

Chemical Analysis Report

NW-DIST-2018-02-08-01

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

Event Description: **EGLIN RUN WEST**
Request ID: **RQ-2018-02-05-27**
Customer: **NW-DIST**
Project ID: **SMP**

Send Reports to:
FL Dept. of Environmental Protection
160 W Government St
Suite 208A
Pensacola, FL 32502-5794
Attn: Michael King

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Certified by: Liang Lin, Environmental Administrator

Date Certified: 27-FEB-2018 09:56

A handwritten signature in black ink, appearing to read "Liang Lin", is shown 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 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: DEER MOSS CREEK UPSTREAM C

Collection Date/Time: 02/07/2018 10:55

Field ID: G3NW0045

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1965871	EPA 180.1 Rev. 2.0	Turbidity	1.5		NTU	P339593	
	EPA 300.0 Rev. 2.1	Chloride	16		mg Cl/L	P339876	
		Sulfate	11		mg SO4/L	P339878	
	SM 2120 B	Color (true)	5.9	I	PCU	P339586	
	SM 2320 B-97	Total Alkalinity	26		mg CaCO3/L	P340207	
	SM 2540 C-97	TDS	78		mg/L	P340000	
	SM 2540 D-97	TSS	3	I	mg/L	P339760	
	SM 4500 F-C-97	Fluoride	0.035	U	mg F/L	P340476	
1965874	EPA 350.1 Rev. 2.0	Ammonia-N	0.002	I	mg N/L	P340183	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.15	I	mg N/L	P339650	
	EPA 353.2 Rev. 2.0	NO2NO3-N	2.1		mg N/L	P340044	
	EPA 365.1 Rev. 2.0	Total-P	0.060		mg P/L	P340060	
	SM 5310 B-00	Organic Carbon	1.4		mg C/L	P340160	
1965877	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.055		mg P/L	P339604	

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: SWIFT CREEK UPSTREAM OF 28

Collection Date/Time: 02/07/2018 11:15

Field ID: G3NW0149

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1965872	EPA 180.1 Rev. 2.0	Turbidity	0.70		NTU	P339593	
	EPA 300.0 Rev. 2.1	Chloride	3.7		mg Cl/L	P339876	
		Sulfate	2.4		mg SO4/L	P339878	
	SM 2120 B	Color (true)	16		PCU	P339586	
	SM 2320 B-97	Total Alkalinity	1.9	I	mg CaCO3/L	P340207	
	SM 2540 C-97	TDS	16	I	mg/L	P340000	
	SM 2540 D-97	TSS	2	I	mg/L	P339760	
	SM 4500 F-C-97	Fluoride	0.035	U	mg F/L	P340476	
1965875	EPA 350.1 Rev. 2.0	Ammonia-N	0.008		mg N/L	P340183	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.089	I	mg N/L	P339650	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.12		mg N/L	P340044	
	EPA 365.1 Rev. 2.0	Total-P	0.004	I	mg P/L	P340060	
	SM 5310 B-00	Organic Carbon	1.6		mg C/L	P340160	
1965878	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P339604	

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: MILL CREEK UPSTREAM OF BAY

Collection Date/Time: 02/07/2018 11:40

Field ID: G3NW0141

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1965873	EPA 180.1 Rev. 2.0	Turbidity	0.85		NTU	P339593	
	EPA 300.0 Rev. 2.1	Chloride	5.4	A	mg Cl/L	P339876	
		Sulfate	6.7	A	mg SO4/L	P339878	

Field ID: G3NW0141

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1965873	SM 2120 B	Color (true)	14		PCU	P339586	
	SM 2320 B-97	Total Alkalinity	13		mg CaCO3/L	P340207	
	SM 2540 C-97	TDS	35		mg/L	P340000	
	SM 2540 D-97	TSS	2	U	mg/L	P339760	
	SM 4500 F-C-97	Fluoride	0.035	U	mg F/L	P340476	
1965876	EPA 350.1 Rev. 2.0	Ammonia-N	0.037		mg N/L	P340183	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.21		mg N/L	P339650	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.36		mg N/L	P340044	
	EPA 365.1 Rev. 2.0	Total-P	0.009		mg P/L	P340060	
	SM 5310 B-00	Organic Carbon	2.1		mg C/L	P340160	
1965879	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P339604	

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: P339593

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 300.0 Rev. 2.1

Batch ID: P339876

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1

Batch ID: P339878

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0

Batch ID: P340183

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

Reference Method: EPA 351.2 Rev. 2.0

Batch ID: P339650

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

Reference Method: EPA 353.2 Rev. 2.0

Batch ID: P340044

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: P340060

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P339604

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

Reference Method: SM 2120 B
Batch ID: P339586

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2320 B-97
Batch ID: P340207

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

Reference Method: SM 2540 C-97
Batch ID: P340000

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-97
Batch ID: P339760

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500 F-C-97
Batch ID: P340476

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-00
Batch ID: P340160

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: P339876

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P339876

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P339878

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P340183

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P339650

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P340044

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
NO2NO3-N	106		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P340060

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P339604

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
O-Phosphate-P	97.3		P	90 - 110

Reference Method: SM 2320 B-97
Batch ID: P340207

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	99.4		P	95 - 108

Reference Method: SM 4500 F-C-97
Batch ID: P340476

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	95.8		P	92 - 103

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: SM 5310 B-00
Batch ID: P340160

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	97.4		P	85 - 115

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P339876

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1965872	Chloride	103		P	90 - 110
1965873	Chloride	104		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P339878

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1965872	Sulfate	105		P	90 - 110
1965873	Sulfate	105		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P340183

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1965875	Ammonia-N	96.6	94.4	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P339650

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1965817	Kjeldahl Nitrogen	101	102	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P340044

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1965793	NO2NO3-N	106	106	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P340060

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1965874	Total-P	105	100	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P339604

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1965877	O-Phosphate-P	97.3	97.9	P/P	90 - 110

Quality Assurance Report Matrix Spike Accuracy

Reference Method: SM 4500 F-C-97
Batch ID: P340476

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1966131	Fluoride	94.1	97.0	P/P	91 - 105

Reference Method: SM 5310 B-00
Batch ID: P340160

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1965919	Organic Carbon	97.8	98.4	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P339593

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1965811	Turbidity	1.32	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P339876

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1965873	Chloride	0.690	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P339878

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1965873	Sulfate	0.596	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P340183

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1965875	Ammonia-N	1.96	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P339650

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1965817	Kjeldahl Nitrogen	0.222	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P340044

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
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Quality Assurance Report Precision

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P340044

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1965793	NO2NO3-N	0.0	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P340060

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1965874	Total-P	3.77	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P339604

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1965877	O-Phosphate-P	0.392	Spike	P	0 - 20

Reference Method: SM 2120 B
Batch ID: P339586

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1965849	Color (true)	13.8	Sample	P	0 - 20

Reference Method: SM 2320 B-97
Batch ID: P340207

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1966131	Total Alkalinity	1.12	Sample	P	0 - 4.8

Reference Method: SM 2540 C-97
Batch ID: P340000

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1965813	TDS	0.0	Sample	P	0 - 10

Reference Method: SM 4500 F-C-97
Batch ID: P340476

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1966131	Fluoride	0.469	Spike	P	0 - 3.0

Reference Method: SM 5310 B-00
Batch ID: P340160

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1965919	Organic Carbon	0.392	Spike	P	0 - 20

Quality Assurance Report Precision

* 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: A81932

Included Lab Sample IDs: 1965871, 1965872, 1965873

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	99.8	97.9	P/P	85 - 115

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A81934

Included Lab Sample IDs: 1965871, 1965872, 1965873

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Turbidity	99.5	99.5	P/P	95 - 105

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Run ID: A81942

Included Lab Sample IDs: 1965877, 1965878, 1965879

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	101	100	P/P	90 - 110
O-Phosphate-P	98.6	101	P/P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A82003

Included Lab Sample IDs: 1965871, 1965872, 1965873

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	105	103	P/P	90 - 110
Sulfate	105	101	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A82030

Included Lab Sample IDs: 1965874, 1965875, 1965876

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	105	98.2	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A82097

Included Lab Sample IDs: 1965874, 1965875, 1965876

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	102	102	P/P	90 - 110
NO2NO3-N	102	102	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A82126

Included Lab Sample IDs: 1965874

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	99.6	98.8	P/P	90 - 110

Reference Method: SM 5310 B-00

Run ID: A82131

Included Lab Sample IDs: 1965874, 1965875, 1965876

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	97.0	96.9	P/P	90 - 110
Organic Carbon	97.4	97.0	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A82134

Included Lab Sample IDs: 1965874, 1965875, 1965876

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

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A82136

Included Lab Sample IDs: 1965875, 1965876

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

Reference Method: SM 2320 B-97

Run ID: A82137

Included Lab Sample IDs: 1965871, 1965872, 1965873

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	99.8	97.8	P/P	90 - 110

Reference Method: SM 4500 F-C-97

Run ID: A82245

Included Lab Sample IDs: 1965871, 1965872, 1965873

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	98.5	102	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				1.32	
EPA 300.0 Rev. 2.1	Chloride	102	104	103	0.690	
	Sulfate	104	105	105	0.596	

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery		Precision	
					LCS	MS
EPA 350.1 Rev. 2.0	Ammonia-N	98.4	96.6	94.4		1.96
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	106	101	102		0.222
EPA 353.2 Rev. 2.0	NO ₂ NO ₃ -N	106	106	106		0.0
EPA 365.1 Rev. 2.0	Total-P	105	105	100		3.77
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	97.3	97.3	97.9		0.392
SM 2120 B	Color (true)				13.8	
SM 2320 B-97	Total Alkalinity	99.4			1.12	
SM 2540 C-97	TDS				0.0	
SM 4500 F-C-97	Fluoride	95.8	94.1	97.0		0.469
SM 5310 B-00	Organic Carbon	97.4	97.8	98.4		0.392

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 180.1 Rev. 2.0 / E31780	Turbidity in aqueous matrices	1965871, 1965872, 1965873
EPA 300.0 Rev. 2.1 / E31780	Chloride in aqueous matrices	1965871, 1965872, 1965873
EPA 300.0 Rev. 2.1 / E31780	Sulfate in aqueous matrices	1965871, 1965872, 1965873
EPA 350.1 Rev. 2.0 / E31780	Ammonia in aqueous matrices as mg N/L	1965874, 1965875, 1965876
EPA 351.2 Rev. 2.0 / E31780	Total Kjeldahl Nitrogen in aqueous matrices	1965874, 1965875, 1965876
EPA 353.2 Rev. 2.0 / E31780	Nitrite/Nitrate in aqueous matrices as mg N/L	1965874, 1965875, 1965876
EPA 365.1 Rev. 2.0 / E31780	Total Phosphorus in aqueous matrices as mg P/L	1965874, 1965875, 1965876
EPA 365.1 Rev. 2.0 dissolved / E31780	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	1965877, 1965878, 1965879
SM 2120 B / E31780	True Color measured at 450 nm	1965871, 1965872, 1965873
SM 2320 B-97 / E31780	Alkalinity in aqueous matrices as mg CaCO ₃ /L	1965871, 1965872, 1965873
SM 2540 C-97 / E31780	Total Dissolved Solids in aqueous matrices	1965871, 1965872, 1965873
SM 2540 D-97 / E31780	Total Suspended Solids in aqueous matrices	1965871, 1965872, 1965873
SM 4500 F-C-97 / E31780	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	1965871, 1965872, 1965873
SM 5310 B-00 / E31780	Nonpurgeable Organic Carbon in aqueous matrices	1965874, 1965875, 1965876

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	02/08/2018			02/08/2018 17:02	DeAsia Armster	1965871, 1965872, 1965873
EPA 300.0 Rev. 2.1	02/08/2018			02/13/2018	Irina Carbone	1965871, 1965872, 1965873
EPA 350.1 Rev. 2.0	02/08/2018			02/16/2018	Julia Storbeck	1965874, 1965875, 1965876
EPA 351.2 Rev. 2.0	02/08/2018	02/09/2018	Adrian Shelby	02/13/2018	Joseph Suarez	1965874, 1965875, 1965876
EPA 353.2 Rev. 2.0	02/08/2018			02/15/2018	Lauren Bottorf	1965874, 1965875, 1965876
EPA 365.1 Rev. 2.0	02/08/2018	02/15/2018	Sima Feizi	02/16/2018	Lipi Saha	1965874
	02/08/2018	02/15/2018	Sima Feizi	02/19/2018	Beverly Y. Sanders	1965875, 1965876
EPA 365.1 Rev. 2.0 dissolved	02/08/2018			02/08/2018 14:50	Megan Treadwell	1965877
	02/08/2018			02/08/2018 15:06	Megan Treadwell	1965878, 1965879
SM 2120 B	02/08/2018			02/08/2018 15:56	Tanya Welborn	1965871
	02/08/2018			02/08/2018 15:57	Tanya Welborn	1965872, 1965873
SM 2320 B-97	02/08/2018			02/17/2018	Dale L. Simmons	1965871, 1965872, 1965873
SM 2540 C-97	02/08/2018			02/09/2018	DeAsia Armster	1965871, 1965872, 1965873
SM 2540 D-97	02/08/2018			02/09/2018	DeAsia Armster	1965871, 1965872, 1965873
SM 4500 F-C-97	02/08/2018			02/22/2018	Dale L. Simmons	1965871, 1965872, 1965873
SM 5310 B-00	02/08/2018			02/16/2018	Megan Treadwell	1965874, 1965875, 1965876