

Chemical Analysis Report

NW-DIST-2016-07-13-01

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

Event Description: **WBID 797 1004 462A 784 ENRA**

Request ID: **RQ-2016-07-11-29**

Customer: **NW-DIST**

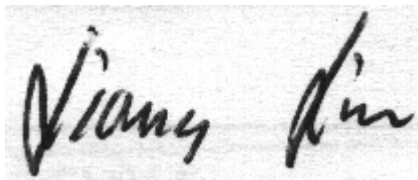
Project ID: **SMP**

Send Reports to:
FL Dept. of Environmental Protection
160 Government Center
Suite 308
Pensacola, FL 32502-5794
Attn: Michael King

For additional information please contact
Timothy W. Fitzpatrick
Liang-Tsair Lin, Ph.D.
Colin Wright, Ph.D.
Thekkekalathil Chandrasekhar, PhD, QA Officer
Phone (850) 245-8085

Certified by: Liang Lin, Environmental Administrator

Date Certified: 08-AUG-2016 10:34

A handwritten signature in black ink, appearing to read "Liang Lin", on a light-colored background.

NON-CONFORMANCE REPORT INCLUDED

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: Big Lagoon Hwy 292 ICW Bridge Esc. Co.

Collection Date/Time: 07/11/2016 11:20

Field ID: G5NW0121

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1815319	EPA 180.1 Rev. 2.0	Turbidity	1.6		NTU	P307908	
	SM 2320 B-97	Total Alkalinity	97		mg CaCO3/L	P308527	
	SM 2540 D-97	TSS	6	I	mg/L	P308399	
	SM 4500 F-C-97	Fluoride	1.0		mg F/L	P308530	
1815322	EPA 350.1 Rev. 2.0	Ammonia-N	0.005		mg N/L	P308059	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.34	I	mg N/L	P307996	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.008	U	mg N/L	P308730	
	EPA 365.1 Rev. 2.0	Total-P	0.022		mg P/L	P308011	
	SM 5310 B-00	Organic Carbon	3.2		mg C/L	P309048	
1815325	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	UQ	mg P/L	P307801	

Ref. Method and Comment:

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

EPA 353.2 Rev. 2.0: The MDL was elevated due to sample matrix interference.

EPA 365.1 Rev. 2.0 dissolved: O-Phosphate-P: The sample expired upon receipt.

Sample Location: ICE Marker 35 East Old River

Collection Date/Time: 07/11/2016 11:40

Field ID: G5NW0119

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1815320	EPA 180.1 Rev. 2.0	Turbidity	2.0		NTU	P307908	
	SM 2320 B-97	Total Alkalinity	91		mg CaCO3/L	P308527	
	SM 2540 D-97	TSS	5	I	mg/L	P308399	
	SM 4500 F-C-97	Fluoride	0.92		mg F/L	P308530	
1815323	EPA 350.1 Rev. 2.0	Ammonia-N	0.002	U	mg N/L	P308059	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.42		mg N/L	P308566	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.008	U	mg N/L	P308730	
	EPA 365.1 Rev. 2.0	Total-P	0.021		mg P/L	P308011	
	SM 5310 B-00	Organic Carbon	4.1		mg C/L	P309048	
1815326	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	UQ	mg P/L	P307801	

Ref. Method and Comment:

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

EPA 353.2 Rev. 2.0: The MDL was elevated due to sample matrix interference.

EPA 365.1 Rev. 2.0 dissolved: O-Phosphate-P: The sample expired upon receipt.

Sample Location: Tee Lake Center

Collection Date/Time: 07/11/2016 13:25

Field ID: G5NW0035

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1815321	EPA 180.1 Rev. 2.0	Turbidity	4.1	A	NTU	P307908	
	SM 2320 B-97	Total Alkalinity	37		mg CaCO3/L	P308524	
	SM 2540 D-97	TSS	8	I	mg/L	P308398	
	SM 4500 F-C-97	Fluoride	0.22		mg F/L	P308528	
1815324	EPA 350.1 Rev. 2.0	Ammonia-N	0.003	I	mg N/L	P308059	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.45		mg N/L	P308566	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.010	I	mg N/L	P308730	
	EPA 365.1 Rev. 2.0	Total-P	0.035		mg P/L	P308011	

Field ID: G5NW0035

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1815324	SM 5310 B-00	Organic Carbon	6.7		mg C/L	P309048	
1815327	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.007	I	mg P/L	P307801	

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

Non-Conformance Report

NCR ID: 5937

Event(s)

NW-DIST-2016-07-13-01

Job(s)

Sample(s)

Test(s)

NCR Type: SHIPPING/RECEIVING

NCR Category: Receiving

Observation: One cooler received with samples for RQ-2016-07-11-29; sample submittal forms indicates that two coolers were shipped. Samples for the following Field IDs were not received:
 G5NW0121
 G5NW0119
 G5NW0035

Resolution: Samples that were received were logged in. Customers (Michael King/Frank Butera) were notified about missing cooler.

Second cooler was received on 7/13/2016 containing the missing samples listed above. Samples were received within temp. range (<6 degrees C) and short holds were logged in prior to expiration.

Authorised by/Date: Kathryn Holland 7/19/2016

The Non-Conformance Report details exceptions or problems encountered with the events/jobs/samples/test.
 Please address questions to:

Chemistry Tim Fitzpatrick (850) 245-8085
 Biology Cheryl Swanson (850) 245-8177

Quality Assurance Report Method Blank Results

Reference Method: EPA 180.1 Rev. 2.0
 Batch ID: P307908

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 350.1 Rev. 2.0
 Batch ID: P308059

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

Reference Method: EPA 351.2 Rev. 2.0
 Batch ID: P307996

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: P308566

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P308730

Component	Result	Code	Units
NO ₂ NO ₃ -N	0.004	U	mg N/L

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P308011

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P307801

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

Reference Method: SM 2320 B-97
Batch ID: P308524

Component	Result	Code	Units
Total Alkalinity	0.65	U	mg CaCO ₃ /L

Reference Method: SM 2320 B-97
Batch ID: P308527

Component	Result	Code	Units
Total Alkalinity	0.65	U	mg CaCO ₃ /L

Reference Method: SM 2540 D-97
Batch ID: P308398

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 2540 D-97
Batch ID: P308399

Component	Result	Code	Units
TSS	3	U	mg/L

Reference Method: SM 4500 F-C-97
Batch ID: P308528

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: P308530

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-00
Batch ID: P309048

Component	Result	Code	Units
Organic Carbon	0.50	U	mg C/L

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P308059

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Ammonia-N	97.1		P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P307996

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P308566

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: P308730

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: P308011

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total-P	94.3		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P307801

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

Reference Method: SM 2320 B-97
Batch ID: P308524

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

Reference Method: SM 2320 B-97
Batch ID: P308524

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

Reference Method: SM 2320 B-97
Batch ID: P308527

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

Reference Method: SM 4500 F-C-97
Batch ID: P308528

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	97.4		P	92 - 103

Reference Method: SM 4500 F-C-97
Batch ID: P308530

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	99.8		P	92 - 103

Reference Method: SM 5310 B-00
Batch ID: P309048

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	98.7		P	85 - 115

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P308059

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1815532	Ammonia-N	101	101	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P307996

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1815322	Kjeldahl Nitrogen	98.1	96.8	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P308566

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1812123	Kjeldahl Nitrogen	98.4	96.5	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P308730

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

Reference Method: EPA 353.2 Rev. 2.0
 Batch ID: P308730

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1815322	NO2NO3-N	107	108	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
 Batch ID: P308011

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1815608	Total-P	90.0	91.8	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
 Batch ID: P307801

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1815327	O-Phosphate-P	94.6	96.0	P/P	90 - 110

Reference Method: SM 4500 F-C-97
 Batch ID: P308528

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1816215	Fluoride	98.6	99.3	P/P	91 - 105

Reference Method: SM 4500 F-C-97
 Batch ID: P308530

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1817437	Fluoride	97.5	98.7	P/P	91 - 105

Reference Method: SM 5310 B-00
 Batch ID: P309048

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1815322	Organic Carbon	92.4	97.1	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
 Batch ID: P307908

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1815321	Turbidity	5.64	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
 Batch ID: P308059

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1815532	Ammonia-N	0.355	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P307996

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1815322	Kjeldahl Nitrogen	1.24	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P308566

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1812123	Kjeldahl Nitrogen	1.42	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P308730

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1815322	NO2NO3-N	0.930	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P308011

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1815608	Total-P	1.87	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P307801

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1815327	O-Phosphate-P	1.37	Spike	P	0 - 20

Reference Method: SM 2320 B-97
Batch ID: P308524

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1816215	Total Alkalinity	0.0173	Sample	P	0 - 4.8

Reference Method: SM 2320 B-97
Batch ID: P308527

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1817437	Total Alkalinity	0.243	Sample	P	0 - 4.8

Reference Method: SM 4500 F-C-97
Batch ID: P308528

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1816215	Fluoride	0.473	Spike	P	0 - 3.0

Quality Assurance Report Precision

Reference Method: SM 4500 F-C-97
 Batch ID: P308530

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1817437	Fluoride	0.947	Spike	P	0 - 3.0

Reference Method: SM 5310 B-00
 Batch ID: P309048

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1815322	Organic Carbon	4.53	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: A70520
 Included Lab Sample IDs: 1815325, 1815326, 1815327

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	97.7	98.3	P/P	90 - 110

Reference Method: EPA 180.1 Rev. 2.0
 Run ID: A70547
 Included Lab Sample IDs: 1815319, 1815320, 1815321

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Turbidity	98.5	100	P/P	95 - 105

Reference Method: EPA 350.1 Rev. 2.0
 Run ID: A70586
 Included Lab Sample IDs: 1815322, 1815323, 1815324

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

Reference Method: EPA 351.2 Rev. 2.0
 Run ID: A70602
 Included Lab Sample IDs: 1815322

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	102	94.3	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
 Run ID: A70640
 Included Lab Sample IDs: 1815322, 1815323, 1815324

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	99.5	101	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: SM 2320 B-97

Run ID: A70728

Included Lab Sample IDs: 1815319, 1815320, 1815321

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	104	101	P/P	90 - 110
Total Alkalinity	105	101	P/P	90 - 110

Reference Method: SM 4500 F-C-97

Run ID: A70728

Included Lab Sample IDs: 1815319, 1815320, 1815321

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	100	102	P/P	90 - 110
Fluoride	100	99.5	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A70755

Included Lab Sample IDs: 1815323, 1815324

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	106	101	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A70792

Included Lab Sample IDs: 1815322, 1815323, 1815324

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

Reference Method: SM 5310 B-00

Run ID: A70902

Included Lab Sample IDs: 1815322, 1815323, 1815324

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	98.9	93.0	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					5.64	
EPA 350.1 Rev. 2.0	Ammonia-N	97.1	101	101			0.355
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	100	98.1	96.8			1.24
	Kjeldahl Nitrogen	103	98.4	96.5			1.42
EPA 353.2 Rev. 2.0	NO2NO3-N	106	107	108			0.930
EPA 365.1 Rev. 2.0	Total-P	94.3	90.0	91.8			1.87
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	100	94.6	96.0			1.37
SM 2320 B-97	Total Alkalinity	103				0.0173	
	Total Alkalinity	103				0.243	

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery		Precision	
					LCS	MS
SM 4500 F-C-97	Fluoride	97.4	98.6	99.3		0.473
	Fluoride	99.8	97.5	98.7		0.947
SM 5310 B-00	Organic Carbon	98.7	92.4	97.1		4.53

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 180.1 Rev. 2.0 / E31780	Turbidity in aqueous matrices	1815319, 1815320, 1815321
EPA 350.1 Rev. 2.0 / E31780	Ammonia in aqueous matrices as mg N/L	1815322, 1815323, 1815324
EPA 351.2 Rev. 2.0 / E31780	Total Kjeldahl Nitrogen in aqueous matrices	1815322, 1815323, 1815324
EPA 353.2 Rev. 2.0 / E31780	Nitrite/Nitrate in aqueous matrices as mg N/L	1815322, 1815323, 1815324
EPA 365.1 Rev. 2.0 / E31780	Total Phosphorus in aqueous matrices as mg P/L	1815322, 1815323, 1815324
EPA 365.1 Rev. 2.0 dissolved / E31780	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	1815325, 1815326, 1815327
SM 2320 B-97 / E31780	Alkalinity in aqueous matrices as mg CaCO ₃ /L	1815319, 1815320, 1815321
SM 2540 D-97 / E31780	Total Suspended Solids in aqueous matrices	1815319, 1815320, 1815321
SM 4500 F-C-97 / E31780	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	1815319, 1815320, 1815321
SM 5310 B-00 / E31780	Nonpurgeable Organic Carbon in aqueous matrices	1815322, 1815323, 1815324

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	07/13/2016			07/13/2016 11:00	Blanca Fach	1815319, 1815320, 1815321
EPA 350.1 Rev. 2.0	07/13/2016			07/15/2016	Diana M. Turner	1815322, 1815323, 1815324
EPA 351.2 Rev. 2.0	07/13/2016	07/15/2016	Sofia Elnemr	07/18/2016	Christopher Armour	1815322
	07/13/2016	07/25/2016	Martin Acosta	07/26/2016	Christopher Armour	1815323, 1815324
EPA 353.2 Rev. 2.0	07/13/2016			07/27/2016	Peter D. Kaus	1815322, 1815323, 1815324
EPA 365.1 Rev. 2.0	07/13/2016	07/15/2016	Vijayalakshmi Reddy	07/20/2016	Lipi Saha	1815322, 1815323, 1815324
EPA 365.1 Rev. 2.0 dissolved	07/13/2016			07/13/2016 12:04	Julia Storbeck	1815327
	07/13/2016			07/13/2016 12:06	Julia Storbeck	1815325
	07/13/2016			07/13/2016 12:07	Julia Storbeck	1815326
SM 2320 B-97	07/13/2016			07/22/2016	Dale L. Simmons	1815321
	07/13/2016			07/23/2016	Dale L. Simmons	1815319, 1815320
SM 2540 D-97	07/13/2016			07/15/2016	Yijie Li	1815319, 1815320, 1815321
SM 4500 F-C-97	07/13/2016			07/22/2016	Dale L. Simmons	1815321
	07/13/2016			07/23/2016	Dale L. Simmons	1815319, 1815320
SM 5310 B-00	07/13/2016			08/02/2016	Sofia Elnemr	1815322, 1815323, 1815324