

Chemical Analysis Report

CEN-DIST-2021-12-14-01

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

Event Description: **Sweetwater/Salt Creek**
Request ID: **RQ-2021-11-01-07**
Customer: **CEN-DIST**
Project ID: **SMP**

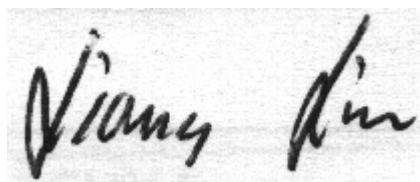
Send Reports to:
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Attn: Matt Bearden

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Report Comment: The BOD samples 2294817 & 2294818 were received at Eurofins TestAmerica Tampa 12/14/2021 at 09:25.

Certified by: Liang Lin, Environmental Administrator

Date Certified: 06-JAN-2022 14:43

A handwritten signature in black ink, appearing to read "Liang Lin", 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: Salt Creek @ Packard Ave

Collection Date/Time: 12/13/2021 12:26

Field ID: G2CE0088

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2294819	EPA 350.1 Rev. 2.0	Ammonia-N	0.088		mg N/L	P408036	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.1		mg N/L	P407862	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.11		mg N/L	P407532	
	EPA 365.1 Rev. 2.0	Total-P	0.23		mg P/L	P407656	
2294821	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.18		mg P/L	P407442	
2294823	SM 2540 D-2011	TSS	6	I	mg/L	P407765	

Ref. Method and Comment:

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

Sample Location: Sweetwater Creek at Florida Avenue

Collection Date/Time: 12/13/2021 12:42

Field ID: G2CE0123

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2294820	EPA 350.1 Rev. 2.0	Ammonia-N	0.68		mg N/L	P408036	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.5		mg N/L	P407863	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.97		mg N/L	P407532	
	EPA 365.1 Rev. 2.0	Total-P	0.37		mg P/L	P407656	
2294822	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.32		mg P/L	P407442	
2294824	SM 2540 D-2011	TSS	3	I	mg/L	P407765	

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 350.1 Rev. 2.0
Batch ID: P408036

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P407862

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P407863

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P407532

Component	Result	Code	Units
NO ₂ NO ₃ -N	0.004	U	mg N/L

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P407656

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P407442

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

Reference Method: SM 2540 D-2011
Batch ID: P407765

Component	Result	Code	Units
TSS	2	U	mg/L

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P408036

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P407862

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P407863

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Kjeldahl Nitrogen	95.2		P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P407532

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
NO2NO3-N	99.5		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P407656

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P407442

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
O-Phosphate-P	99.7		P	90 - 110

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P408036

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2295158	Ammonia-N	98.2	98.6	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P407862

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2294547	Kjeldahl Nitrogen	103	95.1	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P407863

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2294036	Kjeldahl Nitrogen	97.9	96.2	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P407532

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2294788	NO2NO3-N	99.0	99.0	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P407656

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2295071	Total-P	107	106	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P407442

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2294767	O-Phosphate-P	98.1	99.3	P/P	90 - 110

Quality Assurance Report Precision

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P408036

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2295158	Ammonia-N	0.352	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P407862

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2294547	Kjeldahl Nitrogen	3.97	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P407863

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2294036	Kjeldahl Nitrogen	1.73	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P407532

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2294788	NO2NO3-N	0.0	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P407656

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2295071	Total-P	0.491	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P407442

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2294767	O-Phosphate-P	1.08	Spike	P	0 - 20

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

Quality Assurance Report Calibration Verification

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Run ID: A109377

Included Lab Sample IDs: 2294821, 2294822

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	99.3	98.9	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A109420

Included Lab Sample IDs: 2294819, 2294820

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	100	100	P/P	90 - 110
NO2NO3-N	101	100	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A109528

Included Lab Sample IDs: 2294819, 2294820

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

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A109591

Included Lab Sample IDs: 2294819

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	90.5	93.9	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A109598

Included Lab Sample IDs: 2294820

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	98.2	90.7	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A109647

Included Lab Sample IDs: 2294819, 2294820

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	100	97.6	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 350.1 Rev. 2.0	Ammonia-N	99.0	98.2	98.6			0.352
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	101	103	95.1			3.97
	Kjeldahl Nitrogen	95.2	97.9	96.2			1.73
EPA 353.2 Rev. 2.0	NO ₂ NO ₃ -N	99.5	99.0	99.0			0.0
EPA 365.1 Rev. 2.0	Total-P	108	107	106			0.491
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	99.7	98.1	99.3			1.08

Reference Method Descriptions

Method	Description	<u>Associated Samples</u>
EPA 350.1 Rev. 2.0	Ammonia in aqueous matrices as mg N/L	2294819, 2294820
EPA 351.2 Rev. 2.0	Total Kjeldahl Nitrogen in aqueous matrices	2294819, 2294820
EPA 353.2 Rev. 2.0	Nitrite/Nitrate in aqueous matrices as mg N/L	2294819, 2294820
EPA 365.1 Rev. 2.0	Total Phosphorus in aqueous matrices as mg P/L	2294819, 2294820
EPA 365.1 Rev. 2.0 dissolved	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	2294821, 2294822
SM 2540 D-2011	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2294823, 2294824

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
EPA 350.1 Rev. 2.0	12/14/2021			01/03/2022 12:20	Ping Hua	2294819
	12/14/2021			01/03/2022 12:22	Ping Hua	2294820
EPA 351.2 Rev. 2.0	12/14/2021	12/27/2021 11:02	Samantha L Bates	12/28/2021 14:10	Virginia P. Brown	2294819
	12/14/2021	12/27/2021 11:02	Samantha L Bates	12/28/2021 16:47	Virginia P. Brown	2294820
EPA 353.2 Rev. 2.0	12/14/2021			12/16/2021 08:39	Beverly Y. Sanders	2294819
	12/14/2021			12/16/2021 09:10	Beverly Y. Sanders	2294820
EPA 365.1 Rev. 2.0	12/14/2021	12/21/2021 17:45	Simonne.V. Calhoun	12/22/2021 11:37	Shengyu Ding	2294819
	12/14/2021	12/21/2021 17:45	Simonne.V. Calhoun	12/22/2021 11:38	Shengyu Ding	2294820
EPA 365.1 Rev. 2.0 dissolved	12/14/2021			12/14/2021 17:12	James L Waggeberby	2294821
	12/14/2021			12/14/2021 17:13	James L Waggeberby	2294822
SM 2540 D-2011	12/14/2021			12/17/2021 15:35	Yijie Li	2294823, 2294824