

Chemical Analysis Report

TLH-ROC-2022-10-26-01

Florida DEP Laboratory
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Tallahassee, FL 32399-2400
DOH Accreditation E31780

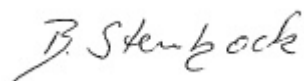
Event Description: **Run 14**
Request ID: **RQ-2022-10-24-24**
Customer: **TLH-ROC**
Project ID: **SMP**

Send Reports to:
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Certified by: Dr. rer. nat. Bettina Steinbock, Environmental Administrator

Date Certified: 17-NOV-2022 18:48



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: Direct Runoff to Bay Upper Goose Bayou

Collection Date/Time: 10/26/2022 12:10

Field ID: G3TLHR0031

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2365471	EPA 180.1 Rev. 2.0	Turbidity	25		NTU	P421567	
	SM 2320 B-2011	Total Alkalinity	39	A	mg CaCO3/L	P421902	
	SM 2540 D-2015	TSS	19		mg/L	P421784	
	SM 4500-F- C-2011	Fluoride	0.25		mg F/L	P421905	
2365473	EPA 350.1 Rev. 2.0	Ammonia-N	0.033		mg N/L	P421684	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.61		mg N/L	P421699	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.013		mg N/L	P422025	
	EPA 365.1 Rev. 2.0	Total-P	0.065		mg P/L	P421770	
	SM 5310 B-2011	Organic Carbon	8.6		mg C/L	P421647	

Ref. Method and Comment:

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

Sample Location: Direct Runoff to Bay Anderson Bayou

Collection Date/Time: 10/26/2022 12:35

Field ID: G3TLHR0032

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2365472	EPA 180.1 Rev. 2.0	Turbidity	1.2		NTU	P421567	
	SM 2320 B-2011	Total Alkalinity	49		mg CaCO3/L	P421901	
	SM 2540 D-2015	TSS	3	IA	mg/L	P421784	
	SM 4500-F- C-2011	Fluoride	0.057	I	mg F/L	P421904	
2365474	EPA 350.1 Rev. 2.0	Ammonia-N	0.004	I	mg N/L	P421957	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.44		mg N/L	P421747	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P421777	
	EPA 365.1 Rev. 2.0	Total-P	0.019		mg P/L	P421710	
	SM 5310 B-2011	Organic Carbon	7.6		mg C/L	P421647	

Ref. Method and Comment:

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

EPA 353.2 Rev. 2.0: Batch matrix spike recoveries are unavailable because of high analyte concentration in the QC sample.

Sample Location: FB

Collection Date/Time: 10/26/2022 12:45

Field ID: FB_10262022

Matrix: W-FIELD-BK

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2365475	EPA 180.1 Rev. 2.0	Turbidity	0.15	I	NTU	P421567	
	SM 2320 B-2011	Total Alkalinity	0.65	U	mg CaCO3/L	P421670	
	SM 2540 D-2015	TSS	2	U	mg/L	P421784	
	SM 4500-F- C-2011	Fluoride	0.035	U	mg F/L	P421673	
2365476	EPA 350.1 Rev. 2.0	Ammonia-N	0.002	U	mg N/L	P421957	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.080	U	mg N/L	P421747	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P421777	
	EPA 365.1 Rev. 2.0	Total-P	0.002	U	mg P/L	P421710	
	SM 5310 B-2011	Organic Carbon	0.50	U	mg C/L	P421647	

Ref. Method and Comment:

EPA 180.1 Rev. 2.0: The result was confirmed on 10/27/2022.

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

SM 4500-F- C-2011: Batch matrix spike recoveries are unavailable because of high analyte concentration in the QC sample.

EPA 353.2 Rev. 2.0: Batch matrix spike recoveries are unavailable because of high analyte concentration in the QC sample.

Quality Assurance Report Method Blank Results

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P421567

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P421684

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P421957

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P421699

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P421747

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P421777

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P422025

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P421710

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P421770

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

Quality Assurance Report

Method Blank Results

Reference Method: SM 2320 B-2011
Batch ID: P421670

Component	Result	Code	Units
Total Alkalinity	0.65	U	mg CaCO ₃ /L

Reference Method: SM 2320 B-2011
Batch ID: P421901

Component	Result	Code	Units
Total Alkalinity	0.65	U	mg CaCO ₃ /L

Reference Method: SM 2320 B-2011
Batch ID: P421902

Component	Result	Code	Units
Total Alkalinity	0.65	U	mg CaCO ₃ /L

Reference Method: SM 2540 D-2015
Batch ID: P421784

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500-F- C-2011
Batch ID: P421673

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 4500-F- C-2011
Batch ID: P421904

Component	Result	Code	Units
Fluoride	0.025	U	mg F/L

Reference Method: SM 4500-F- C-2011
Batch ID: P421905

Component	Result	Code	Units
Fluoride	0.025	U	mg F/L

Reference Method: SM 5310 B-2011
Batch ID: P421647

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

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P421567

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P421684

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P421957

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Ammonia-N	99.8		P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P421699

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P421747

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Kjeldahl Nitrogen	99.8		P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P421777

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
NO2NO3-N	99.5		P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P422025

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: P421710

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P421770

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

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: SM 2320 B-2011
Batch ID: P421670

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	99.1		P	94 - 106

Reference Method: SM 2320 B-2011
Batch ID: P421901

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	98.8		P	94 - 106

Reference Method: SM 2320 B-2011
Batch ID: P421902

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	96.5		P	94 - 106

Reference Method: SM 2540 D-2015
Batch ID: P421784

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
TSS	96.5		P	85 - 106

Reference Method: SM 4500-F- C-2011
Batch ID: P421673

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	97.0		P	96 - 104

Reference Method: SM 4500-F- C-2011
Batch ID: P421904

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	99.6		P	96 - 104

Reference Method: SM 4500-F- C-2011
Batch ID: P421905

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	99.1		P	96 - 104

Reference Method: SM 5310 B-2011
Batch ID: P421647

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	97.2		P	85 - 115

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P421684

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2365154	Ammonia-N	105	106	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P421957

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2365275	Ammonia-N	99.4	100	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P421699

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2365303	Kjeldahl Nitrogen	98.1	98.1	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P421747

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2365498	Kjeldahl Nitrogen	97.8	104	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P422025

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2365327	NO2NO3-N	109	109	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P421710

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2365496	Total-P	103	105	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P421770

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2365577	Total-P	97.2	99.0	P/P	90 - 110

Reference Method: SM 4500-F- C-2011
Batch ID: P421904

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2366207	Fluoride	100	98.3	P/P	94 - 104

Reference Method: SM 4500-F- C-2011
Batch ID: P421905

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2365270	Fluoride	97.9	98.6	P/P	94 - 104

Quality Assurance Report Matrix Spike Accuracy

Reference Method: SM 5310 B-2011
Batch ID: P421647

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2364879	Organic Carbon	101	98.3	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P421567

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2365809	Turbidity	8.46	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P421684

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2365154	Ammonia-N	0.570	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P421957

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2365275	Ammonia-N	0.570	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P421699

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2365303	Kjeldahl Nitrogen	0.00519	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P421747

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2365498	Kjeldahl Nitrogen	6.49	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P421777

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2365496	NO2NO3-N	0.252	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P422025

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2365327	NO2NO3-N	0.0	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P421710

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2365496	Total-P	1.02	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P421770

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2365577	Total-P	1.81	Spike	P	0 - 20

Reference Method: SM 2320 B-2011
Batch ID: P421670

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2365524	Total Alkalinity	0.150	Sample	P	0 - 3.8

Reference Method: SM 2320 B-2011
Batch ID: P421901

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2366207	Total Alkalinity	0.297	Sample	P	0 - 3.8

Reference Method: SM 2320 B-2011
Batch ID: P421902

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2365471	Total Alkalinity	0.472	Sample	P	0 - 3.8

Reference Method: SM 4500-F- C-2011
Batch ID: P421673

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2365524	Fluoride	0.490	Spike	P	0 - 1.6

Reference Method: SM 4500-F- C-2011
Batch ID: P421904

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2366207	Fluoride	1.48	Spike	P	0 - 1.6

Reference Method: SM 4500-F- C-2011
Batch ID: P421905

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2365270	Fluoride	0.509	Spike	P	0 - 1.6

Reference Method: SM 5310 B-2011
Batch ID: P421647

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2364879	Organic Carbon	1.66	Spike	P	0 - 20

Quality Assurance Report Precision

* 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: A115579

Included Lab Sample IDs: 2365471, 2365472, 2365475

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Turbidity	98.5	98.5	P/P	95 - 105

Reference Method: SM 5310 B-2011

Run ID: A115623

Included Lab Sample IDs: 2365473, 2365474, 2365476

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	98.2	99.0	P/P	90 - 110
Organic Carbon	99.0	98.8	P/P	90 - 110

Reference Method: SM 2320 B-2011

Run ID: A115628

Included Lab Sample IDs: 2365475

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	103	94.3	P/P	90 - 110

Reference Method: SM 4500-F- C-2011

Run ID: A115628

Included Lab Sample IDs: 2365475

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	100	102	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A115637

Included Lab Sample IDs: 2365473

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	99.7	99.2	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A115682

Included Lab Sample IDs: 2365474, 2365476

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	97.5	97.0	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A115689

Included Lab Sample IDs: 2365474, 2365476

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	99.8	100	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A115721

Included Lab Sample IDs: 2365473

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

Quality Assurance Report Calibration Verification

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A115722

Included Lab Sample IDs: 2365473

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	97.5	99.6	P/P	90 - 110

Reference Method: SM 2320 B-2011

Run ID: A115743

Included Lab Sample IDs: 2365471, 2365472

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	95.9	95.3	P/P	90 - 110
Total Alkalinity	98.1	95.1	P/P	90 - 110

Reference Method: SM 4500-F- C-2011

Run ID: A115743

Included Lab Sample IDs: 2365471, 2365472

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	101	102	P/P	90 - 110
Fluoride	102	101	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A115748

Included Lab Sample IDs: 2365474, 2365476

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

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A115762

Included Lab Sample IDs: 2365474, 2365476

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	98.0	92.2	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A115782

Included Lab Sample IDs: 2365473

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

* Pass/Fail determinations are made for each bracketing calibration verification check.

Control limits for initial calibration checks may be different from those for continuing checks, depending on method requirements.

Where they are different, both control limits are provided.

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery		LCS	Precision	MS
						SMP	
EPA 180.1 Rev. 2.0	Turbidity	100				8.46	
EPA 350.1 Rev. 2.0	Ammonia-N	99.0	105	106			0.570
	Ammonia-N	99.8	99.4	100			0.570
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	97.4	98.1	98.1			0.0051
	Kjeldahl Nitrogen	99.8	97.8	104			6.49
EPA 353.2 Rev. 2.0	NO2NO3-N	99.5					0.252
	NO2NO3-N	104	109	109			0.0
EPA 365.1 Rev. 2.0	Total-P	101	103	105			1.02
	Total-P	104	97.2	99.0			1.81
SM 2320 B-2011	Total Alkalinity	99.1				0.150	
	Total Alkalinity	98.8				0.297	
	Total Alkalinity	96.5				0.472	
SM 2540 D-2015	TSS	96.5					
SM 4500-F- C-2011	Fluoride	97.0					0.490
	Fluoride	99.6	100	98.3			1.48
	Fluoride	99.1	97.9	98.6			0.509
SM 5310 B-2011	Organic Carbon	97.2	101	98.3			1.66

Reference Method Descriptions

Method	Description	Associated Samples
EPA 180.1 Rev. 2.0	Turbidity in aqueous matrices	2365471, 2365472, 2365475
EPA 350.1 Rev. 2.0	Ammonia in aqueous matrices as mg N/L	2365473, 2365474, 2365476
EPA 351.2 Rev. 2.0	Total Kjeldahl Nitrogen in aqueous matrices	2365473, 2365474, 2365476
EPA 353.2 Rev. 2.0	Nitrite/Nitrate in aqueous matrices as mg N/L	2365473, 2365474, 2365476
EPA 365.1 Rev. 2.0	Total Phosphorus in aqueous matrices as mg P/L	2365473, 2365474, 2365476
SM 2320 B-2011	Alkalinity in aqueous matrices as mg CaCO3/L	2365471, 2365472, 2365475
SM 2540 D-2015	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2365471, 2365472, 2365475
SM 4500-F- C-2011	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2365471, 2365472, 2365475
SM 5310 B-2011	Nonpurgeable Organic Carbon in aqueous matrices	2365473, 2365474, 2365476

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	10/26/2022			10/27/2022 14:22	Anna M. Plaviak	2365471
	10/26/2022			10/27/2022 14:25	Anna M. Plaviak	2365472, 2365475
EPA 350.1 Rev. 2.0	10/26/2022			10/31/2022 13:30	Ping Hua	2365473
	10/26/2022			11/04/2022 15:04	Ping Hua	2365474
	10/26/2022			11/04/2022 15:05	Ping Hua	2365476
	10/26/2022			11/03/2022 12:35	Samantha L Bates	2365473
EPA 351.2 Rev. 2.0	10/26/2022	11/01/2022 12:07	Alexandra J Mattheus	11/04/2022 14:51	Alexandra J Mattheus	2365474
	10/26/2022	11/02/2022 11:45	Alexandra J Mattheus	11/04/2022 14:53	Alexandra J Mattheus	2365476
	10/26/2022	11/02/2022 11:45	Alexandra J Mattheus	11/02/2022 10:52	Beverly Y. Sanders	2365474
EPA 353.2 Rev. 2.0	10/26/2022			11/02/2022 10:53	Beverly Y. Sanders	2365476
	10/26/2022			11/07/2022 10:32	Beverly Y. Sanders	2365473
	10/26/2022			11/02/2022 14:06	James L Waggeberby	2365476
	10/26/2022			11/02/2022 14:10	James L Waggeberby	2365474
EPA 365.1 Rev. 2.0	10/26/2022	11/01/2022 14:45	Simonne.V. Calhoun	11/03/2022 12:39	Simonne.V. Calhoun	2365473
	10/26/2022	11/01/2022 14:45	Simonne.V. Calhoun	10/28/2022 19:44	Dale L. Simmons	2365475
	10/26/2022	11/02/2022 17:10	Adam P Silver	11/03/2022 23:55	Dale L. Simmons	2365472
SM 2320 B-2011	10/26/2022			11/04/2022 03:38	Dale L. Simmons	2365471
	10/26/2022			10/28/2022 15:58	Yijie Li	2365471, 2365472, 2365475
	10/26/2022			10/28/2022 19:44	Dale L. Simmons	2365475
SM 2540 D-2015	10/26/2022			11/03/2022 23:55	Dale L. Simmons	2365472
	10/26/2022			11/04/2022 01:26	Dale L. Simmons	2365471
	10/26/2022			10/28/2022 23:44	Khloe J Berg	2365473
SM 4500-F- C-2011	10/26/2022			10/29/2022 00:03	Khloe J Berg	2365474
	10/26/2022			10/29/2022 00:48	Khloe J Berg	2365476
	10/26/2022					
SM 5310 B-2011	10/26/2022					
	10/26/2022					
	10/26/2022					