

Chemical Analysis Report

NW-DIST-2018-04-27-01

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

Event Description: **Walton/SR Lakes Canoe**
Request ID: **RQ-2018-04-23-27**
Customer: **NW-DIST**
Project ID: **SMP**

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Date Certified: 14-MAY-2018 17:14



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: Blue Pond (Center)

Collection Date/Time: 04/26/2018 11:25

Field ID: G3NW0070

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1988233	EPA 180.1 Rev. 2.0	Turbidity	1.0		NTU	P344248	
	EPA 300.0 Rev. 2.1	Chloride	2.8		mg Cl/L	P344750	
		Sulfate	1.0		mg SO4/L	P344753	
	SM 2120 B	Color (true)	4.8	I	PCU	P344244	
	SM 2320 B-97	Total Alkalinity	0.65	U	mg CaCO3/L	P344743	
	SM 2540 C-97	TDS	18	I	mg/L	P344883	
	SM 2540 D-97	TSS	2	I	mg/L	P344888	
	SM 4500 F-C-97	Fluoride	0.035	U	mg F/L	P344747	
1988236	EPA 350.1 Rev. 2.0	Ammonia-N	0.002	U	mg N/L	P344779	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.20		mg N/L	P344310	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P344336	
	EPA 365.1 Rev. 2.0	Total-P	0.006		mg P/L	P344408	
	SM 5310 B-00	Organic Carbon	2.4		mg C/L	P344688	
1988239	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P344389	

Ref. Method and Comment:

EPA 300.0 Rev. 2.1: Chloride: 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.

Sample Location: Lake Juniper Center

Collection Date/Time: 04/26/2018 12:15

Field ID: G3NW0119

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1988234	EPA 180.1 Rev. 2.0	Turbidity	0.55		NTU	P344248	
	EPA 300.0 Rev. 2.1	Chloride	5.8		mg Cl/L	P344750	
		Sulfate	0.94		mg SO4/L	P344753	
	SM 2120 B	Color (true)	15		PCU	P344244	
	SM 2320 B-97	Total Alkalinity	2.8		mg CaCO3/L	P344743	
	SM 2540 C-97	TDS	25		mg/L	P344883	
	SM 2540 D-97	TSS	2	U	mg/L	P344888	
	SM 4500 F-C-97	Fluoride	0.035	U	mg F/L	P344747	
1988237	EPA 350.1 Rev. 2.0	Ammonia-N	0.003	I	mg N/L	P344779	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.41		mg N/L	P344310	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P344336	
	EPA 365.1 Rev. 2.0	Total-P	0.008		mg P/L	P344408	
	SM 5310 B-00	Organic Carbon	4.4		mg C/L	P344688	
1988240	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P344389	

Ref. Method and Comment:

EPA 300.0 Rev. 2.1: Chloride: 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.

Sample Location: Bear Lake (Center)

Collection Date/Time: 04/26/2018 13:45

Field ID: G4NW0361

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
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Field ID: G4NW0361

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1988235	EPA 180.1 Rev. 2.0	Turbidity	0.80		NTU	P344248	
	EPA 300.0 Rev. 2.1	Chloride	2.5		mg Cl/L	P344750	
		Sulfate	0.57		mg SO4/L	P344753	
	SM 2120 B	Color (true)	18	A	PCU	P344244	
	SM 2320 B-97	Total Alkalinity	5.9		mg CaCO3/L	P344743	
	SM 2540 C-97	TDS	21	I	mg/L	P344883	
	SM 2540 D-97	TSS	3	I	mg/L	P344888	
	SM 4500 F-C-97	Fluoride	0.035	U	mg F/L	P344747	
1988238	EPA 350.1 Rev. 2.0	Ammonia-N	0.002	I	mg N/L	P344779	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.36		mg N/L	P344366	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P344336	
	EPA 365.1 Rev. 2.0	Total-P	0.014		mg P/L	P344408	
	SM 5310 B-00	Organic Carbon	4.5		mg C/L	P344688	
1988241	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P344389	

Ref. Method and Comment:

EPA 300.0 Rev. 2.1: Chloride: 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.

Quality Assurance Report

Method Blank Results

Reference Method: EPA 180.1 Rev. 2.0

Batch ID: P344248

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 300.0 Rev. 2.1

Batch ID: P344750

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1

Batch ID: P344753

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0

Batch ID: P344779

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

Reference Method: EPA 351.2 Rev. 2.0

Batch ID: P344310

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

Quality Assurance Report

Method Blank Results

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P344366

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P344336

Component	Result	Code	Units
NO ₂ NO ₃ -N	0.004	U	mg N/L

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P344408

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P344389

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

Reference Method: SM 2120 B
Batch ID: P344244

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2320 B-97
Batch ID: P344743

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

Reference Method: SM 2540 C-97
Batch ID: P344883

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-97
Batch ID: P344888

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500 F-C-97
Batch ID: P344747

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: P344688

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: P344750

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Chloride	104		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
 Batch ID: P344753

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Sulfate	104		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
 Batch ID: P344779

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

Reference Method: EPA 351.2 Rev. 2.0
 Batch ID: P344310

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

Reference Method: EPA 351.2 Rev. 2.0
 Batch ID: P344366

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

Reference Method: EPA 353.2 Rev. 2.0
 Batch ID: P344336

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: P344408

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: P344389

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
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Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P344389

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

Reference Method: SM 2320 B-97
Batch ID: P344743

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	103		P	98 - 107

Reference Method: SM 4500 F-C-97
Batch ID: P344747

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	97.1		P	91 - 105

Reference Method: SM 5310 B-00
Batch ID: P344688

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

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P344750

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1988072	Chloride	104		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P344753

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1987917	Sulfate	99.8		P	90 - 110
1988072	Sulfate	106		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P344779

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1988075	Ammonia-N	103	104	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P344310

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1988076	Kjeldahl Nitrogen	103	107	P/P	90 - 110

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P344366

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1988238	Kjeldahl Nitrogen	95.8	98.8	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P344336

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1988076	NO2NO3-N	100	101	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P344408

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1988253	Total-P	101	95.6	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P344389

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1988239	O-Phosphate-P	97.5	99.0	P/P	90 - 110

Reference Method: SM 4500 F-C-97
Batch ID: P344747

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1988073	Fluoride	96.4	97.0	P/P	91 - 105

Reference Method: SM 5310 B-00
Batch ID: P344688

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1988076	Organic Carbon	101	103	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P344248

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1988292	Turbidity	10.6	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P344750

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1987917	Chloride	0.588	Sample	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P344753

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1987917	Sulfate	0.656	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P344779

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1988075	Ammonia-N	0.970	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P344310

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1988076	Kjeldahl Nitrogen	3.51	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P344366

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1988238	Kjeldahl Nitrogen	2.34	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P344336

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1988076	NO2NO3-N	0.625	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P344408

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1988253	Total-P	4.82	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P344389

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1988239	O-Phosphate-P	1.53	Spike	P	0 - 20

Reference Method: SM 2120 B
Batch ID: P344244

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1988235	Color (true)	4.36	Sample	P	0 - 20

Quality Assurance Report Precision

Reference Method: SM 2320 B-97
Batch ID: P344743

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1988073	Total Alkalinity	0.0690	Sample	P	0 - 1.6

Reference Method: SM 2540 C-97
Batch ID: P344883

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1988403	TDS	5.08	Sample	P	0 - 10

Reference Method: SM 4500 F-C-97
Batch ID: P344747

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1988073	Fluoride	0.480	Spike	P	0 - 3.5

Reference Method: SM 5310 B-00
Batch ID: P344688

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1988076	Organic Carbon	1.52	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: A83519
Included Lab Sample IDs: 1988233, 1988234, 1988235

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	97.6	100	P/P	90 - 115

Reference Method: EPA 180.1 Rev. 2.0
Run ID: A83521
Included Lab Sample IDs: 1988233, 1988234, 1988235

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: A83550
Included Lab Sample IDs: 1988236, 1988237, 1988238

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	99.5	99.5	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Run ID: A83572

Included Lab Sample IDs: 1988239, 1988240, 1988241

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	98.0	98.1	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A83585

Included Lab Sample IDs: 1988236, 1988237

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	94.9	99.5	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A83611

Included Lab Sample IDs: 1988238

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	95.9	95.6	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A83630

Included Lab Sample IDs: 1988236, 1988237, 1988238

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

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A83651

Included Lab Sample IDs: 1988233, 1988234, 1988235

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	103	104	P/P	90 - 110
Sulfate	104	105	P/P	90 - 110

Reference Method: SM 5310 B-00

Run ID: A83673

Included Lab Sample IDs: 1988236, 1988237, 1988238

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	96.8	99.6	P/P	90 - 110

Reference Method: SM 2320 B-97

Run ID: A83684

Included Lab Sample IDs: 1988233, 1988234, 1988235

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	104	102	P/P	90 - 110

Reference Method: SM 4500 F-C-97

Run ID: A83684

Included Lab Sample IDs: 1988233, 1988234, 1988235

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

Quality Assurance Report Calibration Verification

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A83700

Included Lab Sample IDs: 1988236, 1988237, 1988238

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	101	102	P/P	90 - 110
Ammonia-N	102	101	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 SMP	MS
EPA 180.1 Rev. 2.0	Turbidity				10.6	
EPA 300.0 Rev. 2.1	Chloride	104	104		0.588	
	Sulfate	104	99.8 106		0.656	
EPA 350.1 Rev. 2.0	Ammonia-N	103	103 104			0.970
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	104	103 107			3.51
	Kjeldahl Nitrogen	102	95.8 98.8			2.34
EPA 353.2 Rev. 2.0	NO2NO3-N	100	100 101			0.625
EPA 365.1 Rev. 2.0	Total-P	103	101 95.6			4.82
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	96.8	97.5 99.0			1.53
SM 2120 B	Color (true)				4.36	
SM 2320 B-97	Total Alkalinity	103			0.0690	
SM 2540 C-97	TDS				5.08	
SM 4500 F-C-97	Fluoride	97.1	96.4 97.0			0.480
SM 5310 B-00	Organic Carbon	98.9	101 103			1.52

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 180.1 Rev. 2.0 / E31780	Turbidity in aqueous matrices	1988233, 1988234, 1988235
EPA 300.0 Rev. 2.1 / E31780	Chloride in aqueous matrices	1988233, 1988234, 1988235
EPA 300.0 Rev. 2.1 / E31780	Sulfate in aqueous matrices	1988233, 1988234, 1988235
EPA 350.1 Rev. 2.0 / E31780	Ammonia in aqueous matrices as mg N/L	1988236, 1988237, 1988238
EPA 351.2 Rev. 2.0 / E31780	Total Kjeldahl Nitrogen in aqueous matrices	1988236, 1988237, 1988238
EPA 353.2 Rev. 2.0 / E31780	Nitrite/Nitrate in aqueous matrices as mg N/L	1988236, 1988237, 1988238
EPA 365.1 Rev. 2.0 / E31780	Total Phosphorus in aqueous matrices as mg P/L	1988236, 1988237, 1988238
EPA 365.1 Rev. 2.0 dissolved / E31780	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	1988239, 1988240, 1988241
SM 2120 B / E31780	True Color measured at 450 nm	1988233, 1988234, 1988235
SM 2320 B-97 / E31780	Alkalinity in aqueous matrices as mg CaCO3/L	1988233, 1988234, 1988235
SM 2540 C-97 / E31780	Total Dissolved Solids in aqueous matrices	1988233, 1988234, 1988235
SM 2540 D-97 / E31780	Total Suspended Solids in aqueous matrices	1988233, 1988234, 1988235
SM 4500 F-C-97 / E31780	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	1988233, 1988234, 1988235

Reference Method Descriptions

Method / DoH Cert #	Description	<u>Associated Samples</u>
SM 5310 B-00 / E31780	Nonpurgeable Organic Carbon in aqueous matrices	1988236, 1988237, 1988238

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	04/27/2018			04/27/2018 15:46	William L. Brown IV	1988233, 1988234, 1988235
EPA 300.0 Rev. 2.1	04/27/2018			05/05/2018 03:23	Lipi Saha	1988233
	04/27/2018			05/05/2018 03:35	Lipi Saha	1988234
	04/27/2018			05/05/2018 03:47	Lipi Saha	1988235
EPA 350.1 Rev. 2.0	04/27/2018			05/04/2018 12:28	Ping Hua	1988236
	04/27/2018			05/04/2018 12:30	Ping Hua	1988237
	04/27/2018			05/04/2018 12:37	Ping Hua	1988238
EPA 351.2 Rev. 2.0	04/27/2018	04/30/2018 15:30	Adrian Shelby	05/01/2018 17:24	Joseph Suarez	1988236
	04/27/2018	04/30/2018 15:30	Adrian Shelby	05/01/2018 17:26	Joseph Suarez	1988237
	04/27/2018	05/01/2018 15:30	Adrian Shelby	05/02/2018 13:22	Joseph Suarez	1988238
EPA 353.2 Rev. 2.0	04/27/2018			04/30/2018 12:43	Lauren Bottorf	1988236
	04/27/2018			04/30/2018 12:44	Lauren Bottorf	1988237
	04/27/2018			04/30/2018 12:45	Lauren Bottorf	1988238
EPA 365.1 Rev. 2.0	04/27/2018	05/01/2018 14:01	Sima Feizi	05/03/2018 12:10	Beverly Y. Sanders	1988236
	04/27/2018	05/01/2018 14:01	Sima Feizi	05/03/2018 12:11	Beverly Y. Sanders	1988237
	04/27/2018	05/01/2018 14:01	Sima Feizi	05/03/2018 12:12	Beverly Y. Sanders	1988238
EPA 365.1 Rev. 2.0 dissolved	04/27/2018			04/27/2018 17:10	Megan Treadwell	1988239
	04/27/2018			04/27/2018 17:14	Megan Treadwell	1988240
	04/27/2018			04/27/2018 17:15	Megan Treadwell	1988241
SM 2120 B	04/27/2018			04/27/2018 15:18	Tanya Welborn	1988233
	04/27/2018			04/27/2018 15:19	Tanya Welborn	1988234
	04/27/2018			04/27/2018 15:21	Tanya Welborn	1988235
SM 2320 B-97	04/27/2018			05/04/2018 06:57	Dale L. Simmons	1988233
	04/27/2018			05/04/2018 07:09	Dale L. Simmons	1988234
	04/27/2018			05/04/2018 07:20	Dale L. Simmons	1988235
SM 2540 C-97	04/27/2018			05/02/2018 15:06	Yijie Li	1988233, 1988234, 1988235
SM 2540 D-97	04/27/2018			05/02/2018 15:06	Yijie Li	1988233, 1988234, 1988235
SM 4500 F-C-97	04/27/2018			05/04/2018 06:57	Dale L. Simmons	1988233
	04/27/2018			05/04/2018 07:09	Dale L. Simmons	1988234
	04/27/2018			05/04/2018 07:20	Dale L. Simmons	1988235
SM 5310 B-00	04/27/2018			05/03/2018 22:58	Megan Treadwell	1988236
	04/27/2018			05/03/2018 23:10	Megan Treadwell	1988237
	04/27/2018			05/03/2018 23:24	Megan Treadwell	1988238