

Chemical Analysis Report

NW-DIST-2016-05-24-02

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

Event Description: **WBID 179A 83 145**

Request ID: **RQ-2016-05-23-14**

Customer: **NW-DIST**

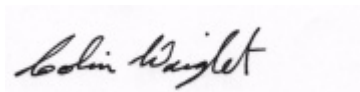
Project ID: **SMP**

Send Reports to:
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Suite 208A
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Attn: Michael King

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Certified by: Colin Wright, Environmental Administrator

Date Certified: 17-JUN-2016 10:02

A handwritten signature in black ink, appearing to read "Colin Wright", is positioned on a light-colored 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: Bear Lake at Center

Collection Date/Time: 05/23/2016 12:20

Field ID: G4NW0361

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1801340	EPA 180.1 Rev. 2.0	Turbidity	1.5		NTU	P305001	
	EPA 300.0 Rev. 2.1	Chloride	2.7		mg Cl/L	P305177	
		Sulfate	0.71		mg SO4/L	P305179	
	SM 2120 B	Color (true)	17		PCU	P304933	
	SM 2320 B-97	Total Alkalinity	7.6		mg CaCO3/L	P305450	
	SM 2540 C-97	TDS	15	I	mg/L	P305273	
	SM 2540 D-97	TSS	2	I	mg/L	P305164	
	SM 4500 F-C-97	Fluoride	0.035	U	mg F/L	P305457	
1801343	EPA 350.1 Rev. 2.0	Ammonia-N	0.002	I	mg N/L	P305309	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.45		mg N/L	P305248	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P304992	
	EPA 365.1 Rev. 2.0	Total-P	0.016		mg P/L	P305593	
	SM 5310 B-00	Organic Carbon	4.6		mg C/L	P305515	
1801346	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P304922	

Ref. Method and Comment:

SM 2540 D-97: The precision data is unavailable due to the low analyte concentration in the QC sample.

Sample Location: Hurricane Lake at Center

Collection Date/Time: 05/23/2016 13:25

Field ID: G4NW0117

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1801341	EPA 180.1 Rev. 2.0	Turbidity	1.2		NTU	P305001	
	EPA 300.0 Rev. 2.1	Chloride	2.7		mg Cl/L	P305177	
		Sulfate	0.84		mg SO4/L	P305179	
	SM 2120 B	Color (true)	12		PCU	P304933	
	SM 2320 B-97	Total Alkalinity	4.9		mg CaCO3/L	P305450	
	SM 2540 C-97	TDS	20	I	mg/L	P305273	
	SM 2540 D-97	TSS	3	I	mg/L	P305164	
	SM 4500 F-C-97	Fluoride	0.035	U	mg F/L	P305457	
1801344	EPA 350.1 Rev. 2.0	Ammonia-N	0.005	I	mg N/L	P305309	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.39		mg N/L	P305248	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P304993	
	EPA 365.1 Rev. 2.0	Total-P	0.015		mg P/L	P305593	
	SM 5310 B-00	Organic Carbon	3.6		mg C/L	P305515	
1801347	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P304922	

Ref. Method and Comment:

SM 2540 D-97: The precision data is unavailable due to the low analyte concentration in the QC sample.

Sample Location: Lake Karick at Center

Collection Date/Time: 05/23/2016 14:35

Field ID: G4NW0274

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1801342	EPA 180.1 Rev. 2.0	Turbidity	2.0		NTU	P305001	
	EPA 300.0 Rev. 2.1	Chloride	2.4		mg Cl/L	P305177	
		Sulfate	0.86		mg SO4/L	P305179	

Field ID: G4NW0274

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1801342	SM 2120 B	Color (true)	14	A	PCU	P304933	
	SM 2320 B-97	Total Alkalinity	7.1		mg CaCO3/L	P305450	
	SM 2540 C-97	TDS	23	I	mg/L	P305273	
	SM 2540 D-97	TSS	3	I	mg/L	P305164	
	SM 4500 F-C-97	Fluoride	0.035	U	mg F/L	P305457	
1801345	EPA 350.1 Rev. 2.0	Ammonia-N	0.004	I	mg N/L	P305309	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.38		mg N/L	P305312	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P304993	
	EPA 365.1 Rev. 2.0	Total-P	0.019		mg P/L	P305614	
	SM 5310 B-00	Organic Carbon	3.3		mg C/L	P305515	
1801348	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P304922	

Ref. Method and Comment:

SM 2540 D-97: The precision data is unavailable due to the low analyte concentration in the QC sample.

Quality Assurance Report Method Blank Results

Reference Method: EPA 180.1 Rev. 2.0

Batch ID: P305001

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 300.0 Rev. 2.1

Batch ID: P305177

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1

Batch ID: P305179

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0

Batch ID: P305309

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

Reference Method: EPA 351.2 Rev. 2.0

Batch ID: P305248

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

Reference Method: EPA 351.2 Rev. 2.0

Batch ID: P305312

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: P304992

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P304993

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P305593

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P305614

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P304922

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

Reference Method: SM 2120 B
Batch ID: P304933

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2320 B-97
Batch ID: P305450

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

Reference Method: SM 2540 C-97
Batch ID: P305273

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-97
Batch ID: P305164

Component	Result	Code	Units
TSS	2	U	mg/L

Quality Assurance Report Method Blank Results

Reference Method: SM 4500 F-C-97
Batch ID: P305457

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-00
Batch ID: P305515

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: P305177

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P305179

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P305309

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Ammonia-N	99.3		P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P305248

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P305312

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Kjeldahl Nitrogen	107		P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P304992

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
NO ₂ NO ₃ -N	102		P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P304993

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

Reference Method: EPA 353.2 Rev. 2.0
 Batch ID: P304993

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
NO2NO3-N	103		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
 Batch ID: P305593

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total-P	99.4		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
 Batch ID: P305614

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
 Batch ID: P304922

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

Reference Method: SM 2320 B-97
 Batch ID: P305450

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	101		P	95 - 105

Reference Method: SM 4500 F-C-97
 Batch ID: P305457

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	97.8		P	92 - 103

Reference Method: SM 5310 B-00
 Batch ID: P305515

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

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 300.0 Rev. 2.1
 Batch ID: P305177

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1801237	Chloride	100		P	90 - 110
1801238	Chloride	101		P	90 - 110

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P305179

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1801237	Sulfate	99.0		P	90 - 110
1801238	Sulfate	100		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P305309

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1801343	Ammonia-N	101	102	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P305248

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1801316	Kjeldahl Nitrogen	96.9	107	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P305312

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1801345	Kjeldahl Nitrogen	100	97.6	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P304992

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1801307	NO2NO3-N	100	100	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P304993

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1801344	NO2NO3-N	102	102	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P305593

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1801316	Total-P	98.5	103	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P305614

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1801345	Total-P	101	101	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P304922

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1801347	O-Phosphate-P	98.8	100	P/P	90 - 110

Quality Assurance Report Matrix Spike Accuracy

Reference Method: SM 4500 F-C-97
Batch ID: P305457

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1801533	Fluoride	98.6	98.6	P/P	91 - 105

Reference Method: SM 5310 B-00
Batch ID: P305515

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1801344	Organic Carbon	94.8	95.3	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P305001

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1801243	Turbidity	5.80	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P305177

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1801237	Chloride	0.254	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P305179

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1801237	Sulfate	0.860	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P305309

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1801343	Ammonia-N	0.530	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P305248

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1801316	Kjeldahl Nitrogen	6.45	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P305312

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P305312

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1801345	Kjeldahl Nitrogen	1.97	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P304992

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1801307	NO2NO3-N	0.305	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P304993

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1801344	NO2NO3-N	0.491	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P305593

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1801316	Total-P	3.99	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P305614

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1801345	Total-P	0.189	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P304922

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1801347	O-Phosphate-P	1.41	Spike	P	0 - 20

Reference Method: SM 2120 B
Batch ID: P304933

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1801342	Color (true)	7.70	Sample	P	0 - 20

Reference Method: SM 2320 B-97
Batch ID: P305450

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1801533	Total Alkalinity	0.678	Sample	P	0 - 4.8

Quality Assurance Report Precision

Reference Method: SM 2540 C-97
Batch ID: P305273

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1801358	TDS	5.43	Sample	P	0 - 10

Reference Method: SM 4500 F-C-97
Batch ID: P305457

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1801533	Fluoride	0.0	Spike	P	0 - 3.0

Reference Method: SM 5310 B-00
Batch ID: P305515

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1801344	Organic Carbon	0.442	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: A69666
Included Lab Sample IDs: 1801346, 1801347, 1801348

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

Reference Method: SM 2120 B
Run ID: A69671
Included Lab Sample IDs: 1801340, 1801341, 1801342

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	98.4	99.6	P/P	90 - 115

Reference Method: EPA 300.0 Rev. 2.1
Run ID: A69676
Included Lab Sample IDs: 1801340, 1801341, 1801342

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	101	103	P/P	90 - 110
Sulfate	97.9	98.6	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Run ID: A69684
Included Lab Sample IDs: 1801343, 1801344, 1801345

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

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A69684

Included Lab Sample IDs: 1801343, 1801344, 1801345

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

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A69689

Included Lab Sample IDs: 1801340, 1801341, 1801342

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Turbidity	99.0	100	P/P	95 - 105

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A69768

Included Lab Sample IDs: 1801343, 1801344, 1801345

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	99.1	99.5	P/P	90 - 110
Ammonia-N	99.5	99.8	P/P	90 - 110

Reference Method: SM 2320 B-97

Run ID: A69805

Included Lab Sample IDs: 1801340, 1801341, 1801342

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	99.9	103	P/P	90 - 110

Reference Method: SM 4500 F-C-97

Run ID: A69805

Included Lab Sample IDs: 1801340, 1801341, 1801342

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	100	98.5	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A69823

Included Lab Sample IDs: 1801343, 1801344

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	99.3	97.0	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A69824

Included Lab Sample IDs: 1801345

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	105	107	P/P	90 - 110

Reference Method: SM 5310 B-00

Run ID: A69826

Included Lab Sample IDs: 1801343, 1801344, 1801345

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

Reference Method: SM 5310 B-00

Run ID: A69826

Included Lab Sample IDs: 1801343, 1801344, 1801345

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	96.8	97.4	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A69920

Included Lab Sample IDs: 1801345

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

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A69947

Included Lab Sample IDs: 1801343, 1801344

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	99.2	99.2	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	LCS	Precision SMP	MS
EPA 180.1 Rev. 2.0	Turbidity				5.80	
EPA 300.0 Rev. 2.1	Chloride	101	100	101	0.254	
	Sulfate	99.2	99.0	100	0.860	
EPA 350.1 Rev. 2.0	Ammonia-N	99.3	101	102		0.530
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	104	96.9	107		6.45
	Kjeldahl Nitrogen	107	100	97.6		1.97
EPA 353.2 Rev. 2.0	NO2NO3-N	102	100	100		0.305
	NO2NO3-N	103	102	102		0.491
EPA 365.1 Rev. 2.0	Total-P	99.4	98.5	103		3.99
	Total-P	108	101	101		0.189
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	99.2	98.8	100		1.41
SM 2120 B	Color (true)				7.70	
SM 2320 B-97	Total Alkalinity	101			0.678	
SM 2540 C-97	TDS				5.43	
SM 4500 F-C-97	Fluoride	97.8	98.6	98.6		0.0
SM 5310 B-00	Organic Carbon	100	94.8	95.3		0.442

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 180.1 Rev. 2.0 / E31780	Turbidity in aqueous matrices	1801340, 1801341, 1801342
EPA 300.0 Rev. 2.1 / E31780	Chloride in aqueous matrices	1801340, 1801341, 1801342

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 300.0 Rev. 2.1 / E31780	Sulfate in aqueous matrices	1801340, 1801341, 1801342
EPA 350.1 Rev. 2.0 / E31780	Ammonia in aqueous matrices as mg N/L	1801343, 1801344, 1801345
EPA 351.2 Rev. 2.0 / E31780	Total Kjeldahl Nitrogen in aqueous matrices	1801343, 1801344, 1801345
EPA 353.2 Rev. 2.0 / E31780	Nitrite/Nitrate in aqueous matrices as mg N/L	1801343, 1801344, 1801345
EPA 365.1 Rev. 2.0 / E31780	Total Phosphorus in aqueous matrices as mg P/L	1801343, 1801344, 1801345
EPA 365.1 Rev. 2.0 dissolved / E31780	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	1801346, 1801347, 1801348
SM 2120 B / E31780	True Color measured at 450 nm	1801340, 1801341, 1801342
SM 2320 B-97 / E31780	Alkalinity in aqueous matrices as mg CaCO ₃ /L	1801340, 1801341, 1801342
SM 2540 C-97 / E31780	Total Dissolved Solids in aqueous matrices	1801340, 1801341, 1801342
SM 2540 D-97 / E31780	Total Suspended Solids in aqueous matrices	1801340, 1801341, 1801342
SM 4500 F-C-97 / E31780	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	1801340, 1801341, 1801342
SM 5310 B-00 / E31780	Nonpurgeable Organic Carbon in aqueous matrices	1801343, 1801344, 1801345

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	05/24/2016			05/24/2016 15:12	Rochelle Y Jackson	1801340, 1801341, 1801342
EPA 300.0 Rev. 2.1	05/24/2016			05/27/2016	Ping Hua	1801340, 1801341, 1801342
EPA 350.1 Rev. 2.0	05/24/2016			05/31/2016	Diana M. Turner	1801343, 1801344, 1801345
EPA 351.2 Rev. 2.0	05/24/2016	05/31/2016	Sofia Elnemr	06/02/2016	Christopher Armour	1801343, 1801344
	05/24/2016	06/01/2016	Sofia Elnemr	06/02/2016	Christopher Armour	1801345
EPA 353.2 Rev. 2.0	05/24/2016			05/25/2016	Peter D. Kaus	1801343, 1801344, 1801345
EPA 365.1 Rev. 2.0	05/24/2016	06/06/2016	Vijayalakshmi Reddy	06/08/2016	Virginia P. Brown	1801345
	05/24/2016	06/06/2016	Vijayalakshmi Reddy	06/09/2016	Virginia P. Brown	1801343, 1801344
EPA 365.1 Rev. 2.0 dissolved	05/24/2016			05/24/2016 14:36	Julia Storbeck	1801347
	05/24/2016			05/24/2016 15:18	Julia Storbeck	1801346
	05/24/2016			05/24/2016 15:19	Julia Storbeck	1801348
SM 2120 B	05/24/2016			05/24/2016 16:49	Chrisoulla Rakowski	1801340
	05/24/2016			05/24/2016 16:50	Chrisoulla Rakowski	1801341
	05/24/2016			05/24/2016 16:52	Chrisoulla Rakowski	1801342
SM 2320 B-97	05/24/2016			06/01/2016	Dale L. Simmons	1801340, 1801341, 1801342
SM 2540 C-97	05/24/2016			05/25/2016	Yijie Li	1801340, 1801341, 1801342
SM 2540 D-97	05/24/2016			05/25/2016	Yijie Li	1801340, 1801341, 1801342
SM 4500 F-C-97	05/24/2016			06/01/2016	Dale L. Simmons	1801340, 1801341, 1801342
SM 5310 B-00	05/24/2016			06/03/2016	Diana M. Turner	1801343, 1801344, 1801345