

Chemical Analysis Report

SW-DIST-2023-07-07-02

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

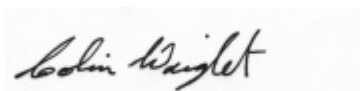
Event Description: **Run 9**
Request ID: **RQ-2023-06-26-43**
Customer: **SW-DIST**
Project ID: **SMP**

Send Reports to:
FL Dept. of Environmental Protection
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13051 N. Telecom Parkway
Temple Terrace, FL 33637-0926
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Certified by: Colin Wright, Program Administrator

Date Certified: 24-JUL-2023 10:00

A handwritten signature in black ink, appearing to read "Colin Wright", is displayed on a light gray rectangular background.

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: 07/06/2023 12:14

Field ID: G1SW0107

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2422053	DEP SOP: NU-094-1	Color (true)	65		PCU	P432195	
	EPA 180.1 Rev. 2.0	Turbidity	3.3		NTU	P432186	
	EPA 300.0 Rev. 2.1	Chloride	620		mg Cl/L	P432485	
		Sulfate	76		mg SO4/L	P432488	
	SM 2320 B-2011	Total Alkalinity	185		mg CaCO3/L	P432542	
	SM 2540 C-2015	TDS	1.40E+03		mg/L	P432426	
	SM 2540 D-2015	TSS	4	IA	mg/L	P432356	
	SM 4500-F- C-2011	Fluoride	0.30		mg F/L	P432544	
2422054	EPA 350.1 Rev. 2.0	Ammonia-N	0.12		mg N/L	P432419	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.98		mg N/L	P432264	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.080		mg N/L	P432623	
	EPA 365.1 Rev. 2.0	Total-P	0.24		mg P/L	P432376	
	SM 5310 B-2011	Organic Carbon	13		mg C/L	P432469	

Ref. Method and Comment:

SM 2540 C-2015: The reported result is consistent with the conductivity measured in the laboratory, 2490 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: P432195

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P432186

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P432485

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P432488

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P432419

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P432264

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P432623

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P432376

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

Reference Method: SM 2320 B-2011
Batch ID: P432542

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: P432426

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-2015
Batch ID: P432356

Component	Result	Code	Units
TSS	3	U	mg/L

Reference Method: SM 4500-F- C-2011
Batch ID: P432544

Component	Result	Code	Units
Fluoride	0.025	U	mg F/L

Reference Method: SM 5310 B-2011
Batch ID: P432469

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: P432195

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: P432186

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Turbidity	99.9		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P432485

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Chloride	99.4		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P432488

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Sulfate	96.8		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P432419

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: P432264

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Kjeldahl Nitrogen	98.6		P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P432623

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: P432376

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

Reference Method: SM 2320 B-2011
Batch ID: P432542

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	97.7		P	92 - 105

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: SM 2540 C-2015
Batch ID: P432426

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
TDS	96.3		P	90 - 110

Reference Method: SM 2540 D-2015
Batch ID: P432356

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
TSS	105		P	85 - 106

Reference Method: SM 4500-F- C-2011
Batch ID: P432544

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

Reference Method: SM 5310 B-2011
Batch ID: P432469

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	95.0		P	85 - 115

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P432485

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2422234	Chloride	98.3		P	90 - 110
2422402	Chloride	98.2		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P432488

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2422234	Sulfate	94.6		P	90 - 110
2422402	Sulfate	94.0		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P432419

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2421105	Ammonia-N	99.6	98.8	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P432264

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2422054	Kjeldahl Nitrogen	98.1	99.7	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P432623

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2423893	NO2NO3-N	99.0	99.0	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P432376

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2422558	Total-P	95.0	95.1	P/P	90 - 110

Reference Method: SM 4500-F- C-2011
Batch ID: P432544

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2423694	Fluoride	101	103	P/P	94 - 106

Reference Method: SM 5310 B-2011
Batch ID: P432469

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2422054	Organic Carbon	97.6	96.4	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: DEP SOP: NU-094-1
Batch ID: P432195

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2421988	Color (true)	1.67	Sample	P	0 - 20

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P432186

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2421989	Turbidity	5.12	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P432485

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2422234	Chloride	1.10	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P432488

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2422234	Sulfate	0.856	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P432419

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2421105	Ammonia-N	0.666	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P432264

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2422054	Kjeldahl Nitrogen	1.29	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P432623

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2423893	NO2NO3-N	0.0	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P432376

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2422558	Total-P	0.101	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: SM 2320 B-2011
Batch ID: P432542

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2423694	Total Alkalinity	1.33	Sample	P	0 - 3.9

Reference Method: SM 2540 C-2015
Batch ID: P432426

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2422042	TDS	0.651	Sample	P	0 - 10

Reference Method: SM 4500-F- C-2011
Batch ID: P432544

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2423694	Fluoride	1.51	Spike	P	0 - 1.9

Reference Method: SM 5310 B-2011
Batch ID: P432469

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2422054	Organic Carbon	0.926	Spike	P	0 - 20

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

Quality Assurance Report Calibration Verification

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A120230

Included Lab Sample IDs: 2422053

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Turbidity	101	100	P/P	95 - 105

Reference Method: DEP SOP: NU-094-1

Run ID: A120233

Included Lab Sample IDs: 2422053

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	103	104	P/P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A120300

Included Lab Sample IDs: 2422053

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	103	101	P/P	90 - 110
Sulfate	101	99.0	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A120313

Included Lab Sample IDs: 2422054

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	102	97.6	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A120349

Included Lab Sample IDs: 2422054

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

Reference Method: SM 5310 B-2011

Run ID: A120371

Included Lab Sample IDs: 2422054

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	97.2	96.6	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A120381

Included Lab Sample IDs: 2422054

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

Reference Method: SM 2320 B-2011

Run ID: A120412

Included Lab Sample IDs: 2422053

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	98.5	94.5	P/P	90 - 110

Quality Assurance Report

Calibration Verification

Reference Method: SM 4500-F- C-2011

Run ID: A120412

Included Lab Sample IDs: 2422053

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

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A120452

Included Lab Sample IDs: 2422054

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	104	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)	102			1.67	
EPA 180.1 Rev. 2.0	Turbidity	99.9			5.12	
EPA 300.0 Rev. 2.1	Chloride	99.4	98.3	98.2	1.10	
	Sulfate	96.8	94.6	94.0	0.856	
EPA 350.1 Rev. 2.0	Ammonia-N	97.4	99.6	98.8		0.666
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	98.6	98.1	99.7		1.29
EPA 353.2 Rev. 2.0	NO2NO3-N	100	99.0	99.0		0.0
EPA 365.1 Rev. 2.0	Total-P	103	95.0	95.1		0.101
SM 2320 B-2011	Total Alkalinity	97.7			1.33	
SM 2540 C-2015	TDS	96.3			0.651	
SM 2540 D-2015	TSS	105				
SM 4500-F- C-2011	Fluoride	101	101	103		1.51
SM 5310 B-2011	Organic Carbon	95.0	97.6	96.4		0.926

Reference Method Descriptions

Method	Description	Associated Samples
DEP SOP: NU-094-1	True Color measured at 450 nm (not valid for NPDES monitoring)	2422053
EPA 180.1 Rev. 2.0	Turbidity in aqueous matrices	2422053
EPA 300.0 Rev. 2.1	Chloride in aqueous matrices	2422053
EPA 300.0 Rev. 2.1	Sulfate in aqueous matrices	2422053
EPA 350.1 Rev. 2.0	Ammonia in aqueous matrices as mg N/L	2422054
EPA 351.2 Rev. 2.0	Total Kjeldahl Nitrogen in aqueous matrices	2422054
EPA 353.2 Rev. 2.0	Nitrite/Nitrate in aqueous matrices as mg N/L	2422054
EPA 365.1 Rev. 2.0	Total Phosphorus in aqueous matrices as mg P/L	2422054
SM 2320 B-2011	Alkalinity in aqueous matrices as mg CaCO3/L	2422053
SM 2540 C-2015	Total Dissolved Solids in aqueous matrices	2422053
SM 2540 D-2015	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2422053
SM 4500-F- C-2011	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2422053
SM 5310 B-2011	Nonpurgeable Organic Carbon in aqueous matrices	2422054

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	07/07/2023			07/07/2023 15:55	Chandler E Cox	2422053
EPA 180.1 Rev. 2.0	07/07/2023			07/07/2023 14:31	Khloe J Berg	2422053
EPA 300.0 Rev. 2.1	07/07/2023			07/13/2023 13:54	James L Waggerby	2422053
EPA 350.1 Rev. 2.0	07/07/2023			07/13/2023 10:53	Khloe J Berg	2422054
EPA 351.2 Rev. 2.0	07/07/2023	07/11/2023 09:49	Samantha L Bates	07/12/2023 11:02	Samantha L Bates	2422054
EPA 353.2 Rev. 2.0	07/07/2023			07/18/2023 10:07	Beverly Y. Sanders	2422054
EPA 365.1 Rev. 2.0	07/07/2023	07/13/2023 16:15	Adam P Silver	07/13/2023 19:42	James L Waggerby	2422054
SM 2320 B-2011	07/07/2023			07/15/2023 01:38	Dale L. Simmons	2422053
SM 2540 C-2015	07/07/2023			07/11/2023 14:30	Dana G. Hughes	2422053
SM 2540 D-2015	07/07/2023			07/11/2023 13:00	Dana G. Hughes	2422053
SM 4500-F- C-2011	07/07/2023			07/15/2023 01:38	Dale L. Simmons	2422053
SM 5310 B-2011	07/07/2023			07/14/2023 02:54	Elise M. Gillis	2422054