

Chemical Analysis Report

CEN-DIST-2021-05-19-02

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

Event Description: **Coon Lake/Center Lake**
Request ID: **RQ-2021-05-10-46**
Customer: **CEN-DIST**
Project ID: **SMP**

Send Reports to:
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Certified by: Kerry Tate, Ph.D., Environmental Administrator

Date Certified: 04-JUN-2021 11:01

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 first name.

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: Coon Lake @ Center

Collection Date/Time: 05/18/2021 10:33

Field ID: G4CE0162

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2248301	EPA 180.1 Rev. 2.0	Turbidity	4.9		NTU	P398463	
	EPA 300.0 Rev. 2.1	Chloride	29	A	mg Cl/L	P398868	
		Sulfate	7.3	A	mg SO4/L	P398872	
	SM 2120 B-2011	Color (true)	290		PCU	P398457	
	SM 2320 B-2011	Total Alkalinity	3.7		mg CaCO3/L	P398631	
	SM 2540 C-2011	TDS	127		mg/L	P398893	
	SM 2540 D-2011	TSS	3	I	mg/L	P398606	
	SM 4500 F-C-2011	Fluoride	0.052	I	mg F/L	P398635	
2248304	EPA 350.1 Rev. 2.0	Ammonia-N	0.020		mg N/L	P399058	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.2		mg N/L	P398618	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.042		mg N/L	P398485	
	EPA 365.1 Rev. 2.0	Total-P	0.037		mg P/L	P398591	
	SM 5310 B-2011	Organic Carbon	26		mg C/L	P398623	
2248307	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P398453	

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 Center @ Center

Collection Date/Time: 05/18/2021 10:50

Field ID: G4CE0163

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2248302	EPA 180.1 Rev. 2.0	Turbidity	7.5	A	NTU	P398464	
	EPA 300.0 Rev. 2.1	Chloride	26		mg Cl/L	P398868	
		Sulfate	8.9		mg SO4/L	P398872	
	SM 2120 B-2011	Color (true)	380		PCU	P398458	
	SM 2320 B-2011	Total Alkalinity	2.8		mg CaCO3/L	P398631	
	SM 2540 C-2011	TDS	124		mg/L	P398893	
	SM 2540 D-2011	TSS	6	I	mg/L	P398606	
	SM 4500 F-C-2011	Fluoride	0.054	I	mg F/L	P398635	
	EPA 350.1 Rev. 2.0	Ammonia-N	0.016		mg N/L	P399058	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.3		mg N/L	P398618	
2248305	EPA 353.2 Rev. 2.0	NO2NO3-N	0.036		mg N/L	P398485	
	EPA 365.1 Rev. 2.0	Total-P	0.047		mg P/L	P398591	
	SM 5310 B-2011	Organic Carbon	31		mg C/L	P398623	
	EPA 365.1 Rev. 2.0	O-Phosphate-P	0.008	I	mg P/L	P398453	
	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: Marshall Lake @ Center

Collection Date/Time: 05/18/2021 11:40

Field ID: G1CE0110

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2248303	EPA 180.1 Rev. 2.0	Turbidity	3.2		NTU	P398464	
	EPA 300.0 Rev. 2.1	Chloride	13		mg Cl/L	P398868	
		Sulfate	15		mg SO4/L	P398872	
	SM 2120 B-2011	Color (true)	29	A	PCU	P398458	
	SM 2320 B-2011	Total Alkalinity	50		mg CaCO3/L	P398631	
	SM 2540 C-2011	TDS	117		mg/L	P398893	
	SM 2540 D-2011	TSS	5	I	mg/L	P398606	
	SM 4500 F-C-2011	Fluoride	0.085	I	mg F/L	P398635	
	EPA 350.1 Rev. 2.0	Ammonia-N	0.008		mg N/L	P399058	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.90		mg N/L	P398618	
2248306	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P398485	
	EPA 365.1 Rev. 2.0	Total-P	0.033		mg P/L	P398591	
	SM 5310 B-2011	Organic Carbon	11		mg C/L	P398623	
	EPA 365.1 Rev. 2.0	O-Phosphate-P	0.004	U	mg P/L	P398453	
	dissolved						

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: P398463

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P398464

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P398868

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P398872

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P399058

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P398618

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P398485

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P398591

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P398453

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: P398457

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2120 B-2011
Batch ID: P398458

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2320 B-2011
Batch ID: P398631

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

Reference Method: SM 2540 C-2011
Batch ID: P398893

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-2011
Batch ID: P398606

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500 F-C-2011
Batch ID: P398635

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-2011
Batch ID: P398623

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: P398868

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Chloride	99.4		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
 Batch ID: P398872

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Sulfate	98.9		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
 Batch ID: P399058

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Ammonia-N	99.2		P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
 Batch ID: P398618

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: P398485

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: P398591

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
 Batch ID: P398453

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
O-Phosphate-P	98.5		P	90 - 110

Reference Method: SM 2120 B-2011
 Batch ID: P398457

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Color (true)	99.7		P	85 - 115

Reference Method: SM 2120 B-2011
 Batch ID: P398458

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Color (true)	99.9		P	85 - 115

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: SM 2320 B-2011
Batch ID: P398631

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	99.4		P	94 - 106

Reference Method: SM 4500 F-C-2011
Batch ID: P398635

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	102		P	93 - 104

Reference Method: SM 5310 B-2011
Batch ID: P398623

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	95.4		P	85 - 115

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P398868

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2248301	Chloride	98.3		P	90 - 110
2248303	Chloride	98.7		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P398872

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2248301	Sulfate	96.6		P	90 - 110
2248303	Sulfate	95.2		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P399058

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2248246	Ammonia-N	96.0	97.2	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P398618

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2248188	Kjeldahl Nitrogen	106	102	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P398485

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2248246	NO2NO3-N	97.7	97.7	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P398591

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2245479	Total-P	108	105	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P398453

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2248482	O-Phosphate-P	99.3	97.9	P/P	90 - 110

Reference Method: SM 4500 F-C-2011
Batch ID: P398635

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2248796	Fluoride	99.4	99.4	P/P	92 - 107

Reference Method: SM 5310 B-2011
Batch ID: P398623

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2248187	Organic Carbon	96.8	96.3	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P398463

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2248183	Turbidity	1.21	Sample	P	0 - 20

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P398464

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2248302	Turbidity	0.133	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P398868

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2248301	Chloride	0.0773	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P398872

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2248301	Sulfate	0.0191	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P399058

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2248246	Ammonia-N	0.966	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P398618

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2248188	Kjeldahl Nitrogen	3.39	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P398485

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2248246	NO2NO3-N	0.0	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P398591

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2245479	Total-P	3.00	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 365.1 Rev. 2.0 dissolved
 Batch ID: P398453

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2248482	O-Phosphate-P	1.33	Spike	P	0 - 20

Reference Method: SM 2120 B-2011
 Batch ID: P398457

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2248178	Color (true)	0.797	Sample	P	0 - 20

Reference Method: SM 2120 B-2011
 Batch ID: P398458

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2248303	Color (true)	1.14	Sample	P	0 - 20

Reference Method: SM 2320 B-2011
 Batch ID: P398631

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2248796	Total Alkalinity	0.361	Sample	P	0 - 5.2

Reference Method: SM 2540 C-2011
 Batch ID: P398893

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2248320	TDS	3.42	Sample	P	0 - 10

Reference Method: SM 4500 F-C-2011
 Batch ID: P398635

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2248796	Fluoride	0.0	Spike	P	0 - 2.1

Reference Method: SM 5310 B-2011
 Batch ID: P398623

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2248187	Organic Carbon	0.401	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: A105535

Included Lab Sample IDs: 2248307, 2248308, 2248309

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	99.4	99.1	P/P	90 - 110

Reference Method: SM 2120 B-2011

Run ID: A105536

Included Lab Sample IDs: 2248301, 2248302, 2248303

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	101	103	P/P	90 - 115
Color (true)	99.7	102	P/P	90 - 115

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A105537

Included Lab Sample IDs: 2248301, 2248302, 2248303

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Turbidity	98.5	99.0	P/P	95 - 105
Turbidity	99.0	99.0	P/P	95 - 105

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A105553

Included Lab Sample IDs: 2248304, 2248305, 2248306

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

Reference Method: SM 5310 B-2011

Run ID: A105604

Included Lab Sample IDs: 2248304, 2248305, 2248306

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	97.9	98.2	P/P	90 - 110

Reference Method: SM 2320 B-2011

Run ID: A105605

Included Lab Sample IDs: 2248301, 2248302, 2248303

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	99.6	98.2	P/P	90 - 110

Reference Method: SM 4500 F-C-2011

Run ID: A105605

Included Lab Sample IDs: 2248301, 2248302, 2248303

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	105	104	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A105619

Included Lab Sample IDs: 2248304, 2248305, 2248306

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
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Quality Assurance Report Calibration Verification

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A105619

Included Lab Sample IDs: 2248304, 2248305, 2248306

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	99.6	99.2	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A105637

Included Lab Sample IDs: 2248304, 2248305, 2248306

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

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A105658

Included Lab Sample IDs: 2248301, 2248302, 2248303

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	101	100	P/P	90 - 110
Sulfate	101	99.8	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A105796

Included Lab Sample IDs: 2248304, 2248305, 2248306

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	100	99.2	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					1.21	
	Turbidity					0.133	
EPA 300.0 Rev. 2.1	Chloride	99.4	98.3	98.7		0.0773	
	Sulfate	98.9	96.6	95.2		0.0191	
EPA 350.1 Rev. 2.0	Ammonia-N	99.2	96.0	97.2			0.966
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	102	106	102			3.39
EPA 353.2 Rev. 2.0	NO ₂ NO ₃ -N	100	97.7	97.7			0.0
EPA 365.1 Rev. 2.0	Total-P	105	108	105			3.00
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	98.5	99.3	97.9			1.33
SM 2120 B-2011	Color (true)	99.7				0.797	
	Color (true)	99.9				1.14	
SM 2320 B-2011	Total Alkalinity	99.4				0.361	
SM 2540 C-2011	TDS					3.42	
SM 4500 F-C-2011	Fluoride	102	99.4	99.4			0.0
SM 5310 B-2011	Organic Carbon	95.4	96.8	96.3			0.401

Reference Method Descriptions

Method	Description	Associated Samples
EPA 180.1 Rev. 2.0	Turbidity in aqueous matrices	2248301, 2248302, 2248303
EPA 300.0 Rev. 2.1	Chloride in aqueous matrices	2248301, 2248302, 2248303
EPA 300.0 Rev. 2.1	Sulfate in aqueous matrices	2248301, 2248302, 2248303
EPA 350.1 Rev. 2.0	Ammonia in aqueous matrices as mg N/L	2248304, 2248305, 2248306
EPA 351.2 Rev. 2.0	Total Kjeldahl Nitrogen in aqueous matrices	2248304, 2248305, 2248306
EPA 353.2 Rev. 2.0	Nitrite/Nitrate in aqueous matrices as mg N/L	2248304, 2248305, 2248306
EPA 365.1 Rev. 2.0	Total Phosphorus in aqueous matrices as mg P/L	2248304, 2248305, 2248306
EPA 365.1 Rev. 2.0 dissolved	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	2248307, 2248308, 2248309
SM 2120 B-2011	True Color measured at 450 nm (not valid for NPDES monitoring)	2248301, 2248302, 2248303
SM 2320 B-2011	Alkalinity in aqueous matrices as mg CaCO ₃ /L	2248301, 2248302, 2248303
SM 2540 C-2011	Total Dissolved Solids in aqueous matrices	2248301, 2248302, 2248303
SM 2540 D-2011	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2248301, 2248302, 2248303
SM 4500 F-C-2011	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2248301, 2248302, 2248303
SM 5310 B-2011	Nonpurgeable Organic Carbon in aqueous matrices	2248304, 2248305, 2248306

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	05/19/2021			05/19/2021 16:40	Yen Ta	2248301, 2248302, 2248303
EPA 300.0 Rev. 2.1	05/19/2021			05/26/2021 14:14	Lipi Saha	2248301
	05/19/2021			05/26/2021 14:38	Lipi Saha	2248303
	05/19/2021			05/26/2021 15:39	Lipi Saha	2248302
EPA 350.1 Rev. 2.0	05/19/2021			06/01/2021 13:37	Roberta Tatti	2248304
	05/19/2021			06/01/2021 13:38	Roberta Tatti	2248305
	05/19/2021			06/01/2021 13:40	Roberta Tatti	2248306
EPA 351.2 Rev. 2.0	05/19/2021	05/21/2021 13:20	Benjamin T. Nordmann	05/24/2021 11:24	Virginia P. Brown	2248304
	05/19/2021	05/21/2021 13:20	Benjamin T. Nordmann	05/24/2021 11:26	Virginia P. Brown	2248305
	05/19/2021	05/21/2021 13:20	Benjamin T. Nordmann	05/24/2021 11:27	Virginia P. Brown	2248306
EPA 353.2 Rev. 2.0	05/19/2021			05/20/2021 09:43	Beverly Y. Sanders	2248304
	05/19/2021			05/20/2021 09:45	Beverly Y. Sanders	2248305
	05/19/2021			05/20/2021 09:46	Beverly Y. Sanders	2248306
EPA 365.1 Rev. 2.0	05/19/2021	05/21/2021 13:27	Yen Ta	05/25/2021 11:11	Shengyu Ding	2248304
	05/19/2021	05/21/2021 13:27	Yen Ta	05/25/2021 11:12	Shengyu Ding	2248305
	05/19/2021	05/21/2021 13:27	Yen Ta	05/25/2021 11:13	Shengyu Ding	2248306
EPA 365.1 Rev. 2.0 dissolved	05/19/2021			05/19/2021 15:30	Blanca Fach	2248307
	05/19/2021			05/19/2021 15:31	Blanca Fach	2248308
	05/19/2021			05/19/2021 15:32	Blanca Fach	2248309
SM 2120 B-2011	05/19/2021			05/19/2021 15:51	Sarah A Nixon	2248303
	05/19/2021			05/19/2021 16:15	Sarah A Nixon	2248301, 2248302
SM 2320 B-2011	05/19/2021			05/22/2021 05:40	Dale L. Simmons	2248301
	05/19/2021			05/22/2021 05:49	Dale L. Simmons	2248302
	05/19/2021			05/22/2021 06:02	Dale L. Simmons	2248303
SM 2540 C-2011	05/19/2021			05/20/2021 15:22	Yijie Li	2248301, 2248302, 2248303
SM 2540 D-2011	05/19/2021			05/20/2021 15:22	Yijie Li	2248301, 2248302, 2248303
SM 4500 F-C-2011	05/19/2021			05/22/2021 05:40	Dale L. Simmons	2248301
	05/19/2021			05/22/2021 05:49	Dale L. Simmons	2248302
	05/19/2021			05/22/2021 06:02	Dale L. Simmons	2248303
SM 5310 B-2011	05/19/2021			05/21/2021 06:22	Madeline Gruver	2248304
	05/19/2021			05/21/2021 06:36	Madeline Gruver	2248305
	05/19/2021			05/21/2021 06:49	Madeline Gruver	2248306