Chemical Analysis Report

CEN-DIST-2021-09-29-01

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

Event Description: **Lake Belle**
Request ID: **RQ-2021-09-20-33**
Customer: **CEN-DIST**
Project ID: **SMP**

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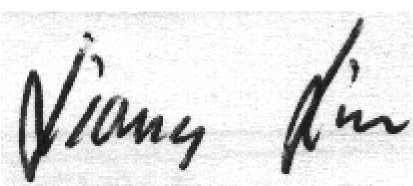
Date Certified: 22-OCT-2021 13:35



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 East Cove **Collection Date/Time: 09/28/2021 12:01**

Field ID: G3CE0045 Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2279118	EPA 180.1 Rev. 2.0	Turbidity	1.6	A	NTU	P404370	
	EPA 300.0 Rev. 2.1	Chloride	39		mg Cl/L	P404493	
		Sulfate	39		mg SO4/L	P404496	
	SM 2120 B-2011	Color (true)	15		PCU	P404378	
	SM 2320 B-2011	Total Alkalinity	31		mg CaCO3/L	P404567	
	SM 2540 C-2011	TDS	151		mg/L	P404766	
	SM 2540 D-2011	TSS	2	I	mg/L	P404758	
	SM 4500 F-C-2011	Fluoride	0.14		mg F/L	P404571	
2279121	EPA 350.1 Rev. 2.0	Ammonia-N	0.005	I	mg N/L	P404598	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.59		mg N/L	P404451	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P404446	
	EPA 365.1 Rev. 2.0	Total-P	0.018		mg P/L	P404464	
	SM 5310 B-2011	Organic Carbon	5.5		mg C/L	P404491	
2279124	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P404366	

Ref. Method and Comment:
SM 2540 D-2011: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.
EPA 365.1 Rev. 2.0: Total-P: Batch matrix spike recoveries are unavailable because of high analyte concentration in the QC sample.

Sample Location: Lake Belle North Cove **Collection Date/Time: 09/28/2021 12:15**

Field ID: G3CE0044 Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2279119	EPA 180.1 Rev. 2.0	Turbidity	1.8		NTU	P404370	
	EPA 300.0 Rev. 2.1	Chloride	39	A	mg Cl/L	P404494	
		Sulfate	39	A	mg SO4/L	P404497	
	SM 2120 B-2011	Color (true)	13		PCU	P404378	
	SM 2320 B-2011	Total Alkalinity	33		mg CaCO3/L	P404567	
	SM 2540 C-2011	TDS	146		mg/L	P404766	
	SM 2540 D-2011	TSS	3	I	mg/L	P404758	
	SM 4500 F-C-2011	Fluoride	0.14		mg F/L	P404571	
2279122	EPA 350.1 Rev. 2.0	Ammonia-N	0.005	I	mg N/L	P404598	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.56		mg N/L	P404451	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P404446	
	EPA 365.1 Rev. 2.0	Total-P	0.022		mg P/L	P404464	
	SM 5310 B-2011	Organic Carbon	5.4		mg C/L	P404491	
2279125	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P404366	

Ref. Method and Comment:
SM 2540 D-2011: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.
EPA 365.1 Rev. 2.0: Total-P: 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: 09/28/2021 12:24**

Field ID: G3CE0043 Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2279120	EPA 180.1 Rev. 2.0	Turbidity	1.8		NTU	P404370	
	EPA 300.0 Rev. 2.1	Chloride	39		mg Cl/L	P404494	
		Sulfate	39		mg SO4/L	P404497	
	SM 2120 B-2011	Color (true)	14	A	PCU	P404379	
	SM 2320 B-2011	Total Alkalinity	30		mg CaCO3/L	P404567	
	SM 2540 C-2011	TDS	159	A	mg/L	P404766	
	SM 2540 D-2011	TSS	2	I A	mg/L	P404758	
	SM 4500 F-C-2011	Fluoride	0.14		mg F/L	P404571	
2279123	EPA 350.1 Rev. 2.0	Ammonia-N	0.005	I	mg N/L	P404598	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.57		mg N/L	P404451	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P404446	
	EPA 365.1 Rev. 2.0	Total-P	0.022		mg P/L	P404464	
	SM 5310 B-2011	Organic Carbon	5.1		mg C/L	P404492	
2279126	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P404366	

Ref. Method and Comment:
SM 2540 D-2011: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.
EPA 365.1 Rev. 2.0: Total-P: Batch matrix spike recoveries are unavailable because of high analyte concentration in the QC sample.

Quality Assurance Report
Method Blank Results

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P404370

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P404493

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P404494

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P404496

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P404497

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P404598

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P404451

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P404446

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P404464

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

Quality Assurance Report
Method Blank Results

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P404366

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

Reference Method: SM 2120 B-2011
Batch ID: P404378

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2120 B-2011
Batch ID: P404379

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2320 B-2011
Batch ID: P404567

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

Reference Method: SM 2540 C-2011
Batch ID: P404766

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-2011
Batch ID: P404758

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500 F-C-2011
Batch ID: P404571

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-2011
Batch ID: P404491

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

Reference Method: SM 5310 B-2011
Batch ID: P404492

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: P404493

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P404494

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P404496

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P404497

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P404598

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Ammonia-N	99.0		P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P404451

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P404446

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: P404464

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P404366

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

Quality Assurance Report
Laboratory Control Sample Accuracy

Reference Method: SM 2120 B-2011
Batch ID: P404378

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Color (true)	98.6		P	85 - 115

Reference Method: SM 2120 B-2011
Batch ID: P404379

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Color (true)	99.2		P	85 - 115

Reference Method: SM 2320 B-2011
Batch ID: P404567

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	98.7		P	94 - 106

Reference Method: SM 4500 F-C-2011
Batch ID: P404571

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	100		P	93 - 104

Reference Method: SM 5310 B-2011
Batch ID: P404491

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	97.2		P	85 - 115

Reference Method: SM 5310 B-2011
Batch ID: P404492

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	96.8		P	85 - 115

Quality Assurance Report
Matrix Spike Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P404493

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2278874	Chloride	105		P	90 - 110
2278926	Chloride	104		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P404494

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2279119	Chloride	108		P	90 - 110
2279279	Chloride	106		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P404496

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2278874	Sulfate	106		P	90 - 110
2278926	Sulfate	108		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P404497

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2279119	Sulfate	102		P	90 - 110
2279279	Sulfate	108		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P404598

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2279122	Ammonia-N	96.8	96.4	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P404451

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2279121	Kjeldahl Nitrogen	92.9	93.4	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P404446

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2279121	NO2NO3-N	102	102	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P404366

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2279126	O-Phosphate-P	98.7	98.8	P/P	90 - 110

Reference Method: SM 4500 F-C-2011
Batch ID: P404571

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits

Quality Assurance Report
Matrix Spike Accuracy

Reference Method: SM 4500 F-C-2011
Batch ID: P404571

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2279388	Fluoride	98.9	96.8	P/P	92 - 107

Reference Method: SM 5310 B-2011
Batch ID: P404491

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2279013	Organic Carbon	95.3	94.4	P/P	85 - 115

Reference Method: SM 5310 B-2011
Batch ID: P404492

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2279277	Organic Carbon	96.0	96.4	P/P	85 - 115

Quality Assurance Report
Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P404370

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2279118	Turbidity	7.64	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P404493

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2278874	Chloride	0.265	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P404494

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2279119	Chloride	0.722	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P404496

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2278874	Sulfate	0.360	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P404497

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2279119	Sulfate	0.588	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P404598

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2279122	Ammonia-N	0.377	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P404451

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2279121	Kjeldahl Nitrogen	0.304	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P404446

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2279121	NO2NO3-N	0.0	Spike	P	0 - 20

Quality Assurance Report
Precision

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P404464

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2279242	Total-P	0.568	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P404366

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2279126	O-Phosphate-P	0.101	Spike	P	0 - 20

Reference Method: SM 2120 B-2011
Batch ID: P404378

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2278874	Color (true)	0.963	Sample	P	0 - 20

Reference Method: SM 2120 B-2011
Batch ID: P404379

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2279120	Color (true)	1.70	Sample	P	0 - 20

Reference Method: SM 2320 B-2011
Batch ID: P404567

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2279388	Total Alkalinity	0.705	Sample	P	0 - 5.2

Reference Method: SM 2540 C-2011
Batch ID: P404766

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2279120	TDS	2.52	Sample	P	0 - 10

Reference Method: SM 4500 F-C-2011
Batch ID: P404571

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2279388	Fluoride	1.38	Spike	P	0 - 2.1

Reference Method: SM 5310 B-2011
Batch ID: P404491

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2279013	Organic Carbon	0.599	Spike	P	0 - 20

Quality Assurance Report
Precision

Reference Method: SM 5310 B-2011
Batch ID: P404492

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2279277	Organic Carbon	0.285	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: A108064
Included Lab Sample IDs: 2279124, 2279125, 2279126

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	96.8	99.7	P/P	90 - 110
O-Phosphate-P	99.7	99.6	P/P	90 - 110

Reference Method: EPA 180.1 Rev. 2.0
Run ID: A108065
Included Lab Sample IDs: 2279118, 2279119, 2279120

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Turbidity	99.5	98.5	P/P	95 - 105

Reference Method: SM 2120 B-2011
Run ID: A108067
Included Lab Sample IDs: 2279118, 2279119, 2279120

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	100	100	P/P	90 - 115
Color (true)	98.4	100	P/P	90 - 115

Reference Method: EPA 353.2 Rev. 2.0
Run ID: A108099
Included Lab Sample IDs: 2279121, 2279122, 2279123

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

Reference Method: EPA 300.0 Rev. 2.1
Run ID: A108118
Included Lab Sample IDs: 2279118, 2279119, 2279120

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	102	102	P/P	90 - 110
Chloride	102	102	P/P	90 - 110
Sulfate	104	104	P/P	90 - 110
Sulfate	104	104	P/P	90 - 110

Reference Method: SM 5310 B-2011
Run ID: A108119
Included Lab Sample IDs: 2279121, 2279122, 2279123

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	95.4	95.6	P/P	90 - 110
Organic Carbon	95.6	95.8	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Run ID: A108126
Included Lab Sample IDs: 2279121, 2279122, 2279123

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	100	97.7	P/P	90 - 110

Quality Assurance Report
Calibration Verification

Reference Method: SM 2320 B-2011
Run ID: A108145
Included Lab Sample IDs: 2279118, 2279119, 2279120

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	96.1	98.2	P/P	90 - 110

Reference Method: SM 4500 F-C-2011
Run ID: A108145
Included Lab Sample IDs: 2279118, 2279119, 2279120

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

Reference Method: EPA 365.1 Rev. 2.0
Run ID: A108150
Included Lab Sample IDs: 2279121, 2279122, 2279123

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

Reference Method: EPA 350.1 Rev. 2.0
Run ID: A108153
Included Lab Sample IDs: 2279121, 2279122, 2279123

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	100	98.7	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	Precision SMP	Precision MS
EPA 180.1 Rev. 2.0	Turbidity					7.64	
EPA 300.0 Rev. 2.1	Chloride	102	105	104		0.265	
	Chloride	104	108	106		0.722	
	Sulfate	104	106	108		0.360	
	Sulfate	107	102	108		0.588	
EPA 350.1 Rev. 2.0	Ammonia-N	99.0	96.8	96.4			0.377
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	101	92.9	93.4			0.304
EPA 353.2 Rev. 2.0	NO2NO3-N	102	102	102			0.0
EPA 365.1 Rev. 2.0	Total-P	107					0.568
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	97.5	98.7	98.8			0.101
SM 2120 B-2011	Color (true)	98.6				0.963	
	Color (true)	99.2				1.70	
SM 2320 B-2011	Total Alkalinity	98.7				0.705	
SM 2540 C-2011	TDS					2.52	
SM 4500 F-C-2011	Fluoride	100	98.9	96.8			1.38
SM 5310 B-2011	Organic Carbon	97.2	95.3	94.4			0.599
	Organic Carbon	96.8	96.0	96.4			0.285

Reference Method Descriptions

Method	Description	Associated Samples
EPA 180.1 Rev. 2.0	Turbidity in aqueous matrices	2279118, 2279119, 2279120
EPA 300.0 Rev. 2.1	Chloride in aqueous matrices	2279118, 2279119, 2279120
EPA 300.0 Rev. 2.1	Sulfate in aqueous matrices	2279118, 2279119, 2279120
EPA 350.1 Rev. 2.0	Ammonia in aqueous matrices as mg N/L	2279121, 2279122, 2279123
EPA 351.2 Rev. 2.0	Total Kjeldahl Nitrogen in aqueous matrices	2279121, 2279122, 2279123
EPA 353.2 Rev. 2.0	Nitrite/Nitrate in aqueous matrices as mg N/L	2279121, 2279122, 2279123
EPA 365.1 Rev. 2.0	Total Phosphorus in aqueous matrices as mg P/L	2279121, 2279122, 2279123
EPA 365.1 Rev. 2.0 dissolved	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	2279124, 2279125, 2279126
SM 2120 B-2011	True Color measured at 450 nm (not valid for NPDES monitoring)	2279118, 2279119, 2279120
SM 2320 B-2011	Alkalinity in aqueous matrices as mg CaCO3/L	2279118, 2279119, 2279120
SM 2540 C-2011	Total Dissolved Solids in aqueous matrices	2279118, 2279119, 2279120
SM 2540 D-2011	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2279118, 2279119, 2279120
SM 4500 F-C-2011	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2279118, 2279119, 2279120
SM 5310 B-2011	Nonpurgeable Organic Carbon in aqueous matrices	2279121, 2279122, 2279123

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	09/29/2021			09/29/2021 16:38	Khloe J Berg	2279118, 2279119, 2279120
EPA 300.0 Rev. 2.1	09/29/2021			10/02/2021 01:20	Lipi Saha	2279118
	09/29/2021			10/02/2021 02:45	Lipi Saha	2279119
	09/29/2021			10/02/2021 03:34	Lipi Saha	2279120
EPA 350.1 Rev. 2.0	09/29/2021			10/05/2021 13:22	Ping Hua	2279122
	09/29/2021			10/05/2021 13:31	Ping Hua	2279121
	09/29/2021			10/05/2021 13:32	Ping Hua	2279123
EPA 351.2 Rev. 2.0	09/29/2021	10/01/2021 12:37	Benjamin T. Nordmann	10/04/2021 11:12	Alexandra J Mattheus	2279121
	09/29/2021	10/01/2021 12:37	Benjamin T. Nordmann	10/04/2021 11:17	Alexandra J Mattheus	2279122
	09/29/2021	10/01/2021 12:37	Benjamin T. Nordmann	10/04/2021 11:18	Alexandra J Mattheus	2279123
EPA 353.2 Rev. 2.0	09/29/2021			10/01/2021 10:13	Beverly Y. Sanders	2279121
	09/29/2021			10/01/2021 10:21	Beverly Y. Sanders	2279122
	09/29/2021			10/01/2021 10:23	Beverly Y. Sanders	2279123
EPA 365.1 Rev. 2.0	09/29/2021	10/01/2021 14:15	Simonne.V. Calhoun	10/05/2021 12:50	Lipi Saha	2279121
	09/29/2021	10/01/2021 14:15	Simonne.V. Calhoun	10/05/2021 12:51	Lipi Saha	2279122
	09/29/2021	10/01/2021 14:15	Simonne.V. Calhoun	10/05/2021 12:52	Lipi Saha	2279123
EPA 365.1 Rev. 2.0 dissolved	09/29/2021			09/29/2021 15:10	James L Waggerby	2279126
	09/29/2021			09/29/2021 15:17	James L Waggerby	2279124
	09/29/2021			09/29/2021 15:18	James L Waggerby	2279125
SM 2120 B-2011	09/29/2021			09/29/2021 17:38	Benjamin T. Nordmann	2279118, 2279119
	09/29/2021			09/29/2021 17:43	Benjamin T. Nordmann	2279120
SM 2320 B-2011	09/29/2021			10/02/2021 06:08	Dale L. Simmons	2279118
	09/29/2021			10/02/2021 06:21	Dale L. Simmons	2279119
	09/29/2021			10/02/2021 06:35	Dale L. Simmons	2279120
SM 2540 C-2011	09/29/2021			09/30/2021 15:26	Yijie Li	2279118, 2279119, 2279120
SM 2540 D-2011	09/29/2021			09/30/2021 15:26	Yijie Li	2279118, 2279119, 2279120
SM 4500 F-C-2011	09/29/2021			10/02/2021 06:08	Dale L. Simmons	2279118
	09/29/2021			10/02/2021 06:21	Dale L. Simmons	2279119
	09/29/2021			10/02/2021 06:35	Dale L. Simmons	2279120
SM 5310 B-2011	09/29/2021			10/02/2021 02:06	Madeline Gruver	2279121
	09/29/2021			10/02/2021 02:16	Madeline Gruver	2279122
	09/29/2021			10/02/2021 03:54	Madeline Gruver	2279123