

Chemical Analysis Report

CEN-DIST-2019-09-13-02

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

Event Description: **Spring Garden Lk / Shaw / Chain**
Request ID: **RQ-2019-09-09-45**
Customer: **CEN-DIST**
Project ID: **SMP**

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Date Certified: 03-OCT-2019 09:57



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: SHAW LAKE @ CENTER OF NORTH LOBE

Collection Date/Time: 09/12/2019 09:51

Field ID: G2CE0127

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2119177	EPA 180.1 Rev. 2.0	Turbidity	0.55		NTU	P370653	
	EPA 300.0 Rev. 2.1	Chloride	14		mg Cl/L	P370975	
		Sulfate	0.97		mg SO4/L	P370978	
	SM 2120 B	Color (true)	610		PCU	P370654	
	SM 2320 B-97	Total Alkalinity	3.0		mg CaCO3/L	P371032	
	SM 2540 C-97	TDS	105		mg/L	P371184	
	SM 2540 D-97	TSS	2	U	mg/L	P371158	
	SM 4500 F-C-97	Fluoride	0.040	I	mg F/L	P371510	
	EPA 350.1 Rev. 2.0	Ammonia-N	0.11		mg N/L	P370930	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.7		mg N/L	P370896	
2119180	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P370855	
	EPA 365.1 Rev. 2.0	Total-P	0.026		mg P/L	P370791	
	SM 5310 B-00	Organic Carbon	45		mg C/L	P371021	
	EPA 365.1 Rev. 2.0	O-Phosphate-P	0.015		mg P/L	P370639	
	dissolved						
2119183	EPA 365.1 Rev. 2.0	O-Phosphate-P	0.015		mg P/L	P370639	

Ref. Method and Comment:

EPA 300.0 Rev. 2.1: Chloride: Batch matrix spike recoveries for one of two spiked samples are unavailable because of high analyte concentration in the QC sample.

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

Sample Location: SPRING GARDEN LAKE @ 800M N OF CENTER Collection Date/Time: 09/12/2019 10:32

Field ID: G2CE0117

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2119178	EPA 180.1 Rev. 2.0	Turbidity	4.0	A	NTU	P370653	
	EPA 300.0 Rev. 2.1	Chloride	240		mg Cl/L	P370975	
		Sulfate	43		mg SO4/L	P370978	
	SM 2120 B	Color (true)	56		PCU	P370655	
	SM 2320 B-97	Total Alkalinity	103		mg CaCO3/L	P371032	
	SM 2540 C-97	TDS	536		mg/L	P371185	
	SM 2540 D-97	TSS	5	I	mg/L	P371159	
	SM 4500 F-C-97	Fluoride	0.082	I	mg F/L	P371510	
	EPA 350.1 Rev. 2.0	Ammonia-N	0.005	I	mg N/L	P370930	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.91		mg N/L	P370896	
2119181	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P370855	
	EPA 365.1 Rev. 2.0	Total-P	0.036		mg P/L	P370791	
	SM 5310 B-00	Organic Carbon	12		mg C/L	P371021	
	EPA 365.1 Rev. 2.0	O-Phosphate-P	0.004	U	mg P/L	P370639	
	dissolved						

Ref. Method and Comment:

EPA 300.0 Rev. 2.1: Chloride: Batch matrix spike recoveries for one of two spiked samples are unavailable because of high analyte concentration in the QC sample.

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

Sample Location: THREE ISLAND LAKE @ CENTER OF SOUTH LOBE

Collection Date/Time: 09/12/2019 12:01

Field ID: G2CE0085

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2119179	EPA 180.1 Rev. 2.0	Turbidity	1.7		NTU	P370653	
	EPA 300.0 Rev. 2.1	Chloride	20		mg Cl/L	P370975	
		Sulfate	6.3		mg SO4/L	P370978	
	SM 2120 B	Color (true)	80		PCU	P370655	
	SM 2320 B-97	Total Alkalinity	5.7		mg CaCO3/L	P371100	
	SM 2540 C-97	TDS	77		mg/L	P371184	
	SM 2540 D-97	TSS	2	I	mg/L	P371158	
	SM 4500 F-C-97	Fluoride	0.038	I	mg F/L	P371105	
2119182	EPA 350.1 Rev. 2.0	Ammonia-N	0.005		mg N/L	P370930	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.92		mg N/L	P370896	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P370855	
	EPA 365.1 Rev. 2.0	Total-P	0.014		mg P/L	P370791	
	SM 5310 B-00	Organic Carbon	18		mg C/L	P371021	
2119185	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P370639	

Ref. Method and Comment:

EPA 300.0 Rev. 2.1: Chloride: Batch matrix spike recoveries for one of two spiked samples are unavailable because of high analyte concentration in the QC sample.

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: P370653

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P370975

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P370978

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P370930

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P370896

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P370855

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P370791

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P370639

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

Reference Method: SM 2120 B
Batch ID: P370654

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Quality Assurance Report

Method Blank Results

Reference Method: SM 2120 B
Batch ID: P370655

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2320 B-97
Batch ID: P371032

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

Reference Method: SM 2320 B-97
Batch ID: P371100

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

Reference Method: SM 2540 C-97
Batch ID: P371184

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 C-97
Batch ID: P371185

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-97
Batch ID: P371158

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 2540 D-97
Batch ID: P371159

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500 F-C-97
Batch ID: P371105

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 4500 F-C-97
Batch ID: P371510

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: P371021

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: P370975

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P370978

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P370930

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P370896

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P370855

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: P370791

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P370639

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

Reference Method: SM 2120 B
Batch ID: P370654

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Color (true)	99.7		P	85 - 115

Reference Method: SM 2120 B
Batch ID: P370655

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: P371032

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

Reference Method: SM 2320 B-97
Batch ID: P371100

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

Reference Method: SM 4500 F-C-97
Batch ID: P371105

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	96.1		P	92 - 103

Reference Method: SM 4500 F-C-97
Batch ID: P371510

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	96.1		P	92 - 103

Reference Method: SM 5310 B-00
Batch ID: P371021

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	104		P	85 - 115

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P370975

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2119106	Chloride	102		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P370978

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2119106	Sulfate	104		P	90 - 110
2119178	Sulfate	100		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P370930

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2119157	Ammonia-N	99.4	99.7	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P370896

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2119507	Kjeldahl Nitrogen	101	103	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P370855

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2119158	NO2NO3-N	99.5	100	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P370791

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2119157	Total-P	100	101	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P370639

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2119163	O-Phosphate-P	97.1	99.7	P/P	90 - 110

Reference Method: SM 4500 F-C-97
Batch ID: P371105

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2119562	Fluoride	95.6	95.6	P/P	89 - 106

Reference Method: SM 4500 F-C-97
Batch ID: P371510

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2119000	Fluoride	98.1	98.1	P/P	89 - 106

Quality Assurance Report

Matrix Spike Accuracy

Reference Method: SM 5310 B-00

Batch ID: P371021

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2119161	Organic Carbon	103	102	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P370653

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2119178	Turbidity	3.29	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P370975

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2119106	Chloride	0.168	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P370978

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2119106	Sulfate	0.00305	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P370930

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2119157	Ammonia-N	0.217	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P370896

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2119507	Kjeldahl Nitrogen	1.47	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P370855

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2119158	NO2NO3-N	0.501	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P370791

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2119157	Total-P	0.889	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P370639

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2119163	O-Phosphate-P	2.64	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: SM 2120 B
Batch ID: P370654

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2119027	Color (true)	3.13	Sample	P	0 - 20

Reference Method: SM 2120 B
Batch ID: P370655

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2119128	Color (true)	6.60	Sample	P	0 - 20

Reference Method: SM 2320 B-97
Batch ID: P371032

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2119000	Total Alkalinity	0.777	Sample	P	0 - 2.8

Reference Method: SM 2320 B-97
Batch ID: P371100

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2119562	Total Alkalinity	1.13	Sample	P	0 - 2.8

Reference Method: SM 2540 C-97
Batch ID: P371184

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2119100	TDS	5.08	Sample	P	0 - 10

Reference Method: SM 2540 C-97
Batch ID: P371185

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2119106	TDS	6.22	Sample	P	0 - 10

Reference Method: SM 4500 F-C-97
Batch ID: P371105

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2119562	Fluoride	0.0	Spike	P	0 - 2.5

Reference Method: SM 4500 F-C-97
Batch ID: P371510

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2119000	Fluoride	0.0	Spike	P	0 - 2.5

Quality Assurance Report Precision

Reference Method: SM 5310 B-00
Batch ID: P371021

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2119161	Organic Carbon	0.553	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: A94198

Included Lab Sample IDs: 2119183, 2119184, 2119185

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	98.7	97.8	P/P	90 - 110
O-Phosphate-P	98.9	98.7	P/P	90 - 110

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A94201

Included Lab Sample IDs: 2119177, 2119178, 2119179

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Turbidity	101	102	P/P	95 - 105

Reference Method: SM 2120 B

Run ID: A94204

Included Lab Sample IDs: 2119177, 2119178, 2119179

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	100	102	P/P	90 - 115
Color (true)	99.0	100	P/P	90 - 115

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A94268

Included Lab Sample IDs: 2119177, 2119178, 2119179

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	100	101	P/P	90 - 110
Chloride	101	101	P/P	90 - 110
Sulfate	102	103	P/P	90 - 110
Sulfate	102	102	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A94302

Included Lab Sample IDs: 2119180, 2119181, 2119182

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

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A94317

Included Lab Sample IDs: 2119181, 2119182

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

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A94334

Included Lab Sample IDs: 2119180, 2119181, 2119182

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

Quality Assurance Report Calibration Verification

Reference Method: SM 5310 B-00

Run ID: A94349

Included Lab Sample IDs: 2119180, 2119181, 2119182

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

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A94350

Included Lab Sample IDs: 2119180, 2119181, 2119182

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	101	106	P/P	90 - 110
Kjeldahl Nitrogen	106	103	P/P	90 - 110

Reference Method: SM 2320 B-97

Run ID: A94353

Included Lab Sample IDs: 2119177, 2119178

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	105	103	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A94374

Included Lab Sample IDs: 2119180

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

Reference Method: SM 2320 B-97

Run ID: A94392

Included Lab Sample IDs: 2119179

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

Reference Method: SM 4500 F-C-97

Run ID: A94392

Included Lab Sample IDs: 2119179

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	99.0	100	P/P	90 - 110

Reference Method: SM 4500 F-C-97

Run ID: A94568

Included Lab Sample IDs: 2119177, 2119178

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	100	99.5	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		LCS	Precision	MS
						SMP	
EPA 180.1 Rev. 2.0	Turbidity					3.29	
EPA 300.0 Rev. 2.1	Chloride	99.2	102			0.168	
	Sulfate	100	104	100		0.0030	
EPA 350.1 Rev. 2.0	Ammonia-N	102	99.4	99.7			0.217
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	101	101	103			1.47
EPA 353.2 Rev. 2.0	NO ₂ NO ₃ -N	100	100	99.5			0.501
EPA 365.1 Rev. 2.0	Total-P	97.5	100	101			0.889
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	99.5	97.1	99.7			2.64
SM 2120 B	Color (true)	99.7				3.13	
	Color (true)	100				6.60	
SM 2320 B-97	Total Alkalinity	104				0.777	
	Total Alkalinity	103				1.13	
SM 2540 C-97	TDS					5.08	
	TDS					6.22	
SM 4500 F-C-97	Fluoride	96.1	95.6	95.6			0.0
	Fluoride	96.1	98.1	98.1			0.0
SM 5310 B-00	Organic Carbon	104	103	102			0.553

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 180.1 Rev. 2.0 / E31780	Turbidity in aqueous matrices	2119177, 2119178, 2119179
EPA 300.0 Rev. 2.1 / E31780	Chloride in aqueous matrices	2119177, 2119178, 2119179
EPA 300.0 Rev. 2.1 / E31780	Sulfate in aqueous matrices	2119177, 2119178, 2119179
EPA 350.1 Rev. 2.0 / E31780	Ammonia in aqueous matrices as mg N/L	2119180, 2119181, 2119182
EPA 351.2 Rev. 2.0 / E31780	Total Kjeldahl Nitrogen in aqueous matrices	2119180, 2119181, 2119182
EPA 353.2 Rev. 2.0 / E31780	Nitrite/Nitrate in aqueous matrices as mg N/L	2119180, 2119181, 2119182
EPA 365.1 Rev. 2.0 / E31780	Total Phosphorus in aqueous matrices as mg P/L	2119180, 2119181, 2119182
EPA 365.1 Rev. 2.0 dissolved / E31780	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	2119183, 2119184, 2119185
SM 2120 B / E31780	True Color measured at 450 nm	2119177, 2119178, 2119179
SM 2320 B-97 / E31780	Alkalinity in aqueous matrices as mg CaCO ₃ /L	2119177, 2119178, 2119179
SM 2540 C-97 / E31780	Total Dissolved Solids in aqueous matrices	2119177, 2119178, 2119179
SM 2540 D-97 / E31780	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2119177, 2119178, 2119179
SM 4500 F-C-97 / E31780	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2119177, 2119178, 2119179
SM 5310 B-00 / E31780	Nonpurgeable Organic Carbon in aqueous matrices	2119180, 2119181, 2119182

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	09/13/2019			09/13/2019 16:48	Samantha Davila	2119177, 2119178, 2119179
EPA 300.0 Rev. 2.1	09/13/2019			09/18/2019 20:23	Jhamieka S. Greenwood	2119178
	09/13/2019			09/18/2019 22:49	Jhamieka S. Greenwood	2119177
	09/13/2019			09/18/2019 23:01	Jhamieka S. Greenwood	2119179
	09/13/2019			09/20/2019 17:54	Jhamieka S. Greenwood	2119178
EPA 350.1 Rev. 2.0	09/13/2019			09/18/2019 12:52	Ping Hua	2119180
	09/13/2019			09/18/2019 12:53	Ping Hua	2119181
	09/13/2019			09/18/2019 12:55	Ping Hua	2119182
EPA 351.2 Rev. 2.0	09/13/2019	09/18/2019 12:00	Sima Feizi	09/19/2019 14:05	Julia Storbeck	2119180
	09/13/2019	09/18/2019 12:00	Sima Feizi	09/19/2019 14:06	Julia Storbeck	2119181
	09/13/2019	09/18/2019 12:00	Sima Feizi	09/19/2019 14:11	Julia Storbeck	2119182
EPA 353.2 Rev. 2.0	09/13/2019			09/18/2019 08:54	Beverly Y. Sanders	2119180
	09/13/2019			09/18/2019 08:55	Beverly Y. Sanders	2119181
	09/13/2019			09/18/2019 08:57	Beverly Y. Sanders	2119182
EPA 365.1 Rev. 2.0	09/13/2019	09/17/2019 13:00	Lipi Saha	09/18/2019 13:54	Rosalyn Ballman	2119181
	09/13/2019	09/17/2019 13:00	Lipi Saha	09/18/2019 13:55	Rosalyn Ballman	2119182
	09/13/2019	09/17/2019 13:00	Lipi Saha	09/19/2019 16:35	Rosalyn Ballman	2119180
EPA 365.1 Rev. 2.0 dissolved	09/13/2019			09/13/2019 13:20	Jhamieka S. Greenwood	2119184
	09/13/2019			09/13/2019 13:26	Jhamieka S. Greenwood	2119183
	09/13/2019			09/13/2019 13:27	Jhamieka S. Greenwood	2119185
SM 2120 B	09/13/2019			09/13/2019 17:22	Madeline Funaro	2119178, 2119179
	09/13/2019			09/13/2019 17:34	Madeline Funaro	2119177
SM 2320 B-97	09/13/2019			09/18/2019 12:30	Dale L. Simmons	2119177
	09/13/2019			09/18/2019 12:42	Dale L. Simmons	2119178
	09/13/2019			09/19/2019 02:13	Dale L. Simmons	2119179
SM 2540 C-97	09/13/2019			09/17/2019 14:10	Yijie Li	2119177, 2119178, 2119179
SM 2540 D-97	09/13/2019			09/17/2019 14:10	Yijie Li	2119177, 2119178, 2119179
SM 4500 F-C-97	09/13/2019			09/19/2019 02:13	Dale L. Simmons	2119179
	09/13/2019			09/25/2019 21:08	Dale L. Simmons	2119177
	09/13/2019			09/25/2019 21:12	Dale L. Simmons	2119178
SM 5310 B-00	09/13/2019			09/18/2019 15:15	Madeline Funaro	2119181
	09/13/2019			09/18/2019 15:52	Madeline Funaro	2119180
	09/13/2019			09/18/2019 16:28	Madeline Funaro	2119182