

Chemical Analysis Report

NE-DIST-2019-02-07-02

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

Event Description: **Interlachen 2**
Request ID: **RQ-2019-02-04-23**
Customer: **NE-DIST**
Project ID: **SMP**

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Certified by: Colin Wright, Program Administrator

Date Certified: 27-FEB-2019 11:51

A handwritten signature in black ink, appearing to read "Colin Wright", is displayed on 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 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: HARDESTY LAKE CENTER

Collection Date/Time: 02/06/2019 13:25

Field ID: FB 02062019

Matrix: W-FIELD-BK

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2060645	EPA 180.1 Rev. 2.0	Turbidity	0.10	U	NTU	P358526	
	EPA 300.0 Rev. 2.1	Chloride	0.20	U	mg Cl/L	P359272	
		Sulfate	0.20	U	mg SO4/L	P359275	
	SM 2120 B	Color (true)	2.5	U	PCU	P358544	
	SM 2320 B-97	Total Alkalinity	0.65	U	mg CaCO3/L	P359099	
	SM 2540 C-97	TDS	15	U	mg/L	P358883	
	SM 2540 D-97	TSS	2	U	mg/L	P358740	
	SM 4500 F-C-97	Fluoride	0.035	U	mg F/L	P359103	
2060646	EPA 350.1 Rev. 2.0	Ammonia-N	0.002	U	mg N/L	P358795	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.080	U	mg N/L	P358763	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P358852	
	EPA 365.1 Rev. 2.0	Total-P	0.002	U	mg P/L	P358703	
	SM 5310 B-00	Organic Carbon	0.50	U	mg C/L	P358674	
2060647	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P358539	

Sample Location: HARDESTY LAKE CENTER

Collection Date/Time: 02/06/2019 13:10

Field ID: G1NE0869 DUP

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2060633	EPA 180.1 Rev. 2.0	Turbidity	1.3		NTU	P358525	
	EPA 300.0 Rev. 2.1	Chloride	6.5		mg Cl/L	P359272	
		Sulfate	0.99		mg SO4/L	P359275	
		Total Alkalinity	1.2	I	mg CaCO3/L	P359099	
	SM 2540 C-97	TDS	67		mg/L	P358882	
	SM 2540 D-97	TSS	2	U	mg/L	P358740	
	SM 4500 F-C-97	Fluoride	0.035	U	mg F/L	P359103	
2060637	EPA 350.1 Rev. 2.0	Ammonia-N	0.003	I	mg N/L	P358795	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.64		mg N/L	P358763	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.024		mg N/L	P358852	
	EPA 365.1 Rev. 2.0	Total-P	0.031		mg P/L	P358702	
	SM 5310 B-00	Organic Carbon	17		mg C/L	P358674	
2060641	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.008	I	mg P/L	P358539	

Sample Location: HARDESTY LAKE CENTER

Collection Date/Time: 02/06/2019 13:00

Field ID: G1NE0869

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2060634	EPA 180.1 Rev. 2.0	Turbidity	1.3		NTU	P358525	
	EPA 300.0 Rev. 2.1	Chloride	6.5		mg Cl/L	P359272	
		Sulfate	0.98		mg SO4/L	P359275	
		Total Alkalinity	1.1	I	mg CaCO3/L	P359099	
	SM 2540 C-97	TDS	62		mg/L	P358882	
	SM 2540 D-97	TSS	2	U	mg/L	P358740	
	SM 4500 F-C-97	Fluoride	0.035	U	mg F/L	P359103	
2060638	EPA 350.1 Rev. 2.0	Ammonia-N	0.002	I	mg N/L	P358795	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.69		mg N/L	P358763	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.023		mg N/L	P358852	
	EPA 365.1 Rev. 2.0	Total-P	0.030		mg P/L	P358702	
	SM 5310 B-00	Organic Carbon	17		mg C/L	P358674	
2060642	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.007	I	mg P/L	P358539	

Sample Location: GILLIS POND CENTER

Collection Date/Time: 02/06/2019 11:45

Field ID: G1NE0863

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2060635	EPA 180.1 Rev. 2.0	Turbidity	0.75		NTU	P358525	
	EPA 300.0 Rev. 2.1	Chloride	9.3		mg Cl/L	P359272	
		Sulfate	2.5		mg SO4/L	P359275	
		Total Alkalinity	0.65	U	mg CaCO3/L	P359099	
	SM 2540 C-97	TDS	57		mg/L	P358882	
	SM 2540 D-97	TSS	2	U	mg/L	P358740	
	SM 4500 F-C-97	Fluoride	0.035	U	mg F/L	P359103	
2060639	EPA 350.1 Rev. 2.0	Ammonia-N	1.3		mg N/L	P358795	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	2.5		mg N/L	P358763	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.45		mg N/L	P358852	
	EPA 365.1 Rev. 2.0	Total-P	0.013		mg P/L	P358703	
	SM 5310 B-00	Organic Carbon	15		mg C/L	P358674	
2060643	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P358539	

Sample Location: LAKE FANNY CENTER

Collection Date/Time: 02/06/2019 11:20

Field ID: 20020100

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2060636	EPA 180.1 Rev. 2.0	Turbidity	1.1		NTU	P358525	
	EPA 300.0 Rev. 2.1	Chloride	11		mg Cl/L	P359272	
		Sulfate	5.7		mg SO4/L	P359275	
		Total Alkalinity	0.65	U	mg CaCO3/L	P359099	
	SM 2540 C-97	TDS	44		mg/L	P358882	
	SM 2540 D-97	TSS	2	U	mg/L	P358740	
	SM 4500 F-C-97	Fluoride	0.035	U	mg F/L	P359103	
2060640	EPA 350.1 Rev. 2.0	Ammonia-N	0.27		mg N/L	P358795	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.76		mg N/L	P358763	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.13		mg N/L	P358852	
	EPA 365.1 Rev. 2.0	Total-P	0.015		mg P/L	P358703	
	SM 5310 B-00	Organic Carbon	5.6		mg C/L	P358674	
2060644	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P358539	

Quality Assurance Report Method Blank Results

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P358525

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P358526

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P359272

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P359275

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P358795

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P358763

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P358852

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P358702

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P358703

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: P358539

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

Reference Method: SM 2120 B
Batch ID: P358544

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2320 B-97
Batch ID: P359099

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

Reference Method: SM 2540 C-97
Batch ID: P358882

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 C-97
Batch ID: P358883

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-97
Batch ID: P358740

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500 F-C-97
Batch ID: P359103

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-00
Batch ID: P358674

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: P359272

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Chloride	98.3		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P359275

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P358795

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P358763

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P358852

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P358702

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P358703

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P358539

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

Reference Method: SM 2120 B
Batch ID: P358544

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Color (true)	100		P	85 - 115

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: SM 2320 B-97
Batch ID: P359099

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	104		P	98 - 107

Reference Method: SM 4500 F-C-97
Batch ID: P359103

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	98.2		P	91 - 105

Reference Method: SM 5310 B-00
Batch ID: P358674

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	93.4		P	85 - 115

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P359272

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2060482	Chloride	95.4		P	90 - 110
2060578	Chloride	97.4		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P359275

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2060482	Sulfate	95.3		P	90 - 110
2060578	Sulfate	97.0		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P358795

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2060583	Ammonia-N	101	101	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P358763

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2060640	Kjeldahl Nitrogen	99.2	103	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P358852

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2060555	NO2NO3-N	98.5	98.5	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P358702

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2060519	Total-P	104	106	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P358703

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2060714	Total-P	103	101	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P358539

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2060644	O-Phosphate-P	96.7	97.5	P/P	90 - 110

Reference Method: SM 4500 F-C-97
Batch ID: P359103

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2060786	Fluoride	97.0	97.0	P/P	91 - 105

Quality Assurance Report Matrix Spike Accuracy

Reference Method: SM 5310 B-00
Batch ID: P358674

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2060583	Organic Carbon	92.9	91.7	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P358525

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2060578	Turbidity	0.308	Sample	P	0 - 20

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P358526

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2060671	Turbidity	9.82	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P359272

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2060578	Chloride	1.13	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P359275

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2060578	Sulfate	1.05	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P358795

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2060583	Ammonia-N	0.238	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P358763

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2060640	Kjeldahl Nitrogen	2.36	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P358852

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2060555	NO2NO3-N	0.0	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P358702

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2060519	Total-P	1.90	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P358703

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2060714	Total-P	1.82	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P358539

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2060644	O-Phosphate-P	0.824	Spike	P	0 - 20

Reference Method: SM 2120 B
Batch ID: P358544

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2060668	Color (true)	0.0202	Sample	P	0 - 20

Reference Method: SM 2320 B-97
Batch ID: P359099

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2060786	Total Alkalinity	0.489	Sample	P	0 - 1.6

Reference Method: SM 2540 C-97
Batch ID: P358882

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2060552	TDS	2.16	Sample	P	0 - 10

Reference Method: SM 2540 C-97
Batch ID: P358883

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2060668	TDS	0.240	Sample	P	0 - 10

Reference Method: SM 2540 D-97
Batch ID: P358740

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2060552	TSS	3.17	Sample	P	0 - 10

Reference Method: SM 4500 F-C-97
Batch ID: P359103

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2060786	Fluoride	0.0	Spike	P	0 - 3.5

Quality Assurance Report Precision

Reference Method: SM 5310 B-00
Batch ID: P358674

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2060583	Organic Carbon	0.768	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 180.1 Rev. 2.0

Run ID: A89266

Included Lab Sample IDs: 2060633, 2060634, 2060635, 2060636, 2060645

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Turbidity	100	100	P/P	95 - 105
Turbidity	101	100	P/P	95 - 105

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Run ID: A89268

Included Lab Sample IDs: 2060641, 2060642, 2060643, 2060644, 2060647

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	97.9	98.1	P/P	90 - 110
O-Phosphate-P	98.7	97.9	P/P	90 - 110
O-Phosphate-P	99.4	98.4	P/P	90 - 110

Reference Method: SM 2120 B

Run ID: A89269

Included Lab Sample IDs: 2060645

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

Reference Method: SM 5310 B-00

Run ID: A89322

Included Lab Sample IDs: 2060637, 2060638, 2060639, 2060640, 2060646

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	92.0	92.9	P/P	90 - 110
Organic Carbon	92.9	92.3	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A89366

Included Lab Sample IDs: 2060637, 2060638, 2060639, 2060640, 2060646

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	99.8	99.2	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A89374

Included Lab Sample IDs: 2060637, 2060638, 2060639, 2060640, 2060646

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	101	102	P/P	90 - 110
Ammonia-N	103	101	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A89395

Included Lab Sample IDs: 2060637, 2060638, 2060639, 2060640, 2060646

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

Quality Assurance Report Calibration Verification

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A89402

Included Lab Sample IDs: 2060637, 2060638, 2060639, 2060640, 2060646

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	96.8	99.2	P/P	90 - 110
Kjeldahl Nitrogen	99.2	104	P/P	90 - 110

Reference Method: SM 2320 B-97

Run ID: A89482

Included Lab Sample IDs: 2060633, 2060634, 2060635, 2060636, 2060645

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

Reference Method: SM 4500 F-C-97

Run ID: A89482

Included Lab Sample IDs: 2060633, 2060634, 2060635, 2060636, 2060645

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

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A89517

Included Lab Sample IDs: 2060633, 2060634, 2060635, 2060636, 2060645

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	97.5	97.7	P/P	90 - 110
Sulfate	97.2	97.4	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		Precision	
					LCS	MS
EPA 180.1 Rev. 2.0	Turbidity				0.308	
	Turbidity				9.82	
EPA 300.0 Rev. 2.1	Chloride	98.3	97.4	95.4	1.13	
	Sulfate	97.1	97.0	95.3	1.05	
EPA 350.1 Rev. 2.0	Ammonia-N	100	101	101		0.238
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	102	99.2	103		2.36
EPA 353.2 Rev. 2.0	NO2NO3-N	99.0	98.5	98.5		0.0
EPA 365.1 Rev. 2.0	Total-P	106	104	106		1.90
	Total-P	103	103	101		1.82
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	101	96.7	97.5		0.824
SM 2120 B	Color (true)	100			0.0202	
SM 2320 B-97	Total Alkalinity	104			0.489	
SM 2540 C-97	TDS				2.16	
	TDS				0.240	
SM 2540 D-97	TSS				3.17	
SM 4500 F-C-97	Fluoride	98.2	97.0	97.0		0.0
SM 5310 B-00	Organic Carbon	93.4	92.9	91.7		0.768

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 180.1 Rev. 2.0 / E31780	Turbidity in aqueous matrices	2060633, 2060634, 2060635, 2060636, 2060645
EPA 300.0 Rev. 2.1 / E31780	Chloride in aqueous matrices	2060633, 2060634, 2060635, 2060636, 2060645
EPA 300.0 Rev. 2.1 / E31780	Sulfate in aqueous matrices	2060633, 2060634, 2060635, 2060636, 2060645
EPA 350.1 Rev. 2.0 / E31780	Ammonia in aqueous matrices as mg N/L	2060637, 2060638, 2060639, 2060640, 2060646
EPA 351.2 Rev. 2.0 / E31780	Total Kjeldahl Nitrogen in aqueous matrices	2060637, 2060638, 2060639, 2060640, 2060646
EPA 353.2 Rev. 2.0 / E31780	Nitrite/Nitrate in aqueous matrices as mg N/L	2060637, 2060638, 2060639, 2060640, 2060646
EPA 365.1 Rev. 2.0 / E31780	Total Phosphorus in aqueous matrices as mg P/L	2060637, 2060638, 2060639, 2060640, 2060646
EPA 365.1 Rev. 2.0 dissolved / E31780	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	2060641, 2060642, 2060643, 2060644, 2060647
SM 2120 B / E31780	True Color measured at 450 nm	2060645
SM 2320 B-97 / E31780	Alkalinity in aqueous matrices as mg CaCO3/L	2060633, 2060634, 2060635, 2060636, 2060645
SM 2540 C-97 / E31780	Total Dissolved Solids in aqueous matrices	2060633, 2060634, 2060635, 2060636, 2060645
SM 2540 D-97 / E31780	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2060633, 2060634, 2060635, 2060636, 2060645
SM 4500 F-C-97 / E31780	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2060633, 2060634, 2060635, 2060636, 2060645
SM 5310 B-00 / E31780	Nonpurgeable Organic Carbon in aqueous matrices	2060637, 2060638, 2060639, 2060640, 2060646

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	02/07/2019			02/07/2019 15:33	Adrian Shelby	2060633, 2060634, 2060635, 2060636, 2060645
EPA 300.0 Rev. 2.1	02/07/2019			02/20/2019 09:53	Lipi Saha	2060633
	02/07/2019			02/20/2019 10:10	Lipi Saha	2060634
	02/07/2019			02/20/2019 10:27	Lipi Saha	2060635
	02/07/2019			02/20/2019 10:44	Lipi Saha	2060636
	02/07/2019			02/20/2019 11:01	Lipi Saha	2060645
EPA 350.1 Rev. 2.0	02/07/2019			02/12/2019 14:00	Ping Hua	2060637
	02/07/2019			02/12/2019 14:02	Ping Hua	2060638
	02/07/2019			02/12/2019 14:06	Ping Hua	2060646
	02/07/2019			02/12/2019 14:18	Ping Hua	2060640
	02/07/2019			02/12/2019 14:20	Ping Hua	2060639
EPA 351.2 Rev. 2.0	02/07/2019	02/12/2019 12:25	Adrian Shelby	02/13/2019 12:36	Joseph Suarez	2060637
	02/07/2019	02/12/2019 12:25	Adrian Shelby	02/13/2019 12:37	Joseph Suarez	2060638
	02/07/2019	02/12/2019 12:25	Adrian Shelby	02/13/2019 12:39	Joseph Suarez	2060639
	02/07/2019	02/12/2019 12:25	Adrian Shelby	02/13/2019 12:40	Joseph Suarez	2060640
	02/07/2019	02/12/2019 12:25	Adrian Shelby	02/13/2019 12:48	Joseph Suarez	2060646
EPA 353.2 Rev. 2.0	02/07/2019			02/13/2019 10:55	Beverly Y. Sanders	2060637
	02/07/2019			02/13/2019 10:56	Beverly Y. Sanders	2060638
	02/07/2019			02/13/2019 10:57	Beverly Y. Sanders	2060639
	02/07/2019			02/13/2019 10:58	Beverly Y. Sanders	2060640
	02/07/2019			02/13/2019 11:00	Beverly Y. Sanders	2060646
EPA 365.1 Rev. 2.0	02/07/2019	02/11/2019 13:40	Sima Feizi	02/12/2019 13:23	Rosalyn Ballman	2060637
	02/07/2019	02/11/2019 13:40	Sima Feizi	02/12/2019 13:24	Rosalyn Ballman	2060638
	02/07/2019	02/11/2019 13:40	Sima Feizi	02/12/2019 13:27	Rosalyn Ballman	2060639
	02/07/2019	02/11/2019 13:40	Sima Feizi	02/12/2019 13:28	Rosalyn Ballman	2060640
	02/07/2019	02/11/2019 13:40	Sima Feizi	02/12/2019 13:29	Rosalyn Ballman	2060646
EPA 365.1 Rev. 2.0 dissolved	02/07/2019			02/07/2019 15:21	Jhamieka S. Greenwood	2060644
	02/07/2019			02/07/2019 15:41	Jhamieka S. Greenwood	2060647
	02/07/2019			02/07/2019 15:44	Jhamieka S. Greenwood	2060641, 2060642
	02/07/2019			02/07/2019 16:00	Jhamieka S. Greenwood	2060643
SM 2120 B	02/07/2019			02/07/2019 16:51	Chelsea Hernandez	2060645
SM 2320 B-97	02/07/2019			02/15/2019 03:17	Dale L. Simmons	2060633
	02/07/2019			02/15/2019 03:27	Dale L. Simmons	2060634
	02/07/2019			02/15/2019 03:37	Dale L. Simmons	2060635
	02/07/2019			02/15/2019 03:47	Dale L. Simmons	2060636
	02/07/2019			02/15/2019 04:01	Dale L. Simmons	2060645
SM 2540 C-97	02/07/2019			02/08/2019 17:55	Mariam Hanna	2060633, 2060634, 2060635, 2060636, 2060645
SM 2540 D-97	02/07/2019			02/08/2019 18:20	Mariam Hanna	2060633, 2060634, 2060635, 2060636, 2060645

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
SM 4500 F-C-97	02/07/2019			02/15/2019 03:17	Dale L. Simmons	2060633
	02/07/2019			02/15/2019 03:27	Dale L. Simmons	2060634
	02/07/2019			02/15/2019 03:37	Dale L. Simmons	2060635
	02/07/2019			02/15/2019 03:47	Dale L. Simmons	2060636
	02/07/2019			02/15/2019 04:01	Dale L. Simmons	2060645
SM 5310 B-00	02/07/2019			02/09/2019 07:07	Chelsea Hernandez	2060637
	02/07/2019			02/09/2019 07:19	Chelsea Hernandez	2060638
	02/07/2019			02/09/2019 07:32	Chelsea Hernandez	2060639
	02/07/2019			02/09/2019 08:10	Chelsea Hernandez	2060640
	02/07/2019			02/09/2019 08:25	Chelsea Hernandez	2060646