

Chemical Analysis Report

SW-DIST-2022-09-16-01

Florida DEP Laboratory
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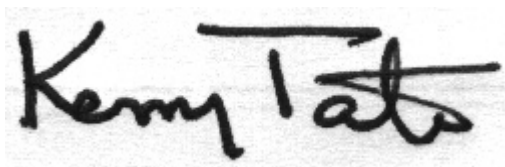
Event Description: **Run 10**
Request ID: **RQ-2022-08-29-02**
Customer: **SW-DIST**
Project ID: **SMP**

Send Reports to:
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Certified by: Kerry Tate, Ph.D., Environmental Administrator

Date Certified: 07-OCT-2022 09:49

A handwritten signature in black ink that reads "Kerry Tate". The signature is written in a cursive, flowing style with a horizontal line extending from the end of the name.

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: Lake Jackson @ Center

Collection Date/Time: 09/15/2022 09:50

Field ID: G1SW0124

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2357162	DEP SOP: NU-094-1	Color (true)	110		PCU	P419733	
	EPA 180.1 Rev. 2.0	Turbidity	1.7		NTU	P419746	
	EPA 300.0 Rev. 2.1	Chloride	30		mg Cl/L	P420089	
	SM 2320 B-2011	Total Alkalinity	13		mg CaCO3/L	P420275	
	SM 2540 C-2011	TDS	109		mg/L	P420188	
	SM 2540 D-2011	TSS	3	I	mg/L	P420145	
	SM 4500-F- C-2011	Fluoride	0.071	I	mg F/L	P420214	MS
2357164	EPA 350.1 Rev. 2.0	Ammonia-N	0.003	I	mg N/L	P420112	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.88		mg N/L	P419875	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P420163	
	EPA 365.1 Rev. 2.0	Total-P	0.039		mg P/L	P419838	
	SM 5310 B-2011	Organic Carbon	17		mg C/L	P419800	
2357166	EPA 300.0 Rev. 2.1 dissolved	Sulfate	3.2		mg SO4/L	P420335	
	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.005	I	mg P/L	P419736	

Ref. Method and Comment:

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

Sample Location: Lake Dan @ Center

Collection Date/Time: 09/15/2022 10:30

Field ID: G5SW0161

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2357163	DEP SOP: NU-094-1	Color (true)	47	A	PCU	P419733	
	EPA 180.1 Rev. 2.0	Turbidity	2.1		NTU	P419746	
	EPA 300.0 Rev. 2.1	Chloride	6.9		mg Cl/L	P420089	
	SM 2320 B-2011	Total Alkalinity	56		mg CaCO3/L	P420275	
	SM 2540 C-2011	TDS	87		mg/L	P420188	
	SM 2540 D-2011	TSS	4	I	mg/L	P420145	
	SM 4500-F- C-2011	Fluoride	0.066	I	mg F/L	P420214	MS
2357165	EPA 350.1 Rev. 2.0	Ammonia-N	0.004	I	mg N/L	P419910	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.90		mg N/L	P419876	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P420163	
	EPA 365.1 Rev. 2.0	Total-P	0.030		mg P/L	P419838	
	SM 5310 B-2011	Organic Carbon	12		mg C/L	P419944	
2357167	EPA 300.0 Rev. 2.1 dissolved	Sulfate	2.1		mg SO4/L	P420335	
	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P419736	

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: P419733

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P419746

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 dissolved
Batch ID: P420335

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P419910

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: P419875

Component	Result	Code	Units
Kjeldahl Nitrogen	0.080	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 353.2 Rev. 2.0
Batch ID: P420163

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: P419838

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P419736

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

Reference Method: SM 2320 B-2011
Batch ID: P420275

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

Reference Method: SM 2540 C-2011
Batch ID: P420188

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-2011
Batch ID: P420145

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500-F- C-2011
Batch ID: P420214

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-2011
Batch ID: P419800

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

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

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: P419733

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

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P419746

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Turbidity	100		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 dissolved
Batch ID: P420335

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P419910

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Ammonia-N	97.4		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: P419875

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Kjeldahl Nitrogen	101		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 353.2 Rev. 2.0
Batch ID: P420163

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

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P419838

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P419736

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
O-Phosphate-P	96.6		P	90 - 110

Reference Method: SM 2320 B-2011
Batch ID: P420275

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	98.5		P	94 - 106

Reference Method: SM 4500-F- C-2011
Batch ID: P420214

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

Reference Method: SM 5310 B-2011
Batch ID: P419800

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	95.4		P	85 - 115

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

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 dissolved

Batch ID: P420335

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2359639	Sulfate	96.6		P	90 - 110
2359640	Sulfate	96.7		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Batch ID: P419910

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2357099	Ammonia-N	97.6	98.2	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: P419875

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2356812	Kjeldahl Nitrogen	99.6	100	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 353.2 Rev. 2.0

Batch ID: P420163

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2357164	NO2NO3-N	94.0	92.5	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Batch ID: P419838

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2357083	Total-P	108	104	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Batch ID: P419736

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2357154	O-Phosphate-P	91.3	90.0	P/P	90 - 110

Quality Assurance Report

Matrix Spike Accuracy

Reference Method: SM 4500-F- C-2011
Batch ID: P420214

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2357377	Fluoride	105	106	F/F	94 - 104

Reference Method: SM 5310 B-2011
Batch ID: P419800

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2356813	Organic Carbon	96.0	95.3	P/P	85 - 115

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

Quality Assurance Report Precision

Reference Method: DEP SOP: NU-094-1
Batch ID: P419733

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2357163	Color (true)	0.379	Sample	P	0 - 20

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P419746

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2357047	Turbidity	3.42	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 dissolved
Batch ID: P420335

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2359639	Sulfate	0.132	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P419910

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2357099	Ammonia-N	0.587	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: P419875

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2356812	Kjeldahl Nitrogen	0.676	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

Quality Assurance Report Precision

Reference Method: EPA 353.2 Rev. 2.0

Batch ID: P420163

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2357164	NO2NO3-N	1.61	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0

Batch ID: P419838

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2357083	Total-P	2.93	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Batch ID: P419736

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2357154	O-Phosphate-P	1.43	Spike	P	0 - 20

Reference Method: SM 2320 B-2011

Batch ID: P420275

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2357236	Total Alkalinity	1.79	Sample	P	0 - 3.8

Reference Method: SM 2540 C-2011

Batch ID: P420188

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2357183	TDS	5.50	Sample	P	0 - 10

Reference Method: SM 4500-F- C-2011

Batch ID: P420214

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2357377	Fluoride	0.519	Spike	P	0 - 1.6

Reference Method: SM 5310 B-2011

Batch ID: P419800

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2356813	Organic Carbon	0.644	Spike	P	0 - 20

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

Quality Assurance Report Precision

* 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: 2357162, 2357163

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Run ID: A114788

Included Lab Sample IDs: 2357166, 2357167

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	95.7	98.4	P/P	90 - 110
O-Phosphate-P	98.4	97.6	P/P	90 - 110

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A114790

Included Lab Sample IDs: 2357162, 2357163

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

Reference Method: SM 5310 B-2011

Run ID: A114813

Included Lab Sample IDs: 2357164

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	95.5	95.7	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A114854

Included Lab Sample IDs: 2357165

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	101	97.6	P/P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A114857

Included Lab Sample IDs: 2357162, 2357163

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	100	101	P/P	90 - 110

Reference Method: SM 5310 B-2011

Run ID: A114868

Included Lab Sample IDs: 2357165

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

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A114892

Included Lab Sample IDs: 2357164, 2357165

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	93.8	97.9	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A114892

Included Lab Sample IDs: 2357164, 2357165

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

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A114915

Included Lab Sample IDs: 2357164, 2357165

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	98.5	103	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A114942

Included Lab Sample IDs: 2357164

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

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A114960

Included Lab Sample IDs: 2357164, 2357165

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	95.5	93.5	P/P	90 - 110

Reference Method: SM 4500-F- C-2011

Run ID: A114980

Included Lab Sample IDs: 2357162, 2357163

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	101	100	P/P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1 dissolved

Run ID: A114999

Included Lab Sample IDs: 2357166, 2357167

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

Reference Method: SM 2320 B-2011

Run ID: A115007

Included Lab Sample IDs: 2357162, 2357163

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	101	98.5	P/P	90 - 110
Total Alkalinity	96.7	101	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 SMP	MS
					LCS	
DEP SOP: NU-094-1	Color (true)	100			0.379	
EPA 180.1 Rev. 2.0	Turbidity	100			3.42	
EPA 300.0 Rev. 2.1	Chloride	103	101	101	0.287	
EPA 300.0 Rev. 2.1 dissolved	Sulfate	102	96.6	96.7	0.132	
EPA 350.1 Rev. 2.0	Ammonia-N	97.4	97.6	98.2		0.587
	Ammonia-N	95.2	102	103		0.888
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	101	99.6	100		0.676
	Kjeldahl Nitrogen	98.0	100	103		1.79
EPA 353.2 Rev. 2.0	NO2NO3-N	94.5	94.0	92.5		1.61
EPA 365.1 Rev. 2.0	Total-P	106	108	104		2.93
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	96.6	91.3	90.0		1.43
SM 2320 B-2011	Total Alkalinity	98.5			1.79	
SM 2540 C-2011	TDS				5.50	
SM 4500-F- C-2011	Fluoride	99.9	105	106		0.519
SM 5310 B-2011	Organic Carbon	95.4	96.0	95.3		0.644
	Organic Carbon	95.0	99.4	100		0.656

Reference Method Descriptions

Method	Description	Associated Samples
DEP SOP: NU-094-1	True Color measured at 450 nm (not valid for NPDES monitoring)	2357162, 2357163
EPA 180.1 Rev. 2.0	Turbidity in aqueous matrices	2357162, 2357163
EPA 300.0 Rev. 2.1	Chloride in aqueous matrices	2357162, 2357163
EPA 300.0 Rev. 2.1 dissolved	Sulfate, dissolved, in filtered, aqueous matrices	2357166, 2357167
EPA 350.1 Rev. 2.0	Ammonia in aqueous matrices as mg N/L	2357164, 2357165
EPA 351.2 Rev. 2.0	Total Kjeldahl Nitrogen in aqueous matrices	2357164, 2357165
EPA 353.2 Rev. 2.0	Nitrite/Nitrate in aqueous matrices as mg N/L	2357164, 2357165
EPA 365.1 Rev. 2.0	Total Phosphorus in aqueous matrices as mg P/L	2357164, 2357165
EPA 365.1 Rev. 2.0 dissolved	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	2357166, 2357167
SM 2320 B-2011	Alkalinity in aqueous matrices as mg CaCO3/L	2357162, 2357163
SM 2540 C-2011	Total Dissolved Solids in aqueous matrices	2357162, 2357163
SM 2540 D-2011	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2357162, 2357163
SM 4500-F- C-2011	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2357162, 2357163
SM 5310 B-2011	Nonpurgeable Organic Carbon in aqueous matrices	2357164, 2357165

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 14:26	Samantha L Bates	2357162
	09/16/2022			09/16/2022 14:27	Samantha L Bates	2357163
EPA 180.1 Rev. 2.0	09/16/2022			09/16/2022 14:34	Chandler E Cox	2357162, 2357163
EPA 300.0 Rev. 2.1	09/16/2022			09/23/2022 04:50	Anna M. Plaviak	2357162
EPA 300.0 Rev. 2.1 dissolved	09/16/2022			09/23/2022 05:05	Anna M. Plaviak	2357163
	09/16/2022			09/30/2022 09:35	Anna M. Plaviak	2357166
EPA 350.1 Rev. 2.0	09/16/2022			09/30/2022 09:50	Anna M. Plaviak	2357167
	09/16/2022			09/21/2022 11:30	Ping Hua	2357165
EPA 351.2 Rev. 2.0	09/16/2022	09/21/2022 13:07	Samantha L Bates	09/26/2022 14:17	Judith K. Clark	2357164
	09/16/2022			09/22/2022 13:02	Samantha L Bates	2357164
EPA 353.2 Rev. 2.0	09/16/2022	09/21/2022 13:07	Samantha L Bates	09/22/2022 13:23	Samantha L Bates	2357165
	09/16/2022			09/27/2022 11:35	Beverly Y. Sanders	2357164
EPA 365.1 Rev. 2.0	09/16/2022	09/21/2022 08:40	Adam P Silver	09/27/2022 11:43	Beverly Y. Sanders	2357165
	09/16/2022			09/23/2022 12:56	James L Waggeberby	2357164
EPA 365.1 Rev. 2.0 dissolved	09/16/2022	09/21/2022 08:40	Adam P Silver	09/23/2022 12:57	James L Waggeberby	2357165
	09/16/2022			09/16/2022 14:33	Elise M. Gillis	2357166
SM 2320 B-2011	09/16/2022			09/16/2022 14:39	Elise M. Gillis	2357167
	09/16/2022			09/28/2022 19:30	Adam P Silver	2357162
SM 2540 C-2011	09/16/2022			09/28/2022 19:54	Adam P Silver	2357163
	09/16/2022			09/20/2022 15:08	Yijie Li	2357162, 2357163
SM 2540 D-2011	09/16/2022			09/20/2022 15:08	Yijie Li	2357162, 2357163
SM 4500-F- C-2011	09/16/2022			09/27/2022 23:15	Adam P Silver	2357162
	09/16/2022			09/27/2022 23:27	Adam P Silver	2357163
SM 5310 B-2011	09/16/2022			09/19/2022 22:16	Khloe J Berg	2357164
	09/16/2022			09/21/2022 18:02	Khloe J Berg	2357165