

Chemical Analysis Report

SW-DIST-2017-01-27-01

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

Event Description: **SMP RUN 5**
Request ID: **RQ-2017-01-23-61**
Customer: **SW-DIST**
Project ID: **SMP**

Send Reports to:
FL Dept. of Environmental Protection
FL Dept. of Environmental Protection
13051 N. Telecom Parkway
Temple Terrace, FL 33637-0926
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Certified by: Colin Wright, Program Administrator

Date Certified: 20-FEB-2017 12:03

A handwritten signature in black ink, appearing to read "Colin Wright", is displayed on a light gray rectangular 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: Bear Creek @ Beacon

Collection Date/Time: 01/26/2017 10:55

Field ID: G5SW0102

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1867316	EPA 180.1 Rev. 2.0	Turbidity	4.4		NTU	P318890	
	EPA 300.0 Rev. 2.1	Chloride	360		mg Cl/L	P319229	
		Sulfate	61		mg SO4/L	P319232	
	SM 2120 B	Color (true)	21		PCU	P318902	
	SM 2320 B-97	Total Alkalinity	175		mg CaCO3/L	P319066	
	SM 2540 C-97	TDS	814		mg/L	P319658	
	SM 2540 D-97	TSS	9	I	mg/L	P319120	
	SM 4500 F-C-97	Fluoride	0.13		mg F/L	P319069	
1867319	EPA 350.1 Rev. 2.0	Ammonia-N	0.066		mg N/L	P319040	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.1		mg N/L	P319028	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.18		mg N/L	P319084	
	EPA 365.1 Rev. 2.0	Total-P	0.21		mg P/L	P318966	
	SM 5310 B-00	Organic Carbon	5.7		mg C/L	P319073	
1867322	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.10		mg P/L	P318895	

Ref. Method and Comment:

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

EPA 350.1 Rev. 2.0: Batch matrix spike recoveries are unavailable because of high analyte concentration in the QC sample.

Sample Location: Lake Thomas

Collection Date/Time: 01/26/2017 13:20

Field ID: G5SW0111

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1867317	EPA 180.1 Rev. 2.0	Turbidity	2.0		NTU	P318890	
	EPA 300.0 Rev. 2.1	Chloride	22	A	mg Cl/L	P319228	
		Sulfate	8.2	A	mg SO4/L	P319231	
	SM 2120 B	Color (true)	26		PCU	P318902	
	SM 2320 B-97	Total Alkalinity	1.0	I	mg CaCO3/L	P319066	
	SM 2540 C-97	TDS	72		mg/L	P319658	
	SM 2540 D-97	TSS	3	I	mg/L	P319120	
	SM 4500 F-C-97	Fluoride	0.075	I	mg F/L	P319069	
1867320	EPA 350.1 Rev. 2.0	Ammonia-N	0.003	I	mg N/L	P319040	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.63		mg N/L	P319028	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P319084	
	EPA 365.1 Rev. 2.0	Total-P	0.028		mg P/L	P318966	
	SM 5310 B-00	Organic Carbon	8.0		mg C/L	P319073	
1867323	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P318895	

Ref. Method and Comment:

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

EPA 350.1 Rev. 2.0: Batch matrix spike recoveries are unavailable because of high analyte concentration in the QC sample.

Sample Location: Hancock Lake

Collection Date/Time: 01/26/2017 12:05

Field ID: G5SW0046

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1867318	EPA 180.1 Rev. 2.0	Turbidity	3.8		NTU	P318890	

Field ID: G5SW0046

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1867318	EPA 300.0 Rev. 2.1	Chloride	15	A	mg Cl/L	P319229	
		Sulfate	1.3	A	mg SO4/L	P319232	
	SM 2120 B	Color (true)	38		PCU	P318902	
	SM 2320 B-97	Total Alkalinity	26	A	mg CaCO3/L	P319066	
	SM 2540 C-97	TDS	72		mg/L	P319658	
	SM 2540 D-97	TSS	7	I	mg/L	P319120	
	SM 4500 F-C-97	Fluoride	0.14		mg F/L	P319069	
1867321	EPA 350.1 Rev. 2.0	Ammonia-N	0.005		mg N/L	P319040	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.1		mg N/L	P319028	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P319084	
	EPA 365.1 Rev. 2.0	Total-P	0.059		mg P/L	P318966	
	SM 5310 B-00	Organic Carbon	12		mg C/L	P319073	
1867324	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P318895	

Ref. Method and Comment:
 SM 2540 D-97: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.
 EPA 350.1 Rev. 2.0: Batch matrix spike recoveries are unavailable because of high analyte concentration in the QC sample.

Quality Assurance Report Method Blank Results

Reference Method: EPA 180.1 Rev. 2.0
 Batch ID: P318890

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 300.0 Rev. 2.1
 Batch ID: P319228

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
 Batch ID: P319229

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
 Batch ID: P319231

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 300.0 Rev. 2.1
 Batch ID: P319232

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Quality Assurance Report Method Blank Results

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P319040

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P319028

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P319084

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P318966

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P318895

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

Reference Method: SM 2120 B
Batch ID: P318902

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2320 B-97
Batch ID: P319066

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

Reference Method: SM 2540 C-97
Batch ID: P319658

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-97
Batch ID: P319120

Component	Result	Code	Units
TSS	2	U	mg/L

Quality Assurance Report Method Blank Results

Reference Method: SM 4500 F-C-97
Batch ID: P319069

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-00
Batch ID: P319073

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: P319228

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P319229

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P319231

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Sulfate	96.4		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P319232

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Sulfate	97.9		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P319040

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: P319028

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P319084

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

Reference Method: EPA 353.2 Rev. 2.0
 Batch ID: P319084

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
NO2NO3-N	106		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
 Batch ID: P318966

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total-P	96.5		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
 Batch ID: P318895

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

Reference Method: SM 2320 B-97
 Batch ID: P319066

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	104		P	95 - 108

Reference Method: SM 4500 F-C-97
 Batch ID: P319069

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	98.0		P	92 - 103

Reference Method: SM 5310 B-00
 Batch ID: P319073

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	94.6		P	85 - 115

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 300.0 Rev. 2.1
 Batch ID: P319228

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1867267	Chloride	102		P	90 - 110
1867317	Chloride	102		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
 Batch ID: P319229

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1867318	Chloride	102		P	90 - 110
1867385	Chloride	103		P	90 - 110

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P319231

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1867267	Sulfate	96.1		P	90 - 110
1867317	Sulfate	98.1		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P319232

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1867318	Sulfate	96.7		P	90 - 110
1867385	Sulfate	97.0		P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P319028

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1867306	Kjeldahl Nitrogen	97.0	96.4	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P319084

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1867306	NO2NO3-N	106	104	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P318966

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1867321	Total-P	104	98.8	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P318895

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1867369	O-Phosphate-P	100	102	P/P	90 - 110

Reference Method: SM 4500 F-C-97
Batch ID: P319069

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1867318	Fluoride	99.8	100	P/P	91 - 105

Reference Method: SM 5310 B-00
Batch ID: P319073

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1867211	Organic Carbon	96.0	95.6	P/P	85 - 115

Quality Assurance Report Precision

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P318890

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1867300	Turbidity	3.06	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P319228

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1867317	Chloride	0.393	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P319229

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1867318	Chloride	0.153	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P319231

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1867317	Sulfate	0.402	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P319232

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1867318	Sulfate	0.217	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P319040

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1867319	Ammonia-N	0.330	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P319028

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1867306	Kjeldahl Nitrogen	0.361	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P319084

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1867306	NO2NO3-N	1.10	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 365.1 Rev. 2.0

Batch ID: P318966

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1867321	Total-P	4.67	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Batch ID: P318895

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1867369	O-Phosphate-P	1.59	Spike	P	0 - 20

Reference Method: SM 2120 B

Batch ID: P318902

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1867299	Color (true)	0.196	Sample	P	0 - 20

Reference Method: SM 2320 B-97

Batch ID: P319066

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1867318	Total Alkalinity	0.409	Sample	P	0 - 4.8

Reference Method: SM 2540 C-97

Batch ID: P319658

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1867373	TDS	1.16	Sample	P	0 - 10

Reference Method: SM 4500 F-C-97

Batch ID: P319069

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1867318	Fluoride	0.477	Spike	P	0 - 3.0

Reference Method: SM 5310 B-00

Batch ID: P319073

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1867211	Organic Carbon	0.259	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

Quality Assurance Report Calibration Verification

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A74149

Included Lab Sample IDs: 1867316, 1867317, 1867318

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Run ID: A74151

Included Lab Sample IDs: 1867322, 1867323, 1867324

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

Reference Method: SM 2120 B

Run ID: A74154

Included Lab Sample IDs: 1867316, 1867317, 1867318

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	101	102	P/P	85 - 115

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A74202

Included Lab Sample IDs: 1867319, 1867320, 1867321

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

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A74203

Included Lab Sample IDs: 1867319, 1867321

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	101	102	P/P	90 - 110
Total-P	102	100	P/P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A74206

Included Lab Sample IDs: 1867316, 1867317, 1867318

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	100	101	P/P	90 - 110
Chloride	101	101	P/P	90 - 110
Chloride	101	101	P/P	90 - 110
Sulfate	92.2	96.6	P/P	90 - 110
Sulfate	95.8	96.9	P/P	90 - 110
Sulfate	96.6	91.8	P/P	90 - 110

Reference Method: SM 2320 B-97

Run ID: A74207

Included Lab Sample IDs: 1867316, 1867317, 1867318

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

Quality Assurance Report Calibration Verification

Reference Method: SM 4500 F-C-97

Run ID: A74207

Included Lab Sample IDs: 1867316, 1867317, 1867318

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	101	100	P/P	90 - 110

Reference Method: SM 5310 B-00

Run ID: A74208

Included Lab Sample IDs: 1867319, 1867320, 1867321

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	96.9	97.0	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A74209

Included Lab Sample IDs: 1867319, 1867320, 1867321

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

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A74211

Included Lab Sample IDs: 1867320

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	98.2	98.8	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A74218

Included Lab Sample IDs: 1867319, 1867320, 1867321

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	101	101	P/P	90 - 110
Kjeldahl Nitrogen	103	101	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				3.06	
EPA 300.0 Rev. 2.1	Chloride	102	102	102	0.393	
	Chloride	103	102	103	0.153	
	Sulfate	96.4	98.1	96.1	0.402	
	Sulfate	97.9	96.7	97.0	0.217	
EPA 350.1 Rev. 2.0	Ammonia-N	106				0.330
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	99.7	97.0	96.4		0.361
EPA 353.2 Rev. 2.0	NO2NO3-N	106	106	104		1.10
EPA 365.1 Rev. 2.0	Total-P	96.5	104	98.8		4.67
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	103	100	102		1.59

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery		LCS	Precision	MS
						SMP	
SM 2120 B	Color (true)					0.196	
SM 2320 B-97	Total Alkalinity	104				0.409	
SM 2540 C-97	TDS					1.16	
SM 4500 F-C-97	Fluoride	98.0	99.8	100			0.477
SM 5310 B-00	Organic Carbon	94.6	96.0	95.6			0.259

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 180.1 Rev. 2.0 / E31780	Turbidity in aqueous matrices	1867316, 1867317, 1867318
EPA 300.0 Rev. 2.1 / E31780	Chloride in aqueous matrices	1867316, 1867317, 1867318
EPA 300.0 Rev. 2.1 / E31780	Sulfate in aqueous matrices	1867316, 1867317, 1867318
EPA 350.1 Rev. 2.0 / E31780	Ammonia in aqueous matrices as mg N/L	1867319, 1867320, 1867321
EPA 351.2 Rev. 2.0 / E31780	Total Kjeldahl Nitrogen in aqueous matrices	1867319, 1867320, 1867321
EPA 353.2 Rev. 2.0 / E31780	Nitrite/Nitrate in aqueous matrices as mg N/L	1867319, 1867320, 1867321
EPA 365.1 Rev. 2.0 / E31780	Total Phosphorus in aqueous matrices as mg P/L	1867319, 1867320, 1867321
EPA 365.1 Rev. 2.0 dissolved / E31780	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	1867322, 1867323, 1867324
SM 2120 B / E31780	True Color measured at 450 nm	1867316, 1867317, 1867318
SM 2320 B-97 / E31780	Alkalinity in aqueous matrices as mg CaCO3/L	1867316, 1867317, 1867318
SM 2540 C-97 / E31780	Total Dissolved Solids in aqueous matrices	1867316, 1867317, 1867318
SM 2540 D-97 / E31780	Total Suspended Solids in aqueous matrices	1867316, 1867317, 1867318
SM 4500 F-C-97 / E31780	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	1867316, 1867317, 1867318
SM 5310 B-00 / E31780	Nonpurgeable Organic Carbon in aqueous matrices	1867319, 1867320, 1867321

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	01/27/2017			01/27/2017 15:27	Sima Feizi	1867316, 1867317, 1867318
EPA 300.0 Rev. 2.1	01/27/2017			02/02/2017	Ping Hua	1867316, 1867317, 1867318
EPA 350.1 Rev. 2.0	01/27/2017			01/31/2017	Sofia Elnemr	1867319, 1867320, 1867321
EPA 351.2 Rev. 2.0	01/27/2017	02/01/2017	Adrian Shelby	02/01/2017	Joseph Suarez	1867319, 1867320, 1867321
EPA 353.2 Rev. 2.0	01/27/2017			02/01/2017	Beverly Y. Sanders	1867319, 1867320, 1867321
EPA 365.1 Rev. 2.0	01/27/2017	01/31/2017	Adrian Shelby	01/31/2017	Lipi Saha	1867319, 1867321
	01/27/2017	01/31/2017	Adrian Shelby	02/01/2017	Lipi Saha	1867320
EPA 365.1 Rev. 2.0 dissolved	01/27/2017			01/27/2017 15:36	Julie Michelle Frank	1867322
	01/27/2017			01/27/2017 15:57	Julie Michelle Frank	1867323, 1867324
SM 2120 B	01/27/2017			01/27/2017 16:25	Jared I. Manley	1867316
	01/27/2017			01/27/2017 16:26	Jared I. Manley	1867317
	01/27/2017			01/27/2017 16:27	Jared I. Manley	1867318
SM 2320 B-97	01/27/2017			02/01/2017	Dale L. Simmons	1867316, 1867317, 1867318
SM 2540 C-97	01/27/2017			02/01/2017	Blanca Fach	1867316, 1867317, 1867318
SM 2540 D-97	01/27/2017			01/30/2017	Christopher Armour	1867316, 1867317, 1867318
SM 4500 F-C-97	01/27/2017			02/01/2017	Dale L. Simmons	1867316, 1867317, 1867318
SM 5310 B-00	01/27/2017			01/31/2017	Julie Michelle Frank	1867319, 1867320, 1867321