

Chemical Analysis Report

CEN-DIST-2018-05-10-01

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

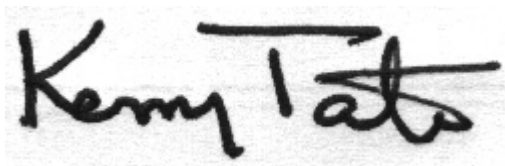
Event Description: **Lou / Weir / Cove**
Request ID: **RQ-2018-04-30-35**
Customer: **CEN-DIST**
Project ID: **SMP**

Send Reports to:
FL Dept. of Environmental Protection
FL Dept. of Environmental Protection
3319 Maguire Blvd., Suite 232
Orlando, FL 32803-3767
Attn: Mike Linger

For additional information please contact
Colin Wright, Ph.D.
Liang-Tsair Lin, Ph.D.
Kerry Tate, Ph.D.
Dr. rer. nat. Bettina Steinbock
Thekkekalathil Chandrasekhar, Ph.D, QA Officer
Phone (850) 245-8085

Certified by: Kerry Tate, Ph.D., Environmental Administrator

Date Certified: 30-MAY-2018 14:53

A handwritten signature in black ink that reads "Kerry Tate". The signature is written in a cursive, flowing style with a horizontal line above the first name.

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: Lake Blue Cove @ 150m SW of Center

Collection Date/Time: 05/09/2018 10:07

Field ID: G4CE0022

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1991778	EPA 180.1 Rev. 2.0	Turbidity	2.0		NTU	P345061	
	EPA 300.0 Rev. 2.1	Chloride	3.0		mg Cl/L	P345276	
		Sulfate	0.20	U	mg SO4/L	P345278	
	SM 2120 B	Color (true)	6.7		PCU	P345036	
	SM 2320 B-97	Total Alkalinity	37		mg CaCO3/L	P345481	
	SM 2540 C-97	TDS	58		mg/L	P345474	
	SM 2540 D-97	TSS	3	I	mg/L	P345285	
	SM 4500 F-C-97	Fluoride	0.30		mg F/L	P345484	
1991781	EPA 350.1 Rev. 2.0	Ammonia-N	0.008		mg N/L	P345268	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.72		mg N/L	P345822	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P345243	
	EPA 365.1 Rev. 2.0	Total-P	0.20		mg P/L	P345144	
	SM 5310 B-00	Organic Carbon	7.1		mg C/L	P345357	
1991784	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.15		mg P/L	P345053	

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: Lake Lou - Center

Collection Date/Time: 05/09/2018 11:42

Field ID: G1CE0040

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1991779	EPA 180.1 Rev. 2.0	Turbidity	1.1		NTU	P345061	
	EPA 300.0 Rev. 2.1	Chloride	8.7		mg Cl/L	P345276	
		Sulfate	3.1		mg SO4/L	P345278	
	SM 2120 B	Color (true)	380		PCU	P345037	
	SM 2320 B-97	Total Alkalinity	3.7		mg CaCO3/L	P345481	
	SM 2540 C-97	TDS	110		mg/L	P345474	
	SM 2540 D-97	TSS	2	U	mg/L	P345285	
	SM 4500 F-C-97	Fluoride	0.049	I	mg F/L	P345484	
1991782	EPA 350.1 Rev. 2.0	Ammonia-N	0.036		mg N/L	P345268	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.4		mg N/L	P345822	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.066		mg N/L	P345243	
	EPA 365.1 Rev. 2.0	Total-P	0.017		mg P/L	P345144	
	SM 5310 B-00	Organic Carbon	32		mg C/L	P345357	
1991785	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P345053	

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: Little Lake Weir @ Center

Collection Date/Time: 05/09/2018 13:02

Field ID: G1CE0014

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1991780	EPA 180.1 Rev. 2.0	Turbidity	3.6		NTU	P345061	
	EPA 300.0 Rev. 2.1	Chloride	45		mg Cl/L	P345276	
		Sulfate	8.2		mg SO4/L	P345278	

Field ID: G1CE0014

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1991780	SM 2120 B	Color (true)	15		PCU	P345037	
	SM 2320 B-97	Total Alkalinity	24	A	mg CaCO3/L	P345481	
	SM 2540 C-97	TDS	142		mg/L	P345474	
	SM 2540 D-97	TSS	7	I	mg/L	P345285	
	SM 4500 F-C-97	Fluoride	0.16		mg F/L	P345484	
1991783	EPA 350.1 Rev. 2.0	Ammonia-N	0.004	I	mg N/L	P345268	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.2		mg N/L	P345822	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P345243	
	EPA 365.1 Rev. 2.0	Total-P	0.017		mg P/L	P345144	
	SM 5310 B-00	Organic Carbon	13		mg C/L	P345357	
1991786	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P345053	

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: P345061

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 300.0 Rev. 2.1

Batch ID: P345276

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1

Batch ID: P345278

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0

Batch ID: P345268

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

Reference Method: EPA 351.2 Rev. 2.0

Batch ID: P345822

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

Reference Method: EPA 353.2 Rev. 2.0

Batch ID: P345243

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: P345144

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P345053

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

Reference Method: SM 2120 B
Batch ID: P345036

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2120 B
Batch ID: P345037

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2320 B-97
Batch ID: P345481

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

Reference Method: SM 2540 C-97
Batch ID: P345474

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-97
Batch ID: P345285

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500 F-C-97
Batch ID: P345484

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-00
Batch ID: P345357

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: P345276

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P345278

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P345268

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P345822

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Kjeldahl Nitrogen	96.3		P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P345243

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P345144

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P345053

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

Reference Method: SM 2320 B-97
Batch ID: P345481

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	101		P	98 - 107

Reference Method: SM 4500 F-C-97
Batch ID: P345484

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	94.6		P	91 - 105

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: SM 5310 B-00
 Batch ID: P345357

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	94.1		P	85 - 115

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 300.0 Rev. 2.1
 Batch ID: P345276

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1991701	Chloride	94.7		P	90 - 110
1991778	Chloride	95.5		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
 Batch ID: P345278

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1991701	Sulfate	94.0		P	90 - 110
1991778	Sulfate	93.8		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
 Batch ID: P345268

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1991782	Ammonia-N	103	104	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
 Batch ID: P345822

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1991781	Kjeldahl Nitrogen	95.7	98.7	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
 Batch ID: P345243

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1991735	NO2NO3-N	100	100	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
 Batch ID: P345144

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1991750	Total-P	101	101	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
 Batch ID: P345053

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1991765	O-Phosphate-P	96.9	98.3	P/P	90 - 110

Quality Assurance Report Matrix Spike Accuracy

Reference Method: SM 4500 F-C-97
Batch ID: P345484

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1991780	Fluoride	95.2	96.6	P/P	91 - 105

Reference Method: SM 5310 B-00
Batch ID: P345357

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1991704	Organic Carbon	96.4	95.0	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P345061

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1991800	Turbidity	11.9	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P345276

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1991701	Chloride	0.702	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P345278

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1991701	Sulfate	0.645	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P345268

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1991782	Ammonia-N	0.360	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P345822

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1991781	Kjeldahl Nitrogen	1.92	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P345243

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
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Quality Assurance Report Precision

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P345243

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1991735	NO2NO3-N	0.0	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P345144

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1991750	Total-P	0.324	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P345053

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1991765	O-Phosphate-P	1.43	Spike	P	0 - 20

Reference Method: SM 2120 B
Batch ID: P345036

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1991701	Color (true)	1.23	Sample	P	0 - 20

Reference Method: SM 2120 B
Batch ID: P345037

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1991796	Color (true)	1.81	Sample	P	0 - 20

Reference Method: SM 2320 B-97
Batch ID: P345481

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1991780	Total Alkalinity	1.11	Sample	P	0 - 1.6

Reference Method: SM 2540 C-97
Batch ID: P345474

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1991796	TDS	0.378	Sample	P	0 - 10

Reference Method: SM 4500 F-C-97
Batch ID: P345484

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1991780	Fluoride	0.986	Spike	P	0 - 3.5

Quality Assurance Report Precision

Reference Method: SM 5310 B-00
Batch ID: P345357

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1991704	Organic Carbon	1.26	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 300.0 Rev. 2.1
Run ID: A83732
Included Lab Sample IDs: 1991778, 1991779, 1991780

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	97.6	98.1	P/P	90 - 110
Chloride	98.1	98.5	P/P	90 - 110
Sulfate	97.3	98.7	P/P	90 - 110
Sulfate	97.8	97.3	P/P	90 - 110

Reference Method: SM 2120 B
Run ID: A83803
Included Lab Sample IDs: 1991778, 1991779, 1991780

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	102	101	P/P	90 - 115
Color (true)	102	104	P/P	90 - 115
Color (true)	99.2	102	P/P	90 - 115

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Run ID: A83807
Included Lab Sample IDs: 1991784, 1991785, 1991786

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	101	99.1	P/P	90 - 110
O-Phosphate-P	99.1	99.1	P/P	90 - 110

Reference Method: EPA 180.1 Rev. 2.0
Run ID: A83809
Included Lab Sample IDs: 1991778, 1991779, 1991780

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

Reference Method: EPA 353.2 Rev. 2.0
Run ID: A83865
Included Lab Sample IDs: 1991781, 1991782, 1991783

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

Quality Assurance Report Calibration Verification

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A83877

Included Lab Sample IDs: 1991781, 1991782, 1991783

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

Reference Method: SM 5310 B-00

Run ID: A83906

Included Lab Sample IDs: 1991781, 1991782, 1991783

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	93.8	94.2	P/P	90 - 110

Reference Method: SM 2320 B-97

Run ID: A83969

Included Lab Sample IDs: 1991778, 1991779, 1991780

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	102	98.4	P/P	90 - 110
Total Alkalinity	98.4	101	P/P	90 - 110

Reference Method: SM 4500 F-C-97

Run ID: A83969

Included Lab Sample IDs: 1991778, 1991779, 1991780

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	97.2	98.1	P/P	90 - 110
Fluoride	98.1	97.6	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A83997

Included Lab Sample IDs: 1991781

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: A84007

Included Lab Sample IDs: 1991782, 1991783

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

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A84147

Included Lab Sample IDs: 1991781, 1991782, 1991783

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	95.0	97.2	P/P	90 - 110
Kjeldahl Nitrogen	97.2	100	P/P	90 - 110

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

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

Where they are different, both control limits are provided.

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery		LCS	Precision	MS
						SMP	
EPA 180.1 Rev. 2.0	Turbidity					11.9	
EPA 300.0 Rev. 2.1	Chloride	96.2	94.7	95.5		0.702	
	Sulfate	95.6	94.0	93.8		0.645	
EPA 350.1 Rev. 2.0	Ammonia-N	101	103	104			0.360
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	96.3	95.7	98.7			1.92
EPA 353.2 Rev. 2.0	NO ₂ NO ₃ -N	100	100	100			0.0
EPA 365.1 Rev. 2.0	Total-P	102	101	101			0.324
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	96.8	96.9	98.3			1.43
SM 2120 B	Color (true)					1.23	
	Color (true)					1.81	
SM 2320 B-97	Total Alkalinity	101				1.11	
SM 2540 C-97	TDS					0.378	
SM 4500 F-C-97	Fluoride	94.6	95.2	96.6			0.986
SM 5310 B-00	Organic Carbon	94.1	96.4	95.0			1.26

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 180.1 Rev. 2.0 / E31780	Turbidity in aqueous matrices	1991778, 1991779, 1991780
EPA 300.0 Rev. 2.1 / E31780	Chloride in aqueous matrices	1991778, 1991779, 1991780
EPA 300.0 Rev. 2.1 / E31780	Sulfate in aqueous matrices	1991778, 1991779, 1991780
EPA 350.1 Rev. 2.0 / E31780	Ammonia in aqueous matrices as mg N/L	1991781, 1991782, 1991783
EPA 351.2 Rev. 2.0 / E31780	Total Kjeldahl Nitrogen in aqueous matrices	1991781, 1991782, 1991783
EPA 353.2 Rev. 2.0 / E31780	Nitrite/Nitrate in aqueous matrices as mg N/L	1991781, 1991782, 1991783
EPA 365.1 Rev. 2.0 / E31780	Total Phosphorus in aqueous matrices as mg P/L	1991781, 1991782, 1991783
EPA 365.1 Rev. 2.0 dissolved / E31780	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	1991784, 1991785, 1991786
SM 2120 B / E31780	True Color measured at 450 nm	1991778, 1991779, 1991780
SM 2320 B-97 / E31780	Alkalinity in aqueous matrices as mg CaCO ₃ /L	1991778, 1991779, 1991780
SM 2540 C-97 / E31780	Total Dissolved Solids in aqueous matrices	1991778, 1991779, 1991780
SM 2540 D-97 / E31780	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	1991778, 1991779, 1991780
SM 4500 F-C-97 / E31780	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	1991778, 1991779, 1991780
SM 5310 B-00 / E31780	Nonpurgeable Organic Carbon in aqueous matrices	1991781, 1991782, 1991783

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	05/10/2018			05/10/2018 16:14	William L. Brown IV	1991778, 1991779, 1991780
EPA 300.0 Rev. 2.1	05/10/2018			05/11/2018 18:16	Lipi Saha	1991778
	05/10/2018			05/11/2018 20:52	Lipi Saha	1991779
	05/10/2018			05/11/2018 21:04	Lipi Saha	1991780
EPA 350.1 Rev. 2.0	05/10/2018			05/14/2018 12:57	Adrian Shelby	1991781
	05/10/2018			05/14/2018 12:58	Adrian Shelby	1991782
	05/10/2018			05/14/2018 13:03	Adrian Shelby	1991783
EPA 351.2 Rev. 2.0	05/10/2018	05/23/2018 16:00	Adrian Shelby	05/24/2018 13:21	Joseph Suarez	1991781
	05/10/2018	05/23/2018 16:00	Adrian Shelby	05/24/2018 13:29	Joseph Suarez	1991782
	05/10/2018	05/23/2018 16:00	Adrian Shelby	05/24/2018 13:30	Joseph Suarez	1991783
EPA 353.2 Rev. 2.0	05/10/2018			05/14/2018 13:40	Lauren Bottorf	1991781
	05/10/2018			05/14/2018 13:41	Lauren Bottorf	1991782
	05/10/2018			05/14/2018 13:42	Lauren Bottorf	1991783
EPA 365.1 Rev. 2.0	05/10/2018	05/11/2018 13:15	Sima Feizi	05/17/2018 14:34	Beverly Y. Sanders	1991781
	05/10/2018	05/11/2018 13:15	Sima Feizi	05/18/2018 12:00	Beverly Y. Sanders	1991782
	05/10/2018	05/11/2018 13:15	Sima Feizi	05/18/2018 12:01	Beverly Y. Sanders	1991783
EPA 365.1 Rev. 2.0 dissolved	05/10/2018			05/10/2018 15:42	Julia Storbeck	1991784, 1991785
	05/10/2018			05/10/2018 15:56	Julia Storbeck	1991786
SM 2120 B	05/10/2018			05/10/2018 14:10	Tanya Welborn	1991778
	05/10/2018			05/10/2018 14:14	Tanya Welborn	1991780
	05/10/2018			05/10/2018 14:42	Tanya Welborn	1991779
SM 2320 B-97	05/10/2018			05/15/2018 16:43	Dale L. Simmons	1991780
	05/10/2018			05/15/2018 20:25	Dale L. Simmons	1991778
	05/10/2018			05/15/2018 20:34	Dale L. Simmons	1991779
SM 2540 C-97	05/10/2018			05/11/2018 17:30	William L. Brown IV	1991778, 1991779, 1991780
SM 2540 D-97	05/10/2018			05/11/2018 17:30	William L. Brown IV	1991778, 1991779, 1991780
SM 4500 F-C-97	05/10/2018			05/15/2018 16:36	Dale L. Simmons	1991780
	05/10/2018			05/15/2018 20:25	Dale L. Simmons	1991778
	05/10/2018			05/15/2018 20:34	Dale L. Simmons	1991779
SM 5310 B-00	05/10/2018			05/14/2018 20:30	Megan Treadwell	1991781
	05/10/2018			05/14/2018 20:45	Megan Treadwell	1991782
	05/10/2018			05/14/2018 21:00	Megan Treadwell	1991783