Chemical Analysis Report

NE-DIST-2018-04-03-01

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

Event Description: **Suw 3_2018**
Request ID: **RQ-2018-03-26-21**
Customer: **NE-DIST**
Project ID: **SMP**

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Certified by: Thekkekalathil Chandrasekhar, Chemist Administrator Date Certified: 19-APR-2018 15:38

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: RHUDA BRANCH @ 192 ST (NW 8TH WAY) **Collection Date/Time: 04/02/2018 11:05**

Field ID: 21030146 Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1980171	EPA 180.1 Rev. 2.0	Turbidity	1.8		NTU	P342712	
	EPA 300.0 Rev. 2.1	Chloride	14		mg Cl/L	P342831	
		Sulfate	3.7		mg SO4/L	P342834	
	SM 2120 B	Color (true)	210		PCU	P342647	
	SM 2320 B-97	Total Alkalinity	7.8		mg CaCO3/L	P343370	
	SM 2540 C-97	TDS	105		mg/L	P343339	
	SM 2540 D-97	TSS	3	I	mg/L	P343451	
	SM 4500 F-C-97	Fluoride	0.15		mg F/L	P343375	
1980174	EPA 350.1 Rev. 2.0	Ammonia-N	0.018		mg N/L	P343232	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.66		mg N/L	P342813	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.042		mg N/L	P342940	
	EPA 365.1 Rev. 2.0	Total-P	0.41		mg P/L	P342809	
	SM 5310 B-00	Organic Carbon	23		mg C/L	P343191	
1980177	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.37		mg P/L	P342697	

Ref. Method and Comment:
EPA 300.0 Rev. 2.1: Chloride: Batch matrix spike recoveries for one of two spiked samples are unavailable because of high analyte concentration in the QC sample.
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: Batch matrix spike recoveries are unavailable because of high analyte concentration in the QC sample.

Sample Location: LAKE KANAPAHA-300M M OF 56TH **Collection Date/Time: 04/02/2018 13:30**

Field ID: 20030925 Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1980172	EPA 180.1 Rev. 2.0	Turbidity	3.0		NTU	P342712	
	EPA 300.0 Rev. 2.1	Chloride	8.0		mg Cl/L	P342831	
		Sulfate	5.3		mg SO4/L	P342834	
	SM 2120 B	Color (true)	52	A	PCU	P342647	
	SM 2320 B-97	Total Alkalinity	161		mg CaCO3/L	P343370	
	SM 2540 C-97	TDS	207		mg/L	P343340	
	SM 2540 D-97	TSS	2	I	mg/L	P343452	
	SM 4500 F-C-97	Fluoride	0.12		mg F/L	P343375	
1980175	EPA 350.1 Rev. 2.0	Ammonia-N	0.18		mg N/L	P343232	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.77		mg N/L	P342813	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P342940	
	EPA 365.1 Rev. 2.0	Total-P	0.35		mg P/L	P342809	
	SM 5310 B-00	Organic Carbon	9.3		mg C/L	P343191	
1980178	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.29		mg P/L	P342697	

Ref. Method and Comment:
EPA 300.0 Rev. 2.1: Chloride: Batch matrix spike recoveries for one of two spiked samples are unavailable because of high analyte concentration in the QC sample.
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: Batch matrix spike recoveries are unavailable because of high analyte concentration in the QC sample.

Sample Location: SUNSHINE LAKE CENTER **Collection Date/Time: 04/02/2018 10:30**

Field ID: G1NE0857 Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1980173	EPA 180.1 Rev. 2.0	Turbidity	1.4		NTU	P342712	
	EPA 300.0 Rev. 2.1	Chloride	8.1		mg Cl/L	P342831	
		Sulfate	1.6		mg SO4/L	P342834	
	SM 2120 B	Color (true)	130		PCU	P342647	
	SM 2320 B-97	Total Alkalinity	16		mg CaCO3/L	P343370	
	SM 2540 C-97	TDS	79		mg/L	P343340	
	SM 2540 D-97	TSS	2	I	mg/L	P343452	
	SM 4500 F-C-97	Fluoride	0.087	I	mg F/L	P343375	
1980176	EPA 350.1 Rev. 2.0	Ammonia-N	0.024		mg N/L	P343232	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.87		mg N/L	P342813	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.086		mg N/L	P342941	
	EPA 365.1 Rev. 2.0	Total-P	0.31		mg P/L	P342809	
	SM 5310 B-00	Organic Carbon	19		mg C/L	P343191	
1980179	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.26		mg P/L	P342697	

Ref. Method and Comment:
EPA 300.0 Rev. 2.1: Chloride: Batch matrix spike recoveries for one of two spiked samples are unavailable because of high analyte concentration in the QC sample.
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: Batch matrix spike recoveries are unavailable because of high analyte concentration in the QC sample.

Quality Assurance Report
Method Blank Results

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P342712

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P342831

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P342834

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P343232

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P342813

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: P342940

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P342941

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P342809

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P342697

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

Reference Method: SM 2120 B
Batch ID: P342647

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2320 B-97
Batch ID: P343370

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

Reference Method: SM 2540 C-97
Batch ID: P343339

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 C-97
Batch ID: P343340

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-97
Batch ID: P343451

Component	Result	Code	Units
TSS	2	U	mg/L

Quality Assurance Report
Method Blank Results

Reference Method: SM 2540 D-97
Batch ID: P343452

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500 F-C-97
Batch ID: P343375

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-00
Batch ID: P343191

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

Quality Assurance Report
Laboratory Control Sample Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P342831

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P342834

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P343232

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Ammonia-N	97.3		P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P342813

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Kjeldahl Nitrogen	93.5		P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P342940

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: P342941

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: P342941

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P342809

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P342697

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
O-Phosphate-P	97.2		P	90 - 110

Reference Method: SM 2320 B-97
Batch ID: P343370

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	102		P	98 - 107

Reference Method: SM 4500 F-C-97
Batch ID: P343375

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	95.6		P	91 - 105

Reference Method: SM 5310 B-00
Batch ID: P343191

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	104		P	85 - 115

Quality Assurance Report
Matrix Spike Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P342831

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1980171	Chloride	98.1		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P342834

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1979904	Sulfate	96.9		P	90 - 110
1980171	Sulfate	100		P	90 - 110

Quality Assurance Report
Matrix Spike Accuracy

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P343232

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1979968	Ammonia-N	97.2	97.4	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P342813

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1979968	Kjeldahl Nitrogen	95.1	96.0	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P342940

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1979928	NO2NO3-N	104	106	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P342941

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1980176	NO2NO3-N	103	103	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P342697

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1979933	O-Phosphate-P	94.6	94.3	P/P	90 - 110

Reference Method: SM 4500 F-C-97
Batch ID: P343375

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1980245	Fluoride	96.9	98.6	P/P	91 - 105

Reference Method: SM 5310 B-00
Batch ID: P343191

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1979921	Organic Carbon	97.6	95.8	P/P	85 - 115

Quality Assurance Report
Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P342712

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1980130	Turbidity	0.837	Sample	P	0 - 20

Quality Assurance Report
Precision

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P342831

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1979904	Chloride	0.304	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P342834

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1979904	Sulfate	0.243	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P343232

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1979968	Ammonia-N	0.204	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P342813

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1979968	Kjeldahl Nitrogen	0.744	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P342940

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1979928	NO2NO3-N	1.61	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P342941

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1980176	NO2NO3-N	0.0	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P342809

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1980260	Total-P	0.241	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P342697

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1979933	O-Phosphate-P	0.318	Spike	P	0 - 20

Quality Assurance Report
Precision

Reference Method: SM 2120 B
Batch ID: P342647

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1980172	Color (true)	1.71	Sample	P	0 - 20

Reference Method: SM 2320 B-97
Batch ID: P343370

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1980245	Total Alkalinity	0.247	Sample	P	0 - 1.6

Reference Method: SM 2540 C-97
Batch ID: P343339

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1979967	TDS	1.10	Sample	P	0 - 10

Reference Method: SM 2540 C-97
Batch ID: P343340

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1980232	TDS	6.10	Sample	P	0 - 10

Reference Method: SM 4500 F-C-97
Batch ID: P343375

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1980245	Fluoride	1.49	Spike	P	0 - 3.5

Reference Method: SM 5310 B-00
Batch ID: P343191

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1979921	Organic Carbon	1.16	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 300.0 Rev. 2.1
Run ID: A83001
Included Lab Sample IDs: 1980171, 1980172, 1980173

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

Quality Assurance Report
Calibration Verification

Reference Method: EPA 300.0 Rev. 2.1
Run ID: A83001
Included Lab Sample IDs: 1980171, 1980172, 1980173

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

Reference Method: SM 2120 B
Run ID: A83011
Included Lab Sample IDs: 1980171, 1980172, 1980173

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	99.6	99.9	P/P	85 - 115
Color (true)	99.9	99.8	P/P	85 - 115

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Run ID: A83021
Included Lab Sample IDs: 1980177, 1980178, 1980179

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	98.7	98.1	P/P	90 - 110
O-Phosphate-P	98.7	98.7	P/P	90 - 110

Reference Method: EPA 180.1 Rev. 2.0
Run ID: A83022
Included Lab Sample IDs: 1980171, 1980172, 1980173

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Turbidity	98.5	98.5	P/P	95 - 105

Reference Method: EPA 365.1 Rev. 2.0
Run ID: A83073
Included Lab Sample IDs: 1980174, 1980175, 1980176

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

Reference Method: EPA 353.2 Rev. 2.0
Run ID: A83084
Included Lab Sample IDs: 1980174, 1980175, 1980176

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

Reference Method: EPA 351.2 Rev. 2.0
Run ID: A83103
Included Lab Sample IDs: 1980174, 1980175, 1980176

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	101	90.9	P/P	90 - 110

Quality Assurance Report
Calibration Verification

Reference Method: SM 5310 B-00
Run ID: A83162
Included Lab Sample IDs: 1980174, 1980175, 1980176

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	95.2	92.8	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Run ID: A83174
Included Lab Sample IDs: 1980174, 1980175, 1980176

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

Reference Method: SM 2320 B-97
Run ID: A83225
Included Lab Sample IDs: 1980171, 1980172, 1980173

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	99.9	102	P/P	90 - 110

Reference Method: SM 4500 F-C-97
Run ID: A83225
Included Lab Sample IDs: 1980171, 1980172, 1980173

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	100	100	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		
					LCS	SMP	MS
EPA 180.1 Rev. 2.0	Turbidity					0.837	
EPA 300.0 Rev. 2.1	Chloride	99.7	98.1			0.304	
	Sulfate	99.1	96.9	100		0.243	
EPA 350.1 Rev. 2.0	Ammonia-N	97.3	97.2	97.4			0.204
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	93.5	95.1	96.0			0.744
EPA 353.2 Rev. 2.0	NO2NO3-N	102	104	106			1.61
	NO2NO3-N	102	103	103			0.0
EPA 365.1 Rev. 2.0	Total-P	104					0.241
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	97.2	94.6	94.3			0.318
SM 2120 B	Color (true)					1.71	
SM 2320 B-97	Total Alkalinity	102				0.247	
SM 2540 C-97	TDS					1.10	
	TDS					6.10	
SM 4500 F-C-97	Fluoride	95.6	96.9	98.6			1.49
SM 5310 B-00	Organic Carbon	104	97.6	95.8			1.16

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 180.1 Rev. 2.0 / E31780	Turbidity in aqueous matrices	1980171, 1980172, 1980173
EPA 300.0 Rev. 2.1 / E31780	Chloride in aqueous matrices	1980171, 1980172, 1980173
EPA 300.0 Rev. 2.1 / E31780	Sulfate in aqueous matrices	1980171, 1980172, 1980173
EPA 350.1 Rev. 2.0 / E31780	Ammonia in aqueous matrices as mg N/L	1980174, 1980175, 1980176
EPA 351.2 Rev. 2.0 / E31780	Total Kjeldahl Nitrogen in aqueous matrices	1980174, 1980175, 1980176
EPA 353.2 Rev. 2.0 / E31780	Nitrite/Nitrate in aqueous matrices as mg N/L	1980174, 1980175, 1980176
EPA 365.1 Rev. 2.0 / E31780	Total Phosphorus in aqueous matrices as mg P/L	1980174, 1980175, 1980176
EPA 365.1 Rev. 2.0 dissolved / E31780	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	1980177, 1980178, 1980179
SM 2120 B / E31780	True Color measured at 450 nm	1980171, 1980172, 1980173
SM 2320 B-97 / E31780	Alkalinity in aqueous matrices as mg CaCO3/L	1980171, 1980172, 1980173
SM 2540 C-97 / E31780	Total Dissolved Solids in aqueous matrices	1980171, 1980172, 1980173
SM 2540 D-97 / E31780	Total Suspended Solids in aqueous matrices	1980171, 1980172, 1980173
SM 4500 F-C-97 / E31780	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	1980171, 1980172, 1980173
SM 5310 B-00 / E31780	Nonpurgeable Organic Carbon in aqueous matrices	1980174, 1980175, 1980176

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	04/03/2018			04/03/2018 16:07	DeAsia Armster	1980171, 1980172, 1980173
EPA 300.0 Rev. 2.1	04/03/2018			04/05/2018 02:55	Lipi Saha	1980171
	04/03/2018			04/05/2018 05:31	Lipi Saha	1980172
	04/03/2018			04/05/2018 05:43	Lipi Saha	1980173
EPA 350.1 Rev. 2.0	04/03/2018			04/11/2018 12:27	Ping Hua	1980174
	04/03/2018			04/11/2018 12:28	Ping Hua	1980175
	04/03/2018			04/11/2018 12:30	Ping Hua	1980176
EPA 351.2 Rev. 2.0	04/03/2018	04/05/2018 10:30	Adrian Shelby	04/06/2018 13:46	Joseph Suarez	1980174
	04/03/2018	04/05/2018 10:30	Adrian Shelby	04/06/2018 13:47	Joseph Suarez	1980175
	04/03/2018	04/05/2018 10:30	Adrian Shelby	04/06/2018 13:49	Joseph Suarez	1980176
EPA 353.2 Rev. 2.0	04/03/2018			04/06/2018 12:54	Lauren Bottorf	1980174
	04/03/2018			04/06/2018 12:55	Lauren Bottorf	1980175
	04/03/2018			04/06/2018 13:03	Lauren Bottorf	1980176
EPA 365.1 Rev. 2.0	04/03/2018	04/05/2018 11:16	Sima Feizi	04/06/2018 09:59	Beverly Y. Sanders	1980174
	04/03/2018	04/05/2018 11:16	Sima Feizi	04/06/2018 10:00	Beverly Y. Sanders	1980175
	04/03/2018	04/05/2018 11:16	Sima Feizi	04/06/2018 10:01	Beverly Y. Sanders	1980176
EPA 365.1 Rev. 2.0 dissolved	04/03/2018			04/03/2018 16:22	Megan Treadwell	1980177
	04/03/2018			04/03/2018 16:23	Megan Treadwell	1980178
	04/03/2018			04/03/2018 16:28	Megan Treadwell	1980179
SM 2120 B	04/03/2018			04/03/2018 16:03	Tanya Welborn	1980172
	04/03/2018			04/03/2018 16:04	Tanya Welborn	1980173
	04/03/2018			04/03/2018 16:12	Tanya Welborn	1980171
SM 2320 B-97	04/03/2018			04/13/2018 09:30	Dale L. Simmons	1980171
	04/03/2018			04/13/2018 09:44	Dale L. Simmons	1980172
	04/03/2018			04/13/2018 09:56	Dale L. Simmons	1980173
SM 2540 C-97	04/03/2018			04/06/2018 16:01	Yijie Li	1980171, 1980172, 1980173
SM 2540 D-97	04/03/2018			04/06/2018 16:01	Yijie Li	1980171, 1980172, 1980173
SM 4500 F-C-97	04/03/2018			04/13/2018 09:30	Dale L. Simmons	1980171
	04/03/2018			04/13/2018 09:44	Dale L. Simmons	1980172
	04/03/2018			04/13/2018 09:56	Dale L. Simmons	1980173
SM 5310 B-00	04/03/2018			04/10/2018 18:11	Julia Storbeck	1980174
	04/03/2018			04/10/2018 18:27	Julia Storbeck	1980175
	04/03/2018			04/10/2018 18:41	Julia Storbeck	1980176