Chemical Analysis Report

TLH-ROC-2021-01-19-02

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

Event Description: **Run 5**
Request ID: **RQ-2021-01-04-27**
Customer: **TLH-ROC**
Project ID: **SMP**

Send Reports to:
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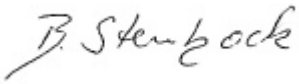
Certified by: Dr. rer. nat. Bettina Steinbock, Environmental Administrator Date Certified: 10-FEB-2021 18:07



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: Fenholloway River Encoc **Collection Date/Time: 01/19/2021 10:20**

Field ID: G1TLHR0120 Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2219957	EPA 180.1 Rev. 2.0	Turbidity	1.7		NTU	P392547	
	EPA 300.0 Rev. 2.1	Bromide	0.62		mg Br/L	P393037	
	SM 2320 B-2011	Total Alkalinity	149		mg CaCO3/L	P392851	
	SM 2540 D-2011	TSS	2	I	mg/L	P392980	
	SM 4500 F-C-2011	Fluoride	0.15		mg F/L	P392854	
2219959	EPA 350.1 Rev. 2.0	Ammonia-N	0.041		mg N/L	P393333	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.54		mg N/L	P393125	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.20		mg N/L	P392742	
	EPA 365.1 Rev. 2.0	Total-P	0.10		mg P/L	P392721	
	SM 5310 B-2011	Organic Carbon	21		mg C/L	P392754	
2219961	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.072		mg P/L	P392546	

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: Aucilla River @ Mouth **Collection Date/Time: 01/19/2021 11:30**

Field ID: G1TLHR0091 Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2219958	EPA 180.1 Rev. 2.0	Turbidity	1.4		NTU	P392547	
	EPA 300.0 Rev. 2.1	Bromide	2.8		mg Br/L	P393037	
	SM 2320 B-2011	Total Alkalinity	61		mg CaCO3/L	P392851	
	SM 2540 D-2011	TSS	2	U	mg/L	P392980	
	SM 4500 F-C-2011	Fluoride	0.11		mg F/L	P392854	
2219960	EPA 350.1 Rev. 2.0	Ammonia-N	0.008		mg N/L	P393204	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.58		mg N/L	P392992	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.029		mg N/L	P393530	
	EPA 365.1 Rev. 2.0	Total-P	0.036		mg P/L	P392720	
	SM 5310 B-2011	Organic Carbon	18		mg C/L	P392754	
2219962	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.021		mg P/L	P392636	

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: P392547

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P393037

Component	Result	Code	Units
Bromide	0.013	U	mg Br/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P393204

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P393333

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P392992

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P393125

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P392742

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P393530

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P392720

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
Batch ID: P392721

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P392546

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P392636

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

Reference Method: SM 2320 B-2011
Batch ID: P392851

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

Reference Method: SM 2540 D-2011
Batch ID: P392980

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500 F-C-2011
Batch ID: P392854

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-2011
Batch ID: P392754

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

Quality Assurance Report
Laboratory Control Sample Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P393037

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P393204

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P393333

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P392992

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P393125

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Kjeldahl Nitrogen	103		P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P392742

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P393530

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P392720

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P392721

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

Quality Assurance Report
Laboratory Control Sample Accuracy

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P392546

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P392636

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

Reference Method: SM 2320 B-2011
Batch ID: P392851

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	95.1		P	93 - 104

Reference Method: SM 4500 F-C-2011
Batch ID: P392854

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	95.8		P	90 - 106

Reference Method: SM 5310 B-2011
Batch ID: P392754

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	98.8		P	85 - 115

Quality Assurance Report
Matrix Spike Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P393037

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2219957	Bromide	90.3		P	90 - 110
2220312	Bromide	97.8	97.3	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P393204

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2219552	Ammonia-N	107	105	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P393333

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2219973	Ammonia-N	101	104	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P392992

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2219553	Kjeldahl Nitrogen	103	104	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P393125

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2219973	Kjeldahl Nitrogen	105	105	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P392742

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2219944	NO2NO3-N	93.5	92.5	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P393530

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2223596	NO2NO3-N	99.5	99.5	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P392720

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2219555	Total-P	97.7	98.0	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P392721

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2219943	Total-P	104	105	P/P	90 - 110

Quality Assurance Report
Matrix Spike Accuracy

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P392546

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2219921	O-Phosphate-P	98.5	98.5	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P392636

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2220129	O-Phosphate-P	97.7	96.8	P/P	90 - 110

Reference Method: SM 4500 F-C-2011
Batch ID: P392854

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2219972	Fluoride	99.6	97.9	P/P	94 - 107

Reference Method: SM 5310 B-2011
Batch ID: P392754

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2219759	Organic Carbon	102	104	P/P	85 - 115

Quality Assurance Report
Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P392547

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2219930	Turbidity	0.0	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P393037

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2220312	Bromide	0.421	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P393204

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2219552	Ammonia-N	1.21	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P393333

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2219973	Ammonia-N	3.17	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P392992

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2219553	Kjeldahl Nitrogen	0.452	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P393125

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2219973	Kjeldahl Nitrogen	0.468	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P392742

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2219944	NO2NO3-N	0.922	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P393530

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2223596	NO2NO3-N	0.0	Spike	P	0 - 20

Quality Assurance Report
Precision

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P392720

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2219555	Total-P	0.221	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P392721

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2219943	Total-P	1.12	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P392546

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2219921	O-Phosphate-P	0.0	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P392636

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2220129	O-Phosphate-P	0.875	Spike	P	0 - 20

Reference Method: SM 2320 B-2011
Batch ID: P392851

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2219972	Total Alkalinity	0.568	Sample	P	0 - 8.1

Reference Method: SM 4500 F-C-2011
Batch ID: P392854

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2219972	Fluoride	1.37	Spike	P	0 - 2.8

Reference Method: SM 5310 B-2011
Batch ID: P392754

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2219759	Organic Carbon	1.08	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: A103120
Included Lab Sample IDs: 2219961

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	98.5	97.9	P/P	90 - 110

Reference Method: EPA 180.1 Rev. 2.0
Run ID: A103121
Included Lab Sample IDs: 2219957, 2219958

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Turbidity	100	102	P/P	95 - 105

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Run ID: A103142
Included Lab Sample IDs: 2219962

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	100	99.9	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Run ID: A103180
Included Lab Sample IDs: 2219959

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

Reference Method: SM 5310 B-2011
Run ID: A103188
Included Lab Sample IDs: 2219959, 2219960

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

Reference Method: EPA 365.1 Rev. 2.0
Run ID: A103207
Included Lab Sample IDs: 2219959

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

Reference Method: EPA 365.1 Rev. 2.0
Run ID: A103218
Included Lab Sample IDs: 2219960

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	96.2	94.0	P/P	90 - 110

Reference Method: SM 2320 B-2011
Run ID: A103220
Included Lab Sample IDs: 2219957, 2219958

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	94.4	91.9	P/P	90 - 110

Quality Assurance Report
Calibration Verification

Reference Method: SM 4500 F-C-2011
Run ID: A103220
Included Lab Sample IDs: 2219957, 2219958

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	99.5	98.6	P/P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Run ID: A103266
Included Lab Sample IDs: 2219957, 2219958

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Bromide	96.0	96.5	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Run ID: A103298
Included Lab Sample IDs: 2219960

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	96.5	97.3	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Run ID: A103347
Included Lab Sample IDs: 2219959

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

Reference Method: EPA 350.1 Rev. 2.0
Run ID: A103348
Included Lab Sample IDs: 2219960

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

Reference Method: EPA 350.1 Rev. 2.0
Run ID: A103396
Included Lab Sample IDs: 2219959

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	102	94.7	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Run ID: A103486
Included Lab Sample IDs: 2219960

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	101	99.5	P/P	90 - 110

* Pass/Fail determinations are made for each bracketing calibration verification check.
Control limits for initial calibration checks may be different from those for continuing checks, depending on method requirements.
Where they are different, both control limits are provided.

Quality Assurance Report
Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery			Precision		
						LCS	SMP	MS
EPA 180.1 Rev. 2.0	Turbidity						0.0	
EPA 300.0 Rev. 2.1	Bromide	99.0	97.8	97.3	90.3			0.421
EPA 350.1 Rev. 2.0	Ammonia-N	100	107	105				1.21
	Ammonia-N	103	101	104				3.17
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	105	103	104				0.452
	Kjeldahl Nitrogen	103	105	105				0.468
EPA 353.2 Rev. 2.0	NO2NO3-N	100	93.5	92.5				0.922
	NO2NO3-N	99.5	99.5	99.5				0.0
EPA 365.1 Rev. 2.0	Total-P	105	97.7	98.0				0.221
	Total-P	106	104	105				1.12
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	99.1	98.5	98.5				0.0
	O-Phosphate-P	101	97.7	96.8				0.875
SM 2320 B-2011	Total Alkalinity	95.1					0.568	
SM 4500 F-C-2011	Fluoride	95.8	99.6	97.9				1.37
SM 5310 B-2011	Organic Carbon	98.8	102	104				1.08

Reference Method Descriptions

Method	Description	Associated Samples
EPA 180.1 Rev. 2.0	Turbidity in aqueous matrices	2219957, 2219958
EPA 300.0 Rev. 2.1	Bromide in aqueous matrices	2219957, 2219958
EPA 350.1 Rev. 2.0	Ammonia in aqueous matrices as mg N/L	2219959, 2219960
EPA 351.2 Rev. 2.0	Total Kjeldahl Nitrogen in aqueous matrices	2219959, 2219960
EPA 353.2 Rev. 2.0	Nitrite/Nitrate in aqueous matrices as mg N/L	2219959, 2219960
EPA 365.1 Rev. 2.0	Total Phosphorus in aqueous matrices as mg P/L	2219959, 2219960
EPA 365.1 Rev. 2.0 dissolved	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	2219961, 2219962
SM 2320 B-2011	Alkalinity in aqueous matrices as mg CaCO3/L	2219957, 2219958
SM 2540 D-2011	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2219957, 2219958
SM 4500 F-C-2011	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2219957, 2219958
SM 5310 B-2011	Nonpurgeable Organic Carbon in aqueous matrices	2219959, 2219960

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	01/19/2021			01/19/2021 14:19	Yen Ta	2219957, 2219958
EPA 300.0 Rev. 2.1	01/19/2021			01/27/2021 15:49	Lipi Saha	2219957
	01/19/2021			01/27/2021 17:19	Lipi Saha	2219958
EPA 350.1 Rev. 2.0	01/19/2021			02/01/2021 18:22	Ping Hua	2219960
	01/19/2021			02/03/2021 16:39	Ping Hua	2219959
EPA 351.2 Rev. 2.0	01/19/2021	01/27/2021 13:15	Yen Ta	01/28/2021 19:03	Julia Storbeck	2219960
	01/19/2021	01/29/2021 12:30	Yen Ta	02/01/2021 15:18	Julia Storbeck	2219959
EPA 353.2 Rev. 2.0	01/19/2021			01/22/2021 10:26	Beverly Y. Sanders	2219959
	01/19/2021			02/09/2021 09:13	Beverly Y. Sanders	2219960
EPA 365.1 Rev. 2.0	01/19/2021	01/21/2021 17:45	Madeline Gruver	01/22/2021 16:09	Lipi Saha	2219959
	01/19/2021	01/21/2021 17:45	Madeline Gruver	01/25/2021 15:18	Shengyu Wang	2219960
EPA 365.1 Rev. 2.0 dissolved	01/19/2021			01/19/2021 15:07	Blanca Fach	2219961
	01/19/2021			01/20/2021 15:04	Blanca Fach	2219962
SM 2320 B-2011	01/19/2021			01/21/2021 22:04	Dale L. Simmons	2219957
	01/19/2021			01/21/2021 22:26	Dale L. Simmons	2219958
SM 2540 D-2011	01/19/2021			01/22/2021 15:16	Yijie Li	2219957, 2219958
SM 4500 F-C-2011	01/19/2021			01/21/2021 22:04	Dale L. Simmons	2219957
	01/19/2021			01/21/2021 22:26	Dale L. Simmons	2219958
SM 5310 B-2011	01/19/2021			01/21/2021 22:28	Touraj Touran	2219959
	01/19/2021			01/21/2021 22:40	Touraj Touran	2219960