

Chemical Analysis Report

CEN-DIST-2021-06-18-01

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

Event Description: **Lake Belle/Lake Leonore**
Request ID: **RQ-2021-05-03-26**
Customer: **CEN-DIST**
Project ID: **SMP**

Send Reports to:
FL Dept. of Environmental Protection
FL Dept. of Environmental Protection
3319 Maguire Blvd., Suite 232
Orlando, FL 32803-3767
Attn: Kalina Warren

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: 14-JUL-2021 11:05

A handwritten signature in black ink that reads "Kerry Tate". The signature is written in a cursive, flowing style.

NON-CONFORMANCE REPORT INCLUDED

Case Narrative

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

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

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

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

Results for TNI accredited tests met requirements established by The NELAC Institute. A double asterisk (**) is used to indicate an analyte/matrix/method for which the laboratory is not TNI accredited by the Florida Department of Health Environmental Laboratory Certification Program or where accreditation for that field of testing is not applicable.

Any significant anomalies or deviations from established protocols are documented in Non-Conformance Reports, which, where appropriate, are included within this analytical report. Additional comments related to specific analytical tests may be included as remarks following the analytical results for each sample. Such comments and remarks are for informational purposes only and are not intended to convey judgement about the usability of the reported data.

A quality control report on the performance of the test method for the submitted samples is included. Uncertainty associated with the analytical results contained in this report can be estimated from the reported quality assurance results and from published quality control acceptance limits for each analytical test. Matrix quality control results (matrix spike recoveries and matrix sample precision) pertain only to the matrix sample tested and do not necessarily reflect test method performance for other samples.

Typical matrix quality control (QC) measurements may include matrix spike recovery, matrix spike duplicate recovery, matrix spike precision and matrix sample precision. Not all matrix QC results may be available or reportable; where they are not an explanation is provided. Typical reasons for unavailable QC results include, but are not limited to, a) insufficient matrix sample to perform some or all QC measurements; b) analyte concentration in the sample replicated was too low for a meaningful measurement of precision and c) analyte concentration in the matrix sample spiked was too high (relative to the amount of analyte spiked) for a meaningful measurement of recovery. Where matrix QC results are unavailable, other method performance metrics (e.g., LCS recovery, LCS precision, surrogate recovery) may be used to assess performance of the method. Comments explaining any missing QC measurements are not intended to convey any adverse conclusions about the quality of the reported data.

Precision is reported as relative percent difference unless otherwise noted.

Quality Control codes as defined below may be used in this report to indicate results that are associated with one or more quality control elements which did not fall within established test method criteria. Such results may be qualified as estimates using a J qualifier as required by 62-160 F.A.C. Explanations are included in the report for any results that were reported as estimates for other reasons.

QC Codes used in this report may include:

- LCS – Recovery for the batch Laboratory Control Sample (LCS) was outside existing control limits;
- MS – Recovery for the batch matrix spike (MS) was outside existing control limits;
- CCV – Recovery for a continuing calibration verification (CCV) standard was outside existing control limits;
- SUR – Recovery of a surrogate (SUR) for associated analytes was outside existing control limits;
- RPD – The precision, measured as relative percent difference (RPD), of batch replicate measurements was outside existing control limits;
- RSD – The precision, measured as relative standard deviation (RSD), of batch replicate measurements was outside existing control limits;
- SMP – Sample - used precision derived from replicate analyses of a sample;

The following data qualifiers are used, where applicable, in this report as specified in 62-160 F.A.C.

- A - Value reported is the mean of two or more determinations.
- B - Results based on colony counts outside the acceptable range.
- I - The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.
- J - Estimated value and/or the analysis did not meet established quality control criteria.
- K - Actual value is known to be less than value given.
- L - Actual value is known to be greater than value given.
- N - Presumptive evidence of presence of material.
- O - Sampled, but analysis lost or not performed.
- Q - Sample held beyond normal holding time.
- T - Value reported is less than the criterion of detection.
- U - Material was analyzed for but not detected. The reported value is the method detection limit for the sample analyzed.
- V - Analyte was detected in both sample and method blank.
- X - Too few individuals to calculate SCI value.
- Y - The laboratory analysis was from an unpreserved or improperly preserved sample. The data may not be accurate.
- Z - Colonies were too numerous to count (TNTC).

Quality control information from overflow laboratories may not be included in this report. Please refer to the associated report from the overflow laboratory for additional information.

Sample Location: Lake Belle North Cove

Collection Date/Time: 06/17/2021 11:45

Field ID: G3CE0044

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2256031	EPA 180.1 Rev. 2.0	Turbidity	2.0		NTU	P399959	
	EPA 300.0 Rev. 2.1	Chloride	37	A	mg Cl/L	P400506	
		Sulfate	36	A	mg SO4/L	P400507	
		Color (true)	13	A	PCU	P399957	
	SM 2320 B-2011	Total Alkalinity	38		mg CaCO3/L	P400372	
	SM 2540 C-2011	TDS	155		mg/L	P400344	
	SM 2540 D-2011	TSS	3	I	mg/L	P400171	
	SM 4500 F-C-2011	Fluoride	0.15		mg F/L	P400375	
2256034	EPA 350.1 Rev. 2.0	Ammonia-N	0.005		mg N/L	P400335	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.68		mg N/L	P400320	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P400030	
	EPA 365.1 Rev. 2.0	Total-P	0.022		mg P/L	P400298	
	SM 5310 B-2011	Organic Carbon	5.5		mg C/L	P400361	
2256037	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P399949	

Ref. Method and Comment:

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

EPA 351.2 Rev. 2.0: Batch matrix spike recoveries are unavailable because of high analyte concentration in the QC sample.

Sample Location: Lake Belle Near Peninsula Dr.

Collection Date/Time: 06/17/2021 12:20

Field ID: G3CE0043

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2256032	EPA 180.1 Rev. 2.0	Turbidity	2.0		NTU	P399959	
	EPA 300.0 Rev. 2.1	Chloride	36		mg Cl/L	P400506	
		Sulfate	36		mg SO4/L	P400507	
	SM 2120 B-2011	Color (true)	14		PCU	P399957	
	SM 2320 B-2011	Total Alkalinity	40	A	mg CaCO3/L	P400372	
	SM 2540 C-2011	TDS	164	A	mg/L	P400344	
	SM 2540 D-2011	TSS	3	IA	mg/L	P400171	
	SM 4500 F-C-2011	Fluoride	0.15		mg F/L	P400375	
2256035	EPA 350.1 Rev. 2.0	Ammonia-N	0.005	IY	mg N/L	P400335	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.64	Y	mg N/L	P400320	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	UY	mg N/L	P400030	
	EPA 365.1 Rev. 2.0	Total-P	0.019	Y	mg P/L	P400299	
	SM 5310 B-2011	Organic Carbon	5.5	Y	mg C/L	P400361	
2256038	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P399949	

Ref. Method and Comment:

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

EPA 350.1 Rev. 2.0: The sample was received unpreserved: pH > 2. Sample preserved in laboratory.

EPA 351.2 Rev. 2.0: Batch matrix spike recoveries are unavailable because of high analyte concentration in the QC sample. The sample was received unpreserved: pH > 2. Sample preserved in laboratory.

EPA 353.2 Rev. 2.0: The sample was received unpreserved: pH > 2. Sample preserved in laboratory.

EPA 365.1 Rev. 2.0: Total-P: The sample was received unpreserved: pH > 2. Sample preserved in laboratory.

SM 5310 B-2011: The sample was received unpreserved: pH > 2. Sample preserved in laboratory.

Sample Location: Lake Belle East Cove

Collection Date/Time: 06/17/2021 12:05

Field ID: G3CE0045

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2256033	EPA 180.1 Rev. 2.0	Turbidity	1.8		NTU	P399959	
	EPA 300.0 Rev. 2.1	Chloride	39		mg Cl/L	P400506	
		Sulfate	36		mg SO4/L	P400507	
	SM 2120 B-2011	Color (true)	16		PCU	P399957	
	SM 2320 B-2011	Total Alkalinity	42		mg CaCO3/L	P400372	
	SM 2540 C-2011	TDS	160	A	mg/L	P400345	
	SM 2540 D-2011	TSS	3	IA	mg/L	P400172	
	SM 4500 F-C-2011	Fluoride	0.15		mg F/L	P400375	
2256036	EPA 350.1 Rev. 2.0	Ammonia-N	0.005	I	mg N/L	P400335	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.78		mg N/L	P400320	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P400030	
	EPA 365.1 Rev. 2.0	Total-P	0.020		mg P/L	P400299	
	SM 5310 B-2011	Organic Carbon	6.2		mg C/L	P400361	
2256039	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P399949	

Ref. Method and Comment:

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

EPA 351.2 Rev. 2.0: Batch matrix spike recoveries are unavailable because of high analyte concentration in the QC sample.

Non-Conformance Report

NCR ID: 8896

Event(s)

CEN-DIST-2021-06-18-01

Job(s)

TLH-2021-06-18-67

Sample(s)

2256035

Test(s)

NCR Type: SHIPPING/RECEIVING

NCR Category: Preservation Not Intact

Observation: Sample not preserved to pH < 2.

Resolution: Sample preserved in the laboratory with sulfuric acid on 6-18-21 @ 10:05
H2SO4 Lot# SA1105060 | Expiration Date: 04/30/2022

Authorized by/Date: Joshua Ayres 6/28/2021

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

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

Quality Assurance Report Method Blank Results

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P399959

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P400506

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P400507

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P400335

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P400320

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P400030

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P400298

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P400299

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P399949

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

Quality Assurance Report

Method Blank Results

Reference Method: SM 2120 B-2011
Batch ID: P399957

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2320 B-2011
Batch ID: P400372

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

Reference Method: SM 2540 C-2011
Batch ID: P400344

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 C-2011
Batch ID: P400345

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-2011
Batch ID: P400171

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 2540 D-2011
Batch ID: P400172

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500 F-C-2011
Batch ID: P400375

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-2011
Batch ID: P400361

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: P400506

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P400507

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P400335

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Ammonia-N	98.6		P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P400320

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: P400030

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P400298

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P400299

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P399949

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
O-Phosphate-P	99.3		P	90 - 110

Reference Method: SM 2120 B-2011
Batch ID: P399957

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Color (true)	100		P	85 - 115

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: SM 2320 B-2011
Batch ID: P400372

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	102		P	94 - 106

Reference Method: SM 4500 F-C-2011
Batch ID: P400375

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	101		P	93 - 104

Reference Method: SM 5310 B-2011
Batch ID: P400361

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

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P400506

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2255816	Chloride	98.6		P	90 - 110
2256031	Chloride	96.3		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P400507

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2255816	Sulfate	95.8		P	90 - 110
2256031	Sulfate	97.6		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P400335

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2255945	Ammonia-N	96.0	95.8	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P400030

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2256034	NO2NO3-N	101	100	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P400298

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2255926	Total-P	103	102	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P400299

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2256173	Total-P	103	103	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P399949

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2256038	O-Phosphate-P	93.7	94.5	P/P	90 - 110

Reference Method: SM 4500 F-C-2011
Batch ID: P400375

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2256032	Fluoride	99.6	99.6	P/P	92 - 107

Reference Method: SM 5310 B-2011
Batch ID: P400361

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2255871	Organic Carbon	96.4	97.0	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P399959

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2255996	Turbidity	0.987	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P400506

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2256031	Chloride	0.439	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P400507

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2256031	Sulfate	0.675	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P400335

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2255945	Ammonia-N	0.192	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P400320

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2256269	Kjeldahl Nitrogen	0.437	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P400030

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2256034	NO2NO3-N	0.496	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P400298

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2255926	Total-P	1.05	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P400299

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2256173	Total-P	0.0447	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P399949

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2256038	O-Phosphate-P	0.850	Spike	P	0 - 20

Reference Method: SM 2120 B-2011
Batch ID: P399957

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2256031	Color (true)	5.55	Sample	P	0 - 20

Reference Method: SM 2320 B-2011
Batch ID: P400372

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2256032	Total Alkalinity	0.267	Sample	P	0 - 5.2

Reference Method: SM 2540 C-2011
Batch ID: P400344

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2256032	TDS	0.612	Sample	P	0 - 10

Reference Method: SM 2540 C-2011
Batch ID: P400345

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2256033	TDS	1.25	Sample	P	0 - 10

Reference Method: SM 4500 F-C-2011
Batch ID: P400375

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2256032	Fluoride	0.0	Spike	P	0 - 2.1

Reference Method: SM 5310 B-2011
Batch ID: P400361

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2255871	Organic Carbon	0.441	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: A106176

Included Lab Sample IDs: 2256037, 2256038, 2256039

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	98.1	97.6	P/P	90 - 110

Reference Method: SM 2120 B-2011

Run ID: A106177

Included Lab Sample IDs: 2256031, 2256032, 2256033

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	101	101	P/P	90 - 115

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A106178

Included Lab Sample IDs: 2256031, 2256032, 2256033

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Turbidity	98.5	98.5	P/P	95 - 105

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A106207

Included Lab Sample IDs: 2256034, 2256035, 2256036

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

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A106346

Included Lab Sample IDs: 2256034, 2256035, 2256036

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	98.6	97.9	P/P	90 - 110

Reference Method: SM 5310 B-2011

Run ID: A106360

Included Lab Sample IDs: 2256034, 2256035, 2256036

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	96.5	97.1	P/P	90 - 110
Organic Carbon	97.1	97.2	P/P	90 - 110

Reference Method: SM 2320 B-2011

Run ID: A106363

Included Lab Sample IDs: 2256031, 2256032, 2256033

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	103	99.2	P/P	90 - 110
Total Alkalinity	99.2	104	P/P	90 - 110

Reference Method: SM 4500 F-C-2011

Run ID: A106363

Included Lab Sample IDs: 2256031, 2256032, 2256033

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

Quality Assurance Report Calibration Verification

Reference Method: SM 4500 F-C-2011

Run ID: A106363

Included Lab Sample IDs: 2256031, 2256032, 2256033

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

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A106366

Included Lab Sample IDs: 2256034, 2256035, 2256036

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	99.2	100	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A106395

Included Lab Sample IDs: 2256034, 2256035, 2256036

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	99.6	101	P/P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A106423

Included Lab Sample IDs: 2256031, 2256032, 2256033

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	100	101	P/P	90 - 110
Chloride	101	100	P/P	90 - 110
Sulfate	100	99.6	P/P	90 - 110
Sulfate	99.6	100	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
EPA 180.1 Rev. 2.0	Turbidity				0.987	
EPA 300.0 Rev. 2.1	Chloride	102	96.3	98.6	0.439	
	Sulfate	96.9	97.6	95.8	0.675	
EPA 350.1 Rev. 2.0	Ammonia-N	98.6	96.0	95.8		0.192
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	107				0.437
EPA 353.2 Rev. 2.0	NO ₂ NO ₃ -N	99.5	101	100		0.496
EPA 365.1 Rev. 2.0	Total-P	104	103	102		1.05
	Total-P	102	103	103		0.0447
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	99.3	93.7	94.5		0.850
SM 2120 B-2011	Color (true)	100			5.55	
SM 2320 B-2011	Total Alkalinity	102			0.267	
SM 2540 C-2011	TDS				0.612	
	TDS				1.25	
SM 4500 F-C-2011	Fluoride	101	99.6	99.6		0.0
SM 5310 B-2011	Organic Carbon	96.0	96.4	97.0		0.441

Reference Method Descriptions

Method	Description	Associated Samples
EPA 180.1 Rev. 2.0	Turbidity in aqueous matrices	2256031, 2256032, 2256033
EPA 300.0 Rev. 2.1	Chloride in aqueous matrices	2256031, 2256032, 2256033
EPA 300.0 Rev. 2.1	Sulfate in aqueous matrices	2256031, 2256032, 2256033
EPA 350.1 Rev. 2.0	Ammonia in aqueous matrices as mg N/L	2256034, 2256035, 2256036
EPA 351.2 Rev. 2.0	Total Kjeldahl Nitrogen in aqueous matrices	2256034, 2256035, 2256036
EPA 353.2 Rev. 2.0	Nitrite/Nitrate in aqueous matrices as mg N/L	2256034, 2256035, 2256036
EPA 365.1 Rev. 2.0	Total Phosphorus in aqueous matrices as mg P/L	2256034, 2256035, 2256036
EPA 365.1 Rev. 2.0 dissolved	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	2256037, 2256038, 2256039
SM 2120 B-2011	True Color measured at 450 nm (not valid for NPDES monitoring)	2256031, 2256032, 2256033
SM 2320 B-2011	Alkalinity in aqueous matrices as mg CaCO ₃ /L	2256031, 2256032, 2256033
SM 2540 C-2011	Total Dissolved Solids in aqueous matrices	2256031, 2256032, 2256033
SM 2540 D-2011	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2256031, 2256032, 2256033
SM 4500 F-C-2011	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2256031, 2256032, 2256033
SM 5310 B-2011	Nonpurgeable Organic Carbon in aqueous matrices	2256034, 2256035, 2256036

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	06/18/2021			06/18/2021 15:08	Sarah A Nixon	2256031, 2256032, 2256033
EPA 300.0 Rev. 2.1	06/18/2021			07/01/2021 19:07	Lipi Saha	2256031
	06/18/2021			07/01/2021 22:20	Lipi Saha	2256032
	06/18/2021			07/01/2021 22:32	Lipi Saha	2256033
EPA 350.1 Rev. 2.0	06/18/2021			06/29/2021 13:11	Roberta Tatti	2256034
	06/18/2021			06/29/2021 13:12	Roberta Tatti	2256035
	06/18/2021			06/29/2021 13:14	Roberta Tatti	2256036
EPA 351.2 Rev. 2.0	06/18/2021	06/29/2021 12:54	Benjamin T. Nordmann	06/30/2021 18:13	Letuzia M De Oliveira	2256034
	06/18/2021	06/29/2021 12:54	Benjamin T. Nordmann	06/30/2021 18:14	Letuzia M De Oliveira	2256035
	06/18/2021	06/29/2021 12:54	Benjamin T. Nordmann	06/30/2021 18:16	Letuzia M De Oliveira	2256036
EPA 353.2 Rev. 2.0	06/18/2021			06/22/2021 10:06	Beverly Y. Sanders	2256034
	06/18/2021			06/22/2021 10:12	Beverly Y. Sanders	2256035
	06/18/2021			06/22/2021 10:13	Beverly Y. Sanders	2256036
EPA 365.1 Rev. 2.0	06/18/2021	06/28/2021 17:29	Madeline Gruver	06/30/2021 10:53	Shengyu Ding	2256034
	06/18/2021	06/28/2021 17:29	Madeline Gruver	06/30/2021 10:56	Shengyu Ding	2256035
	06/18/2021	06/28/2021 17:29	Madeline Gruver	06/30/2021 10:57	Shengyu Ding	2256036
EPA 365.1 Rev. 2.0 dissolved	06/18/2021			06/18/2021 15:45	Ping Hua	2256038
	06/18/2021			06/18/2021 15:51	Ping Hua	2256037
	06/18/2021			06/18/2021 15:52	Ping Hua	2256039
SM 2120 B-2011	06/18/2021			06/18/2021 15:50	Sarah A Nixon	2256031
	06/18/2021			06/18/2021 15:52	Sarah A Nixon	2256032
	06/18/2021			06/18/2021 15:53	Sarah A Nixon	2256033
SM 2320 B-2011	06/18/2021			06/29/2021 21:23	Dale L. Simmons	2256032
	06/18/2021			06/29/2021 22:49	Dale L. Simmons	2256031
	06/18/2021			06/29/2021 23:03	Dale L. Simmons	2256033
SM 2540 C-2011	06/18/2021			06/22/2021 14:06	Yijie Li	2256031, 2256032, 2256033
SM 2540 D-2011	06/18/2021			06/22/2021 14:15	Yijie Li	2256031, 2256032, 2256033
SM 4500 F-C-2011	06/18/2021			06/29/2021 21:12	Dale L. Simmons	2256032
	06/18/2021			06/29/2021 22:49	Dale L. Simmons	2256031
	06/18/2021			06/29/2021 23:03	Dale L. Simmons	2256033
SM 5310 B-2011	06/18/2021			06/29/2021 07:07	Madeline Gruver	2256034
	06/18/2021			06/29/2021 07:48	Madeline Gruver	2256035
	06/18/2021			06/29/2021 08:01	Madeline Gruver	2256036