

Chemical Analysis Report

SO-DIST-2019-04-17-02

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

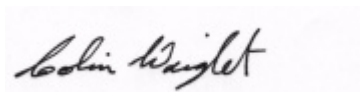
Event Description: **MyBB**
Request ID: **RQ-2019-04-15-29**
Customer: **SO-DIST**
Project ID: **SMP**

Send Reports to:
FL Dept. of Environmental Protection
FLDEP South District Office
2295 Victoria Ave. Suite 364
Fort Myers, FL 33901-3381
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Certified by: Colin Wright, Program Administrator

Date Certified: 08-MAY-2019 09:31

A handwritten signature in black ink, appearing to read "Colin Wright", is shown 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 by the Florida Department of Health Environmental Laboratory Certification Program 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: LakeMyakka(Upper)

Collection Date/Time: 04/16/2019 12:30

Field ID: G3SD0133

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2078695	EPA 180.1 Rev. 2.0	Turbidity	31		NTU	P362373	
	EPA 300.0 Rev. 2.1	Chloride	25		mg Cl/L	P362595	
		Sulfate	200		mg SO4/L	P362760	
	SM 2120 B	Color (true)	61		PCU	P362391	
	SM 2320 B-97	Total Alkalinity	27		mg CaCO3/L	P362851	
	SM 2540 C-97	TDS	369		mg/L	P363045	
	SM 2540 D-97	TSS	52		mg/L	P362914	
	SM 4500 F-C-97	Fluoride	0.26		mg F/L	P362853	
2078696	EPA 350.1 Rev. 2.0	Ammonia-N	0.008		mg N/L	P362724	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.3		mg N/L	P362703	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P362766	
	EPA 365.1 Rev. 2.0	Total-P	0.35		mg P/L	P362533	
	SM 5310 B-00	Organic Carbon	15		mg C/L	P362486	
2078697	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.10		mg P/L	P362366	

Ref. Method and Comment:

SM 2540 D-97: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.

SM 4500 F-C-97: Batch matrix spike recoveries are unavailable because of high analyte concentration in the QC sample.

Sample Location: Brandy Branch @SR70

Collection Date/Time: 04/16/2019 13:45

Field ID: G3SD0083

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2078692	EPA 180.1 Rev. 2.0	Turbidity	1.2		NTU	P362373	
	EPA 300.0 Rev. 2.1	Chloride	25		mg Cl/L	P362595	
		Sulfate	470		mg SO4/L	P362596	
		Color (true)	100		PCU	P362388	
	SM 2320 B-97	Total Alkalinity	46		mg CaCO3/L	P362851	
	SM 2540 C-97	TDS	756		mg/L	P363045	
	SM 2540 D-97	TSS	2	I	mg/L	P362914	
	SM 4500 F-C-97	Fluoride	0.50		mg F/L	P362853	
	EPA 350.1 Rev. 2.0	Ammonia-N	0.029		mg N/L	P362724	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.74		mg N/L	P362703	
2078693	EPA 353.2 Rev. 2.0	NO2NO3-N	0.28		mg N/L	P362766	
	EPA 365.1 Rev. 2.0	Total-P	0.18		mg P/L	P362533	
	SM 5310 B-00	Organic Carbon	16		mg C/L	P362486	
	EPA 365.1 Rev. 2.0	O-Phosphate-P	0.14		mg P/L	P362366	
	dissolved						

Ref. Method and Comment:

EPA 300.0 Rev. 2.1: Sulfate: 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.

SM 4500 F-C-97: Batch matrix spike recoveries are unavailable because of high analyte concentration in the QC sample.

Sample Location: Brandy Branch @SR70

Collection Date/Time: 04/16/2019 14:00

Field ID: FB_04032019

Matrix: W-FIELD-BK

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2078698	EPA 180.1 Rev. 2.0	Turbidity	0.10	U	NTU	P362373	
	EPA 300.0 Rev. 2.1	Chloride	0.20	U	mg Cl/L	P362595	
		Sulfate	0.20	U	mg SO4/L	P362596	
		Color (true)	2.5	U	PCU	P362388	
	SM 2320 B-97	Total Alkalinity	0.65	U	mg CaCO3/L	P362851	
	SM 2540 C-97	TDS	15	U	mg/L	P363043	
	SM 2540 D-97	TSS	2	U	mg/L	P362912	
	SM 4500 F-C-97	Fluoride	0.035	U	mg F/L	P362853	
2078699	EPA 350.1 Rev. 2.0	Ammonia-N	0.002	U	mg N/L	P362724	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.080	U	mg N/L	P362703	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P362766	
	EPA 365.1 Rev. 2.0	Total-P	0.002	U	mg P/L	P362616	
	SM 5310 B-00	Organic Carbon	0.50	U	mg C/L	P362486	
2078700	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P362366	

Ref. Method and Comment:

EPA 300.0 Rev. 2.1: Sulfate: 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.

SM 4500 F-C-97: 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: P362373

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P362595

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P362596

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P362760

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P362724

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P362703

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P362766

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P362533

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P362616

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 dissolved
Batch ID: P362366

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

Reference Method: SM 2120 B
Batch ID: P362388

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2120 B
Batch ID: P362391

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2320 B-97
Batch ID: P362851

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

Reference Method: SM 2540 C-97
Batch ID: P363043

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 C-97
Batch ID: P363045

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-97
Batch ID: P362912

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 2540 D-97
Batch ID: P362914

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500 F-C-97
Batch ID: P362853

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Quality Assurance Report

Method Blank Results

Reference Method: SM 5310 B-00
Batch ID: P362486

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: P362595

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Chloride	98.9		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P362596

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P362760

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Sulfate	98.7		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P362724

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: P362703

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P362766

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
NO2NO3-N	99.0		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P362533

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total-P	98.6		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P362616

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P362366

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

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: SM 2120 B
Batch ID: P362388

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

Reference Method: SM 2120 B
Batch ID: P362391

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Color (true)	105		P	85 - 115

Reference Method: SM 2320 B-97
Batch ID: P362851

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	102		P	98 - 106

Reference Method: SM 4500 F-C-97
Batch ID: P362853

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	98.5		P	92 - 103

Reference Method: SM 5310 B-00
Batch ID: P362486

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	99.5		P	85 - 115

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P362595

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2078628	Chloride	100		P	90 - 110
2078704	Chloride	99.8		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P362596

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2078628	Sulfate	101		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P362760

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2079142	Sulfate	100		P	90 - 110
2079243	Sulfate	97.7		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P362724

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2078718	Ammonia-N	98.4	99.8	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P362703

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2078677	Kjeldahl Nitrogen	97.0	108	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P362766

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2078693	NO2NO3-N	97.2		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P362533

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2078679	Total-P	105	100	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P362616

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2078718	Total-P	101	101	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P362366

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2078527	O-Phosphate-P	95.0	95.5	P/P	90 - 110

Quality Assurance Report Matrix Spike Accuracy

Reference Method: SM 5310 B-00
Batch ID: P362486

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2078623	Organic Carbon	98.2	98.8	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P362373

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2078733	Turbidity	4.23	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P362595

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2078704	Chloride	0.0472	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P362596

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2078704	Sulfate	0.365	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P362760

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2079243	Sulfate	0.0690	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P362724

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2078718	Ammonia-N	1.16	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P362703

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2078677	Kjeldahl Nitrogen	7.01	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P362766

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2078693	NO2NO3-N	0.837	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P362533

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2078679	Total-P	3.92	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P362616

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2078718	Total-P	0.180	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P362366

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2078527	O-Phosphate-P	0.525	Spike	P	0 - 20

Reference Method: SM 2120 B
Batch ID: P362388

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2078675	Color (true)	2.16	Sample	P	0 - 20

Reference Method: SM 2120 B
Batch ID: P362391

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2078493	Color (true)	0.886	Sample	P	0 - 20

Reference Method: SM 2320 B-97
Batch ID: P362851

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2078704	Total Alkalinity	0.664	Sample	P	0 - 2.8

Reference Method: SM 2540 C-97
Batch ID: P363043

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2078426	TDS	7.59	Sample	P	0 - 10

Reference Method: SM 2540 C-97
Batch ID: P363045

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2078676	TDS	2.90	Sample	P	0 - 10

Reference Method: SM 4500 F-C-97
Batch ID: P362853

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2078704	Fluoride	0.935	Spike	P	0 - 2.5

Quality Assurance Report Precision

Reference Method: SM 5310 B-00
Batch ID: P362486

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2078623	Organic Carbon	0.328	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: A90760

Included Lab Sample IDs: 2078692, 2078695, 2078698

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Run ID: A90794

Included Lab Sample IDs: 2078694, 2078697, 2078700

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	101	98.2	P/P	90 - 110
O-Phosphate-P	98.2	99.9	P/P	90 - 110

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A90795

Included Lab Sample IDs: 2078692, 2078695, 2078698

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

Reference Method: SM 2120 B

Run ID: A90804

Included Lab Sample IDs: 2078692, 2078695, 2078698

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	100	103	P/P	90 - 115
Color (true)	102	102	P/P	85 - 115

Reference Method: SM 5310 B-00

Run ID: A90843

Included Lab Sample IDs: 2078693, 2078696, 2078699

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	101	99.6	P/P	90 - 110
Organic Carbon	102	101	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A90896

Included Lab Sample IDs: 2078693, 2078696

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	105	103	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A90934

Included Lab Sample IDs: 2078699

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	99.8	99.5	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A90949

Included Lab Sample IDs: 2078693, 2078696, 2078699

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	102	103	P/P	90 - 110
Ammonia-N	103	105	P/P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A90961

Included Lab Sample IDs: 2078695

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

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A90968

Included Lab Sample IDs: 2078693, 2078696, 2078699

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	99.0	98.5	P/P	90 - 110

Reference Method: SM 2320 B-97

Run ID: A90988

Included Lab Sample IDs: 2078692, 2078695, 2078698

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: A90988

Included Lab Sample IDs: 2078692, 2078695, 2078698

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

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A91000

Included Lab Sample IDs: 2078693, 2078696, 2078699

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	93.4	95.3	P/P	90 - 110
Kjeldahl Nitrogen	94.4	93.4	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		LCS	Precision	MS
						SMP	
EPA 180.1 Rev. 2.0	Turbidity					4.23	
EPA 300.0 Rev. 2.1	Chloride	98.9	99.8	100		0.0472	
	Sulfate	101	101			0.365	
	Sulfate	98.7	97.7	100		0.0690	
EPA 350.1 Rev. 2.0	Ammonia-N	101	98.4	99.8			1.16
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	97.5	97.0	108			7.01
EPA 353.2 Rev. 2.0	NO ₂ NO ₃ -N	99.0	97.2				0.837
EPA 365.1 Rev. 2.0	Total-P	98.6	105	100			3.92
	Total-P	103	101	101			0.180
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	99.1	95.0	95.5			0.525
SM 2120 B	Color (true)	102				2.16	
	Color (true)	105				0.886	
SM 2320 B-97	Total Alkalinity	102				0.664	
SM 2540 C-97	TDS					7.59	
	TDS					2.90	
SM 4500 F-C-97	Fluoride	98.5					0.935
SM 5310 B-00	Organic Carbon	99.5	98.2	98.8			0.328

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 180.1 Rev. 2.0 / E31780	Turbidity in aqueous matrices	2078692, 2078695, 2078698
EPA 300.0 Rev. 2.1 / E31780	Chloride in aqueous matrices	2078692, 2078695, 2078698
EPA 300.0 Rev. 2.1 / E31780	Sulfate in aqueous matrices	2078692, 2078695, 2078698
EPA 350.1 Rev. 2.0 / E31780	Ammonia in aqueous matrices as mg N/L	2078693, 2078696, 2078699
EPA 351.2 Rev. 2.0 / E31780	Total Kjeldahl Nitrogen in aqueous matrices	2078693, 2078696, 2078699
EPA 353.2 Rev. 2.0 / E31780	Nitrite/Nitrate in aqueous matrices as mg N/L	2078693, 2078696, 2078699
EPA 365.1 Rev. 2.0 / E31780	Total Phosphorus in aqueous matrices as mg P/L	2078693, 2078696, 2078699
EPA 365.1 Rev. 2.0 dissolved / E31780	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	2078694, 2078697, 2078700
SM 2120 B / E31780	True Color measured at 450 nm	2078692, 2078695, 2078698
SM 2320 B-97 / E31780	Alkalinity in aqueous matrices as mg CaCO ₃ /L	2078692, 2078695, 2078698
SM 2540 C-97 / E31780	Total Dissolved Solids in aqueous matrices	2078692, 2078695, 2078698
SM 2540 D-97 / E31780	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2078692, 2078695, 2078698
SM 4500 F-C-97 / E31780	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2078692, 2078695, 2078698
SM 5310 B-00 / E31780	Nonpurgeable Organic Carbon in aqueous matrices	2078693, 2078696, 2078699

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	04/17/2019			04/17/2019 17:22	Adrian Shelby	2078692, 2078695, 2078698
EPA 300.0 Rev. 2.1	04/17/2019			04/19/2019 18:45	Lipi Saha	2078692
	04/17/2019			04/19/2019 18:57	Lipi Saha	2078695
	04/17/2019			04/19/2019 19:09	Lipi Saha	2078698
	04/17/2019			04/23/2019 18:51	Jhamieka S. Greenwood	2078695
EPA 350.1 Rev. 2.0	04/17/2019			04/23/2019 10:44	Ping Hua	2078693
	04/17/2019			04/23/2019 10:45	Ping Hua	2078696
	04/17/2019			04/23/2019 13:03	Ping Hua	2078699
EPA 351.2 Rev. 2.0	04/17/2019	04/23/2019 12:00	Adrian Shelby	04/25/2019 14:03	Joseph Suarez	2078693
	04/17/2019	04/23/2019 12:00	Adrian Shelby	04/25/2019 14:05	Joseph Suarez	2078696
	04/17/2019	04/23/2019 12:00	Adrian Shelby	04/25/2019 14:09	Joseph Suarez	2078699
EPA 353.2 Rev. 2.0	04/17/2019			04/24/2019 09:06	Beverly Y. Sanders	2078693
	04/17/2019			04/24/2019 09:12	Beverly Y. Sanders	2078696
	04/17/2019			04/24/2019 09:13	Beverly Y. Sanders	2078699
EPA 365.1 Rev. 2.0	04/17/2019	04/19/2019 15:05	Sima Feizi	04/22/2019 15:15	Rosalyn Ballman	2078693
	04/17/2019	04/19/2019 15:05	Sima Feizi	04/22/2019 15:16	Rosalyn Ballman	2078696
	04/17/2019	04/22/2019 15:10	Sima Feizi	04/23/2019 14:19	Rosalyn Ballman	2078699
EPA 365.1 Rev. 2.0 dissolved	04/17/2019			04/17/2019 16:14	Jhamieka S. Greenwood	2078700
	04/17/2019			04/17/2019 16:23	Jhamieka S. Greenwood	2078694
	04/17/2019			04/17/2019 16:24	Jhamieka S. Greenwood	2078697
SM 2120 B	04/17/2019			04/17/2019 16:12	Mariam Hanna	2078692
	04/17/2019			04/17/2019 16:13	Mariam Hanna	2078698
	04/17/2019			04/17/2019 16:36	Mariam Hanna	2078695
SM 2320 B-97	04/17/2019			04/25/2019 09:36	Dale L. Simmons	2078695
	04/17/2019			04/25/2019 10:04	Dale L. Simmons	2078698
	04/17/2019			04/25/2019 10:16	Dale L. Simmons	2078692
SM 2540 C-97	04/17/2019			04/22/2019 15:58	Yijie Li	2078692, 2078695, 2078698
SM 2540 D-97	04/17/2019			04/22/2019 15:58	Yijie Li	2078692, 2078695, 2078698
SM 4500 F-C-97	04/17/2019			04/25/2019 09:36	Dale L. Simmons	2078695
	04/17/2019			04/25/2019 10:04	Dale L. Simmons	2078698
	04/17/2019			04/25/2019 10:16	Dale L. Simmons	2078692
SM 5310 B-00	04/17/2019			04/18/2019 23:38	Julia Storbeck	2078693
	04/17/2019			04/18/2019 23:50	Julia Storbeck	2078696
	04/17/2019			04/19/2019 00:27	Julia Storbeck	2078699