

Chemical Analysis Report

SO-DIST-2024-02-16-01

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

Event Description: **2024 SMP: Resample Hatchett Creek/Bud Slough**
Request ID: **RQ-2024-02-05-56**
Customer: **SO-DIST**
Project ID: **SMP**

Send Reports to:
FL Dept. of Environmental Protection
FLDEP South District Office
2295 Victoria Ave. Suite 314
Fort Myers, FL 33901-3381
Attn: Nicole Reistad

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Certified by: Marek Topolski, Environmental Specialist III

Date Certified: 12-MAR-2024 13:16

A handwritten signature in black ink, appearing to read "Marek Topolski", with a stylized, flowing script.

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: Hatchett Creek Tidal 1Collection Date/Time: 02/15/2024 10:05

Field ID: G3SD0191Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2469446	DEP SOP: NU-094-1	Color (true)	19		PCU	P441566	
	EPA 180.1 Rev. 2.0	Turbidity	2.4		NTU	P441585	
	EPA 300.0 Rev. 2.1	Chloride	1.2E+04		mg Cl/L	P442056	
		Sulfate	1.7E+03		mg SO4/L	P442241	
	SM 2320 B-2011	Total Alkalinity	166		mg CaCO3/L	P442037	
	SM 2540 C-2015	TDS	1.93E+04		mg/L	P441984	
	SM 2540 D-2015	TSS	3	U	mg/L	P441935	
	SM 4500-F- C-2011	Fluoride	0.85		mg F/L	P442483	
2469448	EPA 350.1 Rev. 2.0	Ammonia-N	0.063		mg N/L	P441754	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.52		mg N/L	P441666	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.059		mg N/L	P441908	
	EPA 365.1 Rev. 2.0	Total-P	0.076		mg P/L	P441636	
	SM 5310 B-2014	Organic Carbon	6.0		mg C/L	P442112	

Ref. Method and Comment:
SM 2540 C-2015: The reported result is consistent with the conductivity measured in the laboratory, 31900 umhos/cm.
SM 2540 D-2015: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.

Sample Location: Bud Slough Sugar Bowl Rd

Collection Date/Time: 02/15/2024 11:35

Field ID: G3SD0244

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2469447	DEP SOP: NU-094-1	Color (true)	84	A	PCU	P441566	
	EPA 180.1 Rev. 2.0	Turbidity	1.3		NTU	P441585	
	EPA 300.0 Rev. 2.1	Chloride	27		mg Cl/L	P442056	
		Sulfate	200		mg SO4/L	P442241	
	SM 2320 B-2011	Total Alkalinity	32		mg CaCO3/L	P441938	
	SM 2540 C-2015	TDS	390	A	mg/L	P441984	
	SM 2540 D-2015	TSS	2	IA	mg/L	P441934	
	SM 4500-F- C-2011	Fluoride	0.41		mg F/L	P441941	
2469449	EPA 350.1 Rev. 2.0	Ammonia-N	0.018		mg N/L	P441753	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.97		mg N/L	P441812	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.016		mg N/L	P441777	
	EPA 365.1 Rev. 2.0	Total-P	0.26		mg P/L	P441689	
	SM 5310 B-2014	Organic Carbon	19		mg C/L	P442108	

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: P441566

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P441585

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P442056

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P442241

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P441753

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P441754

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P441666

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P441812

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P441777

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: P441908

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P441636

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P441689

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

Reference Method: SM 2320 B-2011
Batch ID: P441938

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

Reference Method: SM 2320 B-2011
Batch ID: P442037

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

Reference Method: SM 2540 C-2015
Batch ID: P441984

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-2015
Batch ID: P441934

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 2540 D-2015
Batch ID: P441935

Component	Result	Code	Units
TSS	3	U	mg/L

Reference Method: SM 4500-F- C-2011
Batch ID: P441941

Component	Result	Code	Units
Fluoride	0.025	U	mg F/L

Quality Assurance Report
Method Blank Results

Reference Method: SM 4500-F- C-2011
Batch ID: P442483

Component	Result	Code	Units
Fluoride	0.025	U	mg F/L

Reference Method: SM 5310 B-2014
Batch ID: P442108

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

Reference Method: SM 5310 B-2014
Batch ID: P442112

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: P441566

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Color (true)	99.0		P	90 - 110

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P441585

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P442056

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P442241

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P441753

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: P441754

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P441666

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Kjeldahl Nitrogen	95.6		P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P441812

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P441777

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

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P441908

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P441636

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P441689

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

Reference Method: SM 2320 B-2011
Batch ID: P441938

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	100		P	92 - 105

Reference Method: SM 2320 B-2011
Batch ID: P442037

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	98.2		P	92 - 105

Reference Method: SM 2540 C-2015
Batch ID: P441984

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
TDS	92.8		P	85 - 115

Reference Method: SM 2540 D-2015
Batch ID: P441934

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
TSS	92.0		P	85 - 115

Reference Method: SM 2540 D-2015
Batch ID: P441935

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
TSS	107		P	85 - 115

Reference Method: SM 4500-F- C-2011
Batch ID: P441941

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

Quality Assurance Report
Laboratory Control Sample Accuracy

Reference Method: SM 4500-F- C-2011
Batch ID: P442483

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

Reference Method: SM 5310 B-2014
Batch ID: P442108

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	94.9		P	85 - 115

Reference Method: SM 5310 B-2014
Batch ID: P442112

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	92.2		P	85 - 115

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P442056

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2469331	Chloride	104		P	90 - 110
2469335	Chloride	99.2		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P442241

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2469331	Sulfate	105		P	90 - 110
2469335	Sulfate	101		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P441753

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2469332	Ammonia-N	95.4	96.8	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P441754

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2469409	Ammonia-N	97.2	98.0	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P441666

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2468603	Kjeldahl Nitrogen	95.1	95.2	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P441812

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2469398	Kjeldahl Nitrogen	99.3	104	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P441777

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2469926	NO2NO3-N	97.0	98.0	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P441908

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2469416	NO2NO3-N	91.8	95.3	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P441636

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2469470	Total-P	96.0	95.7	P/P	90 - 110

Quality Assurance Report
Matrix Spike Accuracy

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P441689

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2469486	Total-P	110	105	P/P	90 - 110

Reference Method: SM 4500-F- C-2011
Batch ID: P441941

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2469160	Fluoride	101	101	P/P	94 - 106

Reference Method: SM 4500-F- C-2011
Batch ID: P442483

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2469610	Fluoride	99.6	101	P/P	94 - 106

Reference Method: SM 5310 B-2014
Batch ID: P442108

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2469266	Organic Carbon	98.7	99.1	P/P	85 - 115

Reference Method: SM 5310 B-2014
Batch ID: P442112

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2468551	Organic Carbon	87.4	88.8	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: DEP SOP: NU-094-1
Batch ID: P441566

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2469447	Color (true)	6.16	Sample	P	0 - 20

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P441585

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2469407	Turbidity	1.62	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P442056

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2469331	Chloride	1.83	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P442241

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2469331	Sulfate	0.390	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P441753

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2469332	Ammonia-N	0.974	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P441754

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2469409	Ammonia-N	0.638	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P441666

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2468603	Kjeldahl Nitrogen	0.101	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P441812

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2469398	Kjeldahl Nitrogen	3.00	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P441777

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2469926	NO2NO3-N	0.837	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P441908

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2469416	NO2NO3-N	3.41	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P441636

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2469470	Total-P	0.287	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P441689

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2469486	Total-P	4.69	Spike	P	0 - 20

Reference Method: SM 2320 B-2011
Batch ID: P441938

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2469160	Total Alkalinity	0.513	Sample	P	0 - 3.9

Reference Method: SM 2320 B-2011
Batch ID: P442037

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2469975	Total Alkalinity	0.366	Sample	P	0 - 3.9

Reference Method: SM 2540 C-2015
Batch ID: P441984

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2469447	TDS	7.18	Sample	P	0 - 10

Reference Method: SM 4500-F- C-2011
Batch ID: P441941

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2469160	Fluoride	0.0	Spike	P	0 - 1.9

Quality Assurance Report
Precision

Reference Method: SM 4500-F- C-2011
Batch ID: P442483

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2469610	Fluoride	0.947	Spike	P	0 - 1.9

Reference Method: SM 5310 B-2014
Batch ID: P442108

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2469266	Organic Carbon	0.386	Spike	P	0 - 15

Reference Method: SM 5310 B-2014
Batch ID: P442112

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2468551	Organic Carbon	1.37	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: A124220
Included Lab Sample IDs: 2469446, 2469447

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	99.0	101	P/P	90 - 110

Reference Method: EPA 180.1 Rev. 2.0
Run ID: A124226
Included Lab Sample IDs: 2469446, 2469447

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

Reference Method: EPA 365.1 Rev. 2.0
Run ID: A124275
Included Lab Sample IDs: 2469448

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	99.8	98.2	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Run ID: A124290
Included Lab Sample IDs: 2469449

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

Reference Method: EPA 351.2 Rev. 2.0
Run ID: A124293
Included Lab Sample IDs: 2469448

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	98.9	95.7	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Run ID: A124297
Included Lab Sample IDs: 2469448, 2469449

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	98.6	98.9	P/P	90 - 110
Ammonia-N	98.9	99.0	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Run ID: A124314
Included Lab Sample IDs: 2469449

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	100	100	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Run ID: A124355
Included Lab Sample IDs: 2469449

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

Quality Assurance Report Calibration Verification

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A124369

Included Lab Sample IDs: 2469448

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

Reference Method: SM 2320 B-2011

Run ID: A124375

Included Lab Sample IDs: 2469447

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	97.8	96.0	P/P	90 - 110

Reference Method: SM 4500-F- C-2011

Run ID: A124375

Included Lab Sample IDs: 2469447

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

Reference Method: SM 2320 B-2011

Run ID: A124434

Included Lab Sample IDs: 2469446

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	98.1	96.0	P/P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A124439

Included Lab Sample IDs: 2469446, 2469447

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	101	102	P/P	90 - 110
Sulfate	101	103	P/P	90 - 110

Reference Method: SM 5310 B-2014

Run ID: A124459

Included Lab Sample IDs: 2469448, 2469449

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	119	97.0	P/P	70 - 130
Organic Carbon	98.1	99.2	P/P	85 - 115

Reference Method: SM 4500-F- C-2011

Run ID: A124624

Included Lab Sample IDs: 2469446

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	101	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	
					LCS	MS
DEP SOP: NU-094-1	Color (true)	99.0			6.16	
EPA 180.1 Rev. 2.0	Turbidity	103			1.62	
EPA 300.0 Rev. 2.1	Chloride	104	104	99.2	1.83	
	Sulfate	102	105	101	0.390	
EPA 350.1 Rev. 2.0	Ammonia-N	97.4	95.4	96.8		0.974
	Ammonia-N	96.6	97.2	98.0		0.638
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	95.6	95.1	95.2		0.101
	Kjeldahl Nitrogen	103	99.3	104		3.00
EPA 353.2 Rev. 2.0	NO2NO3-N	99.0	97.0	98.0		0.837
	NO2NO3-N	99.0	91.8	95.3		3.41
EPA 365.1 Rev. 2.0	Total-P	101	96.0	95.7		0.287
	Total-P	104	110	105		4.69
SM 2320 B-2011	Total Alkalinity	100			0.513	
	Total Alkalinity	98.2			0.366	
SM 2540 C-2015	TDS	92.8			7.18	
SM 2540 D-2015	TSS	92.0				
	TSS	107				
SM 4500-F- C-2011	Fluoride	101	101	101		0.0
	Fluoride	101	99.6	101		0.947
SM 5310 B-2014	Organic Carbon	94.9	98.7	99.1		0.386
	Organic Carbon	92.2	87.4	88.8		1.37

Reference Method Descriptions

Method	Description	Associated Samples
DEP SOP: NU-094-1	True Color measured at 450 nm (not valid for NPDES monitoring)	2469446, 2469447
EPA 180.1 Rev. 2.0	Turbidity in aqueous matrices	2469446, 2469447
EPA 300.0 Rev. 2.1	Chloride in aqueous matrices	2469446, 2469447
EPA 300.0 Rev. 2.1	Sulfate in aqueous matrices	2469446, 2469447
EPA 350.1 Rev. 2.0	Ammonia in aqueous matrices as mg N/L	2469448, 2469449
EPA 351.2 Rev. 2.0	Total Kjeldahl Nitrogen in aqueous matrices	2469448, 2469449
EPA 353.2 Rev. 2.0	Nitrite/Nitrate in aqueous matrices as mg N/L	2469448, 2469449
EPA 365.1 Rev. 2.0	Total Phosphorus in aqueous matrices as mg P/L	2469448, 2469449
SM 2320 B-2011	Alkalinity in aqueous matrices as mg CaCO3/L	2469446, 2469447
SM 2540 C-2015	Total Dissolved Solids in aqueous matrices	2469446, 2469447
SM 2540 D-2015	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2469446, 2469447
SM 4500-F- C-2011	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2469446, 2469447
SM 5310 B-2014	Nonpurgeable Organic Carbon in aqueous matrices	2469448, 2469449

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	02/16/2024			02/16/2024 12:40	Jessica K Wilks	2469446
	02/16/2024			02/16/2024 12:42	Jessica K Wilks	2469447
EPA 180.1 Rev. 2.0	02/16/2024			02/16/2024 14:08	Khloe J Berg	2469446
	02/16/2024			02/16/2024 14:09	Khloe J Berg	2469447
EPA 300.0 Rev. 2.1	02/16/2024			02/27/2024 09:41	James L Waggeberby	2469446
	02/16/2024			02/27/2024 09:56	James L Waggeberby	2469447
	02/16/2024			02/29/2024 18:24	James L Waggeberby	2469446
	02/16/2024			02/29/2024 18:39	James L Waggeberby	2469447
EPA 350.1 Rev. 2.0	02/16/2024			02/21/2024 12:48	Khloe J Berg	2469449
	02/16/2024			02/21/2024 13:15	Khloe J Berg	2469448
EPA 351.2 Rev. 2.0	02/16/2024	02/20/2024 09:57	Samantha L Bates	02/21/2024 11:24	Robyn Blevins	2469448
	02/16/2024	02/22/2024 13:33	Simonne.V. Calhoun	02/23/2024 09:58	Ping Hua	2469449
EPA 353.2 Rev. 2.0	02/16/2024			02/21/2024 11:13	Fadila Guebre	2469449
	02/16/2024			02/22/2024 14:45	Fadila Guebre	2469448
EPA 365.1 Rev. 2.0	02/16/2024	02/19/2024 15:27	Adam P Silver	02/20/2024 15:42	Simonne.V. Calhoun	2469448
	02/16/2024	02/21/2024 07:43	Adam P Silver	02/21/2024 12:04	Simonne.V. Calhoun	2469449
SM 2320 B-2011	02/16/2024			02/23/2024 08:15	Dale L. Simmons	2469447
	02/16/2024			02/27/2024 22:05	Adam P Silver	2469446
SM 2540 C-2015	02/16/2024			02/20/2024 15:41	Yijie Li	2469446, 2469447
SM 2540 D-2015	02/16/2024			02/20/2024 15:41	Yijie Li	2469446, 2469447
SM 4500-F- C-2011	02/16/2024			02/23/2024 08:15	Dale L. Simmons	2469447
	02/16/2024			03/06/2024 19:44	Dale L. Simmons	2469446
SM 5310 B-2014	02/16/2024			02/27/2024 22:24	Elise M. Gillis	2469449
	02/16/2024			02/28/2024 13:37	Elise M. Gillis	2469448