

Chemical Analysis Report

SW-DIST-2020-01-30-01

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

Event Description: **Citrus Blue, Cato, Lindsay, McKethan**
Request ID: **RQ-2020-02-03-49**
Customer: **SW-DIST**
Project ID: **SMP**

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Date Certified: 20-FEB-2020 14:13



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: Citrus Blue Spring Run

Collection Date/Time: 01/29/2020 11:20

Field ID: G4SW0100

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2152896	EPA 180.1 Rev. 2.0	Turbidity	0.35		NTU	P378033	
	EPA 300.0 Rev. 2.1	Chloride	7.3		mg Cl/L	P378301	
		Sulfate	13		mg SO4/L	P378304	
	SM 2120 B-2011	Color (true)	2.5	U	PCU	P377984	
	SM 2320 B-2011	Total Alkalinity	166		mg CaCO3/L	P378419	
	SM 2540 C-2011	TDS	209		mg/L	P378432	
	SM 2540 D-2011	TSS	2	U	mg/L	P378237	
	SM 4500 F-C-2011	Fluoride	0.051	I	mg F/L	P378423	
	EPA 350.1 Rev. 2.0	Ammonia-N	0.004	I	mg N/L	P378567	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.18	I	mg N/L	P378407	
2152900	EPA 353.2 Rev. 2.0	NO2NO3-N	0.60		mg N/L	P378214	
	EPA 365.1 Rev. 2.0	Total-P	0.035		mg P/L	P379048	
	SM 5310 B-2011	Organic Carbon	0.73	I	mg C/L	P378472	
	EPA 365.1 Rev. 2.0	O-Phosphate-P	0.031		mg P/L	P377996	
	dissolved						

Ref. Method and Comment:

SM 2540 D-2011: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.

Sample Location: Lake Lindsay @ Center

Collection Date/Time: 01/29/2020 14:20

Field ID: G4SW0124

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2152897	EPA 180.1 Rev. 2.0	Turbidity	0.50		NTU	P378033	
	EPA 300.0 Rev. 2.1	Chloride	3.7		mg Cl/L	P378301	
		Sulfate	0.20	U	mg SO4/L	P378304	
	SM 2120 B-2011	Color (true)	44		PCU	P377984	
	SM 2320 B-2011	Total Alkalinity	7.2		mg CaCO3/L	P378419	
	SM 2540 C-2011	TDS	44		mg/L	P378432	
	SM 2540 D-2011	TSS	2	U	mg/L	P378237	
	SM 4500 F-C-2011	Fluoride	0.047	I	mg F/L	P378423	
2152901	EPA 350.1 Rev. 2.0	Ammonia-N	0.004	I	mg N/L	P378567	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.54		mg N/L	P378407	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P378214	
	EPA 365.1 Rev. 2.0	Total-P	0.009		mg P/L	P378188	
	SM 5310 B-2011	Organic Carbon	9.7		mg C/L	P378472	
2152905	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P377996	

Ref. Method and Comment:

SM 2540 D-2011: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.

Sample Location: McKethan Lake near boat launch

Collection Date/Time: 01/29/2020 13:40

Field ID: G4SW0033

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2152898	EPA 180.1 Rev. 2.0	Turbidity	0.60		NTU	P378033	
	EPA 300.0 Rev. 2.1	Chloride	1.9		mg Cl/L	P378301	
		Sulfate	0.20	U	mg SO4/L	P378304	
	SM 2120 B-2011	Color (true)	14		PCU	P377984	
	SM 2320 B-2011	Total Alkalinity	9.9		mg CaCO3/L	P378419	
	SM 2540 C-2011	TDS	31		mg/L	P378432	
	SM 2540 D-2011	TSS	2	U	mg/L	P378237	
	SM 4500 F-C-2011	Fluoride	0.039	I	mg F/L	P378423	
2152902	EPA 350.1 Rev. 2.0	Ammonia-N	0.003	I	mg N/L	P378567	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.45		mg N/L	P378407	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P378214	
	EPA 365.1 Rev. 2.0	Total-P	0.014		mg P/L	P378188	
	SM 5310 B-2011	Organic Carbon	4.8		mg C/L	P378472	
2152906	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P377996	

Ref. Method and Comment:

SM 2540 D-2011: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.

Sample Location: Cato Lake South

Collection Date/Time: 01/29/2020 12:25

Field ID: G4SW0102

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2152899	EPA 180.1 Rev. 2.0	Turbidity	1.1		NTU	P378033	
	EPA 300.0 Rev. 2.1	Chloride	18		mg Cl/L	P378301	
		Sulfate	0.20	U	mg SO4/L	P378304	
	SM 2120 B-2011	Color (true)	21	A	PCU	P377984	
	SM 2320 B-2011	Total Alkalinity	175		mg CaCO3/L	P378419	
	SM 2540 C-2011	TDS	240		mg/L	P378432	
	SM 2540 D-2011	TSS	2	I	mg/L	P378237	
	SM 4500 F-C-2011	Fluoride	0.088	I	mg F/L	P378423	
	EPA 350.1 Rev. 2.0	Ammonia-N	0.01		mg N/L	P378567	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.68		mg N/L	P378407	
2152903	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P378214	
	EPA 365.1 Rev. 2.0	Total-P	0.012		mg P/L	P378188	
	SM 5310 B-2011	Organic Carbon	10		mg C/L	P378473	
	EPA 365.1 Rev. 2.0	O-Phosphate-P	0.004	U	mg P/L	P377996	
	dissolved						

Ref. Method and Comment:

SM 2540 D-2011: 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: P378033

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P378301

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P378304

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P378567

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P378407

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P378214

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P378188

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P379048

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P377996

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

Quality Assurance Report

Method Blank Results

Reference Method: SM 2120 B-2011
Batch ID: P377984

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2320 B-2011
Batch ID: P378419

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

Reference Method: SM 2540 C-2011
Batch ID: P378432

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-2011
Batch ID: P378237

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500 F-C-2011
Batch ID: P378423

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-2011
Batch ID: P378472

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

Reference Method: SM 5310 B-2011
Batch ID: P378473

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: P378301

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

Reference Method: EPA 300.0 Rev. 2.1
 Batch ID: P378304

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

Reference Method: EPA 350.1 Rev. 2.0
 Batch ID: P378567

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

Reference Method: EPA 351.2 Rev. 2.0
 Batch ID: P378407

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

Reference Method: EPA 353.2 Rev. 2.0
 Batch ID: P378214

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

Reference Method: EPA 365.1 Rev. 2.0
 Batch ID: P378188

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

Reference Method: EPA 365.1 Rev. 2.0
 Batch ID: P379048

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total-P	107		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
 Batch ID: P377996

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

Reference Method: SM 2120 B-2011
 Batch ID: P377984

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

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: SM 2320 B-2011
Batch ID: P378419

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	102		P	98 - 106

Reference Method: SM 4500 F-C-2011
Batch ID: P378423

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	98.5		P	92 - 103

Reference Method: SM 5310 B-2011
Batch ID: P378472

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	98.8		P	85 - 115

Reference Method: SM 5310 B-2011
Batch ID: P378473

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: P378301

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2152715	Chloride	99.0		P	90 - 110
2152896	Chloride	97.9		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P378304

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2152715	Sulfate	98.3		P	90 - 110
2152896	Sulfate	96.4		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P378567

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2152900	Ammonia-N	100	98.6	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P378407

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2152829	Kjeldahl Nitrogen	100	109	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P378214

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2152902	NO2NO3-N	101	101	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P378188

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2152901	Total-P	103	104	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P379048

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2153039	Total-P	106	107	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P377996

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2152826	O-Phosphate-P	97.6	94.4	P/P	90 - 110

Reference Method: SM 4500 F-C-2011
Batch ID: P378423

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2153386	Fluoride	98.1	98.8	P/P	89 - 106

Quality Assurance Report Matrix Spike Accuracy

Reference Method: SM 5310 B-2011
Batch ID: P378472

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2152824	Organic Carbon	100	105	P/P	85 - 115

Reference Method: SM 5310 B-2011
Batch ID: P378473

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2152979	Organic Carbon	105	98.6	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P378033

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2152961	Turbidity	1.86	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P378301

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2152715	Chloride	0.552	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P378304

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2152715	Sulfate	0.721	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P378567

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2152900	Ammonia-N	1.37	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P378407

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2152829	Kjeldahl Nitrogen	3.87	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P378214

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2152902	NO2NO3-N	0.0	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P378188

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2152901	Total-P	1.44	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P379048

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2153039	Total-P	0.764	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 365.1 Rev. 2.0 dissolved
 Batch ID: P377996

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2152826	O-Phosphate-P	3.13	Spike	P	0 - 20

Reference Method: SM 2120 B-2011
 Batch ID: P377984

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2152899	Color (true)	2.90	Sample	P	0 - 20

Reference Method: SM 2320 B-2011
 Batch ID: P378419

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2153386	Total Alkalinity	0.663	Sample	P	0 - 2.8

Reference Method: SM 2540 C-2011
 Batch ID: P378432

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2152828	TDS	1.54	Sample	P	0 - 10

Reference Method: SM 4500 F-C-2011
 Batch ID: P378423

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2153386	Fluoride	0.470	Spike	P	0 - 2.5

Reference Method: SM 5310 B-2011
 Batch ID: P378472

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2152824	Organic Carbon	2.27	Spike	P	0 - 20

Reference Method: SM 5310 B-2011
 Batch ID: P378473

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2152979	Organic Carbon	4.31	Spike	P	0 - 20

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

Quality Assurance Report Calibration Verification

Reference Method: SM 2120 B-2011

Run ID: A97206

Included Lab Sample IDs: 2152896, 2152897, 2152898, 2152899

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Run ID: A97207

Included Lab Sample IDs: 2152904, 2152905, 2152906, 2152907

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	100	99.2	P/P	90 - 110
O-Phosphate-P	99.2	98.1	P/P	90 - 110

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A97226

Included Lab Sample IDs: 2152896, 2152897, 2152898, 2152899

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

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A97291

Included Lab Sample IDs: 2152900, 2152901, 2152902, 2152903

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

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A97327

Included Lab Sample IDs: 2152896, 2152897, 2152898, 2152899

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	101	101	P/P	90 - 110
Chloride	99.9	101	P/P	90 - 110
Sulfate	101	101	P/P	90 - 110
Sulfate	99.9	101	P/P	90 - 110

Reference Method: SM 2320 B-2011

Run ID: A97356

Included Lab Sample IDs: 2152896, 2152897, 2152898, 2152899

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	102	100	P/P	90 - 110

Reference Method: SM 4500 F-C-2011

Run ID: A97356

Included Lab Sample IDs: 2152896, 2152897, 2152898, 2152899

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

Quality Assurance Report Calibration Verification

Reference Method: SM 5310 B-2011

Run ID: A97368

Included Lab Sample IDs: 2152900, 2152901, 2152902, 2152903

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	102	106	P/P	90 - 110
Organic Carbon	106	101	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A97409

Included Lab Sample IDs: 2152900, 2152901, 2152902, 2152903

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

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A97415

Included Lab Sample IDs: 2152900, 2152901, 2152902, 2152903

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	99.5	99.7	P/P	90 - 110
Kjeldahl Nitrogen	99.7	103	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A97437

Included Lab Sample IDs: 2152901, 2152902, 2152903

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	98.2	99.8	P/P	90 - 110
Total-P	99.8	99.0	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A97643

Included Lab Sample IDs: 2152900

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

* Pass/Fail determinations are made for each bracketing calibration verification check.

Control limits for initial calibration checks may be different from those for continuing checks, depending on method requirements.

Where they are different, both control limits are provided.

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery		Precision	
					LCS	MS
EPA 180.1 Rev. 2.0	Turbidity				1.86	
EPA 300.0 Rev. 2.1	Chloride	100	99.0	97.9	0.552	
	Sulfate	100	98.3	96.4	0.721	
EPA 350.1 Rev. 2.0	Ammonia-N	99.7	100	98.6		1.37
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	102	100	109		3.87
EPA 353.2 Rev. 2.0	NO ₂ NO ₃ -N	101	101	101		0.0
EPA 365.1 Rev. 2.0	Total-P	104	103	104		1.44
	Total-P	107	106	107		0.764
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	101	97.6	94.4		3.13
SM 2120 B-2011	Color (true)	101			2.90	
SM 2320 B-2011	Total Alkalinity	102			0.663	
SM 2540 C-2011	TDS				1.54	
SM 4500 F-C-2011	Fluoride	98.5	98.1	98.8		0.470
SM 5310 B-2011	Organic Carbon	98.8	100	105		2.27
	Organic Carbon	104	105	98.6		4.31

Reference Method Descriptions

Method	Description	Associated Samples
EPA 180.1 Rev. 2.0	Turbidity in aqueous matrices	2152896, 2152897, 2152898, 2152899
EPA 300.0 Rev. 2.1	Chloride in aqueous matrices	2152896, 2152897, 2152898, 2152899
EPA 300.0 Rev. 2.1	Sulfate in aqueous matrices	2152896, 2152897, 2152898, 2152899
EPA 350.1 Rev. 2.0	Ammonia in aqueous matrices as mg N/L	2152900, 2152901, 2152902, 2152903
EPA 351.2 Rev. 2.0	Total Kjeldahl Nitrogen in aqueous matrices	2152900, 2152901, 2152902, 2152903
EPA 353.2 Rev. 2.0	Nitrite/Nitrate in aqueous matrices as mg N/L	2152900, 2152901, 2152902, 2152903
EPA 365.1 Rev. 2.0	Total Phosphorus in aqueous matrices as mg P/L	2152900, 2152901, 2152902, 2152903
EPA 365.1 Rev. 2.0 dissolved	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	2152904, 2152905, 2152906, 2152907
SM 2120 B-2011	True Color measured at 450 nm (not valid for NPDES monitoring)	2152896, 2152897, 2152898, 2152899
SM 2320 B-2011	Alkalinity in aqueous matrices as mg CaCO ₃ /L	2152896, 2152897, 2152898, 2152899
SM 2540 C-2011	Total Dissolved Solids in aqueous matrices	2152896, 2152897, 2152898, 2152899
SM 2540 D-2011	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2152896, 2152897, 2152898, 2152899
SM 4500 F-C-2011	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2152896, 2152897, 2152898, 2152899
SM 5310 B-2011	Nonpurgeable Organic Carbon in aqueous matrices	2152900, 2152901, 2152902, 2152903

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	01/30/2020			01/30/2020 17:11	Yen Ta	2152896, 2152897, 2152898, 2152899
EPA 300.0 Rev. 2.1	01/30/2020			02/03/2020 17:45	Elliott Rodriguez	2152896
	01/30/2020			02/03/2020 20:35	Elliott Rodriguez	2152897
	01/30/2020			02/03/2020 20:47	Elliott Rodriguez	2152898
	01/30/2020			02/03/2020 20:59	Elliott Rodriguez	2152899
EPA 350.1 Rev. 2.0	01/30/2020			02/07/2020 12:08	Ping Hua	2152900
	01/30/2020			02/07/2020 12:25	Ping Hua	2152901
	01/30/2020			02/07/2020 12:26	Ping Hua	2152902
	01/30/2020			02/07/2020 12:28	Ping Hua	2152903
EPA 351.2 Rev. 2.0	01/30/2020	02/06/2020 12:00	Jhamieka S. Greenwood	02/07/2020 07:51	Jhamieka S. Greenwood	2152900
	01/30/2020	02/06/2020 12:00	Jhamieka S. Greenwood	02/07/2020 07:52	Jhamieka S. Greenwood	2152901
	01/30/2020	02/06/2020 12:00	Jhamieka S. Greenwood	02/07/2020 07:54	Jhamieka S. Greenwood	2152902
	01/30/2020	02/06/2020 12:00	Jhamieka S. Greenwood	02/07/2020 07:58	Jhamieka S. Greenwood	2152903
EPA 353.2 Rev. 2.0	01/30/2020			02/04/2020 11:10	Beverly Y. Sanders	2152900
	01/30/2020			02/04/2020 11:16	Beverly Y. Sanders	2152901
	01/30/2020			02/04/2020 11:17	Beverly Y. Sanders	2152902
	01/30/2020			02/04/2020 11:18	Beverly Y. Sanders	2152903
EPA 365.1 Rev. 2.0	01/30/2020	02/03/2020 15:03	Lipi Saha	02/11/2020 14:55	Benjamin T. Nordmann	2152901
	01/30/2020	02/03/2020 15:03	Lipi Saha	02/11/2020 14:56	Benjamin T. Nordmann	2152902
	01/30/2020	02/03/2020 15:03	Lipi Saha	02/11/2020 15:04	Benjamin T. Nordmann	2152903
	01/30/2020	02/17/2020 17:00	Yen Ta	02/18/2020 17:31	Benjamin T. Nordmann	2152900
EPA 365.1 Rev. 2.0 dissolved	01/30/2020			01/30/2020 16:38	Carlos Miranda	2152904
	01/30/2020			01/30/2020 16:43	Carlos Miranda	2152905, 2152906
	01/30/2020			01/30/2020 16:44	Carlos Miranda	2152907
SM 2120 B-2011	01/30/2020			01/30/2020 16:31	Madeline Funaro	2152896
	01/30/2020			01/30/2020 16:32	Madeline Funaro	2152897
	01/30/2020			01/30/2020 16:33	Madeline Funaro	2152898
	01/30/2020			01/30/2020 16:35	Madeline Funaro	2152899
SM 2320 B-2011	01/30/2020			02/05/2020 02:05	Dale L. Simmons	2152896
	01/30/2020			02/05/2020 02:16	Dale L. Simmons	2152897
	01/30/2020			02/05/2020 02:28	Dale L. Simmons	2152898
	01/30/2020			02/05/2020 02:42	Dale L. Simmons	2152899
SM 2540 C-2011	01/30/2020			02/03/2020 17:30	Blanca Fach	2152896, 2152897, 2152898, 2152899
SM 2540 D-2011	01/30/2020			02/03/2020 17:30	Blanca Fach	2152896, 2152897, 2152898, 2152899
SM 4500 F-C-2011	01/30/2020			02/05/2020 02:05	Dale L. Simmons	2152896
	01/30/2020			02/05/2020 02:16	Dale L. Simmons	2152897
	01/30/2020			02/05/2020 02:28	Dale L. Simmons	2152898
	01/30/2020			02/05/2020 02:42	Dale L. Simmons	2152899
SM 5310 B-2011	01/30/2020			02/05/2020 21:27	Madeline Funaro	2152900
	01/30/2020			02/05/2020 21:41	Madeline Funaro	2152901

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
SM 5310 B-2011	01/30/2020			02/05/2020 21:53	Madeline Funaro	2152902
	01/30/2020			02/05/2020 23:47	Madeline Funaro	2152903