Chemical Analysis Report

WQAP-2017-03-22-07

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

Event Description: **SMP 2016 Freshwater Kit A**
Request ID: **RQ-2017-03-20-29**
Customer: **WQAP**
Project ID: **SMP**

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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: Fishbone Creek @ 212th **Collection Date/Time: 03/22/2017 11:45**

Field ID: G1TLHR0015-2017-01 Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1882301	EPA 180.1 Rev. 2.0	Turbidity	1.6		NTU	P322101	
	EPA 300.0 Rev. 2.1	Chloride	13		mg Cl/L	P322488	
	SM 2120 B	Color (true)	44		PCU	P322021	
	SM 2320 B-97	Total Alkalinity	205		mg CaCO3/L	P322416	
	SM 2540 C-97	TDS	241		mg/L	P322645	
	SM 2540 D-97	TSS	2	I	mg/L	P322624	
	SM 4500 F-C-97	Fluoride	0.064	I	mg F/L	P322419	
1882304	EPA 350.1 Rev. 2.0	Ammonia-N	0.008		mg N/L	P322187	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.45		mg N/L	P322072	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.005	I	mg N/L	P322233	
	EPA 365.1 Rev. 2.0	Total-P	0.008		mg P/L	P322130	
	SM 5310 B-00	Organic Carbon	10		mg C/L	P322059	
1882307	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P322053	

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: Sandhill Creek @ Sw Hwy 358 **Collection Date/Time: 03/22/2017 12:30**

Field ID: G1TLHR0060-2017-01 Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1882302	EPA 180.1 Rev. 2.0	Turbidity	2.4		NTU	P322101	
	EPA 300.0 Rev. 2.1	Chloride	11		mg Cl/L	P322488	
	SM 2120 B	Color (true)	57		PCU	P322021	
	SM 2320 B-97	Total Alkalinity	296		mg CaCO3/L	P322416	
	SM 2540 C-97	TDS	309		mg/L	P322645	
	SM 2540 D-97	TSS	3	I	mg/L	P322624	
	SM 4500 F-C-97	Fluoride	0.068	I	mg F/L	P322419	
1882305	EPA 350.1 Rev. 2.0	Ammonia-N	0.014		mg N/L	P322187	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.56		mg N/L	P322072	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.013		mg N/L	P322233	
	EPA 365.1 Rev. 2.0	Total-P	0.015		mg P/L	P322130	
	SM 5310 B-00	Organic Carbon	14		mg C/L	P322059	
1882308	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P322053	

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: G1TLHR0002 **Collection Date/Time: 03/22/2017 14:10**

Field ID: G1TLHR0002-2017-01 Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1882303	EPA 180.1 Rev. 2.0	Turbidity	0.65		NTU	P322101	
	EPA 300.0 Rev. 2.1	Chloride	5.7		mg Cl/L	P322488	
	SM 2120 B	Color (true)	160		PCU	P322021	
	SM 2320 B-97	Total Alkalinity	166		mg CaCO3/L	P322416	
	SM 2540 C-97	TDS	215	A	mg/L	P322646	

Field ID: G1TLHR0002-2017-01 Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1882303	SM 2540 D-97	TSS	3	I	mg/L	P322625	
	SM 4500 F-C-97	Fluoride	0.11		mg F/L	P322419	
1882306	EPA 350.1 Rev. 2.0	Ammonia-N	0.012		mg N/L	P322187	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.50		mg N/L	P322076	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.006	I	mg N/L	P322233	
	EPA 365.1 Rev. 2.0	Total-P	0.083		mg P/L	P322131	
	SM 5310 B-00	Organic Carbon	18		mg C/L	P322059	
1882309	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.068		mg P/L	P322053	

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: P322101

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P322488

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P322187

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P322072

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P322076

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P322233

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

Quality Assurance Report
Method Blank Results

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P322130

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P322131

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P322053

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

Reference Method: SM 2120 B
Batch ID: P322021

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2320 B-97
Batch ID: P322416

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

Reference Method: SM 2540 C-97
Batch ID: P322645

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 C-97
Batch ID: P322646

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-97
Batch ID: P322624

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 2540 D-97
Batch ID: P322625

Component	Result	Code	Units
TSS	2	U	mg/L

Quality Assurance Report
Method Blank Results

Reference Method: SM 4500 F-C-97
Batch ID: P322419

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-00
Batch ID: P322059

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: P322488

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P322187

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P322072

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P322076

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Kjeldahl Nitrogen	98.2		P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P322233

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P322130

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P322131

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

Quality Assurance Report
Laboratory Control Sample Accuracy

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P322131

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: P322053

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
O-Phosphate-P	98.0		P	90 - 110

Reference Method: SM 2320 B-97
Batch ID: P322416

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	105		P	95 - 108

Reference Method: SM 4500 F-C-97
Batch ID: P322419

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	94.2		P	92 - 103

Reference Method: SM 5310 B-00
Batch ID: P322059

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	98.6		P	85 - 115

Quality Assurance Report
Matrix Spike Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P322488

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1882521	Chloride	105		P	90 - 110
1882522	Chloride	103		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P322187

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1882304	Ammonia-N	101	102	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P322072

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1882305	Kjeldahl Nitrogen	97.9	99.3	P/P	90 - 110

Quality Assurance Report
Matrix Spike Accuracy

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P322076

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1882348	Kjeldahl Nitrogen	99.3	96.1	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P322233

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1882306	NO2NO3-N	103	103	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P322130

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1882304	Total-P	104	105	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P322131

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1882349	Total-P	109	106	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P322053

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1882358	O-Phosphate-P	95.4	97.7	P/P	90 - 110

Reference Method: SM 4500 F-C-97
Batch ID: P322419

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1882329	Fluoride	100	100	P/P	91 - 105

Reference Method: SM 5310 B-00
Batch ID: P322059

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1881931	Organic Carbon	98.2	98.8	P/P	85 - 115

Quality Assurance Report
Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P322101

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1882339	Turbidity	0.519	Sample	P	0 - 20

Quality Assurance Report
Precision

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P322488

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1882521	Chloride	0.309	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P322187

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1882304	Ammonia-N	0.714	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P322072

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1882305	Kjeldahl Nitrogen	0.963	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P322076

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1882348	Kjeldahl Nitrogen	2.89	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P322233

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1882306	NO2NO3-N	0.0	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P322130

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1882304	Total-P	1.16	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P322131

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1882349	Total-P	2.24	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P322053

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1882358	O-Phosphate-P	1.33	Spike	P	0 - 20

Quality Assurance Report
Precision

Reference Method: SM 2120 B
Batch ID: P322021

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1882327	Color (true)	5.77	Sample	P	0 - 20

Reference Method: SM 2320 B-97
Batch ID: P322416

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1882329	Total Alkalinity	1.50	Sample	P	0 - 4.8

Reference Method: SM 2540 C-97
Batch ID: P322645

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1882159	TDS	1.87	Sample	P	0 - 10

Reference Method: SM 2540 C-97
Batch ID: P322646

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1882303	TDS	3.72	Sample	P	0 - 10

Reference Method: SM 4500 F-C-97
Batch ID: P322419

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1882329	Fluoride	0.0	Spike	P	0 - 3.0

Reference Method: SM 5310 B-00
Batch ID: P322059

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1881931	Organic Carbon	0.334	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: A75291
Included Lab Sample IDs: 1882301, 1882302, 1882303

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	101	101	P/P	85 - 115
Color (true)	96.5	100	P/P	85 - 115

Quality Assurance Report
Calibration Verification

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Run ID: A75303
Included Lab Sample IDs: 1882307, 1882308, 1882309

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	97.7	98.7	P/P	90 - 110

Reference Method: SM 5310 B-00
Run ID: A75305
Included Lab Sample IDs: 1882304, 1882305, 1882306

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	101	92.8	P/P	90 - 110

Reference Method: EPA 180.1 Rev. 2.0
Run ID: A75322
Included Lab Sample IDs: 1882301, 1882302, 1882303

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

Reference Method: EPA 350.1 Rev. 2.0
Run ID: A75351
Included Lab Sample IDs: 1882304, 1882305, 1882306

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

Reference Method: EPA 351.2 Rev. 2.0
Run ID: A75366
Included Lab Sample IDs: 1882304, 1882305, 1882306

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	97.6	100	P/P	90 - 110
Kjeldahl Nitrogen	98.4	98.8	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Run ID: A75372
Included Lab Sample IDs: 1882306

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	107	107	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Run ID: A75375
Included Lab Sample IDs: 1882304, 1882305, 1882306

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

Reference Method: EPA 365.1 Rev. 2.0
Run ID: A75381
Included Lab Sample IDs: 1882304, 1882305

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

Quality Assurance Report
Calibration Verification

Reference Method: EPA 365.1 Rev. 2.0
Run ID: A75381
Included Lab Sample IDs: 1882304, 1882305

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

Reference Method: SM 2320 B-97
Run ID: A75433
Included Lab Sample IDs: 1882301, 1882302, 1882303

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

Reference Method: SM 4500 F-C-97
Run ID: A75433
Included Lab Sample IDs: 1882301, 1882302, 1882303

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	100	103	P/P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Run ID: A75467
Included Lab Sample IDs: 1882301, 1882302, 1882303

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	104	104	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					0.519	
EPA 300.0 Rev. 2.1	Chloride	105	105	103		0.309	
EPA 350.1 Rev. 2.0	Ammonia-N	105	101	102			0.714
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	106	97.9	99.3			0.963
	Kjeldahl Nitrogen	98.2	99.3	96.1			2.89
EPA 353.2 Rev. 2.0	NO2NO3-N	103	103	103			0.0
EPA 365.1 Rev. 2.0	Total-P	106	104	105			1.16
	Total-P	104	109	106			2.24
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	98.0	95.4	97.7			1.33
SM 2120 B	Color (true)					5.77	
SM 2320 B-97	Total Alkalinity	105				1.50	
SM 2540 C-97	TDS					1.87	
	TDS					3.72	
SM 4500 F-C-97	Fluoride	94.2	100	100			0.0
SM 5310 B-00	Organic Carbon	98.6	98.2	98.8			0.334

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 180.1 Rev. 2.0 / E31780	Turbidity in aqueous matrices	1882301, 1882302, 1882303
EPA 300.0 Rev. 2.1 / E31780	Chloride in aqueous matrices	1882301, 1882302, 1882303
EPA 350.1 Rev. 2.0 / E31780	Ammonia in aqueous matrices as mg N/L	1882304, 1882305, 1882306
EPA 351.2 Rev. 2.0 / E31780	Total Kjeldahl Nitrogen in aqueous matrices	1882304, 1882305, 1882306
EPA 353.2 Rev. 2.0 / E31780	Nitrite/Nitrate in aqueous matrices as mg N/L	1882304, 1882305, 1882306
EPA 365.1 Rev. 2.0 / E31780	Total Phosphorus in aqueous matrices as mg P/L	1882304, 1882305, 1882306
EPA 365.1 Rev. 2.0 dissolved / E31780	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	1882307, 1882308, 1882309
SM 2120 B / E31780	True Color measured at 450 nm	1882301, 1882302, 1882303
SM 2320 B-97 / E31780	Alkalinity in aqueous matrices as mg CaCO3/L	1882301, 1882302, 1882303
SM 2540 C-97 / E31780	Total Dissolved Solids in aqueous matrices	1882301, 1882302, 1882303
SM 2540 D-97 / E31780	Total Suspended Solids in aqueous matrices	1882301, 1882302, 1882303
SM 4500 F-C-97 / E31780	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	1882301, 1882302, 1882303
SM 5310 B-00 / E31780	Nonpurgeable Organic Carbon in aqueous matrices	1882304, 1882305, 1882306

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
EPA 180.1 Rev. 2.0	03/22/2017			03/23/2017 17:09	Sima Feizi	1882301, 1882302, 1882303
EPA 300.0 Rev. 2.1	03/22/2017			03/30/2017	Ping Hua	1882301, 1882302, 1882303
EPA 350.1 Rev. 2.0	03/22/2017			03/24/2017	Julie Michelle Frank	1882304, 1882305, 1882306
EPA 351.2 Rev. 2.0	03/22/2017	03/24/2017	Adrian Shelby	03/27/2017	Joseph Suarez	1882304, 1882305, 1882306
EPA 353.2 Rev. 2.0	03/22/2017			03/27/2017	Beverly Y. Sanders	1882304, 1882305, 1882306
EPA 365.1 Rev. 2.0	03/22/2017	03/24/2017	Vijayalakshmi Reddy	03/27/2017	Lipi Saha	1882304, 1882305, 1882306
EPA 365.1 Rev. 2.0 dissolved	03/22/2017			03/23/2017 11:38	Anthony C. Onicha	1882307
	03/22/2017			03/23/2017 11:39	Anthony C. Onicha	1882308
	03/22/2017			03/23/2017 11:40	Anthony C. Onicha	1882309
SM 2120 B	03/22/2017			03/23/2017 10:35	Julia Storbeck	1882301, 1882302
	03/22/2017			03/23/2017 10:48	Julia Storbeck	1882303
SM 2320 B-97	03/22/2017			03/29/2017	Dale L. Simmons	1882301, 1882302, 1882303
SM 2540 C-97	03/22/2017			03/24/2017	Yijie Li	1882301, 1882302, 1882303
SM 2540 D-97	03/22/2017			03/24/2017	Yijie Li	1882301, 1882302, 1882303
SM 4500 F-C-97	03/22/2017			03/29/2017	Dale L. Simmons	1882301, 1882302, 1882303
SM 5310 B-00	03/22/2017			03/23/2017	Julie Michelle Frank	1882304, 1882305, 1882306