Chemical Analysis Report

SW-DIST-2022-06-15-01

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

Event Description: **Run 3**
Request ID: **RQ-2022-06-13-05**
Customer: **SW-DIST**
Project ID: **SMP**

Send Reports to:
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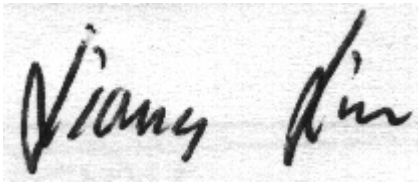
Date Certified: 07-JUL-2022 10:58



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: Sparkman Lake @ Center **Collection Date/Time: 06/14/2022 09:50**

Field ID: G4SW0114 Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2334648	DEP SOP: NU-094-1	Color (true)**	260		PCU	P415266	
	EPA 180.1 Rev. 2.0	Turbidity	4.7		NTU	P415258	
	EPA 300.0 Rev. 2.1	Chloride	10		mg Cl/L	P415804	
		Sulfate	1.2		mg SO4/L	P415806	
	SM 2320 B-2011	Total Alkalinity	15		mg CaCO3/L	P415749	
	SM 2540 C-2011	TDS	102		mg/L	P415658	
	SM 2540 D-2011	TSS	4	I	mg/L	P415650	
	SM 4500-F- C-2011	Fluoride	0.080	I	mg F/L	P415753	
2334651	EPA 350.1 Rev. 2.0	Ammonia-N	0.028		mg N/L	P415645	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.6		mg N/L	P415608	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	I	mg N/L	P415662	
	EPA 365.1 Rev. 2.0	Total-P	0.12		mg P/L	P415572	
	SM 5310 B-2011	Organic Carbon	25		mg C/L	P415461	

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 Lindsay @ Center **Collection Date/Time: 06/14/2022 10:40**

Field ID: G4SW0124 Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2334649	DEP SOP: NU-094-1	Color (true)**	61		PCU	P415266	
	EPA 180.1 Rev. 2.0	Turbidity	0.95	I	NTU	P415258	
	EPA 300.0 Rev. 2.1	Chloride	5.1		mg Cl/L	P415804	
		Sulfate	0.20	U	mg SO4/L	P415806	
	SM 2320 B-2011	Total Alkalinity	11		mg CaCO3/L	P415749	
	SM 2540 C-2011	TDS	41		mg/L	P415658	
	SM 2540 D-2011	TSS	2	U	mg/L	P415650	
	SM 4500-F- C-2011	Fluoride	0.040	I	mg F/L	P415753	
2334652	EPA 350.1 Rev. 2.0	Ammonia-N	0.006		mg N/L	P415645	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.76		mg N/L	P415610	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P415662	
	EPA 365.1 Rev. 2.0	Total-P	0.032		mg P/L	P415572	
	SM 5310 B-2011	Organic Carbon	11		mg C/L	P415461	

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: McKethan Lake **Collection Date/Time: 06/14/2022 12:10**

Field ID: G4SW0021 Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2334650	DEP SOP: NU-094-1	Color (true)**	49		PCU	P415266	
	EPA 180.1 Rev. 2.0	Turbidity	1.3		NTU	P415258	
	EPA 300.0 Rev. 2.1	Chloride	2.6		mg Cl/L	P415804	
		Sulfate	0.20	U	mg SO4/L	P415806	
	SM 2320 B-2011	Total Alkalinity	11		mg CaCO3/L	P415749	
	SM 2540 C-2011	TDS	41		mg/L	P415658	
	SM 2540 D-2011	TSS	2	U	mg/L	P415650	
	SM 4500-F- C-2011	Fluoride	0.035	U	mg F/L	P415753	
2334653	EPA 350.1 Rev. 2.0	Ammonia-N	0.007		mg N/L	P415645	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.91		mg N/L	P415918	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P415662	
	EPA 365.1 Rev. 2.0	Total-P	0.050		mg P/L	P415572	
	SM 5310 B-2011	Organic Carbon	11		mg C/L	P415475	

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: DEP SOP: NU-094-1
Batch ID: P415266

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P415258

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P415804

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P415806

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P415645

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P415608

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P415610

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P415918

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P415662

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

Quality Assurance Report
Method Blank Results

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P415572

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

Reference Method: SM 2320 B-2011
Batch ID: P415749

Component	Result	Code	Units
Total Alkalinity	1.0	U	mg CaCO3/L

Reference Method: SM 2540 C-2011
Batch ID: P415658

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-2011
Batch ID: P415650

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500-F- C-2011
Batch ID: P415753

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-2011
Batch ID: P415461

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

Reference Method: SM 5310 B-2011
Batch ID: P415475

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

Quality Assurance Report
Laboratory Control Sample Accuracy

Reference Method: DEP SOP: NU-094-1
Batch ID: P415266

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Color (true)	96.5		P	85 - 115

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P415258

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Turbidity	96.8		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P415804

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Chloride	94.1		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P415806

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Sulfate	97.0		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P415645

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Ammonia-N	96.2		P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P415608

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P415610

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P415918

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: P415662

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

Quality Assurance Report
Laboratory Control Sample Accuracy

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P415572

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

Reference Method: SM 2320 B-2011
Batch ID: P415749

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

Reference Method: SM 4500-F- C-2011
Batch ID: P415753

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	96.9		P	96 - 104

Reference Method: SM 5310 B-2011
Batch ID: P415461

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	97.4		P	85 - 115

Reference Method: SM 5310 B-2011
Batch ID: P415475

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

Quality Assurance Report
Matrix Spike Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P415804

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2334560	Chloride	94.9		P	90 - 110
2334583	Chloride	94.8		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P415806

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2334560	Sulfate	94.8		P	90 - 110
2334583	Sulfate	95.5		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P415645

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2334653	Ammonia-N	97.0	96.4	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P415608

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2334450	Kjeldahl Nitrogen	102	105	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P415610

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2334449	Kjeldahl Nitrogen	103	101	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P415918

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2334470	Kjeldahl Nitrogen	101	104	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P415662

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2334640	NO2NO3-N	97.5	100	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P415572

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2334640	Total-P	102	104	P/P	90 - 110

Reference Method: SM 4500-F- C-2011
Batch ID: P415753

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2334356	Fluoride	102	102	P/P	94 - 104

Quality Assurance Report
Matrix Spike Accuracy

Reference Method: SM 5310 B-2011
Batch ID: P415461

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2334470	Organic Carbon	98.0	98.8	P/P	85 - 115

Reference Method: SM 5310 B-2011
Batch ID: P415475

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2334653	Organic Carbon	96.1	96.5	P/P	85 - 115

Quality Assurance Report
Precision

Reference Method: DEP SOP: NU-094-1
Batch ID: P415266

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2334583	Color (true)	2.74	Sample	P	0 - 20

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P415258

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2334583	Turbidity	0.0	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P415804

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2334560	Chloride	0.0106	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P415806

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2334560	Sulfate	0.226	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P415645

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2334653	Ammonia-N	0.540	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P415608

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2334450	Kjeldahl Nitrogen	2.02	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P415610

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2334449	Kjeldahl Nitrogen	1.00	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P415918

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2334470	Kjeldahl Nitrogen	2.46	Spike	P	0 - 20

Quality Assurance Report
Precision

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P415662

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2334640	NO2NO3-N	2.53	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P415572

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2334640	Total-P	1.42	Spike	P	0 - 20

Reference Method: SM 2320 B-2011
Batch ID: P415749

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2334356	Total Alkalinity	1.37	Sample	P	0 - 3.8

Reference Method: SM 2540 C-2011
Batch ID: P415658

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2334639	TDS	6.23	Sample	P	0 - 10

Reference Method: SM 4500-F- C-2011
Batch ID: P415753

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2334356	Fluoride	0.0	Spike	P	0 - 1.6

Reference Method: SM 5310 B-2011
Batch ID: P415461

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2334470	Organic Carbon	0.622	Spike	P	0 - 20

Reference Method: SM 5310 B-2011
Batch ID: P415475

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2334653	Organic Carbon	0.261	Spike	P	0 - 20

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

Quality Assurance Report
Calibration Verification

Reference Method: EPA 180.1 Rev. 2.0
Run ID: A112850
Included Lab Sample IDs: 2334648, 2334649, 2334650

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

Reference Method: DEP SOP: NU-094-1
Run ID: A112852
Included Lab Sample IDs: 2334648, 2334649, 2334650

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	98.2	95.9	P/P	85 - 115
Color (true)	98.9	99.3	P/P	85 - 115

Reference Method: SM 5310 B-2011
Run ID: A112944
Included Lab Sample IDs: 2334651, 2334652

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	99.1	99.3	P/P	90 - 110

Reference Method: SM 5310 B-2011
Run ID: A112948
Included Lab Sample IDs: 2334653

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	97.2	98.7	P/P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Run ID: A112976
Included Lab Sample IDs: 2334648, 2334649, 2334650

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	94.9	97.2	P/P	90 - 110
Chloride	97.2	96.2	P/P	90 - 110
Sulfate	98.1	99.2	P/P	90 - 110
Sulfate	99.2	98.6	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Run ID: A113007
Included Lab Sample IDs: 2334651, 2334652, 2334653

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	97.7	98.6	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Run ID: A113014
Included Lab Sample IDs: 2334651, 2334652, 2334653

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

Quality Assurance Report
Calibration Verification

Reference Method: EPA 365.1 Rev. 2.0
Run ID: A113043
Included Lab Sample IDs: 2334651

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

Reference Method: EPA 365.1 Rev. 2.0
Run ID: A113053
Included Lab Sample IDs: 2334652, 2334653

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

Reference Method: SM 2320 B-2011
Run ID: A113064
Included Lab Sample IDs: 2334648, 2334649, 2334650

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	99.7	98.1	P/P	90 - 110

Reference Method: SM 4500-F- C-2011
Run ID: A113064
Included Lab Sample IDs: 2334648, 2334649, 2334650

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	98.4	98.6	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Run ID: A113121
Included Lab Sample IDs: 2334651, 2334652, 2334653

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	103	101	P/P	90 - 110
Kjeldahl Nitrogen	106	101	P/P	90 - 110
Kjeldahl Nitrogen	108	105	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	SMP	MS
DEP SOP: NU-094-1	Color (true)	96.5				2.74	
EPA 180.1 Rev. 2.0	Turbidity	96.8				0.0	
EPA 300.0 Rev. 2.1	Chloride	94.1	94.9	94.8		0.0106	
	Sulfate	97.0	94.8	95.5		0.226	
EPA 350.1 Rev. 2.0	Ammonia-N	96.2	97.0	96.4			0.540
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	104	102	105			2.02
	Kjeldahl Nitrogen	99.6	103	101			1.00
	Kjeldahl Nitrogen	104	101	104			2.46
EPA 353.2 Rev. 2.0	NO2NO3-N	99.5	97.5	100			2.53
EPA 365.1 Rev. 2.0	Total-P	99.5	102	104			1.42
SM 2320 B-2011	Total Alkalinity	101				1.37	
SM 2540 C-2011	TDS					6.23	
SM 4500-F- C-2011	Fluoride	96.9	102	102			0.0
SM 5310 B-2011	Organic Carbon	97.4	98.0	98.8			0.622
	Organic Carbon	96.0	96.1	96.5			0.261

Reference Method Descriptions

Method	Description	Associated Samples
DEP SOP: NU-094-1	True Color measured at 450 nm (not valid for NPDES monitoring)	2334648, 2334649, 2334650
EPA 180.1 Rev. 2.0	Turbidity in aqueous matrices	2334648, 2334649, 2334650
EPA 300.0 Rev. 2.1	Chloride in aqueous matrices	2334648, 2334649, 2334650
EPA 300.0 Rev. 2.1	Sulfate in aqueous matrices	2334648, 2334649, 2334650
EPA 350.1 Rev. 2.0	Ammonia in aqueous matrices as mg N/L	2334651, 2334652, 2334653
EPA 351.2 Rev. 2.0	Total Kjeldahl Nitrogen in aqueous matrices	2334651, 2334652, 2334653
EPA 353.2 Rev. 2.0	Nitrite/Nitrate in aqueous matrices as mg N/L	2334651, 2334652, 2334653
EPA 365.1 Rev. 2.0	Total Phosphorus in aqueous matrices as mg P/L	2334651, 2334652, 2334653
SM 2320 B-2011	Alkalinity in aqueous matrices as mg CaCO3/L	2334648, 2334649, 2334650
SM 2540 C-2011	Total Dissolved Solids in aqueous matrices	2334648, 2334649, 2334650
SM 2540 D-2011	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2334648, 2334649, 2334650
SM 4500-F- C-2011	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2334648, 2334649, 2334650
SM 5310 B-2011	Nonpurgeable Organic Carbon in aqueous matrices	2334651, 2334652, 2334653

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
DEP SOP: NU-094-1	06/15/2022			06/15/2022 16:55	Samantha L Bates	2334649
	06/15/2022			06/15/2022 16:56	Samantha L Bates	2334650
	06/15/2022			06/15/2022 17:25	Samantha L Bates	2334648
EPA 180.1 Rev. 2.0	06/15/2022			06/15/2022 15:13	Khloe J Berg	2334648
	06/15/2022			06/15/2022 15:14	Khloe J Berg	2334649
	06/15/2022			06/15/2022 15:15	Khloe J Berg	2334650
EPA 300.0 Rev. 2.1	06/15/2022			06/24/2022 14:56	Anna M. Plaviak	2334648
	06/15/2022			06/24/2022 15:33	Anna M. Plaviak	2334649
	06/15/2022			06/24/2022 15:45	Anna M. Plaviak	2334650
EPA 350.1 Rev. 2.0	06/15/2022			06/23/2022 12:32	Ping Hua	2334653
	06/15/2022			06/23/2022 12:36	Ping Hua	2334651
	06/15/2022			06/23/2022 12:37	Ping Hua	2334652
EPA 351.2 Rev. 2.0	06/15/2022	06/24/2022 10:24	Samantha L Bates	06/27/2022 11:59	Alexandra J Mattheus	2334651
	06/15/2022	06/24/2022 10:24	Samantha L Bates	06/27/2022 12:55	Alexandra J Mattheus	2334652
	06/15/2022	06/24/2022 10:30	Samantha L Bates	06/27/2022 14:00	Alexandra J Mattheus	2334653
EPA 353.2 Rev. 2.0	06/15/2022			06/22/2022 17:57	Touraj Touran	2334651
	06/15/2022			06/22/2022 17:58	Touraj Touran	2334652
	06/15/2022			06/22/2022 17:59	Touraj Touran	2334653
EPA 365.1 Rev. 2.0	06/15/2022	06/23/2022 14:45	Simonne.V. Calhoun	06/24/2022 11:05	James L Waggerby	2334651
	06/15/2022	06/23/2022 14:45	Simonne.V. Calhoun	06/24/2022 14:38	James L Waggerby	2334652
	06/15/2022	06/23/2022 14:45	Simonne.V. Calhoun	06/24/2022 14:39	James L Waggerby	2334653
SM 2320 B-2011	06/15/2022			06/23/2022 09:51	Dale L. Simmons	2334648
	06/15/2022			06/23/2022 10:03	Dale L. Simmons	2334649
	06/15/2022			06/23/2022 10:16	Dale L. Simmons	2334650
SM 2540 C-2011	06/15/2022			06/17/2022 14:36	Yijie Li	2334648, 2334649, 2334650
SM 2540 D-2011	06/15/2022			06/17/2022 14:36	Yijie Li	2334648, 2334649, 2334650
SM 4500-F- C-2011	06/15/2022			06/23/2022 09:51	Dale L. Simmons	2334648
	06/15/2022			06/23/2022 10:03	Dale L. Simmons	2334649
	06/15/2022			06/23/2022 10:16	Dale L. Simmons	2334650
SM 5310 B-2011	06/15/2022			06/20/2022 17:00	Khloe J Berg	2334653
	06/15/2022			06/21/2022 00:41	Khloe J Berg	2334651
	06/15/2022			06/21/2022 00:55	Khloe J Berg	2334652