Chemical Analysis Report

NE-DIST-2017-05-12-01

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

Event Description: **LSJR-RPS/LVS 2213**
Request ID: **RQ-2017-05-08-20**
Customer: **NE-DIST**
Project ID: **SMP**

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Certified by: Thekkekalathil Chandrasekhar, Chemist Administrator Date Certified: 07-JUN-2017 10:07

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: SJR AT CM6 PUTMAN CO. **Collection Date/Time: 05/11/2017 12:05**

Field ID: G2NE0229 05112017 Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1898801	EPA 180.1 Rev. 2.0	Turbidity	1.7		NTU	P325309	
	EPA 300.0 Rev. 2.1	Chloride	210		mg Cl/L	P325898	
		Sulfate	68		mg SO4/L	P325901	
	SM 2120 B	Color (true)	40		PCU	P325220	
	SM 2320 B-97	Total Alkalinity	106		mg CaCO3/L	P325700	
	SM 2540 C-97	TDS	572		mg/L	P325686	
	SM 2540 D-97	TSS	2	I	mg/L	P325675	
	SM 4500 F-C-97	Fluoride	0.15		mg F/L	P325703	RPD
1898804	EPA 350.1 Rev. 2.0	Ammonia-N	0.020		mg N/L	P325277	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.72		mg N/L	P325452	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.081		mg N/L	P325355	
	EPA 365.1 Rev. 2.0	Total-P	0.028		mg P/L	P325335	
	SM 5310 B-00	Organic Carbon	9.1		mg C/L	P325517	
1898807	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P325225	

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: SJR AT WELAKA DOCK **Collection Date/Time: 05/11/2017 10:25**

Field ID: G2NE0774 05112017 Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1898802	EPA 180.1 Rev. 2.0	Turbidity	2.5		NTU	P325309	
	EPA 300.0 Rev. 2.1	Chloride	280		mg Cl/L	P325898	
		Sulfate	73		mg SO4/L	P325901	
	SM 2120 B	Color (true)	49		PCU	P325220	
	SM 2320 B-97	Total Alkalinity	94		mg CaCO3/L	P325698	
	SM 2540 C-97	TDS	677		mg/L	P325686	
	SM 2540 D-97	TSS	4	I	mg/L	P325675	
	SM 4500 F-C-97	Fluoride	0.14		mg F/L	P325702	RPD
1898805	EPA 350.1 Rev. 2.0	Ammonia-N	0.005		mg N/L	P325277	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.99		mg N/L	P325452	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.080		mg N/L	P325355	
	EPA 365.1 Rev. 2.0	Total-P	0.029		mg P/L	P325335	
	SM 5310 B-00	Organic Carbon	11		mg C/L	P325517	
1898808	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P325225	

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: SJR @ CM 6DUPLICATE **Collection Date/Time: 05/11/2017 12:10**

Field ID: G2NE0229 05112017 Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1898803	EPA 180.1 Rev. 2.0	Turbidity	1.7		NTU	P325309	
	EPA 300.0 Rev. 2.1	Chloride	220		mg Cl/L	P325898	
		Sulfate	68		mg SO4/L	P325901	

Field ID: G2NE0229 05112017 Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1898803	SM 2120 B	Color (true)	39		PCU	P325220	
	SM 2320 B-97	Total Alkalinity	106		mg CaCO3/L	P325700	
	SM 2540 C-97	TDS	602	A	mg/L	P325686	
	SM 2540 D-97	TSS	3	IA	mg/L	P325675	
	SM 4500 F-C-97	Fluoride	0.15		mg F/L	P325703	RPD
1898806	EPA 350.1 Rev. 2.0	Ammonia-N	0.019		mg N/L	P325277	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.73		mg N/L	P325452	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.080		mg N/L	P325355	
	EPA 365.1 Rev. 2.0	Total-P	0.026		mg P/L	P325335	
	SM 5310 B-00	Organic Carbon	9.0		mg C/L	P325517	
1898809	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P325225	

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: P325309

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P325898

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P325901

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P325277

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P325452

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P325355

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: P325335

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P325225

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

Reference Method: SM 2120 B
Batch ID: P325220

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2320 B-97
Batch ID: P325698

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

Reference Method: SM 2320 B-97
Batch ID: P325700

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

Reference Method: SM 2540 C-97
Batch ID: P325686

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-97
Batch ID: P325675

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500 F-C-97
Batch ID: P325702

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 4500 F-C-97
Batch ID: P325703

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: P325517

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: P325898

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Chloride	98.4		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P325901

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Sulfate	94.3		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P325277

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: P325452

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Kjeldahl Nitrogen	96.2		P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P325355

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: P325335

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P325225

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

Reference Method: SM 2320 B-97
Batch ID: P325698

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

Quality Assurance Report
Laboratory Control Sample Accuracy

Reference Method: SM 2320 B-97
Batch ID: P325698

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	103		P	95 - 108

Reference Method: SM 2320 B-97
Batch ID: P325700

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	103		P	95 - 108

Reference Method: SM 4500 F-C-97
Batch ID: P325702

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	93.7		P	92 - 103

Reference Method: SM 4500 F-C-97
Batch ID: P325703

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	97.1		P	92 - 103

Reference Method: SM 5310 B-00
Batch ID: P325517

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	87.6		P	85 - 115

Quality Assurance Report
Matrix Spike Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P325898

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1898960	Chloride	95.3		P	90 - 110
1898993	Chloride	98.4		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P325901

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1898960	Sulfate	93.2		P	90 - 110
1898993	Sulfate	94.7		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P325277

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1898804	Ammonia-N	96.1	99.1	P/P	90 - 110

Quality Assurance Report
Matrix Spike Accuracy

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P325452

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1898805	Kjeldahl Nitrogen	100	106	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P325355

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1898617	NO2NO3-N	100	100	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P325335

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1898804	Total-P	99.2	100	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P325225

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1898807	O-Phosphate-P	100	101	P/P	90 - 110

Reference Method: SM 4500 F-C-97
Batch ID: P325702

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1899364	Fluoride	93.4	101	P/P	91 - 105

Reference Method: SM 4500 F-C-97
Batch ID: P325703

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1899011	Fluoride	96.5	102	P/P	91 - 105

Reference Method: SM 5310 B-00
Batch ID: P325517

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1898484	Organic Carbon	88.8	90.4	P/P	85 - 115

Quality Assurance Report
Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P325309

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1898776	Turbidity	1.73	Sample	P	0 - 20

Quality Assurance Report
Precision

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P325898

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1898960	Chloride	0.0573	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P325901

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1898960	Sulfate	0.221	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P325277

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1898804	Ammonia-N	2.15	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P325452

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1898805	Kjeldahl Nitrogen	3.04	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P325355

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1898617	NO2NO3-N	0.499	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P325335

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1898804	Total-P	1.22	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P325225

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1898807	O-Phosphate-P	0.498	Spike	P	0 - 20

Reference Method: SM 2120 B
Batch ID: P325220

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1898853	Color (true)	0.242	Sample	P	0 - 20

Quality Assurance Report
Precision

Reference Method: SM 2320 B-97
Batch ID: P325698

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1899364	Total Alkalinity	0.593	Sample	P	0 - 4.8

Reference Method: SM 2320 B-97
Batch ID: P325700

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1899011	Total Alkalinity	0.127	Sample	P	0 - 4.8

Reference Method: SM 2540 C-97
Batch ID: P325686

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1898803	TDS	5.49	Sample	P	0 - 10

Reference Method: SM 4500 F-C-97
Batch ID: P325702

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1899364	Fluoride	4.36	Spike	F	0 - 3.0

Reference Method: SM 4500 F-C-97
Batch ID: P325703

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1899011	Fluoride	3.92	Spike	F	0 - 3.0

Reference Method: SM 5310 B-00
Batch ID: P325517

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1898484	Organic Carbon	0.925	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: A76385
Included Lab Sample IDs: 1898801, 1898802, 1898803

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	99.1	101	P/P	85 - 115

Quality Assurance Report
Calibration Verification

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Run ID: A76386
Included Lab Sample IDs: 1898807, 1898808, 1898809

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	98.4	98.5	P/P	90 - 110
O-Phosphate-P	98.5	98.6	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Run ID: A76421
Included Lab Sample IDs: 1898804, 1898805, 1898806

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

Reference Method: EPA 180.1 Rev. 2.0
Run ID: A76437
Included Lab Sample IDs: 1898801, 1898802, 1898803

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Turbidity	100	101	P/P	95 - 105

Reference Method: EPA 353.2 Rev. 2.0
Run ID: A76449
Included Lab Sample IDs: 1898804, 1898805, 1898806

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

Reference Method: EPA 365.1 Rev. 2.0
Run ID: A76491
Included Lab Sample IDs: 1898804, 1898805, 1898806

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	99.8	99.2	P/P	90 - 110

Reference Method: SM 5310 B-00
Run ID: A76527
Included Lab Sample IDs: 1898804, 1898805, 1898806

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	92.7	93.1	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Run ID: A76593
Included Lab Sample IDs: 1898804, 1898805, 1898806

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	94.3	94.5	P/P	90 - 110
Kjeldahl Nitrogen	94.5	96.0	P/P	90 - 110

Reference Method: SM 2320 B-97
Run ID: A76617
Included Lab Sample IDs: 1898801, 1898802, 1898803

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

Quality Assurance Report
Calibration Verification

Reference Method: SM 2320 B-97
Run ID: A76617
Included Lab Sample IDs: 1898801, 1898802, 1898803

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	101	104	P/P	90 - 110
Total Alkalinity	104	101	P/P	90 - 110

Reference Method: SM 4500 F-C-97
Run ID: A76617
Included Lab Sample IDs: 1898801, 1898802, 1898803

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	100	99.0	P/P	90 - 110
Fluoride	96.2	100	P/P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Run ID: A76672
Included Lab Sample IDs: 1898801, 1898802, 1898803

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	102	101	P/P	90 - 110
Sulfate	94.6	96.8	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					1.73	
EPA 300.0 Rev. 2.1	Chloride	98.4	95.3	98.4		0.0573	
	Sulfate	94.3	93.2	94.7		0.221	
EPA 350.1 Rev. 2.0	Ammonia-N	101	96.1	99.1			2.15
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	96.2	100	106			3.04
EPA 353.2 Rev. 2.0	NO2NO3-N	100	100	100			0.499
EPA 365.1 Rev. 2.0	Total-P	102	99.2	100			1.22
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	101	100	101			0.498
SM 2120 B	Color (true)					0.242	
SM 2320 B-97	Total Alkalinity	103				0.593	
	Total Alkalinity	103				0.127	
SM 2540 C-97	TDS					5.49	
SM 4500 F-C-97	Fluoride	93.7	93.4	101			4.36
	Fluoride	97.1	96.5	102			3.92
SM 5310 B-00	Organic Carbon	87.6	88.8	90.4			0.925

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 180.1 Rev. 2.0 / E31780	Turbidity in aqueous matrices	1898801, 1898802, 1898803

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 300.0 Rev. 2.1 / E31780	Chloride in aqueous matrices	1898801, 1898802, 1898803
EPA 300.0 Rev. 2.1 / E31780	Sulfate in aqueous matrices	1898801, 1898802, 1898803
EPA 350.1 Rev. 2.0 / E31780	Ammonia in aqueous matrices as mg N/L	1898804, 1898805, 1898806
EPA 351.2 Rev. 2.0 / E31780	Total Kjeldahl Nitrogen in aqueous matrices	1898804, 1898805, 1898806
EPA 353.2 Rev. 2.0 / E31780	Nitrite/Nitrate in aqueous matrices as mg N/L	1898804, 1898805, 1898806
EPA 365.1 Rev. 2.0 / E31780	Total Phosphorus in aqueous matrices as mg P/L	1898804, 1898805, 1898806
EPA 365.1 Rev. 2.0 dissolved / E31780	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	1898807, 1898808, 1898809
SM 2120 B / E31780	True Color measured at 450 nm	1898801, 1898802, 1898803
SM 2320 B-97 / E31780	Alkalinity in aqueous matrices as mg CaCO3/L	1898801, 1898802, 1898803
SM 2540 C-97 / E31780	Total Dissolved Solids in aqueous matrices	1898801, 1898802, 1898803
SM 2540 D-97 / E31780	Total Suspended Solids in aqueous matrices	1898801, 1898802, 1898803
SM 4500 F-C-97 / E31780	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	1898801, 1898802, 1898803
SM 5310 B-00 / E31780	Nonpurgeable Organic Carbon in aqueous matrices	1898804, 1898805, 1898806

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	05/12/2017			05/12/2017 15:15	Blanca Fach	1898801, 1898802, 1898803
EPA 300.0 Rev. 2.1	05/12/2017			05/25/2017	Ping Hua	1898801, 1898802, 1898803
EPA 350.1 Rev. 2.0	05/12/2017			05/15/2017	Julia Storbeck	1898804, 1898805, 1898806
EPA 351.2 Rev. 2.0	05/12/2017	05/18/2017	Adrian Shelby	05/22/2017	Joseph Suarez	1898804, 1898805, 1898806
EPA 353.2 Rev. 2.0	05/12/2017			05/16/2017	Beverly Y. Sanders	1898804, 1898805, 1898806
EPA 365.1 Rev. 2.0	05/12/2017	05/16/2017	Adrian Shelby	05/17/2017	Lipi Saha	1898804, 1898805, 1898806
EPA 365.1 Rev. 2.0 dissolved	05/12/2017			05/12/2017 12:44	Anthony C. Onicha	1898807
	05/12/2017			05/12/2017 13:01	Anthony C. Onicha	1898808, 1898809
SM 2120 B	05/12/2017			05/12/2017 14:20	Julia Storbeck	1898801
	05/12/2017			05/12/2017 14:21	Julia Storbeck	1898802
	05/12/2017			05/12/2017 14:22	Julia Storbeck	1898803
SM 2320 B-97	05/12/2017			05/22/2017	Dale L. Simmons	1898802
	05/12/2017			05/23/2017	Dale L. Simmons	1898801, 1898803
SM 2540 C-97	05/12/2017			05/17/2017	Yijie Li	1898801, 1898802, 1898803
SM 2540 D-97	05/12/2017			05/17/2017	Yijie Li	1898801, 1898802, 1898803
SM 4500 F-C-97	05/12/2017			05/22/2017	Dale L. Simmons	1898802
	05/12/2017			05/23/2017	Dale L. Simmons	1898801, 1898803
SM 5310 B-00	05/12/2017			05/17/2017	Christopher Armour	1898804, 1898805, 1898806