Chemical Analysis Report

NE-DIST-2017-02-14-01

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

Event Description: **Suwanne 1-2/6/2017**
Request ID: **RQ-2017-01-30-14**
Customer: **NE-DIST**
Project ID: **SMP**

Send Reports to:
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8800 Baymeadows Way
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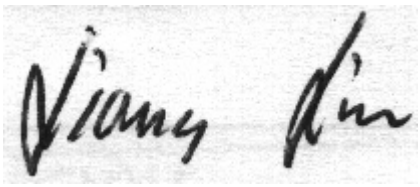
Certified by: Liang Lin, Environmental Administrator

Date Certified: 02-MAR-2017 10:26



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: Peacock Lake Center **Collection Date/Time: 02/13/2017 10:20**

Field ID: G1NE0417 02132016 Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1872391	EPA 180.1 Rev. 2.0	Turbidity	11		NTU	P319838	
	EPA 300.0 Rev. 2.1	Chloride	7.8		mg Cl/L	P320634	
		Sulfate	3.8		mg SO4/L	P320633	
	SM 2120 B	Color (true)	68		PCU	P319843	
	SM 2320 B-97	Total Alkalinity	7.8		mg CaCO3/L	P320108	
	SM 2540 C-97	TDS	57		mg/L	P320454	
	SM 2540 D-97	TSS	12		mg/L	P320384	
	SM 4500 F-C-97	Fluoride	0.11		mg F/L	P320111	
1872394	EPA 350.1 Rev. 2.0	Ammonia-N	0.004	I	mg N/L	P320016	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.96		mg N/L	P319847	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P320170	
	EPA 365.1 Rev. 2.0	Total-P	0.20		mg P/L	P319898	
	SM 5310 B-00	Organic Carbon	9.3		mg C/L	P319909	
1872397	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.071		mg P/L	P319831	

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: Rocky Creek @ CR 136 **Collection Date/Time: 02/13/2017 11:30**

Field ID: G1NE0234 02132016 Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1872392	EPA 180.1 Rev. 2.0	Turbidity	2.2		NTU	P319838	
	EPA 300.0 Rev. 2.1	Chloride	13		mg Cl/L	P320634	
		Sulfate	1.8	A	mg SO4/L	P320126	
	SM 2120 B	Color (true)	310		PCU	P319843	
	SM 2320 B-97	Total Alkalinity	8.7		mg CaCO3/L	P320108	
	SM 2540 C-97	TDS	99		mg/L	P320454	
	SM 2540 D-97	TSS	3	I	mg/L	P320384	
	SM 4500 F-C-97	Fluoride	0.13		mg F/L	P320111	
1872395	EPA 350.1 Rev. 2.0	Ammonia-N	0.009		mg N/L	P320016	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.84		mg N/L	P319847	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.043		mg N/L	P320170	
	EPA 365.1 Rev. 2.0	Total-P	0.34		mg P/L	P319898	
	SM 5310 B-00	Organic Carbon	28		mg C/L	P319909	
1872398	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.28		mg P/L	P319831	

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: Jerry Branch @ SE CR 25A **Collection Date/Time: 02/13/2017 12:10**

Field ID: G1NE0455 02132016 Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1872393	EPA 180.1 Rev. 2.0	Turbidity	1.6	A	NTU	P319838	
	EPA 300.0 Rev. 2.1	Chloride	9.7	A	mg Cl/L	P320634	
		Sulfate	12		mg SO4/L	P320126	

Field ID: G1NE0455 02132016 Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1872393	SM 2120 B	Color (true)	230		PCU	P319843	
	SM 2320 B-97	Total Alkalinity	14		mg CaCO3/L	P320108	
	SM 2540 C-97	TDS	97		mg/L	P320455	
	SM 2540 D-97	TSS	3	I	mg/L	P320385	
	SM 4500 F-C-97	Fluoride	0.33		mg F/L	P320111	
1872396	EPA 350.1 Rev. 2.0	Ammonia-N	0.019		mg N/L	P320016	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.77		mg N/L	P319850	MS
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.009	I	mg N/L	P320170	
	EPA 365.1 Rev. 2.0	Total-P	0.29		mg P/L	P319898	
	SM 5310 B-00	Organic Carbon	23		mg C/L	P319909	
1872399	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.24		mg P/L	P319831	

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: P319838

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P320126

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P320633

Component	Result	Code	Units
Sulfate	0.2	U	mg SO4/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P320634

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P320016

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P319847

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

Quality Assurance Report
Method Blank Results

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P319850

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P320170

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P319898

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P319831

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

Reference Method: SM 2120 B
Batch ID: P319843

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2320 B-97
Batch ID: P320108

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

Reference Method: SM 2540 C-97
Batch ID: P320454

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 C-97
Batch ID: P320455

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-97
Batch ID: P320384

Component	Result	Code	Units
TSS	2	U	mg/L

Quality Assurance Report
Method Blank Results

Reference Method: SM 2540 D-97
Batch ID: P320385

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500 F-C-97
Batch ID: P320111

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-00
Batch ID: P319909

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: P320126

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P320633

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Sulfate	94.6		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P320634

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P320016

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Ammonia-N	99.7		P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P319847

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P319850

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits

Quality Assurance Report
Laboratory Control Sample Accuracy

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P319850

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P320170

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: P319898

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total-P	97.2		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P319831

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
O-Phosphate-P	99.9		P	90 - 110

Reference Method: SM 2320 B-97
Batch ID: P320108

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

Reference Method: SM 4500 F-C-97
Batch ID: P320111

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	98.4		P	92 - 103

Reference Method: SM 5310 B-00
Batch ID: P319909

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	95.9		P	85 - 115

Quality Assurance Report
Matrix Spike Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P320126

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1872392	Sulfate	106		P	90 - 110
1872393	Sulfate	108		P	90 - 110

Quality Assurance Report
Matrix Spike Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P320633

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1872392	Sulfate	96.4		P	90 - 110
1872393	Sulfate	95.1		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P320634

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1872392	Chloride	100		P	90 - 110
1872393	Chloride	99.7		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P320016

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1872394	Ammonia-N	98.8	103	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P319847

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1871976	Kjeldahl Nitrogen	98.7	93.2	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P319850

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1872646	Kjeldahl Nitrogen	86.7	86.1	F/F	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P320170

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1872370	NO2NO3-N	106		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P319898

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1872416	Total-P	94.7	97.5	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P319831

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1872397	O-Phosphate-P	96.9	97.7	P/P	90 - 110

Reference Method: SM 4500 F-C-97
Batch ID: P320111

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1872640	Fluoride	101	101	P/P	91 - 105

Quality Assurance Report
Matrix Spike Accuracy

Reference Method: SM 5310 B-00
Batch ID: P319909

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1872369	Organic Carbon	94.1	93.2	P/P	85 - 115

Quality Assurance Report
Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P319838

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1872393	Turbidity	1.86	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P320126

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1872392	Sulfate	0.810	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P320633

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1872393	Sulfate	0.393	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P320634

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1872393	Chloride	0.106	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P320016

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1872394	Ammonia-N	3.89	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P319847

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1871976	Kjeldahl Nitrogen	3.84	Spike	P	0 - 20

Quality Assurance Report
Precision

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P319850

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1872646	Kjeldahl Nitrogen	0.467	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P320170

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1872370	NO2NO3-N	0.528	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P319898

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1872416	Total-P	2.28	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P319831

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1872397	O-Phosphate-P	0.476	Spike	P	0 - 20

Reference Method: SM 2120 B
Batch ID: P319843

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1872388	Color (true)	0.877	Sample	P	0 - 20

Reference Method: SM 2320 B-97
Batch ID: P320108

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1872640	Total Alkalinity	0.161	Sample	P	0 - 4.8

Reference Method: SM 2540 C-97
Batch ID: P320454

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1872368	TDS	4.91	Sample	P	0 - 10

Reference Method: SM 2540 C-97
Batch ID: P320455

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1872485	TDS	6.29	Sample	P	0 - 10

Quality Assurance Report
Precision

Reference Method: SM 4500 F-C-97
Batch ID: P320111

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1872640	Fluoride	0.0	Spike	P	0 - 3.0

Reference Method: SM 5310 B-00
Batch ID: P319909

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1872369	Organic Carbon	0.809	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: A74465
Included Lab Sample IDs: 1872397, 1872398, 1872399

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	101	102	P/P	90 - 110
O-Phosphate-P	101	101	P/P	90 - 110

Reference Method: EPA 180.1 Rev. 2.0
Run ID: A74468
Included Lab Sample IDs: 1872391, 1872392, 1872393

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Turbidity	99.5	97.5	P/P	95 - 105

Reference Method: SM 2120 B
Run ID: A74469
Included Lab Sample IDs: 1872391, 1872392, 1872393

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	103	105	P/P	85 - 115
Color (true)	98.2	99.4	P/P	85 - 115

Reference Method: SM 5310 B-00
Run ID: A74499
Included Lab Sample IDs: 1872394, 1872395, 1872396

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	96.6	96.8	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Run ID: A74519
Included Lab Sample IDs: 1872394, 1872395

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits

Quality Assurance Report
Calibration Verification

Reference Method: EPA 351.2 Rev. 2.0
Run ID: A74519
Included Lab Sample IDs: 1872394, 1872395

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	94.8	94.0	P/P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Run ID: A74527
Included Lab Sample IDs: 1872392, 1872393

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Sulfate	101	97.8	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Run ID: A74529
Included Lab Sample IDs: 1872394, 1872395, 1872396

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	99.5	98.1	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Run ID: A74538
Included Lab Sample IDs: 1872394, 1872395, 1872396

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	97.8	99.0	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Run ID: A74545
Included Lab Sample IDs: 1872396

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	96.5	95.8	P/P	90 - 110

Reference Method: SM 2320 B-97
Run ID: A74571
Included Lab Sample IDs: 1872391, 1872392, 1872393

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

Reference Method: SM 4500 F-C-97
Run ID: A74571
Included Lab Sample IDs: 1872391, 1872392, 1872393

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	98.0	100	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Run ID: A74601
Included Lab Sample IDs: 1872394, 1872395, 1872396

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

Quality Assurance Report
Calibration Verification

Reference Method: EPA 300.0 Rev. 2.1
Run ID: A74765
Included Lab Sample IDs: 1872391, 1872392, 1872393

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	102	104	P/P	90 - 110
Chloride	103	102	P/P	90 - 110
Sulfate	97.0	91.8	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		
					LCS	SMP	MS
EPA 180.1 Rev. 2.0	Turbidity					1.86	
EPA 300.0 Rev. 2.1	Chloride	100	99.7	100		0.106	
	Sulfate	104	106	108		0.810	
	Sulfate	94.6	95.1	96.4		0.393	
EPA 350.1 Rev. 2.0	Ammonia-N	99.7	98.8	103			3.89
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	99.2	98.7	93.2			3.84
	Kjeldahl Nitrogen	101	86.7	86.1			0.467
EPA 353.2 Rev. 2.0	NO2NO3-N	106	106				0.528
EPA 365.1 Rev. 2.0	Total-P	97.2	94.7	97.5			2.28
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	99.9	96.9	97.7			0.476
SM 2120 B	Color (true)					0.877	
SM 2320 B-97	Total Alkalinity	103				0.161	
SM 2540 C-97	TDS					4.91	
	TDS					6.29	
SM 4500 F-C-97	Fluoride	98.4	101	101			0.0
SM 5310 B-00	Organic Carbon	95.9	94.1	93.2			0.809

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 180.1 Rev. 2.0 / E31780	Turbidity in aqueous matrices	1872391, 1872392, 1872393
EPA 300.0 Rev. 2.1 / E31780	Chloride in aqueous matrices	1872391, 1872392, 1872393
EPA 300.0 Rev. 2.1 / E31780	Sulfate in aqueous matrices	1872391, 1872392, 1872393
EPA 350.1 Rev. 2.0 / E31780	Ammonia in aqueous matrices as mg N/L	1872394, 1872395, 1872396
EPA 351.2 Rev. 2.0 / E31780	Total Kjeldahl Nitrogen in aqueous matrices	1872394, 1872395, 1872396
EPA 353.2 Rev. 2.0 / E31780	Nitrite/Nitrate in aqueous matrices as mg N/L	1872394, 1872395, 1872396
EPA 365.1 Rev. 2.0 / E31780	Total Phosphorus in aqueous matrices as mg P/L	1872394, 1872395, 1872396
EPA 365.1 Rev. 2.0 dissolved / E31780	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	1872397, 1872398, 1872399
SM 2120 B / E31780	True Color measured at 450 nm	1872391, 1872392, 1872393
SM 2320 B-97 / E31780	Alkalinity in aqueous matrices as mg CaCO3/L	1872391, 1872392, 1872393

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
SM 2540 C-97 / E31780	Total Dissolved Solids in aqueous matrices	1872391, 1872392, 1872393
SM 2540 D-97 / E31780	Total Suspended Solids in aqueous matrices	1872391, 1872392, 1872393
SM 4500 F-C-97 / E31780	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	1872391, 1872392, 1872393
SM 5310 B-00 / E31780	Nonpurgeable Organic Carbon in aqueous matrices	1872394, 1872395, 1872396

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	02/14/2017			02/14/2017 15:27	Julie Michelle Frank	1872391, 1872392, 1872393
EPA 300.0 Rev. 2.1	02/14/2017			02/17/2017	Ping Hua	1872392, 1872393
	02/14/2017			02/27/2017	Ping Hua	1872391
EPA 350.1 Rev. 2.0	02/14/2017			02/16/2017	Sofia Elnemr	1872394, 1872395, 1872396
EPA 351.2 Rev. 2.0	02/14/2017	02/15/2017	Adrian Shelby	02/16/2017	Joseph Suarez	1872394, 1872395
	02/14/2017	02/15/2017	Adrian Shelby	02/17/2017	Joseph Suarez	1872396
EPA 353.2 Rev. 2.0	02/14/2017			02/21/2017	Beverly Y. Sanders	1872394, 1872395, 1872396
EPA 365.1 Rev. 2.0	02/14/2017	02/15/2017	Vijayalakshmi Reddy	02/16/2017	Lipi Saha	1872394, 1872395, 1872396
EPA 365.1 Rev. 2.0 dissolved	02/14/2017			02/14/2017 14:36	Julia Storbeck	1872397
	02/14/2017			02/14/2017 15:14	Julia Storbeck	1872398
	02/14/2017			02/14/2017 15:15	Julia Storbeck	1872399
SM 2120 B	02/14/2017			02/14/2017 16:32	Julie Michelle Frank	1872391
	02/14/2017			02/14/2017 17:07	Julie Michelle Frank	1872392
	02/14/2017			02/14/2017 17:08	Julie Michelle Frank	1872393
SM 2320 B-97	02/14/2017			02/19/2017	Dale L. Simmons	1872391, 1872392, 1872393
SM 2540 C-97	02/14/2017			02/17/2017	Yijie Li	1872391, 1872392, 1872393
SM 2540 D-97	02/14/2017			02/17/2017	Yijie Li	1872391, 1872392, 1872393
SM 4500 F-C-97	02/14/2017			02/19/2017	Dale L. Simmons	1872391, 1872392, 1872393
SM 5310 B-00	02/14/2017			02/14/2017	Julie Michelle Frank	1872394, 1872395, 1872396