

Chemical Analysis Report

NE-DIST-2019-08-20-01

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

Event Description: **Continuous Monitoring Event**
Request ID: **RQ-2019-06-10-66**
Customer: **NE-DIST**
Project ID: **SMP**

Send Reports to:
FL Dept. of Environmental Protection
8800 Baymeadows Way West
Suite 100
Jacksonville, FL 32256
Attn: Brian G Davis

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Certified by: Liang Lin, Environmental Administrator

Date Certified: 03-SEP-2019 15:50

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: SHERMAN CR @ CONF SAN PABLO R

Collection Date/Time: 08/19/2019 14:35

Field ID: 20030802

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2112797	EPA 180.1 Rev. 2.0	Turbidity	8.7	A	NTU	P369371	
	EPA 300.0	Bromide	36		mg Br/L	P369499	
	SM 2320 B-97	Total Alkalinity	99		mg CaCO3/L	P369891	
	SM 2540 D-97	TSS	23	A	mg/L	P369705	
	SM 4500 F-C-97	Fluoride	0.66		mg F/L	P369892	
2112798	EPA 350.1 Rev. 2.0	Ammonia-N	0.006		mg N/L	P369693	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.69		mg N/L	P369508	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.033		mg N/L	P369577	
	EPA 365.1 Rev. 2.0	Total-P	0.076		mg P/L	P369510	
	SM 5310 B-00	Organic Carbon	6.5		mg C/L	P369460	
2112799	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.039		mg P/L	P369410	

Quality Assurance Report Method Blank Results

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P369371

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 300.0
Batch ID: P369499

Component	Result	Code	Units
Bromide	0.013	U	mg Br/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P369693

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P369508

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P369577

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P369510

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P369410

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

Reference Method: SM 2320 B-97
Batch ID: P369891

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

Reference Method: SM 2540 D-97
Batch ID: P369705

Component	Result	Code	Units
TSS	3	U	mg/L

Quality Assurance Report

Method Blank Results

Reference Method: SM 4500 F-C-97
Batch ID: P369892

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-00
Batch ID: P369460

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

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 300.0
Batch ID: P369499

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Bromide	96.9		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P369693

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P369508

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P369577

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: P369510

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total-P	97.2		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P369410

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

Reference Method: SM 2320 B-97
Batch ID: P369891

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	103		P	98 - 106

Reference Method: SM 4500 F-C-97
Batch ID: P369892

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	96.7		P	92 - 103

Reference Method: SM 5310 B-00
Batch ID: P369460

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	93.2		P	85 - 115

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 300.0
Batch ID: P369499

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2112216	Bromide	94.7	93.3	P/P	90 - 110
2112811	Bromide	94.8		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P369693

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2112043	Ammonia-N	103	104	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P369508

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2112967	Kjeldahl Nitrogen	102	102	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P369577

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2112043	NO2NO3-N	99.8	102	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P369510

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2112681	Total-P	92.6	93.6	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P369410

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2112682	O-Phosphate-P	97.0	97.8	P/P	90 - 110

Reference Method: SM 4500 F-C-97
Batch ID: P369892

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2111922	Fluoride	98.7	101	P/P	89 - 106

Reference Method: SM 5310 B-00
Batch ID: P369460

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2112798	Organic Carbon	90.7	91.9	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P369371

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2112797	Turbidity	10.4	Sample	P	0 - 20

Reference Method: EPA 300.0
Batch ID: P369499

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2112216	Bromide	1.36	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P369693

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2112043	Ammonia-N	0.685	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P369508

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2112967	Kjeldahl Nitrogen	0.0641	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P369577

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2112043	NO2NO3-N	1.90	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P369510

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2112681	Total-P	1.10	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P369410

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2112682	O-Phosphate-P	0.782	Spike	P	0 - 20

Reference Method: SM 2320 B-97
Batch ID: P369891

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2113602	Total Alkalinity	0.622	Sample	P	0 - 2.8

Quality Assurance Report Precision

Reference Method: SM 2540 D-97
Batch ID: P369705

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2112797	TSS	5.13	Sample	P	0 - 10

Reference Method: SM 4500 F-C-97
Batch ID: P369892

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2111922	Fluoride	1.91	Spike	P	0 - 2.5

Reference Method: SM 5310 B-00
Batch ID: P369460

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2112798	Organic Carbon	1.07	Spike	P	0 - 20

* Sample, spike and/or laboratory control sample precision (LCS) is reported.
Replicate spike precision may be reported when sample results are below quantifiable levels.

Quality Assurance Report Calibration Verification

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A93657

Included Lab Sample IDs: 2112797

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Turbidity	102	102	P/P	95 - 105

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Run ID: A93683

Included Lab Sample IDs: 2112799

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

Reference Method: SM 5310 B-00

Run ID: A93704

Included Lab Sample IDs: 2112798

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	95.9	94.0	P/P	90 - 110

Reference Method: EPA 300.0

Run ID: A93718

Included Lab Sample IDs: 2112797

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

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A93747

Included Lab Sample IDs: 2112798

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

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A93750

Included Lab Sample IDs: 2112798

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	108	107	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A93776

Included Lab Sample IDs: 2112798

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	98.8	99.2	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A93798

Included Lab Sample IDs: 2112798

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	103	105	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: SM 2320 B-97
Run ID: A93863
Included Lab Sample IDs: 2112797

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	104	101	P/P	90 - 110

Reference Method: SM 4500 F-C-97
Run ID: A93863
Included Lab Sample IDs: 2112797

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	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			Precision SMP	MS
			LCS				
EPA 180.1 Rev. 2.0	Turbidity					10.4	
EPA 300.0	Bromide	96.9		94.7	93.3		1.36
EPA 350.1 Rev. 2.0	Ammonia-N	100		103	104		0.685
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	103		102	102		0.0641
EPA 353.2 Rev. 2.0	NO ₂ NO ₃ -N	102		99.8	102		1.90
EPA 365.1 Rev. 2.0	Total-P	97.2		92.6	93.6		1.10
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	99.5		97.0	97.8		0.782
SM 2320 B-97	Total Alkalinity	103				0.622	
SM 2540 D-97	TSS					5.13	
SM 4500 F-C-97	Fluoride	96.7		98.7	101		1.91
SM 5310 B-00	Organic Carbon	93.2		90.7	91.9		1.07

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 180.1 Rev. 2.0 / E31780	Turbidity in aqueous matrices	2112797
EPA 300.0 / E31780	Bromide in aqueous matrices	2112797
EPA 350.1 Rev. 2.0 / E31780	Ammonia in aqueous matrices as mg N/L	2112798
EPA 351.2 Rev. 2.0 / E31780	Total Kjeldahl Nitrogen in aqueous matrices	2112798
EPA 353.2 Rev. 2.0 / E31780	Nitrite/Nitrate in aqueous matrices as mg N/L	2112798
EPA 365.1 Rev. 2.0 / E31780	Total Phosphorus in aqueous matrices as mg P/L	2112798
EPA 365.1 Rev. 2.0 dissolved / E31780	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	2112799
SM 2320 B-97 / E31780	Alkalinity in aqueous matrices as mg CaCO ₃ /L	2112797
SM 2540 D-97 / E31780	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2112797
SM 4500 F-C-97 / E31780	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2112797
SM 5310 B-00 / E31780	Nonpurgeable Organic Carbon in aqueous matrices	2112798

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	08/20/2019			08/20/2019 16:54	Rosalyn Ballman	2112797
EPA 300.0	08/20/2019			08/21/2019 22:26	Julia Storbeck	2112797
EPA 350.1 Rev. 2.0	08/20/2019			08/26/2019 12:22	Ping Hua	2112798
EPA 351.2 Rev. 2.0	08/20/2019	08/22/2019 11:15	Sima Feizi	08/23/2019 10:59	Joseph Suarez	2112798
EPA 353.2 Rev. 2.0	08/20/2019			08/23/2019 10:43	Beverly Y. Sanders	2112798
EPA 365.1 Rev. 2.0	08/20/2019	08/22/2019 12:30	Lipi Saha	08/26/2019 11:30	Lipi Saha	2112798
EPA 365.1 Rev. 2.0 dissolved	08/20/2019			08/20/2019 16:10	Jhamieka S. Greenwood	2112799
SM 2320 B-97	08/20/2019			08/29/2019 00:45	Dale L. Simmons	2112797
SM 2540 D-97	08/20/2019			08/21/2019 14:21	Yijie Li	2112797
SM 4500 F-C-97	08/20/2019			08/28/2019 21:54	Dale L. Simmons	2112797
SM 5310 B-00	08/20/2019			08/22/2019 00:54	Madeline Funaro	2112798