

Chemical Analysis Report

SO-DIST-2022-04-15-01

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

Event Description: **Caloosa Creeks**
Request ID: **RQ-2022-04-11-10**
Customer: **SO-DIST**
Project ID: **BMAP**

Send Reports to:
FL Dept. of Environmental Protection
FLDEP South District Office
2295 Victoria Ave. Suite 364
Fort Myers, FL 33901-3381
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Certified by: Kerry Tate, Ph.D., Environmental Administrator

Date Certified: 06-MAY-2022 11:19

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.

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: Orange River @BoatRamp

Collection Date/Time: 04/14/2022 09:52

Field ID: G3SD0128

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2319702	DEP SOP: NU-094-1	Color (true)**	53	A	PCU	P412436	
	SM 2320 B-2011	Total Alkalinity	112		mg CaCO3/L	P412807	
	SM 2540 D-2011	TSS	10		mg/L	P412991	
	SM 4500-F- C-2011	Fluoride	0.17		mg F/L	P412810	
2319706	SM 5310 B-2011 dissolved	Organic Carbon	13		mg C/L	P412974	
2319710	EPA 350.1 Rev. 2.0	Ammonia-N	0.011		mg N/L	P412626	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.1		mg N/L	P412835	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.006	I	mg N/L	P412622	
	EPA 365.1 Rev. 2.0	Total-P	0.071		mg P/L	P412670	
	SM 5310 B-2011	Organic Carbon	14		mg C/L	P412974	
2319714	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.026		mg P/L	P412434	

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: Roberts Canal @ SR 80

Collection Date/Time: 04/14/2022 10:40

Field ID: G3SD0146

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2319703	DEP SOP: NU-094-1	Color (true)**	50		PCU	P412436	
	SM 2320 B-2011	Total Alkalinity	232		mg CaCO3/L	P412807	
	SM 2540 D-2011	TSS	18		mg/L	P412991	
	SM 4500-F- C-2011	Fluoride	0.39		mg F/L	P412810	
2319707	SM 5310 B-2011 dissolved	Organic Carbon	15		mg C/L	P412871	
2319711	EPA 350.1 Rev. 2.0	Ammonia-N	0.030		mg N/L	P412626	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.2		mg N/L	P412836	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.019		mg N/L	P412622	
	EPA 365.1 Rev. 2.0	Total-P	0.067		mg P/L	P412670	
	SM 5310 B-2011	Organic Carbon	15		mg C/L	P412783	
2319715	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.011		mg P/L	P412434	

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: Nine Mile Canal @ SR 80

Collection Date/Time: 04/14/2022 11:23

Field ID: G3SD0088

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2319704	DEP SOP: NU-094-1	Color (true)**	43		PCU	P412436	
	SM 2320 B-2011	Total Alkalinity	121	A	mg CaCO3/L	P412807	
	SM 2540 D-2011	TSS	5	I	mg/L	P412991	
	SM 4500-F- C-2011	Fluoride	0.18		mg F/L	P412810	
2319708	SM 5310 B-2011 dissolved	Organic Carbon	15		mg C/L	P412871	
2319712	EPA 350.1 Rev. 2.0	Ammonia-N	0.051		mg N/L	P412626	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.3		mg N/L	P412836	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.092		mg N/L	P412622	
	EPA 365.1 Rev. 2.0	Total-P	0.076		mg P/L	P412670	
	SM 5310 B-2011	Organic Carbon	15		mg C/L	P412783	
2319716	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.012		mg P/L	P412434	

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: Telegraph Creek @ USGS

Collection Date/Time: 04/14/2022 13:15

Field ID: G3SD0129

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2319705	DEP SOP: NU-094-1	Color (true)**	47		PCU	P412436	
	SM 2320 B-2011	Total Alkalinity	149		mg CaCO3/L	P412807	
	SM 2540 D-2011	TSS	9	I	mg/L	P412991	
	SM 4500-F- C-2011	Fluoride	0.18		mg F/L	P412810	
2319709	SM 5310 B-2011 dissolved	Organic Carbon	14		mg C/L	P412871	
2319713	EPA 350.1 Rev. 2.0	Ammonia-N	0.007		mg N/L	P412626	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.3		mg N/L	P412927	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P412622	
	EPA 365.1 Rev. 2.0	Total-P	0.086		mg P/L	P412670	
	SM 5310 B-2011	Organic Carbon	15		mg C/L	P412783	
2319717	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.020		mg P/L	P412434	

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: DEP SOP: NU-094-1
Batch ID: P412436

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P412626

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P412835

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P412836

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P412927

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P412622

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P412670

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P412434

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

Reference Method: SM 2320 B-2011
Batch ID: P412807

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

Quality Assurance Report Method Blank Results

Reference Method: SM 2540 D-2011
Batch ID: P412991

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500-F- C-2011
Batch ID: P412810

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-2011
Batch ID: P412783

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

Reference Method: SM 5310 B-2011
Batch ID: P412974

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

Reference Method: SM 5310 B-2011 dissolved
Batch ID: P412871

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

Reference Method: SM 5310 B-2011 dissolved
Batch ID: P412974

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

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: DEP SOP: NU-094-1
Batch ID: P412436

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Color (true)	99.3		P	85 - 115

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P412626

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Ammonia-N	97.4		P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P412835

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Kjeldahl Nitrogen	96.6		P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P412836

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Kjeldahl Nitrogen	93.6		P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P412927

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P412622

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
NO2NO3-N	98.0		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P412670

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: P412434

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

Reference Method: SM 2320 B-2011
Batch ID: P412807

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	96.6		P	94 - 106

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: SM 4500-F- C-2011
Batch ID: P412810

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	99.6		P	93 - 104

Reference Method: SM 5310 B-2011
Batch ID: P412783

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	96.0		P	85 - 115

Reference Method: SM 5310 B-2011
Batch ID: P412974

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	96.0		P	85 - 115

Reference Method: SM 5310 B-2011 dissolved
Batch ID: P412871

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	94.8		P	85 - 115

Reference Method: SM 5310 B-2011 dissolved
Batch ID: P412974

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	96.0		P	85 - 115

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P412626

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2319680	Ammonia-N	95.4	95.4	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P412835

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2319291	Kjeldahl Nitrogen	96.5	101	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P412836

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2319360	Kjeldahl Nitrogen	97.3	93.0	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P412927

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2322111	Kjeldahl Nitrogen	101	99.4	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P412622

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2319710	NO2NO3-N	97.0	97.0	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P412670

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2319713	Total-P	103	102	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P412434

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2319717	O-Phosphate-P	97.9	99.7	P/P	90 - 110

Reference Method: SM 4500-F- C-2011
Batch ID: P412810

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2319704	Fluoride	100	99.4	P/P	92 - 107

Reference Method: SM 5310 B-2011
Batch ID: P412783

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2319870	Organic Carbon	97.1	97.9	P/P	85 - 115

Quality Assurance Report

Matrix Spike Accuracy

Reference Method: SM 5310 B-2011
Batch ID: P412974

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2319599	Organic Carbon	94.0	94.8	P/P	85 - 115

Reference Method: SM 5310 B-2011 dissolved
Batch ID: P412871

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2321180	Organic Carbon	87.7	93.0	P/P	85 - 115

Reference Method: SM 5310 B-2011 dissolved
Batch ID: P412974

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2319599	Organic Carbon	94.0	94.8	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: DEP SOP: NU-094-1
Batch ID: P412436

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2319702	Color (true)	0.283	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P412626

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2319680	Ammonia-N	0.0	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P412835

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2319291	Kjeldahl Nitrogen	4.79	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P412836

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2319360	Kjeldahl Nitrogen	3.52	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P412927

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2322111	Kjeldahl Nitrogen	1.15	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P412622

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2319710	NO2NO3-N	0.0	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P412670

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2319713	Total-P	0.786	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P412434

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2319717	O-Phosphate-P	1.51	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: SM 2320 B-2011
Batch ID: P412807

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2319704	Total Alkalinity	0.146	Sample	P	0 - 5.2

Reference Method: SM 4500-F- C-2011
Batch ID: P412810

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2319704	Fluoride	0.476	Spike	P	0 - 2.1

Reference Method: SM 5310 B-2011
Batch ID: P412783

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2319870	Organic Carbon	0.556	Spike	P	0 - 20

Reference Method: SM 5310 B-2011
Batch ID: P412974

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2319599	Organic Carbon	0.494	Spike	P	0 - 20

Reference Method: SM 5310 B-2011 dissolved
Batch ID: P412871

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2321180	Organic Carbon	4.13	Spike	P	0 - 20

Reference Method: SM 5310 B-2011 dissolved
Batch ID: P412974

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2319599	Organic Carbon	0.494	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: A111504

Included Lab Sample IDs: 2319714, 2319715, 2319716, 2319717

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	99.6	99.2	P/P	90 - 110

Reference Method: DEP SOP: NU-094-1

Run ID: A111505

Included Lab Sample IDs: 2319702, 2319703, 2319704, 2319705

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	101	101	P/P	85 - 115

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A111572

Included Lab Sample IDs: 2319710, 2319711, 2319712, 2319713

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	99.0	98.5	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A111574

Included Lab Sample IDs: 2319710, 2319711, 2319712, 2319713

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	97.0	97.6	P/P	90 - 110

Reference Method: SM 5310 B-2011

Run ID: A111644

Included Lab Sample IDs: 2319711, 2319712, 2319713

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	97.6	97.8	P/P	90 - 110

Reference Method: SM 2320 B-2011

Run ID: A111656

Included Lab Sample IDs: 2319702, 2319703, 2319704, 2319705

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	97.9	97.6	P/P	90 - 110
Total Alkalinity	98.0	97.9	P/P	90 - 110

Reference Method: SM 4500-F- C-2011

Run ID: A111656

Included Lab Sample IDs: 2319702, 2319703, 2319704, 2319705

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

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A111672

Included Lab Sample IDs: 2319710, 2319711, 2319712, 2319713

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
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Quality Assurance Report Calibration Verification

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A111672

Included Lab Sample IDs: 2319710, 2319711, 2319712, 2319713

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	97.6	98.7	P/P	90 - 110
Total-P	98.7	97.6	P/P	90 - 110

Reference Method: SM 5310 B-2011 dissolved

Run ID: A111683

Included Lab Sample IDs: 2319707, 2319708, 2319709

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	96.2	97.6	P/P	90 - 110

Reference Method: SM 5310 B-2011

Run ID: A111730

Included Lab Sample IDs: 2319710

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	95.7	97.4	P/P	90 - 110

Reference Method: SM 5310 B-2011 dissolved

Run ID: A111730

Included Lab Sample IDs: 2319706

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	95.7	97.4	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A111794

Included Lab Sample IDs: 2319713

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	96.1	101	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A111850

Included Lab Sample IDs: 2319710, 2319711, 2319712

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	107	96.1	P/P	90 - 110
Kjeldahl Nitrogen	96.1	102	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	
DEP SOP: NU-094-1	Color (true)	99.3				0.283	
EPA 350.1 Rev. 2.0	Ammonia-N	97.4	95.4	95.4			0.0
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	96.6	96.5	101			4.79
	Kjeldahl Nitrogen	93.6	97.3	93.0			3.52
	Kjeldahl Nitrogen	100	101	99.4			1.15
	NO2NO3-N	98.0	97.0	97.0			0.0
EPA 353.2 Rev. 2.0	Total-P	102	103	102			0.786
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	101	97.9	99.7			1.51
SM 2320 B-2011	Total Alkalinity	96.6				0.146	
SM 4500-F- C-2011	Fluoride	99.6	100	99.4			0.476
SM 5310 B-2011	Organic Carbon	96.0	97.1	97.9			0.556
	Organic Carbon	96.0	94.0	94.8			0.494
	Organic Carbon	94.8	87.7	93.0			4.13
	Organic Carbon	96.0	94.0	94.8			0.494

Reference Method Descriptions

Method	Description	Associated Samples
DEP SOP: NU-094-1	True Color measured at 450 nm (not valid for NPDES monitoring)	2319702, 2319703, 2319704, 2319705
EPA 350.1 Rev. 2.0	Ammonia in aqueous matrices as mg N/L	2319710, 2319711, 2319712, 2319713
EPA 351.2 Rev. 2.0	Total Kjeldahl Nitrogen in aqueous matrices	2319710, 2319711, 2319712, 2319713
EPA 353.2 Rev. 2.0	Nitrite/Nitrate in aqueous matrices as mg N/L	2319710, 2319711, 2319712, 2319713
EPA 365.1 Rev. 2.0	Total Phosphorus in aqueous matrices as mg P/L	2319710, 2319711, 2319712, 2319713
EPA 365.1 Rev. 2.0 dissolved	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	2319714, 2319715, 2319716, 2319717
SM 2320 B-2011	Alkalinity in aqueous matrices as mg CaCO3/L	2319702, 2319703, 2319704, 2319705
SM 2540 D-2011	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2319702, 2319703, 2319704, 2319705
SM 4500-F- C-2011	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2319702, 2319703, 2319704, 2319705
SM 5310 B-2011	Nonpurgeable Organic Carbon in aqueous matrices	2319710, 2319711, 2319712, 2319713
SM 5310 B-2011 dissolved	Dissolved Nonpurgeable Organic Carbon in filtered, aqueous matrices	2319706, 2319707, 2319708, 2319709

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
DEP SOP: NU-094-1	04/15/2022			04/15/2022 16:16	Anna M. Plaviak	2319702
	04/15/2022			04/15/2022 16:17	Anna M. Plaviak	2319703
	04/15/2022			04/15/2022 16:18	Anna M. Plaviak	2319704
	04/15/2022			04/15/2022 16:19	Anna M. Plaviak	2319705
EPA 350.1 Rev. 2.0	04/15/2022			04/20/2022 10:58	Ping Hua	2319710
	04/15/2022			04/20/2022 11:00	Ping Hua	2319711
	04/15/2022			04/20/2022 11:01	Ping Hua	2319712
	04/15/2022			04/20/2022 11:02	Ping Hua	2319713
EPA 351.2 Rev. 2.0	04/15/2022	04/27/2022 17:18	Alexandra J Mattheus	04/28/2022 15:06	Alexandra J Mattheus	2319713
	04/15/2022	04/28/2022 09:58	Samantha L Bates	05/02/2022 11:30	Alexandra J Mattheus	2319710
	04/15/2022	04/28/2022 09:58	Samantha L Bates	05/02/2022 12:00	Alexandra J Mattheus	2319711
	04/15/2022	04/28/2022 09:58	Samantha L Bates	05/02/2022 12:01	Alexandra J Mattheus	2319712
EPA 353.2 Rev. 2.0	04/15/2022			04/19/2022 16:32	Nathaniel J Jones	2319710
	04/15/2022			04/19/2022 16:42	Nathaniel J Jones	2319711
	04/15/2022			04/19/2022 16:43	Nathaniel J Jones	2319712
	04/15/2022			04/19/2022 16:44	Nathaniel J Jones	2319713
EPA 365.1 Rev. 2.0	04/15/2022	04/22/2022 16:40	Simonne.V. Calhoun	04/25/2022 14:42	Sarah A Nixon	2319713
	04/15/2022	04/22/2022 16:40	Simonne.V. Calhoun	04/25/2022 14:50	Sarah A Nixon	2319710
	04/15/2022	04/22/2022 16:40	Simonne.V. Calhoun	04/25/2022 14:51	Sarah A Nixon	2319711
	04/15/2022	04/22/2022 16:40	Simonne.V. Calhoun	04/25/2022 14:52	Sarah A Nixon	2319712
EPA 365.1 Rev. 2.0 dissolved	04/15/2022			04/15/2022 14:41	James L Waggeberby	2319717
	04/15/2022			04/15/2022 14:45	James L Waggeberby	2319714
	04/15/2022			04/15/2022 14:46	James L Waggeberby	2319715, 2319716
SM 2320 B-2011	04/15/2022			04/22/2022 02:36	Sarah A Nixon	2319704
	04/15/2022			04/22/2022 04:06	Sarah A Nixon	2319702
	04/15/2022			04/22/2022 04:21	Sarah A Nixon	2319703
	04/15/2022			04/22/2022 04:35	Sarah A Nixon	2319705
SM 2540 D-2011	04/15/2022			04/20/2022 15:36	Yijie Li	2319702, 2319703, 2319704, 2319705
SM 4500-F- C-2011	04/15/2022			04/22/2022 02:25	Sarah A Nixon	2319704
	04/15/2022			04/22/2022 04:06	Sarah A Nixon	2319702
	04/15/2022			04/22/2022 04:21	Sarah A Nixon	2319703
	04/15/2022			04/22/2022 04:35	Sarah A Nixon	2319705
SM 5310 B-2011	04/15/2022			04/19/2022 23:17	Judith K. Clark	2319710
	04/15/2022			04/21/2022 03:56	Judith K. Clark	2319711
	04/15/2022			04/21/2022 04:09	Judith K. Clark	2319712
	04/15/2022			04/21/2022 04:23	Judith K. Clark	2319713
SM 5310 B-2011 dissolved	04/15/2022			04/19/2022 23:44	Judith K. Clark	2319706
	04/15/2022			04/25/2022 18:38	Khloe J Berg	2319707
	04/15/2022			04/25/2022 18:52	Khloe J Berg	2319708
	04/15/2022			04/25/2022 19:06	Khloe J Berg	2319709