

Chemical Analysis Report

SW-DIST-2023-08-24-01

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

Event Description: **CM - Long Branch**
Request ID: **RQ-2023-08-21-58**
Customer: **SW-DIST**
Project ID: **SMP**

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Date Certified: 15-SEP-2023 10:17



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: LONG BRANCH TIDALATWHITNEY RD

Collection Date/Time: 08/23/2023 10:20

Field ID: G1SW0107

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2433488	DEP SOP: NU-094-1	Color (true)	56		PCU	P434325	
	EPA 180.1 Rev. 2.0	Turbidity	2.2		NTU	P434328	
	EPA 300.0 Rev. 2.1	Chloride	930		mg Cl/L	P434602	
		Sulfate	120		mg SO4/L	P434605	
	SM 2320 B-2011	Total Alkalinity	131		mg CaCO3/L	P434550	
	SM 2540 C-2015	TDS	1.50E+03		mg/L	P434621	
	SM 2540 D-2015	TSS	3	UA	mg/L	P434619	
	SM 4500-F- C-2011	Fluoride	0.24		mg F/L	P434710	
2433489	EPA 350.1 Rev. 2.0	Ammonia-N	0.14		mg N/L	P434579	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.70		mg N/L	P434826	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.066		mg N/L	P434871	
	EPA 365.1 Rev. 2.0	Total-P	0.26		mg P/L	P434357	
	SM 5310 B-2011	Organic Carbon	10		mg C/L	P434653	

Ref. Method and Comment:

SM 2540 C-2015: The reported result is consistent with the conductivity measured in the laboratory, 3510 umhos/cm.

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: P434325

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P434328

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P434602

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P434605

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P434579

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P434826

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P434871

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P434357

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

Reference Method: SM 2320 B-2011
Batch ID: P434550

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: P434621

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-2015
Batch ID: P434619

Component	Result	Code	Units
TSS	3	U	mg/L

Reference Method: SM 4500-F- C-2011
Batch ID: P434710

Component	Result	Code	Units
Fluoride	0.025	U	mg F/L

Reference Method: SM 5310 B-2011
Batch ID: P434653

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: P434325

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

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P434328

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Turbidity	97.7		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P434602

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Chloride	99.6		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P434605

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Sulfate	97.7		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P434579

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P434826

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Kjeldahl Nitrogen	99.8		P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P434871

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P434357

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

Reference Method: SM 2320 B-2011
Batch ID: P434550

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

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: SM 2540 C-2015
Batch ID: P434621

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
TDS	97.9		P	90 - 110

Reference Method: SM 2540 D-2015
Batch ID: P434619

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
TSS	102		P	85 - 106

Reference Method: SM 4500-F- C-2011
Batch ID: P434710

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	98.3		P	94 - 106

Reference Method: SM 5310 B-2011
Batch ID: P434653

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	93.8		P	85 - 115

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P434602

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2433273	Chloride	101		P	90 - 110
2433410	Chloride	103		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P434605

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2433273	Sulfate	98.6		P	90 - 110
2433410	Sulfate	101		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P434579

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2433894	Ammonia-N	99.2	99.8	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P434826

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2432833	Kjeldahl Nitrogen	102	103	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P434871

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2433643	NO2NO3-N	92.1	91.6	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P434357

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2433418	Total-P	102	101	P/P	90 - 110

Reference Method: SM 4500-F- C-2011
Batch ID: P434710

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2434064	Fluoride	99.2	99.8	P/P	94 - 106

Reference Method: SM 5310 B-2011
Batch ID: P434653

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2432493	Organic Carbon	94.3	94.2	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: DEP SOP: NU-094-1
Batch ID: P434325

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2433356	Color (true)	0.909	Sample	P	0 - 20

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P434328

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2433208	Turbidity	3.15	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P434602

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2433273	Chloride	0.374	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P434605

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2433273	Sulfate	0.245	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P434579

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2433894	Ammonia-N	0.372	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P434826

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2432833	Kjeldahl Nitrogen	0.764	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P434871

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2433643	NO2NO3-N	0.545	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P434357

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2433418	Total-P	1.11	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: SM 2320 B-2011
Batch ID: P434550

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2432583	Total Alkalinity	0.115	Sample	P	0 - 3.9

Reference Method: SM 2540 C-2015
Batch ID: P434621

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2433095	TDS	1.89	Sample	P	0 - 10

Reference Method: SM 4500-F- C-2011
Batch ID: P434710

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2434064	Fluoride	0.480	Spike	P	0 - 1.9

Reference Method: SM 5310 B-2011
Batch ID: P434653

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2432493	Organic Carbon	0.0808	Spike	P	0 - 20

* Sample, spike and/or laboratory control sample precision (LCS) is reported.

Quality Assurance Report Calibration Verification

Reference Method: DEP SOP: NU-094-1

Run ID: A121232

Included Lab Sample IDs: 2433488

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	99.9	102	P/P	90 - 110

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A121233

Included Lab Sample IDs: 2433488

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Turbidity	97.5	97.5	P/P	95 - 105

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A121286

Included Lab Sample IDs: 2433489

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

Reference Method: SM 2320 B-2011

Run ID: A121345

Included Lab Sample IDs: 2433488

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	96.3	98.7	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A121360

Included Lab Sample IDs: 2433489

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	99.4	101	P/P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A121370

Included Lab Sample IDs: 2433488

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	98.6	99.2	P/P	90 - 110
Sulfate	97.7	97.9	P/P	90 - 110

Reference Method: SM 5310 B-2011

Run ID: A121391

Included Lab Sample IDs: 2433489

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	92.8	95.0	P/P	90 - 110

Reference Method: SM 4500-F- C-2011

Run ID: A121417

Included Lab Sample IDs: 2433488

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

Quality Assurance Report

Calibration Verification

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A121481

Included Lab Sample IDs: 2433489

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	96.5	97.0	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A121510

Included Lab Sample IDs: 2433489

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	97.4	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)	100			0.909	
EPA 180.1 Rev. 2.0	Turbidity	97.7			3.15	
EPA 300.0 Rev. 2.1	Chloride	99.6	101	103	0.374	
	Sulfate	97.7	98.6	101	0.245	
EPA 350.1 Rev. 2.0	Ammonia-N	100	99.2	99.8		0.372
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	99.8	102	103		0.764
EPA 353.2 Rev. 2.0	NO2NO3-N	101	92.1	91.6		0.545
EPA 365.1 Rev. 2.0	Total-P	105	102	101		1.11
SM 2320 B-2011	Total Alkalinity	96.4			0.115	
SM 2540 C-2015	TDS	97.9			1.89	
SM 2540 D-2015	TSS	102				
SM 4500-F- C-2011	Fluoride	98.3	99.2	99.8		0.480
SM 5310 B-2011	Organic Carbon	93.8	94.3	94.2		0.0808

Reference Method Descriptions

Method	Description	Associated Samples
DEP SOP: NU-094-1	True Color measured at 450 nm (not valid for NPDES monitoring)	2433488
EPA 180.1 Rev. 2.0	Turbidity in aqueous matrices	2433488
EPA 300.0 Rev. 2.1	Chloride in aqueous matrices	2433488
EPA 300.0 Rev. 2.1	Sulfate in aqueous matrices	2433488
EPA 350.1 Rev. 2.0	Ammonia in aqueous matrices as mg N/L	2433489
EPA 351.2 Rev. 2.0	Total Kjeldahl Nitrogen in aqueous matrices	2433489
EPA 353.2 Rev. 2.0	Nitrite/Nitrate in aqueous matrices as mg N/L	2433489
EPA 365.1 Rev. 2.0	Total Phosphorus in aqueous matrices as mg P/L	2433489
SM 2320 B-2011	Alkalinity in aqueous matrices as mg CaCO3/L	2433488
SM 2540 C-2015	Total Dissolved Solids in aqueous matrices	2433488
SM 2540 D-2015	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2433488
SM 4500-F- C-2011	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2433488
SM 5310 B-2011	Nonpurgeable Organic Carbon in aqueous matrices	2433489

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	08/24/2023			08/24/2023 14:12	Anna M. Plaviak	2433488
EPA 180.1 Rev. 2.0	08/24/2023			08/24/2023 14:26	Khloe J Berg	2433488
EPA 300.0 Rev. 2.1	08/24/2023			09/05/2023 22:48	James L Waggeberby	2433488
EPA 350.1 Rev. 2.0	08/24/2023			09/05/2023 13:17	Ping Hua	2433489
EPA 351.2 Rev. 2.0	08/24/2023	09/12/2023 13:48	Simonne.V. Calhoun	09/13/2023 15:20	Samantha L Bates	2433489
EPA 353.2 Rev. 2.0	08/24/2023			09/12/2023 12:31	Anna M. Plaviak	2433489
EPA 365.1 Rev. 2.0	08/24/2023	08/25/2023 14:35	Adam P Silver	08/28/2023 11:53	Chandler E Cox	2433489
SM 2320 B-2011	08/24/2023			09/02/2023 06:44	Dale L. Simmons	2433488
SM 2540 C-2015	08/24/2023			08/25/2023 15:21	Yijie Li	2433488
SM 2540 D-2015	08/24/2023			08/25/2023 15:21	Yijie Li	2433488
SM 4500-F- C-2011	08/24/2023			09/07/2023 23:42	Dale L. Simmons	2433488
SM 5310 B-2011	08/24/2023			09/06/2023 15:02	Elise M. Gillis	2433489