

Chemical Analysis Report

TLH-ROC-2022-04-21-01

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

Event Description: **Run 7**
Request ID: **RQ-2022-02-28-40**
Customer: **TLH-ROC**
Project ID: **SMP**

Send Reports to:
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2600 Blair Stone Rd
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Attn: Michael Eckles

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Certified by: Liang Lin, Environmental Administrator

Date Certified: 18-MAY-2022 09:58

A handwritten signature in black ink, appearing to read "Liang Lin", is shown on a light-colored background.

Case Narrative

Unless otherwise noted, all samples included in this report were received in accordance with protocols referenced in Chapter 62-160, Florida Administrative Code (F.A.C.). Results published in this report pertain only to the samples as submitted to, and received by the laboratory. All times in this report are adjusted to the applicable Eastern Time Zone (EST or EDT).

Results for the following analytical group are included in this report: Nutrients.

Scientific notation may be used in reporting very large or small values. Values reported using scientific notation will take the form of the following example: 1.3E+03, which is equivalent to 1.3×10^3 or 1300.

Unless otherwise noted, analytical values for soil and sediment samples are reported on a dry weight basis, and analytical values for waste and tissue samples are reported on a wet weight basis.

Results for TNI accredited tests met requirements established by The NELAC Institute. A double asterisk (**) is used to indicate an analyte/matrix/method for which the laboratory is not TNI accredited by the Florida Department of Health Environmental Laboratory Certification Program or where accreditation for that field of testing is not applicable.

Any significant anomalies or deviations from established protocols are documented in Non-Conformance Reports, which, where appropriate, are included within this analytical report. Additional comments related to specific analytical tests may be included as remarks following the analytical results for each sample. Such comments and remarks are for informational purposes only and are not intended to convey judgement about the usability of the reported data.

A quality control report on the performance of the test method for the submitted samples is included. Uncertainty associated with the analytical results contained in this report can be estimated from the reported quality assurance results and from published quality control acceptance limits for each analytical test. Matrix quality control results (matrix spike recoveries and matrix sample precision) pertain only to the matrix sample tested and do not necessarily reflect test method performance for other samples.

Typical matrix quality control (QC) measurements may include matrix spike recovery, matrix spike duplicate recovery, matrix spike precision and matrix sample precision. Not all matrix QC results may be available or reportable; where they are not an explanation is provided. Typical reasons for unavailable QC results include, but are not limited to, a) insufficient matrix sample to perform some or all QC measurements; b) analyte concentration in the sample replicated was too low for a meaningful measurement of precision and c) analyte concentration in the matrix sample spiked was too high (relative to the amount of analyte spiked) for a meaningful measurement of recovery. Where matrix QC results are unavailable, other method performance metrics (e.g., LCS recovery, LCS precision, surrogate recovery) may be used to assess performance of the method. Comments explaining any missing QC measurements are not intended to convey any adverse conclusions about the quality of the reported data.

Precision is reported as relative percent difference unless otherwise noted.

Quality Control codes as defined below may be used in this report to indicate results that are associated with one or more quality control elements which did not fall within established test method criteria. Such results may be qualified as estimates using a J qualifier as required by 62-160 F.A.C. Explanations are included in the report for any results that were reported as estimates for other reasons.

QC Codes used in this report may include:

- LCS – Recovery for the batch Laboratory Control Sample (LCS) was outside existing control limits;
- MS – Recovery for the batch matrix spike (MS) was outside existing control limits;
- CCV – Recovery for a continuing calibration verification (CCV) standard was outside existing control limits;
- SUR – Recovery of a surrogate (SUR) for associated analytes was outside existing control limits;
- RPD – The precision, measured as relative percent difference (RPD), of batch replicate measurements was outside existing control limits;
- RSD – The precision, measured as relative standard deviation (RSD), of batch replicate measurements was outside existing control limits;
- SMP – Sample - used precision derived from replicate analyses of a sample;

The following data qualifiers are used, where applicable, in this report as specified in 62-160 F.A.C.

- A - Value reported is the mean of two or more determinations.
- B - Results based on colony counts outside the acceptable range.
- I - The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.
- J - Estimated value and/or the analysis did not meet established quality control criteria.
- K - Actual value is known to be less than value given.
- L - Actual value is known to be greater than value given.
- N - Presumptive evidence of presence of material.
- O - Sampled, but analysis lost or not performed.
- Q - Sample held beyond normal holding time.
- T - Value reported is less than the criterion of detection.
- U - Material was analyzed for but not detected. The reported value is the method detection limit for the sample analyzed.
- V - Analyte was detected in both sample and method blank.
- X - Too few individuals to calculate SCI value.
- Y - The laboratory analysis was from an unpreserved or improperly preserved sample. The data may not be accurate.
- Z - Colonies were too numerous to count (TNTC).

Quality control information from overflow laboratories may not be included in this report. Please refer to the associated report from the overflow laboratory for additional information.

Sample Location: Oyster Bay North

Collection Date/Time: 04/21/2022 11:15

Field ID: G1TLHR0134

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2321371	EPA 180.1 Rev. 2.0	Turbidity	1.0	I	NTU	P412786	
	SM 2320 B-2011	Total Alkalinity	111	Q	mg CaCO3/L	P413664	
	SM 2540 D-2011	TSS	2	I	mg/L	P413358	
	SM 4500-F- C-2011	Fluoride	0.15		mg F/L	P413666	
2321372	EPA 350.1 Rev. 2.0	Ammonia-N	0.024		mg N/L	P413280	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.19	I	mg N/L	P413212	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.18		mg N/L	P413134	
	EPA 365.1 Rev. 2.0	Total-P	0.033		mg P/L	P413336	
	SM 5310 B-2011	Organic Carbon	9.9		mg C/L	P413058	
2321373	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.024		mg P/L	P412788	

Ref. Method and Comment:

SM 2320 B-2011: Sample expired prior to analysis because of analytical difficulties.

SM 2540 D-2011: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.

Sample Location: Spring Creek Spring

Collection Date/Time: 04/21/2022 11:30

Field ID: G1TLHR0131

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2321365	EPA 180.1 Rev. 2.0	Turbidity	0.55	I	NTU	P412786	
	SM 2320 B-2011	Total Alkalinity	112		mg CaCO3/L	P413184	
	SM 2540 D-2011	TSS	2	U	mg/L	P413358	
	SM 4500-F- C-2011	Fluoride	0.10		mg F/L	P413189	
2321367	EPA 350.1 Rev. 2.0	Ammonia-N	0.01		mg N/L	P413110	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.28		mg N/L	P413268	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.20		mg N/L	P412981	
	EPA 365.1 Rev. 2.0	Total-P	0.027		mg P/L	P413051	
	SM 5310 B-2011	Organic Carbon	9.8		mg C/L	P413058	
2321369	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.022		mg P/L	P412787	

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: Spring Creek Springs Middle

Collection Date/Time: 04/21/2022 11:40

Field ID: G1TLHR0129

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2321366	EPA 180.1 Rev. 2.0	Turbidity	0.90	I	NTU	P412786	
	SM 2320 B-2011	Total Alkalinity	110		mg CaCO3/L	P413184	
	SM 2540 D-2011	TSS	3	I	mg/L	P413358	
	SM 4500-F- C-2011	Fluoride	0.16		mg F/L	P413189	
2321368	EPA 350.1 Rev. 2.0	Ammonia-N	0.022		mg N/L	P413280	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.20	I	mg N/L	P413212	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.18		mg N/L	P413134	
	EPA 365.1 Rev. 2.0	Total-P	0.029		mg P/L	P413336	
	SM 5310 B-2011	Organic Carbon	9.5		mg C/L	P413058	
2321370	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.023		mg P/L	P412788	

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: EPA 180.1 Rev. 2.0
Batch ID: P412786

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P413110

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P413280

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P413212

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P413268

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P412981

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P413134

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P413051

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P413336

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

Quality Assurance Report Method Blank Results

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P412787

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P412788

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

Reference Method: SM 2320 B-2011
Batch ID: P413184

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

Reference Method: SM 2320 B-2011
Batch ID: P413664

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

Reference Method: SM 2540 D-2011
Batch ID: P413358

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500-F- C-2011
Batch ID: P413189

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 4500-F- C-2011
Batch ID: P413666

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-2011
Batch ID: P413058

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: P412786

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Turbidity	95.8		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P413110

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P413280

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P413212

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P413268

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Kjeldahl Nitrogen	105		P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P412981

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P413134

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P413051

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: P413336

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

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P412787

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
O-Phosphate-P	99.9		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P412788

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

Reference Method: SM 2320 B-2011
Batch ID: P413184

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	101		P	94 - 106

Reference Method: SM 2320 B-2011
Batch ID: P413664

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	97.8		P	94 - 106

Reference Method: SM 4500-F- C-2011
Batch ID: P413189

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	101		P	93 - 104

Reference Method: SM 4500-F- C-2011
Batch ID: P413666

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	98.2		P	93 - 104

Reference Method: SM 5310 B-2011
Batch ID: P413058

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	95.6		P	85 - 115

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P413110

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2321367	Ammonia-N	99.6	97.6	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P413280

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2322299	Ammonia-N	108	107	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P413212

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2321047	Kjeldahl Nitrogen	101	107	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P413268

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2321459	Kjeldahl Nitrogen	106	106	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P412981

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2321349	NO2NO3-N	96.5	96.0	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P413134

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2321047	NO2NO3-N	97.0	98.5	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P413051

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2321938	Total-P	103	103	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P413336

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2321183	Total-P	94.9	95.0	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P412787

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2321369	O-Phosphate-P	99.4	100	P/P	90 - 110

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P412788

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2321370	O-Phosphate-P	99.1	99.5	P/P	90 - 110

Reference Method: SM 4500-F- C-2011
Batch ID: P413189

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2320888	Fluoride	102	102	P/P	92 - 107

Reference Method: SM 4500-F- C-2011
Batch ID: P413666

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2324064	Fluoride	99.2	98.0	P/P	92 - 107

Reference Method: SM 5310 B-2011
Batch ID: P413058

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2321328	Organic Carbon	99.1	101	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P412786

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2321433	Turbidity	1.81	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P413110

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2321367	Ammonia-N	1.70	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P413280

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2322299	Ammonia-N	0.303	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P413212

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2321047	Kjeldahl Nitrogen	4.57	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P413268

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2321459	Kjeldahl Nitrogen	0.178	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P412981

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2321349	NO2NO3-N	0.191	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P413134

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2321047	NO2NO3-N	1.53	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P413051

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2321938	Total-P	0.0595	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 365.1 Rev. 2.0

Batch ID: P413336

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2321183	Total-P	0.158	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Batch ID: P412787

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2321369	O-Phosphate-P	0.491	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Batch ID: P412788

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2321370	O-Phosphate-P	0.328	Spike	P	0 - 20

Reference Method: SM 2320 B-2011

Batch ID: P413184

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2320888	Total Alkalinity	0.974	Sample	P	0 - 5.2

Reference Method: SM 2320 B-2011

Batch ID: P413664

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2324064	Total Alkalinity	1.08	Sample	P	0 - 5.2

Reference Method: SM 4500-F- C-2011

Batch ID: P413189

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2320888	Fluoride	0.0	Spike	P	0 - 2.1

Reference Method: SM 4500-F- C-2011

Batch ID: P413666

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2324064	Fluoride	0.990	Spike	P	0 - 2.1

Reference Method: SM 5310 B-2011

Batch ID: P413058

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2321328	Organic Carbon	1.50	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: A111646

Included Lab Sample IDs: 2321365, 2321366, 2321371

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Turbidity	100	99.5	P/P	95 - 105

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Run ID: A111647

Included Lab Sample IDs: 2321369, 2321370, 2321373

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	100	101	P/P	90 - 110
O-Phosphate-P	101	99.2	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A111732

Included Lab Sample IDs: 2321367

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

Reference Method: SM 5310 B-2011

Run ID: A111772

Included Lab Sample IDs: 2321367, 2321368, 2321372

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	101	99.0	P/P	90 - 110
Organic Carbon	99.0	102	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A111801

Included Lab Sample IDs: 2321367

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	98.3	98.9	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A111804

Included Lab Sample IDs: 2321368, 2321372

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	99.0	102	P/P	90 - 110

Reference Method: SM 2320 B-2011

Run ID: A111826

Included Lab Sample IDs: 2321365, 2321366

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	96.4	99.4	P/P	90 - 110
Total Alkalinity	97.5	96.4	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: SM 4500-F- C-2011

Run ID: A111826

Included Lab Sample IDs: 2321365, 2321366

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

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A111875

Included Lab Sample IDs: 2321368, 2321372

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	98.3	98.4	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A111924

Included Lab Sample IDs: 2321367

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

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A111960

Included Lab Sample IDs: 2321368, 2321372

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	106	107	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A111973

Included Lab Sample IDs: 2321368, 2321372

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	99.0	98.0	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A112016

Included Lab Sample IDs: 2321367

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	96.6	98.9	P/P	90 - 110

Reference Method: SM 2320 B-2011

Run ID: A112048

Included Lab Sample IDs: 2321371

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	96.2	98.2	P/P	90 - 110

Reference Method: SM 4500-F- C-2011

Run ID: A112048

Included Lab Sample IDs: 2321371

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

Quality Assurance Report

Calibration Verification

* 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	95.8				1.81	
EPA 350.1 Rev. 2.0	Ammonia-N	96.6	99.6	97.6			1.70
	Ammonia-N	98.4	108	107			0.303
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	102	101	107			4.57
	Kjeldahl Nitrogen	105	106	106			0.178
EPA 353.2 Rev. 2.0	NO ₂ NO ₃ -N	98.0	96.5	96.0			0.191
	NO ₂ NO ₃ -N	97.5	97.0	98.5			1.53
EPA 365.1 Rev. 2.0	Total-P	101	103	103			0.0595
	Total-P	102	94.9	95.0			0.158
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	99.9	99.4	100			0.491
	O-Phosphate-P	101	99.1	99.5			0.328
SM 2320 B-2011	Total Alkalinity	101				0.974	
	Total Alkalinity	97.8				1.08	
SM 4500-F- C-2011	Fluoride	101	102	102			0.0
	Fluoride	98.2	99.2	98.0			0.990
SM 5310 B-2011	Organic Carbon	95.6	99.1	101			1.50

Reference Method Descriptions

Method	Description	Associated Samples
EPA 180.1 Rev. 2.0	Turbidity in aqueous matrices	2321365, 2321366, 2321371
EPA 350.1 Rev. 2.0	Ammonia in aqueous matrices as mg N/L	2321367, 2321368, 2321372
EPA 351.2 Rev. 2.0	Total Kjeldahl Nitrogen in aqueous matrices	2321367, 2321368, 2321372
EPA 353.2 Rev. 2.0	Nitrite/Nitrate in aqueous matrices as mg N/L	2321367, 2321368, 2321372
EPA 365.1 Rev. 2.0	Total Phosphorus in aqueous matrices as mg P/L	2321367, 2321368, 2321372
EPA 365.1 Rev. 2.0 dissolved	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	2321369, 2321370, 2321373
SM 2320 B-2011	Alkalinity in aqueous matrices as mg CaCO ₃ /L	2321365, 2321366, 2321371
SM 2540 D-2011	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2321365, 2321366, 2321371
SM 4500-F- C-2011	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2321365, 2321366, 2321371
SM 5310 B-2011	Nonpurgeable Organic Carbon in aqueous matrices	2321367, 2321368, 2321372

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	04/21/2022			04/22/2022 13:34	Anna M. Plaviak	2321365
	04/21/2022			04/22/2022 13:35	Anna M. Plaviak	2321366
	04/21/2022			04/22/2022 13:36	Anna M. Plaviak	2321371
EPA 350.1 Rev. 2.0	04/21/2022			04/29/2022 09:21	Judith K. Clark	2321367
	04/21/2022			05/03/2022 12:24	Ping Hua	2321368
	04/21/2022			05/03/2022 12:25	Ping Hua	2321372
EPA 351.2 Rev. 2.0	04/21/2022	05/03/2022 16:44	Samantha L Bates	05/05/2022 12:34	Samantha L Bates	2321368
	04/21/2022	05/03/2022 16:44	Samantha L Bates	05/05/2022 12:35	Samantha L Bates	2321372
	04/21/2022	05/04/2022 16:20	Alexandra J Mattheus	05/09/2022 13:27	Samantha L Bates	2321367
EPA 353.2 Rev. 2.0	04/21/2022			04/27/2022 10:29	Beverly Y. Sanders	2321367
	04/21/2022			04/29/2022 09:39	Beverly Y. Sanders	2321368
	04/21/2022			04/29/2022 09:41	Beverly Y. Sanders	2321372
EPA 365.1 Rev. 2.0	04/21/2022	04/29/2022 13:00	Simonne.V. Calhoun	05/03/2022 14:52	James L Waggeberby	2321367
	04/21/2022	05/04/2022 17:30	Simonne.V. Calhoun	05/06/2022 15:29	James L Waggeberby	2321368
	04/21/2022	05/04/2022 17:30	Simonne.V. Calhoun	05/06/2022 15:30	James L Waggeberby	2321372
EPA 365.1 Rev. 2.0 dissolved	04/21/2022			04/22/2022 15:59	Nathaniel J Jones	2321369
	04/21/2022			04/22/2022 16:12	Nathaniel J Jones	2321370
	04/21/2022			04/22/2022 16:15	Nathaniel J Jones	2321373
SM 2320 B-2011	04/21/2022			04/30/2022 20:36	Dale L. Simmons	2321365
	04/21/2022			04/30/2022 21:31	Dale L. Simmons	2321366
	04/21/2022			05/10/2022 17:23	Dale L. Simmons	2321371
SM 2540 D-2011	04/21/2022			04/26/2022 15:06	Yijie Li	2321365, 2321366, 2321371
SM 4500-F- C-2011	04/21/2022			04/30/2022 20:36	Dale L. Simmons	2321365
	04/21/2022			04/30/2022 21:31	Dale L. Simmons	2321366
	04/21/2022			05/10/2022 17:23	Dale L. Simmons	2321371
SM 5310 B-2011	04/21/2022			04/28/2022 02:09	Khloe J Berg	2321367
	04/21/2022			04/28/2022 02:49	Khloe J Berg	2321368
	04/21/2022			04/28/2022 03:05	Khloe J Berg	2321372