

Chemical Analysis Report

CEN-DIST-2022-08-26-01

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

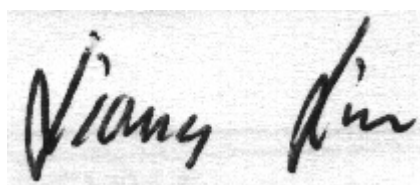
Event Description: **Unnamed Branch Retrieval and Groover Branch**
Request ID: **RQ-2022-08-22-20**
Customer: **CEN-DIST**
Project ID: **SMP**

Send Reports to:
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Certified by: Liang Lin, Environmental Administrator

Date Certified: 19-SEP-2022 17:06

A handwritten signature in black ink, appearing to read "Liang Lin", on a light-colored background.

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: Unnamed Branch @ 750m US of Confluence w/ Tomoka River **Collection Date/Time: 08/25/2022 10:47**

Field ID: G5CE0017

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2352544	EPA 180.1 Rev. 2.0	Turbidity	2.2		NTU	P418764	
	SM 2320 B-2011	Total Alkalinity	128		mg CaCO3/L	P419032	
	SM 2540 D-2011	TSS	5	IA	mg/L	P419203	
	SM 4500-F- C-2011	Fluoride	0.44	I	mg F/L	P418918	
2352545	EPA 350.1 Rev. 2.0	Ammonia-N	0.31		mg N/L	P418873	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.4		mg N/L	P418821	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.011		mg N/L	P418993	
	EPA 365.1 Rev. 2.0	Total-P	0.19		mg P/L	P418916	
	SM 5310 B-2011	Organic Carbon	15		mg C/L	P419164	

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: Groover Branch at Airport Road Bridge

Collection Date/Time: 08/25/2022 11:35

Field ID: G5CE0040

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2352546	DEP SOP: NU-094-1	Color (true)	96		PCU	P418765	
	EPA 180.1 Rev. 2.0	Turbidity	2.5		NTU	P418764	
	EPA 300.0 Rev. 2.1	Chloride	29		mg Cl/L	P419468	
		Sulfate	7.6		mg SO4/L	P419471	
	SM 2320 B-2011	Total Alkalinity	52	J	mg CaCO3/L	P419033	LCS
	SM 2540 C-2011	TDS	131		mg/L	P419261	
	SM 2540 D-2011	TSS	2	I	mg/L	P419200	
	SM 4500-F- C-2011	Fluoride	0.063	I	mg F/L	P419279	
2352547	EPA 350.1 Rev. 2.0	Ammonia-N	0.029		mg N/L	P418887	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.65		mg N/L	P418910	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.050		mg N/L	P418993	
	EPA 365.1 Rev. 2.0	Total-P	0.14		mg P/L	P419246	
	SM 5310 B-2011	Organic Carbon	12		mg C/L	P419161	

Ref. Method and Comment:

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

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: P418765

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P418764

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P419468

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P419471

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P418873

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P418887

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P418821

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P418910

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P418993

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: P418916

Component	Result	Code	Units
Total-P	0.010	U	mg P/L

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P419246

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

Reference Method: SM 2320 B-2011
Batch ID: P419032

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

Reference Method: SM 2320 B-2011
Batch ID: P419033

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

Reference Method: SM 2540 C-2011
Batch ID: P419261

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-2011
Batch ID: P419200

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 2540 D-2011
Batch ID: P419203

Component	Result	Code	Units
TSS	3	U	mg/L

Reference Method: SM 4500-F- C-2011
Batch ID: P418918

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 4500-F- C-2011
Batch ID: P419279

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Quality Assurance Report

Method Blank Results

Reference Method: SM 5310 B-2011
Batch ID: P419161

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

Reference Method: SM 5310 B-2011
Batch ID: P419164

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: P418765

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Color (true)	99.7		P	90 - 110

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P418764

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Turbidity	96.9		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P419468

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P419471

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Sulfate	97.8		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P418873

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P418887

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Ammonia-N	94.6		P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P418821

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P418910

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: P418993

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
NO2NO3-N	105		P	90 - 110

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P418916

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P419246

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total-P	109		P	90 - 110

Reference Method: SM 2320 B-2011
Batch ID: P419032

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

Reference Method: SM 2320 B-2011
Batch ID: P419033

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

Reference Method: SM 4500-F- C-2011
Batch ID: P418918

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	99.0		P	96 - 104

Reference Method: SM 4500-F- C-2011
Batch ID: P419279

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

Reference Method: SM 5310 B-2011
Batch ID: P419161

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

Reference Method: SM 5310 B-2011
Batch ID: P419164

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	97.2		P	85 - 115

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P419468

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2352704	Chloride	96.6		P	90 - 110
2352758	Chloride	97.6		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P419471

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2352704	Sulfate	93.3		P	90 - 110
2352758	Sulfate	95.6		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P418873

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2352920	Ammonia-N	102	103	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P418887

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2352508	Ammonia-N	99.4	98.8	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P418821

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2352339	Kjeldahl Nitrogen	101	98.8	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P418910

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2352499	Kjeldahl Nitrogen	105	106	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P418993

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2352301	NO2NO3-N	105	106	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P418916

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2352653	Total-P	102	101	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P419246

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2352202	Total-P	109	109	P/P	90 - 110

Quality Assurance Report Matrix Spike Accuracy

Reference Method: SM 4500-F- C-2011
Batch ID: P418918

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2352340	Fluoride	93.7	94.4	P/P	94 - 104

Reference Method: SM 4500-F- C-2011
Batch ID: P419279

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2352597	Fluoride	102	101	P/P	94 - 104

Reference Method: SM 5310 B-2011
Batch ID: P419161

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2352547	Organic Carbon	95.2	95.6	P/P	85 - 115

Reference Method: SM 5310 B-2011
Batch ID: P419164

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2352545	Organic Carbon	91.6	88.0	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: DEP SOP: NU-094-1
Batch ID: P418765

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2352589	Color (true)	1.23	Sample	P	0 - 20

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P418764

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2352678	Turbidity	14.3	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P419468

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2352704	Chloride	0.0217	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P419471

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2352704	Sulfate	0.0618	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P418873

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2352920	Ammonia-N	0.978	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P418887

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2352508	Ammonia-N	0.491	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P418821

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2352339	Kjeldahl Nitrogen	1.56	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P418910

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2352499	Kjeldahl Nitrogen	0.867	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P418993

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2352301	NO2NO3-N	0.788	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P418916

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2352653	Total-P	0.580	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P419246

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2352202	Total-P	0.0224	Spike	P	0 - 20

Reference Method: SM 2320 B-2011
Batch ID: P419032

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2352507	Total Alkalinity	1.94	Sample	P	0 - 3.8

Reference Method: SM 2320 B-2011
Batch ID: P419033

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2352596	Total Alkalinity	0.0670	Sample	P	0 - 3.8

Reference Method: SM 2540 C-2011
Batch ID: P419261

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2352507	TDS	3.15	Sample	P	0 - 10

Reference Method: SM 4500-F- C-2011
Batch ID: P418918

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2352340	Fluoride	0.473	Spike	P	0 - 1.6

Reference Method: SM 4500-F- C-2011
Batch ID: P419279

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2352597	Fluoride	0.487	Spike	P	0 - 1.6

Quality Assurance Report Precision

Reference Method: SM 5310 B-2011
Batch ID: P419161

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2352547	Organic Carbon	0.285	Spike	P	0 - 20

Reference Method: SM 5310 B-2011
Batch ID: P419164

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2352545	Organic Carbon	2.83	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: A114382

Included Lab Sample IDs: 2352544, 2352546

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: A114383

Included Lab Sample IDs: 2352546

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	101	100	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A114432

Included Lab Sample IDs: 2352545

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	99.2	99.0	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A114437

Included Lab Sample IDs: 2352547

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	96.1	96.3	P/P	90 - 110

Reference Method: SM 4500-F- C-2011

Run ID: A114445

Included Lab Sample IDs: 2352544

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

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A114457

Included Lab Sample IDs: 2352545

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

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A114483

Included Lab Sample IDs: 2352545, 2352547

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	104	105	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A114486

Included Lab Sample IDs: 2352545

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	100	102	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A114500

Included Lab Sample IDs: 2352547

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	101	99.0	P/P	90 - 110

Reference Method: SM 2320 B-2011

Run ID: A114506

Included Lab Sample IDs: 2352544, 2352546

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	105	102	P/P	90 - 110

Reference Method: SM 5310 B-2011

Run ID: A114555

Included Lab Sample IDs: 2352547

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	94.4	95.3	P/P	90 - 110

Reference Method: SM 5310 B-2011

Run ID: A114556

Included Lab Sample IDs: 2352545

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	96.2	90.7	P/P	90 - 110

Reference Method: SM 4500-F- C-2011

Run ID: A114599

Included Lab Sample IDs: 2352546

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

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A114600

Included Lab Sample IDs: 2352546

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	99.7	100	P/P	90 - 110
Sulfate	99.9	100	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A114641

Included Lab Sample IDs: 2352547

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	100	99.4	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)	99.7			1.23	
EPA 180.1 Rev. 2.0	Turbidity	96.9			14.3	
EPA 300.0 Rev. 2.1	Chloride	99.2	96.6	97.6	0.0217	
	Sulfate	97.8	93.3	95.6	0.0618	
EPA 350.1 Rev. 2.0	Ammonia-N	99.0	102	103		0.978
	Ammonia-N	94.6	99.4	98.8		0.491
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	107	101	98.8		1.56
	Kjeldahl Nitrogen	104	105	106		0.867
EPA 353.2 Rev. 2.0	NO2NO3-N	105	105	106		0.788
EPA 365.1 Rev. 2.0	Total-P	104	102	101		0.580
	Total-P	109	109	109		0.0224
SM 2320 B-2011	Total Alkalinity	101			1.94	
	Total Alkalinity	106			0.0670	
SM 2540 C-2011	TDS				3.15	
SM 4500-F- C-2011	Fluoride	99.0	93.7	94.4		0.473
	Fluoride	101	102	101		0.487
SM 5310 B-2011	Organic Carbon	97.0	95.2	95.6		0.285
	Organic Carbon	97.2	91.6	88.0		2.83

Reference Method Descriptions

Method	Description	Associated Samples
DEP SOP: NU-094-1	True Color measured at 450 nm (not valid for NPDES monitoring)	2352546
EPA 180.1 Rev. 2.0	Turbidity in aqueous matrices	2352544, 2352546
EPA 300.0 Rev. 2.1	Chloride in aqueous matrices	2352546
EPA 300.0 Rev. 2.1	Sulfate in aqueous matrices	2352546
EPA 350.1 Rev. 2.0	Ammonia in aqueous matrices as mg N/L	2352545, 2352547
EPA 351.2 Rev. 2.0	Total Kjeldahl Nitrogen in aqueous matrices	2352545, 2352547
EPA 353.2 Rev. 2.0	Nitrite/Nitrate in aqueous matrices as mg N/L	2352545, 2352547
EPA 365.1 Rev. 2.0	Total Phosphorus in aqueous matrices as mg P/L	2352545, 2352547
SM 2320 B-2011	Alkalinity in aqueous matrices as mg CaCO3/L	2352544, 2352546
SM 2540 C-2011	Total Dissolved Solids in aqueous matrices	2352546
SM 2540 D-2011	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2352544, 2352546
SM 4500-F- C-2011	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2352544, 2352546
SM 5310 B-2011	Nonpurgeable Organic Carbon in aqueous matrices	2352545, 2352547

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	08/26/2022			08/26/2022 14:52	Blanca Fach	2352546
EPA 180.1 Rev. 2.0	08/26/2022			08/26/2022 13:23	Chandler E Cox	2352544
	08/26/2022			08/26/2022 13:24	Chandler E Cox	2352546
EPA 300.0 Rev. 2.1	08/26/2022			09/09/2022 18:54	Anna M. Plaviak	2352546
EPA 350.1 Rev. 2.0	08/26/2022			08/30/2022 11:56	Ping Hua	2352545
	08/26/2022			08/30/2022 15:18	Judith K. Clark	2352547
EPA 351.2 Rev. 2.0	08/26/2022	08/30/2022 14:31	Samantha L Bates	08/31/2022 12:59	Alexandra J Mattheus	2352545
	08/26/2022	08/31/2022 14:32	Samantha L Bates	09/01/2022 14:28	Alexandra J Mattheus	2352547
EPA 353.2 Rev. 2.0	08/26/2022			09/01/2022 12:03	Judith K. Clark	2352545
	08/26/2022			09/01/2022 12:04	Judith K. Clark	2352547
EPA 365.1 Rev. 2.0	08/26/2022	08/31/2022 13:30	Adam P Silver	09/01/2022 12:46	James L Waggeberby	2352545
	08/26/2022	09/08/2022 16:33	Adam P Silver	09/09/2022 11:31	James L Waggeberby	2352547
SM 2320 B-2011	08/26/2022			09/01/2022 19:22	Dale L. Simmons	2352544
	08/26/2022			09/01/2022 20:55	Dale L. Simmons	2352546
SM 2540 C-2011	08/26/2022			08/30/2022 14:29	Yijie Li	2352546
SM 2540 D-2011	08/26/2022			08/30/2022 14:29	Yijie Li	2352544, 2352546
SM 4500-F- C-2011	08/26/2022			08/30/2022 20:31	Dale L. Simmons	2352544
	08/26/2022			09/07/2022 21:18	Adam P Silver	2352546
SM 5310 B-2011	08/26/2022			09/02/2022 16:24	Khloe J Berg	2352545
	08/26/2022			09/02/2022 17:55	Khloe J Berg	2352547