

Chemical Analysis Report

CEN-DIST-2016-06-16-01

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

Event Description: **Lady Lake**
Request ID: **RQ-2016-06-13-42**
Customer: **CEN-DIST**
Project ID: **SMP**

Send Reports to:
FL Dept. of Environmental Protection
FL Dept. of Environmental Protection
3319 Maguire Blvd., Suite 232
Orlando, FL 32803-3767
Attn: Mike Linger

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Certified by: Timothy Fitzpatrick, Program Administrator

Date Certified: 12-JUL-2016 15:39

A handwritten signature in black ink, appearing to read 'Timothy W. Fitzpatrick', is written over a light blue 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: LADY LAKE NORTH LOBE NORTH OF CENTER Collection Date/Time: 06/15/2016 10:06

Field ID: G4CE0096

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1808802	EPA 180.1 Rev. 2.0	Turbidity	1.4		NTU	P306452	
	EPA 300.0 Rev. 2.1	Chloride	9.6		mg Cl/L	P306878	
		Sulfate	7.2		mg SO4/L	P306880	
	SM 2120 B	Color (true)	12		PCU	P306396	
	SM 2320 B-97	Total Alkalinity	0.90	I	mg CaCO3/L	P306821	
	SM 2540 C-97	TDS	34		mg/L	P307024	
	SM 2540 D-97	TSS	2	I	mg/L	P306964	
	SM 4500 F-C-97	Fluoride	0.054	I	mg F/L	P307271	
1808804	EPA 350.1 Rev. 2.0	Ammonia-N	0.003	I	mg N/L	P306688	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.69		mg N/L	P306367	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P306586	
	EPA 365.1 Rev. 2.0	Total-P	0.012		mg P/L	P306542	
	SM 5310 B-00	Organic Carbon	6.9		mg C/L	P306883	
1808806	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P306336	

Ref. Method and Comment:

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

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

Sample Location: LADY LAKE NORTH LOBE SOUTH OF CENTER Collection Date/Time: 06/15/2016 10:22

Field ID: G4CE0097

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1808803	EPA 180.1 Rev. 2.0	Turbidity	1.8		NTU	P306454	
	EPA 300.0 Rev. 2.1	Chloride	9.5		mg Cl/L	P306879	
		Sulfate	7.1		mg SO4/L	P306881	
	SM 2120 B	Color (true)	15		PCU	P306396	
	SM 2320 B-97	Total Alkalinity	1.0	I	mg CaCO3/L	P306823	
	SM 2540 C-97	TDS	44		mg/L	P307024	
	SM 2540 D-97	TSS	4	I	mg/L	P306964	
	SM 4500 F-C-97	Fluoride	0.054	I	mg F/L	P307272	MS
1808805	EPA 350.1 Rev. 2.0	Ammonia-N	0.004	I	mg N/L	P306688	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.81		mg N/L	P306416	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P306586	
	EPA 365.1 Rev. 2.0	Total-P	0.023		mg P/L	P306542	
	SM 5310 B-00	Organic Carbon	7.0		mg C/L	P306883	
1808807	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P306336	

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: P306452

Component	Result	Code	Units
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Quality Assurance Report

Method Blank Results

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P306452

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P306454

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P306878

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P306879

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P306880

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P306881

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P306688

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P306367

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P306416

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: P306586

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P306542

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P306336

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

Reference Method: SM 2120 B
Batch ID: P306396

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2320 B-97
Batch ID: P306821

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

Reference Method: SM 2320 B-97
Batch ID: P306823

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

Reference Method: SM 2540 C-97
Batch ID: P307024

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-97
Batch ID: P306964

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500 F-C-97
Batch ID: P307271

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Quality Assurance Report Method Blank Results

Reference Method: SM 4500 F-C-97
Batch ID: P307272

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-00
Batch ID: P306883

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: P306878

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P306879

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P306880

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P306881

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P306688

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Ammonia-N	96.2		P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P306367

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P306416

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: P306416

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: P306586

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P306542

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total-P	98.9		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P306336

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

Reference Method: SM 2320 B-97
Batch ID: P306821

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

Reference Method: SM 2320 B-97
Batch ID: P306823

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

Reference Method: SM 4500 F-C-97
Batch ID: P307271

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	98.2		P	92 - 103

Reference Method: SM 4500 F-C-97
Batch ID: P307272

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	97.7		P	92 - 103

Reference Method: SM 5310 B-00
Batch ID: P306883

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	94.4		P	85 - 115

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P306878

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1808737	Chloride	103		P	90 - 110
1808802	Chloride	103		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P306879

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1808950	Chloride	103		P	90 - 110
1809000	Chloride	102		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P306880

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1808737	Sulfate	103		P	90 - 110
1808802	Sulfate	101		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P306881

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1808950	Sulfate	102		P	90 - 110
1809000	Sulfate	103		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P306688

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1808804	Ammonia-N	95.5	97.7	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P306416

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1808805	Kjeldahl Nitrogen	98.7	92.8	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P306586

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1808754	NO2NO3-N	99.0	99.0	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P306542

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1808753	Total-P	100	100	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P306336

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P306336

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1808759	O-Phosphate-P	99.4	98.9	P/P	90 - 110

Reference Method: SM 4500 F-C-97
Batch ID: P307271

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1808509	Fluoride	96.8	96.8	P/P	91 - 105

Reference Method: SM 4500 F-C-97
Batch ID: P307272

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1809401	Fluoride	105	106	F/F	91 - 105

Reference Method: SM 5310 B-00
Batch ID: P306883

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1808817	Organic Carbon	97.0		P	85 - 115

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P306452

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1808575	Turbidity	7.94	Sample	P	0 - 20

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P306454

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1808964	Turbidity	3.02	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P306878

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1808737	Chloride	0.00819	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P306879

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1808950	Chloride	0.0794	Sample	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P306880

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1808737	Sulfate	3.82	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P306881

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1808950	Sulfate	2.57	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P306688

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1808804	Ammonia-N	2.12	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P306367

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1808607	Kjeldahl Nitrogen	0.711	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P306416

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1808805	Kjeldahl Nitrogen	3.63	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P306586

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1808754	NO2NO3-N	0.0	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P306542

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1808753	Total-P	0.386	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P306336

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1808759	O-Phosphate-P	0.484	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: SM 2120 B
Batch ID: P306396

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1808812	Color (true)	0.639	Sample	P	0 - 20

Reference Method: SM 2320 B-97
Batch ID: P306821

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1808497	Total Alkalinity	0.0437	Sample	P	0 - 4.8

Reference Method: SM 2320 B-97
Batch ID: P306823

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1809379	Total Alkalinity	0.217	Sample	P	0 - 4.8

Reference Method: SM 2540 C-97
Batch ID: P307024

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1808812	TDS	0.281	Sample	P	0 - 10

Reference Method: SM 4500 F-C-97
Batch ID: P307271

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1808509	Fluoride	0.0	Spike	P	0 - 3.0

Reference Method: SM 4500 F-C-97
Batch ID: P307272

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1809401	Fluoride	0.484	Spike	P	0 - 3.0

Reference Method: SM 5310 B-00
Batch ID: P306883

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1808817	Organic Carbon	0.0949	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: EPA 365.1 Rev. 2.0 dissolved

Run ID: A70081

Included Lab Sample IDs: 1808806, 1808807

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	97.1	98.2	P/P	90 - 110

Reference Method: SM 2120 B

Run ID: A70102

Included Lab Sample IDs: 1808802, 1808803

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	102	100	P/P	90 - 115

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A70118

Included Lab Sample IDs: 1808802, 1808803

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

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A70131

Included Lab Sample IDs: 1808804

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	96.4	97.2	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A70150

Included Lab Sample IDs: 1808804, 1808805

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	98.5	98.0	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A70156

Included Lab Sample IDs: 1808805

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	97.9	98.5	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A70166

Included Lab Sample IDs: 1808804, 1808805

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	100	99.0	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A70173

Included Lab Sample IDs: 1808804, 1808805

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	97.6	98.8	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: SM 2320 B-97

Run ID: A70215

Included Lab Sample IDs: 1808802, 1808803

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	100	106	P/P	90 - 110
Total Alkalinity	104	101	P/P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A70233

Included Lab Sample IDs: 1808802, 1808803

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	100	99.8	P/P	90 - 110
Chloride	99.0	100	P/P	90 - 110
Sulfate	96.4	99.9	P/P	90 - 110
Sulfate	99.5	100	P/P	90 - 110

Reference Method: SM 5310 B-00

Run ID: A70234

Included Lab Sample IDs: 1808804, 1808805

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	97.4	94.8	P/P	90 - 110

Reference Method: SM 4500 F-C-97

Run ID: A70370

Included Lab Sample IDs: 1808802, 1808803

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	99.0	98.6	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				7.94	
	Turbidity				3.02	
EPA 300.0 Rev. 2.1	Chloride	102	103 103		0.0081	
	Chloride	102	103 102		0.0794	
	Sulfate	102	103 101		3.82	
	Sulfate	101	102 103		2.57	
EPA 350.1 Rev. 2.0	Ammonia-N	96.2	95.5 97.7			2.12
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	108				0.711
	Kjeldahl Nitrogen	103	98.7 92.8			3.63
EPA 353.2 Rev. 2.0	NO2NO3-N	100	99.0 99.0			0.0
EPA 365.1 Rev. 2.0	Total-P	98.9	100 100			0.386
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	100	99.4 98.9			0.484
SM 2120 B	Color (true)				0.639	
SM 2320 B-97	Total Alkalinity	103			0.0437	

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery		LCS	Precision	MS
						SMP	
SM 2320 B-97	Total Alkalinity	103				0.217	
SM 2540 C-97	TDS					0.281	
SM 4500 F-C-97	Fluoride	98.2	96.8	96.8			0.0
	Fluoride	97.7	105	106			0.484
SM 5310 B-00	Organic Carbon	94.4	97.0				0.0949

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 180.1 Rev. 2.0 / E31780	Turbidity in aqueous matrices	1808802, 1808803
EPA 300.0 Rev. 2.1 / E31780	Chloride in aqueous matrices	1808802, 1808803
EPA 300.0 Rev. 2.1 / E31780	Sulfate in aqueous matrices	1808802, 1808803
EPA 350.1 Rev. 2.0 / E31780	Ammonia in aqueous matrices as mg N/L	1808804, 1808805
EPA 351.2 Rev. 2.0 / E31780	Total Kjeldahl Nitrogen in aqueous matrices	1808804, 1808805
EPA 353.2 Rev. 2.0 / E31780	Nitrite/Nitrate in aqueous matrices as mg N/L	1808804, 1808805
EPA 365.1 Rev. 2.0 / E31780	Total Phosphorus in aqueous matrices as mg P/L	1808804, 1808805
EPA 365.1 Rev. 2.0 dissolved / E31780	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	1808806, 1808807
SM 2120 B / E31780	True Color measured at 450 nm	1808802, 1808803
SM 2320 B-97 / E31780	Alkalinity in aqueous matrices as mg CaCO3/L	1808802, 1808803
SM 2540 C-97 / E31780	Total Dissolved Solids in aqueous matrices	1808802, 1808803
SM 2540 D-97 / E31780	Total Suspended Solids in aqueous matrices	1808802, 1808803
SM 4500 F-C-97 / E31780	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	1808802, 1808803
SM 5310 B-00 / E31780	Nonpurgeable Organic Carbon in aqueous matrices	1808804, 1808805

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	06/16/2016			06/16/2016 16:07	Rochelle Y Jackson	1808802, 1808803
EPA 300.0 Rev. 2.1	06/16/2016			06/24/2016	Julia Storbeck	1808802, 1808803
EPA 350.1 Rev. 2.0	06/16/2016			06/22/2016	Diana M. Turner	1808804, 1808805
EPA 351.2 Rev. 2.0	06/16/2016	06/17/2016	Sofia Elnemr	06/20/2016	Rochelle Y Jackson	1808804
	06/16/2016	06/20/2016	Sofia Elnemr	06/22/2016	Christopher Armour	1808805
EPA 353.2 Rev. 2.0	06/16/2016			06/21/2016	Beverly Y. Sanders	1808804, 1808805
EPA 365.1 Rev. 2.0	06/16/2016	06/21/2016	Vijayalakshmi Reddy	06/22/2016	Lipi Saha	1808804, 1808805
EPA 365.1 Rev. 2.0 dissolved	06/16/2016			06/16/2016 12:30	Virginia P. Brown	1808806, 1808807
SM 2120 B	06/16/2016			06/16/2016 15:31	Chrisoulla Rakowski	1808802, 1808803
SM 2320 B-97	06/16/2016			06/22/2016	Rochelle Y Jackson	1808802
	06/16/2016			06/23/2016	Rochelle Y Jackson	1808803
SM 2540 C-97	06/16/2016			06/20/2016	Sima Feizi	1808802, 1808803
SM 2540 D-97	06/16/2016			06/20/2016	Sima Feizi	1808802, 1808803
SM 4500 F-C-97	06/16/2016			07/01/2016	Dale L. Simmons	1808802, 1808803
SM 5310 B-00	06/16/2016			06/24/2016	Diana M. Turner	1808804, 1808805