

Chemical Analysis Report

NW-DIST-2018-03-14-02

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

Event Description: **Choctawhatchee South run**
Request ID: **RQ-2018-02-12-40**
Customer: **NW-DIST**
Project ID: **SMP**

Send Reports to:
FL Dept. of Environmental Protection
160 Government Center
Suite 208
Pensacola, FL 32502-5794
Attn: Cheryl Bunch

For additional information please contact
Colin Wright, Ph.D.
Liang-Tsair Lin, Ph.D.
Thekkekalathil Chandrasekhar, Ph.D, QA Officer
Phone (850) 245-8085

Certified by: Colin Wright, Program Administrator

Date Certified: 03-APR-2018 16:02

A handwritten signature in black ink, appearing to read "Colin Wright", is displayed on a light gray rectangular 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: Choctawhatchee River above Smokehouse Lake

Collection Date/Time: 03/13/2018 11:05

Field ID: G3NW0073

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1974703	EPA 180.1 Rev. 2.0	Turbidity	14		NTU	P341554	
	EPA 300.0 Rev. 2.1	Chloride	4.8		mg Cl/L	P342127	
		Sulfate	1.8		mg SO4/L	P342131	
	SM 2120 B	Color (true)	80	A	PCU	P341560	
	SM 2320 B-97	Total Alkalinity	31		mg CaCO3/L	P341929	
	SM 2540 C-97	TDS	66		mg/L	P342012	
	SM 2540 D-97	TSS	7	I	mg/L	P341865	
	SM 4500 F-C-97	Fluoride	0.038	I	mg F/L	P342153	
1974705	EPA 350.1 Rev. 2.0	Ammonia-N	0.01		mg N/L	P342075	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.31		mg N/L	P341754	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.22		mg N/L	P341733	
	EPA 365.1 Rev. 2.0	Total-P	0.037		mg P/L	P341689	
	SM 5310 B-00	Organic Carbon	4.8		mg C/L	P342185	
1974707	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.012		mg P/L	P341844	MS

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: SISTER RIVER MOUTH

Collection Date/Time: 03/13/2018 11:30

Field ID: G3NW0154

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1974704	EPA 180.1 Rev. 2.0	Turbidity	9.0		NTU	P341554	
	EPA 300.0 Rev. 2.1	Chloride	6.3		mg Cl/L	P342127	
		Sulfate	1.8		mg SO4/L	P342131	
	SM 2120 B	Color (true)	90		PCU	P341560	
	SM 2320 B-97	Total Alkalinity	28		mg CaCO3/L	P341930	RPD
	SM 2540 C-97	TDS	63		mg/L	P342012	
	SM 2540 D-97	TSS	4	I	mg/L	P341865	
	SM 4500 F-C-97	Fluoride	0.035	I	mg F/L	P342154	
1974706	EPA 350.1 Rev. 2.0	Ammonia-N	0.006		mg N/L	P342075	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.36		mg N/L	P341754	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.12		mg N/L	P341733	
	EPA 365.1 Rev. 2.0	Total-P	0.026		mg P/L	P341689	
	SM 5310 B-00	Organic Carbon	6.0		mg C/L	P342185	
1974708	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.008	I	mg P/L	P341844	MS

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: BASIN BAYOU AT INLET

Collection Date/Time: 03/13/2018 12:45

Field ID: G3NW0101

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1974700	EPA 180.1 Rev. 2.0	Turbidity	2.3		NTU	P341554	
	SM 2320 B-97	Total Alkalinity	6.1		mg CaCO3/L	P341929	

Field ID: G3NW0101

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1974700	SM 2540 D-97	TSS	3	I	mg/L	P341866	
	SM 4500 F-C-97	Fluoride	0.058	I	mg F/L	P342153	
1974701	EPA 350.1 Rev. 2.0	Ammonia-N	0.002	U	mg N/L	P342075	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.23		mg N/L	P341754	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P341733	
	EPA 365.1 Rev. 2.0	Total-P	0.011		mg P/L	P341689	
	SM 5310 B-00	Organic Carbon	5.6		mg C/L	P342185	
1974702	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	UJ	mg P/L	P341844	MS

Ref. Method and Comment:
SM 2540 D-97: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.
EPA 365.1 Rev. 2.0 dissolved: O-Phosphate-P: Refer to the narrative for an explanation of QC Codes.

Quality Assurance Report

Method Blank Results

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P341554

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P342127

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P342131

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P342075

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P341754

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P341733

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: P341689

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P341844

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

Reference Method: SM 2120 B
Batch ID: P341560

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2320 B-97
Batch ID: P341929

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

Reference Method: SM 2320 B-97
Batch ID: P341930

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

Reference Method: SM 2540 C-97
Batch ID: P342012

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-97
Batch ID: P341865

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 2540 D-97
Batch ID: P341866

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500 F-C-97
Batch ID: P342153

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Quality Assurance Report Method Blank Results

Reference Method: SM 4500 F-C-97
 Batch ID: P342154

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-00
 Batch ID: P342185

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: P342127

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

Reference Method: EPA 300.0 Rev. 2.1
 Batch ID: P342131

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

Reference Method: EPA 350.1 Rev. 2.0
 Batch ID: P342075

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Ammonia-N	90.1		P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
 Batch ID: P341754

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Kjeldahl Nitrogen	96.3		P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
 Batch ID: P341733

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

Reference Method: EPA 365.1 Rev. 2.0
 Batch ID: P341689

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: P341844

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: P341844

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
O-Phosphate-P	93.5		P	90 - 110

Reference Method: SM 2320 B-97
Batch ID: P341929

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	99.6		P	98 - 107

Reference Method: SM 2320 B-97
Batch ID: P341930

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	100		P	98 - 107

Reference Method: SM 4500 F-C-97
Batch ID: P342153

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	96.3		P	91 - 105

Reference Method: SM 4500 F-C-97
Batch ID: P342154

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	97.3		P	91 - 105

Reference Method: SM 5310 B-00
Batch ID: P342185

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: P342127

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1974679	Chloride	103		P	90 - 110
1974863	Chloride	103		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P342131

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1974679	Sulfate	106		P	90 - 110
1974863	Sulfate	106		P	90 - 110

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P342075

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1974705	Ammonia-N	93.1	93.9	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P341754

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1974706	Kjeldahl Nitrogen	96.4	92.9	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P341733

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1974646	NO2NO3-N	102		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P341689

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1974705	Total-P	105	101	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P341844

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1974702	O-Phosphate-P	88.9	89.6	F/F	90 - 110

Reference Method: SM 4500 F-C-97
Batch ID: P342153

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1974477	Fluoride	96.2	98.7	P/P	91 - 105

Reference Method: SM 4500 F-C-97
Batch ID: P342154

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1974865	Fluoride	95.0	96.5	P/P	91 - 105

Reference Method: SM 5310 B-00
Batch ID: P342185

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1974680	Organic Carbon	98.6	100	P/P	85 - 115

Quality Assurance Report Precision

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P341554

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1974679	Turbidity	1.64	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P342127

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1974679	Chloride	0.267	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P342131

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1974679	Sulfate	0.0839	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P342075

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1974705	Ammonia-N	0.758	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P341754

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1974706	Kjeldahl Nitrogen	2.78	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P341733

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1974646	NO2NO3-N	0.428	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P341689

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1974705	Total-P	3.27	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P341844

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1974702	O-Phosphate-P	0.784	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: SM 2120 B
Batch ID: P341560

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1974703	Color (true)	1.08	Sample	P	0 - 20

Reference Method: SM 2320 B-97
Batch ID: P341929

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1974477	Total Alkalinity	0.129	Sample	P	0 - 1.6

Reference Method: SM 2320 B-97
Batch ID: P341930

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1974865	Total Alkalinity	2.13	Sample	F	0 - 1.6

Reference Method: SM 2540 C-97
Batch ID: P342012

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1974634	TDS	3.08	Sample	P	0 - 10

Reference Method: SM 4500 F-C-97
Batch ID: P342153

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1974477	Fluoride	1.91	Spike	P	0 - 3.5

Reference Method: SM 4500 F-C-97
Batch ID: P342154

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1974865	Fluoride	1.42	Spike	P	0 - 3.5

Reference Method: SM 5310 B-00
Batch ID: P342185

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1974680	Organic Carbon	1.55	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

Quality Assurance Report Calibration Verification

Reference Method: SM 2120 B

Run ID: A82608

Included Lab Sample IDs: 1974703, 1974704

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

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A82609

Included Lab Sample IDs: 1974700, 1974703, 1974704

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Turbidity	99.0	99.5	P/P	95 - 105

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Run ID: A82614

Included Lab Sample IDs: 1974702, 1974707, 1974708

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	93.7	93.6	P/P	90 - 110
O-Phosphate-P	99.3	103	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A82687

Included Lab Sample IDs: 1974701, 1974705, 1974706

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

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A82735

Included Lab Sample IDs: 1974701, 1974705, 1974706

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	97.5	97.5	P/P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A82750

Included Lab Sample IDs: 1974703, 1974704

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	97.9	97.7	P/P	90 - 110
Sulfate	97.3	97.2	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A82757

Included Lab Sample IDs: 1974701, 1974705, 1974706

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	98.1	92.6	P/P	90 - 110

Reference Method: SM 2320 B-97

Run ID: A82760

Included Lab Sample IDs: 1974700, 1974703, 1974704

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
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Quality Assurance Report Calibration Verification

Reference Method: SM 2320 B-97

Run ID: A82760

Included Lab Sample IDs: 1974700, 1974703, 1974704

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	97.4	100	P/P	90 - 110
Total Alkalinity	99.8	97.4	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A82797

Included Lab Sample IDs: 1974701, 1974705, 1974706

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

Reference Method: SM 4500 F-C-97

Run ID: A82826

Included Lab Sample IDs: 1974700, 1974703, 1974704

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	101	101	P/P	90 - 110
Fluoride	99.0	101	P/P	90 - 110

Reference Method: SM 5310 B-00

Run ID: A82844

Included Lab Sample IDs: 1974701, 1974705, 1974706

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	96.4	96.6	P/P	90 - 110
Organic Carbon	96.6	98.0	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				1.64	
EPA 300.0 Rev. 2.1	Chloride	103	103	103	0.267	
	Sulfate	105	106	106	0.0839	
EPA 350.1 Rev. 2.0	Ammonia-N	90.1	93.1	93.9		0.758
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	96.3	96.4	92.9		2.78
EPA 353.2 Rev. 2.0	NO2NO3-N	102	102			0.428
EPA 365.1 Rev. 2.0	Total-P	104	105	101		3.27
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	93.5	88.9	89.6		0.784
SM 2120 B	Color (true)				1.08	
SM 2320 B-97	Total Alkalinity	99.6			0.129	
	Total Alkalinity	100			2.13	
SM 2540 C-97	TDS				3.08	
SM 4500 F-C-97	Fluoride	96.3	96.2	98.7		1.91
	Fluoride	97.3	95.0	96.5		1.42

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery	Precision	MS
				LCS	SMP
SM 5310 B-00	Organic Carbon	98.6	98.6 100		1.55

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 180.1 Rev. 2.0 / E31780	Turbidity in aqueous matrices	1974700, 1974703, 1974704
EPA 300.0 Rev. 2.1 / E31780	Chloride in aqueous matrices	1974703, 1974704
EPA 300.0 Rev. 2.1 / E31780	Sulfate in aqueous matrices	1974703, 1974704
EPA 350.1 Rev. 2.0 / E31780	Ammonia in aqueous matrices as mg N/L	1974701, 1974705, 1974706
EPA 351.2 Rev. 2.0 / E31780	Total Kjeldahl Nitrogen in aqueous matrices	1974701, 1974705, 1974706
EPA 353.2 Rev. 2.0 / E31780	Nitrite/Nitrate in aqueous matrices as mg N/L	1974701, 1974705, 1974706
EPA 365.1 Rev. 2.0 / E31780	Total Phosphorus in aqueous matrices as mg P/L	1974701, 1974705, 1974706
EPA 365.1 Rev. 2.0 dissolved / E31780	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	1974702, 1974707, 1974708
SM 2120 B / E31780	True Color measured at 450 nm	1974703, 1974704
SM 2320 B-97 / E31780	Alkalinity in aqueous matrices as mg CaCO ₃ /L	1974700, 1974703, 1974704
SM 2540 C-97 / E31780	Total Dissolved Solids in aqueous matrices	1974703, 1974704
SM 2540 D-97 / E31780	Total Suspended Solids in aqueous matrices	1974700, 1974703, 1974704
SM 4500 F-C-97 / E31780	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	1974700, 1974703, 1974704
SM 5310 B-00 / E31780	Nonpurgeable Organic Carbon in aqueous matrices	1974701, 1974705, 1974706

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	03/14/2018			03/14/2018 16:12	DeAsia Armster	1974700, 1974703, 1974704
EPA 300.0 Rev. 2.1	03/14/2018			03/21/2018	Julia Storbeck	1974703, 1974704
EPA 350.1 Rev. 2.0	03/14/2018			03/22/2018	Ping Hua	1974701, 1974705, 1974706
EPA 351.2 Rev. 2.0	03/14/2018	03/19/2018	Adrian Shelby	03/21/2018	Joseph Suarez	1974701, 1974705, 1974706
EPA 353.2 Rev. 2.0	03/14/2018			03/19/2018	Beverly Y. Sanders	1974701, 1974705, 1974706
EPA 365.1 Rev. 2.0	03/14/2018	03/16/2018	Adrian Shelby	03/20/2018	Lipi Saha	1974701, 1974705, 1974706
EPA 365.1 Rev. 2.0 dissolved	03/14/2018			03/14/2018 15:47	Lipi Saha	1974702
	03/14/2018			03/14/2018 16:32	Lipi Saha	1974707
	03/14/2018			03/14/2018 16:33	Lipi Saha	1974708
SM 2120 B	03/14/2018			03/14/2018 16:08	Tanya Welborn	1974703
	03/14/2018			03/14/2018 16:09	Tanya Welborn	1974704
	03/14/2018			03/21/2018	Dale L. Simmons	1974700, 1974703, 1974704
SM 2320 B-97	03/14/2018			03/17/2018	Yijie Li	1974703, 1974704
SM 2540 C-97	03/14/2018			03/17/2018	Yijie Li	1974700, 1974703, 1974704
SM 2540 D-97	03/14/2018			03/24/2018	Dale L. Simmons	1974700, 1974703, 1974704
SM 4500 F-C-97	03/14/2018			03/23/2018	Julia Storbeck	1974701, 1974705, 1974706
SM 5310 B-00	03/14/2018					