

Chemical Analysis Report

CEN-DIST-2020-11-13-02

Florida Department of Environmental Protection
Central Laboratory
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DOH Accreditation E31780

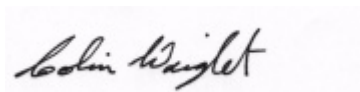
Event Description: **Sweetwater/Salt Creek/Long Branch**
Request ID: **RQ-2020-11-09-10**
Customer: **CEN-DIST**
Project ID: **LKJES-BMAP**

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Certified by: Colin Wright, Program Administrator

Date Certified: 04-DEC-2020 13:25



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: 11/12/2020 13:15

Field ID: G2CE0088

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2207645	EPA 350.1 Rev. 2.0	Ammonia-N	0.055		mg N/L	P390349	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	2.2		mg N/L	P390246	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.038		mg N/L	P390380	
	EPA 365.1 Rev. 2.0	Total-P	0.32		mg P/L	P390108	
2207647	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.22		mg P/L	P390072	
2207649	SM 2540 D-2011	TSS	14		mg/L	P390207	

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: 11/12/2020 13:39

Field ID: G2CE0123

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2207646	EPA 350.1 Rev. 2.0	Ammonia-N	0.20		mg N/L	P390349	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.7		mg N/L	P390210	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.21		mg N/L	P390380	
	EPA 365.1 Rev. 2.0	Total-P	0.58		mg P/L	P390108	
2207648	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.50		mg P/L	P390072	
2207650	SM 2540 D-2011	TSS	6	I	mg/L	P390208	

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: P390349

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P390210

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P390246

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P390380

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: P390108

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P390072

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

Reference Method: SM 2540 D-2011
Batch ID: P390207

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 2540 D-2011
Batch ID: P390208

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: P390349

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P390210

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Kjeldahl Nitrogen	109		P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P390246

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: P390380

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P390108

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P390072

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

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P390349

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2207782	Ammonia-N	102	102	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P390210

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2208026	Kjeldahl Nitrogen	102	106	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P390246

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2207631	Kjeldahl Nitrogen	94.9	101	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P390380

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2207743	NO2NO3-N	100	101	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P390108

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2207610	Total-P	102	102	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P390072

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2207634	O-Phosphate-P	99.7	99.2	P/P	90 - 110

Quality Assurance Report Precision

Reference Method: EPA 350.1 Rev. 2.0
 Batch ID: P390349

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2207782	Ammonia-N	0.506	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
 Batch ID: P390210

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2208026	Kjeldahl Nitrogen	2.05	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
 Batch ID: P390246

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2207631	Kjeldahl Nitrogen	4.18	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
 Batch ID: P390380

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2207743	NO2NO3-N	0.496	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
 Batch ID: P390108

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2207610	Total-P	0.109	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
 Batch ID: P390072

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2207634	O-Phosphate-P	0.503	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: A102133

Included Lab Sample IDs: 2207647, 2207648

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

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A102195

Included Lab Sample IDs: 2207645, 2207646

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	101	101	P/P	85 - 115

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A102213

Included Lab Sample IDs: 2207645, 2207646

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	104	105	P/P	90 - 110
Kjeldahl Nitrogen	106	107	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A102243

Included Lab Sample IDs: 2207645, 2207646

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

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A102260

Included Lab Sample IDs: 2207645, 2207646

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	101	99.5	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		LCS	Precision SMP	MS
EPA 350.1 Rev. 2.0	Ammonia-N	102	102	102			0.506
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	109	102	106			2.05
	Kjeldahl Nitrogen	104	94.9	101			4.18
EPA 353.2 Rev. 2.0	NO2NO3-N	101	100	101			0.496
EPA 365.1 Rev. 2.0	Total-P	107	102	102			0.109
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	99.2	99.7	99.2			0.503

Reference Method Descriptions

Method	Description	<u>Associated Samples</u>
EPA 350.1 Rev. 2.0	Ammonia in aqueous matrices as mg N/L	2207645, 2207646
EPA 351.2 Rev. 2.0	Total Kjeldahl Nitrogen in aqueous matrices	2207645, 2207646
EPA 353.2 Rev. 2.0	Nitrite/Nitrate in aqueous matrices as mg N/L	2207645, 2207646
EPA 365.1 Rev. 2.0	Total Phosphorus in aqueous matrices as mg P/L	2207645, 2207646
EPA 365.1 Rev. 2.0 dissolved	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	2207647, 2207648
SM 2540 D-2011	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2207649, 2207650

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	11/13/2020			11/21/2020 11:19	Ping Hua	2207645
	11/13/2020			11/21/2020 11:20	Ping Hua	2207646
EPA 351.2 Rev. 2.0	11/13/2020	11/18/2020 14:15	David Boose	11/19/2020 12:53	Elliott Rodriguez	2207646
	11/13/2020	11/18/2020 14:20	David Boose	11/19/2020 11:37	Elliott Rodriguez	2207645
EPA 353.2 Rev. 2.0	11/13/2020			11/23/2020 10:00	Beverly Y. Sanders	2207645
	11/13/2020			11/23/2020 10:01	Beverly Y. Sanders	2207646
EPA 365.1 Rev. 2.0	11/13/2020	11/16/2020 13:34	Yen Ta	11/18/2020 13:53	Benjamin T. Nordmann	2207645
	11/13/2020	11/16/2020 13:34	Yen Ta	11/18/2020 13:54	Benjamin T. Nordmann	2207646
EPA 365.1 Rev. 2.0 dissolved	11/13/2020			11/13/2020 13:04	Blanca Fach	2207647
	11/13/2020			11/13/2020 13:19	Blanca Fach	2207648
SM 2540 D-2011	11/13/2020			11/16/2020 14:25	Yijie Li	2207649, 2207650