

Chemical Analysis Report

SW-DIST-2018-06-12-02

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

Event Description: **SMP - DO Monitoring Retrieval**

Request ID: **RQ-2018-06-04-24**

Customer: **SW-DIST**

Project ID: **SMP**

Send Reports to:

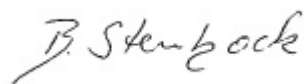
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Date Certified: 28-JUN-2018 17:42



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: DOUBLE BRANCH @ STATE ST

Collection Date/Time: 06/11/2018 09:38

Field ID: G1SW0088

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1999862	EPA 180.1 Rev. 2.0	Turbidity	9.7		NTU	P346785	
	SM 2320 B-97	Total Alkalinity	104		mg CaCO3/L	P347035	RPD
	SM 2540 D-97	TSS	18	A	mg/L	P347419	
	SM 4500 F-C-97	Fluoride	0.26		mg F/L	P347039	
1999864	EPA 350.1 Rev. 2.0	Ammonia-N	0.097		mg N/L	P347164	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.4		mg N/L	P347334	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.086		mg N/L	P347298	
	EPA 365.1 Rev. 2.0	Total-P	0.19		mg P/L	P347074	
	SM 5310 B-00	Organic Carbon	23		mg C/L	P347092	
1999866	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.11		mg P/L	P346781	

Sample Location: WOODS CREEK @ SLOW SPEED SIGN

Collection Date/Time: 06/11/2018 10:55

Field ID: G1SW0087

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1999863	EPA 180.1 Rev. 2.0	Turbidity	7.8		NTU	P346785	
	SM 2320 B-97	Total Alkalinity	111		mg CaCO3/L	P347267	RPD
	SM 2540 D-97	TSS	14		mg/L	P347420	
	SM 4500 F-C-97	Fluoride	0.94		mg F/L	P347271	
1999865	EPA 350.1 Rev. 2.0	Ammonia-N	0.011		mg N/L	P347163	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.69		mg N/L	P347285	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P346963	
	EPA 365.1 Rev. 2.0	Total-P	0.22		mg P/L	P346979	
	SM 5310 B-00	Organic Carbon	6.7		mg C/L	P347093	
1999867	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.13		mg P/L	P346782	

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: P346785

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P347163

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P347164

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P347285

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P347334

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P346963

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P347298

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P346979

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P347074

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: P346781

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P346782

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

Reference Method: SM 2320 B-97
Batch ID: P347035

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

Reference Method: SM 2320 B-97
Batch ID: P347267

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

Reference Method: SM 2540 D-97
Batch ID: P347419

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 2540 D-97
Batch ID: P347420

Component	Result	Code	Units
TSS	3	U	mg/L

Reference Method: SM 4500 F-C-97
Batch ID: P347039

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 4500 F-C-97
Batch ID: P347271

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-00
Batch ID: P347092

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

Quality Assurance Report

Method Blank Results

Reference Method: SM 5310 B-00
Batch ID: P347093

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

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P347163

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P347164

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P347285

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Kjeldahl Nitrogen	94.8		P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P347334

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: P346963

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
NO2NO3-N	97.5		P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P347298

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: P346979

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total-P	99.7		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P347074

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total-P	95.8		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P346781

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

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P346782

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

Reference Method: SM 2320 B-97
Batch ID: P347035

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	100		P	98 - 107

Reference Method: SM 2320 B-97
Batch ID: P347267

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	100		P	98 - 107

Reference Method: SM 4500 F-C-97
Batch ID: P347039

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

Reference Method: SM 4500 F-C-97
Batch ID: P347271

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	98.6		P	91 - 105

Reference Method: SM 5310 B-00
Batch ID: P347092

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	98.2		P	85 - 115

Reference Method: SM 5310 B-00
Batch ID: P347093

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	97.0		P	85 - 115

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P347163

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1999001	Ammonia-N	99.6	102	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P347164

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1999746	Ammonia-N	99.6	103	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P347285

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1999794	Kjeldahl Nitrogen	98.4	97.3	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P347334

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1999764	Kjeldahl Nitrogen	100	98.2	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P346963

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1999651	NO2NO3-N	100	99.8	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P347298

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1999864	NO2NO3-N	98.6	98.2	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P346979

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1999865	Total-P	94.1	94.2	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P347074

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1999727	Total-P	94.8	98.4	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P346781

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1999728	O-Phosphate-P	97.0	98.0	P/P	90 - 110

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P346782

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1999658	O-Phosphate-P	96.1	96.6	P/P	90 - 110

Reference Method: SM 4500 F-C-97
Batch ID: P347039

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1999117	Fluoride	96.9	98.2	P/P	91 - 105

Reference Method: SM 4500 F-C-97
Batch ID: P347271

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1999650	Fluoride	96.9	96.9	P/P	91 - 105

Reference Method: SM 5310 B-00
Batch ID: P347092

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1999103	Organic Carbon	99.4	98.6	P/P	85 - 115

Reference Method: SM 5310 B-00
Batch ID: P347093

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1999655	Organic Carbon	99.3	98.3	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P346785

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1999902	Turbidity	5.09	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P347163

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1999001	Ammonia-N	2.27	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P347164

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1999746	Ammonia-N	2.83	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P347285

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1999794	Kjeldahl Nitrogen	0.948	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P347334

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1999764	Kjeldahl Nitrogen	1.63	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P346963

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1999651	NO2NO3-N	0.382	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P347298

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1999864	NO2NO3-N	0.354	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P346979

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1999865	Total-P	0.123	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P347074

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1999727	Total-P	3.37	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P346781

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1999728	O-Phosphate-P	0.727	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P346782

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1999658	O-Phosphate-P	0.519	Spike	P	0 - 20

Reference Method: SM 2320 B-97
Batch ID: P347035

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1999117	Total Alkalinity	7.60	Sample	F	0 - 1.6

Reference Method: SM 2320 B-97
Batch ID: P347267

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1999650	Total Alkalinity	7.69	Sample	F	0 - 1.6

Reference Method: SM 2540 D-97
Batch ID: P347419

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1999862	TSS	2.25	Sample	P	0 - 10

Reference Method: SM 4500 F-C-97
Batch ID: P347039

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1999117	Fluoride	0.972	Spike	P	0 - 3.5

Reference Method: SM 4500 F-C-97
Batch ID: P347271

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1999650	Fluoride	0.0	Spike	P	0 - 3.5

Quality Assurance Report Precision

Reference Method: SM 5310 B-00
Batch ID: P347092

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1999103	Organic Carbon	0.650	Spike	P	0 - 20

Reference Method: SM 5310 B-00
Batch ID: P347093

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1999655	Organic Carbon	0.691	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: A84528

Included Lab Sample IDs: 1999866, 1999867

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	99.6	99.5	P/P	90 - 110

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A84529

Included Lab Sample IDs: 1999862, 1999863

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Turbidity	99.0	99.5	P/P	95 - 105

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A84610

Included Lab Sample IDs: 1999865

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	97.5	98.0	P/P	90 - 110

Reference Method: SM 2320 B-97

Run ID: A84646

Included Lab Sample IDs: 1999862

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

Reference Method: SM 4500 F-C-97

Run ID: A84646

Included Lab Sample IDs: 1999862

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

Reference Method: SM 5310 B-00

Run ID: A84672

Included Lab Sample IDs: 1999864, 1999865

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	96.8	96.7	P/P	90 - 110
Organic Carbon	97.2	97.2	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A84677

Included Lab Sample IDs: 1999865

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	98.5	99.8	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A84693

Included Lab Sample IDs: 1999864, 1999865

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	101	103	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 350.1 Rev. 2.0
Run ID: A84693
Included Lab Sample IDs: 1999864, 1999865

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

Reference Method: EPA 365.1 Rev. 2.0
Run ID: A84710
Included Lab Sample IDs: 1999864

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	99.3	100	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Run ID: A84739
Included Lab Sample IDs: 1999864

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

Reference Method: SM 2320 B-97
Run ID: A84752
Included Lab Sample IDs: 1999863

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

Reference Method: SM 4500 F-C-97
Run ID: A84752
Included Lab Sample IDs: 1999863

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

Reference Method: EPA 351.2 Rev. 2.0
Run ID: A84814
Included Lab Sample IDs: 1999865

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

Reference Method: EPA 351.2 Rev. 2.0
Run ID: A84827
Included Lab Sample IDs: 1999864

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	102	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 SMP	MS
EPA 180.1 Rev. 2.0	Turbidity					5.09	
EPA 350.1 Rev. 2.0	Ammonia-N	102	99.6	102			2.27
	Ammonia-N	104	99.6	103			2.83
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	94.8	98.4	97.3			0.948
	Kjeldahl Nitrogen	101	100	98.2			1.63
EPA 353.2 Rev. 2.0	NO2NO3-N	97.5	100	99.8			0.382
	NO2NO3-N	100	98.6	98.2			0.354
EPA 365.1 Rev. 2.0	Total-P	99.7	94.1	94.2			0.123
	Total-P	95.8	94.8	98.4			3.37
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	99.1	97.0	98.0			0.727
	O-Phosphate-P	102	96.1	96.6			0.519
SM 2320 B-97	Total Alkalinity	100				7.60	
	Total Alkalinity	100				7.69	
SM 2540 D-97	TSS					2.25	
SM 4500 F-C-97	Fluoride	96.2	96.9	98.2			0.972
	Fluoride	98.6	96.9	96.9			0.0
SM 5310 B-00	Organic Carbon	98.2	99.4	98.6			0.650
	Organic Carbon	97.0	99.3	98.3			0.691

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 180.1 Rev. 2.0 / E31780	Turbidity in aqueous matrices	1999862, 1999863
EPA 350.1 Rev. 2.0 / E31780	Ammonia in aqueous matrices as mg N/L	1999864, 1999865
EPA 351.2 Rev. 2.0 / E31780	Total Kjeldahl Nitrogen in aqueous matrices	1999864, 1999865
EPA 353.2 Rev. 2.0 / E31780	Nitrite/Nitrate in aqueous matrices as mg N/L	1999864, 1999865
EPA 365.1 Rev. 2.0 / E31780	Total Phosphorus in aqueous matrices as mg P/L	1999864, 1999865
EPA 365.1 Rev. 2.0 dissolved / E31780	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	1999866, 1999867
SM 2320 B-97 / E31780	Alkalinity in aqueous matrices as mg CaCO3/L	1999862, 1999863
SM 2540 D-97 / E31780	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	1999862, 1999863
SM 4500 F-C-97 / E31780	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	1999862, 1999863
SM 5310 B-00 / E31780	Nonpurgeable Organic Carbon in aqueous matrices	1999864, 1999865

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	06/12/2018			06/12/2018 16:26	William L. Brown IV	1999862, 1999863
EPA 350.1 Rev. 2.0	06/12/2018			06/19/2018 10:57	Ping Hua	1999865
	06/12/2018			06/19/2018 11:17	Ping Hua	1999864
EPA 351.2 Rev. 2.0	06/12/2018	06/21/2018 12:00	Adrian Shelby	06/22/2018 18:04	Tanya Welborn	1999865
	06/12/2018	06/22/2018 10:30	Adrian Shelby	06/26/2018 10:22	Joseph Suarez	1999864
EPA 353.2 Rev. 2.0	06/12/2018			06/15/2018 09:31	Lauren Bottorf	1999865
	06/12/2018			06/20/2018 10:12	Beverly Y. Sanders	1999864
EPA 365.1 Rev. 2.0	06/12/2018	06/15/2018 11:35	Sima Feizi	06/19/2018 12:54	Beverly Y. Sanders	1999865
	06/12/2018	06/19/2018 11:10	Sima Feizi	06/20/2018 10:59	Lipi Saha	1999864
EPA 365.1 Rev. 2.0 dissolved	06/12/2018			06/12/2018 15:14	Megan Treadwell	1999866
	06/12/2018			06/12/2018 15:15	Megan Treadwell	1999867
SM 2320 B-97	06/12/2018			06/16/2018 16:47	Dale L. Simmons	1999862
	06/12/2018			06/21/2018 06:39	Lauren Bottorf	1999863
SM 2540 D-97	06/12/2018			06/15/2018 16:52	Yijie Li	1999862, 1999863
SM 4500 F-C-97	06/12/2018			06/16/2018 16:47	Dale L. Simmons	1999862
	06/12/2018			06/21/2018 01:50	Lauren Bottorf	1999863
SM 5310 B-00	06/12/2018			06/18/2018 23:53	Megan Treadwell	1999864
	06/12/2018			06/19/2018 05:50	Megan Treadwell	1999865