

Chemical Analysis Report

NE-DIST-2019-10-09-01

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

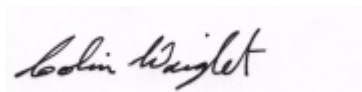
Event Description: **LSJR Lake**
Request ID: **RQ-2019-10-07-37**
Customer: **NE-DIST**
Project ID: **SMP**

Send Reports to:
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Certified by: Colin Wright, Program Administrator

Date Certified: 29-OCT-2019 12:20

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: Lake Lillie Center

Collection Date/Time: 10/08/2019 10:15

Field ID: G2NE1133

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2126534	EPA 180.1 Rev. 2.0	Turbidity	1.4		NTU	P372218	
	EPA 300.0 Rev. 2.1	Chloride	16		mg Cl/L	P372586	
		Sulfate	20		mg SO4/L	P372590	
	SM 2120 B	Color (true)	20		PCU	P372293	
	SM 2320 B-97	Total Alkalinity	25		mg CaCO3/L	P372638	
	SM 2540 C-97	TDS	97		mg/L	P372816	
	SM 2540 D-97	TSS	2	I	mg/L	P372825	
	SM 4500 F-C-97	Fluoride	0.085	I	mg F/L	P372641	
2126537	EPA 350.1 Rev. 2.0	Ammonia-N	0.005		mg N/L	P372560	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.58		mg N/L	P372338	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P372436	
	EPA 365.1 Rev. 2.0	Total-P	0.014		mg P/L	P372347	
	SM 5310 B-00	Organic Carbon	8.9		mg C/L	P372323	
2126540	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P372257	

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 Como, Center

Collection Date/Time: 10/08/2019 11:30

Field ID: 20030627

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2126535	EPA 180.1 Rev. 2.0	Turbidity	1.1		NTU	P372218	
	EPA 300.0 Rev. 2.1	Chloride	15		mg Cl/L	P372586	
		Sulfate	7.3		mg SO4/L	P372590	
	SM 2120 B	Color (true)	21		PCU	P372293	
	SM 2320 B-97	Total Alkalinity	1.9	I	mg CaCO3/L	P372638	
	SM 2540 C-97	TDS	46		mg/L	P372816	
	SM 2540 D-97	TSS	2	I	mg/L	P372825	
	SM 4500 F-C-97	Fluoride	0.035	I	mg F/L	P372641	
2126538	EPA 350.1 Rev. 2.0	Ammonia-N	0.016		mg N/L	P372560	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.59		mg N/L	P372338	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P372436	
	EPA 365.1 Rev. 2.0	Total-P	0.012		mg P/L	P372347	
	SM 5310 B-00	Organic Carbon	7.6		mg C/L	P372323	
2126541	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P372257	

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: Silver Lake Center

Collection Date/Time: 10/08/2019 10:55

Field ID: G2NE1132

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2126536	EPA 180.1 Rev. 2.0	Turbidity	0.50		NTU	P372218	
	EPA 300.0 Rev. 2.1	Chloride	14		mg Cl/L	P372759	
		Sulfate	2.9		mg SO4/L	P372763	
	SM 2120 B	Color (true)	700		PCU	P372294	
	SM 2320 B-97	Total Alkalinity	0.65	U	mg CaCO3/L	P372638	
	SM 2540 C-97	TDS	124		mg/L	P372816	
	SM 2540 D-97	TSS	2	U	mg/L	P372825	
	SM 4500 F-C-97	Fluoride	0.035	I	mg F/L	P372641	
2126539	EPA 350.1 Rev. 2.0	Ammonia-N	0.89		mg N/L	P372560	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	3.0		mg N/L	P372338	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.010		mg N/L	P372437	
	EPA 365.1 Rev. 2.0	Total-P	0.034		mg P/L	P372347	
	SM 5310 B-00	Organic Carbon	43		mg C/L	P372323	
2126542	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.024		mg P/L	P372258	

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: P372218

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P372586

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P372590

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P372759

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P372763

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P372560

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P372338

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P372436

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P372437

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

Quality Assurance Report Method Blank Results

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P372347

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P372257

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P372258

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

Reference Method: SM 2120 B
Batch ID: P372293

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2120 B
Batch ID: P372294

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2320 B-97
Batch ID: P372638

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

Reference Method: SM 2540 C-97
Batch ID: P372816

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-97
Batch ID: P372825

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500 F-C-97
Batch ID: P372641

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Quality Assurance Report Method Blank Results

Reference Method: SM 5310 B-00
Batch ID: P372323

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: P372586

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Chloride	104		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P372590

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Sulfate	104		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P372759

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P372763

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P372560

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Ammonia-N	98.1		P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P372338

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P372436

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P372437

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P372347

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

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P372257

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P372258

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
O-Phosphate-P	98.6		P	90 - 110

Reference Method: SM 2120 B
Batch ID: P372293

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Color (true)	99.8		P	85 - 115

Reference Method: SM 2120 B
Batch ID: P372294

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

Reference Method: SM 2320 B-97
Batch ID: P372638

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

Reference Method: SM 4500 F-C-97
Batch ID: P372641

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	96.5		P	92 - 103

Reference Method: SM 5310 B-00
Batch ID: P372323

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	93.6		P	85 - 115

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P372586

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2126419	Chloride	103		P	90 - 110
2126534	Chloride	103		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P372590

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2126419	Sulfate	105		P	90 - 110
2126534	Sulfate	104		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P372759

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2126536	Chloride	97.2	98.0	P/P	90 - 110
2126644	Chloride	98.4		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P372763

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2126536	Sulfate	98.3	100	P/P	90 - 110
2126644	Sulfate	98.4		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P372560

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2126593	Ammonia-N	100	101	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P372338

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2126537	Kjeldahl Nitrogen	97.1	104	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P372436

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2126423	NO2NO3-N	101	100	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P372437

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2126551	NO2NO3-N	102	101	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P372347

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
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Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P372347

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2126429	Total-P	97.9	100	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P372257

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2126400	O-Phosphate-P	97.3	97.8	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P372258

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2126554	O-Phosphate-P	98.0	99.2	P/P	90 - 110

Reference Method: SM 4500 F-C-97
Batch ID: P372641

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2126934	Fluoride	96.3	95.7	P/P	89 - 106

Reference Method: SM 5310 B-00
Batch ID: P372323

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2126552	Organic Carbon	94.3	97.9	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P372218

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2126513	Turbidity	4.52	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P372586

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2126419	Chloride	0.646	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P372590

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2126419	Sulfate	0.725	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P372759

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2126536	Chloride	0.597	Spike	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P372763

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2126536	Sulfate	1.74	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P372560

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2126593	Ammonia-N	1.36	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P372338

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2126537	Kjeldahl Nitrogen	4.75	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P372436

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2126423	NO2NO3-N	0.810	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P372437

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2126551	NO2NO3-N	1.47	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P372347

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2126429	Total-P	2.25	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P372257

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2126400	O-Phosphate-P	0.369	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P372258

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2126554	O-Phosphate-P	1.22	Spike	P	0 - 20

Reference Method: SM 2120 B
Batch ID: P372293

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2126420	Color (true)	0.302	Sample	P	0 - 20

Reference Method: SM 2120 B
Batch ID: P372294

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2126549	Color (true)	2.69	Sample	P	0 - 20

Reference Method: SM 2320 B-97
Batch ID: P372638

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2126934	Total Alkalinity	0.590	Sample	P	0 - 2.8

Reference Method: SM 2540 C-97
Batch ID: P372816

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2126446	TDS	3.09	Sample	P	0 - 10

Quality Assurance Report Precision

Reference Method: SM 4500 F-C-97
Batch ID: P372641

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2126934	Fluoride	0.480	Spike	P	0 - 2.5

Reference Method: SM 5310 B-00
Batch ID: P372323

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2126552	Organic Carbon	2.78	Spike	P	0 - 20

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

Quality Assurance Report Calibration Verification

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A94835

Included Lab Sample IDs: 2126534, 2126535, 2126536

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Turbidity	98.0	98.5	P/P	95 - 105

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Run ID: A94852

Included Lab Sample IDs: 2126540, 2126541, 2126542

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	97.9	97.6	P/P	90 - 110
O-Phosphate-P	98.2	97.2	P/P	90 - 110

Reference Method: SM 2120 B

Run ID: A94864

Included Lab Sample IDs: 2126534, 2126535, 2126536

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	102	102	P/P	90 - 115
Color (true)	99.3	101	P/P	90 - 115

Reference Method: SM 5310 B-00

Run ID: A94882

Included Lab Sample IDs: 2126537, 2126538, 2126539

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	106	101	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A94889

Included Lab Sample IDs: 2126537, 2126538, 2126539

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

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A94931

Included Lab Sample IDs: 2126537, 2126538, 2126539

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	100	97.9	P/P	90 - 110
Kjeldahl Nitrogen	102	100	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A94966

Included Lab Sample IDs: 2126537, 2126538, 2126539

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

Quality Assurance Report Calibration Verification

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A94989

Included Lab Sample IDs: 2126537, 2126538, 2126539

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	103	103	P/P	90 - 110
Ammonia-N	99.9	102	P/P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A95003

Included Lab Sample IDs: 2126534, 2126535, 2126536

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	101	98.8	P/P	90 - 110
Chloride	102	103	P/P	90 - 110
Chloride	103	103	P/P	90 - 110
Sulfate	101	99.0	P/P	90 - 110
Sulfate	103	104	P/P	90 - 110
Sulfate	104	104	P/P	90 - 110

Reference Method: SM 2320 B-97

Run ID: A95021

Included Lab Sample IDs: 2126534, 2126535, 2126536

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	105	102	P/P	90 - 110

Reference Method: SM 4500 F-C-97

Run ID: A95021

Included Lab Sample IDs: 2126534, 2126535, 2126536

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	98.6	98.5	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 SMP	MS
			LCS				
EPA 180.1 Rev. 2.0	Turbidity					4.52	
EPA 300.0 Rev. 2.1	Chloride	104	103	103		0.646	
	Chloride	100	97.2	98.0	98.4		0.597
	Sulfate	104	105	104		0.725	
	Sulfate	101	98.3	100	98.4		1.74
EPA 350.1 Rev. 2.0	Ammonia-N	98.1	100	101			1.36
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	97.5	97.1	104			4.75
EPA 353.2 Rev. 2.0	NO2NO3-N	100	101	100			0.810
	NO2NO3-N	102	102	101			1.47
EPA 365.1 Rev. 2.0	Total-P	99.8	97.9	100			2.25
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	101	97.3	97.8			0.369
	O-Phosphate-P	98.6	98.0	99.2			1.22
SM 2120 B	Color (true)	99.8				0.302	
	Color (true)	101				2.69	
SM 2320 B-97	Total Alkalinity	104				0.590	
SM 2540 C-97	TDS					3.09	
SM 4500 F-C-97	Fluoride	96.5	96.3	95.7			0.480
SM 5310 B-00	Organic Carbon	93.6	94.3	97.9			2.78

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 180.1 Rev. 2.0 / E31780	Turbidity in aqueous matrices	2126534, 2126535, 2126536
EPA 300.0 Rev. 2.1 / E31780	Chloride in aqueous matrices	2126534, 2126535, 2126536
EPA 300.0 Rev. 2.1 / E31780	Sulfate in aqueous matrices	2126534, 2126535, 2126536
EPA 350.1 Rev. 2.0 / E31780	Ammonia in aqueous matrices as mg N/L	2126537, 2126538, 2126539
EPA 351.2 Rev. 2.0 / E31780	Total Kjeldahl Nitrogen in aqueous matrices	2126537, 2126538, 2126539
EPA 353.2 Rev. 2.0 / E31780	Nitrite/Nitrate in aqueous matrices as mg N/L	2126537, 2126538, 2126539
EPA 365.1 Rev. 2.0 / E31780	Total Phosphorus in aqueous matrices as mg P/L	2126537, 2126538, 2126539
EPA 365.1 Rev. 2.0 dissolved / E31780	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	2126540, 2126541, 2126542
SM 2120 B / E31780	True Color measured at 450 nm	2126534, 2126535, 2126536
SM 2320 B-97 / E31780	Alkalinity in aqueous matrices as mg CaCO3/L	2126534, 2126535, 2126536
SM 2540 C-97 / E31780	Total Dissolved Solids in aqueous matrices	2126534, 2126535, 2126536
SM 2540 D-97 / E31780	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2126534, 2126535, 2126536
SM 4500 F-C-97 / E31780	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2126534, 2126535, 2126536
SM 5310 B-00 / E31780	Nonpurgeable Organic Carbon in aqueous matrices	2126537, 2126538, 2126539

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	10/09/2019			10/09/2019 15:36	Rosalyn Ballman	2126534, 2126535, 2126536
EPA 300.0 Rev. 2.1	10/09/2019			10/15/2019 14:35	Jhamieka S. Greenwood	2126534
	10/09/2019			10/15/2019 17:24	Jhamieka S. Greenwood	2126535
	10/09/2019			10/16/2019 20:01	Jhamieka S. Greenwood	2126536
EPA 350.1 Rev. 2.0	10/09/2019			10/15/2019 13:32	Ping Hua	2126537
	10/09/2019			10/15/2019 13:33	Ping Hua	2126538
	10/09/2019			10/15/2019 14:53	Ping Hua	2126539
EPA 351.2 Rev. 2.0	10/09/2019	10/11/2019 10:11	Sima Feizi	10/14/2019 15:27	Jhamieka S. Greenwood	2126537
	10/09/2019	10/11/2019 10:11	Sima Feizi	10/14/2019 15:46	Jhamieka S. Greenwood	2126538
	10/09/2019	10/11/2019 10:11	Sima Feizi	10/14/2019 15:47	Jhamieka S. Greenwood	2126539
EPA 353.2 Rev. 2.0	10/09/2019			10/11/2019 10:30	Beverly Y. Sanders	2126537
	10/09/2019			10/11/2019 10:31	Beverly Y. Sanders	2126538
	10/09/2019			10/11/2019 10:44	Beverly Y. Sanders	2126539
EPA 365.1 Rev. 2.0	10/09/2019	10/10/2019 14:40	Lipi Saha	10/14/2019 16:46	Rosalyn Ballman	2126537
	10/09/2019	10/10/2019 14:40	Lipi Saha	10/14/2019 16:47	Rosalyn Ballman	2126538
	10/09/2019	10/10/2019 14:40	Lipi Saha	10/14/2019 16:48	Rosalyn Ballman	2126539
EPA 365.1 Rev. 2.0 dissolved	10/09/2019			10/09/2019 17:08	Julia Storbeck	2126542
	10/09/2019			10/09/2019 17:29	Julia Storbeck	2126540
	10/09/2019			10/09/2019 17:30	Julia Storbeck	2126541
SM 2120 B	10/09/2019			10/09/2019 17:28	Madeline Funaro	2126534
	10/09/2019			10/09/2019 17:29	Madeline Funaro	2126535
	10/09/2019			10/09/2019 17:54	Madeline Funaro	2126536
SM 2320 B-97	10/09/2019			10/15/2019 03:08	Dale L. Simmons	2126534
	10/09/2019			10/15/2019 03:19	Dale L. Simmons	2126535
	10/09/2019			10/15/2019 03:28	Dale L. Simmons	2126536
SM 2540 C-97	10/09/2019			10/11/2019 12:48	Yijie Li	2126534, 2126535, 2126536
SM 2540 D-97	10/09/2019			10/11/2019 12:48	Yijie Li	2126534, 2126535, 2126536
SM 4500 F-C-97	10/09/2019			10/15/2019 03:08	Dale L. Simmons	2126534
	10/09/2019			10/15/2019 03:19	Dale L. Simmons	2126535
	10/09/2019			10/15/2019 03:28	Dale L. Simmons	2126536
SM 5310 B-00	10/09/2019			10/11/2019 01:48	Madeline Funaro	2126537
	10/09/2019			10/11/2019 02:00	Madeline Funaro	2126538
	10/09/2019			10/11/2019 02:12	Madeline Funaro	2126539