

Chemical Analysis Report

CEN-DIST-2021-08-04-04

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

Event Description: **Lake Leonore/Lake Belle**
Request ID: **RQ-2021-05-17-22**
Customer: **CEN-DIST**
Project ID: **SMP**

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Certified by: Kerry Tate, Ph.D., Environmental Administrator

Date Certified: 30-AUG-2021 10:57

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" and a long horizontal stroke at the end.

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 Belle near Peninsula Dr

Collection Date/Time: 08/03/2021 12:15

Field ID: G3CE0043

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2267181	EPA 180.1 Rev. 2.0	Turbidity	1.7		NTU	P401996	
	EPA 300.0 Rev. 2.1	Chloride	36		mg Cl/L	P402412	
		Sulfate	36		mg SO4/L	P402415	
	SM 2120 B-2011	Color (true)	13		PCU	P402001	
	SM 2320 B-2011	Total Alkalinity	37		mg CaCO3/L	P402115	
	SM 2540 C-2011	TDS	153		mg/L	P402433	
	SM 2540 D-2011	TSS	2	I	mg/L	P402191	
	SM 4500 F-C-2011	Fluoride	0.14		mg F/L	P402117	
2267184	EPA 350.1 Rev. 2.0	Ammonia-N	0.005	I	mg N/L	P402383	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.55		mg N/L	P402885	MS
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P402105	
	EPA 365.1 Rev. 2.0	Total-P	0.018		mg P/L	P402209	
	SM 5310 B-2011	Organic Carbon	5.4		mg C/L	P402490	
2267187	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P401990	

Ref. Method and Comment:

SM 2540 D-2011: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.

Sample Location: Lake Belle North Cove

Collection Date/Time: 08/03/2021 12:25

Field ID: G3CE0044

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2267182	EPA 180.1 Rev. 2.0	Turbidity	1.7		NTU	P401996	
	EPA 300.0 Rev. 2.1	Chloride	37		mg Cl/L	P402412	
		Sulfate	36		mg SO4/L	P402415	
	SM 2120 B-2011	Color (true)	13		PCU	P402001	
	SM 2320 B-2011	Total Alkalinity	37	A	mg CaCO3/L	P402115	
	SM 2540 C-2011	TDS	156		mg/L	P402433	
	SM 2540 D-2011	TSS	2	I	mg/L	P402191	
	SM 4500 F-C-2011	Fluoride	0.14		mg F/L	P402117	
	EPA 350.1 Rev. 2.0	Ammonia-N	0.004	I	mg N/L	P402383	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.56		mg N/L	P402885	MS
2267185	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P402105	
	EPA 365.1 Rev. 2.0	Total-P	0.019		mg P/L	P402209	
	SM 5310 B-2011	Organic Carbon	5.3		mg C/L	P402490	
	EPA 365.1 Rev. 2.0	O-Phosphate-P	0.004	U	mg P/L	P401991	
	dissolved						

Ref. Method and Comment:

SM 2540 D-2011: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.

Sample Location: Lake Belle East Cove

Collection Date/Time: 08/03/2021 12:45

Field ID: G3CE0045

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2267183	EPA 180.1 Rev. 2.0	Turbidity	1.6		NTU	P401996	
	EPA 300.0 Rev. 2.1	Chloride	38		mg Cl/L	P402412	
		Sulfate	37		mg SO4/L	P402415	
	SM 2120 B-2011	Color (true)	15		PCU	P402001	
	SM 2320 B-2011	Total Alkalinity	38		mg CaCO3/L	P402115	
	SM 2540 C-2011	TDS	145		mg/L	P402433	
	SM 2540 D-2011	TSS	3	I	mg/L	P402191	
	SM 4500 F-C-2011	Fluoride	0.15		mg F/L	P402117	
	EPA 350.1 Rev. 2.0	Ammonia-N	0.006		mg N/L	P402383	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.65		mg N/L	P402885	MS
2267186	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P402105	
	EPA 365.1 Rev. 2.0	Total-P	0.018		mg P/L	P402437	MS
	SM 5310 B-2011	Organic Carbon	6.1		mg C/L	P402490	
	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P401991	
2267189	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P401991	

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: EPA 180.1 Rev. 2.0
Batch ID: P401996

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P402412

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P402415

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P402383

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P402885

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P402105

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P402209

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P402437

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P401990

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

Quality Assurance Report

Method Blank Results

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P401991

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

Reference Method: SM 2120 B-2011
Batch ID: P402001

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2320 B-2011
Batch ID: P402115

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

Reference Method: SM 2540 C-2011
Batch ID: P402433

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-2011
Batch ID: P402191

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500 F-C-2011
Batch ID: P402117

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-2011
Batch ID: P402490

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

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P402412

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P402415

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P402383

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Ammonia-N	99.6		P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P402885

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P402105

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: P402209

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P402437

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P401990

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P401991

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

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: SM 2120 B-2011
Batch ID: P402001

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Color (true)	98.3		P	85 - 115

Reference Method: SM 2320 B-2011
Batch ID: P402115

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

Reference Method: SM 4500 F-C-2011
Batch ID: P402117

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	99.5		P	93 - 104

Reference Method: SM 5310 B-2011
Batch ID: P402490

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	97.0		P	85 - 115

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P402412

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2267169	Chloride	97.8		P	90 - 110
2267317	Chloride	99.6		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P402415

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2267169	Sulfate	98.7		P	90 - 110
2267317	Sulfate	98.7		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P402383

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2267184	Ammonia-N	98.4	98.8	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P402885

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2267151	Kjeldahl Nitrogen	96.5	111	P/F	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P402105

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2267184	NO2NO3-N	99.5	96.0	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P402209

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2267082	Total-P	108	109	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P402437

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2267211	Total-P	114	106	F/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P401990

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2267074	O-Phosphate-P	97.1	98.1	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P401991

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2267251	O-Phosphate-P	104	97.2	P/P	90 - 110

Quality Assurance Report

Matrix Spike Accuracy

Reference Method: SM 4500 F-C-2011
Batch ID: P402117

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2267182	Fluoride	99.6	99.6	P/P	92 - 107

Reference Method: SM 5310 B-2011
Batch ID: P402490

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2267073	Organic Carbon	97.1	96.2	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P401996

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2267169	Turbidity	8.59	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P402412

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2267317	Chloride	1.35	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P402415

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2267317	Sulfate	0.597	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P402383

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2267184	Ammonia-N	0.369	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P402885

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2267151	Kjeldahl Nitrogen	8.13	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P402105

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2267184	NO2NO3-N	3.58	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P402209

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2267082	Total-P	0.690	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P402437

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2267211	Total-P	3.73	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 365.1 Rev. 2.0 dissolved
 Batch ID: P401990

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2267074	O-Phosphate-P	0.744	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
 Batch ID: P401991

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2267251	O-Phosphate-P	5.78	Spike	P	0 - 20

Reference Method: SM 2120 B-2011
 Batch ID: P402001

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2266806	Color (true)	3.13	Sample	P	0 - 20

Reference Method: SM 2320 B-2011
 Batch ID: P402115

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2267182	Total Alkalinity	0.584	Sample	P	0 - 5.2

Reference Method: SM 2540 C-2011
 Batch ID: P402433

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2267075	TDS	4.36	Sample	P	0 - 10

Reference Method: SM 4500 F-C-2011
 Batch ID: P402117

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2267182	Fluoride	0.0	Spike	P	0 - 2.1

Reference Method: SM 5310 B-2011
 Batch ID: P402490

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2267073	Organic Carbon	0.501	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: A107045

Included Lab Sample IDs: 2267187, 2267188, 2267189

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	97.7	98.8	P/P	90 - 110
O-Phosphate-P	98.3	97.7	P/P	90 - 110

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A107046

Included Lab Sample IDs: 2267181, 2267182, 2267183

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

Reference Method: SM 2120 B-2011

Run ID: A107047

Included Lab Sample IDs: 2267181, 2267182, 2267183

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	99.2	98.5	P/P	90 - 115

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A107091

Included Lab Sample IDs: 2267184, 2267185, 2267186

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	101	102	P/P	90 - 110

Reference Method: SM 2320 B-2011

Run ID: A107093

Included Lab Sample IDs: 2267181, 2267182, 2267183

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	103	99.4	P/P	90 - 110
Total Alkalinity	99.4	101	P/P	90 - 110

Reference Method: SM 4500 F-C-2011

Run ID: A107093

Included Lab Sample IDs: 2267181, 2267182, 2267183

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

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A107166

Included Lab Sample IDs: 2267181, 2267182, 2267183

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	99.1	99.0	P/P	90 - 110
Sulfate	98.7	98.3	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A107180

Included Lab Sample IDs: 2267184, 2267185

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

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A107211

Included Lab Sample IDs: 2267184, 2267185, 2267186

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

Reference Method: SM 5310 B-2011

Run ID: A107256

Included Lab Sample IDs: 2267184, 2267185, 2267186

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

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A107317

Included Lab Sample IDs: 2267186

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

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A107458

Included Lab Sample IDs: 2267184, 2267185, 2267186

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	99.3	103	P/P	90 - 110

* Pass/Fail determinations are made for each bracketing calibration verification check.

Control limits for initial calibration checks may be different from those for continuing checks, depending on method requirements.

Where they are different, both control limits are provided.

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery		LCS	Precision	MS
						SMP	
EPA 180.1 Rev. 2.0	Turbidity					8.59	
EPA 300.0 Rev. 2.1	Chloride	101	99.6	97.8		1.35	
	Sulfate	101	98.7	98.7		0.597	
EPA 350.1 Rev. 2.0	Ammonia-N	99.6	98.4	98.8			0.369
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	102	96.5	111			8.13
EPA 353.2 Rev. 2.0	NO ₂ NO ₃ -N	100	99.5	96.0			3.58
EPA 365.1 Rev. 2.0	Total-P	106	108	109			0.690
	Total-P	108	114	106			3.73
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	100	97.1	98.1			0.744
	O-Phosphate-P	101	104	97.2			5.78
SM 2120 B-2011	Color (true)	98.3				3.13	
SM 2320 B-2011	Total Alkalinity	100				0.584	
SM 2540 C-2011	TDS					4.36	
SM 4500 F-C-2011	Fluoride	99.5	99.6	99.6			0.0
SM 5310 B-2011	Organic Carbon	97.0	97.1	96.2			0.501

Reference Method Descriptions

Method	Description	Associated Samples
EPA 180.1 Rev. 2.0	Turbidity in aqueous matrices	2267181, 2267182, 2267183
EPA 300.0 Rev. 2.1	Chloride in aqueous matrices	2267181, 2267182, 2267183
EPA 300.0 Rev. 2.1	Sulfate in aqueous matrices	2267181, 2267182, 2267183
EPA 350.1 Rev. 2.0	Ammonia in aqueous matrices as mg N/L	2267184, 2267185, 2267186
EPA 351.2 Rev. 2.0	Total Kjeldahl Nitrogen in aqueous matrices	2267184, 2267185, 2267186
EPA 353.2 Rev. 2.0	Nitrite/Nitrate in aqueous matrices as mg N/L	2267184, 2267185, 2267186
EPA 365.1 Rev. 2.0	Total Phosphorus in aqueous matrices as mg P/L	2267184, 2267185, 2267186
EPA 365.1 Rev. 2.0 dissolved	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	2267187, 2267188, 2267189
SM 2120 B-2011	True Color measured at 450 nm (not valid for NPDES monitoring)	2267181, 2267182, 2267183
SM 2320 B-2011	Alkalinity in aqueous matrices as mg CaCO ₃ /L	2267181, 2267182, 2267183
SM 2540 C-2011	Total Dissolved Solids in aqueous matrices	2267181, 2267182, 2267183
SM 2540 D-2011	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2267181, 2267182, 2267183
SM 4500 F-C-2011	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2267181, 2267182, 2267183
SM 5310 B-2011	Nonpurgeable Organic Carbon in aqueous matrices	2267184, 2267185, 2267186

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
EPA 180.1 Rev. 2.0	08/04/2021			08/04/2021 15:23	Sarah A Nixon	2267181, 2267182, 2267183
EPA 300.0 Rev. 2.1	08/04/2021			08/11/2021 19:28	Lipi Saha	2267181
	08/04/2021			08/11/2021 19:40	Lipi Saha	2267182
	08/04/2021			08/11/2021 19:53	Lipi Saha	2267183
EPA 350.1 Rev. 2.0	08/04/2021			08/12/2021 11:20	Roberta Tatti	2267184
	08/04/2021			08/12/2021 11:24	Roberta Tatti	2267185
	08/04/2021			08/12/2021 11:26	Roberta Tatti	2267186
EPA 351.2 Rev. 2.0	08/04/2021	08/24/2021 13:34	Benjamin T. Nordmann	08/25/2021 09:37	Virginia P. Brown	2267184
	08/04/2021	08/24/2021 13:34	Benjamin T. Nordmann	08/25/2021 09:38	Virginia P. Brown	2267185
	08/04/2021	08/24/2021 13:34	Benjamin T. Nordmann	08/25/2021 09:40	Virginia P. Brown	2267186
EPA 353.2 Rev. 2.0	08/04/2021			08/06/2021 10:15	Beverly Y. Sanders	2267184
	08/04/2021			08/06/2021 10:21	Beverly Y. Sanders	2267185
	08/04/2021			08/06/2021 10:22	Beverly Y. Sanders	2267186
EPA 365.1 Rev. 2.0	08/04/2021	08/10/2021 13:06	Simonne.V. Calhoun	08/11/2021 11:38	Shengyu Ding	2267184
	08/04/2021	08/10/2021 13:06	Simonne.V. Calhoun	08/11/2021 11:39	Shengyu Ding	2267185
	08/04/2021	08/13/2021 15:00	Simonne.V. Calhoun	08/16/2021 11:05	Shengyu Ding	2267186
EPA 365.1 Rev. 2.0 dissolved	08/04/2021			08/04/2021 15:14	Patrick M. Roche	2267187
	08/04/2021			08/04/2021 15:24	Patrick M. Roche	2267188
	08/04/2021			08/04/2021 15:25	Patrick M. Roche	2267189
SM 2120 B-2011	08/04/2021			08/04/2021 15:55	Sarah A Nixon	2267181
	08/04/2021			08/04/2021 15:56	Sarah A Nixon	2267182
	08/04/2021			08/04/2021 15:57	Sarah A Nixon	2267183
SM 2320 B-2011	08/04/2021			08/05/2021 14:56	Dale L. Simmons	2267182
	08/04/2021			08/05/2021 17:20	Dale L. Simmons	2267181
	08/04/2021			08/05/2021 17:34	Dale L. Simmons	2267183
SM 2540 C-2011	08/04/2021			08/06/2021 15:32	Yijie Li	2267181, 2267182, 2267183
SM 2540 D-2011	08/04/2021			08/06/2021 15:32	Yijie Li	2267181, 2267182, 2267183
SM 4500 F-C-2011	08/04/2021			08/05/2021 14:45	Dale L. Simmons	2267182
	08/04/2021			08/05/2021 17:20	Dale L. Simmons	2267181
	08/04/2021			08/05/2021 17:34	Dale L. Simmons	2267183
SM 5310 B-2011	08/04/2021			08/14/2021 06:09	Touraj Touran	2267184
	08/04/2021			08/14/2021 06:22	Touraj Touran	2267185
	08/04/2021			08/14/2021 06:35	Touraj Touran	2267186