

Chemical Analysis Report

SO-DIST-2019-08-06-02

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

Event Description: **OKEE Canals**
Request ID: **RQ-2019-08-05-13**
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: Liang Lin, Environmental Administrator

Date Certified: 21-AUG-2019 16:38

A handwritten signature in black ink, appearing to read "Liang Lin", on a light-colored 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: Harney Pond Canal@SR 70

Collection Date/Time: 08/05/2019 11:20

Field ID: G4SD0173

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2108817	EPA 180.1 Rev. 2.0	Turbidity	9.3		NTU	P368570	
	EPA 300.0 Rev. 2.1	Chloride	32		mg Cl/L	P368656	
		Sulfate	97		mg SO4/L	P368988	
	SM 2120 B	Color (true)	410		PCU	P368523	
	SM 2320 B-97	Total Alkalinity	50		mg CaCO3/L	P369140	
	SM 2540 C-97	TDS	350		mg/L	P368938	
	SM 2540 D-97	TSS	13		mg/L	P368924	
	SM 4500 F-C-97	Fluoride	0.13		mg F/L	P369144	
2108820	EPA 350.1 Rev. 2.0	Ammonia-N	0.52		mg N/L	P369007	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	3.7		mg N/L	P368695	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.14		mg N/L	P368733	
	EPA 365.1 Rev. 2.0	Total-P	0.38		mg P/L	P368576	
	SM 5310 B-00	Organic Carbon	48		mg C/L	P368643	
2108823	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.24		mg P/L	P368520	

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: Prairie Canal@ SR 70

Collection Date/Time: 08/05/2019 11:45

Field ID: G4SD0174

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2108818	EPA 180.1 Rev. 2.0	Turbidity	11		NTU	P368570	
	EPA 300.0 Rev. 2.1	Chloride	29		mg Cl/L	P368656	
		Sulfate	52		mg SO4/L	P368988	
	SM 2120 B	Color (true)	410		PCU	P368523	
	SM 2320 B-97	Total Alkalinity	34		mg CaCO3/L	P369140	
	SM 2540 C-97	TDS	250		mg/L	P368938	
	SM 2540 D-97	TSS	10		mg/L	P368924	
	SM 4500 F-C-97	Fluoride	0.11		mg F/L	P369144	
2108821	EPA 350.1 Rev. 2.0	Ammonia-N	0.23		mg N/L	P369007	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	2.8		mg N/L	P368695	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.005	I	mg N/L	P368733	
	EPA 365.1 Rev. 2.0	Total-P	0.65		mg P/L	P368576	
	SM 5310 B-00	Organic Carbon	39		mg C/L	P368644	
2108824	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.42		mg P/L	P368520	

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: C-41 A @ SR 70

Collection Date/Time: 08/05/2019 12:25

Field ID: G4SD0175

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2108819	EPA 180.1 Rev. 2.0	Turbidity	15		NTU	P368570	
	EPA 300.0 Rev. 2.1	Chloride	22		mg Cl/L	P368656	
		Sulfate	25		mg SO4/L	P368988	
	SM 2120 B	Color (true)	110		PCU	P368523	
	SM 2320 B-97	Total Alkalinity	28		mg CaCO3/L	P369140	
	SM 2540 C-97	TDS	122		mg/L	P368938	
	SM 2540 D-97	TSS	34	I	mg/L	P368924	
	SM 4500 F-C-97	Fluoride	0.075	I	mg F/L	P369144	
	EPA 350.1 Rev. 2.0	Ammonia-N	0.007		mg N/L	P369007	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	2.2		mg N/L	P368695	
2108822	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P368733	
	EPA 365.1 Rev. 2.0	Total-P	0.10		mg P/L	P368576	
	SM 5310 B-00	Organic Carbon	18		mg C/L	P368644	
	EPA 365.1 Rev. 2.0	O-Phosphate-P	0.004	U	mg P/L	P368520	
	dissolved						

Ref. Method and Comment:

SM 2540 D-97: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample. The PQL was elevated because of sample matrix interference.

Quality Assurance Report

Method Blank Results

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P368570

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P368656

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P368988

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P369007

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P368695

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P368733

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P368576

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P368520

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

Reference Method: SM 2120 B
Batch ID: P368523

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Quality Assurance Report

Method Blank Results

Reference Method: SM 2320 B-97
Batch ID: P369140

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

Reference Method: SM 2540 C-97
Batch ID: P368938

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-97
Batch ID: P368924

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500 F-C-97
Batch ID: P369144

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-00
Batch ID: P368643

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

Reference Method: SM 5310 B-00
Batch ID: P368644

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: P368656

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Chloride	95.8		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P368988

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Sulfate	99.3		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P369007

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P368695

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P368733

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P368576

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: P368520

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

Reference Method: SM 2120 B
Batch ID: P368523

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Color (true)	101		P	85 - 115

Reference Method: SM 2320 B-97
Batch ID: P369140

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	105		P	98 - 106

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: SM 4500 F-C-97
Batch ID: P369144

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	97.0		P	92 - 103

Reference Method: SM 5310 B-00
Batch ID: P368643

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	99.8		P	85 - 115

Reference Method: SM 5310 B-00
Batch ID: P368644

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

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P368656

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2108507	Chloride	98.3		P	90 - 110
2108772	Chloride	99.4		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P368988

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2108507	Sulfate	98.5	101	P/P	90 - 110
2108772	Sulfate	99.9		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P369007

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2108636	Ammonia-N	95.0	96.1	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P368695

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2108868	Kjeldahl Nitrogen	96.4	105	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P368733

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2108661	NO2NO3-N	94.2	97.8	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P368576

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2108774	Total-P	99.1	98.1	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P368520

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2108872	O-Phosphate-P	98.1	98.7	P/P	90 - 110

Reference Method: SM 4500 F-C-97
Batch ID: P369144

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2109610	Fluoride	101	99.5	P/P	89 - 106

Reference Method: SM 5310 B-00
Batch ID: P368643

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2108618	Organic Carbon	98.9	99.5	P/P	85 - 115

Quality Assurance Report Matrix Spike Accuracy

Reference Method: SM 5310 B-00
Batch ID: P368644

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2108905	Organic Carbon	101	101	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P368570

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2108864	Turbidity	0.506	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P368656

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2108507	Chloride	5.27	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P368988

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2108507	Sulfate	2.22	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P369007

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2108636	Ammonia-N	0.889	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P368695

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2108868	Kjeldahl Nitrogen	6.44	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P368733

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2108661	NO2NO3-N	2.92	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P368576

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2108774	Total-P	0.931	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P368520

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2108872	O-Phosphate-P	0.455	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: SM 2120 B
 Batch ID: P368523

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2108654	Color (true)	0.356	Sample	P	0 - 20

Reference Method: SM 2320 B-97
 Batch ID: P369140

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2109610	Total Alkalinity	0.209	Sample	P	0 - 2.8

Reference Method: SM 2540 C-97
 Batch ID: P368938

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2108601	TDS	7.59	Sample	P	0 - 10

Reference Method: SM 4500 F-C-97
 Batch ID: P369144

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2109610	Fluoride	0.940	Spike	P	0 - 2.5

Reference Method: SM 5310 B-00
 Batch ID: P368643

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2108618	Organic Carbon	0.378	Spike	P	0 - 20

Reference Method: SM 5310 B-00
 Batch ID: P368644

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2108905	Organic Carbon	0.0	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 365.1 Rev. 2.0 dissolved
Run ID: A93298
Included Lab Sample IDs: 2108823, 2108824, 2108825

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	100	99.1	P/P	90 - 110
O-Phosphate-P	99.3	100	P/P	90 - 110

Reference Method: SM 2120 B
Run ID: A93299
Included Lab Sample IDs: 2108817, 2108818, 2108819

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	103	103	P/P	90 - 115
Color (true)	103	104	P/P	90 - 115

Reference Method: EPA 180.1 Rev. 2.0
Run ID: A93316
Included Lab Sample IDs: 2108817, 2108818, 2108819

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

Reference Method: EPA 300.0 Rev. 2.1
Run ID: A93324
Included Lab Sample IDs: 2108817, 2108818, 2108819

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	97.4	98.7	P/P	90 - 110
Chloride	98.7	98.8	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Run ID: A93326
Included Lab Sample IDs: 2108820, 2108821, 2108822

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

Reference Method: SM 5310 B-00
Run ID: A93344
Included Lab Sample IDs: 2108820, 2108821, 2108822

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	103	104	P/P	90 - 110
Organic Carbon	104	104	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Run ID: A93378
Included Lab Sample IDs: 2108820, 2108821, 2108822

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

Quality Assurance Report Calibration Verification

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A93436

Included Lab Sample IDs: 2108820, 2108821, 2108822

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	95.2	96.5	P/P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A93486

Included Lab Sample IDs: 2108817, 2108818, 2108819

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

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A93497

Included Lab Sample IDs: 2108820, 2108821, 2108822

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	98.2	99.1	P/P	90 - 110
Ammonia-N	99.1	97.9	P/P	90 - 110

Reference Method: SM 2320 B-97

Run ID: A93545

Included Lab Sample IDs: 2108817, 2108818, 2108819

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

Reference Method: SM 4500 F-C-97

Run ID: A93545

Included Lab Sample IDs: 2108817, 2108818, 2108819

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 SMP	MS
			LCS				
EPA 180.1 Rev. 2.0	Turbidity					0.506	
EPA 300.0 Rev. 2.1	Chloride	95.8		98.3	99.4	5.27	
	Sulfate	99.3		98.5	101		2.22
EPA 350.1 Rev. 2.0	Ammonia-N	99.1		95.0	96.1		0.889
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	105		96.4	105		6.44
EPA 353.2 Rev. 2.0	NO ₂ NO ₃ -N	100		94.2	97.8		2.92
EPA 365.1 Rev. 2.0	Total-P	104		99.1	98.1		0.931
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	98.5		98.1	98.7		0.455
SM 2120 B	Color (true)	101				0.356	
SM 2320 B-97	Total Alkalinity	105				0.209	
SM 2540 C-97	TDS					7.59	
SM 4500 F-C-97	Fluoride	97.0		101	99.5		0.940
SM 5310 B-00	Organic Carbon	99.8		98.9	99.5		0.378
	Organic Carbon	101		101	101		0.0

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 180.1 Rev. 2.0 / E31780	Turbidity in aqueous matrices	2108817, 2108818, 2108819
EPA 300.0 Rev. 2.1 / E31780	Chloride in aqueous matrices	2108817, 2108818, 2108819
EPA 300.0 Rev. 2.1 / E31780	Sulfate in aqueous matrices	2108817, 2108818, 2108819
EPA 350.1 Rev. 2.0 / E31780	Ammonia in aqueous matrices as mg N/L	2108820, 2108821, 2108822
EPA 351.2 Rev. 2.0 / E31780	Total Kjeldahl Nitrogen in aqueous matrices	2108820, 2108821, 2108822
EPA 353.2 Rev. 2.0 / E31780	Nitrite/Nitrate in aqueous matrices as mg N/L	2108820, 2108821, 2108822
EPA 365.1 Rev. 2.0 / E31780	Total Phosphorus in aqueous matrices as mg P/L	2108820, 2108821, 2108822
EPA 365.1 Rev. 2.0 dissolved / E31780	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	2108823, 2108824, 2108825
SM 2120 B / E31780	True Color measured at 450 nm	2108817, 2108818, 2108819
SM 2320 B-97 / E31780	Alkalinity in aqueous matrices as mg CaCO ₃ /L	2108817, 2108818, 2108819
SM 2540 C-97 / E31780	Total Dissolved Solids in aqueous matrices	2108817, 2108818, 2108819
SM 2540 D-97 / E31780	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2108817, 2108818, 2108819
SM 4500 F-C-97 / E31780	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2108817, 2108818, 2108819
SM 5310 B-00 / E31780	Nonpurgeable Organic Carbon in aqueous matrices	2108820, 2108821, 2108822

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	08/06/2019			08/06/2019 16:32	Samantha Davila	2108817, 2108818, 2108819
EPA 300.0 Rev. 2.1	08/06/2019			08/07/2019 22:49	Jhamieka S. Greenwood	2108817
	08/06/2019			08/07/2019 23:01	Jhamieka S. Greenwood	2108818
	08/06/2019			08/07/2019 23:37	Jhamieka S. Greenwood	2108819
	08/06/2019			08/13/2019 17:45	Jhamieka S. Greenwood	2108817
	08/06/2019			08/13/2019 18:21	Jhamieka S. Greenwood	2108818
	08/06/2019			08/13/2019 18:33	Jhamieka S. Greenwood	2108819
EPA 350.1 Rev. 2.0	08/06/2019			08/13/2019 14:23	Ping Hua	2108820
	08/06/2019			08/13/2019 14:30	Ping Hua	2108821
	08/06/2019			08/13/2019 14:32	Ping Hua	2108822
EPA 351.2 Rev. 2.0	08/06/2019	08/08/2019 10:30	Adrian Shelby	08/12/2019 13:16	Joseph Suarez	2108820
	08/06/2019	08/08/2019 10:30	Adrian Shelby	08/12/2019 13:18	Joseph Suarez	2108821
	08/06/2019	08/08/2019 10:30	Adrian Shelby	08/12/2019 13:19	Joseph Suarez	2108822
EPA 353.2 Rev. 2.0	08/06/2019			08/07/2019 10:56	Beverly Y. Sanders	2108820
	08/06/2019			08/07/2019 10:57	Beverly Y. Sanders	2108821
	08/06/2019			08/07/2019 10:59	Beverly Y. Sanders	2108822
EPA 365.1 Rev. 2.0	08/06/2019	08/07/2019 14:15	Vijayalakshmi Reddy	08/09/2019 09:30	Lipi Saha	2108820
	08/06/2019	08/07/2019 14:15	Vijayalakshmi Reddy	08/09/2019 09:31	Lipi Saha	2108821
	08/06/2019	08/07/2019 14:15	Vijayalakshmi Reddy	08/09/2019 09:32	Lipi Saha	2108822
EPA 365.1 Rev. 2.0 dissolved	08/06/2019			08/06/2019 15:24	Jhamieka S. Greenwood	2108823
	08/06/2019			08/06/2019 15:35	Jhamieka S. Greenwood	2108825
	08/06/2019			08/06/2019 15:37	Jhamieka S. Greenwood	2108824
SM 2120 B	08/06/2019			08/06/2019 15:22	Madeline Funaro	2108819
	08/06/2019			08/06/2019 15:41	Madeline Funaro	2108817
	08/06/2019			08/06/2019 15:42	Madeline Funaro	2108818
SM 2320 B-97	08/06/2019			08/14/2019 23:41	Dale L. Simmons	2108817
	08/06/2019			08/14/2019 23:53	Dale L. Simmons	2108818
	08/06/2019			08/15/2019 00:05	Dale L. Simmons	2108819
SM 2540 C-97	08/06/2019			08/07/2019 15:21	Yijie Li	2108817, 2108818, 2108819
SM 2540 D-97	08/06/2019			08/07/2019 15:21	Yijie Li	2108817, 2108818, 2108819
SM 4500 F-C-97	08/06/2019			08/14/2019 23:41	Dale L. Simmons	2108817
	08/06/2019			08/14/2019 23:53	Dale L. Simmons	2108818
	08/06/2019			08/15/2019 00:05	Dale L. Simmons	2108819
SM 5310 B-00	08/06/2019			08/07/2019 19:23	Madeline Funaro	2108820
	08/06/2019			08/07/2019 21:12	Madeline Funaro	2108821
	08/06/2019			08/07/2019 21:24	Madeline Funaro	2108822