Chemical Analysis Report

SO-DIST-2017-01-31-01

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

Event Description: **SMP: 10,000 Isles**
Request ID: **RQ-2017-01-23-12**
Customer: **SO-DIST**
Project ID: **SMP**

Send Reports to:
FL Dept. of Environmental Protection
FLDEP South District Office
2295 Victoria Ave. Suite 364
Fort Myers, FL 33901
Attn: Ben Paswater

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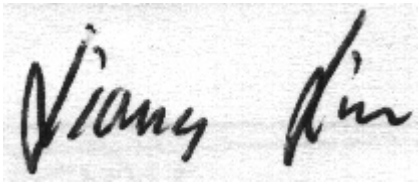
Certified by: Liang Lin, Environmental Administrator

Date Certified: 20-FEB-2017 16:58



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: 3278P @ #4 SOUTH OF GOODLAND **Collection Date/Time: 01/30/2017 15:20**

Field ID: G1SD013017-1 Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1868115	EPA 180.1 Rev. 2.0	Turbidity	6.4		NTU	P319019	
	SM 2320 B-97	Total Alkalinity	135		mg CaCO3/L	P319274	
	SM 2540 D-97	TSS	5	I	mg/L	P319485	
	SM 4500 F-C-97	Fluoride	1.2		mg F/L	P319277	
1868121	EPA 350.1 Rev. 2.0	Ammonia-N	0.031		mg N/L	P319339	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.33	I	mg N/L	P319125	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.016		mg N/L	P319162	
	EPA 365.1 Rev. 2.0	Total-P	0.032	J	mg P/L	P319101	MS
	SM 5310 B-00	Organic Carbon	2.9		mg C/L	P319076	
1868127	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.014		mg P/L	P319017	

Ref. Method and Comment:
SM 2540 D-97: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.
EPA 365.1 Rev. 2.0: Total-P: Refer to the narrative for an explanation of QC Codes.

Sample Location: 3259M-ENRE-9 CHANNEL TO EVERGLADES CITY **Collection Date/Time: 01/30/2017 14:10**

Field ID: G1SD013017-2 Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1868116	EPA 180.1 Rev. 2.0	Turbidity	8.3		NTU	P319019	
	SM 2320 B-97	Total Alkalinity	152		mg CaCO3/L	P319274	
	SM 2540 D-97	TSS	14		mg/L	P319485	
	SM 4500 F-C-97	Fluoride	1.2		mg F/L	P319277	
1868122	EPA 350.1 Rev. 2.0	Ammonia-N	0.013		mg N/L	P319339	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.42		mg N/L	P319125	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.013		mg N/L	P319162	
	EPA 365.1 Rev. 2.0	Total-P	0.034		mg P/L	P319101	MS
	SM 5310 B-00	Organic Carbon	4.3		mg C/L	P319076	
1868128	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.015		mg P/L	P319017	

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: 3259M-ENRE-10 OFF 1/10000 ISLANDS **Collection Date/Time: 01/30/2017 13:40**

Field ID: G1SD013017-3 Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1868117	EPA 180.1 Rev. 2.0	Turbidity	3.2		NTU	P319019	
	SM 2320 B-97	Total Alkalinity	141	A	mg CaCO3/L	P319274	
	SM 2540 D-97	TSS	3	I	mg/L	P319485	
	SM 4500 F-C-97	Fluoride	1.2		mg F/L	P319277	
1868123	EPA 350.1 Rev. 2.0	Ammonia-N	0.016		mg N/L	P319339	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.36	I	mg N/L	P319125	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.012		mg N/L	P319162	
	EPA 365.1 Rev. 2.0	Total-P	0.024		mg P/L	P319101	MS
	SM 5310 B-00	Organic Carbon	3.3		mg C/L	P319076	

Field ID: G1SD013017-3 Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1868129	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.013		mg P/L	P319017	

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: 3259M-ENRE-8 OFF TRIPOD KEY **Collection Date/Time: 01/30/2017 11:50**

Field ID: G1SD013017-4 Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1868118	EPA 180.1 Rev. 2.0	Turbidity	6.3		NTU	P319019	
	SM 2320 B-97	Total Alkalinity	140		mg CaCO3/L	P319274	
	SM 2540 D-97	TSS	10	I	mg/L	P319485	
	SM 4500 F-C-97	Fluoride	1.2		mg F/L	P319277	
1868124	EPA 350.1 Rev. 2.0	Ammonia-N	0.037		mg N/L	P319339	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.33	I	mg N/L	P319125	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.013		mg N/L	P319163	
	EPA 365.1 Rev. 2.0	Total-P	0.042		mg P/L	P319101	MS
	SM 5310 B-00	Organic Carbon	3.1		mg C/L	P319076	
1868130	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.018		mg P/L	P319017	

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: 8065-ENRE6 **Collection Date/Time: 01/30/2017 12:25**

Field ID: G1SD013017-5 Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1868119	EPA 180.1 Rev. 2.0	Turbidity	9.2		NTU	P319019	
	SM 2320 B-97	Total Alkalinity	130		mg CaCO3/L	P319274	
	SM 2540 D-97	TSS	8	I	mg/L	P319485	
	SM 4500 F-C-97	Fluoride	1.2		mg F/L	P319277	
1868125	EPA 350.1 Rev. 2.0	Ammonia-N	0.004	I	mg N/L	P319339	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.40	I	mg N/L	P319125	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P319163	
	EPA 365.1 Rev. 2.0	Total-P	0.027		mg P/L	P319352	MS
	SM 5310 B-00	Organic Carbon	2.5		mg C/L	P319076	
1868131	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.006	I	mg P/L	P319017	

Ref. Method and Comment:
EPA 180.1 Rev. 2.0: The result was confirmed on 01/31/2017.
SM 2540 D-97: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.

Sample Location: 8065-ENRE6 (DUP) **Collection Date/Time: 01/30/2017 12:30**

Field ID: G1SD013017-6 Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1868120	EPA 180.1 Rev. 2.0	Turbidity	7.7		NTU	P319019	
	SM 2320 B-97	Total Alkalinity	131		mg CaCO3/L	P319274	
	SM 2540 D-97	TSS	8	I	mg/L	P319486	
	SM 4500 F-C-97	Fluoride	1.2		mg F/L	P319277	

Field ID: G1SD013017-6 Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1868126	EPA 350.1 Rev. 2.0	Ammonia-N	0.003	I	mg N/L	P319339	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.30	I	mg N/L	P319125	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P319163	
	EPA 365.1 Rev. 2.0	Total-P	0.025		mg P/L	P319101	MS
	SM 5310 B-00	Organic Carbon	2.5		mg C/L	P319076	
1868132	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.006	I	mg P/L	P319017	

Ref. Method and Comment:
EPA 180.1 Rev. 2.0: The result was confirmed on 01/31/2017.
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: P319019

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P319339

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P319125

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P319162

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P319163

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P319101

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P319352

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: P319017

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

Reference Method: SM 2320 B-97
Batch ID: P319274

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

Reference Method: SM 2540 D-97
Batch ID: P319485

Component	Result	Code	Units
TSS	3	U	mg/L

Reference Method: SM 2540 D-97
Batch ID: P319486

Component	Result	Code	Units
TSS	3	U	mg/L

Reference Method: SM 4500 F-C-97
Batch ID: P319277

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-00
Batch ID: P319076

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: P319339

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P319125

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P319162

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits

Quality Assurance Report
Laboratory Control Sample Accuracy

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P319162

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
NO2NO3-N	99.5		P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P319163

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
NO2NO3-N	105		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P319101

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P319352

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total-P	94.0		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P319017

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

Reference Method: SM 2320 B-97
Batch ID: P319274

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

Reference Method: SM 4500 F-C-97
Batch ID: P319277

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	97.4		P	92 - 103

Reference Method: SM 5310 B-00
Batch ID: P319076

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	97.6		P	85 - 115

Quality Assurance Report
Matrix Spike Accuracy

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P319339

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits

Quality Assurance Report
Matrix Spike Accuracy

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P319339

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1868121	Ammonia-N	105	107	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P319125

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1868122	Kjeldahl Nitrogen	99.7	98.5	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P319162

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1866922	NO2NO3-N	103	107	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P319163

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1868124	NO2NO3-N	103	108	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P319101

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1868121	Total-P	88.5	83.3	F/F	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P319352

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1869345	Total-P	91.6	89.8	P/F	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P319017

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1868127	O-Phosphate-P	96.9	98.7	P/P	90 - 110

Reference Method: SM 4500 F-C-97
Batch ID: P319277

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1868117	Fluoride	93.5	95.0	P/P	91 - 105

Reference Method: SM 5310 B-00
Batch ID: P319076

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1868121	Organic Carbon	90.1	94.4	P/P	85 - 115

Quality Assurance Report
Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P319019

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1868164	Turbidity	1.61	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P319339

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1868121	Ammonia-N	1.24	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P319125

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1868122	Kjeldahl Nitrogen	1.04	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P319162

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1866922	NO2NO3-N	3.46	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P319163

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1868124	NO2NO3-N	4.46	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P319101

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1868121	Total-P	5.87	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P319352

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1869345	Total-P	2.09	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P319017

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1868127	O-Phosphate-P	1.61	Spike	P	0 - 20

Quality Assurance Report
Precision

Reference Method: SM 2320 B-97
Batch ID: P319274

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1868117	Total Alkalinity	0.0198	Sample	P	0 - 4.8

Reference Method: SM 4500 F-C-97
Batch ID: P319277

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1868117	Fluoride	0.960	Spike	P	0 - 3.0

Reference Method: SM 5310 B-00
Batch ID: P319076

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1868121	Organic Carbon	4.27	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: A74194
Included Lab Sample IDs: 1868127, 1868128, 1868129, 1868130, 1868131, 1868132

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	102	102	P/P	90 - 110
O-Phosphate-P	99.6	99.9	P/P	90 - 110
O-Phosphate-P	99.9	102	P/P	90 - 110

Reference Method: EPA 180.1 Rev. 2.0
Run ID: A74195
Included Lab Sample IDs: 1868115, 1868116, 1868117, 1868118, 1868119, 1868120

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Turbidity	97.0	98.0	P/P	95 - 105

Reference Method: SM 5310 B-00
Run ID: A74208
Included Lab Sample IDs: 1868121, 1868122, 1868123, 1868124, 1868125, 1868126

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	99.6	90.6	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Run ID: A74232
Included Lab Sample IDs: 1868121, 1868122, 1868123, 1868124, 1868125, 1868126

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits

Quality Assurance Report
Calibration Verification

Reference Method: EPA 353.2 Rev. 2.0
Run ID: A74232
Included Lab Sample IDs: 1868121, 1868122, 1868123, 1868124, 1868125, 1868126

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	100	100	P/P	90 - 110
NO2NO3-N	101	100	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Run ID: A74243
Included Lab Sample IDs: 1868121, 1868122, 1868123, 1868124, 1868126

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	97.2	96.5	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Run ID: A74267
Included Lab Sample IDs: 1868121, 1868122, 1868123, 1868124, 1868125, 1868126

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

Reference Method: SM 2320 B-97
Run ID: A74269
Included Lab Sample IDs: 1868115, 1868116, 1868117, 1868118, 1868119, 1868120

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	101	104	P/P	90 - 110
Total Alkalinity	103	101	P/P	90 - 110

Reference Method: SM 4500 F-C-97
Run ID: A74269
Included Lab Sample IDs: 1868115, 1868116, 1868117, 1868118, 1868119, 1868120

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	99.0	98.0	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Run ID: A74289
Included Lab Sample IDs: 1868121, 1868122, 1868123, 1868124, 1868125, 1868126

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	101	101	P/P	90 - 110
Ammonia-N	101	99.4	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Run ID: A74347
Included Lab Sample IDs: 1868125

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	98.0	98.2	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		
					LCS	SMP	MS
EPA 180.1 Rev. 2.0	Turbidity					1.61	
EPA 350.1 Rev. 2.0	Ammonia-N	103	105	107			1.24
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	103	99.7	98.5			1.04
EPA 353.2 Rev. 2.0	NO2NO3-N	99.5	103	107			3.46
	NO2NO3-N	105	103	108			4.46
EPA 365.1 Rev. 2.0	Total-P	96.2	88.5	83.3			5.87
	Total-P	94.0	91.6	89.8			2.09
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	100	96.9	98.7			1.61
SM 2320 B-97	Total Alkalinity	103				0.0198	
SM 4500 F-C-97	Fluoride	97.4	93.5	95.0			0.960
SM 5310 B-00	Organic Carbon	97.6	90.1	94.4			4.27

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 180.1 Rev. 2.0 / E31780	Turbidity in aqueous matrices	1868115, 1868116, 1868117, 1868118, 1868119, 1868120
EPA 350.1 Rev. 2.0 / E31780	Ammonia in aqueous matrices as mg N/L	1868121, 1868122, 1868123, 1868124, 1868125, 1868126
EPA 351.2 Rev. 2.0 / E31780	Total Kjeldahl Nitrogen in aqueous matrices	1868121, 1868122, 1868123, 1868124, 1868125, 1868126
EPA 353.2 Rev. 2.0 / E31780	Nitrite/Nitrate in aqueous matrices as mg N/L	1868121, 1868122, 1868123, 1868124, 1868125, 1868126
EPA 365.1 Rev. 2.0 / E31780	Total Phosphorus in aqueous matrices as mg P/L	1868121, 1868122, 1868123, 1868124, 1868125, 1868126
EPA 365.1 Rev. 2.0 dissolved / E31780	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	1868127, 1868128, 1868129, 1868130, 1868131, 1868132
SM 2320 B-97 / E31780	Alkalinity in aqueous matrices as mg CaCO3/L	1868115, 1868116, 1868117, 1868118, 1868119, 1868120
SM 2540 D-97 / E31780	Total Suspended Solids in aqueous matrices	1868115, 1868116, 1868117, 1868118, 1868119, 1868120
SM 4500 F-C-97 / E31780	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	1868115, 1868116, 1868117, 1868118, 1868119, 1868120
SM 5310 B-00 / E31780	Nonpurgeable Organic Carbon in aqueous matrices	1868121, 1868122, 1868123, 1868124, 1868125, 1868126

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	01/31/2017			01/31/2017 16:45	Julie Michelle Frank	1868115, 1868116, 1868117, 1868118, 1868119, 1868120
EPA 350.1 Rev. 2.0	01/31/2017			02/02/2017	Sofia Elnemr	1868121, 1868122, 1868123, 1868124, 1868125, 1868126
EPA 351.2 Rev. 2.0	01/31/2017	02/02/2017	Adrian Shelby	02/03/2017	Joseph Suarez	1868121, 1868122, 1868123, 1868124, 1868125, 1868126
EPA 353.2 Rev. 2.0	01/31/2017			02/02/2017	Beverly Y. Sanders	1868121, 1868122, 1868123, 1868124, 1868125, 1868126
EPA 365.1 Rev. 2.0	01/31/2017	02/01/2017	Vijayalakshmi Reddy	02/02/2017	Lipi Saha	1868121, 1868122, 1868123, 1868124, 1868126
	01/31/2017	02/06/2017	Vijayalakshmi Reddy	02/08/2017	Lipi Saha	1868125
EPA 365.1 Rev. 2.0 dissolved	01/31/2017			01/31/2017 14:50	Julie Michelle Frank	1868127
	01/31/2017			01/31/2017 15:06	Julie Michelle Frank	1868128
	01/31/2017			01/31/2017 15:07	Julie Michelle Frank	1868129
	01/31/2017			01/31/2017 15:08	Julie Michelle Frank	1868130
	01/31/2017			01/31/2017 15:14	Julie Michelle Frank	1868132
	01/31/2017			01/31/2017 15:15	Julie Michelle Frank	1868131
SM 2320 B-97	01/31/2017			02/03/2017	Dale L. Simmons	1868115, 1868116, 1868117, 1868118, 1868119, 1868120
SM 2540 D-97	01/31/2017			02/03/2017	Blanca Fach	1868115, 1868116, 1868117, 1868118, 1868119, 1868120
SM 4500 F-C-97	01/31/2017			02/02/2017	Dale L. Simmons	1868115, 1868116, 1868117
	01/31/2017			02/03/2017	Dale L. Simmons	1868118, 1868119, 1868120
SM 5310 B-00	01/31/2017			02/01/2017	Julie Michelle Frank	1868121, 1868122, 1868123, 1868124, 1868125, 1868126