

Chemical Analysis Report

SW-DIST-2023-10-26-01

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

Event Description: **CM - Long Branch**
Request ID: **RQ-2023-10-23-54**
Customer: **SW-DIST**
Project ID: **SMP**

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Date Certified: 13-NOV-2023 10:42



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: 10/25/2023 09:30

Field ID: G1SW0107

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2447355	DEP SOP: NU-094-1	Color (true)	51	A	PCU	P437055	
	EPA 180.1 Rev. 2.0	Turbidity	7.7		NTU	P437059	
	EPA 300.0 Rev. 2.1	Chloride	4.2E+03		mg Cl/L	P437503	
		Sulfate	570		mg SO4/L	P437507	
	SM 2320 B-2011	Total Alkalinity	211	A	mg CaCO3/L	P437315	
	SM 2540 C-2015	TDS	7.36E+03		mg/L	P437566	
	SM 2540 D-2015	TSS	4	I	mg/L	P437418	
	SM 4500-F- C-2011	Fluoride	0.50		mg F/L	P437317	
2447356	EPA 350.1 Rev. 2.0	Ammonia-N	0.17		mg N/L	P437198	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.1		mg N/L	P437234	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.11		mg N/L	P437178	
	EPA 365.1 Rev. 2.0	Total-P	0.17		mg P/L	P437174	
	SM 5310 B-2011	Organic Carbon	11		mg C/L	P437324	

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: P437055

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P437059

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P437503

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P437507

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P437198

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P437234

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P437178

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P437174

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

Reference Method: SM 2320 B-2011
Batch ID: P437315

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: P437566

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-2015
Batch ID: P437418

Component	Result	Code	Units
TSS	3	U	mg/L

Reference Method: SM 4500-F- C-2011
Batch ID: P437317

Component	Result	Code	Units
Fluoride	0.025	U	mg F/L

Reference Method: SM 5310 B-2011
Batch ID: P437324

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: P437055

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

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P437059

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P437503

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P437507

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P437198

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P437234

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P437178

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P437174

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

Reference Method: SM 2320 B-2011
Batch ID: P437315

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	97.6		P	92 - 105

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: SM 2540 C-2015
Batch ID: P437566

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
TDS	98.8		P	85 - 115

Reference Method: SM 2540 D-2015
Batch ID: P437418

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
TSS	105		P	85 - 115

Reference Method: SM 4500-F- C-2011
Batch ID: P437317

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

Reference Method: SM 5310 B-2011
Batch ID: P437324

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	99.2		P	85 - 115

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P437503

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2447305	Chloride	103		P	90 - 110
2447362	Chloride	101		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P437507

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2447305	Sulfate	103		P	90 - 110
2447362	Sulfate	103		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P437198

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2447419	Ammonia-N	106	105	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P437234

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2447356	Kjeldahl Nitrogen	102	103	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P437178

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2446751	NO2NO3-N	103	103	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P437174

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2447419	Total-P	99.1	98.5	P/P	90 - 110

Reference Method: SM 4500-F- C-2011
Batch ID: P437317

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2447355	Fluoride	98.6	98.6	P/P	94 - 106

Reference Method: SM 5310 B-2011
Batch ID: P437324

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2447356	Organic Carbon	93.1	92.4	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: DEP SOP: NU-094-1
Batch ID: P437055

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2447355	Color (true)	7.73	Sample	P	0 - 20

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P437059

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2447192	Turbidity	4.13	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P437503

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2447305	Chloride	0.800	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P437507

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2447305	Sulfate	0.628	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P437198

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2447419	Ammonia-N	0.693	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P437234

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2447356	Kjeldahl Nitrogen	0.666	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P437178

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2446751	NO2NO3-N	0.394	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P437174

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2447419	Total-P	0.658	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: SM 2320 B-2011
Batch ID: P437315

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2447355	Total Alkalinity	0.445	Sample	P	0 - 3.9

Reference Method: SM 2540 C-2015
Batch ID: P437566

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2447605	TDS	6.00	Sample	P	0 - 10

Reference Method: SM 4500-F- C-2011
Batch ID: P437317

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2447355	Fluoride	0.0	Spike	P	0 - 1.9

Reference Method: SM 5310 B-2011
Batch ID: P437324

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2447356	Organic Carbon	0.542	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: A122390
Included Lab Sample IDs: 2447355

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

Reference Method: EPA 180.1 Rev. 2.0
Run ID: A122392
Included Lab Sample IDs: 2447355

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

Reference Method: EPA 353.2 Rev. 2.0
Run ID: A122452
Included Lab Sample IDs: 2447356

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	100	99.0	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Run ID: A122464
Included Lab Sample IDs: 2447356

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	98.8	99.3	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Run ID: A122471
Included Lab Sample IDs: 2447356

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	97.8	97.6	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Run ID: A122525
Included Lab Sample IDs: 2447356

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	104	108	P/P	90 - 110

Reference Method: SM 2320 B-2011
Run ID: A122537
Included Lab Sample IDs: 2447355

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	95.8	99.3	P/P	90 - 110

Reference Method: SM 4500-F- C-2011
Run ID: A122537
Included Lab Sample IDs: 2447355

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	100	101	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: SM 5310 B-2011

Run ID: A122540

Included Lab Sample IDs: 2447356

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	98.9	98.3	P/P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A122610

Included Lab Sample IDs: 2447355

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	101	103	P/P	90 - 110
Sulfate	101	103	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)	101			7.73	
EPA 180.1 Rev. 2.0	Turbidity	104			4.13	
EPA 300.0 Rev. 2.1	Chloride	102	103	101	0.800	
	Sulfate	101	103	103	0.628	
EPA 350.1 Rev. 2.0	Ammonia-N	97.2	106	105		0.693
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	100	102	103		0.666
EPA 353.2 Rev. 2.0	NO2NO3-N	100	103	103		0.394
EPA 365.1 Rev. 2.0	Total-P	102	99.1	98.5		0.658
SM 2320 B-2011	Total Alkalinity	97.6			0.445	
SM 2540 C-2015	TDS	98.8			6.00	
SM 2540 D-2015	TSS	105				
SM 4500-F- C-2011	Fluoride	99.6	98.6	98.6		0.0
SM 5310 B-2011	Organic Carbon	99.2	93.1	92.4		0.542

Reference Method Descriptions

Method	Description	Associated Samples
DEP SOP: NU-094-1	True Color measured at 450 nm (not valid for NPDES monitoring)	2447355
EPA 180.1 Rev. 2.0	Turbidity in aqueous matrices	2447355
EPA 300.0 Rev. 2.1	Chloride in aqueous matrices	2447355
EPA 300.0 Rev. 2.1	Sulfate in aqueous matrices	2447355
EPA 350.1 Rev. 2.0	Ammonia in aqueous matrices as mg N/L	2447356
EPA 351.2 Rev. 2.0	Total Kjeldahl Nitrogen in aqueous matrices	2447356
EPA 353.2 Rev. 2.0	Nitrite/Nitrate in aqueous matrices as mg N/L	2447356
EPA 365.1 Rev. 2.0	Total Phosphorus in aqueous matrices as mg P/L	2447356
SM 2320 B-2011	Alkalinity in aqueous matrices as mg CaCO3/L	2447355
SM 2540 C-2015	Total Dissolved Solids in aqueous matrices	2447355
SM 2540 D-2015	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2447355
SM 4500-F- C-2011	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2447355
SM 5310 B-2011	Nonpurgeable Organic Carbon in aqueous matrices	2447356

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	10/26/2023			10/26/2023 16:08	Chandler E Cox	2447355
EPA 180.1 Rev. 2.0	10/26/2023			10/26/2023 14:37	Khloe J Berg	2447355
EPA 300.0 Rev. 2.1	10/26/2023			11/07/2023 09:08	James L Waggeberby	2447355
EPA 350.1 Rev. 2.0	10/26/2023			10/31/2023 13:47	Ping Hua	2447356
EPA 351.2 Rev. 2.0	10/26/2023	11/01/2023 13:22	Simonne.V. Calhoun	11/02/2023 14:43	Ping Hua	2447356
EPA 353.2 Rev. 2.0	10/26/2023			10/30/2023 14:52	Fadila Guebre	2447356
EPA 365.1 Rev. 2.0	10/26/2023	10/31/2023 12:07	Adam P Silver	10/31/2023 16:02	James L Waggeberby	2447356
SM 2320 B-2011	10/26/2023			11/03/2023 00:25	Dale L. Simmons	2447355
SM 2540 C-2015	10/26/2023			10/31/2023 14:50	Yijie Li	2447355
SM 2540 D-2015	10/26/2023			10/31/2023 14:50	Yijie Li	2447355
SM 4500-F- C-2011	10/26/2023			11/02/2023 23:28	Dale L. Simmons	2447355
SM 5310 B-2011	10/26/2023			11/03/2023 01:06	Elise M. Gillis	2447356