

Chemical Analysis Report

SO-DIST-2017-04-20-01

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

Event Description: **SMP: Bay of Florida**
Request ID: **RQ-2017-04-24-04**
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: Colin Wright, Program Administrator

Date Certified: 16-MAY-2017 13:29

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: ENRE14 HARNEY RIVER

Collection Date/Time: 04/19/2017 13:50

Field ID: G5SD041917-5

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1890746	EPA 180.1 Rev. 2.0	Turbidity	3.0		NTU	P323802	
	SM 2320 B-97	Total Alkalinity	264		mg CaCO3/L	P324295	
	SM 2540 D-97	TSS	5	IA	mg/L	P324217	
	SM 4500 F-C-97	Fluoride	1.1		mg F/L	P325242	
1890753	EPA 350.1 Rev. 2.0	Ammonia-N	0.043		mg N/L	P323776	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.71		mg N/L	P323958	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.072		mg N/L	P324049	
	EPA 365.1 Rev. 2.0	Total-P	0.035		mg P/L	P323880	
	SM 5310 B-00	Organic Carbon	11		mg C/L	P323787	
1890760	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.021		mg P/L	P323757	

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: ENRE9 LOSTMANS BAY

Collection Date/Time: 04/19/2017 12:30

Field ID: G5SD041917-6

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1890747	EPA 180.1 Rev. 2.0	Turbidity	3.9		NTU	P323802	
	SM 2320 B-97	Total Alkalinity	164		mg CaCO3/L	P324295	
	SM 2540 D-97	TSS	5	I	mg/L	P324217	
	SM 4500 F-C-97	Fluoride	1.2		mg F/L	P325242	
1890754	EPA 350.1 Rev. 2.0	Ammonia-N	0.021		mg N/L	P323776	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.62		mg N/L	P323958	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.032		mg N/L	P324049	
	EPA 365.1 Rev. 2.0	Total-P	0.022		mg P/L	P323880	
	SM 5310 B-00	Organic Carbon	5.5		mg C/L	P323787	
1890761	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.007	I	mg P/L	P323757	

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: ENRE12 LOSTMANS BAY

Collection Date/Time: 04/19/2017 12:50

Field ID: G5SD041917-7

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1890748	EPA 180.1 Rev. 2.0	Turbidity	4.3		NTU	P323802	
	SM 2320 B-97	Total Alkalinity	166		mg CaCO3/L	P324295	
	SM 2540 D-97	TSS	6	I	mg/L	P324217	
	SM 4500 F-C-97	Fluoride	1.2		mg F/L	P325242	
1890755	EPA 350.1 Rev. 2.0	Ammonia-N	0.017		mg N/L	P323776	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.64		mg N/L	P323958	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.030		mg N/L	P324049	
	EPA 365.1 Rev. 2.0	Total-P	0.021		mg P/L	P323880	
	SM 5310 B-00	Organic Carbon	6.5		mg C/L	P323787	
1890762	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	I	mg P/L	P323757	

Field ID: G5SD041917-7

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
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: WBID 8068

Collection Date/Time: 04/19/2017 13:20

Field ID: G5SD041917-8

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1890749	EPA 180.1 Rev. 2.0	Turbidity	1.9		NTU	P323802	
	SM 2320 B-97	Total Alkalinity	138	A	mg CaCO3/L	P324295	
	SM 2540 D-97	TSS	5	I	mg/L	P324217	
	SM 4500 F-C-97	Fluoride	1.3		mg F/L	P325242	
1890756	EPA 350.1 Rev. 2.0	Ammonia-N	0.002	U	mg N/L	P323776	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.41		mg N/L	P323958	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P324049	
	EPA 365.1 Rev. 2.0	Total-P	0.014		mg P/L	P323880	
	SM 5310 B-00	Organic Carbon	2.7		mg C/L	P323787	
1890763	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P323757	

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: ENRE9 HARNEY RIVER

Collection Date/Time: 04/19/2017 14:00

Field ID: G5SD041917-4

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1890750	EPA 180.1 Rev. 2.0	Turbidity	4.7		NTU	P323802	
	SM 2320 B-97	Total Alkalinity	243		mg CaCO3/L	P324295	
	SM 2540 D-97	TSS	4	I	mg/L	P324217	
	SM 4500 F-C-97	Fluoride	1.1		mg F/L	P325242	
1890757	EPA 350.1 Rev. 2.0	Ammonia-N	0.050		mg N/L	P323776	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.88		mg N/L	P323411	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.065		mg N/L	P324049	
	EPA 365.1 Rev. 2.0	Total-P	0.040		mg P/L	P323880	
	SM 5310 B-00	Organic Carbon	8.9		mg C/L	P323787	
1890764	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.019		mg P/L	P323757	

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: WBID 8067

Collection Date/Time: 04/19/2017 12:00

Field ID: G5SD041917-9

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1890751	EPA 180.1 Rev. 2.0	Turbidity	2.6		NTU	P323802	
	SM 2320 B-97	Total Alkalinity	130		mg CaCO3/L	P324295	
	SM 2540 D-97	TSS	7	I	mg/L	P324217	
	SM 4500 F-C-97	Fluoride	1.3		mg F/L	P325242	
1890758	EPA 350.1 Rev. 2.0	Ammonia-N	0.002	U	mg N/L	P323776	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.47		mg N/L	P323411	

Field ID: G5SD041917-9

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1890758	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P324049	
	EPA 365.1 Rev. 2.0	Total-P	0.016		mg P/L	P323880	
	SM 5310 B-00	Organic Carbon	1.8	I	mg C/L	P323787	
1890765	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P323757	

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: WBID 8066

Collection Date/Time: 04/19/2017 11:30

Field ID: G5SD041917-10

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1890752	EPA 180.1 Rev. 2.0	Turbidity	1.2		NTU	P323802	
	SM 2320 B-97	Total Alkalinity	141		mg CaCO3/L	P324295	
	SM 2540 D-97	TSS	6	I	mg/L	P324217	
	SM 4500 F-C-97	Fluoride	1.3		mg F/L	P325242	
1890759	EPA 350.1 Rev. 2.0	Ammonia-N	0.002	U	mg N/L	P323776	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.54		mg N/L	P323411	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P324049	
	EPA 365.1 Rev. 2.0	Total-P	0.029		mg P/L	P323880	
	SM 5310 B-00	Organic Carbon	2.6		mg C/L	P323787	
1890766	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P323757	

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: P323802

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 350.1 Rev. 2.0

Batch ID: P323776

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

Reference Method: EPA 351.2 Rev. 2.0

Batch ID: P3234114

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

Reference Method: EPA 351.2 Rev. 2.0

Batch ID: P323958

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

Quality Assurance Report Method Blank Results

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P324049

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P323880

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P323757

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

Reference Method: SM 2320 B-97
Batch ID: P324295

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

Reference Method: SM 2540 D-97
Batch ID: P324217

Component	Result	Code	Units
TSS	3	U	mg/L

Reference Method: SM 4500 F-C-97
Batch ID: P325242

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-00
Batch ID: P323787

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: P323776

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: P3234114

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P3234114

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P323958

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Kjeldahl Nitrogen	94.9		P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P324049

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P323880

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P323757

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

Reference Method: SM 2320 B-97
Batch ID: P324295

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

Reference Method: SM 4500 F-C-97
Batch ID: P325242

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	99.8		P	92 - 103

Reference Method: SM 5310 B-00
Batch ID: P323787

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	102		P	85 - 115

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P323776

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P323776

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1890753	Ammonia-N	108	108	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P3234114

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1890878	Kjeldahl Nitrogen	90.6	90.8	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P323958

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1891148	Kjeldahl Nitrogen	95.6	98.1	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P324049

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1890659	NO2NO3-N	106	107	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P323880

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1890753	Total-P	101	96.6	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P323757

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1890760	O-Phosphate-P	95.5	99.5	P/P	90 - 110

Reference Method: SM 4500 F-C-97
Batch ID: P325242

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1890749	Fluoride	93.5	92.7	P/P	91 - 105

Reference Method: SM 5310 B-00
Batch ID: P323787

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1890753	Organic Carbon	87.8	95.4	P/P	85 - 115

Quality Assurance Report Precision

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P323802

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1890598	Turbidity	2.52	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P323776

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1890753	Ammonia-N	0.0134	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P3234114

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1890878	Kjeldahl Nitrogen	0.211	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P323958

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1891148	Kjeldahl Nitrogen	2.05	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P324049

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1890659	NO2NO3-N	0.945	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P323880

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1890753	Total-P	4.34	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P323757

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1890760	O-Phosphate-P	3.38	Spike	P	0 - 20

Reference Method: SM 2320 B-97
Batch ID: P324295

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1890749	Total Alkalinity	0.247	Sample	P	0 - 4.8

Quality Assurance Report Precision

Reference Method: SM 4500 F-C-97
Batch ID: P325242

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1890749	Fluoride	0.470	Spike	P	0 - 3.0

Reference Method: SM 5310 B-00
Batch ID: P323787

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1890753	Organic Carbon	6.33	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: A75911
Included Lab Sample IDs: 1890760, 1890761, 1890762, 1890763, 1890764, 1890765, 1890766

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	97.4	97.4	P/P	90 - 110
O-Phosphate-P	97.9	98.5	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Run ID: A75919
Included Lab Sample IDs: 1890753, 1890754, 1890755, 1890756, 1890757, 1890758, 1890759

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

Reference Method: SM 5310 B-00
Run ID: A75923
Included Lab Sample IDs: 1890753, 1890754, 1890755, 1890756, 1890757, 1890758, 1890759

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

Reference Method: EPA 180.1 Rev. 2.0
Run ID: A75925
Included Lab Sample IDs: 1890746, 1890747, 1890748, 1890749, 1890750, 1890751, 1890752

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

Reference Method: EPA 365.1 Rev. 2.0
Run ID: A75984
Included Lab Sample IDs: 1890753, 1890754, 1890755, 1890756, 1890757, 1890758, 1890759

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

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A75984

Included Lab Sample IDs: 1890753, 1890754, 1890755, 1890756, 1890757, 1890758, 1890759

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

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A76006

Included Lab Sample IDs: 1890753, 1890754, 1890755, 1890756, 1890757, 1890758, 1890759

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

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A76007

Included Lab Sample IDs: 1890753, 1890754, 1890755, 1890756

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	97.4	97.8	P/P	90 - 110
Kjeldahl Nitrogen	97.8	98.7	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A76054

Included Lab Sample IDs: 1890757, 1890758, 1890759

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

Reference Method: SM 2320 B-97

Run ID: A76086

Included Lab Sample IDs: 1890746, 1890747, 1890748, 1890749, 1890750, 1890751, 1890752

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

Reference Method: SM 4500 F-C-97

Run ID: A76396

Included Lab Sample IDs: 1890746, 1890747, 1890748, 1890749, 1890750, 1890751, 1890752

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	101	101	P/P	90 - 110
Fluoride	101	98.1	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	Precision	MS
				LCS	SMP
EPA 180.1 Rev. 2.0	Turbidity			2.52	

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery		Precision	
					LCS	MS
EPA 350.1 Rev. 2.0	Ammonia-N	106	108	108		0.0134
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	100	90.6	90.8		0.211
	Kjeldahl Nitrogen	94.9	95.6	98.1		2.05
EPA 353.2 Rev. 2.0	NO2NO3-N	108	106	107		0.945
EPA 365.1 Rev. 2.0	Total-P	100	101	96.6		4.34
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	97.5	95.5	99.5		3.38
SM 2320 B-97	Total Alkalinity	104			0.247	
SM 4500 F-C-97	Fluoride	99.8	93.5	92.7		0.470
SM 5310 B-00	Organic Carbon	102	87.8	95.4		6.33

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 180.1 Rev. 2.0 / E31780	Turbidity in aqueous matrices	1890746, 1890747, 1890748, 1890749, 1890750, 1890751, 1890752
EPA 350.1 Rev. 2.0 / E31780	Ammonia in aqueous matrices as mg N/L	1890753, 1890754, 1890755, 1890756, 1890757, 1890758, 1890759
EPA 351.2 Rev. 2.0 / E31780	Total Kjeldahl Nitrogen in aqueous matrices	1890753, 1890754, 1890755, 1890756, 1890757, 1890758, 1890759
EPA 353.2 Rev. 2.0 / E31780	Nitrite/Nitrate in aqueous matrices as mg N/L	1890753, 1890754, 1890755, 1890756, 1890757, 1890758, 1890759
EPA 365.1 Rev. 2.0 / E31780	Total Phosphorus in aqueous matrices as mg P/L	1890753, 1890754, 1890755, 1890756, 1890757, 1890758, 1890759
EPA 365.1 Rev. 2.0 dissolved / E31780	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	1890760, 1890761, 1890762, 1890763, 1890764, 1890765, 1890766
SM 2320 B-97 / E31780	Alkalinity in aqueous matrices as mg CaCO3/L	1890746, 1890747, 1890748, 1890749, 1890750, 1890751, 1890752
SM 2540 D-97 / E31780	Total Suspended Solids in aqueous matrices	1890746, 1890747, 1890748, 1890749, 1890750, 1890751, 1890752
SM 4500 F-C-97 / E31780	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	1890746, 1890747, 1890748, 1890749, 1890750, 1890751, 1890752
SM 5310 B-00 / E31780	Nonpurgeable Organic Carbon in aqueous matrices	1890753, 1890754, 1890755, 1890756, 1890757, 1890758, 1890759

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	04/20/2017			04/20/2017 16:03	Blanca Fach	1890746, 1890747, 1890748, 1890749, 1890750, 1890751, 1890752
EPA 350.1 Rev. 2.0	04/20/2017			04/20/2017	Julie Michelle Frank	1890753, 1890754, 1890755, 1890756, 1890757, 1890758, 1890759
EPA 351.2 Rev. 2.0	04/20/2017	04/25/2017	Adrian Shelby	04/26/2017	Joseph Suarez	1890753, 1890754, 1890755, 1890756
	04/20/2017	04/27/2017	Adrian Shelby	04/28/2017	Joseph Suarez	1890757, 1890758, 1890759
EPA 353.2 Rev. 2.0	04/20/2017			04/26/2017	Beverly Y. Sanders	1890753, 1890754, 1890755, 1890756, 1890757, 1890758, 1890759
EPA 365.1 Rev. 2.0	04/20/2017	04/24/2017	Vijayalakshmi Reddy	04/25/2017	Lipi Saha	1890753, 1890754, 1890755, 1890756, 1890757, 1890758, 1890759
EPA 365.1 Rev. 2.0 dissolved	04/20/2017			04/20/2017 14:41	Anthony C. Onicha	1890760
	04/20/2017			04/20/2017 15:06	Anthony C. Onicha	1890761
	04/20/2017			04/20/2017 15:07	Anthony C. Onicha	1890762
	04/20/2017			04/20/2017 15:08	Anthony C. Onicha	1890763
	04/20/2017			04/20/2017 15:09	Anthony C. Onicha	1890764
	04/20/2017			04/20/2017 15:10	Anthony C. Onicha	1890765
	04/20/2017			04/20/2017 15:11	Anthony C. Onicha	1890766
SM 2320 B-97	04/20/2017			04/29/2017	Dale L. Simmons	1890746, 1890747, 1890748, 1890749, 1890750, 1890751, 1890752
SM 2540 D-97	04/20/2017			04/24/2017	Sima Feizi	1890746, 1890747, 1890748, 1890749, 1890750, 1890751, 1890752
SM 4500 F-C-97	04/20/2017			05/13/2017	Dale L. Simmons	1890746, 1890747, 1890748, 1890749, 1890750, 1890751, 1890752
SM 5310 B-00	04/20/2017			04/21/2017	Julie Michelle Frank	1890753, 1890754, 1890755, 1890756, 1890757, 1890758, 1890759