

Chemical Analysis Report

SW-DIST-2016-05-17-01

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

Event Description: **1409C, 1440A**
Request ID: **RQ-2016-05-16-29**
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
Attn: Matt Bearden

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Certified by: Colin Wright, Environmental Administrator

Date Certified: 14-JUN-2016 12:42

A handwritten signature in black ink, appearing to read "Colin Wright", is displayed on a light-colored 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: G5SW0079

Collection Date/Time: 05/16/2016 10:13

Field ID: G5SW0079

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1799263	EPA 180.1 Rev. 2.0	Turbidity	1.6		NTU	P304592	
	SM 2320 B-97	Total Alkalinity	121		mg CaCO3/L	P304842	
	SM 2540 D-97	TSS	5	I	mg/L	P304892	
	SM 4500 F-C-97	Fluoride	0.95		mg F/L	P305057	
1799269	EPA 350.1 Rev. 2.0	Ammonia-N	0.005		mg N/L	P304941	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.66		mg N/L	P304967	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P304903	
	EPA 365.1 Rev. 2.0	Total-P	0.036		mg P/L	P305096	
	SM 5310 B-00	Organic Carbon	5.7		mg C/L	P305078	
1799275	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.005	I	mg P/L	P304452	

Ref. Method and Comment:

SM 2540 D-97: The precision data is unavailable due to the low analyte concentration in the QC sample.

Sample Location: G5SW0078

Collection Date/Time: 05/16/2016 10:35

Field ID: G5SW0078

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1799264	EPA 180.1 Rev. 2.0	Turbidity	2.2		NTU	P304592	
	SM 2320 B-97	Total Alkalinity	118		mg CaCO3/L	P304842	
	SM 2540 D-97	TSS	5	I	mg/L	P304892	
	SM 4500 F-C-97	Fluoride	0.91		mg F/L	P305057	
1799270	EPA 350.1 Rev. 2.0	Ammonia-N	0.008		mg N/L	P304941	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.65		mg N/L	P305018	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P304903	
	EPA 365.1 Rev. 2.0	Total-P	0.043		mg P/L	P305096	
	SM 5310 B-00	Organic Carbon	6.0		mg C/L	P305078	
1799276	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.006	I	mg P/L	P304452	

Ref. Method and Comment:

SM 2540 D-97: The precision data is unavailable due to the low analyte concentration in the QC sample.

Sample Location: G5SW0124

Collection Date/Time: 05/16/2016 10:50

Field ID: G5SW0124

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1799265	EPA 180.1 Rev. 2.0	Turbidity	1.1		NTU	P304592	
	SM 2320 B-97	Total Alkalinity	119		mg CaCO3/L	P304842	
	SM 2540 D-97	TSS	6	I	mg/L	P304892	
	SM 4500 F-C-97	Fluoride	0.87		mg F/L	P305057	
1799271	EPA 350.1 Rev. 2.0	Ammonia-N	0.005	I	mg N/L	P304941	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.55		mg N/L	P305018	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P304903	
	EPA 365.1 Rev. 2.0	Total-P	0.039		mg P/L	P305096	
	SM 5310 B-00	Organic Carbon	6.4		mg C/L	P305078	
1799277	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	I	mg P/L	P304452	

Field ID: G5SW0124

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
Ref. Method and Comment: SM 2540 D-97: The precision data is unavailable due to the low analyte concentration in the QC sample.							

Sample Location: G5SW0125

Collection Date/Time: 05/16/2016 11:10

Field ID: G5SW0125

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1799266	EPA 180.1 Rev. 2.0	Turbidity	2.3		NTU	P304592	
	SM 2320 B-97	Total Alkalinity	119		mg CaCO3/L	P304842	
	SM 2540 D-97	TSS	7	I	mg/L	P304892	
	SM 4500 F-C-97	Fluoride	0.86		mg F/L	P305057	
1799272	EPA 350.1 Rev. 2.0	Ammonia-N	0.004	I	mg N/L	P304941	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.56		mg N/L	P305018	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P304903	
	EPA 365.1 Rev. 2.0	Total-P	0.044		mg P/L	P305193	
	SM 5310 B-00	Organic Carbon	6.6		mg C/L	P305728	
1799278	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P304452	

Ref. Method and Comment:
 SM 2540 D-97: The precision data is unavailable due to the low analyte concentration in the QC sample.

Sample Location: G5SW0061

Collection Date/Time: 05/16/2016 12:30

Field ID: G5SW0061

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1799267	EPA 180.1 Rev. 2.0	Turbidity	0.80		NTU	P304592	
	SM 2320 B-97	Total Alkalinity	147		mg CaCO3/L	P304842	
	SM 2540 D-97	TSS	4	I	mg/L	P304892	
	SM 4500 F-C-97	Fluoride	0.75		mg F/L	P305057	
1799273	EPA 350.1 Rev. 2.0	Ammonia-N	0.005		mg N/L	P304941	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.59		mg N/L	P305018	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.008	U	mg N/L	P304903	
	EPA 365.1 Rev. 2.0	Total-P	0.014		mg P/L	P305193	
	SM 5310 B-00	Organic Carbon	6.5		mg C/L	P305078	
1799279	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P304452	

Ref. Method and Comment:
 SM 2540 D-97: The precision data is unavailable due to the low analyte concentration in the QC sample.
 EPA 353.2 Rev. 2.0: The MDL was elevated due to sample matrix interference.

Sample Location: G5SW0029

Collection Date/Time: 05/16/2016 12:50

Field ID: G5SW0029

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1799268	EPA 180.1 Rev. 2.0	Turbidity	2.0	A	NTU	P304593	
	SM 2320 B-97	Total Alkalinity	148		mg CaCO3/L	P304842	
	SM 2540 D-97	TSS	6	I	mg/L	P304892	
	SM 4500 F-C-97	Fluoride	0.65		mg F/L	P305057	
1799274	EPA 350.1 Rev. 2.0	Ammonia-N	0.006		mg N/L	P304941	

Field ID: G5SW0029

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1799274	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.69		mg N/L	P305018	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.008	U	mg N/L	P304903	
	EPA 365.1 Rev. 2.0	Total-P	0.029		mg P/L	P305193	
	SM 5310 B-00	Organic Carbon	7.5		mg C/L	P305728	
1799280	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P304452	

Ref. Method and Comment:
 SM 2540 D-97: The precision data is unavailable due to the low analyte concentration in the QC sample.
 EPA 353.2 Rev. 2.0: The MDL was elevated due to sample matrix interference.

Quality Assurance Report Method Blank Results

Reference Method: EPA 180.1 Rev. 2.0
 Batch ID: P304592

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 180.1 Rev. 2.0
 Batch ID: P304593

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 350.1 Rev. 2.0
 Batch ID: P304941

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

Reference Method: EPA 351.2 Rev. 2.0
 Batch ID: P304967

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

Reference Method: EPA 351.2 Rev. 2.0
 Batch ID: P305018

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

Reference Method: EPA 353.2 Rev. 2.0
 Batch ID: P304903

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

Reference Method: EPA 365.1 Rev. 2.0
 Batch ID: P305096

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
Batch ID: P305193

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P304452

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

Reference Method: SM 2320 B-97
Batch ID: P304842

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

Reference Method: SM 2540 D-97
Batch ID: P304892

Component	Result	Code	Units
TSS	3	U	mg/L

Reference Method: SM 4500 F-C-97
Batch ID: P305057

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-00
Batch ID: P305078

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

Reference Method: SM 5310 B-00
Batch ID: P305728

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: P304941

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Ammonia-N	98.2		P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P304967

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: P304967

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Kjeldahl Nitrogen	98.8		P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P305018

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P304903

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P305096

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P305193

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P304452

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

Reference Method: SM 2320 B-97
Batch ID: P304842

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

Reference Method: SM 4500 F-C-97
Batch ID: P305057

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	97.5		P	92 - 103

Reference Method: SM 5310 B-00
Batch ID: P305078

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

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: SM 5310 B-00
 Batch ID: P305728

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

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 350.1 Rev. 2.0
 Batch ID: P304941

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1798237	Ammonia-N	101	103	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
 Batch ID: P304967

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1798333	Kjeldahl Nitrogen	95.2	98.1	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
 Batch ID: P305018

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1799270	Kjeldahl Nitrogen	97.5	96.7	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
 Batch ID: P304903

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1799269	NO2NO3-N	99.5	99.5	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
 Batch ID: P305096

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1798623	Total-P	93.8	93.8	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
 Batch ID: P305193

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1799568	Total-P	101	96.8	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
 Batch ID: P304452

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1799280	O-Phosphate-P	101	99.8	P/P	90 - 110

Reference Method: SM 4500 F-C-97
 Batch ID: P305057

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

Reference Method: SM 4500 F-C-97
Batch ID: P305057

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1798231	Fluoride	98.7	99.4	P/P	91 - 105

Reference Method: SM 5310 B-00
Batch ID: P305078

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1799270	Organic Carbon	93.5	93.4	P/P	85 - 115

Reference Method: SM 5310 B-00
Batch ID: P305728

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1799272	Organic Carbon	94.2	94.2	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P304592

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1799149	Turbidity	0.430	Sample	P	0 - 20

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P304593

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1799268	Turbidity	0.0	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P304941

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1798237	Ammonia-N	1.27	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P304967

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1798333	Kjeldahl Nitrogen	2.74	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P305018

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1799270	Kjeldahl Nitrogen	0.670	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P304903

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1799269	NO2NO3-N	0.0	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P305096

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1798623	Total-P	0.0	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P305193

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1799568	Total-P	4.20	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P304452

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1799280	O-Phosphate-P	0.798	Spike	P	0 - 20

Reference Method: SM 2320 B-97
Batch ID: P304842

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1798231	Total Alkalinity	0.358	Sample	P	0 - 4.8

Reference Method: SM 4500 F-C-97
Batch ID: P305057

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1798231	Fluoride	0.473	Spike	P	0 - 3.0

Reference Method: SM 5310 B-00
Batch ID: P305078

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1799270	Organic Carbon	0.138	Spike	P	0 - 20

Reference Method: SM 5310 B-00
Batch ID: P305728

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1799272	Organic Carbon	0.0451	Spike	P	0 - 20

Quality Assurance Report Precision

* 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: A69523

Included Lab Sample IDs: 1799275, 1799276, 1799277, 1799278, 1799279, 1799280

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	100	101	P/P	90 - 110
O-Phosphate-P	99.7	100	P/P	90 - 110

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A69574

Included Lab Sample IDs: 1799263, 1799264, 1799265, 1799266, 1799267, 1799268

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Turbidity	100	100	P/P	95 - 105
Turbidity	101	100	P/P	95 - 105

Reference Method: SM 2320 B-97

Run ID: A69640

Included Lab Sample IDs: 1799263, 1799264, 1799265, 1799266, 1799267, 1799268

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	98.2	101	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A69665

Included Lab Sample IDs: 1799269, 1799270, 1799271, 1799272, 1799273, 1799274

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	100	101	P/P	90 - 110
NO2NO3-N	104	104	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A69674

Included Lab Sample IDs: 1799269, 1799270, 1799271, 1799272, 1799273, 1799274

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

Reference Method: SM 4500 F-C-97

Run ID: A69701

Included Lab Sample IDs: 1799263, 1799264, 1799265, 1799266, 1799267, 1799268

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	99.1	98.5	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A69710

Included Lab Sample IDs: 1799269

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	99.0	98.3	P/P	90 - 110

Reference Method: SM 5310 B-00

Run ID: A69711

Included Lab Sample IDs: 1799269, 1799270, 1799271, 1799273

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	101	96.7	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A69745

Included Lab Sample IDs: 1799270, 1799271, 1799272, 1799273, 1799274

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	97.7	96.0	P/P	90 - 110
Kjeldahl Nitrogen	98.8	96.1	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A69756

Included Lab Sample IDs: 1799269, 1799270, 1799271

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

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A69793

Included Lab Sample IDs: 1799272, 1799273, 1799274

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

Reference Method: SM 5310 B-00

Run ID: A69893

Included Lab Sample IDs: 1799272, 1799274

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	99.0	94.4	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 SMP	MS
					LCS	
EPA 180.1 Rev. 2.0	Turbidity				0.430	
	Turbidity				0.0	
EPA 350.1 Rev. 2.0	Ammonia-N	98.2	101	103		1.27

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery		Precision	
					LCS	MS
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	98.8	95.2	98.1		2.74
	Kjeldahl Nitrogen	102	97.5	96.7		0.670
EPA 353.2 Rev. 2.0	NO ₂ NO ₃ -N	101	99.5	99.5		0.0
EPA 365.1 Rev. 2.0	Total-P	100	93.8	93.8		0.0
	Total-P	101	101	96.8		4.20
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	101	101	99.8		0.798
SM 2320 B-97	Total Alkalinity	100			0.358	
SM 4500 F-C-97	Fluoride	97.5	98.7	99.4		0.473
SM 5310 B-00	Organic Carbon	101	93.5	93.4		0.138
	Organic Carbon	99.3	94.2	94.2		0.0451

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 180.1 Rev. 2.0 / E31780	Turbidity in aqueous matrices	1799263, 1799264, 1799265, 1799266, 1799267, 1799268
EPA 350.1 Rev. 2.0 / E31780	Ammonia in aqueous matrices as mg N/L	1799269, 1799270, 1799271, 1799272, 1799273, 1799274
EPA 351.2 Rev. 2.0 / E31780	Total Kjeldahl Nitrogen in aqueous matrices	1799269, 1799270, 1799271, 1799272, 1799273, 1799274
EPA 353.2 Rev. 2.0 / E31780	Nitrite/Nitrate in aqueous matrices as mg N/L	1799269, 1799270, 1799271, 1799272, 1799273, 1799274
EPA 365.1 Rev. 2.0 / E31780	Total Phosphorus in aqueous matrices as mg P/L	1799269, 1799270, 1799271, 1799272, 1799273, 1799274
EPA 365.1 Rev. 2.0 dissolved / E31780	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	1799275, 1799276, 1799277, 1799278, 1799279, 1799280
SM 2320 B-97 / E31780	Alkalinity in aqueous matrices as mg CaCO ₃ /L	1799263, 1799264, 1799265, 1799266, 1799267, 1799268
SM 2540 D-97 / E31780	Total Suspended Solids in aqueous matrices	1799263, 1799264, 1799265, 1799266, 1799267, 1799268
SM 4500 F-C-97 / E31780	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	1799263, 1799264, 1799265, 1799266, 1799267, 1799268
SM 5310 B-00 / E31780	Nonpurgeable Organic Carbon in aqueous matrices	1799269, 1799270, 1799271, 1799272, 1799273, 1799274

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
EPA 180.1 Rev. 2.0	05/17/2016			05/17/2016 18:12	Chrisoulla Rakowski	1799263, 1799264, 1799265, 1799266, 1799267, 1799268
EPA 350.1 Rev. 2.0	05/17/2016			05/24/2016	Diana M. Turner	1799269, 1799270, 1799271, 1799272, 1799273, 1799274
EPA 351.2 Rev. 2.0	05/17/2016	05/25/2016	Sofia Elnemr	05/26/2016	Christopher Armour	1799269, 1799270, 1799271, 1799272, 1799273, 1799274
EPA 353.2 Rev. 2.0	05/17/2016			05/24/2016	Peter D. Kaus	1799269, 1799270, 1799271, 1799272, 1799273, 1799274
EPA 365.1 Rev. 2.0	05/17/2016	05/26/2016	Vijayalakshmi Reddy	05/27/2016	Rochelle Y Jackson	1799269, 1799270, 1799271
	05/17/2016	05/27/2016	Vijayalakshmi Reddy	06/02/2016	Rochelle Y Jackson	1799272, 1799273, 1799274
EPA 365.1 Rev. 2.0 dissolved	05/17/2016			05/17/2016 15:11	Julia Storbeck	1799280
	05/17/2016			05/17/2016 15:45	Julia Storbeck	1799275
	05/17/2016			05/17/2016 15:46	Julia Storbeck	1799276
	05/17/2016			05/17/2016 15:47	Julia Storbeck	1799277
	05/17/2016			05/17/2016 15:48	Julia Storbeck	1799278
	05/17/2016			05/17/2016 15:49	Julia Storbeck	1799279
SM 2320 B-97	05/17/2016			05/21/2016	Dale L. Simmons	1799263, 1799264, 1799265, 1799266, 1799267, 1799268
SM 2540 D-97	05/17/2016			05/18/2016	Yijie Li	1799263, 1799264, 1799265, 1799266, 1799267, 1799268
SM 4500 F-C-97	05/17/2016			05/26/2016	Dale L. Simmons	1799263, 1799264, 1799265, 1799266, 1799267, 1799268
SM 5310 B-00	05/17/2016			05/26/2016	Diana M. Turner	1799269, 1799270, 1799271, 1799273
	05/17/2016			06/07/2016	Diana M. Turner	1799272, 1799274