

Chemical Analysis Report

SW-DIST-2022-09-02-01

Florida DEP Laboratory
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Tallahassee, FL 32399-2400
DOH Accreditation E31780

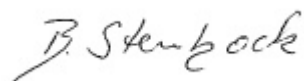
Event Description: **Run 2**
Request ID: **RQ-2022-08-15-02**
Customer: **SW-DIST**
Project ID: **SMP**

Send Reports to:
FL Dept. of Environmental Protection
13051 N. Telecom Parkway
Temple Terrace, FL 33637-0926
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Certified by: Dr. rer. nat. Bettina Steinbock, Environmental Administrator

Date Certified: 26-SEP-2022 17:23



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: BLUE SPRING RUN - Citrus County

Collection Date/Time: 09/01/2022 10:45

Field ID: G4SW0071

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2354066	DEP SOP: NU-094-1	Color (true)	2.5	U	PCU	P419198	
	EPA 180.1 Rev. 2.0	Turbidity	0.70	I	NTU	P419082	
	EPA 300.0 Rev. 2.1	Chloride	7.0		mg Cl/L	P419940	
		Sulfate	15		mg SO4/L	P419942	
	SM 2320 B-2011	Total Alkalinity	160	A	mg CaCO3/L	P419602	
	SM 2540 C-2011	TDS	200	A	mg/L	P419416	
	SM 2540 D-2011	TSS	3	IA	mg/L	P419315	
	SM 4500-F- C-2011	Fluoride	0.048	I	mg F/L	P419605	
2354069	EPA 350.1 Rev. 2.0	Ammonia-N	0.005	I	mg N/L	P419207	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.25		mg N/L	P419172	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.66		mg N/L	P419365	
	EPA 365.1 Rev. 2.0	Total-P	0.033		mg P/L	P419343	
	SM 5310 B-2011	Organic Carbon	0.89	I	mg C/L	P419491	
2354072	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.030		mg P/L	P419078	

Ref. Method and Comment:

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

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

Sample Location: Lake Otting @ Center

Collection Date/Time: 09/01/2022 11:45

Field ID: G4SW0113

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2354067	DEP SOP: NU-094-1	Color (true)	17	A	PCU	P419208	
	EPA 180.1 Rev. 2.0	Turbidity	1.1		NTU	P419082	
	EPA 300.0 Rev. 2.1	Chloride	2.3		mg Cl/L	P419739	
		Sulfate	0.20	U	mg SO4/L	P419742	
	SM 2320 B-2011	Total Alkalinity	59		mg CaCO3/L	P419601	
	SM 2540 C-2011	TDS	73		mg/L	P419416	
	SM 2540 D-2011	TSS	3	I	mg/L	P419315	
	SM 4500-F- C-2011	Fluoride	0.050	I	mg F/L	P419604	
2354070	EPA 350.1 Rev. 2.0	Ammonia-N	0.006		mg N/L	P419207	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.1		mg N/L	P419172	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	I	mg N/L	P419365	
	EPA 365.1 Rev. 2.0	Total-P	0.057		mg P/L	P419343	
	SM 5310 B-2011	Organic Carbon	7.8		mg C/L	P419352	
2354073	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P419078	

Ref. Method and Comment:

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

SM 4500-F- C-2011: Batch matrix spike recoveries are unavailable because of high analyte concentration in the QC sample.

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

Sample Location: FB

Collection Date/Time: 09/01/2022 12:00

Field ID: FB_09012022

Matrix: W-FIELD-BK

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2354068	DEP SOP: NU-094-1	Color (true)	2.5	U	PCU	P419198	
	EPA 180.1 Rev. 2.0	Turbidity	0.10	U	NTU	P419082	
	EPA 300.0 Rev. 2.1	Chloride	0.20	U	mg Cl/L	P419739	
		Sulfate	0.20	U	mg SO4/L	P419742	
	SM 2320 B-2011	Total Alkalinity	0.65	U	mg CaCO3/L	P419602	
	SM 2540 C-2011	TDS	15	U	mg/L	P419415	
	SM 2540 D-2011	TSS	2	U	mg/L	P419314	
	SM 4500-F- C-2011	Fluoride	0.035	U	mg F/L	P419605	
2354071	EPA 350.1 Rev. 2.0	Ammonia-N	0.002	U	mg N/L	P419207	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.080	U	mg N/L	P419171	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P419365	
	EPA 365.1 Rev. 2.0	Total-P	0.002	U	mg P/L	P419343	
	SM 5310 B-2011	Organic Carbon	0.50	U	mg C/L	P419491	
2354074	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P419078	

Ref. Method and Comment:

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

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: P419198

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: DEP SOP: NU-094-1
Batch ID: P419208

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P419082

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P419739

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P419742

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P419940

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P419942

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P419207

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P419171

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

Quality Assurance Report Method Blank Results

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P419172

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P419365

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P419343

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P419078

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

Reference Method: SM 2320 B-2011
Batch ID: P419601

Component	Result	Code	Units
Total Alkalinity	0.65	U	mg CaCO3/L

Reference Method: SM 2320 B-2011
Batch ID: P419602

Component	Result	Code	Units
Total Alkalinity	0.65	U	mg CaCO3/L

Reference Method: SM 2540 C-2011
Batch ID: P419415

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 C-2011
Batch ID: P419416

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-2011
Batch ID: P419314

Component	Result	Code	Units
TSS	2	U	mg/L

Quality Assurance Report Method Blank Results

Reference Method: SM 2540 D-2011
Batch ID: P419315

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500-F- C-2011
Batch ID: P419604

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 4500-F- C-2011
Batch ID: P419605

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-2011
Batch ID: P419352

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

Reference Method: SM 5310 B-2011
Batch ID: P419491

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: P419198

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Color (true)	101		P	90 - 110

Reference Method: DEP SOP: NU-094-1
Batch ID: P419208

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Color (true)	103		P	90 - 110

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P419082

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P419739

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Chloride	98.8		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P419742

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Sulfate	98.2		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P419940

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P419942

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Sulfate	97.1		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P419207

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P419171

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

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: EPA 351.2 Rev. 2.0

Batch ID: P419172

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

Reference Method: EPA 353.2 Rev. 2.0

Batch ID: P419365

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

Reference Method: EPA 365.1 Rev. 2.0

Batch ID: P419343

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: P419078

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

Reference Method: SM 2320 B-2011

Batch ID: P419601

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

Reference Method: SM 2320 B-2011

Batch ID: P419602

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	99.7		P	94 - 106

Reference Method: SM 4500-F- C-2011

Batch ID: P419604

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	99.3		P	96 - 104

Reference Method: SM 4500-F- C-2011

Batch ID: P419605

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	99.8		P	96 - 104

Reference Method: SM 5310 B-2011

Batch ID: P419352

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

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: SM 5310 B-2011
Batch ID: P419491

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	95.5		P	85 - 115

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P419739

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2353690	Chloride	98.2		P	90 - 110
2354011	Chloride	98.4		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P419742

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2353690	Sulfate	95.1		P	90 - 110
2354011	Sulfate	97.6		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P419940

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2355979	Chloride	96.3		P	90 - 110
2356095	Chloride	97.2		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P419942

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2355979	Sulfate	97.1		P	90 - 110
2356095	Sulfate	96.7		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P419207

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2354141	Ammonia-N	97.0	97.0	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P419365

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2354014	NO2NO3-N	96.5	97.5	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P419343

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2354141	Total-P	105	108	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P419078

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2353982	O-Phosphate-P	100	98.9	P/P	90 - 110

Reference Method: SM 4500-F- C-2011
Batch ID: P419605

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
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Quality Assurance Report

Matrix Spike Accuracy

Reference Method: SM 4500-F- C-2011
Batch ID: P419605

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2354066	Fluoride	100	100	P/P	94 - 104

Reference Method: SM 5310 B-2011
Batch ID: P419352

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2354070	Organic Carbon	97.1	98.7	P/P	85 - 115

Reference Method: SM 5310 B-2011
Batch ID: P419491

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2354958	Organic Carbon	96.6	97.0	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: DEP SOP: NU-094-1
Batch ID: P419198

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2353863	Color (true)	0.336	Sample	P	0 - 20

Reference Method: DEP SOP: NU-094-1
Batch ID: P419208

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2354067	Color (true)	1.21	Sample	P	0 - 20

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P419082

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2354010	Turbidity	1.08	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P419739

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2353690	Chloride	0.00596	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P419742

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2353690	Sulfate	0.105	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P419940

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2355979	Chloride	0.489	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P419942

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2355979	Sulfate	1.73	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P419207

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2354141	Ammonia-N	0.0	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P419171

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2353889	Kjeldahl Nitrogen	4.71	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P419172

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2353960	Kjeldahl Nitrogen	2.09	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P419365

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2354014	NO2NO3-N	0.505	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P419343

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2354141	Total-P	1.59	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P419078

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2353982	O-Phosphate-P	1.42	Spike	P	0 - 20

Reference Method: SM 2320 B-2011
Batch ID: P419601

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2354534	Total Alkalinity	0.353	Sample	P	0 - 3.8

Reference Method: SM 2320 B-2011
Batch ID: P419602

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2354066	Total Alkalinity	0.671	Sample	P	0 - 3.8

Reference Method: SM 2540 C-2011
Batch ID: P419415

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2353828	TDS	7.89	Sample	P	0 - 10

Quality Assurance Report Precision

Reference Method: SM 2540 C-2011
Batch ID: P419416

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2354066	TDS	7.00	Sample	P	0 - 10

Reference Method: SM 4500-F- C-2011
Batch ID: P419604

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2354534	Fluoride	0.0	Spike	P	0 - 1.6

Reference Method: SM 4500-F- C-2011
Batch ID: P419605

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2354066	Fluoride	0.0	Spike	P	0 - 1.6

Reference Method: SM 5310 B-2011
Batch ID: P419352

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2354070	Organic Carbon	1.21	Spike	P	0 - 20

Reference Method: SM 5310 B-2011
Batch ID: P419491

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2354958	Organic Carbon	0.248	Spike	P	0 - 20

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

Quality Assurance Report Calibration Verification

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Run ID: A114525
Included Lab Sample IDs: 2354072, 2354073, 2354074

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	98.9	98.1	P/P	90 - 110

Reference Method: EPA 180.1 Rev. 2.0
Run ID: A114527
Included Lab Sample IDs: 2354066, 2354067, 2354068

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

Reference Method: DEP SOP: NU-094-1
Run ID: A114577
Included Lab Sample IDs: 2354066, 2354067, 2354068

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	102	102	P/P	90 - 110
Color (true)	102	104	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Run ID: A114579
Included Lab Sample IDs: 2354069, 2354070, 2354071

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	99.5	99.0	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Run ID: A114608
Included Lab Sample IDs: 2354069, 2354070, 2354071

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	100	103	P/P	90 - 110
Kjeldahl Nitrogen	104	104	P/P	90 - 110

Reference Method: SM 5310 B-2011
Run ID: A114631
Included Lab Sample IDs: 2354070

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	97.8	96.5	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Run ID: A114640
Included Lab Sample IDs: 2354069, 2354070, 2354071

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

Quality Assurance Report Calibration Verification

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A114672

Included Lab Sample IDs: 2354070

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

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A114681

Included Lab Sample IDs: 2354069, 2354071

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	98.0	100	P/P	90 - 110

Reference Method: SM 5310 B-2011

Run ID: A114693

Included Lab Sample IDs: 2354069, 2354071

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	97.0	95.9	P/P	90 - 110

Reference Method: SM 2320 B-2011

Run ID: A114732

Included Lab Sample IDs: 2354066, 2354067, 2354068

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	98.2	102	P/P	90 - 110

Reference Method: SM 4500-F- C-2011

Run ID: A114732

Included Lab Sample IDs: 2354066, 2354067, 2354068

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

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A114789

Included Lab Sample IDs: 2354067, 2354068

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

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A114857

Included Lab Sample IDs: 2354066

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	98.4	98.8	P/P	90 - 110
Sulfate	98.6	98.9	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
DEP SOP: NU-094-1	Color (true)	101			0.336	
	Color (true)	103			1.21	
EPA 180.1 Rev. 2.0	Turbidity	97.0			1.08	
EPA 300.0 Rev. 2.1	Chloride	98.8	98.2	98.4	0.0059	
	Chloride	98.5	96.3	97.2	0.489	
	Sulfate	98.2	95.1	97.6	0.105	
	Sulfate	97.1	97.1	96.7	1.73	
EPA 350.1 Rev. 2.0	Ammonia-N	99.2	97.0	97.0		0.0
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	100				4.71
	Kjeldahl Nitrogen	100				2.09
EPA 353.2 Rev. 2.0	NO2NO3-N	100	96.5	97.5		0.505
EPA 365.1 Rev. 2.0	Total-P	104	105	108		1.59
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	100	100	98.9		1.42
SM 2320 B-2011	Total Alkalinity	101			0.353	
	Total Alkalinity	99.7			0.671	
SM 2540 C-2011	TDS				7.89	
	TDS				7.00	
SM 4500-F- C-2011	Fluoride	99.3				0.0
	Fluoride	99.8	100	100		0.0
SM 5310 B-2011	Organic Carbon	96.0	97.1	98.7		1.21
	Organic Carbon	95.5	96.6	97.0		0.248

Reference Method Descriptions

Method	Description	Associated Samples
DEP SOP: NU-094-1	True Color measured at 450 nm (not valid for NPDES monitoring)	2354066, 2354067, 2354068
EPA 180.1 Rev. 2.0	Turbidity in aqueous matrices	2354066, 2354067, 2354068
EPA 300.0 Rev. 2.1	Chloride in aqueous matrices	2354066, 2354067, 2354068
EPA 300.0 Rev. 2.1	Sulfate in aqueous matrices	2354066, 2354067, 2354068
EPA 350.1 Rev. 2.0	Ammonia in aqueous matrices as mg N/L	2354069, 2354070, 2354071
EPA 351.2 Rev. 2.0	Total Kjeldahl Nitrogen in aqueous matrices	2354069, 2354070, 2354071
EPA 353.2 Rev. 2.0	Nitrite/Nitrate in aqueous matrices as mg N/L	2354069, 2354070, 2354071
EPA 365.1 Rev. 2.0	Total Phosphorus in aqueous matrices as mg P/L	2354069, 2354070, 2354071
EPA 365.1 Rev. 2.0 dissolved	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	2354072, 2354073, 2354074
SM 2320 B-2011	Alkalinity in aqueous matrices as mg CaCO3/L	2354066, 2354067, 2354068
SM 2540 C-2011	Total Dissolved Solids in aqueous matrices	2354066, 2354067, 2354068
SM 2540 D-2011	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2354066, 2354067, 2354068
SM 4500-F- C-2011	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2354066, 2354067, 2354068
SM 5310 B-2011	Nonpurgeable Organic Carbon in aqueous matrices	2354069, 2354070, 2354071

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	09/02/2022			09/02/2022 14:51	Blanca Fach	2354066
	09/02/2022			09/02/2022 14:52	Blanca Fach	2354068
	09/02/2022			09/02/2022 14:56	Blanca Fach	2354067
EPA 180.1 Rev. 2.0	09/02/2022			09/02/2022 13:14	Chandler E Cox	2354066
	09/02/2022			09/02/2022 13:16	Chandler E Cox	2354067
	09/02/2022			09/02/2022 13:19	Chandler E Cox	2354068
EPA 300.0 Rev. 2.1	09/02/2022			09/14/2022 23:09	Anna M. Plaviak	2354067
	09/02/2022			09/14/2022 23:24	Anna M. Plaviak	2354068
	09/02/2022			09/20/2022 14:16	James L Waggeberby	2354066
EPA 350.1 Rev. 2.0	09/02/2022			09/07/2022 12:35	Ping Hua	2354070
	09/02/2022			09/07/2022 12:41	Ping Hua	2354069
	09/02/2022			09/07/2022 12:44	Ping Hua	2354071
EPA 351.2 Rev. 2.0	09/02/2022	09/07/2022 13:36	Samantha L Bates	09/08/2022 10:51	Samantha L Bates	2354071
	09/02/2022	09/07/2022 13:36	Samantha L Bates	09/08/2022 11:22	Samantha L Bates	2354069
	09/02/2022	09/07/2022 13:36	Samantha L Bates	09/08/2022 11:23	Samantha L Bates	2354070
EPA 353.2 Rev. 2.0	09/02/2022			09/09/2022 10:16	Beverly Y. Sanders	2354069
	09/02/2022			09/09/2022 10:17	Beverly Y. Sanders	2354070
	09/02/2022			09/09/2022 10:18	Beverly Y. Sanders	2354071
EPA 365.1 Rev. 2.0	09/02/2022	09/09/2022 16:30	Adam P Silver	09/12/2022 10:50	James L Waggeberby	2354070
	09/02/2022	09/09/2022 16:30	Adam P Silver	09/12/2022 14:10	Simonne.V. Calhoun	2354071
	09/02/2022	09/09/2022 16:30	Adam P Silver	09/12/2022 14:13	Simonne.V. Calhoun	2354069
EPA 365.1 Rev. 2.0 dissolved	09/02/2022			09/02/2022 15:16	Elise M. Gillis	2354072
	09/02/2022			09/02/2022 15:17	Elise M. Gillis	2354073, 2354074
SM 2320 B-2011	09/02/2022			09/14/2022 00:10	Dale L. Simmons	2354067
	09/02/2022			09/14/2022 01:05	Dale L. Simmons	2354066
	09/02/2022			09/14/2022 01:49	Dale L. Simmons	2354068
SM 2540 C-2011	09/02/2022			09/07/2022 13:56	Yijie Li	2354066, 2354067, 2354068
SM 2540 D-2011	09/02/2022			09/07/2022 13:56	Yijie Li	2354066, 2354067, 2354068
SM 4500-F- C-2011	09/02/2022			09/14/2022 00:10	Dale L. Simmons	2354067
	09/02/2022			09/14/2022 00:55	Dale L. Simmons	2354066
	09/02/2022			09/14/2022 01:49	Dale L. Simmons	2354068
SM 5310 B-2011	09/02/2022			09/08/2022 14:00	Khloe J Berg	2354070
	09/02/2022			09/12/2022 16:16	Khloe J Berg	2354069
	09/02/2022			09/12/2022 16:34	Khloe J Berg	2354071