

Chemical Analysis Report

CEN-DIST-2021-10-27-01

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

Event Description: **Fox and Ruth**
Request ID: **RQ-2021-10-25-20**
Customer: **CEN-DIST**
Project ID: **SMP**

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

Date Certified: 23-NOV-2021 11:43

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: Ruth Lake @ Center

Collection Date/Time: 10/26/2021 11:17

Field ID: G3CE0021

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2286391	EPA 180.1 Rev. 2.0	Turbidity	1.7		NTU	P405688	
	EPA 300.0 Rev. 2.1	Chloride	240		mg Cl/L	P406110	
		Sulfate	25		mg SO4/L	P406040	
	SM 2120 B-2011	Color (true)	230		PCU	P405685	
	SM 2320 B-2011	Total Alkalinity	73		mg CaCO3/L	P405794	
	SM 2540 C-2011	TDS	567		mg/L	P406284	
	SM 2540 D-2011	TSS	3	I	mg/L	P406278	
2286393	SM 4500 F-C-2011	Fluoride	0.12		mg F/L	P405796	
	EPA 350.1 Rev. 2.0	Ammonia-N	0.048		mg N/L	P406064	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.5		mg N/L	P406566	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.014		mg N/L	P405757	
	EPA 365.1 Rev. 2.0	Total-P	0.066		mg P/L	P405868	
2286395	SM 5310 B-2011	Organic Carbon	26		mg C/L	P405837	
	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.036		mg P/L	P405679	

Ref. Method and Comment:

EPA 300.0 Rev. 2.1: Sulfate: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.

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

Sample Location: Fox Lake near Center

Collection Date/Time: 10/26/2021 12:35

Field ID: G3CE0041

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2286392	EPA 180.1 Rev. 2.0	Turbidity	1.4		NTU	P405688	
	EPA 300.0 Rev. 2.1	Chloride	170		mg Cl/L	P406037	
		Sulfate	17		mg SO4/L	P406040	
	SM 2120 B-2011	Color (true)	330		PCU	P405685	
	SM 2320 B-2011	Total Alkalinity	33		mg CaCO3/L	P406012	
	SM 2540 C-2011	TDS	379		mg/L	P406284	
	SM 2540 D-2011	TSS	2	U	mg/L	P406278	
	SM 4500 F-C-2011	Fluoride	0.048	I	mg F/L	P406014	
2286394	EPA 350.1 Rev. 2.0	Ammonia-N	0.021		mg N/L	P406064	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.1		mg N/L	P406566	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.007	I	mg N/L	P405758	
	EPA 365.1 Rev. 2.0	Total-P	0.033		mg P/L	P405868	
	SM 5310 B-2011	Organic Carbon	29		mg C/L	P405837	
2286396	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.010		mg P/L	P405679	

Ref. Method and Comment:

EPA 300.0 Rev. 2.1: Sulfate: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.

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: P405688

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P406037

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P406040

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P406110

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P406064

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P406566

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P405757

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P405758

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P405868

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: P405679

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

Reference Method: SM 2120 B-2011
Batch ID: P405685

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2320 B-2011
Batch ID: P405794

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

Reference Method: SM 2320 B-2011
Batch ID: P406012

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

Reference Method: SM 2540 C-2011
Batch ID: P406284

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-2011
Batch ID: P406278

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500 F-C-2011
Batch ID: P405796

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 4500 F-C-2011
Batch ID: P406014

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-2011
Batch ID: P405837

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: P406037

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P406040

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P406110

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Chloride	98.1		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P406064

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Ammonia-N	98.0		P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P406566

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P405757

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P405758

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P405868

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P405679

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

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: SM 2120 B-2011
Batch ID: P405685

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Color (true)	98.5		P	85 - 115

Reference Method: SM 2320 B-2011
Batch ID: P405794

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

Reference Method: SM 2320 B-2011
Batch ID: P406012

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	101		P	94 - 106

Reference Method: SM 4500 F-C-2011
Batch ID: P405796

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

Reference Method: SM 4500 F-C-2011
Batch ID: P406014

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

Reference Method: SM 5310 B-2011
Batch ID: P405837

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	96.7		P	85 - 115

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P406037

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2285877	Chloride	98.9		P	90 - 110
2286184	Chloride	97.5		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P406040

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2285877	Sulfate	101		P	90 - 110
2286184	Sulfate	100		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P406110

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2287475	Chloride	98.2		P	90 - 110
2287920	Chloride	97.1		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P406064

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2286384	Ammonia-N	96.4	97.8	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P406566

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2288723	Kjeldahl Nitrogen	97.0	102	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P405757

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2286295	NO2NO3-N	100	99.5	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P405758

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2286482	NO2NO3-N	101	100	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P405868

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2286393	Total-P	108	105	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P405679

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2286296	O-Phosphate-P	98.5	97.8	P/P	90 - 110

Quality Assurance Report

Matrix Spike Accuracy

Reference Method: SM 4500 F-C-2011
Batch ID: P405796

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2286264	Fluoride	98.7	98.7	P/P	92 - 107

Reference Method: SM 4500 F-C-2011
Batch ID: P406014

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2286492	Fluoride	99.9	101	P/P	92 - 107

Reference Method: SM 5310 B-2011
Batch ID: P405837

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2286384	Organic Carbon	97.8	98.4	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P405688

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2286365	Turbidity	5.38	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P406037

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2285877	Chloride	0.751	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P406110

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2287475	Chloride	0.810	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P406064

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2286384	Ammonia-N	1.21	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P406566

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2288723	Kjeldahl Nitrogen	4.29	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P405757

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2286295	NO2NO3-N	1.00	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P405758

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2286482	NO2NO3-N	0.866	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P405868

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2286393	Total-P	2.12	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P405679

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2286296	O-Phosphate-P	0.713	Spike	P	0 - 20

Reference Method: SM 2120 B-2011
Batch ID: P405685

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2286383	Color (true)	1.20	Sample	P	0 - 20

Reference Method: SM 2320 B-2011
Batch ID: P405794

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2286264	Total Alkalinity	0.0802	Sample	P	0 - 5.2

Reference Method: SM 2320 B-2011
Batch ID: P406012

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2286492	Total Alkalinity	2.24	Sample	P	0 - 5.2

Reference Method: SM 2540 C-2011
Batch ID: P406284

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2286184	TDS	8.85	Sample	P	0 - 10

Reference Method: SM 4500 F-C-2011
Batch ID: P405796

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2286264	Fluoride	0.0	Spike	P	0 - 2.1

Reference Method: SM 4500 F-C-2011
Batch ID: P406014

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2286492	Fluoride	0.483	Spike	P	0 - 2.1

Reference Method: SM 5310 B-2011
Batch ID: P405837

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2286384	Organic Carbon	0.398	Spike	P	0 - 20

Quality Assurance Report Precision

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

Quality Assurance Report Calibration Verification

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A106110

Included Lab Sample IDs: 2286391

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Run ID: A108565

Included Lab Sample IDs: 2286395, 2286396

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	98.6	98.6	P/P	90 - 110

Reference Method: SM 2120 B-2011

Run ID: A108567

Included Lab Sample IDs: 2286391, 2286392

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: A108569

Included Lab Sample IDs: 2286391, 2286392

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Turbidity	100	101	P/P	95 - 105

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A108614

Included Lab Sample IDs: 2286393, 2286394

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

Reference Method: SM 2320 B-2011

Run ID: A108642

Included Lab Sample IDs: 2286391

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

Reference Method: SM 4500 F-C-2011

Run ID: A108642

Included Lab Sample IDs: 2286391

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

Reference Method: SM 5310 B-2011

Run ID: A108656

Included Lab Sample IDs: 2286393, 2286394

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	99.8	100	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: SM 2320 B-2011
 Run ID: A108714
 Included Lab Sample IDs: 2286392

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	98.2	101	P/P	90 - 110

Reference Method: SM 4500 F-C-2011
 Run ID: A108714
 Included Lab Sample IDs: 2286392

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: A108720
 Included Lab Sample IDs: 2286393

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	100	99.3	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
 Run ID: A108721
 Included Lab Sample IDs: 2286394

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

Reference Method: EPA 300.0 Rev. 2.1
 Run ID: A108733
 Included Lab Sample IDs: 2286392

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	99.9	101	P/P	90 - 110
Sulfate	100	101	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
 Run ID: A108743
 Included Lab Sample IDs: 2286393, 2286394

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	96.8	97.7	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
 Run ID: A109032
 Included Lab Sample IDs: 2286393, 2286394

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	103	104	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				5.38	
EPA 300.0 Rev. 2.1	Chloride	99.3	98.9	97.5	0.751	
	Chloride	98.1	98.2	97.1	0.810	
	Sulfate	99.8	101	100		
EPA 350.1 Rev. 2.0	Ammonia-N	98.0	96.4	97.8		1.21
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	104	97.0	102		4.29
EPA 353.2 Rev. 2.0	NO ₂ NO ₃ -N	100	100	99.5		1.00
	NO ₂ NO ₃ -N	101	101	100		0.866
EPA 365.1 Rev. 2.0	Total-P	103	108	105		2.12
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	97.9	98.5	97.8		0.713
SM 2120 B-2011	Color (true)	98.5			1.20	
SM 2320 B-2011	Total Alkalinity	99.2			0.0802	
	Total Alkalinity	101			2.24	
SM 2540 C-2011	TDS				8.85	
SM 4500 F-C-2011	Fluoride	100	98.7	98.7		0.0
	Fluoride	100	99.9	101		0.483
SM 5310 B-2011	Organic Carbon	96.7	97.8	98.4		0.398

Reference Method Descriptions

Method	Description	Associated Samples
EPA 180.1 Rev. 2.0	Turbidity in aqueous matrices	2286391, 2286392
EPA 300.0 Rev. 2.1	Chloride in aqueous matrices	2286391, 2286392
EPA 300.0 Rev. 2.1	Sulfate in aqueous matrices	2286391, 2286392
EPA 350.1 Rev. 2.0	Ammonia in aqueous matrices as mg N/L	2286393, 2286394
EPA 351.2 Rev. 2.0	Total Kjeldahl Nitrogen in aqueous matrices	2286393, 2286394
EPA 353.2 Rev. 2.0	Nitrite/Nitrate in aqueous matrices as mg N/L	2286393, 2286394
EPA 365.1 Rev. 2.0	Total Phosphorus in aqueous matrices as mg P/L	2286393, 2286394
EPA 365.1 Rev. 2.0 dissolved	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	2286395, 2286396
SM 2120 B-2011	True Color measured at 450 nm (not valid for NPDES monitoring)	2286391, 2286392
SM 2320 B-2011	Alkalinity in aqueous matrices as mg CaCO ₃ /L	2286391, 2286392
SM 2540 C-2011	Total Dissolved Solids in aqueous matrices	2286391, 2286392
SM 2540 D-2011	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2286391, 2286392
SM 4500 F-C-2011	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2286391, 2286392
SM 5310 B-2011	Nonpurgeable Organic Carbon in aqueous matrices	2286393, 2286394

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	10/27/2021			10/27/2021 15:55	Sarah A Nixon	2286391, 2286392
EPA 300.0 Rev. 2.1	10/27/2021			11/03/2021 20:46	Roberta Tatti	2286391
	10/27/2021			11/03/2021 20:58	Roberta Tatti	2286392
	10/27/2021			11/05/2021 16:52	Roberta Tatti	2286391
EPA 350.1 Rev. 2.0	10/27/2021			11/04/2021 12:12	Ping Hua	2286393
	10/27/2021			11/04/2021 12:13	Ping Hua	2286394
EPA 351.2 Rev. 2.0	10/27/2021	11/19/2021 12:30	Benjamin T. Nordmann	11/22/2021 09:56	Alexandra J Mattheus	2286393
	10/27/2021	11/19/2021 12:30	Benjamin T. Nordmann	11/22/2021 09:58	Alexandra J Mattheus	2286394
EPA 353.2 Rev. 2.0	10/27/2021			10/29/2021 10:31	Beverly Y. Sanders	2286393
	10/27/2021			10/29/2021 10:50	Beverly Y. Sanders	2286394
EPA 365.1 Rev. 2.0	10/27/2021	11/02/2021 16:18	Simonne.V. Calhoun	11/03/2021 17:20	Sarah A Nixon	2286393
	10/27/2021	11/02/2021 16:18	Simonne.V. Calhoun	11/04/2021 14:20	Lipi Saha	2286394
EPA 365.1 Rev. 2.0 dissolved	10/27/2021			10/27/2021 14:58	James L Waggeberby	2286395
	10/27/2021			10/27/2021 14:59	James L Waggeberby	2286396
SM 2120 B-2011	10/27/2021			10/27/2021 15:43	Benjamin T. Nordmann	2286391
	10/27/2021			10/27/2021 15:44	Benjamin T. Nordmann	2286392
SM 2320 B-2011	10/27/2021			10/29/2021 03:05	Dale L. Simmons	2286391
	10/27/2021			11/02/2021 18:25	Dale L. Simmons	2286392
SM 2540 C-2011	10/27/2021			11/01/2021 14:21	Yijie Li	2286391, 2286392
SM 2540 D-2011	10/27/2021			11/01/2021 14:21	Yijie Li	2286391, 2286392
SM 4500 F-C-2011	10/27/2021			10/29/2021 03:05	Dale L. Simmons	2286391
	10/27/2021			11/02/2021 18:25	Dale L. Simmons	2286392
SM 5310 B-2011	10/27/2021			11/01/2021 21:48	Khloe J Berg	2286393
	10/27/2021			11/01/2021 22:05	Khloe J Berg	2286394