Chemical Analysis Report

NE-DIST-2019-10-04-01

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-2019-09-30-11**
Customer: **NE-DIST**
Project ID: **SMP**

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Date Certified: 23-OCT-2019 14:34

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 Fanny Center **Collection Date/Time: 10/03/2019 12:45**

Field ID: 20020100 Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2125239	EPA 180.1 Rev. 2.0	Turbidity	1.3		NTU	P371958	
	EPA 300.0 Rev. 2.1	Chloride	12		mg Cl/L	P372583	
		Sulfate	6.1		mg SO4/L	P372587	
	SM 2120 B	Color (true)	9.6		PCU	P372021	
	SM 2320 B-97	Total Alkalinity	0.65	U	mg CaCO3/L	P372158	
	SM 2540 C-97	TDS	30		mg/L	P372490	
	SM 2540 D-97	TSS	2	I	mg/L	P372480	
	SM 4500 F-C-97	Fluoride	0.035	U	mg F/L	P372161	
2125242	EPA 350.1 Rev. 2.0	Ammonia-N	0.036		mg N/L	P372301	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.44		mg N/L	P372064	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.021		mg N/L	P372240	
	EPA 365.1 Rev. 2.0	Total-P	0.011		mg P/L	P372018	
	SM 5310 B-00	Organic Carbon	3.7		mg C/L	P372076	
2125245	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P371937	

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: Gillis Pond Center **Collection Date/Time: 10/03/2019 13:10**

Field ID: G1NE0863 Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2125240	EPA 180.1 Rev. 2.0	Turbidity	2.3		NTU	P371959	
	EPA 300.0 Rev. 2.1	Chloride	11		mg Cl/L	P372583	
		Sulfate	3.4		mg SO4/L	P372587	
	SM 2120 B	Color (true)	110		PCU	P372021	
	SM 2320 B-97	Total Alkalinity	0.65	U	mg CaCO3/L	P372158	
	SM 2540 C-97	TDS	38		mg/L	P372490	
	SM 2540 D-97	TSS	2	I	mg/L	P372480	
	SM 4500 F-C-97	Fluoride	0.035	U	mg F/L	P372161	
2125243	EPA 350.1 Rev. 2.0	Ammonia-N	0.26		mg N/L	P372301	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.1		mg N/L	P372064	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.22		mg N/L	P372240	
	EPA 365.1 Rev. 2.0	Total-P	0.017		mg P/L	P372079	
	SM 5310 B-00	Organic Carbon	12		mg C/L	P372519	
2125246	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P371937	

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: Hardesty Lake Center **Collection Date/Time: 10/03/2019 10:40**

Field ID: G1NE0869 Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2125241	EPA 180.1 Rev. 2.0	Turbidity	3.8		NTU	P371959	
	EPA 300.0 Rev. 2.1	Chloride	7.6		mg Cl/L	P372583	
		Sulfate	0.54	I	mg SO4/L	P372587	
	SM 2120 B	Color (true)	150		PCU	P372021	
	SM 2320 B-97	Total Alkalinity	3.1		mg CaCO3/L	P372158	
	SM 2540 C-97	TDS	52		mg/L	P372490	
	SM 2540 D-97	TSS	3	I	mg/L	P372480	
	SM 4500 F-C-97	Fluoride	0.035	U	mg F/L	P372161	
2125244	EPA 350.1 Rev. 2.0	Ammonia-N	0.004	I	mg N/L	P372301	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.56		mg N/L	P372112	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P372240	
	EPA 365.1 Rev. 2.0	Total-P	0.038		mg P/L	P372079	
	SM 5310 B-00	Organic Carbon	14		mg C/L	P372519	
2125247	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	I	mg P/L	P371938	

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: P371958

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P371959

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P372583

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P372587

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P372301

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P372064

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P372112

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P372240

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P372018

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
Batch ID: P372079

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P371937

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P371938

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

Reference Method: SM 2120 B
Batch ID: P372021

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2320 B-97
Batch ID: P372158

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

Reference Method: SM 2540 C-97
Batch ID: P372490

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-97
Batch ID: P372480

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500 F-C-97
Batch ID: P372161

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-00
Batch ID: P372076

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

Quality Assurance Report
Method Blank Results

Reference Method: SM 5310 B-00
Batch ID: P372519

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: P372583

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P372587

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P372301

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P372064

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Kjeldahl Nitrogen	91.9		P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P372112

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P372240

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P372018

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P372079

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total-P	96.3		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P371937

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

Quality Assurance Report
Laboratory Control Sample Accuracy

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P371938

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

Reference Method: SM 2120 B
Batch ID: P372021

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Color (true)	101		P	85 - 115

Reference Method: SM 2320 B-97
Batch ID: P372158

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

Reference Method: SM 4500 F-C-97
Batch ID: P372161

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	96.4		P	92 - 103

Reference Method: SM 5310 B-00
Batch ID: P372076

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	102		P	85 - 115

Reference Method: SM 5310 B-00
Batch ID: P372519

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	98.6		P	85 - 115

Quality Assurance Report
Matrix Spike Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P372583

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2125213	Chloride	94.7		P	90 - 110
2125298	Chloride	98.7		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P372587

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2125213	Sulfate	99.1		P	90 - 110
2125298	Sulfate	98.8		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P372301

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2125242	Ammonia-N	99.4	102	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P372064

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2125199	Kjeldahl Nitrogen	101	101	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P372112

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2125255	Kjeldahl Nitrogen	90.6	95.4	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P372240

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2125214	NO2NO3-N	101	100	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P372018

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2125158	Total-P	105	99.5	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P372079

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2125263	Total-P	102	100	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P371937

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2125245	O-Phosphate-P	96.9	97.1	P/P	90 - 110

Quality Assurance Report
Matrix Spike Accuracy

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P371938

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2125247	O-Phosphate-P	94.7	95.4	P/P	90 - 110

Reference Method: SM 4500 F-C-97
Batch ID: P372161

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2124610	Fluoride	96.0	95.5	P/P	89 - 106

Reference Method: SM 5310 B-00
Batch ID: P372076

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2125255	Organic Carbon	98.5	101	P/P	85 - 115

Reference Method: SM 5310 B-00
Batch ID: P372519

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2125360	Organic Carbon	100	100	P/P	85 - 115

Quality Assurance Report
Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P371958

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2125157	Turbidity	1.96	Sample	P	0 - 20

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P371959

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2125298	Turbidity	2.24	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P372583

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2125213	Chloride	0.720	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P372587

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2125213	Sulfate	0.754	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P372301

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2125242	Ammonia-N	1.71	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P372064

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2125199	Kjeldahl Nitrogen	0.429	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P372112

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2125255	Kjeldahl Nitrogen	3.54	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P372240

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2125214	NO2NO3-N	0.697	Spike	P	0 - 20

Quality Assurance Report
Precision

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P372018

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2125158	Total-P	4.41	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P372079

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2125263	Total-P	1.80	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P371937

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2125245	O-Phosphate-P	0.206	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P371938

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2125247	O-Phosphate-P	0.703	Spike	P	0 - 20

Reference Method: SM 2120 B
Batch ID: P372021

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2125254	Color (true)	0.0518	Sample	P	0 - 20

Reference Method: SM 2320 B-97
Batch ID: P372158

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2124610	Total Alkalinity	0.222	Sample	P	0 - 2.8

Reference Method: SM 2540 C-97
Batch ID: P372490

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2125163	TDS	3.16	Sample	P	0 - 10

Reference Method: SM 4500 F-C-97
Batch ID: P372161

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2124610	Fluoride	0.473	Spike	P	0 - 2.5

Quality Assurance Report
Precision

Reference Method: SM 5310 B-00
Batch ID: P372076

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2125255	Organic Carbon	1.74	Spike	P	0 - 20

Reference Method: SM 5310 B-00
Batch ID: P372519

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2125360	Organic Carbon	0.341	Spike	P	0 - 20

* Sample, spike and/or laboratory control sample precision (LCS) is reported.

Quality Assurance Report
Calibration Verification

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Run ID: A94737
Included Lab Sample IDs: 2125245, 2125246, 2125247

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	98.2	96.5	P/P	90 - 110
O-Phosphate-P	98.7	97.8	P/P	90 - 110

Reference Method: EPA 180.1 Rev. 2.0
Run ID: A94747
Included Lab Sample IDs: 2125239, 2125240, 2125241

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

Reference Method: EPA 353.2 Rev. 2.0
Run ID: A94760
Included Lab Sample IDs: 2125242, 2125243, 2125244

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

Reference Method: SM 2120 B
Run ID: A94765
Included Lab Sample IDs: 2125239, 2125240, 2125241

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	100	102	P/P	90 - 115
Color (true)	102	101	P/P	90 - 115

Reference Method: SM 5310 B-00
Run ID: A94780
Included Lab Sample IDs: 2125242

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	95.9	95.8	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Run ID: A94792
Included Lab Sample IDs: 2125242

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

Reference Method: SM 2320 B-97
Run ID: A94818
Included Lab Sample IDs: 2125239, 2125240, 2125241

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	102	104	P/P	90 - 110

Reference Method: SM 4500 F-C-97
Run ID: A94818
Included Lab Sample IDs: 2125239, 2125240, 2125241

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits

Quality Assurance Report
Calibration Verification

Reference Method: SM 4500 F-C-97
Run ID: A94818
Included Lab Sample IDs: 2125239, 2125240, 2125241

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	98.1	99.5	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Run ID: A94834
Included Lab Sample IDs: 2125242, 2125243, 2125244

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	97.0	97.4	P/P	90 - 110
Kjeldahl Nitrogen	97.4	94.6	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Run ID: A94841
Included Lab Sample IDs: 2125243, 2125244

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

Reference Method: EPA 350.1 Rev. 2.0
Run ID: A94868
Included Lab Sample IDs: 2125242, 2125243, 2125244

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	102	99.3	P/P	90 - 110
Ammonia-N	102	101	P/P	90 - 110

Reference Method: SM 5310 B-00
Run ID: A94976
Included Lab Sample IDs: 2125243, 2125244

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	100	99.6	P/P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Run ID: A95003
Included Lab Sample IDs: 2125239, 2125240, 2125241

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	100	99.5	P/P	90 - 110
Sulfate	101	100	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	SMP	MS
EPA 180.1 Rev. 2.0	Turbidity					1.96	
	Turbidity					2.24	
EPA 300.0 Rev. 2.1	Chloride	99.6	94.7	98.7		0.720	
	Sulfate	100	99.1	98.8		0.754	
EPA 350.1 Rev. 2.0	Ammonia-N	98.4	99.4	102			1.71
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	91.9	101	101			0.429
	Kjeldahl Nitrogen	97.8	90.6	95.4			3.54
EPA 353.2 Rev. 2.0	NO2NO3-N	99.5	101	100			0.697
EPA 365.1 Rev. 2.0	Total-P	99.1	105	99.5			4.41
	Total-P	96.3	102	100			1.80
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	97.7	96.9	97.1			0.206
	O-Phosphate-P	98.4	94.7	95.4			0.703
SM 2120 B	Color (true)	101				0.0518	
SM 2320 B-97	Total Alkalinity	104				0.222	
SM 2540 C-97	TDS					3.16	
SM 4500 F-C-97	Fluoride	96.4	96.0	95.5			0.473
SM 5310 B-00	Organic Carbon	102	98.5	101			1.74
	Organic Carbon	98.6	100	100			0.341

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 180.1 Rev. 2.0 / E31780	Turbidity in aqueous matrices	2125239, 2125240, 2125241
EPA 300.0 Rev. 2.1 / E31780	Chloride in aqueous matrices	2125239, 2125240, 2125241
EPA 300.0 Rev. 2.1 / E31780	Sulfate in aqueous matrices	2125239, 2125240, 2125241
EPA 350.1 Rev. 2.0 / E31780	Ammonia in aqueous matrices as mg N/L	2125242, 2125243, 2125244
EPA 351.2 Rev. 2.0 / E31780	Total Kjeldahl Nitrogen in aqueous matrices	2125242, 2125243, 2125244
EPA 353.2 Rev. 2.0 / E31780	Nitrite/Nitrate in aqueous matrices as mg N/L	2125242, 2125243, 2125244
EPA 365.1 Rev. 2.0 / E31780	Total Phosphorus in aqueous matrices as mg P/L	2125242, 2125243, 2125244
EPA 365.1 Rev. 2.0 dissolved / E31780	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	2125245, 2125246, 2125247
SM 2120 B / E31780	True Color measured at 450 nm	2125239, 2125240, 2125241
SM 2320 B-97 / E31780	Alkalinity in aqueous matrices as mg CaCO3/L	2125239, 2125240, 2125241
SM 2540 C-97 / E31780	Total Dissolved Solids in aqueous matrices	2125239, 2125240, 2125241
SM 2540 D-97 / E31780	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2125239, 2125240, 2125241
SM 4500 F-C-97 / E31780	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2125239, 2125240, 2125241
SM 5310 B-00 / E31780	Nonpurgeable Organic Carbon in aqueous matrices	2125242, 2125243, 2125244

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	10/04/2019			10/04/2019 17:02	Samantha Davila	2125239, 2125240, 2125241
EPA 300.0 Rev. 2.1	10/04/2019			10/14/2019 20:04	Jhamieka S. Greenwood	2125239
	10/04/2019			10/14/2019 20:16	Jhamieka S. Greenwood	2125240
	10/04/2019			10/14/2019 20:28	Jhamieka S. Greenwood	2125241
EPA 350.1 Rev. 2.0	10/04/2019			10/10/2019 12:25	Ping Hua	2125242
	10/04/2019			10/10/2019 15:06	Ping Hua	2125243
	10/04/2019			10/10/2019 15:07	Ping Hua	2125244
EPA 351.2 Rev. 2.0	10/04/2019	10/08/2019 11:15	Sima Feizi	10/09/2019 11:47	Jhamieka S. Greenwood	2125242
	10/04/2019	10/08/2019 11:15	Sima Feizi	10/09/2019 11:49	Jhamieka S. Greenwood	2125243
	10/04/2019	10/08/2019 11:15	Sima Feizi	10/09/2019 12:01	Jhamieka S. Greenwood	2125244
EPA 353.2 Rev. 2.0	10/04/2019			10/07/2019 11:44	Beverly Y. Sanders	2125242
	10/04/2019			10/07/2019 11:45	Beverly Y. Sanders	2125243
	10/04/2019			10/07/2019 11:46	Beverly Y. Sanders	2125244
EPA 365.1 Rev. 2.0	10/04/2019	10/07/2019 13:45	Vijayalakshmi Reddy	10/08/2019 12:48	Lipi Saha	2125242
	10/04/2019	10/08/2019 12:51	Vijayalakshmi Reddy	10/09/2019 15:47	Lipi Saha	2125243
	10/04/2019	10/08/2019 12:51	Vijayalakshmi Reddy	10/09/2019 15:48	Lipi Saha	2125244
EPA 365.1 Rev. 2.0 dissolved	10/04/2019			10/04/2019 17:15	Julia Storbeck	2125245
	10/04/2019			10/04/2019 17:19	Julia Storbeck	2125247
	10/04/2019			10/04/2019 17:46	Julia Storbeck	2125246
SM 2120 B	10/04/2019			10/04/2019 17:31	Madeline Funaro	2125239
	10/04/2019			10/04/2019 17:32	Madeline Funaro	2125240
	10/04/2019			10/04/2019 18:08	Madeline Funaro	2125241
SM 2320 B-97	10/04/2019			10/09/2019 09:29	Dale L. Simmons	2125239
	10/04/2019			10/09/2019 09:38	Dale L. Simmons	2125240
	10/04/2019			10/09/2019 09:50	Dale L. Simmons	2125241
SM 2540 C-97	10/04/2019			10/09/2019 13:46	Yijie Li	2125239, 2125240, 2125241
SM 2540 D-97	10/04/2019			10/09/2019 13:46	Yijie Li	2125239, 2125240, 2125241
SM 4500 F-C-97	10/04/2019			10/09/2019 09:29	Dale L. Simmons	2125239
	10/04/2019			10/09/2019 09:38	Dale L. Simmons	2125240
	10/04/2019			10/09/2019 09:50	Dale L. Simmons	2125241
SM 5310 B-00	10/04/2019			10/08/2019 02:33	Madeline Funaro	2125242
	10/04/2019			10/11/2019 17:34	Madeline Funaro	2125243
	10/04/2019			10/11/2019 17:46	Madeline Funaro	2125244