0	Ammonia-N	0.017		mg N/L	P416265	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.40		mg N/L	P416177	
	EPA 353.2 Rev. 2.0	NO2NO3-N	2.7		mg N/L	P416428	
	EPA 365.1 Rev. 2.0	Total-P	0.002	U	mg P/L	P416139	
	SM 5310 B-2011	Organic Carbon	1.7		mg C/L	P416106	

Sample Location: Little Lake Jackson

Collection Date/Time: 06/28/2022 11:50

Field ID: G4SD0183

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2337907	DEP SOP: NU-094-1	Color (true)	17		PCU	P415985	
	EPA 180.1 Rev. 2.0	Turbidity	1.4		NTU	P415989	
	EPA 300.0 Rev. 2.1	Chloride	17		mg Cl/L	P416149	
		Sulfate	15		mg SO4/L	P416152	
	SM 2320 B-2011	Total Alkalinity	2.8		mg CaCO3/L	P416321	
	SM 2540 C-2011	TDS	71		mg/L	P416197	
	SM 2540 D-2011	TSS	2	I	mg/L	P416166	
	SM 4500-F- C-2011	Fluoride	0.079	I	mg F/L	P416325	
2337910	EPA 350.1 Rev. 2.0	Ammonia-N	0.002	U	mg N/L	P416259	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.66		mg N/L	P416181	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P416429	
	EPA 365.1 Rev. 2.0	Total-P	0.028		mg P/L	P416139	
	SM 5310 B-2011	Organic Carbon	7.1		mg C/L	P416106	

Sample Location: Lake Glenada

Collection Date/Time: 06/28/2022 11:00

Field ID: G4SD0179

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2337908	DEP SOP: NU-094-1	Color (true)	23		PCU	P415985	
	EPA 180.1 Rev. 2.0	Turbidity	3.3		NTU	P415989	
	EPA 300.0 Rev. 2.1	Chloride	26		mg Cl/L	P416149	
		Sulfate	17		mg SO4/L	P416152	
	SM 2320 B-2011	Total Alkalinity	32		mg CaCO3/L	P416321	
	SM 2540 C-2011	TDS	128		mg/L	P416198	
	SM 2540 D-2011	TSS	2	I	mg/L	P416167	
	SM 4500-F- C-2011	Fluoride	0.089	I	mg F/L	P416325	
2337911	EPA 350.1 Rev. 2.0	Ammonia-N	0.002	I	mg N/L	P416259	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.77		mg N/L	P416181	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P416429	
	EPA 365.1 Rev. 2.0	Total-P	0.029		mg P/L	P416139	
	SM 5310 B-2011	Organic Carbon	12		mg C/L	P416106	

Ref. Method and Comment:

SM 2540 D-2011: 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: P415985

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P415989

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P416149

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P416152

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P416259

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P416265

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P416177

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P416181

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P416428

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: P416429

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P416139

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

Reference Method: SM 2320 B-2011
Batch ID: P416321

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

Reference Method: SM 2540 C-2011
Batch ID: P416197

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 C-2011
Batch ID: P416198

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-2011
Batch ID: P416166

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 2540 D-2011
Batch ID: P416167

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500-F- C-2011
Batch ID: P416325

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-2011
Batch ID: P416106

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: P415985

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Color (true)	96.1		P	85 - 115

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P415989

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Turbidity	95.8		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P416149

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P416152

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P416259

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Ammonia-N	94.6		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P416265

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Ammonia-N	95.4		P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P416177

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P416181

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Kjeldahl Nitrogen	107		P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P416428

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

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P416429

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P416139

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

Reference Method: SM 2320 B-2011
Batch ID: P416321

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	99.2		P	94 - 106

Reference Method: SM 4500-F- C-2011
Batch ID: P416325

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	98.4		P	96 - 104

Reference Method: SM 5310 B-2011
Batch ID: P416106

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	97.4		P	85 - 115

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P416149

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2337729	Chloride	98.4		P	90 - 110
2337733	Chloride	99.4		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P416152

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2337729	Sulfate	98.8		P	90 - 110
2337733	Sulfate	100		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P416259

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2337911	Ammonia-N	100	100	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P416265

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2337909	Ammonia-N	98.4	96.8	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P416177

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2337478	Kjeldahl Nitrogen	101	104	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P416181

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2337734	Kjeldahl Nitrogen	97.0	96.5	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P416428

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2337646	NO2NO3-N	98.5	100	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P416429

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2337910	NO2NO3-N	102	106	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P416139

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2337909	Total-P	102	104	P/P	90 - 110

Quality Assurance Report

Matrix Spike Accuracy

Reference Method: SM 4500-F- C-2011
Batch ID: P416325

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2338014	Fluoride	99.2	99.2	P/P	94 - 104

Reference Method: SM 5310 B-2011
Batch ID: P416106

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2337911	Organic Carbon	100	100	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: DEP SOP: NU-094-1
Batch ID: P415985

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2337846	Color (true)	1.23	Sample	P	0 - 20

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P415989

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2337729	Turbidity	0.0	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P416149

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2337729	Chloride	0.118	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P416152

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2337729	Sulfate	0.0320	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P416259

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2337911	Ammonia-N	0.0	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P416265

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2337909	Ammonia-N	1.22	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P416177

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2337478	Kjeldahl Nitrogen	1.61	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P416181

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2337734	Kjeldahl Nitrogen	0.443	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P416428

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2337646	NO2NO3-N	0.966	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P416429

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2337910	NO2NO3-N	2.88	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P416139

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2337909	Total-P	1.60	Spike	P	0 - 20

Reference Method: SM 2320 B-2011
Batch ID: P416321

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2338014	Total Alkalinity	0.255	Sample	P	0 - 3.8

Reference Method: SM 2540 C-2011
Batch ID: P416197

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2337729	TDS	0.0	Sample	P	0 - 10

Reference Method: SM 2540 C-2011
Batch ID: P416198

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2338269	TDS	0.913	Sample	P	0 - 10

Reference Method: SM 2540 D-2011
Batch ID: P416166

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2337729	TSS	6.67	Sample	P	0 - 10

Reference Method: SM 4500-F- C-2011
Batch ID: P416325

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2338014	Fluoride	0.0	Spike	P	0 - 1.6

Quality Assurance Report Precision

Reference Method: SM 5310 B-2011
Batch ID: P416106

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2337911	Organic Carbon	0.0628	Spike	P	0 - 20

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

Quality Assurance Report Calibration Verification

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A113156

Included Lab Sample IDs: 2337906, 2337907, 2337908

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	99.7	100	P/P	90 - 110
Sulfate	99.7	100	P/P	90 - 110

Reference Method: DEP SOP: NU-094-1

Run ID: A113169

Included Lab Sample IDs: 2337906, 2337907, 2337908

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	96.7	98.7	P/P	85 - 115

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A113170

Included Lab Sample IDs: 2337906, 2337907, 2337908

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Turbidity	99.0	99.0	P/P	95 - 105
Turbidity	99.0	99.5	P/P	95 - 105

Reference Method: SM 5310 B-2011

Run ID: A113244

Included Lab Sample IDs: 2337909, 2337910, 2337911

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

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A113326

Included Lab Sample IDs: 2337910, 2337911

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	97.5	97.8	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A113332

Included Lab Sample IDs: 2337909

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	97.4	97.8	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A113361

Included Lab Sample IDs: 2337909, 2337910, 2337911

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	98.8	97.8	P/P	90 - 110
Total-P	99.2	98.8	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: SM 2320 B-2011

Run ID: A113365

Included Lab Sample IDs: 2337906, 2337907, 2337908

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	98.0	101	P/P	90 - 110

Reference Method: SM 4500-F- C-2011

Run ID: A113365

Included Lab Sample IDs: 2337906, 2337907, 2337908

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

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A113419

Included Lab Sample IDs: 2337909

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	109	110	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A113420

Included Lab Sample IDs: 2337909, 2337910, 2337911

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	102	104	P/P	90 - 110
NO2NO3-N	103	103	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A113474

Included Lab Sample IDs: 2337910, 2337911

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	105	97.4	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	MS
DEP SOP: NU-094-1	Color (true)	96.1			1.23	
EPA 180.1 Rev. 2.0	Turbidity	95.8			0.0	
EPA 300.0 Rev. 2.1	Chloride	101	98.4	99.4	0.118	
	Sulfate	101	98.8	100	0.0320	
EPA 350.1 Rev. 2.0	Ammonia-N	94.6	100	100		0.0
	Ammonia-N	95.4	98.4	96.8		1.22
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	102	101	104		1.61
	Kjeldahl Nitrogen	107	97.0	96.5		0.443
EPA 353.2 Rev. 2.0	NO2NO3-N	102	98.5	100		0.966
	NO2NO3-N	102	102	106		2.88
EPA 365.1 Rev. 2.0	Total-P	102	102	104		1.60
SM 2320 B-2011	Total Alkalinity	99.2			0.255	
SM 2540 C-2011	TDS				0.0	
	TDS				0.913	
SM 2540 D-2011	TSS				6.67	
SM 4500-F- C-2011	Fluoride	98.4	99.2	99.2		0.0
SM 5310 B-2011	Organic Carbon	97.4	100	100		0.0628

Reference Method Descriptions

Method	Description	Associated Samples
DEP SOP: NU-094-1	True Color measured at 450 nm (not valid for NPDES monitoring)	2337906, 2337907, 2337908
EPA 180.1 Rev. 2.0	Turbidity in aqueous matrices	2337906, 2337907, 2337908
EPA 300.0 Rev. 2.1	Chloride in aqueous matrices	2337906, 2337907, 2337908
EPA 300.0 Rev. 2.1	Sulfate in aqueous matrices	2337906, 2337907, 2337908
EPA 350.1 Rev. 2.0	Ammonia in aqueous matrices as mg N/L	2337909, 2337910, 2337911
EPA 351.2 Rev. 2.0	Total Kjeldahl Nitrogen in aqueous matrices	2337909, 2337910, 2337911
EPA 353.2 Rev. 2.0	Nitrite/Nitrate in aqueous matrices as mg N/L	2337909, 2337910, 2337911
EPA 365.1 Rev. 2.0	Total Phosphorus in aqueous matrices as mg P/L	2337909, 2337910, 2337911
SM 2320 B-2011	Alkalinity in aqueous matrices as mg CaCO3/L	2337906, 2337907, 2337908
SM 2540 C-2011	Total Dissolved Solids in aqueous matrices	2337906, 2337907, 2337908
SM 2540 D-2011	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2337906, 2337907, 2337908
SM 4500-F- C-2011	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2337906, 2337907, 2337908
SM 5310 B-2011	Nonpurgeable Organic Carbon in aqueous matrices	2337909, 2337910, 2337911

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	06/29/2022			06/29/2022 15:37	Anna M. Plaviak	2337906, 2337907
	06/29/2022			06/29/2022 15:38	Anna M. Plaviak	2337908
EPA 180.1 Rev. 2.0	06/29/2022			06/29/2022 14:16	Khloe J Berg	2337906, 2337907
	06/29/2022			06/29/2022 14:19	Khloe J Berg	2337908
EPA 300.0 Rev. 2.1	06/29/2022			07/02/2022 04:42	Anna M. Plaviak	2337906
	06/29/2022			07/02/2022 04:54	Anna M. Plaviak	2337907
	06/29/2022			07/02/2022 05:06	Anna M. Plaviak	2337908
EPA 350.1 Rev. 2.0	06/29/2022			07/06/2022 13:03	Ping Hua	2337911
	06/29/2022			07/06/2022 13:07	Ping Hua	2337910
	06/29/2022			07/07/2022 11:53	Ping Hua	2337909
EPA 351.2 Rev. 2.0	06/29/2022	07/08/2022 11:42	Alexandra J Mattheus	07/11/2022 13:48	Alexandra J Mattheus	2337909
	06/29/2022	07/12/2022 12:13	Simonne.V. Calhoun	07/13/2022 11:50	Alexandra J Mattheus	2337910
	06/29/2022	07/12/2022 12:13	Simonne.V. Calhoun	07/13/2022 11:51	Alexandra J Mattheus	2337911
EPA 353.2 Rev. 2.0	06/29/2022			07/11/2022 13:02	Judith K. Clark	2337910
	06/29/2022			07/11/2022 13:08	Judith K. Clark	2337911
	06/29/2022			07/11/2022 13:57	Judith K. Clark	2337909
EPA 365.1 Rev. 2.0	06/29/2022	07/06/2022 16:30	Adam P Silver	07/07/2022 17:12	James L Waggeberby	2337909
	06/29/2022	07/06/2022 16:30	Adam P Silver	07/07/2022 17:15	James L Waggeberby	2337910
	06/29/2022	07/06/2022 16:30	Adam P Silver	07/07/2022 17:23	James L Waggeberby	2337911
SM 2320 B-2011	06/29/2022			07/06/2022 22:09	Dale L. Simmons	2337906
	06/29/2022			07/06/2022 22:19	Dale L. Simmons	2337907
	06/29/2022			07/06/2022 22:33	Dale L. Simmons	2337908
SM 2540 C-2011	06/29/2022			07/01/2022 14:10	Ping Hua	2337906, 2337907, 2337908
SM 2540 D-2011	06/29/2022			07/01/2022 14:10	Ping Hua	2337906, 2337907, 2337908
SM 4500-F- C-2011	06/29/2022			07/06/2022 22:09	Dale L. Simmons	2337906
	06/29/2022			07/06/2022 22:19	Dale L. Simmons	2337907
	06/29/2022			07/06/2022 22:33	Dale L. Simmons	2337908
SM 5310 B-2011	06/29/2022			06/30/2022 14:15	Khloe J Berg	2337911
	06/29/2022			06/30/2022 20:30	Khloe J Berg	2337909
	06/29/2022			06/30/2022 20:46	Khloe J Berg	2337910