Chemical Analysis Report

TLH-ROC-2020-09-08-02

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

Event Description: **Run 11**
Request ID: **RQ-2020-08-24-41**
Customer: **TLH-ROC**
Project ID: **SMP**

Send Reports to:
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2600 Blair Stone Rd
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Certified by: Colin Wright, Program Administrator

Date Certified: 29-SEP-2020 09:16

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: Alligator Harbor Near Clam Beds **Collection Date/Time: 09/08/2020 12:45**

Field ID: G2TLHR0025 Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2194776	EPA 180.1 Rev. 2.0	Turbidity	7.9	A	NTU	P387155	
	EPA 300.0 Rev. 2.1	Bromide	60		mg Br/L	P387264	
	SM 2320 B-2011	Total Alkalinity	110		mg CaCO3/L	P387256	
	SM 2540 D-2011	TSS	23	A	mg/L	P387629	
	SM 4500 F-C-2011	Fluoride	1.1		mg F/L	P387258	
2194777	EPA 350.1 Rev. 2.0	Ammonia-N	0.005	I	mg N/L	P387294	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.48		mg N/L	P387242	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P387371	
	EPA 365.1 Rev. 2.0	Total-P	0.042		mg P/L	P387766	
	SM 5310 B-2011	Organic Carbon	4.1		mg C/L	P387315	
2194778	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.005	I	mg P/L	P387163	

Sample Location: FB_08092020 **Collection Date/Time: 09/08/2020 13:00**

Field ID: FB_08092020 Matrix: W-FIELD-BK

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2194779	EPA 180.1 Rev. 2.0	Turbidity	0.10	U	NTU	P387155	
	EPA 300.0 Rev. 2.1	Bromide	0.013	U	mg Br/L	P387264	
	SM 2320 B-2011	Total Alkalinity	0.65	U	mg CaCO3/L	P387364	
	SM 2540 D-2011	TSS	2	U	mg/L	P387627	
	SM 4500 F-C-2011	Fluoride	0.035	U	mg F/L	P387506	
2194780	EPA 350.1 Rev. 2.0	Ammonia-N	0.002	U	mg N/L	P387297	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.080	U	mg N/L	P387224	MS
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P387182	
	EPA 365.1 Rev. 2.0	Total-P	0.002	U	mg P/L	P387765	
	SM 5310 B-2011	Organic Carbon	0.50	U	mg C/L	P387314	
2194781	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P387162	

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: P387155

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P387264

Component	Result	Code	Units
Bromide	0.013	U	mg Br/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P387294

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P387297

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P387224

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P387242

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P387182

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P387371

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P387765

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: P387766

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P387162

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P387163

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

Reference Method: SM 2320 B-2011
Batch ID: P387256

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

Reference Method: SM 2320 B-2011
Batch ID: P387364

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

Reference Method: SM 2540 D-2011
Batch ID: P387627

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 2540 D-2011
Batch ID: P387629

Component	Result	Code	Units
TSS	3	U	mg/L

Reference Method: SM 4500 F-C-2011
Batch ID: P387258

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 4500 F-C-2011
Batch ID: P387506

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Quality Assurance Report
Method Blank Results

Reference Method: SM 5310 B-2011
Batch ID: P387314

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

Reference Method: SM 5310 B-2011
Batch ID: P387315

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: P387264

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P387294

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P387297

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: P387224

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P387242

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P387182

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: P387371

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P387765

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P387766

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total-P	107		P	90 - 110

Quality Assurance Report
Laboratory Control Sample Accuracy

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P387162

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P387163

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

Reference Method: SM 2320 B-2011
Batch ID: P387256

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	102		P	93 - 104

Reference Method: SM 2320 B-2011
Batch ID: P387364

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	98.7		P	93 - 104

Reference Method: SM 4500 F-C-2011
Batch ID: P387258

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	96.4		P	90 - 106

Reference Method: SM 4500 F-C-2011
Batch ID: P387506

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	93.6		P	90 - 106

Reference Method: SM 5310 B-2011
Batch ID: P387314

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	98.1		P	85 - 115

Reference Method: SM 5310 B-2011
Batch ID: P387315

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

Quality Assurance Report
Matrix Spike Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P387264

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2194487	Bromide	92.9	93.8	P/P	90 - 110
2194489	Bromide	94.0		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P387294

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2194558	Ammonia-N	94.3	99.3	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P387297

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2194717	Ammonia-N	96.6	97.1	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P387224

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2194819	Kjeldahl Nitrogen	111	109	F/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P387242

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2194777	Kjeldahl Nitrogen	106	106	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P387182

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2194717	NO2NO3-N	99.5	99.5	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P387371

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2194557	NO2NO3-N	98.6	98.6	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P387765

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2194758	Total-P	108	108	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P387766

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2194818	Total-P	105	105	P/P	90 - 110

Quality Assurance Report
Matrix Spike Accuracy

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P387162

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2194760	O-Phosphate-P	99.8	99.4	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P387163

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2194778	O-Phosphate-P	93.8	98.2	P/P	90 - 110

Reference Method: SM 4500 F-C-2011
Batch ID: P387258

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2194816	Fluoride	98.0	98.8	P/P	94 - 107

Reference Method: SM 4500 F-C-2011
Batch ID: P387506

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2194752	Fluoride	102	102	P/P	94 - 107

Reference Method: SM 5310 B-2011
Batch ID: P387314

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2194492	Organic Carbon	96.6	98.4	P/P	85 - 115

Reference Method: SM 5310 B-2011
Batch ID: P387315

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2194647	Organic Carbon	96.1	96.9	P/P	85 - 115

Quality Assurance Report
Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P387155

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2194776	Turbidity	14.3	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P387264

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2194487	Bromide	0.808	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P387294

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2194558	Ammonia-N	4.59	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P387297

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2194717	Ammonia-N	0.468	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P387224

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2194819	Kjeldahl Nitrogen	1.19	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P387242

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2194777	Kjeldahl Nitrogen	0.0861	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P387182

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2194717	NO2NO3-N	0.0	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P387371

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2194557	NO2NO3-N	0.0	Spike	P	0 - 20

Quality Assurance Report
Precision

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P387765

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2194758	Total-P	0.410	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P387766

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2194818	Total-P	0.0967	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P387162

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2194760	O-Phosphate-P	0.346	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P387163

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2194778	O-Phosphate-P	4.37	Spike	P	0 - 20

Reference Method: SM 2320 B-2011
Batch ID: P387256

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2194816	Total Alkalinity	0.681	Sample	P	0 - 8.1

Reference Method: SM 2320 B-2011
Batch ID: P387364

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2195758	Total Alkalinity	2.82	Sample	P	0 - 8.1

Reference Method: SM 2540 D-2011
Batch ID: P387629

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2194776	TSS	8.55	Sample	P	0 - 10

Reference Method: SM 4500 F-C-2011
Batch ID: P387258

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2194816	Fluoride	0.470	Spike	P	0 - 2.8

Quality Assurance Report
Precision

Reference Method: SM 4500 F-C-2011
Batch ID: P387506

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2194752	Fluoride	0.0	Spike	P	0 - 2.8

Reference Method: SM 5310 B-2011
Batch ID: P387314

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2194492	Organic Carbon	1.41	Spike	P	0 - 20

Reference Method: SM 5310 B-2011
Batch ID: P387315

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2194647	Organic Carbon	0.704	Spike	P	0 - 20

* 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: A100883
Included Lab Sample IDs: 2194776, 2194779

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Run ID: A100885
Included Lab Sample IDs: 2194778, 2194781

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	97.9	99.6	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Run ID: A100898
Included Lab Sample IDs: 2194780

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	99.0	99.2	P/P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Run ID: A100925
Included Lab Sample IDs: 2194776, 2194779

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

Reference Method: SM 2320 B-2011
Run ID: A100928
Included Lab Sample IDs: 2194776

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	104	100	P/P	90 - 110

Reference Method: SM 4500 F-C-2011
Run ID: A100928
Included Lab Sample IDs: 2194776

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	101	97.7	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Run ID: A100944
Included Lab Sample IDs: 2194777, 2194780

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	98.2	98.7	P/P	90 - 110
Ammonia-N	99.2	97.0	P/P	90 - 110

Reference Method: SM 5310 B-2011
Run ID: A100952
Included Lab Sample IDs: 2194777, 2194780

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	94.8	94.8	P/P	90 - 110

Quality Assurance Report
Calibration Verification

Reference Method: SM 5310 B-2011
Run ID: A100952
Included Lab Sample IDs: 2194777, 2194780

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

Reference Method: EPA 351.2 Rev. 2.0
Run ID: A100964
Included Lab Sample IDs: 2194777

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	95.2	98.8	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Run ID: A100966
Included Lab Sample IDs: 2194780

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	91.0	95.4	P/P	90 - 110

Reference Method: SM 2320 B-2011
Run ID: A100975
Included Lab Sample IDs: 2194779

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	102	99.6	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Run ID: A100978
Included Lab Sample IDs: 2194777

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	99.5	100	P/P	90 - 110

Reference Method: SM 4500 F-C-2011
Run ID: A101053
Included Lab Sample IDs: 2194779

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	97.2	97.2	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Run ID: A101202
Included Lab Sample IDs: 2194777, 2194780

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	95.5	95.5	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						14.3	
EPA 300.0 Rev. 2.1	Bromide	96.6	92.9	93.8	94.0			0.808
EPA 350.1 Rev. 2.0	Ammonia-N	98.8	94.3	99.3				4.59
	Ammonia-N	99.2	96.6	97.1				0.468
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	99.9	111	109				1.19
	Kjeldahl Nitrogen	101	106	106				0.0861
EPA 353.2 Rev. 2.0	NO2NO3-N	100	99.5	99.5				0.0
	NO2NO3-N	98.5	98.6	98.6				0.0
EPA 365.1 Rev. 2.0	Total-P	106	108	108				0.410
	Total-P	107	105	105				0.0967
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	98.0	99.8	99.4				0.346
	O-Phosphate-P	103	93.8	98.2				4.37
SM 2320 B-2011	Total Alkalinity	102					0.681	
	Total Alkalinity	98.7					2.82	
SM 2540 D-2011	TSS						8.55	
SM 4500 F-C-2011	Fluoride	96.4	98.0	98.8				0.470
	Fluoride	93.6	102	102				0.0
SM 5310 B-2011	Organic Carbon	98.1	96.6	98.4				1.41
	Organic Carbon	96.0	96.1	96.9				0.704

Reference Method Descriptions

Method	Description	Associated Samples
EPA 180.1 Rev. 2.0	Turbidity in aqueous matrices	2194776, 2194779
EPA 300.0 Rev. 2.1	Bromide in aqueous matrices	2194776, 2194779
EPA 350.1 Rev. 2.0	Ammonia in aqueous matrices as mg N/L	2194777, 2194780
EPA 351.2 Rev. 2.0	Total Kjeldahl Nitrogen in aqueous matrices	2194777, 2194780
EPA 353.2 Rev. 2.0	Nitrite/Nitrate in aqueous matrices as mg N/L	2194777, 2194780
EPA 365.1 Rev. 2.0	Total Phosphorus in aqueous matrices as mg P/L	2194777, 2194780
EPA 365.1 Rev. 2.0 dissolved	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	2194778, 2194781
SM 2320 B-2011	Alkalinity in aqueous matrices as mg CaCO3/L	2194776, 2194779
SM 2540 D-2011	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2194776, 2194779
SM 4500 F-C-2011	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2194776, 2194779
SM 5310 B-2011	Nonpurgeable Organic Carbon in aqueous matrices	2194777, 2194780

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	09/08/2020			09/09/2020 15:55	Yen Ta	2194776, 2194779
EPA 300.0 Rev. 2.1	09/08/2020			09/11/2020 01:39	Lipi Saha	2194776
	09/08/2020			09/11/2020 01:56	Lipi Saha	2194779
EPA 350.1 Rev. 2.0	09/08/2020			09/12/2020 14:34	Ping Hua	2194777
	09/08/2020			09/12/2020 16:16	Ping Hua	2194780
EPA 351.2 Rev. 2.0	09/08/2020	09/11/2020 10:20	Sima Feizi	09/14/2020 14:35	Elliott Rodriguez	2194777
	09/08/2020	09/11/2020 10:20	Sima Feizi	09/14/2020 15:58	Elliott Rodriguez	2194780
EPA 353.2 Rev. 2.0	09/08/2020			09/10/2020 09:25	Beverly Y. Sanders	2194780
	09/08/2020			09/15/2020 09:50	Beverly Y. Sanders	2194777
EPA 365.1 Rev. 2.0	09/08/2020	09/23/2020 17:40	Madeline Gruver	09/25/2020 13:39	Lipi Saha	2194780
	09/08/2020	09/23/2020 17:40	Madeline Gruver	09/25/2020 13:42	Lipi Saha	2194777
EPA 365.1 Rev. 2.0 dissolved	09/08/2020			09/09/2020 16:01	Virginia P. Brown	2194781
	09/08/2020			09/09/2020 16:05	Virginia P. Brown	2194778
SM 2320 B-2011	09/08/2020			09/10/2020 21:55	Dale L. Simmons	2194776
	09/08/2020			09/15/2020 02:18	Dale L. Simmons	2194779
SM 2540 D-2011	09/08/2020			09/14/2020 15:06	Yijie Li	2194776, 2194779
SM 4500 F-C-2011	09/08/2020			09/10/2020 20:23	Dale L. Simmons	2194776
	09/08/2020			09/16/2020 18:37	Dale L. Simmons	2194779
SM 5310 B-2011	09/08/2020			09/12/2020 05:25	David Boose	2194780
	09/08/2020			09/12/2020 11:07	David Boose	2194777