

Chemical Analysis Report

SO-DIST-2017-03-21-02

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

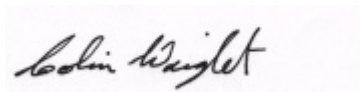
Event Description: **SMP: Wilderness WW**
Request ID: **RQ-2017-03-13-17**
Customer: **SO-DIST**
Project ID: **SMP**

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: 12-APR-2017 10:47

A handwritten signature in black ink, appearing to read "Colin Wright", is positioned 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: ENRE9 CHATHAM RIVER

Collection Date/Time: 03/20/2017 14:00

Field ID: G5SD022717-5

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1881638	EPA 180.1 Rev. 2.0	Turbidity	2.6	A	NTU	P321897	
	SM 2320 B-97	Total Alkalinity	135		mg CaCO3/L	P322239	
	SM 2540 D-97	TSS	5	I	mg/L	P322627	
	SM 4500 F-C-97	Fluoride	0.96		mg F/L	P322244	
1881643	EPA 350.1 Rev. 2.0	Ammonia-N	0.003	I	mg N/L	P321915	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.53		mg N/L	P321931	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P322043	
	EPA 365.1 Rev. 2.0	Total-P	0.023		mg P/L	P321971	
	SM 5310 B-00	Organic Carbon	8.0		mg C/L	P321944	
1881648	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.011		mg P/L	P321902	

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: ENER11 AT HUSTON BAY

Collection Date/Time: 03/20/2017 13:20

Field ID: G5SD022717-6

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1881639	EPA 180.1 Rev. 2.0	Turbidity	2.7		NTU	P321897	
	SM 2320 B-97	Total Alkalinity	156		mg CaCO3/L	P322239	
	SM 2540 D-97	TSS	4	I	mg/L	P322627	
	SM 4500 F-C-97	Fluoride	1.1		mg F/L	P322244	
1881644	EPA 350.1 Rev. 2.0	Ammonia-N	0.003	I	mg N/L	P321908	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.62		mg N/L	P321931	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P322044	
	EPA 365.1 Rev. 2.0	Total-P	0.024		mg P/L	P321971	
	SM 5310 B-00	Organic Carbon	8.1		mg C/L	P321944	
1881649	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P321902	

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 HUSTON RIVER

Collection Date/Time: 03/20/2017 12:50

Field ID: G5SD022717-7

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1881640	EPA 180.1 Rev. 2.0	Turbidity	4.2		NTU	P321897	
	SM 2320 B-97	Total Alkalinity	161		mg CaCO3/L	P322239	
	SM 2540 D-97	TSS	5	I	mg/L	P322628	
	SM 4500 F-C-97	Fluoride	1.1		mg F/L	P322244	
1881645	EPA 350.1 Rev. 2.0	Ammonia-N	0.004	I	mg N/L	P321908	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.57		mg N/L	P321931	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P322044	
	EPA 365.1 Rev. 2.0	Total-P	0.026		mg P/L	P321971	
	SM 5310 B-00	Organic Carbon	8.3		mg C/L	P321944	
1881650	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.007	I	mg P/L	P321902	

Field ID: G5SD022717-7

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: ENRE11 AT CANNON BAY

Collection Date/Time: 03/20/2017 14:50

Field ID: G5SD022717-3

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1881641	EPA 180.1 Rev. 2.0	Turbidity	4.5		NTU	P321897	
	SM 2320 B-97	Total Alkalinity	186		mg CaCO3/L	P322239	
	SM 2540 D-97	TSS	8	I	mg/L	P322628	
	SM 4500 F-C-97	Fluoride	0.96		mg F/L	P322244	
1881646	EPA 350.1 Rev. 2.0	Ammonia-N	0.007		mg N/L	P321908	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.3		mg N/L	P321931	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P322044	
	EPA 365.1 Rev. 2.0	Total-P	0.048		mg P/L	P321971	
	SM 5310 B-00	Organic Carbon	15		mg C/L	P321944	
1881651	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P321902	
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: ENRE11 AT CHEVELIER BAY

Collection Date/Time: 03/20/2017 14:40

Field ID: G5SD022717-4

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1881642	EPA 180.1 Rev. 2.0	Turbidity	2.7		NTU	P321897	
	SM 2320 B-97	Total Alkalinity	156		mg CaCO3/L	P322239	
	SM 2540 D-97	TSS	4	I	mg/L	P322628	
	SM 4500 F-C-97	Fluoride	1.0		mg F/L	P322244	
1881647	EPA 350.1 Rev. 2.0	Ammonia-N	0.004	I	mg N/L	P321908	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.68		mg N/L	P321931	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P322044	
	EPA 365.1 Rev. 2.0	Total-P	0.026		mg P/L	P321971	
	SM 5310 B-00	Organic Carbon	11		mg C/L	P321944	
1881652	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P321902	
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: P321897

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Quality Assurance Report Method Blank Results

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P321908

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P321915

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P321931

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P322043

Component	Result	Code	Units
NO ₂ NO ₃ -N	0.004	U	mg N/L

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P322044

Component	Result	Code	Units
NO ₂ NO ₃ -N	0.004	U	mg N/L

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P321971

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P321902

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

Reference Method: SM 2320 B-97
Batch ID: P322239

Component	Result	Code	Units
Total Alkalinity	0.65	U	mg CaCO ₃ /L

Reference Method: SM 2540 D-97
Batch ID: P322627

Component	Result	Code	Units
TSS	3	U	mg/L

Quality Assurance Report Method Blank Results

Reference Method: SM 2540 D-97
Batch ID: P322628

Component	Result	Code	Units
TSS	3	U	mg/L

Reference Method: SM 4500 F-C-97
Batch ID: P322244

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-00
Batch ID: P321944

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: P321908

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P321915

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P321931

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: P322043

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
NO2NO3-N	102		P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P322044

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P321971

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P321971

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: P321902

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
O-Phosphate-P	98.3		P	90 - 110

Reference Method: SM 2320 B-97
Batch ID: P322239

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

Reference Method: SM 4500 F-C-97
Batch ID: P322244

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	95.3		P	92 - 103

Reference Method: SM 5310 B-00
Batch ID: P321944

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	99.9		P	85 - 115

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P321908

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1880524	Ammonia-N	100	102	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P321915

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1881554	Ammonia-N	108	108	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P321931

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1881815	Kjeldahl Nitrogen	90.4	93.1	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P322043

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

Reference Method: EPA 353.2 Rev. 2.0
 Batch ID: P322043

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1881611	NO2NO3-N	103	106	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
 Batch ID: P322044

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1881644	NO2NO3-N	103	102	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
 Batch ID: P321971

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1881576	Total-P	101	101	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
 Batch ID: P321902

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1881649	O-Phosphate-P	101	101	P/P	90 - 110

Reference Method: SM 4500 F-C-97
 Batch ID: P322244

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1881572	Fluoride	95.9	96.5	P/P	91 - 105

Reference Method: SM 5310 B-00
 Batch ID: P321944

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1881554	Organic Carbon	97.9	96.7	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
 Batch ID: P321897

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1881638	Turbidity	6.95	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
 Batch ID: P321908

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1880524	Ammonia-N	1.31	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P321915

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1881554	Ammonia-N	0.510	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P321931

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1881815	Kjeldahl Nitrogen	2.72	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P322043

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1881611	NO2NO3-N	2.29	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P322044

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1881644	NO2NO3-N	0.487	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P321971

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1881576	Total-P	0.742	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P321902

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1881649	O-Phosphate-P	0.494	Spike	P	0 - 20

Reference Method: SM 2320 B-97
Batch ID: P322239

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1881572	Total Alkalinity	0.0349	Sample	P	0 - 4.8

Reference Method: SM 4500 F-C-97
Batch ID: P322244

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1881572	Fluoride	0.473	Spike	P	0 - 3.0

Quality Assurance Report Precision

Reference Method: SM 5310 B-00
Batch ID: P321944

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1881554	Organic Carbon	1.18	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 180.1 Rev. 2.0
Run ID: A75240
Included Lab Sample IDs: 1881638, 1881639, 1881640, 1881641, 1881642

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: A75242
Included Lab Sample IDs: 1881648, 1881649, 1881650, 1881651, 1881652

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	100	99.2	P/P	90 - 110
O-Phosphate-P	101	100	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Run ID: A75245
Included Lab Sample IDs: 1881643, 1881644, 1881645, 1881646, 1881647

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

Reference Method: SM 5310 B-00
Run ID: A75258
Included Lab Sample IDs: 1881643, 1881644, 1881645, 1881646, 1881647

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	93.3	94.7	P/P	90 - 110
Organic Carbon	96.6	93.3	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Run ID: A75295
Included Lab Sample IDs: 1881643, 1881644, 1881645, 1881646, 1881647

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	100	102	P/P	90 - 110
NO2NO3-N	102	101	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A75299

Included Lab Sample IDs: 1881643, 1881644, 1881645, 1881646, 1881647

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	100	99.5	P/P	90 - 110
Total-P	99.5	100	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A75304

Included Lab Sample IDs: 1881643, 1881644, 1881645, 1881646, 1881647

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	92.4	94.5	P/P	90 - 110
Kjeldahl Nitrogen	94.9	92.4	P/P	90 - 110

Reference Method: SM 2320 B-97

Run ID: A75378

Included Lab Sample IDs: 1881638, 1881639, 1881640, 1881641, 1881642

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	106	104	P/P	90 - 110

Reference Method: SM 4500 F-C-97

Run ID: A75378

Included Lab Sample IDs: 1881638, 1881639, 1881640, 1881641, 1881642

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	96.0	96.7	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				6.95	
EPA 350.1 Rev. 2.0	Ammonia-N	99.1	100 102			1.31
	Ammonia-N	101	108 108			0.510
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	99.7	90.4 93.1			2.72
EPA 353.2 Rev. 2.0	NO2NO3-N	102	103 106			2.29
	NO2NO3-N	104	103 102			0.487
EPA 365.1 Rev. 2.0	Total-P	101	101 101			0.742
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	98.3	101 101			0.494
SM 2320 B-97	Total Alkalinity	104			0.0349	
SM 4500 F-C-97	Fluoride	95.3	95.9 96.5			0.473
SM 5310 B-00	Organic Carbon	99.9	97.9 96.7			1.18

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
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Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 180.1 Rev. 2.0 / E31780	Turbidity in aqueous matrices	1881638, 1881639, 1881640, 1881641, 1881642
EPA 350.1 Rev. 2.0 / E31780	Ammonia in aqueous matrices as mg N/L	1881643, 1881644, 1881645, 1881646, 1881647
EPA 351.2 Rev. 2.0 / E31780	Total Kjeldahl Nitrogen in aqueous matrices	1881643, 1881644, 1881645, 1881646, 1881647
EPA 353.2 Rev. 2.0 / E31780	Nitrite/Nitrate in aqueous matrices as mg N/L	1881643, 1881644, 1881645, 1881646, 1881647
EPA 365.1 Rev. 2.0 / E31780	Total Phosphorus in aqueous matrices as mg P/L	1881643, 1881644, 1881645, 1881646, 1881647
EPA 365.1 Rev. 2.0 dissolved / E31780	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	1881648, 1881649, 1881650, 1881651, 1881652
SM 2320 B-97 / E31780	Alkalinity in aqueous matrices as mg CaCO ₃ /L	1881638, 1881639, 1881640, 1881641, 1881642
SM 2540 D-97 / E31780	Total Suspended Solids in aqueous matrices	1881638, 1881639, 1881640, 1881641, 1881642
SM 4500 F-C-97 / E31780	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	1881638, 1881639, 1881640, 1881641, 1881642
SM 5310 B-00 / E31780	Nonpurgeable Organic Carbon in aqueous matrices	1881643, 1881644, 1881645, 1881646, 1881647

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	03/21/2017			03/21/2017 15:05	Sima Feizi	1881638, 1881639, 1881640, 1881641, 1881642
EPA 350.1 Rev. 2.0	03/21/2017			03/21/2017	Julie Michelle Frank	1881643, 1881644, 1881645, 1881646, 1881647
EPA 351.2 Rev. 2.0	03/21/2017	03/22/2017	Adrian Shelby	03/23/2017	Joseph Suarez	1881643, 1881644, 1881645, 1881646, 1881647
EPA 353.2 Rev. 2.0	03/21/2017			03/23/2017	Beverly Y. Sanders	1881643, 1881644, 1881645, 1881646, 1881647
EPA 365.1 Rev. 2.0	03/21/2017	03/22/2017	Vijayalakshmi Reddy	03/23/2017	Lipi Saha	1881643, 1881644, 1881645, 1881646, 1881647
EPA 365.1 Rev. 2.0 dissolved	03/21/2017			03/21/2017 15:01	Julia Storbeck	1881649
	03/21/2017			03/21/2017 15:27	Julia Storbeck	1881648
	03/21/2017			03/21/2017 15:28	Julia Storbeck	1881650
	03/21/2017			03/21/2017 15:29	Julia Storbeck	1881651
	03/21/2017			03/21/2017 15:30	Julia Storbeck	1881652
SM 2320 B-97	03/21/2017			03/24/2017	Dale L. Simmons	1881638, 1881639, 1881640, 1881641, 1881642
SM 2540 D-97	03/21/2017			03/24/2017	Yijie Li	1881638, 1881639, 1881640, 1881641, 1881642
SM 4500 F-C-97	03/21/2017			03/24/2017	Dale L. Simmons	1881638, 1881639, 1881640, 1881641, 1881642
SM 5310 B-00	03/21/2017			03/22/2017	Christopher Armour	1881643, 1881644, 1881645, 1881646, 1881647