

Chemical Analysis Report

NW-DIST-2019-05-30-01

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

Event Description: **Western Lakes**
Request ID: **RQ-2019-05-27-14**
Customer: **NW-DIST**
Project ID: **SMP**

Send Reports to:
FL Dept. of Environmental Protection
160 Government Center
Suite 208
Pensacola, FL 32502-5794
Attn: Cheryl Bunch

For additional information please contact
Colin Wright, Ph.D.
Liang-Tsair Lin, Ph.D.
Kerry Tate, Ph.D.
Dr. rer. nat. Bettina Steinbock
Thekkekalathil Chandrasekhar, Ph.D, QA Officer
Phone (850) 245-8085

Certified by: Liang Lin, Environmental Administrator

Date Certified: 13-JUN-2019 14:30

A handwritten signature in black ink, appearing to read "Liang Lin", on a light-colored 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 by the Florida Department of Health Environmental Laboratory Certification Program 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 STONE CENTER

Collection Date/Time: 05/29/2019 10:20

Field ID: G4NW0426

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2089790	EPA 180.1 Rev. 2.0	Turbidity	9.1	A	NTU	P364762	
	EPA 300.0 Rev. 2.1	Chloride	2.8		mg Cl/L	P365031	
		Sulfate	1.3		mg SO4/L	P365032	
	SM 2120 B	Color (true)	28	A	PCU	P364756	
	SM 2320 B-97	Total Alkalinity	4.4		mg CaCO3/L	P365081	
	SM 2540 C-97	TDS	23	I	mg/L	P365382	
	SM 2540 D-97	TSS	5	I	mg/L	P365410	
	SM 4500 F-C-97	Fluoride	0.035	U	mg F/L	P365085	
2089793	EPA 350.1 Rev. 2.0	Ammonia-N	0.007		mg N/L	P365205	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.3		mg N/L	P364969	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P364790	
	EPA 365.1 Rev. 2.0	Total-P	0.024		mg P/L	P364975	
	SM 5310 B-00	Organic Carbon	6.5		mg C/L	P364905	
2089796	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P364767	

Ref. Method and Comment:

SM 2540 D-97: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.

Sample Location: LAKE KARICK (CENTER) (ALSO 33040210)

Collection Date/Time: 05/29/2019 12:05

Field ID: G4NW0274

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2089791	EPA 180.1 Rev. 2.0	Turbidity	2.2		NTU	P364762	
	EPA 300.0 Rev. 2.1	Chloride	2.6		mg Cl/L	P365031	
		Sulfate	0.76		mg SO4/L	P365032	
	SM 2120 B	Color (true)	52		PCU	P364756	
	SM 2320 B-97	Total Alkalinity	3.5		mg CaCO3/L	P365081	
	SM 2540 C-97	TDS	23	I	mg/L	P365382	
	SM 2540 D-97	TSS	2	I	mg/L	P365410	
	SM 4500 F-C-97	Fluoride	0.035	U	mg F/L	P365085	
	EPA 350.1 Rev. 2.0	Ammonia-N	0.003	I	mg N/L	P365205	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.44		mg N/L	P364969	
2089794	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P364790	
	EPA 365.1 Rev. 2.0	Total-P	0.014		mg P/L	P364975	
	SM 5310 B-00	Organic Carbon	5.5		mg C/L	P364905	
	EPA 365.1 Rev. 2.0	O-Phosphate-P	0.004	U	mg P/L	P364767	
	dissolved						

Ref. Method and Comment:

SM 2540 D-97: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.

Sample Location: LOCKLIN LAKE CENTER

Collection Date/Time: 05/29/2019 13:30

Field ID: G4NW0437

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2089792	EPA 180.1 Rev. 2.0	Turbidity	1.2		NTU	P364762	
	EPA 300.0 Rev. 2.1	Chloride	5.7		mg Cl/L	P365031	
		Sulfate	1.2		mg SO4/L	P365032	
	SM 2120 B	Color (true)	12		PCU	P364756	
	SM 2320 B-97	Total Alkalinity	9.4		mg CaCO3/L	P365081	
	SM 2540 C-97	TDS	31		mg/L	P365382	
	SM 2540 D-97	TSS	3	I	mg/L	P365410	
	SM 4500 F-C-97	Fluoride	0.035	U	mg F/L	P365085	
	EPA 350.1 Rev. 2.0	Ammonia-N	0.011		mg N/L	P365205	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.37		mg N/L	P364969	
2089795	EPA 353.2 Rev. 2.0	NO2NO3-N	0.37		mg N/L	P364791	
	EPA 365.1 Rev. 2.0	Total-P	0.011		mg P/L	P364975	
	SM 5310 B-00	Organic Carbon	1.8		mg C/L	P364905	
	EPA 365.1 Rev. 2.0	O-Phosphate-P	0.004	U	mg P/L	P364767	
	dissolved						

Ref. Method and Comment:

SM 2540 D-97: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.

Quality Assurance Report Method Blank Results

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P364762

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P365031

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P365032

Component	Result	Code	Units
Sulfate	0.20	U	mg SO ₄ /L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P365205

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P364969

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P364790

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P364791

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: P364975

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P364767

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

Quality Assurance Report

Method Blank Results

Reference Method: SM 2120 B
Batch ID: P364756

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2320 B-97
Batch ID: P365081

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

Reference Method: SM 2540 C-97
Batch ID: P365382

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-97
Batch ID: P365410

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500 F-C-97
Batch ID: P365085

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-00
Batch ID: P364905

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: P365031

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Chloride	99.1		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P365032

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P365205

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P364969

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P364790

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P364791

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: P364975

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total-P	97.8		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P364767

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
O-Phosphate-P	98.4		P	90 - 110

Reference Method: SM 2120 B
Batch ID: P364756

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Color (true)	102		P	85 - 115

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: SM 2320 B-97
Batch ID: P365081

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	104		P	98 - 106

Reference Method: SM 4500 F-C-97
Batch ID: P365085

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	96.9		P	92 - 103

Reference Method: SM 5310 B-00
Batch ID: P364905

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	99.8		P	85 - 115

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P365031

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2089775	Chloride	98.7		P	90 - 110
2090028	Chloride	96.0		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P365032

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2089775	Sulfate	98.6		P	90 - 110
2090028	Sulfate	97.6		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P365205

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2089892	Ammonia-N	99.2	102	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P364969

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2089892	Kjeldahl Nitrogen	105	97.9	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P364790

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2089727	NO2NO3-N	102	100	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P364791

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2089795	NO2NO3-N	97.8		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P364975

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2089892	Total-P	101	100	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P364767

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2089798	O-Phosphate-P	95.2	95.8	P/P	90 - 110

Reference Method: SM 4500 F-C-97
Batch ID: P365085

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2089700	Fluoride	99.0	97.4	P/P	89 - 106

Quality Assurance Report Matrix Spike Accuracy

Reference Method: SM 5310 B-00
Batch ID: P364905

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2089635	Organic Carbon	100	99.9	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P364762

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2089790	Turbidity	0.0	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P365031

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2090028	Chloride	0.897	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P365032

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2090028	Sulfate	1.19	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P365205

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2089892	Ammonia-N	3.03	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P364969

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2089892	Kjeldahl Nitrogen	4.76	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P364790

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2089727	NO2NO3-N	1.07	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P364791

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2089795	NO2NO3-N	0.176	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P364975

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2089892	Total-P	0.661	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 365.1 Rev. 2.0 dissolved
 Batch ID: P364767

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2089798	O-Phosphate-P	0.628	Spike	P	0 - 20

Reference Method: SM 2120 B
 Batch ID: P364756

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2089790	Color (true)	5.97	Sample	P	0 - 20

Reference Method: SM 2320 B-97
 Batch ID: P365081

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2089700	Total Alkalinity	0.253	Sample	P	0 - 2.8

Reference Method: SM 2540 C-97
 Batch ID: P365382

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2089891	TDS	2.86	Sample	P	0 - 10

Reference Method: SM 4500 F-C-97
 Batch ID: P365085

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2089700	Fluoride	1.48	Spike	P	0 - 2.5

Reference Method: SM 5310 B-00
 Batch ID: P364905

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2089635	Organic Carbon	0.290	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: SM 2120 B

Run ID: A91757

Included Lab Sample IDs: 2089790, 2089791, 2089792

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	100	101	P/P	90 - 115

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A91762

Included Lab Sample IDs: 2089790, 2089791, 2089792

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Run ID: A91763

Included Lab Sample IDs: 2089796, 2089797, 2089798

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	97.5	99.6	P/P	90 - 110
O-Phosphate-P	97.6	97.5	P/P	90 - 110
O-Phosphate-P	99.5	97.6	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A91776

Included Lab Sample IDs: 2089793, 2089794, 2089795

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	100	100	P/P	90 - 110
NO2NO3-N	100	101	P/P	90 - 110

Reference Method: SM 5310 B-00

Run ID: A91812

Included Lab Sample IDs: 2089793, 2089794, 2089795

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

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A91854

Included Lab Sample IDs: 2089790, 2089791, 2089792

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	99.7	101	P/P	90 - 110
Sulfate	99.6	101	P/P	90 - 110

Reference Method: SM 2320 B-97

Run ID: A91867

Included Lab Sample IDs: 2089790, 2089791, 2089792

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	103	101	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: SM 4500 F-C-97

Run ID: A91867

Included Lab Sample IDs: 2089790, 2089791, 2089792

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

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A91886

Included Lab Sample IDs: 2089793, 2089794, 2089795

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	99.2	100	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A91914

Included Lab Sample IDs: 2089793, 2089794, 2089795

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	103	101	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A91922

Included Lab Sample IDs: 2089793, 2089794, 2089795

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	101	101	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	MS
						SMP	
EPA 180.1 Rev. 2.0	Turbidity					0.0	
EPA 300.0 Rev. 2.1	Chloride	99.1	96.0	98.7		0.897	
	Sulfate	98.9	97.6	98.6		1.19	
EPA 350.1 Rev. 2.0	Ammonia-N	101	99.2	102			3.03
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	101	105	97.9			4.76
EPA 353.2 Rev. 2.0	NO2NO3-N	99.5	102	100			1.07
	NO2NO3-N	100	97.8				0.176
EPA 365.1 Rev. 2.0	Total-P	97.8	101	100			0.661
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	98.4	95.2	95.8			0.628
SM 2120 B	Color (true)	102				5.97	
SM 2320 B-97	Total Alkalinity	104				0.253	
SM 2540 C-97	TDS					2.86	
SM 4500 F-C-97	Fluoride	96.9	99.0	97.4			1.48
SM 5310 B-00	Organic Carbon	99.8	100	99.9			0.290

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 180.1 Rev. 2.0 / E31780	Turbidity in aqueous matrices	2089790, 2089791, 2089792
EPA 300.0 Rev. 2.1 / E31780	Chloride in aqueous matrices	2089790, 2089791, 2089792
EPA 300.0 Rev. 2.1 / E31780	Sulfate in aqueous matrices	2089790, 2089791, 2089792
EPA 350.1 Rev. 2.0 / E31780	Ammonia in aqueous matrices as mg N/L	2089793, 2089794, 2089795
EPA 351.2 Rev. 2.0 / E31780	Total Kjeldahl Nitrogen in aqueous matrices	2089793, 2089794, 2089795
EPA 353.2 Rev. 2.0 / E31780	Nitrite/Nitrate in aqueous matrices as mg N/L	2089793, 2089794, 2089795
EPA 365.1 Rev. 2.0 / E31780	Total Phosphorus in aqueous matrices as mg P/L	2089793, 2089794, 2089795
EPA 365.1 Rev. 2.0 dissolved / E31780	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	2089796, 2089797, 2089798
SM 2120 B / E31780	True Color measured at 450 nm	2089790, 2089791, 2089792
SM 2320 B-97 / E31780	Alkalinity in aqueous matrices as mg CaCO3/L	2089790, 2089791, 2089792
SM 2540 C-97 / E31780	Total Dissolved Solids in aqueous matrices	2089790, 2089791, 2089792
SM 2540 D-97 / E31780	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2089790, 2089791, 2089792
SM 4500 F-C-97 / E31780	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2089790, 2089791, 2089792
SM 5310 B-00 / E31780	Nonpurgeable Organic Carbon in aqueous matrices	2089793, 2089794, 2089795

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
EPA 180.1 Rev. 2.0	05/30/2019			05/30/2019 16:27	Julia Storbeck	2089790, 2089791, 2089792
EPA 300.0 Rev. 2.1	05/30/2019			06/04/2019 18:10	Lipi Saha	2089790
	05/30/2019			06/04/2019 18:22	Lipi Saha	2089791
	05/30/2019			06/04/2019 18:34	Lipi Saha	2089792
EPA 350.1 Rev. 2.0	05/30/2019			06/05/2019 10:59	Ping Hua	2089793
	05/30/2019			06/05/2019 11:01	Ping Hua	2089794
	05/30/2019			06/05/2019 11:02	Ping Hua	2089795
EPA 351.2 Rev. 2.0	05/30/2019	06/04/2019 17:45	Adrian Shelby	06/05/2019 15:44	Joseph Suarez	2089793
	05/30/2019	06/04/2019 17:45	Adrian Shelby	06/05/2019 15:46	Joseph Suarez	2089794
	05/30/2019	06/04/2019 17:45	Adrian Shelby	06/05/2019 15:47	Joseph Suarez	2089795
EPA 353.2 Rev. 2.0	05/30/2019			05/31/2019 09:13	Beverly Y. Sanders	2089793
	05/30/2019			05/31/2019 09:14	Beverly Y. Sanders	2089794
	05/30/2019			05/31/2019 09:21	Beverly Y. Sanders	2089795
EPA 365.1 Rev. 2.0	05/30/2019	06/04/2019 11:15	Sima Feizi	06/05/2019 14:14	Rosalyn Ballman	2089793
	05/30/2019	06/04/2019 11:15	Sima Feizi	06/05/2019 14:15	Rosalyn Ballman	2089794
	05/30/2019	06/04/2019 11:15	Sima Feizi	06/05/2019 14:16	Rosalyn Ballman	2089795
EPA 365.1 Rev. 2.0 dissolved	05/30/2019			05/30/2019 15:03	Jhamieka S. Greenwood	2089798
	05/30/2019			05/30/2019 15:21	Jhamieka S. Greenwood	2089796
	05/30/2019			05/30/2019 15:26	Jhamieka S. Greenwood	2089797
SM 2120 B	05/30/2019			05/30/2019 15:49	Madeline Funaro	2089790
	05/30/2019			05/30/2019 15:50	Madeline Funaro	2089791, 2089792
SM 2320 B-97	05/30/2019			06/05/2019 02:59	Samantha Davila	2089790
	05/30/2019			06/05/2019 03:13	Samantha Davila	2089791
	05/30/2019			06/05/2019 03:25	Samantha Davila	2089792
SM 2540 C-97	05/30/2019			06/04/2019 15:00	Yijie Li	2089790, 2089791, 2089792
SM 2540 D-97	05/30/2019			06/04/2019 15:00	Yijie Li	2089790, 2089791, 2089792
SM 4500 F-C-97	05/30/2019			06/05/2019 02:59	Samantha Davila	2089790
	05/30/2019			06/05/2019 03:13	Samantha Davila	2089791
	05/30/2019			06/05/2019 03:25	Samantha Davila	2089792
SM 5310 B-00	05/30/2019			05/31/2019 21:18	Julia Storbeck	2089793
	05/30/2019			05/31/2019 21:30	Julia Storbeck	2089794
	05/30/2019			05/31/2019 21:44	Julia Storbeck	2089795