

Chemical Analysis Report

SE-DIST-2024-03-29-02

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

Event Description: **SMP - 2024 Deployments**
Request ID: **RQ-2024-01-22-04**
Customer: **SE-DIST**
Project ID: **SMP**

Send Reports to:
FL Dept. of Environmental Protection
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2199 South Rock Road
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Certified by: Marek Topolski, Environmental Administrator

Date Certified: 16-APR-2024 11:22

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: NORTH FORK RIVER AT WHITE CITY PARK

Collection Date/Time: 03/28/2024 08:30

Field ID: G4SE0195

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2478356	DEP SOP: NU-094-1	Color (true)	35		PCU	P443522	
	EPA 180.1 Rev. 2.0	Turbidity	5.0		NTU	P443526	
	EPA 300.0 Rev. 2.1	Chloride	410		mg Cl/L	P443813	
		Sulfate	100		mg SO4/L	P443815	
	SM 2320 B-2011	Total Alkalinity	190		mg CaCO3/L	P443922	
	SM 2540 C-2015	TDS	1.02E+03		mg/L	P444031	
	SM 2540 D-2015	TSS	9	I	mg/L	P443905	
2478357	SM 4500-F- C-2011	Fluoride	0.41		mg F/L	P443926	MS
	EPA 350.1 Rev. 2.0	Ammonia-N	0.01		mg N/L	P443579	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.75		mg N/L	P443551	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.006	I	mg N/L	P443688	
	EPA 365.1 Rev. 2.0	Total-P	0.084		mg P/L	P443608	
	SM 5310 B-2014	Organic Carbon	11		mg C/L	P443672	

Ref. Method and Comment:
 EPA 300.0 Rev. 2.1: Sulfate: Batch matrix spike recoveries for one of two spiked samples are unavailable because of high analyte concentration in the QC sample.
 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: P443522

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P443526

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P443813

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P443815

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P443579

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P443551

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P443688

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P443608

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

Reference Method: SM 2320 B-2011
Batch ID: P443922

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

Quality Assurance Report
Method Blank Results

Reference Method: SM 2540 C-2015
Batch ID: P444031

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-2015
Batch ID: P443905

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500-F- C-2011
Batch ID: P443926

Component	Result	Code	Units
Fluoride	0.025	U	mg F/L

Reference Method: SM 5310 B-2014
Batch ID: P443672

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: P443522

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Color (true)	99.2		P	90 - 110

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P443526

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P443813

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P443815

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P443579

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P443551

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Kjeldahl Nitrogen	97.6		P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P443688

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: P443608

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

Reference Method: SM 2320 B-2011
Batch ID: P443922

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	99.9		P	92 - 105

Quality Assurance Report
Laboratory Control Sample Accuracy

Reference Method: SM 2540 C-2015
Batch ID: P444031

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
TDS	108		P	85 - 115

Reference Method: SM 2540 D-2015
Batch ID: P443905

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
TSS	90.4		P	85 - 115

Reference Method: SM 4500-F- C-2011
Batch ID: P443926

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

Reference Method: SM 5310 B-2014
Batch ID: P443672

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

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P443813

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2478367	Chloride	106		P	90 - 110
2478385	Chloride	101		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P443815

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2478367	Sulfate	105		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P443579

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2478250	Ammonia-N	94.8	94.6	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P443551

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2478278	Kjeldahl Nitrogen	93.0	102	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P443688

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2478353	NO2NO3-N	97.0	98.0	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P443608

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2478352	Total-P	102	101	P/P	90 - 110

Reference Method: SM 4500-F- C-2011
Batch ID: P443926

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2479545	Fluoride	106	108	P/F	94 - 106

Reference Method: SM 5310 B-2014
Batch ID: P443672

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2478223	Organic Carbon	94.6	96.1	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: DEP SOP: NU-094-1
Batch ID: P443522

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2478284	Color (true)	0.728	Sample	P	0 - 20

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P443526

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2478230	Turbidity	5.51	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P443813

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2478367	Chloride	6.50	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P443815

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2478367	Sulfate	4.81	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P443579

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2478250	Ammonia-N	0.211	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P443551

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2478278	Kjeldahl Nitrogen	5.33	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P443688

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2478353	NO2NO3-N	1.03	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P443608

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2478352	Total-P	0.740	Spike	P	0 - 20

Quality Assurance Report
Precision

Reference Method: SM 2320 B-2011
Batch ID: P443922

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2479545	Total Alkalinity	1.25	Sample	P	0 - 3.9

Reference Method: SM 2540 C-2015
Batch ID: P444031

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2478244	TDS	4.03	Sample	P	0 - 10

Reference Method: SM 4500-F- C-2011
Batch ID: P443926

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2479545	Fluoride	1.47	Spike	P	0 - 1.9

Reference Method: SM 5310 B-2014
Batch ID: P443672

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2478223	Organic Carbon	1.54	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: A125071
Included Lab Sample IDs: 2478356

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	96.9	99.2	P/P	90 - 110

Reference Method: EPA 180.1 Rev. 2.0
Run ID: A125073
Included Lab Sample IDs: 2478356

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Turbidity	99.5	99.0	P/P	95 - 105

Reference Method: EPA 350.1 Rev. 2.0
Run ID: A125091
Included Lab Sample IDs: 2478357

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	96.3	98.4	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Run ID: A125109
Included Lab Sample IDs: 2478357

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	98.4	101	P/P	90 - 110

Reference Method: SM 5310 B-2014
Run ID: A125130
Included Lab Sample IDs: 2478357

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	99.9	126	P/P	85 - 115

Reference Method: EPA 353.2 Rev. 2.0
Run ID: A125135
Included Lab Sample IDs: 2478357

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

Reference Method: EPA 365.1 Rev. 2.0
Run ID: A125139
Included Lab Sample IDs: 2478357

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

Reference Method: EPA 300.0 Rev. 2.1
Run ID: A125179
Included Lab Sample IDs: 2478356

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	102	100	P/P	90 - 110
Sulfate	104	102	P/P	90 - 110

Quality Assurance Report
Calibration Verification

Reference Method: SM 2320 B-2011
Run ID: A125214
Included Lab Sample IDs: 2478356

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	98.0	97.4	P/P	90 - 110

Reference Method: SM 4500-F- C-2011
Run ID: A125214
Included Lab Sample IDs: 2478356

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	102	104	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)	99.2			0.728	
EPA 180.1 Rev. 2.0	Turbidity	103			5.51	
EPA 300.0 Rev. 2.1	Chloride	106	106	101	6.50	
	Sulfate	109	105		4.81	
EPA 350.1 Rev. 2.0	Ammonia-N	97.4	94.8	94.6		0.211
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	97.6	93.0	102		5.33
EPA 353.2 Rev. 2.0	NO2NO3-N	99.0	97.0	98.0		1.03
EPA 365.1 Rev. 2.0	Total-P	101	102	101		0.740
SM 2320 B-2011	Total Alkalinity	99.9			1.25	
SM 2540 C-2015	TDS	108			4.03	
SM 2540 D-2015	TSS	90.4				
SM 4500-F- C-2011	Fluoride	102	106	108		1.47
SM 5310 B-2014	Organic Carbon	98.5	94.6	96.1		1.54

Reference Method Descriptions

Method	Description	Associated Samples
DEP SOP: NU-094-1	True Color measured at 450 nm (not valid for NPDES monitoring)	2478356
EPA 180.1 Rev. 2.0	Turbidity in aqueous matrices	2478356
EPA 300.0 Rev. 2.1	Chloride in aqueous matrices	2478356
EPA 300.0 Rev. 2.1	Sulfate in aqueous matrices	2478356
EPA 350.1 Rev. 2.0	Ammonia in aqueous matrices as mg N/L	2478357
EPA 351.2 Rev. 2.0	Total Kjeldahl Nitrogen in aqueous matrices	2478357
EPA 353.2 Rev. 2.0	Nitrite/Nitrate in aqueous matrices as mg N/L	2478357
EPA 365.1 Rev. 2.0	Total Phosphorus in aqueous matrices as mg P/L	2478357
SM 2320 B-2011	Alkalinity in aqueous matrices as mg CaCO3/L	2478356
SM 2540 C-2015	Total Dissolved Solids in aqueous matrices	2478356
SM 2540 D-2015	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2478356
SM 4500-F- C-2011	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2478356
SM 5310 B-2014	Nonpurgeable Organic Carbon in aqueous matrices	2478357

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	03/29/2024			03/29/2024 14:39	Samantha L Bates	2478356
EPA 180.1 Rev. 2.0	03/29/2024			03/29/2024 14:00	Khloe J Berg	2478356
EPA 300.0 Rev. 2.1	03/29/2024			04/04/2024 00:51	James L Waggeberby	2478356
EPA 350.1 Rev. 2.0	03/29/2024			04/01/2024 13:14	Kenneth H Lee	2478357
EPA 351.2 Rev. 2.0	03/29/2024	04/01/2024 13:53	Simonne.V. Calhoun	04/02/2024 14:55	Robyn Blevins	2478357
EPA 353.2 Rev. 2.0	03/29/2024			04/02/2024 14:04	Fadila Guebre	2478357
EPA 365.1 Rev. 2.0	03/29/2024	04/02/2024 13:51	Josephine W Gitau	04/03/2024 12:20	Simonne.V. Calhoun	2478357
SM 2320 B-2011	03/29/2024			04/05/2024 07:00	Dale L. Simmons	2478356
SM 2540 C-2015	03/29/2024			04/02/2024 15:07	Yijie Li	2478356
SM 2540 D-2015	03/29/2024			04/02/2024 15:07	Yijie Li	2478356
SM 4500-F- C-2011	03/29/2024			04/05/2024 07:00	Dale L. Simmons	2478356
SM 5310 B-2014	03/29/2024			04/02/2024 09:03	Jessica K Wilks	2478357