

Chemical Analysis Report

SE-DIST-2018-05-25-01

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

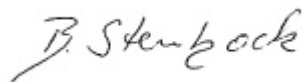
Event Description: **SMP- CM pickup**
Request ID: **RQ-2018-05-28-56**
Customer: **SE-DIST**
Project ID: **SMP**

Send Reports to:
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Certified by: Dr. rer. nat. Bettina Steinbock, Environmental Administrator

Date Certified: 12-JUN-2018 14:46



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: C-23 at S-97

Collection Date/Time: 05/24/2018 12:45

Field ID: G2SE0032

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1995648	EPA 180.1 Rev. 2.0	Turbidity	6.4	A	NTU	P346002	
	EPA 300.0 Rev. 2.1	Chloride	100		mg Cl/L	P346295	
		Sulfate	41		mg SO4/L	P346297	
	SM 2120 B	Color (true)	230		PCU	P345999	
	SM 2320 B-97	Total Alkalinity	97		mg CaCO3/L	P346092	RPD
	SM 2540 C-97	TDS	350		mg/L	P346200	
	SM 2540 D-97	TSS	9	I	mg/L	P346392	
	SM 4500 F-C-97	Fluoride	0.18		mg F/L	P346097	
1995650	EPA 350.1 Rev. 2.0	Ammonia-N	0.23		mg N/L	P346418	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.6		mg N/L	P346355	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.22		mg N/L	P346062	
	EPA 365.1 Rev. 2.0	Total-P	0.41		mg P/L	P346168	
	SM 5310 B-00	Organic Carbon	24		mg C/L	P346491	
1995652	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.31		mg P/L	P345989	

Ref. Method and Comment:

SM 2540 C-97: The reported result is consistent with the laboratory conductivity, 604 umhos/cm.

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

Sample Location: North Fork Loxahatchee @ County Line Rd

Collection Date/Time: 05/24/2018 13:50

Field ID: G2SE0021

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1995649	EPA 180.1 Rev. 2.0	Turbidity	4.1		NTU	P346002	
	EPA 300.0 Rev. 2.1	Chloride	200		mg Cl/L	P346296	
		Sulfate	25		mg SO4/L	P346298	
	SM 2120 B	Color (true)	330		PCU	P345999	
	SM 2320 B-97	Total Alkalinity	35		mg CaCO3/L	P346093	
	SM 2540 C-97	TDS	439		mg/L	P346200	
	SM 2540 D-97	TSS	7	I	mg/L	P346392	
	SM 4500 F-C-97	Fluoride	0.042	I	mg F/L	P346098	
1995651	EPA 350.1 Rev. 2.0	Ammonia-N	0.014		mg N/L	P346418	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.95		mg N/L	P346355	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P346062	
	EPA 365.1 Rev. 2.0	Total-P	0.035		mg P/L	P346168	
	SM 5310 B-00	Organic Carbon	25		mg C/L	P346491	
1995653	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.010		mg P/L	P345989	

Ref. Method and Comment:

EPA 300.0 Rev. 2.1: Chloride: Batch matrix spike recoveries for one of two spiked samples are unavailable because of high analyte concentration in the QC sample.

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

Quality Assurance Report Method Blank Results

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P346002

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P346295

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P346296

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P346297

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P346298

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P346418

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P346355

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P346062

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P346168

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

Quality Assurance Report Method Blank Results

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P345989

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

Reference Method: SM 2120 B
Batch ID: P345999

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2320 B-97
Batch ID: P346092

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

Reference Method: SM 2320 B-97
Batch ID: P346093

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

Reference Method: SM 2540 C-97
Batch ID: P346200

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-97
Batch ID: P346392

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500 F-C-97
Batch ID: P346097

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 4500 F-C-97
Batch ID: P346098

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-00
Batch ID: P346491

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: P346295

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P346296

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P346297

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P346298

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P346418

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: P346355

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P346062

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P346168

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P345989

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

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: SM 2320 B-97
Batch ID: P346092

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	102		P	98 - 107

Reference Method: SM 2320 B-97
Batch ID: P346093

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	102		P	98 - 107

Reference Method: SM 4500 F-C-97
Batch ID: P346097

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	95.8		P	91 - 105

Reference Method: SM 4500 F-C-97
Batch ID: P346098

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

Reference Method: SM 5310 B-00
Batch ID: P346491

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	98.0		P	85 - 115

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P346295

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1995440	Chloride	98.9		P	90 - 110
1995526	Chloride	97.4		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P346296

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1996039	Chloride	102		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P346297

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1995440	Sulfate	98.3		P	90 - 110
1995526	Sulfate	96.3		P	90 - 110

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P346298

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1995691	Sulfate	95.1		P	90 - 110
1996039	Sulfate	101		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P346418

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1995606	Ammonia-N	99.8	101	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P346355

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1995606	Kjeldahl Nitrogen	102	95.7	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P346062

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1995606	NO2NO3-N	103	104	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P346168

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1995606	Total-P	103	103	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P345989

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1995530	O-Phosphate-P	96.4	96.7	P/P	90 - 110

Reference Method: SM 4500 F-C-97
Batch ID: P346097

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1995691	Fluoride	96.8	96.1	P/P	91 - 105

Reference Method: SM 4500 F-C-97
Batch ID: P346098

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1995718	Fluoride	96.0	97.4	P/P	91 - 105

Reference Method: SM 5310 B-00
Batch ID: P346491

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1995456	Organic Carbon	101		P	85 - 115

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P346002

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1995648	Turbidity	8.14	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P346295

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1995526	Chloride	4.11	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P346296

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1995691	Chloride	1.18	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P346297

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1995526	Sulfate	3.41	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P346298

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1995691	Sulfate	0.413	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P346418

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1995606	Ammonia-N	1.15	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P346355

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1995606	Kjeldahl Nitrogen	3.20	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P346062

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1995606	NO2NO3-N	0.484	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P346168

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1995606	Total-P	0.368	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P345989

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1995530	O-Phosphate-P	0.311	Spike	P	0 - 20

Reference Method: SM 2120 B
Batch ID: P345999

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1995526	Color (true)	3.64	Sample	P	0 - 20

Reference Method: SM 2320 B-97
Batch ID: P346092

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1995691	Total Alkalinity	2.32	Sample	F	0 - 1.6

Reference Method: SM 2320 B-97
Batch ID: P346093

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1995718	Total Alkalinity	1.13	Sample	P	0 - 1.6

Reference Method: SM 2540 C-97
Batch ID: P346200

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1995498	TDS	6.61	Sample	P	0 - 10

Reference Method: SM 4500 F-C-97
Batch ID: P346097

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1995691	Fluoride	0.470	Spike	P	0 - 3.5

Reference Method: SM 4500 F-C-97
Batch ID: P346098

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1995718	Fluoride	0.979	Spike	P	0 - 3.5

Quality Assurance Report Precision

Reference Method: SM 5310 B-00
Batch ID: P346491

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1995456	Organic Carbon	1.07	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 365.1 Rev. 2.0 dissolved
Run ID: A84169
Included Lab Sample IDs: 1995652, 1995653

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	98.6	98.8	P/P	90 - 110
O-Phosphate-P	98.8	97.4	P/P	90 - 110

Reference Method: SM 2120 B
Run ID: A84170
Included Lab Sample IDs: 1995648, 1995649

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	103	102	P/P	90 - 115

Reference Method: EPA 180.1 Rev. 2.0
Run ID: A84171
Included Lab Sample IDs: 1995648, 1995649

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: A84207
Included Lab Sample IDs: 1995650, 1995651

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

Reference Method: SM 2320 B-97
Run ID: A84220
Included Lab Sample IDs: 1995648, 1995649

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

Reference Method: SM 4500 F-C-97
Run ID: A84220
Included Lab Sample IDs: 1995648, 1995649

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
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Quality Assurance Report Calibration Verification

Reference Method: SM 4500 F-C-97

Run ID: A84220

Included Lab Sample IDs: 1995648, 1995649

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	98.6	99.1	P/P	90 - 110
Fluoride	99.1	98.6	P/P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A84230

Included Lab Sample IDs: 1995648, 1995649

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	104	104	P/P	90 - 110
Chloride	104	104	P/P	90 - 110
Sulfate	102	102	P/P	90 - 110
Sulfate	102	102	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A84352

Included Lab Sample IDs: 1995650

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

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A84361

Included Lab Sample IDs: 1995650, 1995651

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	96.1	100	P/P	90 - 110
Ammonia-N	99.2	98.6	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A84365

Included Lab Sample IDs: 1995651

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

Reference Method: SM 5310 B-00

Run ID: A84394

Included Lab Sample IDs: 1995650, 1995651

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	100	99.4	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A84411

Included Lab Sample IDs: 1995650, 1995651

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	96.2	98.7	P/P	90 - 110

Quality Assurance Report Calibration Verification

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

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery		Precision		MS
					LCS	SMP	
EPA 180.1 Rev. 2.0	Turbidity					8.14	
EPA 300.0 Rev. 2.1	Chloride	101	97.4	98.9		4.11	
	Chloride	101	102			1.18	
	Sulfate	99.1	96.3	98.3		3.41	
	Sulfate	99.1	95.1	101		0.413	
EPA 350.1 Rev. 2.0	Ammonia-N	101	99.8	101			1.15
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	99.8	102	95.7			3.20
EPA 353.2 Rev. 2.0	NO ₂ NO ₃ -N	102	103	104			0.484
EPA 365.1 Rev. 2.0	Total-P	104	103	103			0.368
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	101	96.4	96.7			0.311
SM 2120 B	Color (true)					3.64	
SM 2320 B-97	Total Alkalinity	102				2.32	
	Total Alkalinity	102				1.13	
SM 2540 C-97	TDS					6.61	
SM 4500 F-C-97	Fluoride	95.8	96.8	96.1			0.470
	Fluoride	96.7	96.0	97.4			0.979
SM 5310 B-00	Organic Carbon	98.0	101				1.07

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 180.1 Rev. 2.0 / E31780	Turbidity in aqueous matrices	1995648, 1995649
EPA 300.0 Rev. 2.1 / E31780	Chloride in aqueous matrices	1995648, 1995649
EPA 300.0 Rev. 2.1 / E31780	Sulfate in aqueous matrices	1995648, 1995649
EPA 350.1 Rev. 2.0 / E31780	Ammonia in aqueous matrices as mg N/L	1995650, 1995651
EPA 351.2 Rev. 2.0 / E31780	Total Kjeldahl Nitrogen in aqueous matrices	1995650, 1995651
EPA 353.2 Rev. 2.0 / E31780	Nitrite/Nitrate in aqueous matrices as mg N/L	1995650, 1995651
EPA 365.1 Rev. 2.0 / E31780	Total Phosphorus in aqueous matrices as mg P/L	1995650, 1995651
EPA 365.1 Rev. 2.0 dissolved / E31780	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	1995652, 1995653
SM 2120 B / E31780	True Color measured at 450 nm	1995648, 1995649
SM 2320 B-97 / E31780	Alkalinity in aqueous matrices as mg CaCO ₃ /L	1995648, 1995649
SM 2540 C-97 / E31780	Total Dissolved Solids in aqueous matrices	1995648, 1995649
SM 2540 D-97 / E31780	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	1995648, 1995649
SM 4500 F-C-97 / E31780	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	1995648, 1995649
SM 5310 B-00 / E31780	Nonpurgeable Organic Carbon in aqueous matrices	1995650, 1995651

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	05/25/2018			05/25/2018 17:29	William L. Brown IV	1995648, 1995649
EPA 300.0 Rev. 2.1	05/25/2018			06/01/2018 18:43	Lipi Saha	1995648
	05/25/2018			06/01/2018 20:43	Lipi Saha	1995649
EPA 350.1 Rev. 2.0	05/25/2018			06/05/2018 14:13	Julia Storbeck	1995651
	05/25/2018			06/05/2018 15:57	Julia Storbeck	1995650
EPA 351.2 Rev. 2.0	05/25/2018	06/05/2018 11:50	Adrian Shelby	06/07/2018 09:00	Joseph Suarez	1995650
	05/25/2018	06/05/2018 11:50	Adrian Shelby	06/07/2018 09:01	Joseph Suarez	1995651
EPA 353.2 Rev. 2.0	05/25/2018			05/29/2018 14:13	Lauren Bottorf	1995650
	05/25/2018			05/29/2018 14:15	Lauren Bottorf	1995651
EPA 365.1 Rev. 2.0	05/25/2018	05/30/2018 13:15	Sima Feizi	06/05/2018 10:15	Beverly Y. Sanders	1995650
	05/25/2018	05/30/2018 13:15	Sima Feizi	06/05/2018 11:11	Beverly Y. Sanders	1995651
EPA 365.1 Rev. 2.0 dissolved	05/25/2018			05/25/2018 14:48	Megan Treadwell	1995653
	05/25/2018			05/25/2018 15:00	Megan Treadwell	1995652
SM 2120 B	05/25/2018			05/25/2018 16:08	Tanya Welborn	1995648, 1995649
SM 2320 B-97	05/25/2018			05/30/2018 01:07	Dale L. Simmons	1995648
	05/25/2018			05/30/2018 02:49	Dale L. Simmons	1995649
SM 2540 C-97	05/25/2018			05/29/2018 15:33	Yijie Li	1995648, 1995649
SM 2540 D-97	05/25/2018			05/29/2018 15:33	Yijie Li	1995648, 1995649
SM 4500 F-C-97	05/25/2018			05/30/2018 01:07	Dale L. Simmons	1995648
	05/25/2018			05/30/2018 02:49	Dale L. Simmons	1995649
SM 5310 B-00	05/25/2018			06/05/2018 09:10	Megan Treadwell	1995650
	05/25/2018			06/05/2018 09:22	Megan Treadwell	1995651