

Chemical Analysis Report

SW-DIST-2021-01-15-01

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

Event Description: **Run 9 dan starvation Little Wilson**
Request ID: **RQ-2021-01-11-23**
Customer: **SW-DIST**
Project ID: **SMP**

Send Reports to:
FL Dept. of Environmental Protection
13051 N. Telecom Parkway
Temple Terrace, FL 33637-0926
Attn: Ben Paswater

For additional information please contact
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Certified by: Kerry Tate, Ph.D., Environmental Administrator

Date Certified: 08-FEB-2021 10:49

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.

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: Little Lake Wilson Center

Collection Date/Time: 01/14/2021 11:50

Field ID: G1SW0006

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2219718	EPA 180.1 Rev. 2.0	Turbidity	1.3		NTU	P392476	
	EPA 300.0 Rev. 2.1	Chloride	62		mg Cl/L	P392734	
		Sulfate	2.4		mg SO4/L	P392736	
	SM 2120 B-2011	Color (true)	45		PCU	P392457	
	SM 2320 B-2011	Total Alkalinity	59		mg CaCO3/L	P392588	
	SM 2540 C-2011	TDS	184		mg/L	P392811	
	SM 2540 D-2011	TSS	2	I	mg/L	P392970	
	SM 4500 F-C-2011	Fluoride	0.065	I	mg F/L	P392590	
2219721	EPA 350.1 Rev. 2.0	Ammonia-N	0.043		mg N/L	P393203	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.87		mg N/L	P393179	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.025		mg N/L	P392741	
	EPA 365.1 Rev. 2.0	Total-P	0.035		mg P/L	P392719	
	SM 5310 B-2011	Organic Carbon	12		mg C/L	P392644	
2219724	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.005	I	mg P/L	P392482	

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: Starvation Lake @ Center

Collection Date/Time: 01/14/2021 12:25

Field ID: G1SW0110

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2219719	EPA 180.1 Rev. 2.0	Turbidity	0.65		NTU	P392476	
	EPA 300.0 Rev. 2.1	Chloride	28		mg Cl/L	P392734	
		Sulfate	2.1		mg SO4/L	P392736	
	SM 2120 B-2011	Color (true)	59		PCU	P392457	
	SM 2320 B-2011	Total Alkalinity	23		mg CaCO3/L	P392588	
	SM 2540 C-2011	TDS	87		mg/L	P392811	
	SM 2540 D-2011	TSS	2	U	mg/L	P392970	
	SM 4500 F-C-2011	Fluoride	0.084	I	mg F/L	P392590	
2219722	EPA 350.1 Rev. 2.0	Ammonia-N	0.005		mg N/L	P393203	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.48		mg N/L	P393179	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.008	I	mg N/L	P392741	
	EPA 365.1 Rev. 2.0	Total-P	0.010		mg P/L	P392719	
	SM 5310 B-2011	Organic Carbon	10		mg C/L	P392644	
2219725	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P392482	

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 Dan @ Center

Collection Date/Time: 01/14/2021 11:00

Field ID: G5SW0161

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2219720	EPA 180.1 Rev. 2.0	Turbidity	1.8		NTU	P392476	
	EPA 300.0 Rev. 2.1	Chloride	6.9		mg Cl/L	P392734	
		Sulfate	2.4		mg SO4/L	P392736	
	SM 2120 B-2011	Color (true)	26		PCU	P392457	
	SM 2320 B-2011	Total Alkalinity	65		mg CaCO3/L	P392588	
	SM 2540 C-2011	TDS	99		mg/L	P392811	
	SM 2540 D-2011	TSS	3	I	mg/L	P392970	
	SM 4500 F-C-2011	Fluoride	0.059	I	mg F/L	P392590	
	EPA 350.1 Rev. 2.0	Ammonia-N	0.012		mg N/L	P393203	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.73		mg N/L	P393179	
2219723	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P392741	
	EPA 365.1 Rev. 2.0	Total-P	0.019		mg P/L	P392719	
	SM 5310 B-2011	Organic Carbon	9.7		mg C/L	P392754	
	EPA 365.1 Rev. 2.0	O-Phosphate-P	0.004	U	mg P/L	P392482	
	dissolved						

Ref. Method and Comment:

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

Non-Conformance Report

NCR ID: 8611

<u>Event(s)</u>	<u>Job(s)</u>	<u>Sample(s)</u>	<u>Test(s)</u>
SW-DIST-2021-01-15-01	TLH-2021-01-15-60	2219719	
SW-DIST-2021-01-15-01	TLH-2021-01-15-60	2219720	

NCR Type: CUSTODY

NCR Category: General

Observation: Control sensor malfunctioned in Refrigerator #4; temperature fell below normal operating range. Samples discovered frozen solid on 1/25/2021 @ 11:30.

Resolution: Refrigerator control sensor replaced.
Chemistry supervisor was notified
Data will be qualified as appropriate.

Authorized by/Date: Joshua Ayres 1/29/2021

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: P392476

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P392734

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P392736

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P393203

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P393179

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P392741

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P392719

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P392482

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

Reference Method: SM 2120 B-2011
Batch ID: P392457

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Quality Assurance Report

Method Blank Results

Reference Method: SM 2320 B-2011
Batch ID: P392588

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

Reference Method: SM 2540 C-2011
Batch ID: P392811

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-2011
Batch ID: P392970

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500 F-C-2011
Batch ID: P392590

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-2011
Batch ID: P392644

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

Reference Method: SM 5310 B-2011
Batch ID: P392754

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: P392734

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P392736

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P393203

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P393179

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: P392741

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: P392719

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P392482

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

Reference Method: SM 2120 B-2011
Batch ID: P392457

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

Reference Method: SM 2320 B-2011
Batch ID: P392588

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	95.6		P	93 - 104

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: SM 4500 F-C-2011
Batch ID: P392590

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	97.5		P	90 - 106

Reference Method: SM 5310 B-2011
Batch ID: P392644

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	101		P	85 - 115

Reference Method: SM 5310 B-2011
Batch ID: P392754

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	98.8		P	85 - 115

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P392734

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2219600	Chloride	99.0		P	90 - 110
2219939	Chloride	99.5		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P392736

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2219600	Sulfate	103		P	90 - 110
2219939	Sulfate	99.4		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P393203

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2219479	Ammonia-N	101	100	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P393179

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2219476	Kjeldahl Nitrogen	107	103	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P392741

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2219601	NO2NO3-N	98.4	99.4	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P392719

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2219723	Total-P	106	105	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P392482

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2219683	O-Phosphate-P	93.7	96.0	P/P	90 - 110

Reference Method: SM 4500 F-C-2011
Batch ID: P392590

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2219336	Fluoride	97.9	97.9	P/P	94 - 107

Reference Method: SM 5310 B-2011
Batch ID: P392644

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2219337	Organic Carbon	101	100	P/P	85 - 115

Quality Assurance Report Matrix Spike Accuracy

Reference Method: SM 5310 B-2011
Batch ID: P392754

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2219759	Organic Carbon	102	104	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P392476

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2219752	Turbidity	0.832	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P392734

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2219600	Chloride	0.782	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P392736

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2219600	Sulfate	1.13	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P393203

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2219479	Ammonia-N	0.734	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P393179

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2219476	Kjeldahl Nitrogen	3.64	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P392741

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2219601	NO2NO3-N	0.803	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P392719

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2219723	Total-P	1.39	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P392482

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2219683	O-Phosphate-P	2.12	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: SM 2120 B-2011
Batch ID: P392457

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2219600	Color (true)	0.326	Sample	P	0 - 20

Reference Method: SM 2320 B-2011
Batch ID: P392588

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2219336	Total Alkalinity	0.582	Sample	P	0 - 8.1

Reference Method: SM 2540 C-2011
Batch ID: P392811

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2219600	TDS	3.66	Sample	P	0 - 10

Reference Method: SM 4500 F-C-2011
Batch ID: P392590

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2219336	Fluoride	0.0	Spike	P	0 - 2.8

Reference Method: SM 5310 B-2011
Batch ID: P392644

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2219337	Organic Carbon	0.447	Spike	P	0 - 20

Reference Method: SM 5310 B-2011
Batch ID: P392754

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2219759	Organic Carbon	1.08	Spike	P	0 - 20

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

Quality Assurance Report Calibration Verification

Reference Method: SM 2120 B-2011

Run ID: A103088

Included Lab Sample IDs: 2219718, 2219719, 2219720

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	99.7	97.1	P/P	90 - 115

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A103090

Included Lab Sample IDs: 2219718, 2219719, 2219720

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Turbidity	102	102	P/P	95 - 105

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Run ID: A103092

Included Lab Sample IDs: 2219724, 2219725, 2219726

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	98.5	99.2	P/P	90 - 110
O-Phosphate-P	99.2	97.1	P/P	90 - 110

Reference Method: SM 2320 B-2011

Run ID: A103130

Included Lab Sample IDs: 2219718, 2219719, 2219720

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	92.4	96.2	P/P	90 - 110
Total Alkalinity	96.2	93.2	P/P	90 - 110

Reference Method: SM 4500 F-C-2011

Run ID: A103130

Included Lab Sample IDs: 2219718, 2219719, 2219720

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	101	98.1	P/P	90 - 110
Fluoride	98.1	102	P/P	90 - 110

Reference Method: SM 5310 B-2011

Run ID: A103143

Included Lab Sample IDs: 2219721, 2219722

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	101	97.8	P/P	90 - 110
Organic Carbon	101	101	P/P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A103154

Included Lab Sample IDs: 2219718, 2219719, 2219720

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	100	99.6	P/P	90 - 110
Sulfate	101	99.9	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A103180

Included Lab Sample IDs: 2219721, 2219722, 2219723

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

Reference Method: SM 5310 B-2011

Run ID: A103188

Included Lab Sample IDs: 2219723

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	99.5	103	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A103218

Included Lab Sample IDs: 2219721, 2219722, 2219723

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	99.0	96.2	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A103348

Included Lab Sample IDs: 2219721, 2219722, 2219723

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

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A103349

Included Lab Sample IDs: 2219721, 2219722, 2219723

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	96.5	96.0	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					0.832	
EPA 300.0 Rev. 2.1	Chloride	100	99.0	99.5		0.782	
	Sulfate	102	103	99.4		1.13	
EPA 350.1 Rev. 2.0	Ammonia-N	102	101	100			0.734
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	102	107	103			3.64
EPA 353.2 Rev. 2.0	NO ₂ NO ₃ -N	102	98.4	99.4			0.803
EPA 365.1 Rev. 2.0	Total-P	104	106	105			1.39
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	103	93.7	96.0			2.12
SM 2120 B-2011	Color (true)	100				0.326	
SM 2320 B-2011	Total Alkalinity	95.6				0.582	
SM 2540 C-2011	TDS					3.66	
SM 4500 F-C-2011	Fluoride	97.5	97.9	97.9			0.0
SM 5310 B-2011	Organic Carbon	101	101	100			0.447
	Organic Carbon	98.8	102	104			1.08

Reference Method Descriptions

Method	Description	Associated Samples
EPA 180.1 Rev. 2.0	Turbidity in aqueous matrices	2219718, 2219719, 2219720
EPA 300.0 Rev. 2.1	Chloride in aqueous matrices	2219718, 2219719, 2219720
EPA 300.0 Rev. 2.1	Sulfate in aqueous matrices	2219718, 2219719, 2219720
EPA 350.1 Rev. 2.0	Ammonia in aqueous matrices as mg N/L	2219721, 2219722, 2219723
EPA 351.2 Rev. 2.0	Total Kjeldahl Nitrogen in aqueous matrices	2219721, 2219722, 2219723
EPA 353.2 Rev. 2.0	Nitrite/Nitrate in aqueous matrices as mg N/L	2219721, 2219722, 2219723
EPA 365.1 Rev. 2.0	Total Phosphorus in aqueous matrices as mg P/L	2219721, 2219722, 2219723
EPA 365.1 Rev. 2.0 dissolved	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	2219724, 2219725, 2219726
SM 2120 B-2011	True Color measured at 450 nm (not valid for NPDES monitoring)	2219718, 2219719, 2219720
SM 2320 B-2011	Alkalinity in aqueous matrices as mg CaCO ₃ /L	2219718, 2219719, 2219720
SM 2540 C-2011	Total Dissolved Solids in aqueous matrices	2219718, 2219719, 2219720
SM 2540 D-2011	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2219718, 2219719, 2219720
SM 4500 F-C-2011	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2219718, 2219719, 2219720
SM 5310 B-2011	Nonpurgeable Organic Carbon in aqueous matrices	2219721, 2219722, 2219723

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	01/15/2021			01/15/2021 14:50	Yen Ta	2219718, 2219719, 2219720
EPA 300.0 Rev. 2.1	01/15/2021			01/21/2021 16:41	Lipi Saha	2219718
	01/15/2021			01/21/2021 16:54	Lipi Saha	2219719
	01/15/2021			01/21/2021 17:06	Lipi Saha	2219720
EPA 350.1 Rev. 2.0	01/15/2021			02/01/2021 17:57	Ping Hua	2219721
	01/15/2021			02/01/2021 17:58	Ping Hua	2219722
	01/15/2021			02/01/2021 18:00	Ping Hua	2219723
EPA 351.2 Rev. 2.0	01/15/2021	02/01/2021 09:53	Yen Ta	02/01/2021 18:49	Julia Storbeck	2219721
	01/15/2021	02/01/2021 09:53	Yen Ta	02/01/2021 18:50	Julia Storbeck	2219722
	01/15/2021	02/01/2021 09:53	Yen Ta	02/01/2021 18:52	Julia Storbeck	2219723
EPA 353.2 Rev. 2.0	01/15/2021			01/22/2021 10:01	Beverly Y. Sanders	2219721
	01/15/2021			01/22/2021 10:02	Beverly Y. Sanders	2219722
	01/15/2021			01/22/2021 10:04	Beverly Y. Sanders	2219723
EPA 365.1 Rev. 2.0	01/15/2021	01/21/2021 17:45	Madeline Gruver	01/25/2021 14:53	Shengyu Wang	2219723
	01/15/2021	01/21/2021 17:45	Madeline Gruver	01/25/2021 15:00	Shengyu Wang	2219721
	01/15/2021	01/21/2021 17:45	Madeline Gruver	01/25/2021 15:01	Shengyu Wang	2219722
EPA 365.1 Rev. 2.0 dissolved	01/15/2021			01/15/2021 16:38	Ping Hua	2219724
	01/15/2021			01/15/2021 16:43	Ping Hua	2219725
	01/15/2021			01/15/2021 16:44	Ping Hua	2219726
SM 2120 B-2011	01/15/2021			01/15/2021 15:40	Benjamin T. Nordmann	2219718, 2219719
	01/15/2021			01/15/2021 15:41	Benjamin T. Nordmann	2219720
SM 2320 B-2011	01/15/2021			01/19/2021 20:43	Dale L. Simmons	2219718
	01/15/2021			01/19/2021 21:30	Dale L. Simmons	2219719
	01/15/2021			01/19/2021 21:42	Dale L. Simmons	2219720
SM 2540 C-2011	01/15/2021			01/19/2021 14:52	Yijie Li	2219718, 2219719, 2219720
SM 2540 D-2011	01/15/2021			01/19/2021 14:52	Yijie Li	2219718, 2219719, 2219720
SM 4500 F-C-2011	01/15/2021			01/19/2021 20:43	Dale L. Simmons	2219718
	01/15/2021			01/19/2021 21:30	Dale L. Simmons	2219719
	01/15/2021			01/19/2021 21:42	Dale L. Simmons	2219720
SM 5310 B-2011	01/15/2021			01/20/2021 07:38	Touraj Touran	2219721
	01/15/2021			01/20/2021 08:17	Touraj Touran	2219722
	01/15/2021			01/21/2021 20:26	Touraj Touran	2219723