

Chemical Analysis Report

SO-DIST-2022-09-16-01

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

Event Description: **2022 SMP: Lee Coastal**
Request ID: **RQ-2022-09-05-47**
Customer: **SO-DIST**
Project ID: **SMP**

Send Reports to:
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FLDEP South District Office
2295 Victoria Ave. Suite 314
Fort Myers, FL 33901-3381
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Certified by: Colin Wright, Program Administrator

Date Certified: 07-OCT-2022 08:52



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: Punta Rassa Cove

Collection Date/Time: 09/15/2022 09:20

Field ID: G2SD0047

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2357306	EPA 180.1 Rev. 2.0	Turbidity	2.2		NTU	P419747	
	SM 2320 B-2011	Total Alkalinity	128		mg CaCO3/L	P419966	
	SM 2540 D-2011	TSS	4	I	mg/L	P420148	
	SM 4500-F- C-2011	Fluoride	0.95		mg F/L	P419968	
2357307	EPA 350.1 Rev. 2.0	Ammonia-N	0.014		mg N/L	P419913	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.54		mg N/L	P419936	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.005	I	mg N/L	P420298	
	EPA 365.1 Rev. 2.0	Total-P	0.049		mg P/L	P419931	
	SM 5310 B-2011	Organic Carbon	6.8		mg C/L	P420035	

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: HendryCreekHouse1Upstrm

Collection Date/Time: 09/15/2022 11:00

Field ID: G1SD0118

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2357308	EPA 180.1 Rev. 2.0	Turbidity	2.5		NTU	P419747	
	SM 2320 B-2011	Total Alkalinity	194		mg CaCO3/L	P420276	
	SM 2540 D-2011	TSS	4	I	mg/L	P420147	
	SM 4500-F- C-2011	Fluoride	0.23		mg F/L	P420215	
2357309	EPA 350.1 Rev. 2.0	Ammonia-N	0.10		mg N/L	P420112	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.94		mg N/L	P419876	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.075		mg N/L	P420319	
	EPA 365.1 Rev. 2.0	Total-P	0.059		mg P/L	P419947	
	SM 5310 B-2011	Organic Carbon	11		mg C/L	P419944	

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: Oak Creek @ Kentucky St

Collection Date/Time: 09/15/2022 12:25

Field ID: G1SD0116

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2357310	DEP SOP: NU-094-1	Color (true)	31		PCU	P419734	
	EPA 180.1 Rev. 2.0	Turbidity	3.5		NTU	P419747	
	EPA 300.0 Rev. 2.1	Chloride	65		mg Cl/L	P420089	
		Sulfate	25		mg SO4/L	P420094	
	SM 2320 B-2011	Total Alkalinity	227		mg CaCO3/L	P420276	
	SM 2540 C-2011	TDS	402		mg/L	P420189	
	SM 2540 D-2011	TSS	5	I	mg/L	P420146	
	SM 4500-F- C-2011	Fluoride	0.12		mg F/L	P420215	
2357311	EPA 350.1 Rev. 2.0	Ammonia-N	0.10		mg N/L	P420112	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.87		mg N/L	P419937	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.15		mg N/L	P420319	
	EPA 365.1 Rev. 2.0	Total-P	0.062		mg P/L	P419839	
	SM 5310 B-2011	Organic Carbon	9.0		mg C/L	P419944	

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: P419734

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P419747

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P420089

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P420094

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P419913

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P420112

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P419876

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P419936

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P419937

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

Quality Assurance Report Method Blank Results

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P420298

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P420319

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P419839

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P419931

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P419947

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

Reference Method: SM 2320 B-2011
Batch ID: P419966

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

Reference Method: SM 2320 B-2011
Batch ID: P420276

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

Reference Method: SM 2540 C-2011
Batch ID: P420189

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-2011
Batch ID: P420146

Component	Result	Code	Units
TSS	2	U	mg/L

Quality Assurance Report

Method Blank Results

Reference Method: SM 2540 D-2011
Batch ID: P420147

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 2540 D-2011
Batch ID: P420148

Component	Result	Code	Units
TSS	3	U	mg/L

Reference Method: SM 4500-F- C-2011
Batch ID: P419968

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 4500-F- C-2011
Batch ID: P420215

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-2011
Batch ID: P419944

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

Reference Method: SM 5310 B-2011
Batch ID: P420035

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: P419734

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

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P419747

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P420089

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P420094

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P419913

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Ammonia-N	95.2		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P420112

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Ammonia-N	95.2		P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P419876

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P419936

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P419937

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Kjeldahl Nitrogen	106		P	90 - 110

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P420298

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
NO2NO3-N	103		P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P420319

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: P419839

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P419931

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total-P	107		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P419947

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

Reference Method: SM 2320 B-2011
Batch ID: P419966

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	103		P	94 - 106

Reference Method: SM 2320 B-2011
Batch ID: P420276

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	95.7		P	94 - 106

Reference Method: SM 4500-F- C-2011
Batch ID: P419968

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

Reference Method: SM 4500-F- C-2011
Batch ID: P420215

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	99.9		P	94 - 104

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: SM 5310 B-2011
Batch ID: P419944

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	95.0		P	85 - 115

Reference Method: SM 5310 B-2011
Batch ID: P420035

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	96.4		P	85 - 115

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P420089

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2357095	Chloride	101		P	90 - 110
2357194	Chloride	101		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P420094

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2357095	Sulfate	98.8		P	90 - 110
2357194	Sulfate	99.0		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P419913

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2356878	Ammonia-N	97.6	98.6	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P420112

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2357046	Ammonia-N	102	103	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P419876

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2357150	Kjeldahl Nitrogen	100	103	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P419936

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2357773	Kjeldahl Nitrogen	101	105	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P419937

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2357285	Kjeldahl Nitrogen	97.5	101	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P420298

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2357773	NO2NO3-N	104	101	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P420319

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2357235	NO2NO3-N	92.0	92.5	P/P	90 - 110

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P419839

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2357151	Total-P	106	106	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P419931

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2357477	Total-P	96.3	95.7	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P419947

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2357504	Total-P	101	102	P/P	90 - 110

Reference Method: SM 4500-F- C-2011
Batch ID: P419968

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2356392	Fluoride	95.7	97.9	P/P	94 - 104

Reference Method: SM 4500-F- C-2011
Batch ID: P420215

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2357236	Fluoride	100	99.8	P/P	94 - 104

Reference Method: SM 5310 B-2011
Batch ID: P419944

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2357184	Organic Carbon	99.4	100	P/P	85 - 115

Reference Method: SM 5310 B-2011
Batch ID: P420035

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2357647	Organic Carbon	95.5	94.0	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: DEP SOP: NU-094-1
Batch ID: P419734

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2357232	Color (true)	2.20	Sample	P	0 - 20

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P419747

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2357323	Turbidity	5.68	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P420089

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2357095	Chloride	0.287	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P420094

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2357095	Sulfate	0.287	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P419913

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2356878	Ammonia-N	0.576	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P420112

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2357046	Ammonia-N	0.888	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P419876

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2357150	Kjeldahl Nitrogen	1.79	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P419936

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2357773	Kjeldahl Nitrogen	3.65	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P419937

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2357285	Kjeldahl Nitrogen	3.15	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P420298

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2357773	NO2NO3-N	2.36	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P420319

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2357235	NO2NO3-N	0.542	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P419839

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2357151	Total-P	0.0	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P419931

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2357477	Total-P	0.529	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P419947

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2357504	Total-P	0.732	Spike	P	0 - 20

Reference Method: SM 2320 B-2011
Batch ID: P419966

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2356392	Total Alkalinity	0.286	Sample	P	0 - 3.8

Reference Method: SM 2320 B-2011
Batch ID: P420276

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2357377	Total Alkalinity	1.48	Sample	P	0 - 3.8

Quality Assurance Report Precision

Reference Method: SM 2540 C-2011
Batch ID: P420189

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2357236	TDS	6.69	Sample	P	0 - 10

Reference Method: SM 4500-F- C-2011
Batch ID: P419968

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2356392	Fluoride	1.47	Spike	P	0 - 1.6

Reference Method: SM 4500-F- C-2011
Batch ID: P420215

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2357236	Fluoride	0.479	Spike	P	0 - 1.6

Reference Method: SM 5310 B-2011
Batch ID: P419944

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2357184	Organic Carbon	0.656	Spike	P	0 - 20

Reference Method: SM 5310 B-2011
Batch ID: P420035

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2357647	Organic Carbon	1.11	Spike	P	0 - 20

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

Quality Assurance Report Calibration Verification

Reference Method: DEP SOP: NU-094-1

Run ID: A114787

Included Lab Sample IDs: 2357310

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	101	102	P/P	90 - 110

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A114790

Included Lab Sample IDs: 2357306, 2357308, 2357310

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Turbidity	99.5	100	P/P	95 - 105

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A114854

Included Lab Sample IDs: 2357307

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	97.7	98.2	P/P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A114857

Included Lab Sample IDs: 2357310

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

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A114861

Included Lab Sample IDs: 2357311

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

Reference Method: SM 5310 B-2011

Run ID: A114868

Included Lab Sample IDs: 2357309, 2357311

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	95.6	95.9	P/P	90 - 110
Organic Carbon	95.9	94.9	P/P	90 - 110

Reference Method: SM 2320 B-2011

Run ID: A114876

Included Lab Sample IDs: 2357306

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	102	98.4	P/P	90 - 110

Reference Method: SM 4500-F- C-2011

Run ID: A114876

Included Lab Sample IDs: 2357306

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
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Quality Assurance Report Calibration Verification

Reference Method: SM 4500-F- C-2011

Run ID: A114876

Included Lab Sample IDs: 2357306

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	101	103	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A114892

Included Lab Sample IDs: 2357309

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	97.9	97.9	P/P	90 - 110

Reference Method: SM 5310 B-2011

Run ID: A114912

Included Lab Sample IDs: 2357307

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	96.0	95.6	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A114913

Included Lab Sample IDs: 2357309

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	98.2	99.1	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A114921

Included Lab Sample IDs: 2357307

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	101	95.2	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A114942

Included Lab Sample IDs: 2357309, 2357311

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	97.6	98.5	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A114950

Included Lab Sample IDs: 2357307

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	109	103	P/P	90 - 110

Reference Method: SM 4500-F- C-2011

Run ID: A114980

Included Lab Sample IDs: 2357308, 2357310

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	100	97.1	P/P	90 - 110
Fluoride	97.1	100	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: SM 2320 B-2011

Run ID: A115007

Included Lab Sample IDs: 2357308, 2357310

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	101	98.5	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A115023

Included Lab Sample IDs: 2357307

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	104	97.5	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A115027

Included Lab Sample IDs: 2357311

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

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A115032

Included Lab Sample IDs: 2357309, 2357311

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	100	99.5	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)	102			2.20	
EPA 180.1 Rev. 2.0	Turbidity	101			5.68	
EPA 300.0 Rev. 2.1	Chloride	103	101	101	0.287	
	Sulfate	103	98.8	99.0	0.287	
EPA 350.1 Rev. 2.0	Ammonia-N	95.2	97.6	98.6		0.576
	Ammonia-N	95.2	102	103		0.888
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	98.0	100	103		1.79
	Kjeldahl Nitrogen	97.9	101	105		3.65
	Kjeldahl Nitrogen	106	97.5	101		3.15
EPA 353.2 Rev. 2.0	NO2NO3-N	103	104	101		2.36
	NO2NO3-N	100	92.0	92.5		0.542
EPA 365.1 Rev. 2.0	Total-P	105	106	106		0.0
	Total-P	107	96.3	95.7		0.529
	Total-P	100	101	102		0.732
SM 2320 B-2011	Total Alkalinity	103			0.286	
	Total Alkalinity	95.7			1.48	
SM 2540 C-2011	TDS				6.69	
SM 4500-F- C-2011	Fluoride	100	95.7	97.9		1.47
	Fluoride	99.9	100	99.8		0.479
SM 5310 B-2011	Organic Carbon	95.0	99.4	100		0.656
	Organic Carbon	96.4	95.5	94.0		1.11

Reference Method Descriptions

Method	Description	Associated Samples
DEP SOP: NU-094-1	True Color measured at 450 nm (not valid for NPDES monitoring)	2357310
EPA 180.1 Rev. 2.0	Turbidity in aqueous matrices	2357306, 2357308, 2357310
EPA 300.0 Rev. 2.1	Chloride in aqueous matrices	2357310
EPA 300.0 Rev. 2.1	Sulfate in aqueous matrices	2357310
EPA 350.1 Rev. 2.0	Ammonia in aqueous matrices as mg N/L	2357307, 2357309, 2357311
EPA 351.2 Rev. 2.0	Total Kjeldahl Nitrogen in aqueous matrices	2357307, 2357309, 2357311
EPA 353.2 Rev. 2.0	Nitrite/Nitrate in aqueous matrices as mg N/L	2357307, 2357309, 2357311
EPA 365.1 Rev. 2.0	Total Phosphorus in aqueous matrices as mg P/L	2357307, 2357309, 2357311
SM 2320 B-2011	Alkalinity in aqueous matrices as mg CaCO3/L	2357306, 2357308, 2357310
SM 2540 C-2011	Total Dissolved Solids in aqueous matrices	2357310
SM 2540 D-2011	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2357306, 2357308, 2357310
SM 4500-F- C-2011	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2357306, 2357308, 2357310
SM 5310 B-2011	Nonpurgeable Organic Carbon in aqueous matrices	2357307, 2357309, 2357311

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	09/16/2022			09/16/2022 14:35	Samantha L Bates	2357310
EPA 180.1 Rev. 2.0	09/16/2022			09/16/2022 14:59	Chandler E Cox	2357306
	09/16/2022			09/16/2022 15:00	Chandler E Cox	2357308, 2357310
EPA 300.0 Rev. 2.1	09/16/2022			09/23/2022 08:21	Anna M. Plaviak	2357310
EPA 350.1 Rev. 2.0	09/16/2022			09/21/2022 12:55	Ping Hua	2357307
	09/16/2022			09/26/2022 13:32	Judith K. Clark	2357309
	09/16/2022			09/26/2022 13:33	Judith K. Clark	2357311
EPA 351.2 Rev. 2.0	09/16/2022	09/21/2022 13:07	Samantha L Bates	09/22/2022 13:32	Samantha L Bates	2357309
	09/16/2022	09/22/2022 09:22	Alexandra J Mattheus	09/26/2022 14:17	Samantha L Bates	2357307
	09/16/2022	09/22/2022 09:22	Alexandra J Mattheus	09/29/2022 11:31	Samantha L Bates	2357311
EPA 353.2 Rev. 2.0	09/16/2022			09/28/2022 16:54	Touraj Touran	2357307
	09/16/2022			09/29/2022 14:20	Judith K. Clark	2357309
	09/16/2022			09/29/2022 14:21	Judith K. Clark	2357311
EPA 365.1 Rev. 2.0	09/16/2022	09/21/2022 08:40	Adam P Silver	09/21/2022 15:13	Simonne.V. Calhoun	2357311
	09/16/2022	09/22/2022 14:19	Adam P Silver	09/22/2022 18:46	Simonne.V. Calhoun	2357309
	09/16/2022	09/22/2022 14:19	Adam P Silver	09/23/2022 14:21	James L Waggeberby	2357307
SM 2320 B-2011	09/16/2022			09/22/2022 03:43	Dale L. Simmons	2357306
	09/16/2022			09/28/2022 21:56	Adam P Silver	2357308
	09/16/2022			09/28/2022 22:07	Adam P Silver	2357310
SM 2540 C-2011	09/16/2022			09/20/2022 15:08	Yijie Li	2357310
SM 2540 D-2011	09/16/2022			09/20/2022 15:08	Yijie Li	2357306, 2357308, 2357310
SM 4500-F- C-2011	09/16/2022			09/22/2022 00:57	Dale L. Simmons	2357306
	09/16/2022			09/28/2022 02:47	Adam P Silver	2357310
	09/16/2022			09/28/2022 04:31	Adam P Silver	2357308
SM 5310 B-2011	09/16/2022			09/21/2022 20:13	Khloe J Berg	2357309
	09/16/2022			09/21/2022 20:56	Khloe J Berg	2357311
	09/16/2022			09/23/2022 06:51	Khloe J Berg	2357307