Chemical Analysis Report

SO-DIST-2024-04-17-01

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

Event Description: **2024 SMP : Land O' Lakes**
Request ID: **RQ-2024-04-15-31**
Customer: **SO-DIST**
Project ID: **SMP**

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Certified by: Marek Topolski, Environmental Administrator

Date Certified: 09-MAY-2024 11:07

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 GLENADA **Collection Date/Time: 04/16/2024 09:35**

Field ID: G4SD0179 Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2482945	DEP SOP: NU-094-1	Color (true)	38		PCU	P444377	
	EPA 180.1 Rev. 2.0	Turbidity	13		NTU	P444390	
	EPA 300.0 Rev. 2.1	Chloride	22		mg Cl/L	P444875	
		Sulfate	18		mg SO4/L	P444878	
	SM 2320 B-2011	Total Alkalinity	40		mg CaCO3/L	P444923	RPD
	SM 2540 C-2015	TDS	137		mg/L	P444844	
	SM 2540 D-2015	TSS	14		mg/L	P444743	
	SM 4500-F- C-2011	Fluoride	0.082	I	mg F/L	P444926	
2482949	EPA 350.1 Rev. 2.0	Ammonia-N	0.005	I	mg N/L	P444567	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.6		mg N/L	P444702	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.023		mg N/L	P444722	
	EPA 365.1 Rev. 2.0	Total-P	0.057		mg P/L	P444614	
	SM 5310 B-2014	Organic Carbon	11		mg C/L	P444810	

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

Sample Location: LITTLE BONNET LAKE AT MIDDLE **Collection Date/Time: 04/16/2024 10:05**

Field ID: G4SD0169 Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2482946	DEP SOP: NU-094-1	Color (true)	12		PCU	P444377	
	EPA 180.1 Rev. 2.0	Turbidity	13		NTU	P444390	
	EPA 300.0 Rev. 2.1	Chloride	18	A	mg Cl/L	P444875	
		Sulfate	38	A	mg SO4/L	P444878	
	SM 2320 B-2011	Total Alkalinity	40		mg CaCO3/L	P444923	RPD
	SM 2540 C-2015	TDS	144		mg/L	P444844	
	SM 2540 D-2015	TSS	15		mg/L	P444743	
	SM 4500-F- C-2011	Fluoride	0.077	I	mg F/L	P444926	
2482950	EPA 350.1 Rev. 2.0	Ammonia-N	0.004	I	mg N/L	P444567	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.6		mg N/L	P444448	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.25		mg N/L	P444722	
	EPA 365.1 Rev. 2.0	Total-P	0.026		mg P/L	P444614	
	SM 5310 B-2014	Organic Carbon	8.5		mg C/L	P444810	

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

Sample Location: RED WATER LAKE AT MID **Collection Date/Time: 04/16/2024 11:05**

Field ID: G4SD0224 Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2482947	DEP SOP: NU-094-1	Color (true)	17		PCU	P444377	
	EPA 180.1 Rev. 2.0	Turbidity	8.9	A	NTU	P444391	
	EPA 300.0 Rev. 2.1	Chloride	21		mg Cl/L	P444875	
		Sulfate	35		mg SO4/L	P444878	
	SM 2320 B-2011	Total Alkalinity	25		mg CaCO3/L	P444923	RPD
	SM 2540 C-2015	TDS	130		mg/L	P444844	
	SM 2540 D-2015	TSS	11		mg/L	P444743	
	SM 4500-F- C-2011	Fluoride	0.052	I	mg F/L	P444926	
2482951	EPA 350.1 Rev. 2.0	Ammonia-N	0.003	I	mg N/L	P444567	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.1		mg N/L	P444448	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P444905	
	EPA 365.1 Rev. 2.0	Total-P	0.018		mg P/L	P444614	
	SM 5310 B-2014	Organic Carbon	9.4		mg C/L	P444810	

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

Sample Location: LAKE JUNE IN WINTER **Collection Date/Time: 04/16/2024 11:50**

Field ID: G4SD0186 Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2482948	DEP SOP: NU-094-1	Color (true)	10		PCU	P444377	
	EPA 180.1 Rev. 2.0	Turbidity	2.1		NTU	P444391	
	EPA 300.0 Rev. 2.1	Chloride	20		mg Cl/L	P444875	
		Sulfate	29		mg SO4/L	P444878	
	SM 2320 B-2011	Total Alkalinity	19		mg CaCO3/L	P444923	RPD
	SM 2540 C-2015	TDS	106		mg/L	P444844	
	SM 2540 D-2015	TSS	4	I	mg/L	P444743	
	SM 4500-F- C-2011	Fluoride	0.060	I	mg F/L	P444926	
2482952	EPA 350.1 Rev. 2.0	Ammonia-N	0.002	I	mg N/L	P444567	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.50		mg N/L	P444448	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P444905	
	EPA 365.1 Rev. 2.0	Total-P	0.012		mg P/L	P444614	
	SM 5310 B-2014	Organic Carbon	6.9		mg C/L	P444810	

Ref. Method and Comment:
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: P444377

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P444390

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P444391

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P444875

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P444878

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P444567

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P444448

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P444702

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P444722

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

Quality Assurance Report
Method Blank Results

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P444905

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P444614

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

Reference Method: SM 2320 B-2011
Batch ID: P444923

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

Reference Method: SM 2540 C-2015
Batch ID: P444844

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-2015
Batch ID: P444743

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500-F- C-2011
Batch ID: P444926

Component	Result	Code	Units
Fluoride	0.025	U	mg F/L

Reference Method: SM 5310 B-2014
Batch ID: P444810

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: P444377

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Color (true)	96.3		P	90 - 110

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P444390

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

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P444391

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P444875

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P444878

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P444567

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Ammonia-N	95.4		P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P444448

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P444702

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P444722

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
NO2NO3-N	97.0		P	90 - 110

Quality Assurance Report
Laboratory Control Sample Accuracy

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P444905

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P444614

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

Reference Method: SM 2320 B-2011
Batch ID: P444923

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	101		P	92 - 105

Reference Method: SM 2540 C-2015
Batch ID: P444844

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
TDS	94.4		P	85 - 115

Reference Method: SM 2540 D-2015
Batch ID: P444743

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
TSS	94.4		P	85 - 115

Reference Method: SM 4500-F- C-2011
Batch ID: P444926

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	97.3		P	94 - 106

Reference Method: SM 5310 B-2014
Batch ID: P444810

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: P444875

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2482946	Chloride	98.4		P	90 - 110
2482961	Chloride	98.4		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P444878

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2482946	Sulfate	93.8		P	90 - 110
2482961	Sulfate	99.1		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P444567

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2482950	Ammonia-N	97.0	97.6	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P444448

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2482950	Kjeldahl Nitrogen	95.1	93.4	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P444702

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2482891	Kjeldahl Nitrogen	109	103	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P444722

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2482856	NO2NO3-N	95.8		P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P444905

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2482927	NO2NO3-N	94.8		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P444614

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2482950	Total-P	106	106	P/P	90 - 110

Reference Method: SM 4500-F- C-2011
Batch ID: P444926

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2483912	Fluoride	98.0	98.6	P/P	94 - 106

Quality Assurance Report
Matrix Spike Accuracy

Reference Method: SM 5310 B-2014
Batch ID: P444810

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2482924	Organic Carbon	98.5	100	P/P	85 - 115

Quality Assurance Report
Precision

Reference Method: DEP SOP: NU-094-1
Batch ID: P444377

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2482920	Color (true)	9.57	Sample	P	0 - 20

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P444390

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2482767	Turbidity	4.30	Sample	P	0 - 20

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P444391

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2482947	Turbidity	2.13	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P444875

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2482946	Chloride	2.94	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P444878

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2482946	Sulfate	2.50	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P444567

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2482950	Ammonia-N	0.569	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P444448

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2482950	Kjeldahl Nitrogen	0.973	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P444702

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2482891	Kjeldahl Nitrogen	4.18	Spike	P	0 - 20

Quality Assurance Report
Precision

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P444722

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2482856	NO2NO3-N	0.698	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P444905

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2482927	NO2NO3-N	1.99	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P444614

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2482950	Total-P	0.314	Spike	P	0 - 20

Reference Method: SM 2320 B-2011
Batch ID: P444923

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2483912	Total Alkalinity	4.28	Sample	F	0 - 3.9

Reference Method: SM 2540 C-2015
Batch ID: P444844

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2482607	TDS	5.67	Sample	P	0 - 10

Reference Method: SM 4500-F- C-2011
Batch ID: P444926

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2483912	Fluoride	0.503	Spike	P	0 - 1.9

Reference Method: SM 5310 B-2014
Batch ID: P444810

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2482924	Organic Carbon	1.56	Spike	P	0 - 15

* 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: A125361
Included Lab Sample IDs: 2482945, 2482946, 2482947, 2482948

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	97.4	99.5	P/P	90 - 110

Reference Method: EPA 180.1 Rev. 2.0
Run ID: A125365
Included Lab Sample IDs: 2482945, 2482946, 2482947, 2482948

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Turbidity	99.0	99.0	P/P	95 - 105

Reference Method: EPA 350.1 Rev. 2.0
Run ID: A125430
Included Lab Sample IDs: 2482949, 2482950, 2482951, 2482952

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	98.6	98.8	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Run ID: A125460
Included Lab Sample IDs: 2482949

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

Reference Method: EPA 365.1 Rev. 2.0
Run ID: A125473
Included Lab Sample IDs: 2482950, 2482951, 2482952

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	96.8	98.2	P/P	90 - 110
Total-P	98.2	98.0	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Run ID: A125490
Included Lab Sample IDs: 2482950, 2482951, 2482952

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

Reference Method: EPA 353.2 Rev. 2.0
Run ID: A125492
Included Lab Sample IDs: 2482949, 2482950

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	99.0	99.5	P/P	90 - 110

Reference Method: SM 5310 B-2014
Run ID: A125527
Included Lab Sample IDs: 2482949, 2482950, 2482951, 2482952

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	97.3	115	P/P	85 - 115

Quality Assurance Report
Calibration Verification

Reference Method: EPA 351.2 Rev. 2.0
Run ID: A125529
Included Lab Sample IDs: 2482949

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	108	102	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Run ID: A125563
Included Lab Sample IDs: 2482951, 2482952

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	101	102	P/P	90 - 110

Reference Method: SM 2320 B-2011
Run ID: A125568
Included Lab Sample IDs: 2482945, 2482946, 2482947, 2482948

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	96.3	98.6	P/P	90 - 110
Total Alkalinity	98.6	96.3	P/P	90 - 110

Reference Method: SM 4500-F- C-2011
Run ID: A125568
Included Lab Sample IDs: 2482945, 2482946, 2482947, 2482948

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	102	98.0	P/P	90 - 110
Fluoride	98.5	102	P/P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Run ID: A125571
Included Lab Sample IDs: 2482945, 2482946, 2482947, 2482948

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	98.1	98.2	P/P	90 - 110
Chloride	98.4	98.1	P/P	90 - 110
Sulfate	100	99.7	P/P	90 - 110
Sulfate	99.7	100	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	SMP	MS
DEP SOP: NU-094-1	Color (true)	96.3				9.57	
EPA 180.1 Rev. 2.0	Turbidity	102				4.30	
	Turbidity	103				2.13	
EPA 300.0 Rev. 2.1	Chloride	98.8	98.4	98.4		2.94	
	Sulfate	102	93.8	99.1		2.50	
EPA 350.1 Rev. 2.0	Ammonia-N	95.4	97.0	97.6			0.569
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	102	95.1	93.4			0.973
	Kjeldahl Nitrogen	98.5	109	103			4.18
EPA 353.2 Rev. 2.0	NO2NO3-N	97.0	95.8				0.698
	NO2NO3-N	98.5	94.8				1.99
EPA 365.1 Rev. 2.0	Total-P	104	106	106			0.314
SM 2320 B-2011	Total Alkalinity	101				4.28	
SM 2540 C-2015	TDS	94.4				5.67	
SM 2540 D-2015	TSS	94.4					
SM 4500-F- C-2011	Fluoride	97.3	98.0	98.6			0.503
SM 5310 B-2014	Organic Carbon	99.8	98.5	100			1.56

Reference Method Descriptions

Method	Description	Associated Samples
DEP SOP: NU-094-1	True Color measured at 450 nm (not valid for NPDES monitoring)	2482945, 2482946, 2482947, 2482948
EPA 180.1 Rev. 2.0	Turbidity in aqueous matrices	2482945, 2482946, 2482947, 2482948
EPA 300.0 Rev. 2.1	Chloride in aqueous matrices	2482945, 2482946, 2482947, 2482948
EPA 300.0 Rev. 2.1	Sulfate in aqueous matrices	2482945, 2482946, 2482947, 2482948
EPA 350.1 Rev. 2.0	Ammonia in aqueous matrices as mg N/L	2482949, 2482950, 2482951, 2482952
EPA 351.2 Rev. 2.0	Total Kjeldahl Nitrogen in aqueous matrices	2482949, 2482950, 2482951, 2482952
EPA 353.2 Rev. 2.0	Nitrite/Nitrate in aqueous matrices as mg N/L	2482949, 2482950, 2482951, 2482952
EPA 365.1 Rev. 2.0	Total Phosphorus in aqueous matrices as mg P/L	2482949, 2482950, 2482951, 2482952
SM 2320 B-2011	Alkalinity in aqueous matrices as mg CaCO3/L	2482945, 2482946, 2482947, 2482948
SM 2540 C-2015	Total Dissolved Solids in aqueous matrices	2482945, 2482946, 2482947, 2482948
SM 2540 D-2015	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2482945, 2482946, 2482947, 2482948
SM 4500-F- C-2011	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2482945, 2482946, 2482947, 2482948
SM 5310 B-2014	Nonpurgeable Organic Carbon in aqueous matrices	2482949, 2482950, 2482951, 2482952

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	04/17/2024			04/17/2024 14:28	Chandler E Cox	2482945
	04/17/2024			04/17/2024 14:29	Chandler E Cox	2482946, 2482947
	04/17/2024			04/17/2024 14:30	Chandler E Cox	2482948
EPA 180.1 Rev. 2.0	04/17/2024			04/17/2024 13:29	Jessica K Wilks	2482945
	04/17/2024			04/17/2024 13:30	Jessica K Wilks	2482946
	04/17/2024			04/17/2024 13:45	Jessica K Wilks	2482947
	04/17/2024			04/17/2024 13:47	Jessica K Wilks	2482948
EPA 300.0 Rev. 2.1	04/17/2024			04/27/2024 12:20	James L Waggerby	2482946
	04/17/2024			04/27/2024 17:07	James L Waggerby	2482945
	04/17/2024			04/27/2024 17:22	James L Waggerby	2482947
	04/17/2024			04/27/2024 17:37	James L Waggerby	2482948
EPA 350.1 Rev. 2.0	04/17/2024			04/19/2024 12:17	Khloe J Berg	2482949
	04/17/2024			04/19/2024 12:19	Khloe J Berg	2482950
	04/17/2024			04/19/2024 12:20	Khloe J Berg	2482951
	04/17/2024			04/19/2024 12:21	Khloe J Berg	2482952
EPA 351.2 Rev. 2.0	04/17/2024	04/18/2024 11:21	Robyn Blevins	04/24/2024 13:06	Robyn Blevins	2482950
	04/17/2024	04/18/2024 11:21	Robyn Blevins	04/24/2024 13:11	Robyn Blevins	2482951
	04/17/2024	04/18/2024 11:21	Robyn Blevins	04/24/2024 13:13	Robyn Blevins	2482952
	04/17/2024	04/24/2024 13:31	Samantha L Bates	04/25/2024 11:52	Robyn Blevins	2482949
EPA 353.2 Rev. 2.0	04/17/2024			04/23/2024 16:55	Fadila Guebre	2482949
	04/17/2024			04/23/2024 16:56	Fadila Guebre	2482950
	04/17/2024			04/25/2024 14:43	Fadila Guebre	2482951
	04/17/2024			04/25/2024 14:45	Fadila Guebre	2482952
EPA 365.1 Rev. 2.0	04/17/2024	04/22/2024 13:25	Adam P Silver	04/23/2024 09:01	Elise M. Gillis	2482949
	04/17/2024	04/22/2024 13:25	Adam P Silver	04/23/2024 11:01	Elise M. Gillis	2482950
	04/17/2024	04/22/2024 13:25	Adam P Silver	04/23/2024 11:02	Elise M. Gillis	2482951
	04/17/2024	04/22/2024 13:25	Adam P Silver	04/23/2024 11:10	Elise M. Gillis	2482952
SM 2320 B-2011	04/17/2024			04/25/2024 19:58	Dale L. Simmons	2482945
	04/17/2024			04/25/2024 20:09	Dale L. Simmons	2482946
	04/17/2024			04/25/2024 20:56	Dale L. Simmons	2482947
	04/17/2024			04/25/2024 21:08	Dale L. Simmons	2482948
SM 2540 C-2015	04/17/2024			04/19/2024 16:49	Yijie Li	2482945, 2482946, 2482947, 2482948
SM 2540 D-2015	04/17/2024			04/19/2024 16:49	Yijie Li	2482945, 2482946, 2482947, 2482948
SM 4500-F- C-2011	04/17/2024			04/25/2024 19:58	Dale L. Simmons	2482945
	04/17/2024			04/25/2024 20:09	Dale L. Simmons	2482946
	04/17/2024			04/25/2024 20:56	Dale L. Simmons	2482947
	04/17/2024			04/25/2024 21:08	Dale L. Simmons	2482948
SM 5310 B-2014	04/17/2024			04/24/2024 04:36	Jessica K Wilks	2482949
	04/17/2024			04/24/2024 04:50	Jessica K Wilks	2482950
	04/17/2024			04/24/2024 05:05	Jessica K Wilks	2482951

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
SM 5310 B-2014	04/17/2024			04/24/2024 05:30	Jessica K Wilks	2482952