

Chemical Analysis Report

NE-DIST-2020-08-26-02

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-2020-08-17-49**

Customer: **NE-DIST**

Project ID: **SMP**

Send Reports to:
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8800 Baymeadows Way West
Suite 100
Jacksonville, FL 32256
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Certified by: Dr. rer. nat. Bettina Steinbock, Environmental Administrator

Date Certified: 17-SEP-2020 17:03



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: Unnamed Drain South Entrance

Collection Date/Time: 08/25/2020 08:45

Field ID: G5NE0591

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2192371	EPA 180.1 Rev. 2.0	Turbidity	27		NTU	P386581	
	EPA 300.0 Rev. 2.1	Bromide	47		mg Br/L	P387262	MS
	SM 2320 B-2011	Total Alkalinity	132		mg CaCO3/L	P386668	
	SM 2540 D-2011	TSS	54		mg/L	P387004	
	SM 4500 F-C-2011	Fluoride	1.1		mg F/L	P386794	RPD
2192372	EPA 350.1 Rev. 2.0	Ammonia-N	0.16		mg N/L	P387017	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.68		mg N/L	P386681	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.017		mg N/L	P386745	
	EPA 365.1 Rev. 2.0	Total-P	0.12		mg P/L	P386677	
	SM 5310 B-2011	Organic Carbon	8.1		mg C/L	P386727	
2192373	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.046		mg P/L	P386589	

Quality Assurance Report Method Blank Results

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P386581

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P387262

Component	Result	Code	Units
Bromide	0.013	U	mg Br/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P387017

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P386681

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P386745

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P386677

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P386589

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

Reference Method: SM 2320 B-2011
Batch ID: P386668

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: P386794

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-2011
Batch ID: P386727

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: P387262

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Bromide	96.7		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P387017

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Ammonia-N	98.5		P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P386681

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Kjeldahl Nitrogen	99.1		P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P386745

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: P386677

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P386589

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
O-Phosphate-P	98.4		P	90 - 110

Reference Method: SM 2320 B-2011
Batch ID: P386668

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	102		P	93 - 104

Reference Method: SM 4500 F-C-2011
Batch ID: P386794

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	101		P	90 - 106

Reference Method: SM 5310 B-2011
Batch ID: P386727

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	95.0		P	85 - 115

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P387262

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2192715	Bromide	91.5	89.4	P/F	90 - 110
2192716	Bromide	87.1		F	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P387017

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2192089	Ammonia-N	100	101	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P386681

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2192608	Kjeldahl Nitrogen	108	102	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P386745

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2192088	NO2NO3-N	96.8	96.8	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P386677

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2192372	Total-P	100	97.4	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P386589

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2192373	O-Phosphate-P	102	103	P/P	90 - 110

Reference Method: SM 4500 F-C-2011
Batch ID: P386794

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2192824	Fluoride	100	105	P/P	94 - 107

Reference Method: SM 5310 B-2011
Batch ID: P386727

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2191540	Organic Carbon	94.9	95.2	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P386581

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2192352	Turbidity	9.13	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P387262

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2192715	Bromide	1.76	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P387017

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2192089	Ammonia-N	0.734	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P386681

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2192608	Kjeldahl Nitrogen	4.43	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P386745

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2192088	NO2NO3-N	0.0	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P386677

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2192372	Total-P	2.69	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P386589

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2192373	O-Phosphate-P	0.672	Spike	P	0 - 20

Reference Method: SM 2320 B-2011
Batch ID: P386668

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2192085	Total Alkalinity	1.36	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: P386794

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2192824	Fluoride	2.82	Spike	F	0 - 2.8

Reference Method: SM 5310 B-2011
Batch ID: P386727

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2191540	Organic Carbon	0.278	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: A100660

Included Lab Sample IDs: 2192371

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Turbidity	101	100	P/P	95 - 105

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Run ID: A100663

Included Lab Sample IDs: 2192373

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	96.1	96.0	P/P	90 - 110

Reference Method: SM 2320 B-2011

Run ID: A100697

Included Lab Sample IDs: 2192371

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	99.7	102	P/P	90 - 110

Reference Method: SM 5310 B-2011

Run ID: A100718

Included Lab Sample IDs: 2192372

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	92.2	92.2	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A100725

Included Lab Sample IDs: 2192372

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

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A100726

Included Lab Sample IDs: 2192372

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

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A100731

Included Lab Sample IDs: 2192372

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	97.7	98.5	P/P	90 - 110

Reference Method: SM 4500 F-C-2011

Run ID: A100747

Included Lab Sample IDs: 2192371

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	104	98.2	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A100832

Included Lab Sample IDs: 2192372

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	99.6	101	P/P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A100925

Included Lab Sample IDs: 2192371

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Bromide	101	95.4	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					9.13	
EPA 300.0 Rev. 2.1	Bromide	96.7	91.5	89.4	87.1		1.76
EPA 350.1 Rev. 2.0	Ammonia-N	98.5	100	101			0.734
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	99.1	108	102			4.43
EPA 353.2 Rev. 2.0	NO ₂ NO ₃ -N	99.5	96.8	96.8			0.0
EPA 365.1 Rev. 2.0	Total-P	102	100	97.4			2.69
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	98.4	102	103			0.672
SM 2320 B-2011	Total Alkalinity	102				1.36	
SM 2540 D-2011	TSS					2.35	
SM 4500 F-C-2011	Fluoride	101	100	105			2.82
SM 5310 B-2011	Organic Carbon	95.0	94.9	95.2			0.278

Reference Method Descriptions

Method	Description	Associated Samples
EPA 180.1 Rev. 2.0	Turbidity in aqueous matrices	2192371
EPA 300.0 Rev. 2.1	Bromide in aqueous matrices	2192371
EPA 350.1 Rev. 2.0	Ammonia in aqueous matrices as mg N/L	2192372
EPA 351.2 Rev. 2.0	Total Kjeldahl Nitrogen in aqueous matrices	2192372
EPA 353.2 Rev. 2.0	Nitrite/Nitrate in aqueous matrices as mg N/L	2192372
EPA 365.1 Rev. 2.0	Total Phosphorus in aqueous matrices as mg P/L	2192372
EPA 365.1 Rev. 2.0 dissolved	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	2192373
SM 2320 B-2011	Alkalinity in aqueous matrices as mg CaCO ₃ /L	2192371
SM 2540 D-2011	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2192371
SM 4500 F-C-2011	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2192371
SM 5310 B-2011	Nonpurgeable Organic Carbon in aqueous matrices	2192372

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	08/26/2020			08/26/2020 15:10	Yen Ta	2192371
EPA 300.0 Rev. 2.1	08/26/2020			09/09/2020 20:56	Lipi Saha	2192371
EPA 350.1 Rev. 2.0	08/26/2020			09/05/2020 11:59	Ping Hua	2192372
EPA 351.2 Rev. 2.0	08/26/2020	08/28/2020 12:10	David Boose	08/31/2020 10:14	Virginia P. Brown	2192372
EPA 353.2 Rev. 2.0	08/26/2020			08/31/2020 09:41	Beverly Y. Sanders	2192372
EPA 365.1 Rev. 2.0	08/26/2020	08/28/2020 12:36	Yen Ta	08/31/2020 09:13	Benjamin T. Nordmann	2192372
EPA 365.1 Rev. 2.0 dissolved	08/26/2020			08/26/2020 19:06	Blanca Fach	2192373
SM 2320 B-2011	08/26/2020			08/28/2020 04:52	Dale L. Simmons	2192371
SM 2540 D-2011	08/26/2020			08/31/2020 14:39	Yijie Li	2192371
SM 4500 F-C-2011	08/26/2020			08/29/2020 02:04	Dale L. Simmons	2192371
SM 5310 B-2011	08/26/2020			08/30/2020 13:52	Ping Hua	2192372