

Chemical Analysis Report

NE-DIST-2022-11-01-01

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

Event Description: **LSJR Southside BOAT 2022**
Request ID: **RQ-2022-10-17-13**
Customer: **NE-DIST**
Project ID: **SMP**

Send Reports to:
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Certified by: Liang Lin, Environmental Administrator

Date Certified: 22-NOV-2022 10:50

A handwritten signature in black ink, appearing to read "Liang Lin", is shown on a light-colored 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: Tributary to Trout at Capper Rd

Collection Date/Time: 10/31/2022 11:10

Field ID: G2NE1208

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2366237	DEP SOP: NU-094-1	Color (true)	74	A	PCU	P421732	
	EPA 180.1 Rev. 2.0	Turbidity	9.6		NTU	P421733	
	EPA 300.0 Rev. 2.1	Chloride	60		mg Cl/L	P422460	
		Sulfate	16		mg SO4/L	P422464	
	SM 2320 B-2011	Total Alkalinity	91		mg CaCO3/L	P422006	
	SM 2540 C-2015	TDS	267	A	mg/L	P422176	
	SM 2540 D-2015	TSS	4	IA	mg/L	P421963	
	SM 4500-F- C-2011	Fluoride	0.16		mg F/L	P422020	
2366238	EPA 350.1 Rev. 2.0	Ammonia-N	0.13		mg N/L	P422035	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.48		mg N/L	P421877	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.13		mg N/L	P421939	
	EPA 365.1 Rev. 2.0	Total-P	0.17		mg P/L	P422073	
	SM 5310 B-2011	Organic Carbon	7.3		mg C/L	P421998	

Ref. Method and Comment:

SM 2540 D-2015: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.

EPA 351.2 Rev. 2.0: Batch matrix spike recoveries are unavailable because of high analyte concentration in the QC sample.

Quality Assurance Report Method Blank Results

Reference Method: DEP SOP: NU-094-1
Batch ID: P421732

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P421733

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P422460

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P422464

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P422035

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P421877

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P421939

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P422073

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

Reference Method: SM 2320 B-2011
Batch ID: P422006

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: P422176

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-2015
Batch ID: P421963

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500-F- C-2011
Batch ID: P422020

Component	Result	Code	Units
Fluoride	0.025	U	mg F/L

Reference Method: SM 5310 B-2011
Batch ID: P421998

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: P421732

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Color (true)	99.3		P	90 - 110

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P421733

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P422460

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Chloride	96.4		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P422464

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P422035

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Ammonia-N	96.0		P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P421877

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P421939

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
NO2NO3-N	104		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P422073

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

Reference Method: SM 2320 B-2011
Batch ID: P422006

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	98.0		P	94 - 106

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: SM 2540 C-2015
Batch ID: P422176

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
TDS	95.9		P	90 - 110

Reference Method: SM 2540 D-2015
Batch ID: P421963

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
TSS	92.7		P	85 - 106

Reference Method: SM 4500-F- C-2011
Batch ID: P422020

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	101		P	96 - 104

Reference Method: SM 5310 B-2011
Batch ID: P421998

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	96.3		P	85 - 115

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P422460

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2366091	Chloride	100		P	90 - 110
2366215	Chloride	99.5		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P422464

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2366091	Sulfate	102		P	90 - 110
2366215	Sulfate	100		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P422035

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2366203	Ammonia-N	96.6	97.8	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P421939

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2366191	NO2NO3-N	108	108	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P422073

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2366218	Total-P	106	109	P/P	90 - 110

Reference Method: SM 4500-F- C-2011
Batch ID: P422020

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2366166	Fluoride	102	102	P/P	94 - 104

Reference Method: SM 5310 B-2011
Batch ID: P421998

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2366238	Organic Carbon	97.8	98.6	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: DEP SOP: NU-094-1
Batch ID: P421732

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2366237	Color (true)	1.31	Sample	P	0 - 20

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P421733

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2366195	Turbidity	17.0	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P422460

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2366091	Chloride	0.535	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P422464

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2366091	Sulfate	0.417	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P422035

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2366203	Ammonia-N	1.06	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P421877

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2366203	Kjeldahl Nitrogen	3.33	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P421939

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2366191	NO2NO3-N	0.464	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P422073

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2366218	Total-P	2.66	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: SM 2320 B-2011
Batch ID: P422006

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2366166	Total Alkalinity	0.668	Sample	P	0 - 3.8

Reference Method: SM 2540 C-2015
Batch ID: P422176

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2366237	TDS	3.00	Sample	P	0 - 10

Reference Method: SM 4500-F- C-2011
Batch ID: P422020

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2366166	Fluoride	0.0	Spike	P	0 - 1.6

Reference Method: SM 5310 B-2011
Batch ID: P421998

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2366238	Organic Carbon	0.593	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: A115658
Included Lab Sample IDs: 2366237

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

Reference Method: EPA 180.1 Rev. 2.0
Run ID: A115659
Included Lab Sample IDs: 2366237

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Turbidity	98.0	98.5	P/P	95 - 105

Reference Method: EPA 353.2 Rev. 2.0
Run ID: A115752
Included Lab Sample IDs: 2366238

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	106	106	P/P	90 - 110

Reference Method: SM 2320 B-2011
Run ID: A115774
Included Lab Sample IDs: 2366237

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	97.1	97.8	P/P	90 - 110

Reference Method: SM 4500-F- C-2011
Run ID: A115774
Included Lab Sample IDs: 2366237

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

Reference Method: SM 5310 B-2011
Run ID: A115775
Included Lab Sample IDs: 2366238

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	96.6	97.6	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Run ID: A115789
Included Lab Sample IDs: 2366238

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	98.3	99.0	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Run ID: A115808
Included Lab Sample IDs: 2366238

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	94.0	92.4	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A115830

Included Lab Sample IDs: 2366238

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	99.2	98.7	P/P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A115939

Included Lab Sample IDs: 2366237

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	99.1	100	P/P	90 - 110
Sulfate	101	102	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)	99.3			1.31	
EPA 180.1 Rev. 2.0	Turbidity	99.6			17.0	
EPA 300.0 Rev. 2.1	Chloride	96.4	100	99.5	0.535	
	Sulfate	98.0	102	100	0.417	
EPA 350.1 Rev. 2.0	Ammonia-N	96.0	96.6	97.8		1.06
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	104				3.33
EPA 353.2 Rev. 2.0	NO2NO3-N	104	108	108		0.464
EPA 365.1 Rev. 2.0	Total-P	106	106	109		2.66
SM 2320 B-2011	Total Alkalinity	98.0			0.668	
SM 2540 C-2015	TDS	95.9			3.00	
SM 2540 D-2015	TSS	92.7				
SM 4500-F- C-2011	Fluoride	101	102	102		0.0
SM 5310 B-2011	Organic Carbon	96.3	97.8	98.6		0.593

Reference Method Descriptions

Method	Description	Associated Samples
DEP SOP: NU-094-1	True Color measured at 450 nm (not valid for NPDES monitoring)	2366237
EPA 180.1 Rev. 2.0	Turbidity in aqueous matrices	2366237
EPA 300.0 Rev. 2.1	Chloride in aqueous matrices	2366237
EPA 300.0 Rev. 2.1	Sulfate in aqueous matrices	2366237
EPA 350.1 Rev. 2.0	Ammonia in aqueous matrices as mg N/L	2366238
EPA 351.2 Rev. 2.0	Total Kjeldahl Nitrogen in aqueous matrices	2366238
EPA 353.2 Rev. 2.0	Nitrite/Nitrate in aqueous matrices as mg N/L	2366238
EPA 365.1 Rev. 2.0	Total Phosphorus in aqueous matrices as mg P/L	2366238
SM 2320 B-2011	Alkalinity in aqueous matrices as mg CaCO3/L	2366237
SM 2540 C-2015	Total Dissolved Solids in aqueous matrices	2366237
SM 2540 D-2015	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2366237
SM 4500-F- C-2011	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2366237
SM 5310 B-2011	Nonpurgeable Organic Carbon in aqueous matrices	2366238

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	11/01/2022			11/01/2022 14:25	Chandler E Cox	2366237
EPA 180.1 Rev. 2.0	11/01/2022			11/01/2022 14:39	Anna M. Plaviak	2366237
EPA 300.0 Rev. 2.1	11/01/2022			11/15/2022 19:45	Anna M. Plaviak	2366237
EPA 350.1 Rev. 2.0	11/01/2022			11/07/2022 13:45	Ping Hua	2366238
EPA 351.2 Rev. 2.0	11/01/2022	11/04/2022 10:30	Simonne.V. Calhoun	11/08/2022 13:18	Samantha L Bates	2366238
EPA 353.2 Rev. 2.0	11/01/2022			11/04/2022 11:29	Beverly Y. Sanders	2366238
EPA 365.1 Rev. 2.0	11/01/2022	11/08/2022 13:18	Adam P Silver	11/09/2022 10:32	James L Waggerby	2366238
SM 2320 B-2011	11/01/2022			11/05/2022 17:56	Dale L. Simmons	2366237
SM 2540 C-2015	11/01/2022			11/02/2022 15:18	Yijie Li	2366237
SM 2540 D-2015	11/01/2022			11/02/2022 15:18	Yijie Li	2366237
SM 4500-F- C-2011	11/01/2022			11/05/2022 17:56	Dale L. Simmons	2366237
SM 5310 B-2011	11/01/2022			11/04/2022 21:59	Khloe J Berg	2366238