

Chemical Analysis Report

SW-DIST-2016-03-29-01

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

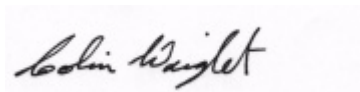
Event Description: **1329G**
Request ID: **RQ-2016-03-28-18**
Customer: **SW-DIST**
Project ID: **SMP**

Send Reports to:
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13051 N. Telecom Parkway
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Certified by: Colin Wright, Environmental Administrator

Date Certified: 18-APR-2016 11:57

A handwritten signature in black ink, appearing to read "Colin Wright", is displayed 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: UCETA YARD DRAIN

Collection Date/Time: 03/28/2016 09:25

Field ID: G1SW0045

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1784064	EPA 180.1 Rev. 2.0	Turbidity	4.6		NTU	P301233	
	EPA 300.0 Rev. 2.1	Chloride	25		mg Cl/L	P301389	
		Sulfate	70		mg SO4/L	P301384	
	SM 2120 B	Color (true)	65		PCU	P301214	
	SM 2320 B-97	Total Alkalinity	236		mg CaCO3/L	P301477	
	SM 2540 C-97	TDS	400	A	mg/L	P301776	
	SM 2540 D-97	TSS	22	A	mg/L	P301787	
	SM 4500 F-C-97	Fluoride	0.63		mg F/L	P301482	
1784067	EPA 350.1 Rev. 2.0	Ammonia-N	0.44		mg N/L	P301686	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.2		mg N/L	P301881	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.26		mg N/L	P301499	
	EPA 365.1 Rev. 2.0	Total-P	0.80		mg P/L	P301461	
	SM 5310 B-00	Organic Carbon	14		mg C/L	P301425	
1784070	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.67		mg P/L	P301217	

Ref. Method and Comment:

EPA 351.2 Rev. 2.0: Matrix spike recovery data is unavailable due to high analyte concentration in the QC sample.

Sample Location: SIX MILE CREEK

Collection Date/Time: 03/28/2016 10:30

Field ID: G1SW0048

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1784065	EPA 180.1 Rev. 2.0	Turbidity	2.9		NTU	P301233	
	EPA 300.0 Rev. 2.1	Chloride	25		mg Cl/L	P301389	
		Sulfate	94		mg SO4/L	P301384	
	SM 2120 B	Color (true)	19		PCU	P301214	
	SM 2320 B-97	Total Alkalinity	141		mg CaCO3/L	P301477	
	SM 2540 C-97	TDS	309		mg/L	P301776	
	SM 2540 D-97	TSS	5	I	mg/L	P301787	
	SM 4500 F-C-97	Fluoride	0.21		mg F/L	P301482	
1784068	EPA 350.1 Rev. 2.0	Ammonia-N	0.049		mg N/L	P301686	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.73		mg N/L	P301881	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.023		mg N/L	P301499	
	EPA 365.1 Rev. 2.0	Total-P	0.071		mg P/L	P301461	
	SM 5310 B-00	Organic Carbon	4.8		mg C/L	P301425	
1784071	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.028		mg P/L	P301217	

Ref. Method and Comment:

EPA 351.2 Rev. 2.0: Matrix spike recovery data is unavailable due to high analyte concentration in the QC sample.

Sample Location: G1SW0044

Collection Date/Time: 03/28/2016 09:25

Field ID: G1SW0044

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1784066	EPA 180.1 Rev. 2.0	Turbidity	26		NTU	P301233	
	EPA 300.0 Rev. 2.1	Chloride	8.0		mg Cl/L	P301389	
		Sulfate	8.6		mg SO4/L	P301384	

Field ID: G1SW0044

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1784066	SM 2120 B	Color (true)	55		PCU	P301214	
	SM 2320 B-97	Total Alkalinity	58		mg CaCO3/L	P301477	
	SM 2540 C-97	TDS	112		mg/L	P301776	
	SM 2540 D-97	TSS	32		mg/L	P301787	
	SM 4500 F-C-97	Fluoride	0.15		mg F/L	P301482	
1784069	EPA 350.1 Rev. 2.0	Ammonia-N	0.011		mg N/L	P301685	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	4.5		mg N/L	P301881	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P301499	
	EPA 365.1 Rev. 2.0	Total-P	0.15		mg P/L	P301649	
	SM 5310 B-00	Organic Carbon	16		mg C/L	P301425	
1784072	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P301217	

Ref. Method and Comment:

EPA 351.2 Rev. 2.0: Matrix spike recovery data is unavailable due to high analyte concentration in the QC sample.

Quality Assurance Report Method Blank Results

Reference Method: EPA 180.1 Rev. 2.0

Batch ID: P301233

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 300.0 Rev. 2.1

Batch ID: P301384

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 300.0 Rev. 2.1

Batch ID: P301389

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 350.1 Rev. 2.0

Batch ID: P301685

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

Reference Method: EPA 350.1 Rev. 2.0

Batch ID: P301686

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

Reference Method: EPA 351.2 Rev. 2.0

Batch ID: P301881

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: P301499

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P301461

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P301649

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P301217

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

Reference Method: SM 2120 B
Batch ID: P301214

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2320 B-97
Batch ID: P301477

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

Reference Method: SM 2540 C-97
Batch ID: P301776

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-97
Batch ID: P301787

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500 F-C-97
Batch ID: P301482

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Quality Assurance Report Method Blank Results

Reference Method: SM 5310 B-00
 Batch ID: P301425

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: P301384

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

Reference Method: EPA 300.0 Rev. 2.1
 Batch ID: P301389

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

Reference Method: EPA 350.1 Rev. 2.0
 Batch ID: P301685

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Ammonia-N	97.6		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
 Batch ID: P301686

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

Reference Method: EPA 351.2 Rev. 2.0
 Batch ID: P301881

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Kjeldahl Nitrogen	94.1		P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
 Batch ID: P301499

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: P301461

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

Reference Method: EPA 365.1 Rev. 2.0
 Batch ID: P301649

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P301649

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total-P	95.0		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P301217

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: P301477

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	103		P	95 - 105

Reference Method: SM 4500 F-C-97
Batch ID: P301482

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	97.5		P	94 - 108

Reference Method: SM 5310 B-00
Batch ID: P301425

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: P301384

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1783613	Sulfate	94.3		P	90 - 110
1783614	Sulfate	94.8		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P301389

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1783613	Chloride	95.0		P	90 - 110
1783614	Chloride	96.7		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P301685

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1784069	Ammonia-N	98.1	99.9	P/P	90 - 110

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P301686

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1783982	Ammonia-N	102	104	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P301499

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1784049	NO2NO3-N	102	102	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P301461

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1783757	Total-P	103	103	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P301649

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1784069	Total-P	102	99.2	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P301217

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1784071	O-Phosphate-P	97.7	98.8	P/P	90 - 110

Reference Method: SM 4500 F-C-97
Batch ID: P301482

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1784035	Fluoride	102	102	P/P	94 - 107

Reference Method: SM 5310 B-00
Batch ID: P301425

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1784036	Organic Carbon	95.3	95.2	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P301233

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1783979	Turbidity	1.08	Sample	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P301384

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1783613	Sulfate	0.373	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P301389

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1783613	Chloride	0.198	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P301685

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1784069	Ammonia-N	1.46	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P301686

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1783982	Ammonia-N	0.920	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P301881

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1784050	Kjeldahl Nitrogen	9.87	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P301499

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1784049	NO2NO3-N	0.390	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P301461

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1783757	Total-P	0.535	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P301649

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1784069	Total-P	2.13	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P301217

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1784071	O-Phosphate-P	0.873	Spike	P	0 - 20

Reference Method: SM 2120 B
Batch ID: P301214

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1784046	Color (true)	0.594	Sample	P	0 - 20

Reference Method: SM 2320 B-97
Batch ID: P301477

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1784035	Total Alkalinity	0.776	Sample	P	0 - 4.8

Reference Method: SM 2540 C-97
Batch ID: P301776

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1784064	TDS	4.24	Sample	P	0 - 10

Reference Method: SM 2540 D-97
Batch ID: P301787

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1784064	TSS	7.41	Sample	P	0 - 10

Reference Method: SM 4500 F-C-97
Batch ID: P301482

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1784035	Fluoride	0.0	Spike	P	0 - 3.7

Reference Method: SM 5310 B-00
Batch ID: P301425

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1784036	Organic Carbon	0.0586	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: A68508

Included Lab Sample IDs: 1784064, 1784065, 1784066

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	97.3	99.5	P/P	90 - 115

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Run ID: A68509

Included Lab Sample IDs: 1784070, 1784071, 1784072

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	98.5	98.3	P/P	90 - 110
O-Phosphate-P	98.6	99.6	P/P	90 - 110
O-Phosphate-P	99.9	98.5	P/P	90 - 110

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A68513

Included Lab Sample IDs: 1784064, 1784065, 1784066

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

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A68546

Included Lab Sample IDs: 1784064, 1784065, 1784066

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	103	104	P/P	90 - 110
Sulfate	101	103	P/P	90 - 110

Reference Method: SM 5310 B-00

Run ID: A68589

Included Lab Sample IDs: 1784067, 1784068, 1784069

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	94.5	93.7	P/P	90 - 110

Reference Method: SM 2320 B-97

Run ID: A68607

Included Lab Sample IDs: 1784064, 1784065, 1784066

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

Reference Method: SM 4500 F-C-97

Run ID: A68607

Included Lab Sample IDs: 1784064, 1784065, 1784066

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	99.5	100	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A68614

Included Lab Sample IDs: 1784067, 1784068, 1784069

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

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A68661

Included Lab Sample IDs: 1784067, 1784068

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	103	104	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A68662

Included Lab Sample IDs: 1784067, 1784068, 1784069

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	103	103	P/P	90 - 110
Ammonia-N	99.2	99.2	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A68724

Included Lab Sample IDs: 1784069

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

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A68787

Included Lab Sample IDs: 1784067, 1784068, 1784069

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	97.1	95.8	P/P	90 - 110
Kjeldahl Nitrogen	99.9	97.8	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	LCS	Precision SMP	MS
EPA 180.1 Rev. 2.0	Turbidity				1.08	
EPA 300.0 Rev. 2.1	Chloride	98.2	95.0	96.7	0.198	
	Sulfate	97.4	94.3	94.8	0.373	
EPA 350.1 Rev. 2.0	Ammonia-N	97.6	98.1	99.9		1.46
	Ammonia-N	100	102	104		0.920
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	94.1				9.87
EPA 353.2 Rev. 2.0	NO2NO3-N	104	102	102		0.390
EPA 365.1 Rev. 2.0	Total-P	105	103	103		0.535
	Total-P	95.0	102	99.2		2.13

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery		Precision	
					LCS	MS
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	99.9	97.7	98.8		0.873
SM 2120 B	Color (true)				0.594	
SM 2320 B-97	Total Alkalinity	103			0.776	
SM 2540 C-97	TDS				4.24	
SM 2540 D-97	TSS				7.41	
SM 4500 F-C-97	Fluoride	97.5	102	102		0.0
SM 5310 B-00	Organic Carbon	95.9	95.3	95.2		0.0586

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 180.1 Rev. 2.0 / E31780	Turbidity in aqueous matrices	1784064, 1784065, 1784066
EPA 300.0 Rev. 2.1 / E31780	Chloride in aqueous matrices	1784064, 1784065, 1784066
EPA 300.0 Rev. 2.1 / E31780	Sulfate in aqueous matrices	1784064, 1784065, 1784066
EPA 350.1 Rev. 2.0 / E31780	Ammonia in aqueous matrices as mg N/L	1784067, 1784068, 1784069
EPA 351.2 Rev. 2.0 / E31780	Total Kjeldahl Nitrogen in aqueous matrices	1784067, 1784068, 1784069
EPA 353.2 Rev. 2.0 / E31780	Nitrite/Nitrate in aqueous matrices as mg N/L	1784067, 1784068, 1784069
EPA 365.1 Rev. 2.0 / E31780	Total Phosphorus in aqueous matrices as mg P/L	1784067, 1784068, 1784069
EPA 365.1 Rev. 2.0 dissolved / E31780	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	1784070, 1784071, 1784072
SM 2120 B / E31780	True Color measured at 450 nm	1784064, 1784065, 1784066
SM 2320 B-97 / E31780	Alkalinity in aqueous matrices as mg CaCO3/L	1784064, 1784065, 1784066
SM 2540 C-97 / E31780	Total Dissolved Solids in aqueous matrices	1784064, 1784065, 1784066
SM 2540 D-97 / E31780	Total Suspended Solids in aqueous matrices	1784064, 1784065, 1784066
SM 4500 F-C-97 / E31780	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	1784064, 1784065, 1784066
SM 5310 B-00 / E31780	Nonpurgeable Organic Carbon in aqueous matrices	1784067, 1784068, 1784069

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
EPA 180.1 Rev. 2.0	03/29/2016			03/29/2016 12:14	Sima Feizi	1784064, 1784065, 1784066
EPA 300.0 Rev. 2.1	03/29/2016			04/01/2016	Ping Hua	1784064, 1784065, 1784066
EPA 350.1 Rev. 2.0	03/29/2016			04/05/2016	Diana M. Turner	1784067, 1784068, 1784069
EPA 351.2 Rev. 2.0	03/29/2016	04/08/2016	Sofia Elnemr	04/11/2016	Christopher Armour	1784067, 1784068, 1784069
EPA 353.2 Rev. 2.0	03/29/2016			04/01/2016	Diana M. Turner	1784067, 1784068, 1784069
EPA 365.1 Rev. 2.0	03/29/2016	04/04/2016	Christopher Armour	04/05/2016	Rochelle Y Jackson	1784067, 1784068
	03/29/2016	04/06/2016	Christopher Armour	04/07/2016	Lipi Saha	1784069
EPA 365.1 Rev. 2.0 dissolved	03/29/2016			03/29/2016 12:52	Julia Storbeck	1784071
	03/29/2016			03/29/2016 13:20	Julia Storbeck	1784072
	03/29/2016			03/29/2016 13:29	Julia Storbeck	1784070
SM 2120 B	03/29/2016			03/29/2016 12:14	Rochelle Y Jackson	1784064, 1784065
	03/29/2016			03/29/2016 12:15	Rochelle Y Jackson	1784066
SM 2320 B-97	03/29/2016			03/31/2016	Dale L. Simmons	1784064, 1784065, 1784066
SM 2540 C-97	03/29/2016			04/01/2016	Yijie Li	1784064, 1784065, 1784066
SM 2540 D-97	03/29/2016			04/01/2016	Yijie Li	1784064, 1784065, 1784066
SM 4500 F-C-97	03/29/2016			03/31/2016	Dale L. Simmons	1784064, 1784065, 1784066
SM 5310 B-00	03/29/2016			04/01/2016	Sofia Elnemr	1784067, 1784068, 1784069