

Chemical Analysis Report

WQAP-2016-07-27-05

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

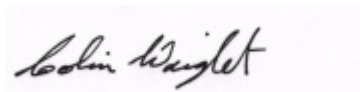
Event Description: **Lake Istokpoga**
Request ID: **RQ-2016-07-18-43**
Customer: **WQAP**
Project ID: **SPPROJECTS**

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Certified by: Colin Wright, Environmental Administrator

Date Certified: 16-AUG-2016 12:45

A handwritten signature in black ink, appearing to read "Colin Wright", is written over a light gray 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: Lake Istokpoga Algae NE

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

Field ID: ISTO072516-1

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1819516	EPA 180.1 Rev. 2.0	Turbidity	2.9	Q	NTU	P308760	
	SM 2120 B	Color (true)	160	Q	PCU	P308737	
	SM 2540 D-97	TSS	10	A	mg/L	P309012	
1819522	EPA 350.1 Rev. 2.0	Ammonia-N	0.004	I	mg N/L	P308941	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.1		mg N/L	P309069	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P308823	
	EPA 365.1 Rev. 2.0	Total-P	0.10		mg P/L	P308864	
	SM 5310 B-00	Organic Carbon	19		mg C/L	P309197	
1819528	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.050	Q	mg P/L	P308701	

Ref. Method and Comment:

EPA 180.1 Rev. 2.0: The sample expired upon receipt.

SM 2120 B: The sample expired upon receipt.

EPA 351.2 Rev. 2.0: Batch matrix spike recoveries are unavailable because of high analyte concentration in the QC sample.

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

Sample Location: Lake Istokpoga Algae NW

Collection Date/Time: 07/25/2016 10:55

Field ID: ISTO072516-2

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1819517	EPA 180.1 Rev. 2.0	Turbidity	6.3	Q	NTU	P308760	
	SM 2120 B	Color (true)	130	Q	PCU	P308709	
	SM 2540 D-97	TSS	11		mg/L	P309012	
1819523	EPA 350.1 Rev. 2.0	Ammonia-N	0.003	I	mg N/L	P308941	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.2		mg N/L	P309069	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P308823	
	EPA 365.1 Rev. 2.0	Total-P	0.058		mg P/L	P308864	
	SM 5310 B-00	Organic Carbon	15		mg C/L	P309197	
1819529	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	UQ	mg P/L	P308701	

Ref. Method and Comment:

EPA 180.1 Rev. 2.0: The sample expired upon receipt.

SM 2120 B: The sample expired upon receipt.

EPA 351.2 Rev. 2.0: Batch matrix spike recoveries are unavailable because of high analyte concentration in the QC sample.

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

Sample Location: Lake Istokpoga Algae CEN

Collection Date/Time: 07/25/2016 11:30

Field ID: ISTO072516-3

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1819518	EPA 180.1 Rev. 2.0	Turbidity	5.9	Q	NTU	P308760	
	SM 2120 B	Color (true)	120	Q	PCU	P308737	
	SM 2540 D-97	TSS	8	I	mg/L	P309012	
1819524	EPA 350.1 Rev. 2.0	Ammonia-N	0.004	I	mg N/L	P308941	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.2		mg N/L	P309069	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P308823	
	EPA 365.1 Rev. 2.0	Total-P	0.068		mg P/L	P308864	
	SM 5310 B-00	Organic Carbon	17		mg C/L	P309197	

Field ID: ISTO072516-3

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1819530	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.008	IQ	mg P/L	P308701	

Ref. Method and Comment:

EPA 180.1 Rev. 2.0: The sample expired upon receipt.

SM 2120 B: The sample expired upon receipt.

EPA 351.2 Rev. 2.0: Batch matrix spike recoveries are unavailable because of high analyte concentration in the QC sample.

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

Sample Location: Lake Istokpoga Algae W

Collection Date/Time: 07/25/2016 10:30

Field ID: ISTO072516-4

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1819519	EPA 180.1 Rev. 2.0	Turbidity	8.1	Q	NTU	P308760	
	SM 2120 B	Color (true)	100	Q	PCU	P308709	
	SM 2540 D-97	TSS	13	I	mg/L	P309012	
1819525	EPA 350.1 Rev. 2.0	Ammonia-N	0.005		mg N/L	P308941	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.6		mg N/L	P304243	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P308823	
	EPA 365.1 Rev. 2.0	Total-P	0.072		mg P/L	P308864	
	SM 5310 B-00	Organic Carbon	15		mg C/L	P309197	
1819531	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	UQ	mg P/L	P308701	

Ref. Method and Comment:

EPA 180.1 Rev. 2.0: The sample expired upon receipt.

SM 2120 B: The sample expired upon receipt.

SM 2540 D-97: The PQL was elevated due to sample matrix interference.

EPA 351.2 Rev. 2.0: Batch matrix spike recoveries are unavailable because of high analyte concentration in the QC sample.

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

Sample Location: Lake Istokpoga Algae SE

Collection Date/Time: 07/25/2016 11:50

Field ID: ISTO072516-5

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1819520	EPA 180.1 Rev. 2.0	Turbidity	6.5		NTU	P308760	
	SM 2120 B	Color (true)	120	A	PCU	P308740	
	SM 2540 D-97	TSS	12		mg/L	P309012	
1819526	EPA 350.1 Rev. 2.0	Ammonia-N	0.004	I	mg N/L	P308941	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.3		mg N/L	P304243	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P308823	
	EPA 365.1 Rev. 2.0	Total-P	0.073		mg P/L	P308864	
	SM 5310 B-00	Organic Carbon	16		mg C/L	P309197	
1819532	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	UQ	mg P/L	P308701	

Ref. Method and Comment:

EPA 351.2 Rev. 2.0: Batch matrix spike recoveries are unavailable because of high analyte concentration in the QC sample.

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

Sample Location: Lake Istokpoga Algae S

Collection Date/Time: 07/25/2016 12:10

Field ID: ISTO072516-6

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1819521	EPA 180.1 Rev. 2.0	Turbidity	6.8		NTU	P308760	

Field ID: ISTO072516-6

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1819521	SM 2120 B	Color (true)	83		PCU	P308740	
	SM 2540 D-97	TSS	15	I	mg/L	P309012	
1819527	EPA 350.1 Rev. 2.0	Ammonia-N	0.004	I	mg N/L	P308941	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.4		mg N/L	P304243	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P308823	
	EPA 365.1 Rev. 2.0	Total-P	0.060		mg P/L	P308864	
	SM 5310 B-00	Organic Carbon	15		mg C/L	P309197	
1819533	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P308701	

Ref. Method and Comment:
SM 2540 D-97: The PQL was elevated due to sample matrix interference.
EPA 351.2 Rev. 2.0: Batch matrix spike recoveries are unavailable because of high analyte concentration in the QC sample.

Quality Assurance Report

Method Blank Results

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P308760

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P308941

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P304243

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P309069

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P308823

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P308864

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

Quality Assurance Report Method Blank Results

Reference Method: EPA 365.1 Rev. 2.0 dissolved
 Batch ID: P308701

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

Reference Method: SM 2120 B
 Batch ID: P308709

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2120 B
 Batch ID: P308737

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2120 B
 Batch ID: P308740

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2540 D-97
 Batch ID: P309012

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 5310 B-00
 Batch ID: P309197

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: P308941

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Ammonia-N	106		P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
 Batch ID: P304243

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

Reference Method: EPA 351.2 Rev. 2.0
 Batch ID: P309069

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: P309069

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P308823

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
NO2NO3-N	105		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P308864

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P308701

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

Reference Method: SM 5310 B-00
Batch ID: P309197

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

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P308941

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1819289	Ammonia-N	101	102	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P308823

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1817538	NO2NO3-N	101	103	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P308864

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1818722	Total-P	105	99.6	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P308701

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: P308701

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1819533	O-Phosphate-P	98.2	99.7	P/P	90 - 110

Reference Method: SM 5310 B-00
Batch ID: P309197

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1819390	Organic Carbon	105		P	85 - 115

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P308760

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1819174	Turbidity	0.963	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P308941

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1819289	Ammonia-N	1.04	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P304243

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1819525	Kjeldahl Nitrogen	6.07	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P309069

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1819462	Kjeldahl Nitrogen	5.49	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P308823

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1817538	NO2NO3-N	1.32	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P308864

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P308864

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1818722	Total-P	3.75	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P308701

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1819533	O-Phosphate-P	1.52	Spike	P	0 - 20

Reference Method: SM 2120 B
Batch ID: P308709

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1819287	Color (true)	0.106	Sample	P	0 - 20

Reference Method: SM 2120 B
Batch ID: P308737

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1819341	Color (true)	0.348	Sample	P	0 - 20

Reference Method: SM 2120 B
Batch ID: P308740

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1819520	Color (true)	2.74	Sample	P	0 - 20

Reference Method: SM 2540 D-97
Batch ID: P309012

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1819516	TSS	8.00	Sample	P	0 - 10

Reference Method: SM 5310 B-00
Batch ID: P309197

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1819390	Organic Carbon	0.460	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: A70783

Included Lab Sample IDs: 1819528, 1819529, 1819530, 1819531, 1819532, 1819533

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	99.0	99.6	P/P	90 - 110

Reference Method: SM 2120 B

Run ID: A70788

Included Lab Sample IDs: 1819517, 1819519

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	101	97.6	P/P	90 - 115

Reference Method: SM 2120 B

Run ID: A70794

Included Lab Sample IDs: 1819516, 1819518

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	99.6	99.9	P/P	85 - 115

Reference Method: SM 2120 B

Run ID: A70795

Included Lab Sample IDs: 1819520, 1819521

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	99.3	97.6	P/P	90 - 115

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A70799

Included Lab Sample IDs: 1819516, 1819517, 1819518, 1819519, 1819520, 1819521

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Turbidity	99.0	99.5	P/P	95 - 105

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A70814

Included Lab Sample IDs: 1819522, 1819523, 1819524, 1819525, 1819526, 1819527

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	99.5	102	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A70852

Included Lab Sample IDs: 1819522, 1819523, 1819524, 1819525, 1819526, 1819527

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

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A70861

Included Lab Sample IDs: 1819522, 1819523, 1819524, 1819525, 1819526, 1819527

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	99.7	100	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: SM 5310 B-00

Run ID: A70945

Included Lab Sample IDs: 1819522, 1819523, 1819524, 1819525, 1819526, 1819527

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

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A70999

Included Lab Sample IDs: 1819525, 1819526, 1819527

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	97.0	105	P/P	90 - 110
Kjeldahl Nitrogen	97.0	97.0	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A71036

Included Lab Sample IDs: 1819522, 1819523, 1819524

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	96.3	96.1	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				0.963	
EPA 350.1 Rev. 2.0	Ammonia-N	106	101 102			1.04
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	107				6.07
	Kjeldahl Nitrogen	106				5.49
EPA 353.2 Rev. 2.0	NO2NO3-N	105	101 103			1.32
EPA 365.1 Rev. 2.0	Total-P	105	105 99.6			3.75
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	100	98.2 99.7			1.52
SM 2120 B	Color (true)				0.106	
	Color (true)				0.348	
	Color (true)				2.74	
SM 2540 D-97	TSS				8.00	
SM 5310 B-00	Organic Carbon	100	105			0.460

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 180.1 Rev. 2.0 / E31780	Turbidity in aqueous matrices	1819516, 1819517, 1819518, 1819519, 1819520, 1819521
EPA 350.1 Rev. 2.0 / E31780	Ammonia in aqueous matrices as mg N/L	1819522, 1819523, 1819524, 1819525, 1819526, 1819527
EPA 351.2 Rev. 2.0 / E31780	Total Kjeldahl Nitrogen in aqueous matrices	1819522, 1819523, 1819524, 1819525, 1819526, 1819527
EPA 353.2 Rev. 2.0 / E31780	Nitrite/Nitrate in aqueous matrices as mg N/L	1819522, 1819523, 1819524, 1819525, 1819526, 1819527

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 365.1 Rev. 2.0 / E31780	Total Phosphorus in aqueous matrices as mg P/L	1819522, 1819523, 1819524, 1819525, 1819526, 1819527
EPA 365.1 Rev. 2.0 dissolved / E31780	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	1819528, 1819529, 1819530, 1819531, 1819532, 1819533
SM 2120 B / E31780	True Color measured at 450 nm	1819516, 1819517, 1819518, 1819519, 1819520, 1819521
SM 2540 D-97 / E31780	Total Suspended Solids in aqueous matrices	1819516, 1819517, 1819518, 1819519, 1819520, 1819521
SM 5310 B-00 / E31780	Nonpurgeable Organic Carbon in aqueous matrices	1819522, 1819523, 1819524, 1819525, 1819526, 1819527

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	07/27/2016			07/27/2016 11:29	Sima Feizi	1819521
	07/27/2016			07/27/2016 11:30	Sima Feizi	1819520
	07/27/2016			07/27/2016 11:32	Sima Feizi	1819516
	07/27/2016			07/27/2016 11:34	Sima Feizi	1819518
	07/27/2016			07/27/2016 11:36	Sima Feizi	1819519
	07/27/2016			07/27/2016 11:38	Sima Feizi	1819517
EPA 350.1 Rev. 2.0	07/27/2016			07/29/2016	Julie Michelle Frank	1819522, 1819523, 1819524, 1819525, 1819526, 1819527
EPA 351.2 Rev. 2.0	07/27/2016	08/03/2016	Sofia Elnemr	08/04/2016	Christopher Armour	1819522, 1819523, 1819524
	07/27/2016	08/05/2016	Sofia Elnemr	08/08/2016	Virginia P. Brown	1819525, 1819526, 1819527
EPA 353.2 Rev. 2.0	07/27/2016			07/28/2016	Peter D. Kaus	1819522, 1819523, 1819524, 1819525, 1819526, 1819527
EPA 365.1 Rev. 2.0	07/27/2016	07/29/2016	Lipi Saha	08/01/2016	Lipi Saha	1819522, 1819523, 1819524, 1819525, 1819526, 1819527
EPA 365.1 Rev. 2.0 dissolved	07/27/2016			07/27/2016 12:01	Julia Storbeck	1819533
	07/27/2016			07/27/2016 12:04	Julia Storbeck	1819532
	07/27/2016			07/27/2016 12:05	Julia Storbeck	1819530
	07/27/2016			07/27/2016 12:06	Julia Storbeck	1819528, 1819529
	07/27/2016			07/27/2016 12:07	Julia Storbeck	1819531
SM 2120 B	07/27/2016			07/27/2016 11:48	Rochelle Y Jackson	1819521
	07/27/2016			07/27/2016 11:49	Rochelle Y Jackson	1819520
	07/27/2016			07/27/2016 14:06	Rochelle Y Jackson	1819517
	07/27/2016			07/27/2016 14:08	Rochelle Y Jackson	1819519
	07/27/2016			07/27/2016 17:58	Rochelle Y Jackson	1819516
	07/27/2016			07/27/2016 17:59	Rochelle Y Jackson	1819518
SM 2540 D-97	07/27/2016			07/29/2016	Yijie Li	1819516, 1819517, 1819518, 1819519, 1819520, 1819521
SM 5310 B-00	07/27/2016			08/03/2016	Sofia Elnemr	1819522, 1819523, 1819524, 1819525, 1819526, 1819527