

Chemical Analysis Report

SO-DIST-2020-08-28-02

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

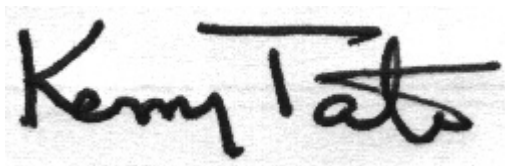
Event Description: **Naples**
Request ID: **RQ-2020-08-24-35**
Customer: **SO-DIST**
Project ID: **SMP**

Send Reports to:
FL Dept. of Environmental Protection
FLDEP South District Office
2295 Victoria Ave. Suite 364
Fort Myers, FL 33901-3381
Attn: Gary Snorek

For additional information please contact
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Phone (850) 245-8085

Certified by: Kerry Tate, Ph.D., Environmental Administrator

Date Certified: 21-SEP-2020 10:53

A handwritten signature in black ink that reads "Kerry Tate". The signature is written in a cursive, flowing style with a horizontal line above the first name.

NON-CONFORMANCE REPORT INCLUDED

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: 8063 @ Gordon Pass

Collection Date/Time: 08/27/2020 09:48

Field ID: G1SD0060

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2193096	EPA 180.1 Rev. 2.0	Turbidity	1.8		NTU	P386705	
	EPA 300.0 Rev. 2.1	Bromide	66		mg Br/L	P387263	
	SM 2320 B-2011	Total Alkalinity	120		mg CaCO3/L	P386764	
	SM 2540 D-2011	TSS	4	I	mg/L	P387004	
	SM 4500 F-C-2011	Fluoride	1.3		mg F/L	P386900	
2193097	EPA 350.1 Rev. 2.0	Ammonia-N	0.013	Y	mg N/L	P387022	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.32	IY	mg N/L	P386807	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	UY	mg N/L	P386748	
	EPA 365.1 Rev. 2.0	Total-P	0.028	Y	mg P/L	P386754	
	SM 5310 B-2011	Organic Carbon	2.4	Y	mg C/L	P387201	
2193098	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.009	I	mg P/L	P386708	

Ref. Method and Comment:

EPA 300.0 Rev. 2.1: Bromide: Batch matrix spike recoveries for one of two spiked samples are unavailable because of high analyte concentration in the QC sample.

EPA 350.1 Rev. 2.0: Sample was left out at room temperature overnight, should be stored below 6 degC.

EPA 351.2 Rev. 2.0: Sample was left out at room temperature overnight, should be stored below 6 degC.

EPA 353.2 Rev. 2.0: Sample was left out at room temperature overnight, should be stored below 6 degC.

EPA 365.1 Rev. 2.0: Total-P: Sample was left out at room temperature overnight, should be stored below 6 degC.

SM 5310 B-2011: Sample was left out at room temperature overnight, should be stored below 6 degC.

Non-Conformance Report

NCR ID: 8403

Event(s)

SO-DIST-2020-08-28-02

Job(s)

TLH-2020-08-28-63

Sample(s)

2193097

Test(s)

NCR Type: CUSTODY

NCR Category: General

Observation: Sample stored at room temperature for more than 24 hours on 8/28/2020.

Resolution: Sample returned to refrigerator on 8/31/2020.

Data will be qualified as appropriate when analyzed after this date.

Authorized by/Date: Joshua Ayres 9/8/2020

The Non-Conformance Report details exceptions or problems encountered with the events/jobs/samples/test.

Please address questions to:

Chemistry	Colin Wright	(850) 245-8085
Biology	Cheryl Swanson	(850) 245-8177

Quality Assurance Report Method Blank Results

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P386705

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P387263

Component	Result	Code	Units
Bromide	0.013	U	mg Br/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P387022

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P386807

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P386748

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P386754

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P386708

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

Reference Method: SM 2320 B-2011
Batch ID: P386764

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

Reference Method: SM 2540 D-2011
Batch ID: P387004

Component	Result	Code	Units
TSS	3	U	mg/L

Quality Assurance Report

Method Blank Results

Reference Method: SM 4500 F-C-2011
Batch ID: P386900

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-2011
Batch ID: P387201

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: P387263

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Bromide	94.0		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P387022

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P386807

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Kjeldahl Nitrogen	96.1		P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P386748

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
NO2NO3-N	102		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P386754

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: P386708

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

Reference Method: SM 2320 B-2011
Batch ID: P386764

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	101		P	93 - 104

Reference Method: SM 4500 F-C-2011
Batch ID: P386900

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	99.6		P	90 - 106

Reference Method: SM 5310 B-2011
Batch ID: P387201

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	100		P	85 - 115

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P387263

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2193332	Bromide	92.0	91.6	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P387022

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2193097	Ammonia-N	103	101	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P386807

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2193097	Kjeldahl Nitrogen	94.7	96.7	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P386748

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2193072	NO2NO3-N	99.3	99.3	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P386754

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2192828	Total-P	104	104	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P386708

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2192991	O-Phosphate-P	102	104	P/P	90 - 110

Reference Method: SM 4500 F-C-2011
Batch ID: P386900

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2193249	Fluoride	99.4	100	P/P	94 - 107

Reference Method: SM 5310 B-2011
Batch ID: P387201

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2193428	Organic Carbon	95.3	95.7	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P386705

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2193035	Turbidity	0.984	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P387263

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2193332	Bromide	0.341	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P387022

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2193097	Ammonia-N	1.62	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P386807

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2193097	Kjeldahl Nitrogen	1.81	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P386748

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2193072	NO2NO3-N	0.0	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P386754

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2192828	Total-P	0.341	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P386708

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2192991	O-Phosphate-P	2.42	Spike	P	0 - 20

Reference Method: SM 2320 B-2011
Batch ID: P386764

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2193071	Total Alkalinity	0.158	Sample	P	0 - 8.1

Quality Assurance Report Precision

Reference Method: SM 2540 D-2011
Batch ID: P387004

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2193071	TSS	2.35	Sample	P	0 - 10

Reference Method: SM 4500 F-C-2011
Batch ID: P386900

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2193249	Fluoride	0.499	Spike	P	0 - 2.8

Reference Method: SM 5310 B-2011
Batch ID: P387201

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2193428	Organic Carbon	0.341	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: A100711

Included Lab Sample IDs: 2193096

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Run ID: A100712

Included Lab Sample IDs: 2193098

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	99.7	101	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A100725

Included Lab Sample IDs: 2193097

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

Reference Method: SM 2320 B-2011

Run ID: A100734

Included Lab Sample IDs: 2193096

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	98.8	101	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A100778

Included Lab Sample IDs: 2193097

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	98.5	98.8	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A100780

Included Lab Sample IDs: 2193097

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	96.5	95.1	P/P	90 - 110

Reference Method: SM 4500 F-C-2011

Run ID: A100801

Included Lab Sample IDs: 2193096

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

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A100833

Included Lab Sample IDs: 2193097

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

Quality Assurance Report Calibration Verification

Reference Method: SM 5310 B-2011

Run ID: A100906

Included Lab Sample IDs: 2193097

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	93.8	94.3	P/P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A100925

Included Lab Sample IDs: 2193096

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Bromide	98.8	99.3	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	MS
						SMP	
EPA 180.1 Rev. 2.0	Turbidity					0.984	
EPA 300.0 Rev. 2.1	Bromide	94.0	92.0	91.6			0.341
EPA 350.1 Rev. 2.0	Ammonia-N	101	103	101			1.62
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	96.1	94.7	96.7			1.81
EPA 353.2 Rev. 2.0	NO ₂ NO ₃ -N	102	99.3	99.3			0.0
EPA 365.1 Rev. 2.0	Total-P	107	104	104			0.341
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	103	102	104			2.42
SM 2320 B-2011	Total Alkalinity	101				0.158	
SM 2540 D-2011	TSS					2.35	
SM 4500 F-C-2011	Fluoride	99.6	99.4	100			0.499
SM 5310 B-2011	Organic Carbon	100	95.3	95.7			0.341

Reference Method Descriptions

Method	Description	Associated Samples
EPA 180.1 Rev. 2.0	Turbidity in aqueous matrices	2193096
EPA 300.0 Rev. 2.1	Bromide in aqueous matrices	2193096
EPA 350.1 Rev. 2.0	Ammonia in aqueous matrices as mg N/L	2193097
EPA 351.2 Rev. 2.0	Total Kjeldahl Nitrogen in aqueous matrices	2193097
EPA 353.2 Rev. 2.0	Nitrite/Nitrate in aqueous matrices as mg N/L	2193097
EPA 365.1 Rev. 2.0	Total Phosphorus in aqueous matrices as mg P/L	2193097
EPA 365.1 Rev. 2.0 dissolved	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	2193098
SM 2320 B-2011	Alkalinity in aqueous matrices as mg CaCO ₃ /L	2193096
SM 2540 D-2011	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2193096
SM 4500 F-C-2011	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2193096
SM 5310 B-2011	Nonpurgeable Organic Carbon in aqueous matrices	2193097

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	08/28/2020			08/28/2020 14:51	Yen Ta	2193096
EPA 300.0 Rev. 2.1	08/28/2020			09/10/2020 04:55	Lipi Saha	2193096
EPA 350.1 Rev. 2.0	08/28/2020			09/05/2020 16:06	Ping Hua	2193097
EPA 351.2 Rev. 2.0	08/28/2020	09/01/2020 11:35	Sima Feizi	09/02/2020 11:15	Virginia P. Brown	2193097
EPA 353.2 Rev. 2.0	08/28/2020			08/31/2020 10:46	Beverly Y. Sanders	2193097
EPA 365.1 Rev. 2.0	08/28/2020	08/31/2020 15:00	Yen Ta	09/02/2020 11:57	Lipi Saha	2193097
EPA 365.1 Rev. 2.0 dissolved	08/28/2020			08/28/2020 15:49	Samantha Davila	2193098
SM 2320 B-2011	08/28/2020			08/31/2020 22:58	Dale L. Simmons	2193096
SM 2540 D-2011	08/28/2020			08/31/2020 14:39	Yijie Li	2193096
SM 4500 F-C-2011	08/28/2020			09/02/2020 22:53	Dale L. Simmons	2193096
SM 5310 B-2011	08/28/2020			09/10/2020 09:01	David Boose	2193097