

Chemical Analysis Report

TLH-ROC-2017-10-12-01

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

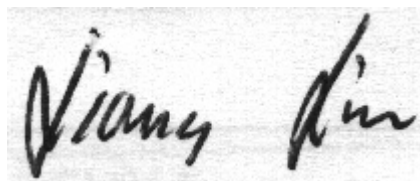
Event Description: **SMP 2017 Freshwater Kit A**
Request ID: **RQ-2017-09-25-37**
Customer: **TLH-ROC**
Project ID: **SMP**

Send Reports to:
FL Dept. of Environmental Protection
2600 Blair Stone Rd
Tallahassee, FL 32399
Attn: Michael Eckles

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Certified by: Liang Lin, Environmental Administrator

Date Certified: 03-NOV-2017 11:03

A handwritten signature in black ink, appearing to read "Liang Lin", 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 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: FORT GASDEN CREEK

Collection Date/Time: 10/12/2017 10:25

Field ID: G2TLHR0012-2017-04

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1936580	EPA 180.1 Rev. 2.0	Turbidity	6.3		NTU	P333290	
	EPA 300.0 Rev. 2.1	Chloride	3.9		mg Cl/L	P333333	
	SM 2120 B	Color (true)	330		PCU	P333296	
	SM 2320 B-97	Total Alkalinity	2.3	I	mg CaCO3/L	P333705	
	SM 2540 C-97	TDS	54		mg/L	P333796	
	SM 2540 D-97	TSS	19		mg/L	P333557	
	SM 4500 F-C-97	Fluoride	0.035	U	mg F/L	P333709	
1936583	EPA 350.1 Rev. 2.0	Ammonia-N	0.041		mg N/L	P333613	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.2		mg N/L	P333730	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P333864	
	EPA 365.1 Rev. 2.0	Total-P	0.063		mg P/L	P333439	
	SM 5310 B-00	Organic Carbon	24		mg C/L	P333686	
1936586	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P333317	

Ref. Method and Comment:

SM 2540 D-97: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.

Sample Location: BROTHERS RIVER

Collection Date/Time: 10/12/2017 11:10

Field ID: G2TLHR0013-2017-04

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1936581	EPA 180.1 Rev. 2.0	Turbidity	5.5	A	NTU	P333291	
	EPA 300.0 Rev. 2.1	Chloride	7.2	A	mg Cl/L	P333333	
	SM 2120 B	Color (true)	29	A	PCU	P333296	
	SM 2320 B-97	Total Alkalinity	47	A	mg CaCO3/L	P333705	
	SM 2540 C-97	TDS	79		mg/L	P333796	
	SM 2540 D-97	TSS	4	I	mg/L	P333557	
	SM 4500 F-C-97	Fluoride	0.093	I	mg F/L	P333709	
1936584	EPA 350.1 Rev. 2.0	Ammonia-N	0.023		mg N/L	P333613	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.29		mg N/L	P333730	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.28		mg N/L	P333864	
	EPA 365.1 Rev. 2.0	Total-P	0.026		mg P/L	P333439	
	SM 5310 B-00	Organic Carbon	3.7		mg C/L	P333686	
1936587	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.008	I	mg P/L	P333317	

Ref. Method and Comment:

SM 2540 D-97: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.

Sample Location: SAUL CREEK

Collection Date/Time: 10/12/2017 11:35

Field ID: G2TLHR00014-2017-04

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1936582	EPA 180.1 Rev. 2.0	Turbidity	4.8		NTU	P333291	
	EPA 300.0 Rev. 2.1	Chloride	260		mg Cl/L	P333333	
	SM 2120 B	Color (true)	24		PCU	P333296	
	SM 2320 B-97	Total Alkalinity	47		mg CaCO3/L	P333855	
	SM 2540 C-97	TDS	526	A	mg/L	P333796	

Field ID: G2TLHR00014-2017-04

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1936582	SM 2540 D-97	TSS	2	IA	mg/L	P333557	
	SM 4500 F-C-97	Fluoride	0.11		mg F/L	P333861	
1936585	EPA 350.1 Rev. 2.0	Ammonia-N	0.018		mg N/L	P333613	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.35		mg N/L	P333730	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.28		mg N/L	P333864	
	EPA 365.1 Rev. 2.0	Total-P	0.023		mg P/L	P333439	
	SM 5310 B-00	Organic Carbon	3.8		mg C/L	P333686	
1936588	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.006	I	mg P/L	P333317	

Ref. Method and Comment:

SM 2540 D-97: 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: P333290

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 180.1 Rev. 2.0

Batch ID: P333291

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 300.0 Rev. 2.1

Batch ID: P333333

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 350.1 Rev. 2.0

Batch ID: P333613

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

Reference Method: EPA 351.2 Rev. 2.0

Batch ID: P333730

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

Reference Method: EPA 353.2 Rev. 2.0

Batch ID: P333864

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

Quality Assurance Report Method Blank Results

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P333439

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P333317

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

Reference Method: SM 2120 B
Batch ID: P333296

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2320 B-97
Batch ID: P333705

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

Reference Method: SM 2320 B-97
Batch ID: P333855

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

Reference Method: SM 2540 C-97
Batch ID: P333796

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-97
Batch ID: P333557

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500 F-C-97
Batch ID: P333709

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 4500 F-C-97
Batch ID: P333861

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Quality Assurance Report Method Blank Results

Reference Method: SM 5310 B-00
 Batch ID: P333686

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: P333333

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Chloride	95.6		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
 Batch ID: P333613

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

Reference Method: EPA 351.2 Rev. 2.0
 Batch ID: P333730

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

Reference Method: EPA 353.2 Rev. 2.0
 Batch ID: P333864

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: P333439

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
 Batch ID: P333317

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

Reference Method: SM 2320 B-97
 Batch ID: P333705

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	102		P	95 - 108

Reference Method: SM 2320 B-97
 Batch ID: P333855

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
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Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: SM 2320 B-97
Batch ID: P333855

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	103		P	95 - 108

Reference Method: SM 4500 F-C-97
Batch ID: P333709

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	97.9		P	92 - 103

Reference Method: SM 4500 F-C-97
Batch ID: P333861

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	96.8		P	92 - 103

Reference Method: SM 5310 B-00
Batch ID: P333686

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	96.8		P	85 - 115

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P333333

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1936427	Chloride	96.3		P	90 - 110
1936581	Chloride	96.1		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P333613

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1936485	Ammonia-N	104	104	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P333730

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1936585	Kjeldahl Nitrogen	99.8	101	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P333864

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1936569	NO2NO3-N	97.7	96.7	P/P	90 - 110

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P333439

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1936584	Total-P	96.0	96.6	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P333317

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1936355	O-Phosphate-P	97.2	97.1	P/P	90 - 110

Reference Method: SM 4500 F-C-97
Batch ID: P333709

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1936581	Fluoride	97.6	98.3	P/P	91 - 105

Reference Method: SM 4500 F-C-97
Batch ID: P333861

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1938516	Fluoride	96.7	96.2	P/P	91 - 105

Reference Method: SM 5310 B-00
Batch ID: P333686

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1936276	Organic Carbon	102		P	85 - 115

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P333290

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1936389	Turbidity	6.55	Sample	P	0 - 20

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P333291

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1936581	Turbidity	1.09	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P333333

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1936581	Chloride	0.661	Sample	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 350.1 Rev. 2.0
 Batch ID: P333613

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1936485	Ammonia-N	0.373	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
 Batch ID: P333730

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1936585	Kjeldahl Nitrogen	0.780	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
 Batch ID: P333864

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1936569	NO2NO3-N	0.949	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
 Batch ID: P333439

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1936584	Total-P	0.635	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
 Batch ID: P333317

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1936355	O-Phosphate-P	0.103	Spike	P	0 - 20

Reference Method: SM 2120 B
 Batch ID: P333296

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1936581	Color (true)	2.39	Sample	P	0 - 20

Reference Method: SM 2320 B-97
 Batch ID: P333705

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1936581	Total Alkalinity	0.706	Sample	P	0 - 4.8

Reference Method: SM 2320 B-97
 Batch ID: P333855

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1938516	Total Alkalinity	1.14	Sample	P	0 - 4.8

Quality Assurance Report Precision

Reference Method: SM 2540 C-97
Batch ID: P333796

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1936582	TDS	1.14	Sample	P	0 - 10

Reference Method: SM 4500 F-C-97
Batch ID: P333709

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1936581	Fluoride	0.511	Spike	P	0 - 3.0

Reference Method: SM 4500 F-C-97
Batch ID: P333861

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1938516	Fluoride	0.474	Spike	P	0 - 3.0

Reference Method: SM 5310 B-00
Batch ID: P333686

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1936276	Organic Carbon	0.762	Spike	P	0 - 20

* Sample, spike and/or laboratory control sample precision (LCS) is reported.
Replicate spike precision may be reported when sample results are below quantifiable levels.

Quality Assurance Report Calibration Verification

Reference Method: EPA 180.1 Rev. 2.0
Run ID: A79517
Included Lab Sample IDs: 1936580, 1936581, 1936582

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

Reference Method: SM 2120 B
Run ID: A79519
Included Lab Sample IDs: 1936580, 1936581, 1936582

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	102	103	P/P	85 - 115
Color (true)	103	102	P/P	85 - 115

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Run ID: A79529
Included Lab Sample IDs: 1936586, 1936587, 1936588

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	99.0	98.8	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A79534

Included Lab Sample IDs: 1936580, 1936581, 1936582

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	100	98.8	P/P	90 - 110
Chloride	98.7	100	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A79631

Included Lab Sample IDs: 1936583

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

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A79637

Included Lab Sample IDs: 1936584, 1936585

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	102	99.5	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A79639

Included Lab Sample IDs: 1936583, 1936584, 1936585

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	103	102	P/P	90 - 110
Ammonia-N	104	103	P/P	90 - 110

Reference Method: SM 5310 B-00

Run ID: A79660

Included Lab Sample IDs: 1936583, 1936584, 1936585

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

Reference Method: SM 2320 B-97

Run ID: A79666

Included Lab Sample IDs: 1936580, 1936581

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	100	103	P/P	90 - 110
Total Alkalinity	102	100	P/P	90 - 110

Reference Method: SM 4500 F-C-97

Run ID: A79666

Included Lab Sample IDs: 1936580, 1936581

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

Quality Assurance Report Calibration Verification

Reference Method: SM 2320 B-97
 Run ID: A79730
 Included Lab Sample IDs: 1936582

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

Reference Method: SM 4500 F-C-97
 Run ID: A79730
 Included Lab Sample IDs: 1936582

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

Reference Method: EPA 353.2 Rev. 2.0
 Run ID: A79731
 Included Lab Sample IDs: 1936583, 1936584, 1936585

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

Reference Method: EPA 351.2 Rev. 2.0
 Run ID: A79750
 Included Lab Sample IDs: 1936583, 1936584, 1936585

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	97.5	106	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 SMP	MS
EPA 180.1 Rev. 2.0	Turbidity				6.55	
	Turbidity				1.09	
EPA 300.0 Rev. 2.1	Chloride	95.6	96.1 96.3		0.661	
EPA 350.1 Rev. 2.0	Ammonia-N	106	104 104			0.373
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	104	99.8 101			0.780
EPA 353.2 Rev. 2.0	NO2NO3-N	104	97.7 96.7			0.949
EPA 365.1 Rev. 2.0	Total-P	100	96.0 96.6			0.635
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	101	97.2 97.1			0.103
SM 2120 B	Color (true)				2.39	
SM 2320 B-97	Total Alkalinity	102			0.706	
	Total Alkalinity	103			1.14	
SM 2540 C-97	TDS				1.14	
SM 4500 F-C-97	Fluoride	97.9	97.6 98.3			0.511
	Fluoride	96.8	96.7 96.2			0.474
SM 5310 B-00	Organic Carbon	96.8	102			0.762

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 180.1 Rev. 2.0 / E31780	Turbidity in aqueous matrices	1936580, 1936581, 1936582
EPA 300.0 Rev. 2.1 / E31780	Chloride in aqueous matrices	1936580, 1936581, 1936582
EPA 350.1 Rev. 2.0 / E31780	Ammonia in aqueous matrices as mg N/L	1936583, 1936584, 1936585
EPA 351.2 Rev. 2.0 / E31780	Total Kjeldahl Nitrogen in aqueous matrices	1936583, 1936584, 1936585
EPA 353.2 Rev. 2.0 / E31780	Nitrite/Nitrate in aqueous matrices as mg N/L	1936583, 1936584, 1936585
EPA 365.1 Rev. 2.0 / E31780	Total Phosphorus in aqueous matrices as mg P/L	1936583, 1936584, 1936585
EPA 365.1 Rev. 2.0 dissolved / E31780	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	1936586, 1936587, 1936588
SM 2120 B / E31780	True Color measured at 450 nm	1936580, 1936581, 1936582
SM 2320 B-97 / E31780	Alkalinity in aqueous matrices as mg CaCO ₃ /L	1936580, 1936581, 1936582
SM 2540 C-97 / E31780	Total Dissolved Solids in aqueous matrices	1936580, 1936581, 1936582
SM 2540 D-97 / E31780	Total Suspended Solids in aqueous matrices	1936580, 1936581, 1936582
SM 4500 F-C-97 / E31780	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	1936580, 1936581, 1936582
SM 5310 B-00 / E31780	Nonpurgeable Organic Carbon in aqueous matrices	1936583, 1936584, 1936585

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	10/12/2017			10/12/2017 16:03	DeAsia Armster	1936580, 1936581, 1936582
EPA 300.0 Rev. 2.1	10/12/2017			10/13/2017	Julia Storbeck	1936580, 1936581, 1936582
EPA 350.1 Rev. 2.0	10/12/2017			10/18/2017	Sofia Elnemr	1936583, 1936584, 1936585
EPA 351.2 Rev. 2.0	10/12/2017	10/20/2017	Adrian Shelby	10/23/2017	Tanya Welborn	1936583, 1936584, 1936585
EPA 353.2 Rev. 2.0	10/12/2017			10/23/2017	Beverly Y. Sanders	1936583, 1936584, 1936585
EPA 365.1 Rev. 2.0	10/12/2017	10/16/2017	Sima Feizi	10/17/2017	Lipi Saha	1936583
	10/12/2017	10/16/2017	Sima Feizi	10/18/2017	Lipi Saha	1936584, 1936585
EPA 365.1 Rev. 2.0 dissolved	10/12/2017			10/12/2017 16:38	Megan Treadwell	1936586
	10/12/2017			10/12/2017 16:39	Megan Treadwell	1936587
	10/12/2017			10/12/2017 16:40	Megan Treadwell	1936588
SM 2120 B	10/12/2017			10/12/2017 17:49	Julia Storbeck	1936581
	10/12/2017			10/12/2017 17:53	Julia Storbeck	1936582
	10/12/2017			10/12/2017 18:08	Julia Storbeck	1936580
SM 2320 B-97	10/12/2017			10/19/2017	Dale L. Simmons	1936580, 1936581
	10/12/2017			10/21/2017	Dale L. Simmons	1936582
SM 2540 C-97	10/12/2017			10/16/2017	DeAsia Armster	1936580, 1936581, 1936582
SM 2540 D-97	10/12/2017			10/16/2017	DeAsia Armster	1936580, 1936581, 1936582
SM 4500 F-C-97	10/12/2017			10/19/2017	Dale L. Simmons	1936580, 1936581
	10/12/2017			10/21/2017	Dale L. Simmons	1936582
SM 5310 B-00	10/12/2017			10/19/2017	Ping Hua	1936583, 1936584, 1936585