

Chemical Analysis Report

NE-DIST-2019-07-19-02

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-2019-07-15-10**
Customer: **NE-DIST**
Project ID: **SMP**

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Certified by: Colin Wright, Program Administrator

Date Certified: 14-AUG-2019 10:09

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

Collection Date/Time: 07/18/2019 09:55

Field ID: G1NE0869

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2104685	EPA 180.1 Rev. 2.0	Turbidity	1.7		NTU	P367644	
	EPA 300.0 Rev. 2.1	Chloride	7.5		mg Cl/L	P367756	
		Sulfate	0.78		mg SO4/L	P367758	
	SM 2120 B	Color (true)	150		PCU	P367647	
	SM 2320 B-97	Total Alkalinity	1.3	I	mg CaCO3/L	P367938	
	SM 2540 C-97	TDS	38		mg/L	P368116	
	SM 2540 D-97	TSS	4	IQ	mg/L	P368920	
	SM 4500 F-C-97	Fluoride	0.035	U	mg F/L	P367941	
2104689	EPA 350.1 Rev. 2.0	Ammonia-N	0.004	I	mg N/L	P368302	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.65		mg N/L	P367880	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P367688	
	EPA 365.1 Rev. 2.0	Total-P	0.033		mg P/L	P367749	
	SM 5310 B-00	Organic Carbon	14		mg C/L	P367728	
2104693	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P367641	

Ref. Method and Comment:

SM 2540 D-97: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample. Sample analyzed out of holding time because of analytical difficulties.

Sample Location: HARDESTY LAKE SOUTH

Collection Date/Time: 07/18/2019 10:05

Field ID: G1NE0932

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2104686	EPA 180.1 Rev. 2.0	Turbidity	3.0		NTU	P367644	
	EPA 300.0 Rev. 2.1	Chloride	7.5		mg Cl/L	P367756	
		Sulfate	0.84		mg SO4/L	P367758	
	SM 2120 B	Color (true)	140		PCU	P367647	
	SM 2320 B-97	Total Alkalinity	1.0	I	mg CaCO3/L	P367938	
	SM 2540 C-97	TDS	35		mg/L	P368116	
	SM 2540 D-97	TSS	7	I	mg/L	P367794	
	SM 4500 F-C-97	Fluoride	0.035	U	mg F/L	P367941	
2104690	EPA 350.1 Rev. 2.0	Ammonia-N	0.005	I	mg N/L	P368302	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.88		mg N/L	P367880	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P367688	
	EPA 365.1 Rev. 2.0	Total-P	0.064		mg P/L	P367749	
	SM 5310 B-00	Organic Carbon	15		mg C/L	P367728	
2104694	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P367641	

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: 07/18/2019 11:10

Field ID: G1NE0863

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2104687	EPA 180.1 Rev. 2.0	Turbidity	2.3		NTU	P367644	
	EPA 300.0 Rev. 2.1	Chloride	11		mg Cl/L	P367756	
		Sulfate	2.7		mg SO4/L	P367758	
	SM 2120 B	Color (true)	120		PCU	P367648	
	SM 2320 B-97	Total Alkalinity	0.65	U	mg CaCO3/L	P367938	
	SM 2540 C-97	TDS	42		mg/L	P368116	
	SM 2540 D-97	TSS	4	I	mg/L	P367794	
	SM 4500 F-C-97	Fluoride	0.035	U	mg F/L	P367941	
2104691	EPA 350.1 Rev. 2.0	Ammonia-N	0.40		mg N/L	P368302	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.6		mg N/L	P367880	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.31		mg N/L	P367688	
	EPA 365.1 Rev. 2.0	Total-P	0.024		mg P/L	P367749	
	SM 5310 B-00	Organic Carbon	13		mg C/L	P367728	
2104695	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P367641	

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 FANNY CENTER

Collection Date/Time: 07/18/2019 11:50

Field ID: 20020100

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2104688	EPA 180.1 Rev. 2.0	Turbidity	1.0		NTU	P367645	
	EPA 300.0 Rev. 2.1	Chloride	12		mg Cl/L	P367756	
		Sulfate	6.1		mg SO4/L	P367758	
	SM 2120 B	Color (true)	17		PCU	P367648	
	SM 2320 B-97	Total Alkalinity	0.65	U	mg CaCO3/L	P367938	
	SM 2540 C-97	TDS	49		mg/L	P368116	
	SM 2540 D-97	TSS	2	U	mg/L	P367794	
	SM 4500 F-C-97	Fluoride	0.035	U	mg F/L	P367941	
2104692	EPA 350.1 Rev. 2.0	Ammonia-N	0.030		mg N/L	P368302	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.54		mg N/L	P367880	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.007	I	mg N/L	P367689	
	EPA 365.1 Rev. 2.0	Total-P	0.01		mg P/L	P367749	
	SM 5310 B-00	Organic Carbon	5.4		mg C/L	P367964	
2104696	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P367641	

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: P367644

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P367645

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P367756

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P367758

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P368302

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P367880

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P367688

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P367689

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P367749

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: P367641

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

Reference Method: SM 2120 B
Batch ID: P367647

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2120 B
Batch ID: P367648

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2320 B-97
Batch ID: P367938

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

Reference Method: SM 2540 C-97
Batch ID: P368116

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-97
Batch ID: P367794

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 2540 D-97
Batch ID: P368920

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500 F-C-97
Batch ID: P367941

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-00
Batch ID: P367728

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: P367964

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: P367756

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P367758

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P368302

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: P367880

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P367688

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P367689

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: P367749

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: P367641

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

Reference Method: SM 2120 B
Batch ID: P367647

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Color (true)	97.6		P	85 - 115

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: SM 2120 B
Batch ID: P367648

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Color (true)	99.5		P	85 - 115

Reference Method: SM 2320 B-97
Batch ID: P367938

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	103		P	98 - 106

Reference Method: SM 4500 F-C-97
Batch ID: P367941

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	97.2		P	92 - 103

Reference Method: SM 5310 B-00
Batch ID: P367728

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

Reference Method: SM 5310 B-00
Batch ID: P367964

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

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P367756

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2104548	Chloride	102		P	90 - 110
2104625	Chloride	102		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P367758

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2104548	Sulfate	102		P	90 - 110
2104625	Sulfate	103		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P368302

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2104629	Ammonia-N	104	101	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P367880

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2104630	Kjeldahl Nitrogen	102	99.8	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P367688

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2104627	NO2NO3-N	99.8		P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P367689

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2104692	NO2NO3-N	100	101	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P367749

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2104629	Total-P	103	104	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P367641

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2104696	O-Phosphate-P	96.2	98.0	P/P	90 - 110

Reference Method: SM 4500 F-C-97
Batch ID: P367941

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2104549	Fluoride	104	104	P/P	89 - 106

Quality Assurance Report Matrix Spike Accuracy

Reference Method: SM 5310 B-00
Batch ID: P367728

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2104631	Organic Carbon	95.2	96.2	P/P	85 - 115

Reference Method: SM 5310 B-00
Batch ID: P367964

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2104789	Organic Carbon	107	103	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P367644

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2104626	Turbidity	7.30	Sample	P	0 - 20

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P367645

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2104781	Turbidity	7.87	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P367756

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2104548	Chloride	2.53	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P367758

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2104548	Sulfate	1.78	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P368302

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2104629	Ammonia-N	2.02	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P367880

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2104630	Kjeldahl Nitrogen	1.78	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P367688

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2104627	NO2NO3-N	0.0	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P367689

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2104692	NO2NO3-N	0.480	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P367749

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2104629	Total-P	0.328	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P367641

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2104696	O-Phosphate-P	1.85	Spike	P	0 - 20

Reference Method: SM 2120 B
Batch ID: P367647

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2104519	Color (true)	0.209	Sample	P	0 - 20

Reference Method: SM 2120 B
Batch ID: P367648

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2104729	Color (true)	0.329	Sample	P	0 - 20

Reference Method: SM 2320 B-97
Batch ID: P367938

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2104549	Total Alkalinity	2.72	Sample	P	0 - 2.8

Reference Method: SM 2540 C-97
Batch ID: P368116

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2104622	TDS	2.84	Sample	P	0 - 10

Reference Method: SM 4500 F-C-97
Batch ID: P367941

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2104549	Fluoride	0.0	Spike	P	0 - 2.5

Reference Method: SM 5310 B-00
Batch ID: P367728

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2104631	Organic Carbon	0.921	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: SM 5310 B-00
Batch ID: P367964

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2104789	Organic Carbon	2.17	Spike	P	0 - 20

* Sample, spike and/or laboratory control sample precision (LCS) is reported.
Replicate spike precision may be reported when sample results are below quantifiable levels.

Quality Assurance Report Calibration Verification

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Run ID: A92908

Included Lab Sample IDs: 2104693, 2104694, 2104695, 2104696

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	98.8	97.5	P/P	90 - 110
O-Phosphate-P	99.5	99.7	P/P	90 - 110

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A92909

Included Lab Sample IDs: 2104685, 2104686, 2104687, 2104688

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

Reference Method: SM 2120 B

Run ID: A92910

Included Lab Sample IDs: 2104685, 2104686, 2104687, 2104688

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: EPA 353.2 Rev. 2.0

Run ID: A92937

Included Lab Sample IDs: 2104689, 2104690, 2104691, 2104692

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

Reference Method: SM 5310 B-00

Run ID: A92945

Included Lab Sample IDs: 2104689, 2104690, 2104691

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	96.4	97.7	P/P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A92954

Included Lab Sample IDs: 2104685, 2104686, 2104687, 2104688

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

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A92978

Included Lab Sample IDs: 2104690

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

Quality Assurance Report Calibration Verification

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A92981

Included Lab Sample IDs: 2104689, 2104691, 2104692

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	98.8	99.2	P/P	90 - 110

Reference Method: SM 2320 B-97

Run ID: A93033

Included Lab Sample IDs: 2104685, 2104686, 2104687, 2104688

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	103	102	P/P	90 - 110

Reference Method: SM 4500 F-C-97

Run ID: A93033

Included Lab Sample IDs: 2104685, 2104686, 2104687, 2104688

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

Reference Method: SM 5310 B-00

Run ID: A93041

Included Lab Sample IDs: 2104692

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	104	105	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A93073

Included Lab Sample IDs: 2104689, 2104690, 2104691, 2104692

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	101	97.5	P/P	90 - 110
Kjeldahl Nitrogen	97.4	101	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A93196

Included Lab Sample IDs: 2104689, 2104690, 2104691, 2104692

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	100	101	P/P	90 - 110
Ammonia-N	104	103	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					7.30	
	Turbidity					7.87	
EPA 300.0 Rev. 2.1	Chloride	102	102	102		2.53	
	Sulfate	103	102	103		1.78	
EPA 350.1 Rev. 2.0	Ammonia-N	106	104	101			2.02
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	103	102	99.8			1.78
EPA 353.2 Rev. 2.0	NO2NO3-N	99.0	99.8				0.0
	NO2NO3-N	100	100	101			0.480
EPA 365.1 Rev. 2.0	Total-P	103	103	104			0.328
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	99.7	96.2	98.0			1.85
SM 2120 B	Color (true)	97.6				0.209	
	Color (true)	99.5				0.329	
SM 2320 B-97	Total Alkalinity	103				2.72	
SM 2540 C-97	TDS					2.84	
SM 4500 F-C-97	Fluoride	97.2	104	104			0.0
SM 5310 B-00	Organic Carbon	98.7	95.2	96.2			0.921
	Organic Carbon	105	107	103			2.17

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 180.1 Rev. 2.0 / E31780	Turbidity in aqueous matrices	2104685, 2104686, 2104687, 2104688
EPA 300.0 Rev. 2.1 / E31780	Chloride in aqueous matrices	2104685, 2104686, 2104687, 2104688
EPA 300.0 Rev. 2.1 / E31780	Sulfate in aqueous matrices	2104685, 2104686, 2104687, 2104688
EPA 350.1 Rev. 2.0 / E31780	Ammonia in aqueous matrices as mg N/L	2104689, 2104690, 2104691, 2104692
EPA 351.2 Rev. 2.0 / E31780	Total Kjeldahl Nitrogen in aqueous matrices	2104689, 2104690, 2104691, 2104692
EPA 353.2 Rev. 2.0 / E31780	Nitrite/Nitrate in aqueous matrices as mg N/L	2104689, 2104690, 2104691, 2104692
EPA 365.1 Rev. 2.0 / E31780	Total Phosphorus in aqueous matrices as mg P/L	2104689, 2104690, 2104691, 2104692
EPA 365.1 Rev. 2.0 dissolved / E31780	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	2104693, 2104694, 2104695, 2104696
SM 2120 B / E31780	True Color measured at 450 nm	2104685, 2104686, 2104687, 2104688
SM 2320 B-97 / E31780	Alkalinity in aqueous matrices as mg CaCO3/L	2104685, 2104686, 2104687, 2104688
SM 2540 C-97 / E31780	Total Dissolved Solids in aqueous matrices	2104685, 2104686, 2104687, 2104688
SM 2540 D-97 / E31780	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2104685, 2104686, 2104687, 2104688
SM 4500 F-C-97 / E31780	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2104685, 2104686, 2104687, 2104688
SM 5310 B-00 / E31780	Nonpurgeable Organic Carbon in aqueous matrices	2104689, 2104690, 2104691, 2104692

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	07/19/2019			07/19/2019 17:01	Samantha Davila	2104685, 2104686, 2104687, 2104688
EPA 300.0 Rev. 2.1	07/19/2019			07/23/2019 01:09	Jhamieka S. Greenwood	2104685
	07/19/2019			07/23/2019 01:21	Jhamieka S. Greenwood	2104686
	07/19/2019			07/23/2019 01:58	Jhamieka S. Greenwood	2104687
	07/19/2019			07/23/2019 02:10	Jhamieka S. Greenwood	2104688
EPA 350.1 Rev. 2.0	07/19/2019			07/31/2019 13:08	Virginia P. Brown	2104689
	07/19/2019			07/31/2019 13:09	Virginia P. Brown	2104690
	07/19/2019			07/31/2019 15:04	Virginia P. Brown	2104691
	07/19/2019			07/31/2019 15:07	Virginia P. Brown	2104692
EPA 351.2 Rev. 2.0	07/19/2019	07/25/2019 12:00	Adrian Shelby	07/26/2019 13:57	Joseph Suarez	2104689
	07/19/2019	07/25/2019 12:00	Adrian Shelby	07/26/2019 13:59	Joseph Suarez	2104690
	07/19/2019	07/25/2019 12:00	Adrian Shelby	07/26/2019 14:00	Joseph Suarez	2104691
	07/19/2019	07/25/2019 12:00	Adrian Shelby	07/26/2019 14:05	Joseph Suarez	2104692
EPA 353.2 Rev. 2.0	07/19/2019			07/22/2019 11:17	Beverly Y. Sanders	2104689
	07/19/2019			07/22/2019 11:18	Beverly Y. Sanders	2104690
	07/19/2019			07/22/2019 11:20	Beverly Y. Sanders	2104691
	07/19/2019			07/22/2019 11:27	Beverly Y. Sanders	2104692
EPA 365.1 Rev. 2.0	07/19/2019	07/23/2019 11:20	Vijayalakshmi Reddy	07/24/2019 10:58	Lipi Saha	2104690
	07/19/2019	07/23/2019 11:20	Vijayalakshmi Reddy	07/24/2019 11:10	Lipi Saha	2104689
	07/19/2019	07/23/2019 11:20	Vijayalakshmi Reddy	07/24/2019 11:11	Lipi Saha	2104691
	07/19/2019	07/23/2019 11:20	Vijayalakshmi Reddy	07/24/2019 11:12	Lipi Saha	2104692
EPA 365.1 Rev. 2.0 dissolved	07/19/2019			07/19/2019 15:49	Jhamieka S. Greenwood	2104696
	07/19/2019			07/19/2019 16:16	Jhamieka S. Greenwood	2104693
	07/19/2019			07/19/2019 16:17	Jhamieka S. Greenwood	2104694, 2104695
SM 2120 B	07/19/2019			07/19/2019 16:43	Madeline Funaro	2104685
	07/19/2019			07/19/2019 16:44	Madeline Funaro	2104686
	07/19/2019			07/19/2019 16:48	Madeline Funaro	2104687
	07/19/2019			07/19/2019 16:49	Madeline Funaro	2104688
SM 2320 B-97	07/19/2019			07/25/2019 01:14	Dale L. Simmons	2104685
	07/19/2019			07/25/2019 01:25	Dale L. Simmons	2104686
	07/19/2019			07/25/2019 01:34	Dale L. Simmons	2104687
	07/19/2019			07/25/2019 01:44	Dale L. Simmons	2104688
SM 2540 C-97	07/19/2019			07/22/2019 15:00	Sima Feizi	2104685, 2104686, 2104687, 2104688
SM 2540 D-97	07/19/2019			07/22/2019 15:00	Sima Feizi	2104686, 2104687, 2104688
	07/19/2019			08/07/2019 15:21	Yijie Li	2104685
SM 4500 F-C-97	07/19/2019			07/25/2019 01:14	Dale L. Simmons	2104685
	07/19/2019			07/25/2019 01:25	Dale L. Simmons	2104686
	07/19/2019			07/25/2019 01:34	Dale L. Simmons	2104687
	07/19/2019			07/25/2019 01:44	Dale L. Simmons	2104688
SM 5310 B-00	07/19/2019			07/23/2019 07:28	Madeline Funaro	2104689

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
SM 5310 B-00	07/19/2019			07/23/2019 07:42	Madeline Funaro	2104690
	07/19/2019			07/23/2019 07:56	Madeline Funaro	2104691
	07/19/2019			07/24/2019 08:02	Madeline Funaro	2104692