

Chemical Analysis Report

SW-DIST-2023-03-14-01

Florida DEP Laboratory
2600 Blair Stone Road
Tallahassee, FL 32399-2400
DOH Accreditation E31780

Event Description: **Run 2**
Request ID: **RQ-2023-03-06-17**
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
Colin Wright, Ph.D.
Chris Bowen, B.S.
Kerry Tate, Ph.D.
Dr. rer. nat. Bettina Steinbock
Thekkekalathil Chandrasekhar, Ph.D, QA Officer
Phone (850) 245-8085

Certified by: Chris Bowen, Environmental Administrator

Date Certified: 06-APR-2023 12:20



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: 03/13/2023 09:50

Field ID: G4SW0114

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2393610	DEP SOP: NU-094-1	Color (true)	230		PCU	P427173	
	EPA 180.1 Rev. 2.0	Turbidity	6.6		NTU	P427144	
	EPA 300.0 Rev. 2.1	Chloride	16		mg Cl/L	P427541	
		Sulfate	0.52		mg SO4/L	P427544	
	SM 2320 B-2011	Total Alkalinity	15	J	mg CaCO3/L	P427440	LCS
	SM 2540 C-2015	TDS	89		mg/L	P427551	
	SM 2540 D-2015	TSS	4	I	mg/L	P427372	
	SM 4500-F- C-2011	Fluoride	0.096	I	mg F/L	P427442	
2393613	EPA 350.1 Rev. 2.0	Ammonia-N	0.50		mg N/L	P427418	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.8		mg N/L	P427252	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.009	I	mg N/L	P427339	
	EPA 365.1 Rev. 2.0	Total-P	0.098		mg P/L	P427170	
	SM 5310 B-2011	Organic Carbon	24		mg C/L	P427458	

Ref. Method and Comment:

SM 2320 B-2011: Refer to the Lab Analysis Report for an explanation of QC Codes.

SM 2540 D-2015: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.

Sample Location: Lake Lindsay @ Center

Collection Date/Time: 03/13/2023 11:15

Field ID: G4SW0124

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2393611	DEP SOP: NU-094-1	Color (true)	51	A	PCU	P427173	
	EPA 180.1 Rev. 2.0	Turbidity	0.90	I	NTU	P427144	
	EPA 300.0 Rev. 2.1	Chloride	5.8		mg Cl/L	P427541	
		Sulfate	0.20	U	mg SO4/L	P427544	
	SM 2320 B-2011	Total Alkalinity	9.0		mg CaCO3/L	P427348	
	SM 2540 C-2015	TDS	31		mg/L	P427551	
	SM 2540 D-2015	TSS	2	U	mg/L	P427372	
	SM 4500-F- C-2011	Fluoride	0.051	I	mg F/L	P427354	
2393614	EPA 350.1 Rev. 2.0	Ammonia-N	0.004	I	mg N/L	P427418	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.73		mg N/L	P427252	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P427289	
	EPA 365.1 Rev. 2.0	Total-P	0.032		mg P/L	P427170	
	SM 5310 B-2011	Organic Carbon	9.5		mg C/L	P427458	

Ref. Method and Comment:

SM 2540 D-2015: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.

Sample Location: Mountain Lake @ Center

Collection Date/Time: 03/13/2023 10:30

Field ID: G4SW0103

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2393612	DEP SOP: NU-094-1	Color (true)	61		PCU	P427173	
	EPA 180.1 Rev. 2.0	Turbidity	6.5		NTU	P427144	
	EPA 300.0 Rev. 2.1	Chloride	20		mg Cl/L	P427541	
		Sulfate	0.84		mg SO4/L	P427544	
	SM 2320 B-2011	Total Alkalinity	17		mg CaCO3/L	P427348	
	SM 2540 C-2015	TDS	63		mg/L	P427551	
	SM 2540 D-2015	TSS	10	I	mg/L	P427372	
	SM 4500-F- C-2011	Fluoride	0.11		mg F/L	P427354	
2393615	EPA 350.1 Rev. 2.0	Ammonia-N	0.006		mg N/L	P427418	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.8		mg N/L	P427253	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P427289	
	EPA 365.1 Rev. 2.0	Total-P	0.10		mg P/L	P427170	
	SM 5310 B-2011	Organic Carbon	15		mg C/L	P427458	

Ref. Method and Comment:

SM 2540 D-2015: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample. The PQL was elevated because of sample matrix interference.

EPA 351.2 Rev. 2.0: Batch matrix spike recoveries are unavailable because of high analyte concentration in the QC sample.

Quality Assurance Report Method Blank Results

Reference Method: DEP SOP: NU-094-1
Batch ID: P427173

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P427144

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P427541

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P427544

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P427418

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P427252

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P427253

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P427289

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P427339

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: P427170

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

Reference Method: SM 2320 B-2011
Batch ID: P427348

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

Reference Method: SM 2320 B-2011
Batch ID: P427440

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

Reference Method: SM 2540 C-2015
Batch ID: P427551

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-2015
Batch ID: P427372

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500-F- C-2011
Batch ID: P427354

Component	Result	Code	Units
Fluoride	0.025	U	mg F/L

Reference Method: SM 4500-F- C-2011
Batch ID: P427442

Component	Result	Code	Units
Fluoride	0.025	U	mg F/L

Reference Method: SM 5310 B-2011
Batch ID: P427458

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: P427173

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Color (true)	97.2		P	90 - 110

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P427144

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P427541

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P427544

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P427418

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Ammonia-N	97.4		P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P427252

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P427253

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P427289

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: P427339

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

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P427170

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

Reference Method: SM 2320 B-2011
Batch ID: P427348

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	96.0		P	94 - 106

Reference Method: SM 2320 B-2011
Batch ID: P427440

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	93.7		F	94 - 106

Reference Method: SM 2540 C-2015
Batch ID: P427551

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

Reference Method: SM 2540 D-2015
Batch ID: P427372

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
TSS	96.9		P	85 - 106

Reference Method: SM 4500-F- C-2011
Batch ID: P427354

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	102		P	96 - 104

Reference Method: SM 4500-F- C-2011
Batch ID: P427442

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	100		P	96 - 104

Reference Method: SM 5310 B-2011
Batch ID: P427458

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

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P427541

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2393562	Chloride	100		P	90 - 110
2393632	Chloride	102		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P427544

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2393562	Sulfate	96.9		P	90 - 110
2393632	Sulfate	98.2		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P427418

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2393537	Ammonia-N	99.2	99.8	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P427252

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2393521	Kjeldahl Nitrogen	95.1	96.5	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P427289

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2393603	NO2NO3-N	94.5		P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P427339

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2393613	NO2NO3-N	97.0	97.0	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P427170

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2393626	Total-P	103	100	P/P	90 - 110

Reference Method: SM 4500-F- C-2011
Batch ID: P427354

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2393771	Fluoride	102	102	P/P	94 - 104

Reference Method: SM 4500-F- C-2011
Batch ID: P427442

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2394807	Fluoride	101	100	P/P	94 - 104

Quality Assurance Report

Matrix Spike Accuracy

Reference Method: SM 5310 B-2011
Batch ID: P427458

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2393603	Organic Carbon	93.4	94.3	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: DEP SOP: NU-094-1
Batch ID: P427173

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2393611	Color (true)	2.79	Sample	P	0 - 20

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P427144

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2393601	Turbidity	0.499	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P427541

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2393562	Chloride	1.58	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P427544

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2393562	Sulfate	1.59	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P427418

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2393537	Ammonia-N	0.498	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P427252

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2393521	Kjeldahl Nitrogen	0.728	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P427253

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2393657	Kjeldahl Nitrogen	8.81	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P427289

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2393603	NO2NO3-N	0.0	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P427339

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2393613	NO2NO3-N	0.0	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P427170

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2393626	Total-P	2.39	Spike	P	0 - 20

Reference Method: SM 2320 B-2011
Batch ID: P427348

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2393771	Total Alkalinity	1.52	Sample	P	0 - 3.8

Reference Method: SM 2320 B-2011
Batch ID: P427440

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2394807	Total Alkalinity	1.15	Sample	P	0 - 3.8

Reference Method: SM 2540 C-2015
Batch ID: P427551

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2393647	TDS	5.76	Sample	P	0 - 10

Reference Method: SM 4500-F- C-2011
Batch ID: P427354

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2393771	Fluoride	0.0	Spike	P	0 - 1.6

Reference Method: SM 4500-F- C-2011
Batch ID: P427442

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2394807	Fluoride	0.959	Spike	P	0 - 1.6

Reference Method: SM 5310 B-2011
Batch ID: P427458

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2393603	Organic Carbon	0.576	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 180.1 Rev. 2.0

Run ID: A117982

Included Lab Sample IDs: 2393610, 2393611, 2393612

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Turbidity	102	100	P/P	95 - 105

Reference Method: DEP SOP: NU-094-1

Run ID: A117994

Included Lab Sample IDs: 2393610, 2393611, 2393612

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	95.1	99.0	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A118020

Included Lab Sample IDs: 2393613, 2393615

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	99.8	99.3	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A118051

Included Lab Sample IDs: 2393614, 2393615

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

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A118060

Included Lab Sample IDs: 2393614

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

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A118063

Included Lab Sample IDs: 2393613, 2393614

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	105	103	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A118067

Included Lab Sample IDs: 2393615

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	94.9	105	P/P	90 - 110

Reference Method: SM 2320 B-2011

Run ID: A118077

Included Lab Sample IDs: 2393611, 2393612

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	93.5	96.1	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: SM 4500-F- C-2011

Run ID: A118077

Included Lab Sample IDs: 2393611, 2393612

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

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A118078

Included Lab Sample IDs: 2393613

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	104	102	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A118109

Included Lab Sample IDs: 2393613, 2393614, 2393615

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	96.9	99.0	P/P	90 - 110
Ammonia-N	97.5	97.4	P/P	90 - 110

Reference Method: SM 2320 B-2011

Run ID: A118116

Included Lab Sample IDs: 2393610

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	95.5	93.7	P/P	90 - 110

Reference Method: SM 4500-F- C-2011

Run ID: A118116

Included Lab Sample IDs: 2393610

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

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A118124

Included Lab Sample IDs: 2393610, 2393611, 2393612

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	97.3	98.4	P/P	90 - 110
Chloride	98.4	97.5	P/P	90 - 110
Sulfate	97.5	99.0	P/P	90 - 110
Sulfate	99.0	97.8	P/P	90 - 110

Reference Method: SM 5310 B-2011

Run ID: A118128

Included Lab Sample IDs: 2393613, 2393614, 2393615

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	97.0	97.0	P/P	90 - 110
Organic Carbon	97.8	97.3	P/P	90 - 110

Quality Assurance Report

Calibration Verification

* 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
DEP SOP: NU-094-1	Color (true)	97.2			2.79	
EPA 180.1 Rev. 2.0	Turbidity	100			0.499	
EPA 300.0 Rev. 2.1	Chloride	101	100	102	1.58	
	Sulfate	100	96.9	98.2	1.59	
EPA 350.1 Rev. 2.0	Ammonia-N	97.4	99.2	99.8		0.498
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	102	95.1	96.5		0.728
	Kjeldahl Nitrogen	103				8.81
EPA 353.2 Rev. 2.0	NO2NO3-N	100	94.5			0.0
	NO2NO3-N	100	97.0	97.0		0.0
EPA 365.1 Rev. 2.0	Total-P	101	103	100		2.39
SM 2320 B-2011	Total Alkalinity	96.0			1.52	
	Total Alkalinity	93.7			1.15	
SM 2540 C-2015	TDS	98.6			5.76	
SM 2540 D-2015	TSS	96.9				
SM 4500-F- C-2011	Fluoride	102	102	102		0.0
	Fluoride	100	101	100		0.959
SM 5310 B-2011	Organic Carbon	94.4	93.4	94.3		0.576

Reference Method Descriptions

Method	Description	Associated Samples
DEP SOP: NU-094-1	True Color measured at 450 nm (not valid for NPDES monitoring)	2393610, 2393611, 2393612
EPA 180.1 Rev. 2.0	Turbidity in aqueous matrices	2393610, 2393611, 2393612
EPA 300.0 Rev. 2.1	Chloride in aqueous matrices	2393610, 2393611, 2393612
EPA 300.0 Rev. 2.1	Sulfate in aqueous matrices	2393610, 2393611, 2393612
EPA 350.1 Rev. 2.0	Ammonia in aqueous matrices as mg N/L	2393613, 2393614, 2393615
EPA 351.2 Rev. 2.0	Total Kjeldahl Nitrogen in aqueous matrices	2393613, 2393614, 2393615
EPA 353.2 Rev. 2.0	Nitrite/Nitrate in aqueous matrices as mg N/L	2393613, 2393614, 2393615
EPA 365.1 Rev. 2.0	Total Phosphorus in aqueous matrices as mg P/L	2393613, 2393614, 2393615
SM 2320 B-2011	Alkalinity in aqueous matrices as mg CaCO3/L	2393610, 2393611, 2393612
SM 2540 C-2015	Total Dissolved Solids in aqueous matrices	2393610, 2393611, 2393612
SM 2540 D-2015	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2393610, 2393611, 2393612
SM 4500-F- C-2011	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2393610, 2393611, 2393612
SM 5310 B-2011	Nonpurgeable Organic Carbon in aqueous matrices	2393613, 2393614, 2393615

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	03/14/2023			03/14/2023 17:42	Alexis Price	2393610
	03/14/2023			03/14/2023 17:43	Alexis Price	2393611, 2393612
EPA 180.1 Rev. 2.0	03/14/2023			03/14/2023 14:08	Chandler E Cox	2393610
	03/14/2023			03/14/2023 14:09	Chandler E Cox	2393611
	03/14/2023			03/14/2023 14:10	Chandler E Cox	2393612
EPA 300.0 Rev. 2.1	03/14/2023			03/22/2023 23:10	Judith K. Clark	2393610
	03/14/2023			03/22/2023 23:25	Judith K. Clark	2393611
	03/14/2023			03/23/2023 00:10	Judith K. Clark	2393612
EPA 350.1 Rev. 2.0	03/14/2023			03/21/2023 13:34	Judith K. Clark	2393614
	03/14/2023			03/21/2023 13:36	Judith K. Clark	2393615
	03/14/2023			03/21/2023 14:24	Judith K. Clark	2393613
EPA 351.2 Rev. 2.0	03/14/2023	03/16/2023 15:00	Simonne.V. Calhoun	03/17/2023 13:24	Judith K. Clark	2393613
	03/14/2023	03/16/2023 15:00	Simonne.V. Calhoun	03/17/2023 13:26	Judith K. Clark	2393614
	03/14/2023	03/16/2023 15:00	Simonne.V. Calhoun	03/17/2023 17:05	Judith K. Clark	2393615
EPA 353.2 Rev. 2.0	03/14/2023			03/17/2023 10:19	Beverly Y. Sanders	2393614
	03/14/2023			03/17/2023 10:20	Beverly Y. Sanders	2393615
	03/14/2023			03/20/2023 09:39	Beverly Y. Sanders	2393613
EPA 365.1 Rev. 2.0	03/14/2023	03/15/2023 13:09	Adam P Silver	03/15/2023 17:40	James L Waggeberby	2393613
	03/14/2023	03/15/2023 13:09	Adam P Silver	03/15/2023 17:43	James L Waggeberby	2393615
	03/14/2023	03/15/2023 13:09	Adam P Silver	03/17/2023 14:37	James L Waggeberby	2393614
SM 2320 B-2011	03/14/2023			03/18/2023 06:54	Dale L. Simmons	2393611
	03/14/2023			03/18/2023 07:07	Dale L. Simmons	2393612
	03/14/2023			03/22/2023 04:03	Dale L. Simmons	2393610
SM 2540 C-2015	03/14/2023			03/16/2023 14:30	Blanca Fach	2393610, 2393611, 2393612
SM 2540 D-2015	03/14/2023			03/16/2023 14:45	Blanca Fach	2393610, 2393611, 2393612
SM 4500-F- C-2011	03/14/2023			03/18/2023 06:54	Dale L. Simmons	2393611
	03/14/2023			03/18/2023 07:07	Dale L. Simmons	2393612
	03/14/2023			03/22/2023 04:03	Dale L. Simmons	2393610
SM 5310 B-2011	03/14/2023			03/21/2023 18:09	Elise M. Gillis	2393614
	03/14/2023			03/22/2023 00:05	Elise M. Gillis	2393613
	03/14/2023			03/22/2023 00:21	Elise M. Gillis	2393615