

Chemical Analysis Report

NE-DIST-2017-06-16-01

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

Event Description: **SUW4-6/8/17**
Request ID: **RQ-2017-06-05-28**
Customer: **NE-DIST**
Project ID: **SMP**

Send Reports to:
NE ROC
8800 Baymeadows Way W
Suite 100
Jacksonville, FL 32256-7577
Attn: Nicole Frederick

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: Thekkekalathil Chandrasekhar, Chemist Administrator

Date Certified: 07-JUL-2017 13:20



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: LAKE SAMPSON NEAR E SHORE

Collection Date/Time: 06/15/2017 10:00

Field ID: G1NE0511 06072017

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1906963	EPA 180.1 Rev. 2.0	Turbidity	1.2	A	NTU	P327042	
	EPA 300.0 Rev. 2.1	Chloride	22	A	mg Cl/L	P327295	
		Sulfate	8.6	A	mg SO4/L	P327296	
	SM 2120 B	Color (true)	18		PCU	P326993	
	SM 2320 B-97	Total Alkalinity	35		mg CaCO3/L	P327450	
	SM 2540 C-97	TDS	123		mg/L	P327488	
	SM 2540 D-97	TSS	2	I	mg/L	P327525	
	SM 4500 F-C-97	Fluoride	0.075	I	mg F/L	P327454	
1906966	EPA 350.1 Rev. 2.0	Ammonia-N	0.007		mg N/L	P327176	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.67		mg N/L	P327340	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P327223	
	EPA 365.1 Rev. 2.0	Total-P	0.017		mg P/L	P327208	
	SM 5310 B-00	Organic Carbon	11		mg C/L	P327447	
1906969	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P327002	

Sample Location: LAKE ALTO CENTER

Collection Date/Time: 06/15/2017 11:15

Field ID: G1NE0528 06072017

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1906964	EPA 180.1 Rev. 2.0	Turbidity	2.2		NTU	P327042	
	EPA 300.0 Rev. 2.1	Chloride	14		mg Cl/L	P327295	
		Sulfate	5.2		mg SO4/L	P327296	
	SM 2120 B	Color (true)	98		PCU	P326994	
	SM 2320 B-97	Total Alkalinity	2.7		mg CaCO3/L	P327450	
	SM 2540 C-97	TDS	91		mg/L	P327487	
	SM 2540 D-97	TSS	2	I	mg/L	P327526	
	SM 4500 F-C-97	Fluoride	0.047	I	mg F/L	P327454	
1906967	EPA 350.1 Rev. 2.0	Ammonia-N	0.003	I	mg N/L	P327176	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.76		mg N/L	P327340	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P327223	
	EPA 365.1 Rev. 2.0	Total-P	0.022		mg P/L	P327208	
	SM 5310 B-00	Organic Carbon	15		mg C/L	P327447	
1906970	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P327002	

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: LAKE ALTO CENTER dup

Collection Date/Time: 06/15/2017 11:20

Field ID: G1NE0528 06072017

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1906965	EPA 180.1 Rev. 2.0	Turbidity	2.0		NTU	P327042	
	EPA 300.0 Rev. 2.1	Chloride	14		mg Cl/L	P327295	
		Sulfate	5.3		mg SO4/L	P327296	
	SM 2120 B	Color (true)	97	A	PCU	P326994	

Field ID: G1NE0528 06072017

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1906965	SM 2320 B-97	Total Alkalinity	2.6		mg CaCO3/L	P327451	
	SM 2540 C-97	TDS	88		mg/L	P327488	
	SM 2540 D-97	TSS	3	I	mg/L	P327526	
	SM 4500 F-C-97	Fluoride	0.048	I	mg F/L	P327455	
1906968	EPA 350.1 Rev. 2.0	Ammonia-N	0.003	I	mg N/L	P327176	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.82		mg N/L	P327533	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P327223	
	EPA 365.1 Rev. 2.0	Total-P	0.021		mg P/L	P327208	
	SM 5310 B-00	Organic Carbon	15		mg C/L	P327447	
1906971	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P327002	

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: P327042

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 300.0 Rev. 2.1
 Batch ID: P327295

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
 Batch ID: P327296

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
 Batch ID: P327176

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

Reference Method: EPA 351.2 Rev. 2.0
 Batch ID: P327340

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

Reference Method: EPA 351.2 Rev. 2.0
 Batch ID: P327533

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

Quality Assurance Report Method Blank Results

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P327223

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P327208

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P327002

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

Reference Method: SM 2120 B
Batch ID: P326993

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2120 B
Batch ID: P326994

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2320 B-97
Batch ID: P327450

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

Reference Method: SM 2320 B-97
Batch ID: P327451

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

Reference Method: SM 2540 C-97
Batch ID: P327487

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 C-97
Batch ID: P327488

Component	Result	Code	Units
TDS	15	U	mg/L

Quality Assurance Report Method Blank Results

Reference Method: SM 2540 D-97
Batch ID: P327525

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 2540 D-97
Batch ID: P327526

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500 F-C-97
Batch ID: P327454

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 4500 F-C-97
Batch ID: P327455

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-00
Batch ID: P327447

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: P327295

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P327296

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Sulfate	96.1		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P327176

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Ammonia-N	108		P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P327340

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P327340

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P327533

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P327223

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P327208

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P327002

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: P327450

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

Reference Method: SM 2320 B-97
Batch ID: P327451

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

Reference Method: SM 4500 F-C-97
Batch ID: P327454

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	96.1		P	92 - 103

Reference Method: SM 4500 F-C-97
Batch ID: P327455

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	96.1		P	92 - 103

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: SM 5310 B-00
 Batch ID: P327447

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	96.5		P	85 - 115

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 300.0 Rev. 2.1
 Batch ID: P327295

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1906963	Chloride	101		P	90 - 110
1906964	Chloride	98.0		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
 Batch ID: P327296

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1906963	Sulfate	97.4		P	90 - 110
1906964	Sulfate	95.7		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
 Batch ID: P327176

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1906966	Ammonia-N	101	101	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
 Batch ID: P327340

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1906966	Kjeldahl Nitrogen	100	98.0	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
 Batch ID: P327533

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1906968	Kjeldahl Nitrogen	102	97.9	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
 Batch ID: P327223

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1906916	NO2NO3-N	101	102	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
 Batch ID: P327208

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1906966	Total-P	100	98.7	P/P	90 - 110

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P327002

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1906914	O-Phosphate-P	92.9	94.0	P/P	90 - 110

Reference Method: SM 4500 F-C-97
Batch ID: P327454

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1906739	Fluoride	97.0	95.9	P/P	91 - 105

Reference Method: SM 4500 F-C-97
Batch ID: P327455

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1907259	Fluoride	98.4	98.4	P/P	91 - 105

Reference Method: SM 5310 B-00
Batch ID: P327447

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1906910	Organic Carbon	95.8	96.0	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P327042

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1906963	Turbidity	11.6	Sample	P	0 - 15

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P327295

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1906963	Chloride	0.260	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P327296

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1906963	Sulfate	0.859	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P327176

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1906966	Ammonia-N	0.00175	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P327340

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1906966	Kjeldahl Nitrogen	1.51	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P327533

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1906968	Kjeldahl Nitrogen	2.45	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P327223

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1906916	NO2NO3-N	0.293	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P327208

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1906966	Total-P	1.60	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P327002

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1906914	O-Phosphate-P	0.815	Spike	P	0 - 20

Reference Method: SM 2120 B
Batch ID: P326993

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1906912	Color (true)	0.0224	Sample	P	0 - 20

Reference Method: SM 2120 B
Batch ID: P326994

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1906965	Color (true)	0.267	Sample	P	0 - 20

Reference Method: SM 2320 B-97
Batch ID: P327450

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1906739	Total Alkalinity	0.0455	Sample	P	0 - 4.8

Quality Assurance Report Precision

Reference Method: SM 2320 B-97
Batch ID: P327451

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1907259	Total Alkalinity	0.698	Sample	P	0 - 4.8

Reference Method: SM 2540 C-97
Batch ID: P327487

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1906912	TDS	5.32	Sample	P	0 - 10

Reference Method: SM 2540 C-97
Batch ID: P327488

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1907230	TDS	8.54	Sample	P	0 - 10

Reference Method: SM 2540 D-97
Batch ID: P327525

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1906912	TSS	5.94	Sample	P	0 - 10

Reference Method: SM 4500 F-C-97
Batch ID: P327454

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1906739	Fluoride	1.04	Spike	P	0 - 3.0

Reference Method: SM 4500 F-C-97
Batch ID: P327455

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1907259	Fluoride	0.0	Spike	P	0 - 3.0

Reference Method: SM 5310 B-00
Batch ID: P327447

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1906910	Organic Carbon	0.142	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: A77148

Included Lab Sample IDs: 1906963, 1906964, 1906965

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	97.9	98.9	P/P	85 - 115
Color (true)	98.9	98.1	P/P	85 - 115

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Run ID: A77152

Included Lab Sample IDs: 1906969, 1906970, 1906971

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	99.5	99.6	P/P	90 - 110

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A77166

Included Lab Sample IDs: 1906963, 1906964, 1906965

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

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A77183

Included Lab Sample IDs: 1906963, 1906964, 1906965

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	100	107	P/P	90 - 110
Chloride	107	98.7	P/P	90 - 110
Sulfate	100	107	P/P	90 - 110
Sulfate	107	99.1	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A77219

Included Lab Sample IDs: 1906966, 1906967, 1906968

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

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A77227

Included Lab Sample IDs: 1906966, 1906967, 1906968

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

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A77271

Included Lab Sample IDs: 1906966, 1906967, 1906968

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

Quality Assurance Report Calibration Verification

Reference Method: SM 2320 B-97

Run ID: A77329

Included Lab Sample IDs: 1906963, 1906964, 1906965

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	100	103	P/P	90 - 110
Total Alkalinity	103	100	P/P	90 - 110

Reference Method: SM 4500 F-C-97

Run ID: A77329

Included Lab Sample IDs: 1906963, 1906964, 1906965

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	97.0	97.6	P/P	90 - 110
Fluoride	97.6	99.0	P/P	90 - 110

Reference Method: SM 5310 B-00

Run ID: A77330

Included Lab Sample IDs: 1906966, 1906967, 1906968

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	96.3	95.4	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A77351

Included Lab Sample IDs: 1906966, 1906967

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	99.7	97.5	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A77467

Included Lab Sample IDs: 1906968

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	102	106	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				11.6 RSD	
EPA 300.0 Rev. 2.1	Chloride	97.4	101 98.0		0.260	
	Sulfate	96.1	97.4 95.7		0.859	
EPA 350.1 Rev. 2.0	Ammonia-N	108	101 101			0.0017
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	102	100 98.0			1.51
	Kjeldahl Nitrogen	103	102 97.9			2.45
EPA 353.2 Rev. 2.0	NO2NO3-N	104	101 102			0.293
EPA 365.1 Rev. 2.0	Total-P	99.2	100 98.7			1.60
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	96.8	92.9 94.0			0.815

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery	Precision		
				LCS	SMP	MS
SM 2120 B	Color (true)				0.0224	
	Color (true)				0.267	
SM 2320 B-97	Total Alkalinity	103			0.0455	
	Total Alkalinity	104			0.698	
SM 2540 C-97	TDS				5.32	
	TDS				8.54	
SM 2540 D-97	TSS				5.94	
SM 4500 F-C-97	Fluoride	96.1	97.0 95.9			1.04
	Fluoride	96.1	98.4 98.4			0.0
SM 5310 B-00	Organic Carbon	96.5	95.8 96.0			0.142

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 180.1 Rev. 2.0 / E31780	Turbidity in aqueous matrices	1906963, 1906964, 1906965
EPA 300.0 Rev. 2.1 / E31780	Chloride in aqueous matrices	1906963, 1906964, 1906965
EPA 300.0 Rev. 2.1 / E31780	Sulfate in aqueous matrices	1906963, 1906964, 1906965
EPA 350.1 Rev. 2.0 / E31780	Ammonia in aqueous matrices as mg N/L	1906966, 1906967, 1906968
EPA 351.2 Rev. 2.0 / E31780	Total Kjeldahl Nitrogen in aqueous matrices	1906966, 1906967, 1906968
EPA 353.2 Rev. 2.0 / E31780	Nitrite/Nitrate in aqueous matrices as mg N/L	1906966, 1906967, 1906968
EPA 365.1 Rev. 2.0 / E31780	Total Phosphorus in aqueous matrices as mg P/L	1906966, 1906967, 1906968
EPA 365.1 Rev. 2.0 dissolved / E31780	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	1906969, 1906970, 1906971
SM 2120 B / E31780	True Color measured at 450 nm	1906963, 1906964, 1906965
SM 2320 B-97 / E31780	Alkalinity in aqueous matrices as mg CaCO ₃ /L	1906963, 1906964, 1906965
SM 2540 C-97 / E31780	Total Dissolved Solids in aqueous matrices	1906963, 1906964, 1906965
SM 2540 D-97 / E31780	Total Suspended Solids in aqueous matrices	1906963, 1906964, 1906965
SM 4500 F-C-97 / E31780	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	1906963, 1906964, 1906965
SM 5310 B-00 / E31780	Nonpurgeable Organic Carbon in aqueous matrices	1906966, 1906967, 1906968

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	06/16/2017			06/16/2017 16:39	Blanca Fach	1906963, 1906964, 1906965
EPA 300.0 Rev. 2.1	06/16/2017			06/21/2017	Julia Storbeck	1906963, 1906964, 1906965
EPA 350.1 Rev. 2.0	06/16/2017			06/20/2017	Sofia Elnemr	1906966, 1906967, 1906968
EPA 351.2 Rev. 2.0	06/16/2017	06/23/2017	Adrian Shelby	06/26/2017	Joseph Suarez	1906966, 1906967
	06/16/2017	06/27/2017	Adrian Shelby	06/30/2017	Joseph Suarez	1906968
EPA 353.2 Rev. 2.0	06/16/2017			06/21/2017	Beverly Y. Sanders	1906966, 1906967, 1906968
EPA 365.1 Rev. 2.0	06/16/2017	06/21/2017	Vijayalakshmi Reddy	06/22/2017	Lipi Saha	1906966, 1906967, 1906968
EPA 365.1 Rev. 2.0 dissolved	06/16/2017			06/16/2017 16:13	Anthony C. Onicha	1906969
	06/16/2017			06/16/2017 16:14	Anthony C. Onicha	1906970
	06/16/2017			06/16/2017 16:15	Anthony C. Onicha	1906971
SM 2120 B	06/16/2017			06/16/2017 15:14	Tanya Welborn	1906963
	06/16/2017			06/16/2017 15:17	Tanya Welborn	1906964
	06/16/2017			06/16/2017 15:19	Tanya Welborn	1906965
SM 2320 B-97	06/16/2017			06/24/2017	Dale L. Simmons	1906963, 1906964, 1906965
SM 2540 C-97	06/16/2017			06/21/2017	Yijie Li	1906963, 1906964, 1906965
SM 2540 D-97	06/16/2017			06/21/2017	Yijie Li	1906963, 1906964, 1906965
SM 4500 F-C-97	06/16/2017			06/24/2017	Dale L. Simmons	1906963, 1906964, 1906965
SM 5310 B-00	06/16/2017			06/23/2017	Sofia Elnemr	1906966, 1906967
	06/16/2017			06/24/2017	Sofia Elnemr	1906968