

Chemical Analysis Report

SE-DIST-2024-05-31-01

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

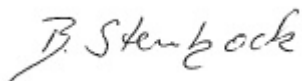
Event Description: **SMP - All Highlands (South, Central, North, Boat)**
Request ID: **RQ-2024-05-20-18**
Customer: **SE-DIST**
Project ID: **SMP**

Send Reports to:
FL Dept. of Environmental Protection
FL Dept. of Environmental Protection
2199 South Rock Road
Fort Pierce, FL 34945
Attn: Andrew Luering

For additional information please contact
Colin Wright, Ph.D.
Chris Bowen, B.S.
Marek Topolski, Ph.D.
Dr. rer. nat. Bettina Steinbock
Thekkekalathil Chandrasekhar, Ph.D, QA Officer
Phone (850) 245-8085

Certified by: Dr. rer. nat. Bettina Steinbock, Environmental Administrator

Date Certified: 17-JUN-2024 16:38



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 Placid Near Center

Collection Date/Time: 05/30/2024 11:45

Field ID: G4SE0163

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2490128	DEP SOP: NU-094-1	Color (true)	8.8		PCU	P445896	
	EPA 180.1 Rev. 2.0	Turbidity	3.7		NTU	P445908	
	EPA 300.0 Rev. 2.1	Chloride	15	A	mg Cl/L	P446491	
		Sulfate	19	A	mg SO4/L	P446496	
	SM 2320 B-2011	Total Alkalinity	17		mg CaCO3/L	P446259	
	SM 2540 C-2015	TDS	89		mg/L	P446297	
	SM 2540 D-2015	TSS	5	I	mg/L	P446163	
	SM 4500-F- C-2011	Fluoride	0.047	I	mg F/L	P446262	
2490129	EPA 350.1 Rev. 2.0	Ammonia-N	0.004	I	mg N/L	P446006	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.64		mg N/L	P445905	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.036		mg N/L	P446222	
	EPA 365.1 Rev. 2.0	Total-P	0.009		mg P/L	P445932	
	SM 5310 B-2014	Organic Carbon	7.0		mg C/L	P446120	

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 Francis Near Center

Collection Date/Time: 05/30/2024 13:30

Field ID: G4SE0165

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2490130	DEP SOP: NU-094-1	Color (true)	8.5		PCU	P445896	
	EPA 180.1 Rev. 2.0	Turbidity	1.2		NTU	P445908	
	EPA 300.0 Rev. 2.1	Chloride	22		mg Cl/L	P446491	
		Sulfate	29		mg SO4/L	P446496	
	SM 2320 B-2011	Total Alkalinity	25		mg CaCO3/L	P446259	
	SM 2540 C-2015	TDS	138		mg/L	P446297	
	SM 2540 D-2015	TSS	3	I	mg/L	P446163	
	SM 4500-F- C-2011	Fluoride	0.061	I	mg F/L	P446262	
2490131	EPA 350.1 Rev. 2.0	Ammonia-N	0.004	I	mg N/L	P446006	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.49		mg N/L	P445905	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.038		mg N/L	P446219	
	EPA 365.1 Rev. 2.0	Total-P	0.008		mg P/L	P445932	
	SM 5310 B-2014	Organic Carbon	7.2		mg C/L	P446121	

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 Apthorpe Near Center

Collection Date/Time: 05/30/2024 12:50

Field ID: G4SE0161

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2490126	DEP SOP: NU-094-1	Color (true)	15		PCU	P445896	
	EPA 180.1 Rev. 2.0	Turbidity	6.1		NTU	P445908	
	EPA 300.0 Rev. 2.1	Chloride	24		mg Cl/L	P446491	
		Sulfate	36		mg SO4/L	P446496	
	SM 2320 B-2011	Total Alkalinity	23		mg CaCO3/L	P446259	
	SM 2540 C-2015	TDS	144		mg/L	P446297	
	SM 2540 D-2015	TSS	6	I	mg/L	P446163	
	SM 4500-F- C-2011	Fluoride	0.049	I	mg F/L	P446262	
2490127	EPA 350.1 Rev. 2.0	Ammonia-N	0.004	I	mg N/L	P446006	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.82		mg N/L	P445905	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.013		mg N/L	P446223	
	EPA 365.1 Rev. 2.0	Total-P	0.009		mg P/L	P445932	
	SM 5310 B-2014	Organic Carbon	8.4		mg C/L	P446120	

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 Carrie Near Center

Collection Date/Time: 05/30/2024 14:10

Field ID: G4SE0164

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2490124	DEP SOP: NU-094-1	Color (true)	110		PCU	P445896	
	EPA 180.1 Rev. 2.0	Turbidity	5.4		NTU	P445908	
	EPA 300.0 Rev. 2.1	Chloride	22		mg Cl/L	P446491	
		Sulfate	6.6		mg SO4/L	P446496	
	SM 2320 B-2011	Total Alkalinity	21		mg CaCO3/L	P446259	
	SM 2540 C-2015	TDS	106		mg/L	P446297	
	SM 2540 D-2015	TSS	4	I	mg/L	P446163	
	SM 4500-F- C-2011	Fluoride	0.042	I	mg F/L	P446262	
2490125	EPA 350.1 Rev. 2.0	Ammonia-N	0.004	I	mg N/L	P446006	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.1		mg N/L	P445905	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.026		mg N/L	P446223	
	EPA 365.1 Rev. 2.0	Total-P	0.032		mg P/L	P445932	
	SM 5310 B-2014	Organic Carbon	20		mg C/L	P446120	

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: P445896

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P445908

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P446491

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P446496

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P446006

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P445905

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P446219

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P446222

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P446223

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: P445932

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

Reference Method: SM 2320 B-2011
Batch ID: P446259

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

Reference Method: SM 2540 C-2015
Batch ID: P446297

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-2015
Batch ID: P446163

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500-F- C-2011
Batch ID: P446262

Component	Result	Code	Units
Fluoride	0.025	U	mg F/L

Reference Method: SM 5310 B-2014
Batch ID: P446120

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

Reference Method: SM 5310 B-2014
Batch ID: P446121

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: P445896

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Color (true)	102		P	90 - 110

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P445908

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P446491

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Chloride	93.6		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P446496

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P446006

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Ammonia-N	93.6		P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P445905

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Kjeldahl Nitrogen	97.4		P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P446219

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P446222

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P446223

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
NO2NO3-N	97.5		P	90 - 110

Quality Assurance Report
Laboratory Control Sample Accuracy

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P445932

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

Reference Method: SM 2320 B-2011
Batch ID: P446259

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	98.9		P	93 - 103

Reference Method: SM 2540 C-2015
Batch ID: P446297

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
TDS	94.0		P	85 - 115

Reference Method: SM 2540 D-2015
Batch ID: P446163

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
TSS	96.8		P	85 - 115

Reference Method: SM 4500-F- C-2011
Batch ID: P446262

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	98.2		P	95 - 106

Reference Method: SM 5310 B-2014
Batch ID: P446120

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	97.4		P	85 - 115

Reference Method: SM 5310 B-2014
Batch ID: P446121

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	98.4		P	85 - 115

Quality Assurance Report
Matrix Spike Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P446491

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2490128	Chloride	99.6		P	90 - 110
2490153	Chloride	95.1		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P446496

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2490128	Sulfate	108		P	90 - 110
2490153	Sulfate	105		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P446006

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2489969	Ammonia-N	95.8	96.8	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P445905

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2489968	Kjeldahl Nitrogen	101	105	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P446219

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2490131	NO2NO3-N	99.2	99.8	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P446222

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2491189	NO2NO3-N	98.5	98.5	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P446223

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2491661	NO2NO3-N	99.5	100	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P445932

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2489971	Total-P	103	103	P/P	90 - 110

Reference Method: SM 4500-F- C-2011
Batch ID: P446262

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2489966	Fluoride	99.8	100	P/P	95 - 107

Quality Assurance Report
Matrix Spike Accuracy

Reference Method: SM 5310 B-2014
Batch ID: P446120

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2489946	Organic Carbon	98.1	100	P/P	85 - 115

Reference Method: SM 5310 B-2014
Batch ID: P446121

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2490131	Organic Carbon	96.1	100	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: DEP SOP: NU-094-1
Batch ID: P445896

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2490062	Color (true)	1.46	Sample	P	0 - 20

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P445908

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2490063	Turbidity	3.54	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P446491

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2490128	Chloride	1.97	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P446496

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2490128	Sulfate	2.45	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P446006

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2489969	Ammonia-N	0.792	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P445905

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2489968	Kjeldahl Nitrogen	3.50	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P446219

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2490131	NO2NO3-N	0.423	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P446222

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2491189	NO2NO3-N	0.0	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P446223

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2491661	NO2NO3-N	0.501	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P445932

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2489971	Total-P	0.0230	Spike	P	0 - 20

Reference Method: SM 2320 B-2011
Batch ID: P446259

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2489966	Total Alkalinity	1.73	Sample	P	0 - 4.1

Reference Method: SM 2540 C-2015
Batch ID: P446297

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2489889	TDS	2.32	Sample	P	0 - 10

Reference Method: SM 4500-F- C-2011
Batch ID: P446262

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2489966	Fluoride	0.536	Spike	P	0 - 1.7

Reference Method: SM 5310 B-2014
Batch ID: P446120

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2489946	Organic Carbon	1.69	Spike	P	0 - 15

Reference Method: SM 5310 B-2014
Batch ID: P446121

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2490131	Organic Carbon	3.40	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: A125937
Included Lab Sample IDs: 2490124, 2490126, 2490128, 2490130

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

Reference Method: EPA 180.1 Rev. 2.0
Run ID: A125940
Included Lab Sample IDs: 2490124, 2490126, 2490128, 2490130

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Turbidity	97.0	97.0	P/P	95 - 105

Reference Method: EPA 350.1 Rev. 2.0
Run ID: A125971
Included Lab Sample IDs: 2490125, 2490127, 2490129, 2490131

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	97.0	97.5	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Run ID: A125988
Included Lab Sample IDs: 2490125, 2490127, 2490129, 2490131

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	101	95.7	P/P	90 - 110

Reference Method: SM 5310 B-2014
Run ID: A126015
Included Lab Sample IDs: 2490125, 2490127, 2490129, 2490131

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	105	97.5	P/P	70 - 130
Organic Carbon	97.5	96.8	P/P	85 - 115

Reference Method: EPA 365.1 Rev. 2.0
Run ID: A126039
Included Lab Sample IDs: 2490125, 2490127, 2490129, 2490131

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

Reference Method: EPA 353.2 Rev. 2.0
Run ID: A126056
Included Lab Sample IDs: 2490125, 2490127, 2490129, 2490131

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

Quality Assurance Report Calibration Verification

Reference Method: SM 2320 B-2011

Run ID: A126065

Included Lab Sample IDs: 2490124, 2490126, 2490128, 2490130

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	99.5	98.6	P/P	90 - 110

Reference Method: SM 4500-F- C-2011

Run ID: A126065

Included Lab Sample IDs: 2490124, 2490126, 2490128, 2490130

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	100	99.5	P/P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A126077

Included Lab Sample IDs: 2490124, 2490126, 2490128, 2490130

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	96.6	98.1	P/P	90 - 110
Chloride	98.1	94.8	P/P	90 - 110
Sulfate	101	97.4	P/P	90 - 110
Sulfate	99.5	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	SMP	MS
DEP SOP: NU-094-1	Color (true)	102				1.46	
EPA 180.1 Rev. 2.0	Turbidity	100				3.54	
EPA 300.0 Rev. 2.1	Chloride	93.6	99.6	95.1		1.97	
	Sulfate	107	108	105		2.45	
EPA 350.1 Rev. 2.0	Ammonia-N	93.6	95.8	96.8			0.792
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	97.4	101	105			3.50
EPA 353.2 Rev. 2.0	NO2NO3-N	98.0	99.2	99.8			0.423
	NO2NO3-N	98.5	98.5	98.5			0.0
	NO2NO3-N	97.5	99.5	100			0.501
EPA 365.1 Rev. 2.0	Total-P	98.8	103	103			0.0230
SM 2320 B-2011	Total Alkalinity	98.9				1.73	
SM 2540 C-2015	TDS	94.0				2.32	
SM 2540 D-2015	TSS	96.8					
SM 4500-F- C-2011	Fluoride	98.2	99.8	100			0.536
SM 5310 B-2014	Organic Carbon	97.4	98.1	100			1.69
	Organic Carbon	98.4	96.1	100			3.40

Reference Method Descriptions

Method	Description	Associated Samples
DEP SOP: NU-094-1	True Color measured at 450 nm (not valid for NPDES monitoring)	2490124, 2490126, 2490128, 2490130
EPA 180.1 Rev. 2.0	Turbidity in aqueous matrices	2490124, 2490126, 2490128, 2490130
EPA 300.0 Rev. 2.1	Chloride in aqueous matrices	2490124, 2490126, 2490128, 2490130
EPA 300.0 Rev. 2.1	Sulfate in aqueous matrices	2490124, 2490126, 2490128, 2490130
EPA 350.1 Rev. 2.0	Ammonia in aqueous matrices as mg N/L	2490125, 2490127, 2490129, 2490131
EPA 351.2 Rev. 2.0	Total Kjeldahl Nitrogen in aqueous matrices	2490125, 2490127, 2490129, 2490131
EPA 353.2 Rev. 2.0	Nitrite/Nitrate in aqueous matrices as mg N/L	2490125, 2490127, 2490129, 2490131
EPA 365.1 Rev. 2.0	Total Phosphorus in aqueous matrices as mg P/L	2490125, 2490127, 2490129, 2490131
SM 2320 B-2011	Alkalinity in aqueous matrices as mg CaCO3/L	2490124, 2490126, 2490128, 2490130
SM 2540 C-2015	Total Dissolved Solids in aqueous matrices	2490124, 2490126, 2490128, 2490130
SM 2540 D-2015	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2490124, 2490126, 2490128, 2490130
SM 4500-F- C-2011	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2490124, 2490126, 2490128, 2490130
SM 5310 B-2014	Nonpurgeable Organic Carbon in aqueous matrices	2490125, 2490127, 2490129, 2490131

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	05/31/2024			05/31/2024 14:25	Samantha L Bates	2490124, 2490126
	05/31/2024			05/31/2024 14:26	Samantha L Bates	2490128, 2490130
EPA 180.1 Rev. 2.0	05/31/2024			05/31/2024 13:31	Jessica K Wilks	2490124
	05/31/2024			05/31/2024 13:32	Jessica K Wilks	2490126
	05/31/2024			05/31/2024 13:33	Jessica K Wilks	2490128
	05/31/2024			05/31/2024 13:34	Jessica K Wilks	2490130
EPA 300.0 Rev. 2.1	05/31/2024			06/12/2024 13:32	James L Waggeberby	2490128
	05/31/2024			06/12/2024 18:17	James L Waggeberby	2490124
	05/31/2024			06/12/2024 18:32	James L Waggeberby	2490126
	05/31/2024			06/12/2024 18:47	James L Waggeberby	2490130
EPA 350.1 Rev. 2.0	05/31/2024			06/04/2024 14:02	Khloe J Berg	2490125
	05/31/2024			06/04/2024 14:04	Khloe J Berg	2490127
	05/31/2024			06/04/2024 14:05	Khloe J Berg	2490129
	05/31/2024			06/04/2024 14:06	Khloe J Berg	2490131
EPA 351.2 Rev. 2.0	05/31/2024	06/03/2024 10:54	Robyn Blevins	06/04/2024 17:04	Samantha L Bates	2490125
	05/31/2024	06/03/2024 10:54	Robyn Blevins	06/04/2024 17:06	Samantha L Bates	2490127
	05/31/2024	06/03/2024 10:54	Robyn Blevins	06/04/2024 17:07	Samantha L Bates	2490129
	05/31/2024	06/03/2024 10:54	Robyn Blevins	06/04/2024 17:09	Samantha L Bates	2490131
EPA 353.2 Rev. 2.0	05/31/2024			06/07/2024 13:10	Fadila Guebre	2490131
	05/31/2024			06/07/2024 14:32	Fadila Guebre	2490129
	05/31/2024			06/07/2024 14:47	Fadila Guebre	2490127
	05/31/2024			06/07/2024 14:55	Fadila Guebre	2490125
EPA 365.1 Rev. 2.0	05/31/2024	06/03/2024 11:54	Josephine W Gitau	06/06/2024 16:04	James L Waggeberby	2490125
	05/31/2024	06/03/2024 11:54	Josephine W Gitau	06/06/2024 16:12	James L Waggeberby	2490127
	05/31/2024	06/03/2024 11:54	Josephine W Gitau	06/06/2024 16:13	James L Waggeberby	2490129
	05/31/2024	06/03/2024 11:54	Josephine W Gitau	06/06/2024 16:14	James L Waggeberby	2490131
SM 2320 B-2011	05/31/2024			06/06/2024 20:55	Dale L. Simmons	2490124
	05/31/2024			06/06/2024 21:08	Dale L. Simmons	2490126
	05/31/2024			06/06/2024 21:21	Dale L. Simmons	2490128
	05/31/2024			06/06/2024 21:34	Dale L. Simmons	2490130
SM 2540 C-2015	05/31/2024			06/03/2024 15:24	Yijie Li	2490124, 2490126, 2490128, 2490130
SM 2540 D-2015	05/31/2024			06/03/2024 15:24	Yijie Li	2490124, 2490126, 2490128, 2490130
SM 4500-F- C-2011	05/31/2024			06/06/2024 20:55	Dale L. Simmons	2490124
	05/31/2024			06/06/2024 21:08	Dale L. Simmons	2490126
	05/31/2024			06/06/2024 21:21	Dale L. Simmons	2490128
	05/31/2024			06/06/2024 21:34	Dale L. Simmons	2490130
SM 5310 B-2014	05/31/2024			06/05/2024 17:29	Jessica K Wilks	2490125
	05/31/2024			06/05/2024 17:44	Jessica K Wilks	2490127
	05/31/2024			06/05/2024 17:59	Jessica K Wilks	2490129
	05/31/2024			06/05/2024 19:17	Jessica K Wilks	2490131