

Chemical Analysis Report

SO-DIST-2022-11-30-01

Florida DEP Laboratory
2600 Blair Stone Road
Tallahassee, FL 32399-2400
DOH Accreditation E31780

Event Description: **Caloosa Creeks**
Request ID: **RQ-2022-11-07-04**
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
Attn: Gary Snorek

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Certified by: Colin Wright, Program Administrator

Date Certified: 19-DEC-2022 11:13

A handwritten signature in black ink, appearing to read "Colin Wright", is placed over a light blue rectangular 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: Orange River at Boat Ramp

Collection Date/Time: 11/29/2022 08:22

Field ID: G3SD0128

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2371699	DEP SOP: NU-094-1	Color (true)	45		PCU	P422938	
	SM 2320 B-2011	Total Alkalinity	220		mg CaCO3/L	P423069	
	SM 2540 D-2015	TSS	3	I	mg/L	P423166	
	SM 4500-F- C-2011	Fluoride	0.16		mg F/L	P423072	
2371704	SM 5310 B-2011 dissolved	Organic Carbon	11		mg C/L	P423078	
2371709	EPA 350.1 Rev. 2.0	Ammonia-N	0.020		mg N/L	P423260	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.80		mg N/L	P423016	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.23		mg N/L	P422976	
	EPA 365.1 Rev. 2.0	Total-P	0.037		mg P/L	P423028	
	SM 5310 B-2011	Organic Carbon	11		mg C/L	P423078	
2371714	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.014		mg P/L	P422943	

Ref. Method and Comment:

SM 2540 D-2015: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.

EPA 365.1 Rev. 2.0: Total-P: Batch matrix spike recoveries are unavailable because of high analyte concentration in the QC sample.

Sample Location: FB

Collection Date/Time: 11/29/2022 08:30

Field ID: FB_11292022

Matrix: W-FIELD-BK

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2371719	DEP SOP: NU-094-1	Color (true)	2.5	U	PCU	P422939	
	SM 2320 B-2011	Total Alkalinity	0.65	U	mg CaCO3/L	P423069	
	SM 2540 D-2015	TSS	2	U	mg/L	P423166	
	SM 4500-F- C-2011	Fluoride	0.025	U	mg F/L	P423072	
2371720	SM 5310 B-2011 dissolved	Organic Carbon	0.65	I	mg C/L	P423077	
2371721	EPA 350.1 Rev. 2.0	Ammonia-N	0.002	U	mg N/L	P423260	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.080	U	mg N/L	P423016	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P422976	
	EPA 365.1 Rev. 2.0	Total-P	0.002	U	mg P/L	P423028	
	SM 5310 B-2011	Organic Carbon	0.52	I	mg C/L	P423077	
2371722	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P422943	

Ref. Method and Comment:

SM 2540 D-2015: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.

SM 5310 B-2011 dissolved: The result was confirmed on 12/07/2022.

EPA 365.1 Rev. 2.0: Total-P: Batch matrix spike recoveries are unavailable because of high analyte concentration in the QC sample.

SM 5310 B-2011: The result was confirmed on 12/07/2022.

Sample Location: Roberts Canal @ SR 80

Collection Date/Time: 11/29/2022 09:10

Field ID: G3SD0146

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2371700	DEP SOP: NU-094-1	Color (true)	110		PCU	P422938	
	SM 2320 B-2011	Total Alkalinity	139		mg CaCO3/L	P423069	
	SM 2540 D-2015	TSS	17		mg/L	P423166	
	SM 4500-F- C-2011	Fluoride	0.20		mg F/L	P423072	
2371705	SM 5310 B-2011 dissolved	Organic Carbon	19		mg C/L	P423078	
2371710	EPA 350.1 Rev. 2.0	Ammonia-N	0.057		mg N/L	P423260	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.3		mg N/L	P423016	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.16		mg N/L	P422976	
	EPA 365.1 Rev. 2.0	Total-P	0.081		mg P/L	P423028	
	SM 5310 B-2011	Organic Carbon	19		mg C/L	P423078	
2371715	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.026		mg P/L	P422943	

Ref. Method and Comment:

SM 2540 D-2015: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.

EPA 365.1 Rev. 2.0: Total-P: Batch matrix spike recoveries are unavailable because of high analyte concentration in the QC sample.

Sample Location: Nine Mile Canal @ SR 80

Collection Date/Time: 11/29/2022 09:54

Field ID: G3SD0088

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2371701	DEP SOP: NU-094-1	Color (true)	94		PCU	P422938	
	SM 2320 B-2011	Total Alkalinity	216		mg CaCO3/L	P423069	
	SM 2540 D-2015	TSS	6	I	mg/L	P423166	
	SM 4500-F- C-2011	Fluoride	0.27		mg F/L	P423072	
2371706	SM 5310 B-2011 dissolved	Organic Carbon	22		mg C/L	P423078	
2371711	EPA 350.1 Rev. 2.0	Ammonia-N	0.032		mg N/L	P423260	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.6		mg N/L	P423016	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.33		mg N/L	P422976	
	EPA 365.1 Rev. 2.0	Total-P	0.21		mg P/L	P423028	
	SM 5310 B-2011	Organic Carbon	22		mg C/L	P423078	
2371716	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.15		mg P/L	P422943	

Ref. Method and Comment:

SM 2540 D-2015: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.

EPA 365.1 Rev. 2.0: Total-P: Batch matrix spike recoveries are unavailable because of high analyte concentration in the QC sample.

Sample Location: Bee Branch @ Lobolly Bay Rd.

Collection Date/Time: 11/29/2022 11:05

Field ID: G3SD0085

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2371702	DEP SOP: NU-094-1	Color (true)	320		PCU	P422938	
	SM 2320 B-2011	Total Alkalinity	13		mg CaCO3/L	P423069	
	SM 2540 D-2015	TSS	2	I	mg/L	P423166	
	SM 4500-F- C-2011	Fluoride	0.072	I	mg F/L	P423072	
2371707	SM 5310 B-2011 dissolved	Organic Carbon	29		mg C/L	P423077	
2371712	EPA 350.1 Rev. 2.0	Ammonia-N	0.014		mg N/L	P423260	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.2		mg N/L	P423016	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.018		mg N/L	P422976	
	EPA 365.1 Rev. 2.0	Total-P	0.12		mg P/L	P423028	
	SM 5310 B-2011	Organic Carbon	32		mg C/L	P423077	
2371717	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.099		mg P/L	P422943	

Ref. Method and Comment:

SM 2540 D-2015: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.

EPA 365.1 Rev. 2.0: Total-P: Batch matrix spike recoveries are unavailable because of high analyte concentration in the QC sample.

Sample Location: Telegraph Creek Sonde @ USGS Sonde Station Collection Date/Time: 11/29/2022 12:43

Field ID: G3SD0129

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2371703	DEP SOP: NU-094-1	Color (true)	260		PCU	P422938	
	SM 2320 B-2011	Total Alkalinity	86		mg CaCO3/L	P423069	
	SM 2540 D-2015	TSS	2	U	mg/L	P423166	
	SM 4500-F- C-2011	Fluoride	0.092	I	mg F/L	P423072	
2371708	SM 5310 B-2011 dissolved	Organic Carbon	30		mg C/L	P423077	
2371713	EPA 350.1 Rev. 2.0	Ammonia-N	0.047		mg N/L	P423260	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.3		mg N/L	P423016	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.059		mg N/L	P422976	
	EPA 365.1 Rev. 2.0	Total-P	0.045		mg P/L	P423028	
	SM 5310 B-2011	Organic Carbon	31		mg C/L	P423077	
2371718	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.024		mg P/L	P422943	

Ref. Method and Comment:

SM 2540 D-2015: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.

EPA 365.1 Rev. 2.0: Total-P: Batch matrix spike recoveries are unavailable because of high analyte concentration in the QC sample.

Quality Assurance Report

Method Blank Results

Reference Method: DEP SOP: NU-094-1
Batch ID: P422938

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: DEP SOP: NU-094-1
Batch ID: P422939

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P423260

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P423016

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P422976

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P423028

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P422943

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

Reference Method: SM 2320 B-2011
Batch ID: P423069

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

Reference Method: SM 2540 D-2015
Batch ID: P423166

Component	Result	Code	Units
TSS	2	U	mg/L

Quality Assurance Report Method Blank Results

Reference Method: SM 4500-F- C-2011
Batch ID: P423072

Component	Result	Code	Units
Fluoride	0.025	U	mg F/L

Reference Method: SM 5310 B-2011
Batch ID: P423077

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

Reference Method: SM 5310 B-2011
Batch ID: P423078

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

Reference Method: SM 5310 B-2011 dissolved
Batch ID: P423077

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

Reference Method: SM 5310 B-2011 dissolved
Batch ID: P423078

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: P422938

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Color (true)	97.9		P	90 - 110

Reference Method: DEP SOP: NU-094-1
Batch ID: P422939

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Color (true)	97.9		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P423260

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P423016

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P422976

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
NO2NO3-N	104		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P423028

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total-P	106		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P422943

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

Reference Method: SM 2320 B-2011
Batch ID: P423069

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	98.0		P	94 - 106

Reference Method: SM 2540 D-2015
Batch ID: P423166

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
TSS	91.9		P	85 - 106

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: SM 4500-F- C-2011
Batch ID: P423072

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	101		P	96 - 104

Reference Method: SM 5310 B-2011
Batch ID: P423077

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	96.5		P	85 - 115

Reference Method: SM 5310 B-2011
Batch ID: P423078

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	95.1		P	85 - 115

Reference Method: SM 5310 B-2011 dissolved
Batch ID: P423077

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	96.5		P	85 - 115

Reference Method: SM 5310 B-2011 dissolved
Batch ID: P423078

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	95.1		P	85 - 115

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P423260

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2371709	Ammonia-N	102	103	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P423016

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2371709	Kjeldahl Nitrogen	101	109	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P422976

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2371680	NO2NO3-N	106	106	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P422943

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2371648	O-Phosphate-P	101	102	P/P	90 - 110

Reference Method: SM 4500-F- C-2011
Batch ID: P423072

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2371532	Fluoride	101	101	P/P	94 - 104

Reference Method: SM 5310 B-2011
Batch ID: P423077

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2371948	Organic Carbon	98.6	98.6	P/P	85 - 115

Reference Method: SM 5310 B-2011
Batch ID: P423078

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2371535	Organic Carbon	98.4	99.2	P/P	85 - 115

Reference Method: SM 5310 B-2011 dissolved
Batch ID: P423077

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2371948	Organic Carbon	98.6	98.6	P/P	85 - 115

Reference Method: SM 5310 B-2011 dissolved
Batch ID: P423078

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2371535	Organic Carbon	98.4	99.2	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: DEP SOP: NU-094-1
Batch ID: P422938

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2371564	Color (true)	0.214	Sample	P	0 - 20

Reference Method: DEP SOP: NU-094-1
Batch ID: P422939

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2371795	Color (true)	2.61	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P423260

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2371709	Ammonia-N	0.281	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P423016

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2371709	Kjeldahl Nitrogen	5.35	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P422976

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2371680	NO2NO3-N	0.0	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P423028

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2371680	Total-P	1.68	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P422943

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2371648	O-Phosphate-P	0.296	Spike	P	0 - 20

Reference Method: SM 2320 B-2011
Batch ID: P423069

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2371532	Total Alkalinity	0.00946	Sample	P	0 - 3.8

Quality Assurance Report Precision

Reference Method: SM 4500-F- C-2011
Batch ID: P423072

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2371532	Fluoride	0.514	Spike	P	0 - 1.6

Reference Method: SM 5310 B-2011
Batch ID: P423077

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2371948	Organic Carbon	0.101	Spike	P	0 - 20

Reference Method: SM 5310 B-2011
Batch ID: P423078

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2371535	Organic Carbon	0.861	Spike	P	0 - 20

Reference Method: SM 5310 B-2011 dissolved
Batch ID: P423077

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2371948	Organic Carbon	0.101	Spike	P	0 - 20

Reference Method: SM 5310 B-2011 dissolved
Batch ID: P423078

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2371535	Organic Carbon	0.861	Spike	P	0 - 20

* Sample, spike and/or laboratory control sample precision (LCS) is reported.

Quality Assurance Report Calibration Verification

Reference Method: DEP SOP: NU-094-1

Run ID: A116195

Included Lab Sample IDs: 2371699, 2371700, 2371701, 2371702, 2371703, 2371719

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	98.7	100	P/P	90 - 110
Color (true)	99.7	98.7	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Run ID: A116197

Included Lab Sample IDs: 2371714, 2371715, 2371716, 2371717, 2371718, 2371722

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	100	100	P/P	90 - 110
O-Phosphate-P	99.5	100	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A116205

Included Lab Sample IDs: 2371709, 2371710, 2371711, 2371712, 2371713, 2371721

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	104	105	P/P	90 - 110

Reference Method: SM 2320 B-2011

Run ID: A116251

Included Lab Sample IDs: 2371699, 2371700, 2371701, 2371702, 2371703, 2371719

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	97.8	95.7	P/P	90 - 110

Reference Method: SM 4500-F- C-2011

Run ID: A116251

Included Lab Sample IDs: 2371699, 2371700, 2371701, 2371702, 2371703, 2371719

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

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A116255

Included Lab Sample IDs: 2371710, 2371711, 2371712

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	99.2	101	P/P	90 - 110

Reference Method: SM 5310 B-2011

Run ID: A116256

Included Lab Sample IDs: 2371709, 2371710, 2371711, 2371712, 2371713, 2371721

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	97.6	99.0	P/P	90 - 110
Organic Carbon	98.0	98.4	P/P	90 - 110
Organic Carbon	98.4	99.2	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: SM 5310 B-2011 dissolved

Run ID: A116256

Included Lab Sample IDs: 2371704, 2371705, 2371706, 2371707, 2371708, 2371720

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	97.6	99.0	P/P	90 - 110
Organic Carbon	98.4	99.2	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A116260

Included Lab Sample IDs: 2371709, 2371713, 2371721

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	99.2	99.8	P/P	90 - 110
Total-P	99.8	99.0	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A116263

Included Lab Sample IDs: 2371709, 2371710, 2371711, 2371712, 2371713, 2371721

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	94.5	95.3	P/P	90 - 110
Kjeldahl Nitrogen	95.3	97.3	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A116321

Included Lab Sample IDs: 2371709, 2371710, 2371711, 2371712, 2371713, 2371721

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	100	98.8	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)	97.9				0.214	
	Color (true)	97.9				2.61	
EPA 350.1 Rev. 2.0	Ammonia-N	99.2	102	103			0.281
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	108	101	109			5.35
EPA 353.2 Rev. 2.0	NO ₂ NO ₃ -N	104	106	106			0.0
EPA 365.1 Rev. 2.0	Total-P	106					1.68
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	101	101	102			0.296
SM 2320 B-2011	Total Alkalinity	98.0				0.0094	
SM 2540 D-2015	TSS	91.9					
SM 4500-F- C-2011	Fluoride	101	101	101			0.514
SM 5310 B-2011	Organic Carbon	96.5	98.6	98.6			0.101
	Organic Carbon	95.1	98.4	99.2			0.861
SM 5310 B-2011 dissolved	Organic Carbon	96.5	98.6	98.6			0.101
	Organic Carbon	95.1	98.4	99.2			0.861

Reference Method Descriptions

Method	Description	Associated Samples
DEP SOP: NU-094-1	True Color measured at 450 nm (not valid for NPDES monitoring)	2371699, 2371700, 2371701, 2371702, 2371703, 2371719
EPA 350.1 Rev. 2.0	Ammonia in aqueous matrices as mg N/L	2371709, 2371710, 2371711, 2371712, 2371713, 2371721
EPA 351.2 Rev. 2.0	Total Kjeldahl Nitrogen in aqueous matrices	2371709, 2371710, 2371711, 2371712, 2371713, 2371721
EPA 353.2 Rev. 2.0	Nitrite/Nitrate in aqueous matrices as mg N/L	2371709, 2371710, 2371711, 2371712, 2371713, 2371721
EPA 365.1 Rev. 2.0	Total Phosphorus in aqueous matrices as mg P/L	2371709, 2371710, 2371711, 2371712, 2371713, 2371721
EPA 365.1 Rev. 2.0 dissolved	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	2371714, 2371715, 2371716, 2371717, 2371718, 2371722
SM 2320 B-2011	Alkalinity in aqueous matrices as mg CaCO ₃ /L	2371699, 2371700, 2371701, 2371702, 2371703, 2371719
SM 2540 D-2015	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2371699, 2371700, 2371701, 2371702, 2371703, 2371719
SM 4500-F- C-2011	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2371699, 2371700, 2371701, 2371702, 2371703, 2371719
SM 5310 B-2011	Nonpurgeable Organic Carbon in aqueous matrices	2371709, 2371710, 2371711, 2371712, 2371713, 2371721
SM 5310 B-2011 dissolved	Dissolved Nonpurgeable Organic Carbon in filtered, aqueous matrices	2371704, 2371705, 2371706, 2371707, 2371708, 2371720

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	11/30/2022			11/30/2022 14:36	Chandler E Cox	2371699
	11/30/2022			11/30/2022 14:37	Chandler E Cox	2371700
	11/30/2022			11/30/2022 14:38	Chandler E Cox	2371701
	11/30/2022			11/30/2022 14:39	Chandler E Cox	2371702
	11/30/2022			11/30/2022 14:40	Chandler E Cox	2371703
	11/30/2022			11/30/2022 14:43	Chandler E Cox	2371719
EPA 350.1 Rev. 2.0	11/30/2022			12/08/2022 11:05	Judith K. Clark	2371709
	11/30/2022			12/08/2022 11:06	Judith K. Clark	2371710
	11/30/2022			12/08/2022 11:08	Judith K. Clark	2371711
	11/30/2022			12/08/2022 11:09	Judith K. Clark	2371712
	11/30/2022			12/08/2022 11:10	Judith K. Clark	2371713
	11/30/2022			12/08/2022 11:12	Judith K. Clark	2371721
EPA 351.2 Rev. 2.0	11/30/2022	12/02/2022 13:20	Simonne.V. Calhoun	12/05/2022 12:40	Judith K. Clark	2371709
	11/30/2022	12/02/2022 13:20	Simonne.V. Calhoun	12/05/2022 12:45	Judith K. Clark	2371710
	11/30/2022	12/02/2022 13:20	Simonne.V. Calhoun	12/05/2022 12:46	Judith K. Clark	2371711
	11/30/2022	12/02/2022 13:20	Simonne.V. Calhoun	12/05/2022 12:48	Judith K. Clark	2371712
	11/30/2022	12/02/2022 13:20	Simonne.V. Calhoun	12/05/2022 12:53	Judith K. Clark	2371713
	11/30/2022	12/02/2022 13:20	Simonne.V. Calhoun	12/05/2022 12:54	Judith K. Clark	2371721
EPA 353.2 Rev. 2.0	11/30/2022			12/01/2022 10:08	Beverly Y. Sanders	2371709
	11/30/2022			12/01/2022 10:10	Beverly Y. Sanders	2371710
	11/30/2022			12/01/2022 10:11	Beverly Y. Sanders	2371711
	11/30/2022			12/01/2022 10:12	Beverly Y. Sanders	2371712
	11/30/2022			12/01/2022 10:13	Beverly Y. Sanders	2371713
	11/30/2022			12/01/2022 10:14	Beverly Y. Sanders	2371721
EPA 365.1 Rev. 2.0	11/30/2022	12/02/2022 09:51	Adam P Silver	12/05/2022 10:12	James L Waggeberby	2371710
	11/30/2022	12/02/2022 09:51	Adam P Silver	12/05/2022 10:13	James L Waggeberby	2371711
	11/30/2022	12/02/2022 09:51	Adam P Silver	12/05/2022 10:14	James L Waggeberby	2371712
	11/30/2022	12/02/2022 09:51	Adam P Silver	12/05/2022 12:42	Simonne.V. Calhoun	2371721
	11/30/2022	12/02/2022 09:51	Adam P Silver	12/05/2022 12:43	Simonne.V. Calhoun	2371709
	11/30/2022	12/02/2022 09:51	Adam P Silver	12/05/2022 12:50	Simonne.V. Calhoun	2371713
EPA 365.1 Rev. 2.0 dissolved	11/30/2022			11/30/2022 14:49	Elise M. Gillis	2371714
	11/30/2022			11/30/2022 14:50	Elise M. Gillis	2371715
	11/30/2022			11/30/2022 14:56	Elise M. Gillis	2371716, 2371717
	11/30/2022			11/30/2022 14:57	Elise M. Gillis	2371718
	11/30/2022			11/30/2022 14:58	Elise M. Gillis	2371722
	11/30/2022			12/03/2022 05:28	Dale L. Simmons	2371699
SM 2320 B-2011	11/30/2022			12/03/2022 05:42	Dale L. Simmons	2371700
	11/30/2022			12/03/2022 05:58	Dale L. Simmons	2371701
	11/30/2022			12/03/2022 06:11	Dale L. Simmons	2371702
	11/30/2022			12/03/2022 06:24	Dale L. Simmons	2371703

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
SM 2320 B-2011	11/30/2022			12/03/2022 06:33	Dale L. Simmons	2371719
SM 2540 D-2015	11/30/2022			12/01/2022 15:43	Yijie Li	2371699, 2371700, 2371701, 2371702, 2371703, 2371719
SM 4500-F- C-2011	11/30/2022			12/03/2022 05:28	Dale L. Simmons	2371699
	11/30/2022			12/03/2022 05:42	Dale L. Simmons	2371700
	11/30/2022			12/03/2022 05:58	Dale L. Simmons	2371701
	11/30/2022			12/03/2022 06:11	Dale L. Simmons	2371702
	11/30/2022			12/03/2022 06:24	Dale L. Simmons	2371703
SM 5310 B-2011	11/30/2022			12/03/2022 06:33	Dale L. Simmons	2371719
	11/30/2022			12/02/2022 18:05	Elise M. Gillis	2371712
	11/30/2022			12/02/2022 18:33	Elise M. Gillis	2371713
	11/30/2022			12/02/2022 19:19	Elise M. Gillis	2371721
	11/30/2022			12/03/2022 03:39	Elise M. Gillis	2371709
SM 5310 B-2011 dissolved	11/30/2022			12/03/2022 04:33	Elise M. Gillis	2371710
	11/30/2022			12/03/2022 05:01	Elise M. Gillis	2371711
	11/30/2022			12/02/2022 18:19	Elise M. Gillis	2371707
	11/30/2022			12/02/2022 18:48	Elise M. Gillis	2371708
	11/30/2022			12/02/2022 19:02	Elise M. Gillis	2371720
	11/30/2022			12/03/2022 04:20	Elise M. Gillis	2371704
	11/30/2022			12/03/2022 04:47	Elise M. Gillis	2371705
	11/30/2022			12/03/2022 05:15	Elise M. Gillis	2371706