

Chemical Analysis Report

SW-DIST-2016-07-21-01

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

Event Description: **1361A, 1348A, 1382C**

Request ID: **RQ-2016-07-18-34**

Customer: **SW-DIST**

Project ID: **SMP**

Send Reports to:

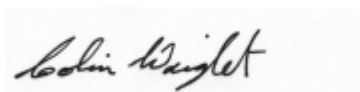
FL Dept. of Environmental Protection
FL Dept. of Environmental Protection
13051 N. Telecom Parkway
Temple Terrace, FL 33637-0926
Attn: Stephen Clingerman

For additional information please contact

Timothy W. Fitzpatrick
Liang-Tsair Lin, Ph.D.
Colin Wright, Ph.D.
Thekkekalathil Chandrasekhar, PhD, QA Officer
Phone (850) 245-8085

Certified by: Colin Wright, Environmental Administrator

Date Certified: 15-AUG-2016 14:01



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: BLUEBIRD SPRINGS

Collection Date/Time: 07/20/2016 11:15

Field ID: G5SW0028

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1817969	EPA 180.1 Rev. 2.0	Turbidity	0.50		NTU	P308445	
	EPA 300.0 Rev. 2.1	Chloride	94		mg Cl/L	P309180	
		Sulfate	18		mg SO4/L	P309183	
	SM 2120 B	Color (true)	2.5	U	PCU	P308388	
	SM 2320 B-97	Total Alkalinity	131		mg CaCO3/L	P308752	
	SM 2540 C-97	TDS	311		mg/L	P309151	
	SM 2540 D-97	TSS	2	U	mg/L	P308904	
	SM 4500 F-C-97	Fluoride	0.093	I	mg F/L	P308756	
1817973	EPA 350.1 Rev. 2.0	Ammonia-N	0.003	I	mg N/L	P308506	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.13	I	mg N/L	P309016	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.44		mg N/L	P308889	
	EPA 365.1 Rev. 2.0	Total-P	0.012		mg P/L	P308532	
	SM 5310 B-00	Organic Carbon	1.0		mg C/L	P308689	
1817977	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P308378	

Sample Location: TOOKE LAKE C

Collection Date/Time: 07/20/2016 12:05

Field ID: G5SW0121

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1817970	EPA 180.1 Rev. 2.0	Turbidity	1.1		NTU	P308445	
	EPA 300.0 Rev. 2.1	Chloride	7.4		mg Cl/L	P309180	
		Sulfate	5.2		mg SO4/L	P309183	
	SM 2120 B	Color (true)	10		PCU	P308388	
	SM 2320 B-97	Total Alkalinity	6.1		mg CaCO3/L	P308752	
	SM 2540 C-97	TDS	51		mg/L	P309152	
	SM 2540 D-97	TSS	2	I	mg/L	P308905	
	SM 4500 F-C-97	Fluoride	0.051	I	mg F/L	P308756	
1817974	EPA 350.1 Rev. 2.0	Ammonia-N	0.004	I	mg N/L	P308506	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.91		mg N/L	P309016	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P308890	
	EPA 365.1 Rev. 2.0	Total-P	0.008		mg P/L	P308532	
	SM 5310 B-00	Organic Carbon	10		mg C/L	P308689	
1817978	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P308378	

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: TOOKE LAKE N

Collection Date/Time: 07/20/2016 12:10

Field ID: G5SW0122

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1817971	EPA 180.1 Rev. 2.0	Turbidity	1.1	A	NTU	P308445	
	EPA 300.0 Rev. 2.1	Chloride	7.3		mg Cl/L	P309180	
		Sulfate	5.0		mg SO4/L	P309183	
	SM 2120 B	Color (true)	11		PCU	P308388	

Field ID: G5SW0122

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1817971	SM 2320 B-97	Total Alkalinity	5.6		mg CaCO3/L	P308752	
	SM 2540 C-97	TDS	42		mg/L	P309152	
	SM 2540 D-97	TSS	2	U	mg/L	P308905	
	SM 4500 F-C-97	Fluoride	0.052	I	mg F/L	P308756	
1817975	EPA 350.1 Rev. 2.0	Ammonia-N	0.006		mg N/L	P308506	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.0		mg N/L	P309016	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P308890	
	EPA 365.1 Rev. 2.0	Total-P	0.006		mg P/L	P308532	
	SM 5310 B-00	Organic Carbon	10		mg C/L	P308689	
1817979	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P308378	

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: SKINNER LAKE C

Collection Date/Time: 07/20/2016 13:30

Field ID: G5SW0043

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1817972	EPA 180.1 Rev. 2.0	Turbidity	0.55		NTU	P308445	
	EPA 300.0 Rev. 2.1	Chloride	1.7		mg Cl/L	P309180	
		Sulfate	0.20	U	mg SO4/L	P309183	
	SM 2120 B	Color (true)	13		PCU	P308388	
	SM 2320 B-97	Total Alkalinity	62		mg CaCO3/L	P308752	
	SM 2540 C-97	TDS	73		mg/L	P309152	
	SM 2540 D-97	TSS	2	U	mg/L	P308905	
	SM 4500 F-C-97	Fluoride	0.12		mg F/L	P308756	
	EPA 350.1 Rev. 2.0	Ammonia-N	0.003	I	mg N/L	P308506	
1817976	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.53		mg N/L	P309016	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P308890	
	EPA 365.1 Rev. 2.0	Total-P	0.017		mg P/L	P308532	
	SM 5310 B-00	Organic Carbon	4.8		mg C/L	P308689	
1817980	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P308378	

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: P308445

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 300.0 Rev. 2.1

Batch ID: P309180

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Quality Assurance Report Method Blank Results

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P309183

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P308506

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P309016

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P308889

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P308890

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P308532

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P308378

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

Reference Method: SM 2120 B
Batch ID: P308388

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2320 B-97
Batch ID: P308752

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

Quality Assurance Report Method Blank Results

Reference Method: SM 2540 C-97
Batch ID: P309151

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 C-97
Batch ID: P309152

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-97
Batch ID: P308904

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 2540 D-97
Batch ID: P308905

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500 F-C-97
Batch ID: P308756

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-00
Batch ID: P308689

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: P309180

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P309183

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Sulfate	95.1		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P308506

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P308506

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: P309016

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P308889

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
NO2NO3-N	104		P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P308890

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
NO2NO3-N	105		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P308532

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P308378

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

Reference Method: SM 2320 B-97
Batch ID: P308752

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	104		P	95 - 108

Reference Method: SM 4500 F-C-97
Batch ID: P308756

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	99.8		P	92 - 103

Reference Method: SM 5310 B-00
Batch ID: P308689

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	95.4		P	85 - 115

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P309180

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1817651	Chloride	97.7		P	90 - 110
1817654	Chloride	97.7		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P309183

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1817651	Sulfate	93.3		P	90 - 110
1817654	Sulfate	93.4		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P308506

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1817973	Ammonia-N	98.6	99.8	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P309016

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1817958	Kjeldahl Nitrogen	95.6	99.7	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P308889

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1817804	NO2NO3-N	97.5	99.0	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P308890

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1817974	NO2NO3-N	106	106	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P308532

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1817935	Total-P	99.6	99.9	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P308378

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1817723	O-Phosphate-P	94.7	96.0	P/P	90 - 110

Reference Method: SM 4500 F-C-97
Batch ID: P308756

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1817588	Fluoride	96.2	96.8	P/P	91 - 105

Quality Assurance Report Matrix Spike Accuracy

Reference Method: SM 5310 B-00
Batch ID: P308689

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1817804	Organic Carbon	99.0	98.0	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P308445

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1817971	Turbidity	0.0	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P309180

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1817654	Chloride	0.0366	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P309183

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1817654	Sulfate	0.164	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P308506

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1817973	Ammonia-N	1.11	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P309016

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1817958	Kjeldahl Nitrogen	3.36	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P308889

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1817804	NO2NO3-N	0.767	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P308890

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1817974	NO2NO3-N	0.473	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P308532

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1817935	Total-P	0.223	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P308378

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1817723	O-Phosphate-P	1.36	Spike	P	0 - 20

Reference Method: SM 2120 B
Batch ID: P308388

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1817994	Color (true)	3.54	Sample	P	0 - 20

Reference Method: SM 2320 B-97
Batch ID: P308752

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1817588	Total Alkalinity	0.265	Sample	P	0 - 4.8

Reference Method: SM 2540 C-97
Batch ID: P309151

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1817802	TDS	0.597	Sample	P	0 - 10

Reference Method: SM 2540 C-97
Batch ID: P309152

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1817994	TDS	0.930	Sample	P	0 - 10

Reference Method: SM 2540 D-97
Batch ID: P308904

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1817802	TSS	0.0	Sample	P	0 - 10

Quality Assurance Report Precision

Reference Method: SM 4500 F-C-97
Batch ID: P308756

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1817588	Fluoride	0.482	Spike	P	0 - 3.0

Reference Method: SM 5310 B-00
Batch ID: P308689

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1817804	Organic Carbon	0.610	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: EPA 365.1 Rev. 2.0 dissolved
Run ID: A70684
Included Lab Sample IDs: 1817977, 1817978, 1817979, 1817980

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	99.0	99.1	P/P	90 - 110
O-Phosphate-P	99.2	99.4	P/P	90 - 110

Reference Method: SM 2120 B
Run ID: A70685
Included Lab Sample IDs: 1817969, 1817970, 1817971, 1817972

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	96.3	95.0	P/P	90 - 115

Reference Method: EPA 180.1 Rev. 2.0
Run ID: A70697
Included Lab Sample IDs: 1817969, 1817970, 1817971, 1817972

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Turbidity	99.5	100	P/P	95 - 105

Reference Method: EPA 350.1 Rev. 2.0
Run ID: A70718
Included Lab Sample IDs: 1817973, 1817974, 1817975, 1817976

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	103	101	P/P	90 - 110

Reference Method: SM 5310 B-00
Run ID: A70782
Included Lab Sample IDs: 1817973, 1817974, 1817975, 1817976

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	96.8	97.0	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: SM 2320 B-97

Run ID: A70797

Included Lab Sample IDs: 1817969, 1817970, 1817971, 1817972

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

Reference Method: SM 4500 F-C-97

Run ID: A70797

Included Lab Sample IDs: 1817969, 1817970, 1817971, 1817972

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

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A70838

Included Lab Sample IDs: 1817973, 1817974, 1817975, 1817976

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	100	101	P/P	90 - 110
NO2NO3-N	101	102	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A70850

Included Lab Sample IDs: 1817973, 1817974, 1817975, 1817976

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

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A70885

Included Lab Sample IDs: 1817969, 1817970, 1817971, 1817972

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	101	99.9	P/P	90 - 110
Chloride	99.4	101	P/P	90 - 110
Sulfate	96.4	98.1	P/P	90 - 110
Sulfate	98.1	96.1	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A71029

Included Lab Sample IDs: 1817973, 1817974, 1817975, 1817976

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	97.0	94.2	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	MS
				LCS	SMP

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery		LCS	Precision	MS
						SMP	
EPA 180.1 Rev. 2.0	Turbidity					0.0	
EPA 300.0 Rev. 2.1	Chloride	98.2	97.7	97.7		0.0366	
	Sulfate	95.1	93.4	93.3		0.164	
EPA 350.1 Rev. 2.0	Ammonia-N	101	98.6	99.8			1.11
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	104	95.6	99.7			3.36
EPA 353.2 Rev. 2.0	NO2NO3-N	104	97.5	99.0			0.767
	NO2NO3-N	105	106	106			0.473
EPA 365.1 Rev. 2.0	Total-P	97.4	99.6	99.9			0.223
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	101	94.7	96.0			1.36
SM 2120 B	Color (true)					3.54	
SM 2320 B-97	Total Alkalinity	104				0.265	
SM 2540 C-97	TDS					0.597	
	TDS					0.930	
SM 2540 D-97	TSS					0.0	
SM 4500 F-C-97	Fluoride	99.8	96.2	96.8			0.482
SM 5310 B-00	Organic Carbon	95.4	99.0	98.0			0.610

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 180.1 Rev. 2.0 / E31780	Turbidity in aqueous matrices	1817969, 1817970, 1817971, 1817972
EPA 300.0 Rev. 2.1 / E31780	Chloride in aqueous matrices	1817969, 1817970, 1817971, 1817972
EPA 300.0 Rev. 2.1 / E31780	Sulfate in aqueous matrices	1817969, 1817970, 1817971, 1817972
EPA 350.1 Rev. 2.0 / E31780	Ammonia in aqueous matrices as mg N/L	1817973, 1817974, 1817975, 1817976
EPA 351.2 Rev. 2.0 / E31780	Total Kjeldahl Nitrogen in aqueous matrices	1817973, 1817974, 1817975, 1817976
EPA 353.2 Rev. 2.0 / E31780	Nitrite/Nitrate in aqueous matrices as mg N/L	1817973, 1817974, 1817975, 1817976
EPA 365.1 Rev. 2.0 / E31780	Total Phosphorus in aqueous matrices as mg P/L	1817973, 1817974, 1817975, 1817976
EPA 365.1 Rev. 2.0 dissolved / E31780	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	1817977, 1817978, 1817979, 1817980
SM 2120 B / E31780	True Color measured at 450 nm	1817969, 1817970, 1817971, 1817972
SM 2320 B-97 / E31780	Alkalinity in aqueous matrices as mg CaCO3/L	1817969, 1817970, 1817971, 1817972
SM 2540 C-97 / E31780	Total Dissolved Solids in aqueous matrices	1817969, 1817970, 1817971, 1817972
SM 2540 D-97 / E31780	Total Suspended Solids in aqueous matrices	1817969, 1817970, 1817971, 1817972
SM 4500 F-C-97 / E31780	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	1817969, 1817970, 1817971, 1817972
SM 5310 B-00 / E31780	Nonpurgeable Organic Carbon in aqueous matrices	1817973, 1817974, 1817975, 1817976

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	07/21/2016			07/21/2016 16:17	Blanca Fach	1817969, 1817970, 1817971, 1817972
EPA 300.0 Rev. 2.1	07/21/2016			08/03/2016	Ping Hua	1817969, 1817970, 1817971, 1817972
EPA 350.1 Rev. 2.0	07/21/2016			07/22/2016	Diana M. Turner	1817973, 1817974, 1817975, 1817976
EPA 351.2 Rev. 2.0	07/21/2016	08/02/2016	Sofia Elnemr	08/04/2016	Christopher Armour	1817973, 1817974, 1817975, 1817976
EPA 353.2 Rev. 2.0	07/21/2016			07/29/2016	Peter D. Kaus	1817973, 1817974, 1817975, 1817976
EPA 365.1 Rev. 2.0	07/21/2016	07/25/2016	Vijayalakshmi Reddy	07/29/2016	Lipi Saha	1817973, 1817974, 1817975, 1817976
EPA 365.1 Rev. 2.0 dissolved	07/21/2016			07/21/2016 13:58	Julia Storbeck	1817977
	07/21/2016			07/21/2016 13:59	Julia Storbeck	1817978
	07/21/2016			07/21/2016 14:00	Julia Storbeck	1817979
	07/21/2016			07/21/2016 14:22	Julia Storbeck	1817980
SM 2120 B	07/21/2016			07/21/2016 16:00	Rochelle Y Jackson	1817969, 1817970
	07/21/2016			07/21/2016 16:01	Rochelle Y Jackson	1817971
	07/21/2016			07/21/2016 16:02	Rochelle Y Jackson	1817972
SM 2320 B-97	07/21/2016			07/27/2016	Dale L. Simmons	1817969, 1817970, 1817971, 1817972
SM 2540 C-97	07/21/2016			07/25/2016	Sima Feizi	1817969, 1817970, 1817971, 1817972
SM 2540 D-97	07/21/2016			07/25/2016	Sima Feizi	1817969, 1817970, 1817971, 1817972
SM 4500 F-C-97	07/21/2016			07/27/2016	Dale L. Simmons	1817969, 1817970, 1817971, 1817972
SM 5310 B-00	07/21/2016			07/27/2016	Sofia Elnemr	1817973, 1817974, 1817975, 1817976