Chemical Analysis Report

NE-DIST-2022-01-12-01

Florida Department of Environmental Protection
Central Laboratory
2600 Blair Stone Road
Tallahassee, FL 32399-2400
DOH Accreditation E31780

Event Description: **LSJR South West 2022**
Request ID: **RQ-2022-01-10-24**
Customer: **NE-DIST**
Project ID: **SMP**

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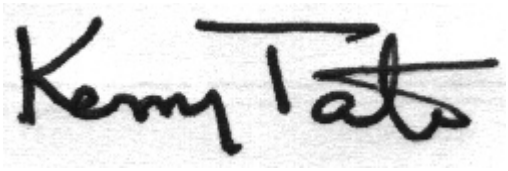
Date Certified: 03-FEB-2022 09:32



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: Black CR South Fork @ CR218 **Collection Date/Time: 01/11/2022 11:20**

Field ID: 20030244 Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2299186	EPA 180.1 Rev. 2.0	Turbidity	2.2		NTU	P408461	
	EPA 300.0 Rev. 2.1	Chloride	9.3	A	mg Cl/L	P409116	
		Sulfate	3.1	A	mg SO4/L	P409119	
	SM 2120 B-2011	Color (true)**	130		PCU	P408449	
	SM 2320 B-2011	Total Alkalinity	10		mg CaCO3/L	P408539	
	SM 2540 C-2011	TDS	70		mg/L	P408874	
	SM 2540 D-2011	TSS	2	I	mg/L	P408774	
	SM 4500 F-C-2011	Fluoride	0.077	I	mg F/L	P408542	
2299187	EPA 350.1 Rev. 2.0	Ammonia-N	0.017		mg N/L	P408831	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.45		mg N/L	P408668	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.047		mg N/L	P408602	
	EPA 365.1 Rev. 2.0	Total-P	0.12		mg P/L	P408644	MS
	SM 5310 B-2011	Organic Carbon	11		mg C/L	P409298	
2299188	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.092		mg P/L	P408455	

Ref. Method and Comment:
SM 2540 D-2011: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.

Quality Assurance Report
Method Blank Results

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P408461

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P409116

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P409119

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P408831

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P408668

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P408602

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P408644

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P408455

Component	Result	Code	Units
O-Phosphate-P	0.004	U	mg P/L

Reference Method: SM 2120 B-2011
Batch ID: P408449

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Quality Assurance Report
Method Blank Results

Reference Method: SM 2320 B-2011
Batch ID: P408539

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

Reference Method: SM 2540 C-2011
Batch ID: P408874

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-2011
Batch ID: P408774

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500 F-C-2011
Batch ID: P408542

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-2011
Batch ID: P409298

Component	Result	Code	Units
Organic Carbon	0.50	U	mg C/L

Quality Assurance Report
Laboratory Control Sample Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P409116

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P409119

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Sulfate	98.1		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P408831

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Ammonia-N	98.2		P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P408668

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: P408602

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P408644

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P408455

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

Reference Method: SM 2120 B-2011
Batch ID: P408449

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Color (true)	99.8		P	85 - 115

Reference Method: SM 2320 B-2011
Batch ID: P408539

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	97.7		P	94 - 106

Quality Assurance Report
Laboratory Control Sample Accuracy

Reference Method: SM 4500 F-C-2011
Batch ID: P408542

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	100		P	93 - 104

Reference Method: SM 5310 B-2011
Batch ID: P409298

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

Quality Assurance Report
Matrix Spike Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P409116

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2299186	Chloride	103		P	90 - 110
2299260	Chloride	103		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P409119

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2299186	Sulfate	97.8		P	90 - 110
2299260	Sulfate	96.6		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P408831

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2299332	Ammonia-N	98.0	99.6	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P408668

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2299243	Kjeldahl Nitrogen	92.6	103	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P408602

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2299187	NO2NO3-N	105	105	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P408644

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2299197	Total-P	113	108	F/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P408455

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2299272	O-Phosphate-P	99.2	101	P/P	90 - 110

Reference Method: SM 4500 F-C-2011
Batch ID: P408542

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2298602	Fluoride	99.0	99.7	P/P	92 - 107

Reference Method: SM 5310 B-2011
Batch ID: P409298

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2299418	Organic Carbon	92.8	92.2	P/P	85 - 115

Quality Assurance Report
Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P408461

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2299241	Turbidity	0.697	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P409116

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2299186	Chloride	1.12	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P409119

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2299186	Sulfate	1.66	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P408831

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2299332	Ammonia-N	1.27	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P408668

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2299243	Kjeldahl Nitrogen	5.64	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P408602

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2299187	NO2NO3-N	0.388	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P408644

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2299197	Total-P	3.33	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P408455

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2299272	O-Phosphate-P	1.70	Spike	P	0 - 20

Quality Assurance Report
Precision

Reference Method: SM 2120 B-2011
Batch ID: P408449

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2299241	Color (true)	1.12	Sample	P	0 - 20

Reference Method: SM 2320 B-2011
Batch ID: P408539

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2298602	Total Alkalinity	1.59	Sample	P	0 - 5.2

Reference Method: SM 2540 C-2011
Batch ID: P408874

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2299336	TDS	4.37	Sample	P	0 - 10

Reference Method: SM 4500 F-C-2011
Batch ID: P408542

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2298602	Fluoride	0.531	Spike	P	0 - 2.1

Reference Method: SM 5310 B-2011
Batch ID: P409298

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2299418	Organic Carbon	0.388	Spike	P	0 - 20

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

Quality Assurance Report
Calibration Verification

Reference Method: SM 2120 B-2011
Run ID: A109826
Included Lab Sample IDs: 2299186

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	102	100	P/P	85 - 115

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Run ID: A109828
Included Lab Sample IDs: 2299188

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	98.8	98.8	P/P	90 - 110

Reference Method: EPA 180.1 Rev. 2.0
Run ID: A109829
Included Lab Sample IDs: 2299186

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

Reference Method: SM 2320 B-2011
Run ID: A109873
Included Lab Sample IDs: 2299186

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	101	98.1	P/P	90 - 110

Reference Method: SM 4500 F-C-2011
Run ID: A109873
Included Lab Sample IDs: 2299186

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

Reference Method: EPA 353.2 Rev. 2.0
Run ID: A109906
Included Lab Sample IDs: 2299187

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

Reference Method: EPA 365.1 Rev. 2.0
Run ID: A109980
Included Lab Sample IDs: 2299187

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

Reference Method: EPA 351.2 Rev. 2.0
Run ID: A109992
Included Lab Sample IDs: 2299187

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

Quality Assurance Report
Calibration Verification

Reference Method: EPA 300.0 Rev. 2.1
Run ID: A110040
Included Lab Sample IDs: 2299186

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	103	103	P/P	90 - 110
Sulfate	99.7	98.9	P/P	90 - 110

Reference Method: SM 5310 B-2011
Run ID: A110168
Included Lab Sample IDs: 2299187

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	97.8	95.7	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	SMP	MS
EPA 180.1 Rev. 2.0	Turbidity					0.697	
EPA 300.0 Rev. 2.1	Chloride	102	103	103		1.12	
	Sulfate	98.1	97.8	96.6		1.66	
EPA 350.1 Rev. 2.0	Ammonia-N	98.2	98.0	99.6			1.27
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	104	92.6	103			5.64
EPA 353.2 Rev. 2.0	NO2NO3-N	108	105	105			0.388
EPA 365.1 Rev. 2.0	Total-P	110	113	108			3.33
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	100	99.2	101			1.70
SM 2120 B-2011	Color (true)	99.8				1.12	
SM 2320 B-2011	Total Alkalinity	97.7				1.59	
SM 2540 C-2011	TDS					4.37	
SM 4500 F-C-2011	Fluoride	100	99.0	99.7			0.531
SM 5310 B-2011	Organic Carbon	96.4	92.8	92.2			0.388

Reference Method Descriptions

Method	Description	Associated Samples
EPA 180.1 Rev. 2.0	Turbidity in aqueous matrices	2299186
EPA 300.0 Rev. 2.1	Chloride in aqueous matrices	2299186
EPA 300.0 Rev. 2.1	Sulfate in aqueous matrices	2299186
EPA 350.1 Rev. 2.0	Ammonia in aqueous matrices as mg N/L	2299187
EPA 351.2 Rev. 2.0	Total Kjeldahl Nitrogen in aqueous matrices	2299187
EPA 353.2 Rev. 2.0	Nitrite/Nitrate in aqueous matrices as mg N/L	2299187
EPA 365.1 Rev. 2.0	Total Phosphorus in aqueous matrices as mg P/L	2299187
EPA 365.1 Rev. 2.0 dissolved	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	2299188
SM 2120 B-2011	True Color measured at 450 nm (not valid for NPDES monitoring)	2299186
SM 2320 B-2011	Alkalinity in aqueous matrices as mg CaCO3/L	2299186
SM 2540 C-2011	Total Dissolved Solids in aqueous matrices	2299186
SM 2540 D-2011	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2299186
SM 4500 F-C-2011	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2299186
SM 5310 B-2011	Nonpurgeable Organic Carbon in aqueous matrices	2299187

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
EPA 180.1 Rev. 2.0	01/12/2022			01/12/2022 16:21	Khloe J Berg	2299186
EPA 300.0 Rev. 2.1	01/12/2022			01/27/2022 20:46	Roberta Tatti	2299186
EPA 350.1 Rev. 2.0	01/12/2022			01/21/2022 12:38	Ping Hua	2299187
EPA 351.2 Rev. 2.0	01/12/2022	01/20/2022 09:13	Samantha L Bates	01/21/2022 13:10	Alexandra J Mattheus	2299187
EPA 353.2 Rev. 2.0	01/12/2022			01/18/2022 10:43	Beverly Y. Sanders	2299187
EPA 365.1 Rev. 2.0	01/12/2022	01/19/2022 16:00	Simonne.V. Calhoun	01/20/2022 11:41	Shengyu Ding	2299187
EPA 365.1 Rev. 2.0 dissolved	01/12/2022			01/12/2022 16:07	James L Waggerby	2299188
SM 2120 B-2011	01/12/2022			01/12/2022 15:26	Blanca Fach	2299186
SM 2320 B-2011	01/12/2022			01/14/2022 06:53	Dale L. Simmons	2299186
SM 2540 C-2011	01/12/2022			01/13/2022 14:02	Yijie Li	2299186
SM 2540 D-2011	01/12/2022			01/13/2022 14:02	Yijie Li	2299186
SM 4500 F-C-2011	01/12/2022			01/14/2022 06:53	Dale L. Simmons	2299186
SM 5310 B-2011	01/12/2022			01/31/2022 21:42	Nathaniel J Jones	2299187