Chemical Analysis Report

SO-DIST-2018-04-10-02

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

Event Description: **B.F.**
Request ID: **RQ-2018-04-02-69**
Customer: **SO-DIST**
Project ID: **SMP**

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Certified by: Colin Wright, Program Administrator

Date Certified: 27-APR-2018 11:38

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: Owen CreekFromCranePark **Collection Date/Time: 04/09/2018 10:30**

Field ID: G3SD0106 Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1982961	EPA 180.1 Rev. 2.0	Turbidity	0.90		NTU	P343150	
	EPA 300.0 Rev. 2.1	Chloride	22		mg Cl/L	P343433	
		Sulfate	400		mg SO4/L	P343493	
	SM 2120 B	Color (true)	32	A	PCU	P343124	
	SM 2320 B-97	Total Alkalinity	92		mg CaCO3/L	P343804	
	SM 2540 C-97	TDS	678		mg/L	P343464	
	SM 2540 D-97	TSS	2	IA	mg/L	P343860	
	SM 4500 F-C-97	Fluoride	0.62		mg F/L	P343807	
1982963	EPA 350.1 Rev. 2.0	Ammonia-N	0.028		mg N/L	P343554	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.44		mg N/L	P343173	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.15		mg N/L	P343476	
	EPA 365.1 Rev. 2.0	Total-P	0.17		mg P/L	P343284	
	SM 5310 B-00	Organic Carbon	7.2		mg C/L	P343396	
1982965	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.14		mg P/L	P343137	

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: Brandy Branch @ SR 70 **Collection Date/Time: 04/09/2018 11:35**

Field ID: G3SD0083 Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1982962	EPA 180.1 Rev. 2.0	Turbidity	1.6		NTU	P343150	
	EPA 300.0 Rev. 2.1	Chloride	27		mg Cl/L	P343433	
		Sulfate	790		mg SO4/L	P343436	
	SM 2120 B	Color (true)	31		PCU	P343124	
	SM 2320 B-97	Total Alkalinity	73		mg CaCO3/L	P343804	
	SM 2540 C-97	TDS	1.17E+03		mg/L	P343464	
	SM 2540 D-97	TSS	11		mg/L	P343860	
	SM 4500 F-C-97	Fluoride	0.69		mg F/L	P343807	
1982964	EPA 350.1 Rev. 2.0	Ammonia-N	0.079		mg N/L	P343554	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.0		mg N/L	P343173	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.36		mg N/L	P343476	
	EPA 365.1 Rev. 2.0	Total-P	0.37		mg P/L	P343285	
	SM 5310 B-00	Organic Carbon	7.8		mg C/L	P343396	
1982966	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.30		mg P/L	P343137	

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: P343150

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Quality Assurance Report
Method Blank Results

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P343433

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P343436

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P343493

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P343554

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P343173

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P343476

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P343284

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P343285

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P343137

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

Quality Assurance Report
Method Blank Results

Reference Method: SM 2120 B
Batch ID: P343124

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2320 B-97
Batch ID: P343804

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

Reference Method: SM 2540 C-97
Batch ID: P343464

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-97
Batch ID: P343860

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500 F-C-97
Batch ID: P343807

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-00
Batch ID: P343396

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: P343433

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P343436

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Sulfate	97.8		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P343493

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

Quality Assurance Report
Laboratory Control Sample Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P343493

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Sulfate	96.8		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P343554

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Ammonia-N	95.0		P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P343173

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P343476

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: P343284

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P343285

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: P343137

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

Reference Method: SM 2320 B-97
Batch ID: P343804

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	100		P	98 - 107

Reference Method: SM 4500 F-C-97
Batch ID: P343807

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	95.1		P	91 - 105

Quality Assurance Report
Laboratory Control Sample Accuracy

Reference Method: SM 5310 B-00
Batch ID: P343396

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	97.4		P	85 - 115

Quality Assurance Report
Matrix Spike Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P343433

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1982932	Chloride	94.1		P	90 - 110
1982998	Chloride	99.6		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P343436

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1982932	Sulfate	91.0		P	90 - 110
1982998	Sulfate	98.3		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P343493

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1984046	Sulfate	94.3		P	90 - 110
1984328	Sulfate	97.1		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P343554

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1982963	Ammonia-N	94.4	95.4	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P343173

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1982117	Kjeldahl Nitrogen	106	96.1	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P343476

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1982964	NO2NO3-N	101		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P343284

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1982963	Total-P	101	100	P/P	90 - 110

Quality Assurance Report
Matrix Spike Accuracy

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P343285

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1983010	Total-P	101	103	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P343137

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1983011	O-Phosphate-P	94.5	95.2	P/P	90 - 110

Reference Method: SM 4500 F-C-97
Batch ID: P343807

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1982999	Fluoride	102	102	P/P	91 - 105

Reference Method: SM 5310 B-00
Batch ID: P343396

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1982037	Organic Carbon	101		P	85 - 115

Quality Assurance Report
Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P343150

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1982911	Turbidity	3.40	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P343433

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1982932	Chloride	0.00132	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P343436

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1982932	Sulfate	0.107	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P343493

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1984046	Sulfate	7.71	Sample	P	0 - 20

Quality Assurance Report
Precision

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P343554

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1982963	Ammonia-N	0.695	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P343173

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1982117	Kjeldahl Nitrogen	8.05	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P343476

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1982964	NO2NO3-N	0.535	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P343284

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1982963	Total-P	0.931	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P343285

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1983010	Total-P	1.90	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P343137

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1983011	O-Phosphate-P	0.738	Spike	P	0 - 20

Reference Method: SM 2120 B
Batch ID: P343124

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1982961	Color (true)	1.70	Sample	P	0 - 20

Reference Method: SM 2320 B-97
Batch ID: P343804

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1982999	Total Alkalinity	1.09	Sample	P	0 - 1.6

Quality Assurance Report
Precision

Reference Method: SM 2540 C-97
Batch ID: P343464

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1982933	TDS	3.98	Sample	P	0 - 10

Reference Method: SM 4500 F-C-97
Batch ID: P343807

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1982999	Fluoride	0.479	Spike	P	0 - 3.5

Reference Method: SM 5310 B-00
Batch ID: P343396

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1982037	Organic Carbon	0.830	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: SM 2120 B
Run ID: A83147
Included Lab Sample IDs: 1982961, 1982962

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	96.1	102	P/P	85 - 115

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Run ID: A83150
Included Lab Sample IDs: 1982965, 1982966

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

Reference Method: EPA 180.1 Rev. 2.0
Run ID: A83154
Included Lab Sample IDs: 1982961, 1982962

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Turbidity	98.0	99.0	P/P	95 - 105

Reference Method: EPA 351.2 Rev. 2.0
Run ID: A83219
Included Lab Sample IDs: 1982963, 1982964

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	108	104	P/P	90 - 110

Quality Assurance Report
Calibration Verification

Reference Method: EPA 300.0 Rev. 2.1
Run ID: A83234
Included Lab Sample IDs: 1982961, 1982962

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	99.6	99.3	P/P	90 - 110
Sulfate	101	100	P/P	90 - 110

Reference Method: SM 5310 B-00
Run ID: A83237
Included Lab Sample IDs: 1982963, 1982964

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	95.0	96.7	P/P	90 - 110
Organic Carbon	96.7	93.9	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Run ID: A83258
Included Lab Sample IDs: 1982963, 1982964

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

Reference Method: EPA 300.0 Rev. 2.1
Run ID: A83267
Included Lab Sample IDs: 1982961

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

Reference Method: EPA 350.1 Rev. 2.0
Run ID: A83285
Included Lab Sample IDs: 1982963, 1982964

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	101	102	P/P	90 - 110
Ammonia-N	103	101	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Run ID: A83320
Included Lab Sample IDs: 1982963, 1982964

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	104	105	P/P	90 - 110
Total-P	106	104	P/P	90 - 110

Reference Method: SM 2320 B-97
Run ID: A83368
Included Lab Sample IDs: 1982961, 1982962

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	99.8	102	P/P	90 - 110

Quality Assurance Report
Calibration Verification

Reference Method: SM 4500 F-C-97
Run ID: A83368
Included Lab Sample IDs: 1982961, 1982962

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	99.1	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		
					LCS	SMP	MS
EPA 180.1 Rev. 2.0	Turbidity					3.40	
EPA 300.0 Rev. 2.1	Chloride	99.0	94.1	99.6		0.0013	
	Sulfate	97.8	91.0	98.3		0.107	
	Sulfate	96.8	94.3	97.1		7.71	
EPA 350.1 Rev. 2.0	Ammonia-N	95.0	94.4	95.4			0.695
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	96.7	106	96.1			8.05
EPA 353.2 Rev. 2.0	NO2NO3-N	101	101				0.535
EPA 365.1 Rev. 2.0	Total-P	105	101	100			0.931
	Total-P	104	101	103			1.90
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	98.5	94.5	95.2			0.738
SM 2120 B	Color (true)					1.70	
SM 2320 B-97	Total Alkalinity	100				1.09	
SM 2540 C-97	TDS					3.98	
SM 4500 F-C-97	Fluoride	95.1	102	102			0.479
SM 5310 B-00	Organic Carbon	97.4	101				0.830

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 180.1 Rev. 2.0 / E31780	Turbidity in aqueous matrices	1982961, 1982962
EPA 300.0 Rev. 2.1 / E31780	Chloride in aqueous matrices	1982961, 1982962
EPA 300.0 Rev. 2.1 / E31780	Sulfate in aqueous matrices	1982961, 1982962
EPA 350.1 Rev. 2.0 / E31780	Ammonia in aqueous matrices as mg N/L	1982963, 1982964
EPA 351.2 Rev. 2.0 / E31780	Total Kjeldahl Nitrogen in aqueous matrices	1982963, 1982964
EPA 353.2 Rev. 2.0 / E31780	Nitrite/Nitrate in aqueous matrices as mg N/L	1982963, 1982964
EPA 365.1 Rev. 2.0 / E31780	Total Phosphorus in aqueous matrices as mg P/L	1982963, 1982964
EPA 365.1 Rev. 2.0 dissolved / E31780	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	1982965, 1982966
SM 2120 B / E31780	True Color measured at 450 nm	1982961, 1982962
SM 2320 B-97 / E31780	Alkalinity in aqueous matrices as mg CaCO3/L	1982961, 1982962
SM 2540 C-97 / E31780	Total Dissolved Solids in aqueous matrices	1982961, 1982962
SM 2540 D-97 / E31780	Total Suspended Solids in aqueous matrices	1982961, 1982962
SM 4500 F-C-97 / E31780	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	1982961, 1982962

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
SM 5310 B-00 / E31780	Nonpurgeable Organic Carbon in aqueous matrices	1982963, 1982964

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	04/10/2018			04/10/2018 18:04	William L. Brown IV	1982961, 1982962
EPA 300.0 Rev. 2.1	04/10/2018			04/13/2018 18:06	Lipi Saha	1982961
	04/10/2018			04/13/2018 18:18	Lipi Saha	1982962
	04/10/2018			04/16/2018 22:12	Lipi Saha	1982961
EPA 350.1 Rev. 2.0	04/10/2018			04/16/2018 12:15	Ping Hua	1982963
	04/10/2018			04/16/2018 12:27	Ping Hua	1982964
EPA 351.2 Rev. 2.0	04/10/2018	04/11/2018 10:30	Adrian Shelby	04/13/2018 10:44	Joseph Suarez	1982963
	04/10/2018	04/11/2018 10:30	Adrian Shelby	04/13/2018 10:45	Joseph Suarez	1982964
EPA 353.2 Rev. 2.0	04/10/2018			04/16/2018 13:08	Lauren Bottorf	1982964
	04/10/2018			04/16/2018 13:16	Lauren Bottorf	1982963
EPA 365.1 Rev. 2.0	04/10/2018	04/12/2018 12:40	Sima Feizi	04/13/2018 13:35	Beverly Y. Sanders	1982963
	04/10/2018	04/12/2018 12:40	Sima Feizi	04/13/2018 13:53	Beverly Y. Sanders	1982964
EPA 365.1 Rev. 2.0 dissolved	04/10/2018			04/10/2018 15:41	Megan Treadwell	1982965
	04/10/2018			04/10/2018 15:53	Megan Treadwell	1982966
SM 2120 B	04/10/2018			04/10/2018 15:44	Tanya Welborn	1982961
	04/10/2018			04/10/2018 15:45	Tanya Welborn	1982962
SM 2320 B-97	04/10/2018			04/18/2018 20:29	Dale L. Simmons	1982961
	04/10/2018			04/18/2018 22:35	Dale L. Simmons	1982962
SM 2540 C-97	04/10/2018			04/11/2018 15:02	Yijie Li	1982961, 1982962
SM 2540 D-97	04/10/2018			04/11/2018 15:02	Yijie Li	1982961, 1982962
SM 4500 F-C-97	04/10/2018			04/18/2018 20:29	Dale L. Simmons	1982961
	04/10/2018			04/18/2018 22:35	Dale L. Simmons	1982962
SM 5310 B-00	04/10/2018			04/13/2018 00:42	Julia Storbeck	1982963
	04/10/2018			04/13/2018 01:28	Julia Storbeck	1982964