

Chemical Analysis Report

SW-DIST-2023-09-21-04

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

Event Description: **Run 5 - Polk Lakes**
Request ID: **RQ-2023-08-28-41**
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: Thekkekalathil Chandrasekhar, Environmental Consultant

Date Certified: 10-OCT-2023 10:47



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 WHISTLER AT CENTER

Collection Date/Time: 09/19/2023 10:45

Field ID: G3SW0100

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2439024	DEP SOP: NU-094-1	Color (true)	15	Q	PCU	P435346	
	EPA 180.1 Rev. 2.0	Turbidity	3.4	Q	NTU	P435350	
	EPA 300.0 Rev. 2.1	Chloride	30		mg Cl/L	P435832	
		Sulfate	31		mg SO4/L	P435835	
	SM 2320 B-2011	Total Alkalinity	26		mg CaCO3/L	P435732	
	SM 2540 C-2015	TDS	136	A	mg/L	P435880	
	SM 2540 D-2015	TSS	3	IA	mg/L	P435850	
	SM 4500-F- C-2011	Fluoride	0.19		mg F/L	P435735	
2439027	EPA 350.1 Rev. 2.0	Ammonia-N	0.004	I	mg N/L	P435512	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.91		mg N/L	P436038	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P436059	
	EPA 365.1 Rev. 2.0	Total-P	0.015		mg P/L	P435423	
	SM 5310 B-2011	Organic Carbon	6.5	A	mg C/L	P435757	

Ref. Method and Comment:

DEP SOP: NU-094-1: The sample expired upon receipt.

EPA 180.1 Rev. 2.0: The sample expired upon receipt.

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

Sample Location: FB

Collection Date/Time: 09/19/2023 10:55

Field ID: FB_09202023

Matrix: W-FIELD-BK

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2439025	DEP SOP: NU-094-1	Color (true)	2.5	UQ	PCU	P435346	
	EPA 180.1 Rev. 2.0	Turbidity	0.10	UQ	NTU	P435350	
	EPA 300.0 Rev. 2.1	Chloride	0.20	U	mg Cl/L	P435832	
		Sulfate	0.20	U	mg SO4/L	P435835	
	SM 2320 B-2011	Total Alkalinity	0.65	U	mg CaCO3/L	P435871	RPD
	SM 2540 C-2015	TDS	15	U	mg/L	P435879	
	SM 2540 D-2015	TSS	2	U	mg/L	P435849	
	SM 4500-F- C-2011	Fluoride	0.025	U	mg F/L	P435873	
2439028	EPA 350.1 Rev. 2.0	Ammonia-N	0.002	U	mg N/L	P435512	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.080	U	mg N/L	P436038	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P436060	
	EPA 365.1 Rev. 2.0	Total-P	0.002	U	mg P/L	P435780	
	SM 5310 B-2011	Organic Carbon	0.64	I	mg C/L	P435757	

Ref. Method and Comment:

DEP SOP: NU-094-1: The sample expired upon receipt.

EPA 180.1 Rev. 2.0: The sample expired upon receipt.

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

SM 5310 B-2011: The result was confirmed on 10/02/2023.

Sample Location: LAKE IDA AT CENTER

Collection Date/Time: 09/19/2023 11:30

Field ID: G3SW0043

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2439026	DEP SOP: NU-094-1	Color (true)	24	Q	PCU	P435346	
	EPA 180.1 Rev. 2.0	Turbidity	1.7	Q	NTU	P435350	
	EPA 300.0 Rev. 2.1	Chloride	29		mg Cl/L	P435832	
		Sulfate	17		mg SO4/L	P435835	
	SM 2320 B-2011	Total Alkalinity	71		mg CaCO3/L	P435871	RPD
	SM 2540 C-2015	TDS	151		mg/L	P435880	
	SM 2540 D-2015	TSS	2	I	mg/L	P435850	
	SM 4500-F- C-2011	Fluoride	0.15		mg F/L	P435873	
2439029	EPA 350.1 Rev. 2.0	Ammonia-N	0.020		mg N/L	P435512	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.74		mg N/L	P436038	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P436060	
	EPA 365.1 Rev. 2.0	Total-P	0.026		mg P/L	P435423	
	SM 5310 B-2011	Organic Carbon	7.3		mg C/L	P435757	

Ref. Method and Comment:

DEP SOP: NU-094-1: The sample expired upon receipt.

EPA 180.1 Rev. 2.0: The sample expired upon receipt.

SM 2540 D-2015: 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: P435346

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P435350

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P435832

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P435835

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P435512

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P436038

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P436059

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P436060

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P435423

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

Quality Assurance Report Method Blank Results

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P435780

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

Reference Method: SM 2320 B-2011
Batch ID: P435732

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

Reference Method: SM 2320 B-2011
Batch ID: P435871

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

Reference Method: SM 2540 C-2015
Batch ID: P435879

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 C-2015
Batch ID: P435880

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-2015
Batch ID: P435849

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 2540 D-2015
Batch ID: P435850

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500-F- C-2011
Batch ID: P435735

Component	Result	Code	Units
Fluoride	0.025	U	mg F/L

Reference Method: SM 4500-F- C-2011
Batch ID: P435873

Component	Result	Code	Units
Fluoride	0.025	U	mg F/L

Quality Assurance Report

Method Blank Results

Reference Method: SM 5310 B-2011
Batch ID: P435757

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: P435346

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

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P435350

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P435832

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Chloride	97.5		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P435835

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P435512

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P436038

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: P436059

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
NO2NO3-N	99.5		P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P436060

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P435423

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

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P435780

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

Reference Method: SM 2320 B-2011
Batch ID: P435732

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	96.8		P	92 - 105

Reference Method: SM 2320 B-2011
Batch ID: P435871

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	96.4		P	92 - 105

Reference Method: SM 2540 C-2015
Batch ID: P435879

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
TDS	96.1		P	90 - 110

Reference Method: SM 2540 C-2015
Batch ID: P435880

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
TDS	91.8		P	90 - 110

Reference Method: SM 2540 D-2015
Batch ID: P435849

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
TSS	99.6		P	85 - 106

Reference Method: SM 2540 D-2015
Batch ID: P435850

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
TSS	93.1		P	85 - 106

Reference Method: SM 4500-F- C-2011
Batch ID: P435735

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	102		P	94 - 106

Reference Method: SM 4500-F- C-2011
Batch ID: P435873

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

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: SM 5310 B-2011
Batch ID: P435757

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	99.8		P	85 - 115

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P435832

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2438915	Chloride	98.6		P	90 - 110
2439112	Chloride	99.9		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P435835

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2438915	Sulfate	101		P	90 - 110
2439112	Sulfate	101		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P435512

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2439027	Ammonia-N	98.6	98.4	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P436038

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2439108	Kjeldahl Nitrogen	96.1	101	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P436059

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2438786	NO2NO3-N	99.0	100	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P436060

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2437035	NO2NO3-N	101		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P435423

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2438977	Total-P	107	108	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P435780

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2440875	Total-P	108	109	P/P	90 - 110

Reference Method: SM 4500-F- C-2011
Batch ID: P435735

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2439769	Fluoride	103	102	P/P	94 - 106

Quality Assurance Report

Matrix Spike Accuracy

Reference Method: SM 4500-F- C-2011
Batch ID: P435873

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2441166	Fluoride	103	101	P/P	94 - 106

Reference Method: SM 5310 B-2011
Batch ID: P435757

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2439027	Organic Carbon	98.6		P	85 - 115

Quality Assurance Report Precision

Reference Method: DEP SOP: NU-094-1
Batch ID: P435346

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2438975	Color (true)	0.00607	Sample	P	0 - 20

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P435350

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2438888	Turbidity	6.41	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P435832

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2438915	Chloride	1.02	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P435835

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2438915	Sulfate	0.461	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P435512

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2439027	Ammonia-N	0.187	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P436038

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2439108	Kjeldahl Nitrogen	3.50	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P436059

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2438786	NO2NO3-N	1.01	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P436060

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2437035	NO2NO3-N	0.687	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P435423

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2438977	Total-P	0.742	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P435780

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2440875	Total-P	0.234	Spike	P	0 - 20

Reference Method: SM 2320 B-2011
Batch ID: P435732

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2439769	Total Alkalinity	0.0418	Sample	P	0 - 3.9

Reference Method: SM 2320 B-2011
Batch ID: P435871

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2441166	Total Alkalinity	6.42	Sample	F	0 - 3.9

Reference Method: SM 2540 C-2015
Batch ID: P435879

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2438524	TDS	1.90	Sample	P	0 - 10

Reference Method: SM 2540 C-2015
Batch ID: P435880

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2439024	TDS	8.12	Sample	P	0 - 10

Reference Method: SM 4500-F- C-2011
Batch ID: P435735

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2439769	Fluoride	0.516	Spike	P	0 - 1.9

Reference Method: SM 4500-F- C-2011
Batch ID: P435873

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2441166	Fluoride	1.42	Spike	P	0 - 1.9

Quality Assurance Report Precision

Reference Method: SM 5310 B-2011
Batch ID: P435757

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2439027	Organic Carbon	0.0616	Sample	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: A121696

Included Lab Sample IDs: 2439024, 2439025, 2439026

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

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A121700

Included Lab Sample IDs: 2439024, 2439025, 2439026

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

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A121764

Included Lab Sample IDs: 2439027, 2439028, 2439029

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	99.3	99.9	P/P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A121771

Included Lab Sample IDs: 2439024, 2439025, 2439026

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	97.3	97.4	P/P	90 - 110
Sulfate	99.1	99.2	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A121792

Included Lab Sample IDs: 2439027, 2439029

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	97.0	93.8	P/P	90 - 110

Reference Method: SM 2320 B-2011

Run ID: A121844

Included Lab Sample IDs: 2439024

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	94.9	96.0	P/P	90 - 110

Reference Method: SM 4500-F- C-2011

Run ID: A121844

Included Lab Sample IDs: 2439024

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

Reference Method: SM 5310 B-2011

Run ID: A121855

Included Lab Sample IDs: 2439027, 2439028, 2439029

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	96.2	96.6	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: SM 2320 B-2011

Run ID: A121914

Included Lab Sample IDs: 2439025, 2439026

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	95.2	97.6	P/P	90 - 110
Total Alkalinity	97.6	94.7	P/P	90 - 110

Reference Method: SM 4500-F- C-2011

Run ID: A121914

Included Lab Sample IDs: 2439025, 2439026

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	102	103	P/P	90 - 110
Fluoride	103	104	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A121943

Included Lab Sample IDs: 2439028

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

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A121981

Included Lab Sample IDs: 2439027, 2439028, 2439029

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	102	102	P/P	90 - 110
NO2NO3-N	98.5	102	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A122007

Included Lab Sample IDs: 2439027, 2439028, 2439029

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	100	98.8	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			0.0060	
EPA 180.1 Rev. 2.0	Turbidity	105			6.41	
EPA 300.0 Rev. 2.1	Chloride	97.5	98.6	99.9	1.02	
	Sulfate	100	101	101	0.461	
EPA 350.1 Rev. 2.0	Ammonia-N	98.0	98.6	98.4		0.187
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	100	96.1	101		3.50
EPA 353.2 Rev. 2.0	NO2NO3-N	99.5	99.0	100		1.01
	NO2NO3-N	103	101			0.687
EPA 365.1 Rev. 2.0	Total-P	109	107	108		0.742
	Total-P	106	108	109		0.234
SM 2320 B-2011	Total Alkalinity	96.8			0.0418	
	Total Alkalinity	96.4			6.42	
SM 2540 C-2015	TDS	96.1			1.90	
	TDS	91.8			8.12	
SM 2540 D-2015	TSS	99.6				
	TSS	93.1				
SM 4500-F- C-2011	Fluoride	102	103	102		0.516
	Fluoride	103	103	101		1.42
SM 5310 B-2011	Organic Carbon	99.8	98.6		0.0616	

Reference Method Descriptions

Method	Description	Associated Samples
DEP SOP: NU-094-1	True Color measured at 450 nm (not valid for NPDES monitoring)	2439024, 2439025, 2439026
EPA 180.1 Rev. 2.0	Turbidity in aqueous matrices	2439024, 2439025, 2439026
EPA 300.0 Rev. 2.1	Chloride in aqueous matrices	2439024, 2439025, 2439026
EPA 300.0 Rev. 2.1	Sulfate in aqueous matrices	2439024, 2439025, 2439026
EPA 350.1 Rev. 2.0	Ammonia in aqueous matrices as mg N/L	2439027, 2439028, 2439029
EPA 351.2 Rev. 2.0	Total Kjeldahl Nitrogen in aqueous matrices	2439027, 2439028, 2439029
EPA 353.2 Rev. 2.0	Nitrite/Nitrate in aqueous matrices as mg N/L	2439027, 2439028, 2439029
EPA 365.1 Rev. 2.0	Total Phosphorus in aqueous matrices as mg P/L	2439027, 2439028, 2439029
SM 2320 B-2011	Alkalinity in aqueous matrices as mg CaCO3/L	2439024, 2439025, 2439026
SM 2540 C-2015	Total Dissolved Solids in aqueous matrices	2439024, 2439025, 2439026
SM 2540 D-2015	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2439024, 2439025, 2439026
SM 4500-F- C-2011	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2439024, 2439025, 2439026
SM 5310 B-2011	Nonpurgeable Organic Carbon in aqueous matrices	2439027, 2439028, 2439029

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	09/21/2023			09/21/2023 15:45	Alexis Price	2439024
	09/21/2023			09/21/2023 15:46	Alexis Price	2439025, 2439026
EPA 180.1 Rev. 2.0	09/21/2023			09/21/2023 14:42	Samantha L Bates	2439024
	09/21/2023			09/21/2023 14:43	Samantha L Bates	2439025
	09/21/2023			09/21/2023 14:44	Samantha L Bates	2439026
EPA 300.0 Rev. 2.1	09/21/2023			09/27/2023 22:26	James L Waggeberby	2439024
	09/21/2023			09/27/2023 22:42	James L Waggeberby	2439025
	09/21/2023			09/27/2023 22:57	James L Waggeberby	2439026
EPA 350.1 Rev. 2.0	09/21/2023			09/26/2023 14:20	Ping Hua	2439027
	09/21/2023			09/26/2023 14:24	Ping Hua	2439028
	09/21/2023			09/26/2023 14:25	Ping Hua	2439029
EPA 351.2 Rev. 2.0	09/21/2023	10/05/2023 11:40	Simonne.V. Calhoun	10/06/2023 13:21	Samantha L Bates	2439027
	09/21/2023	10/05/2023 11:40	Simonne.V. Calhoun	10/06/2023 13:23	Samantha L Bates	2439028
	09/21/2023	10/05/2023 11:40	Simonne.V. Calhoun	10/06/2023 13:24	Samantha L Bates	2439029
EPA 353.2 Rev. 2.0	09/21/2023			10/05/2023 11:53	Anna M. Plaviak	2439027
	09/21/2023			10/05/2023 12:06	Anna M. Plaviak	2439028
	09/21/2023			10/05/2023 12:07	Anna M. Plaviak	2439029
EPA 365.1 Rev. 2.0	09/21/2023	09/25/2023 13:35	Adam P Silver	09/27/2023 14:47	Chandler E Cox	2439027
	09/21/2023	09/25/2023 13:35	Adam P Silver	09/27/2023 14:48	Chandler E Cox	2439029
	09/21/2023	10/02/2023 13:21	Adam P Silver	10/04/2023 11:35	Chandler E Cox	2439028
SM 2320 B-2011	09/21/2023			09/28/2023 21:55	Adam P Silver	2439024
	09/21/2023			10/02/2023 20:41	Adam P Silver	2439025
	09/21/2023			10/02/2023 21:38	Adam P Silver	2439026
SM 2540 C-2015	09/21/2023			09/25/2023 15:40	Yijie Li	2439024, 2439025, 2439026
SM 2540 D-2015	09/21/2023			09/25/2023 15:40	Yijie Li	2439024, 2439025, 2439026
SM 4500-F- C-2011	09/21/2023			09/28/2023 21:55	Adam P Silver	2439024
	09/21/2023			10/02/2023 20:41	Adam P Silver	2439025
	09/21/2023			10/02/2023 21:38	Adam P Silver	2439026
SM 5310 B-2011	09/21/2023			09/29/2023 04:00	Khloe J Berg	2439027
	09/21/2023			09/29/2023 04:30	Khloe J Berg	2439028
	09/21/2023			09/29/2023 04:44	Khloe J Berg	2439029