

Chemical Analysis Report

CEN-DIST-2018-08-23-01

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

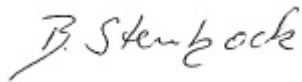
Event Description: **Wolf Crk / Crabgrass Crk**
Request ID: **RQ-2018-07-23-37**
Customer: **CEN-DIST**
Project ID: **SMP**

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Date Certified: 11-SEP-2018 15:55



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 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 Buchanan @ Center

Collection Date/Time: 08/22/2018 09:24

Field ID: G4CE0146

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2019572	EPA 180.1 Rev. 2.0	Turbidity	0.95		NTU	P350784	
	EPA 300.0 Rev. 2.1	Chloride	10	A	mg Cl/L	P350933	
		Sulfate	3.5	A	mg SO4/L	P350935	
	SM 2120 B	Color (true)	48		PCU	P350677	
	SM 2320 B-97	Total Alkalinity	30		mg CaCO3/L	P350902	
	SM 2540 C-97	TDS	71		mg/L	P351066	
	SM 2540 D-97	TSS	2	I	mg/L	P351028	
	SM 4500 F-C-97	Fluoride	0.063	I	mg F/L	P350904	
	EPA 350.1 Rev. 2.0	Ammonia-N	0.005	I	mg N/L	P350915	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.77		mg N/L	P350753	
2019573	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P350856	
	EPA 365.1 Rev. 2.0	Total-P	0.044		mg P/L	P350767	
	SM 5310 B-00	Organic Carbon	9.3		mg C/L	P350876	
	EPA 365.1 Rev. 2.0	O-Phosphate-P	0.015		mg P/L	P350696	
	dissolved						

Ref. Method and Comment:

EPA 180.1 Rev. 2.0: Batch relative percent difference is unavailable because of low 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: Lake Bass @ Center of Lake

Collection Date/Time: 08/22/2018 10:03

Field ID: G4CE0147

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2019575	EPA 180.1 Rev. 2.0	Turbidity	2.4		NTU	P350784	
	EPA 300.0 Rev. 2.1	Chloride	19		mg Cl/L	P350933	
		Sulfate	18		mg SO4/L	P350935	
	SM 2120 B	Color (true)	10		PCU	P350678	
	SM 2320 B-97	Total Alkalinity	44	A	mg CaCO3/L	P351049	
	SM 2540 C-97	TDS	117	A	mg/L	P351067	
	SM 2540 D-97	TSS	3	IA	mg/L	P351029	
	SM 4500 F-C-97	Fluoride	0.035	U	mg F/L	P351145	
2019576	EPA 350.1 Rev. 2.0	Ammonia-N	0.004	I	mg N/L	P350915	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.68		mg N/L	P350753	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P350856	
	EPA 365.1 Rev. 2.0	Total-P	0.025		mg P/L	P350767	
	SM 5310 B-00	Organic Carbon	5.5		mg C/L	P350876	
2019577	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P350696	

Ref. Method and Comment:

EPA 180.1 Rev. 2.0: Batch relative percent difference is unavailable because of low 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: P350784

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P350933

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P350935

Component	Result	Code	Units
Sulfate	0.20	U	mg SO ₄ /L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P350915

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P350753

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P350856

Component	Result	Code	Units
NO ₂ NO ₃ -N	0.004	U	mg N/L

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P350767

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P350696

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

Reference Method: SM 2120 B
Batch ID: P350677

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Quality Assurance Report Method Blank Results

Reference Method: SM 2120 B
Batch ID: P350678

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2320 B-97
Batch ID: P350902

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

Reference Method: SM 2320 B-97
Batch ID: P351049

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

Reference Method: SM 2540 C-97
Batch ID: P351066

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 C-97
Batch ID: P351067

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-97
Batch ID: P351028

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 2540 D-97
Batch ID: P351029

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500 F-C-97
Batch ID: P350904

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 4500 F-C-97
Batch ID: P351145

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: P350876

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: P350933

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P350935

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P350915

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P350753

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P350856

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P350767

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total-P	98.3		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P350696

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

Reference Method: SM 2120 B
Batch ID: P350677

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Color (true)	98.3		P	85 - 115

Reference Method: SM 2120 B
Batch ID: P350678

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: P350902

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	104		P	98 - 107

Reference Method: SM 2320 B-97
Batch ID: P351049

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	103		P	98 - 107

Reference Method: SM 4500 F-C-97
Batch ID: P350904

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	96.6		P	91 - 105

Reference Method: SM 4500 F-C-97
Batch ID: P351145

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	98.5		P	91 - 105

Reference Method: SM 5310 B-00
Batch ID: P350876

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	96.4		P	85 - 115

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P350933

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2019572	Chloride	107		P	90 - 110
2019922	Chloride	104		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P350935

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2019572	Sulfate	106		P	90 - 110
2019922	Sulfate	102		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P350915

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2019397	Ammonia-N	95.6	98.5	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P350753

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2019397	Kjeldahl Nitrogen	105	106	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P350856

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2019398	NO2NO3-N	97.0	99.0	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P350767

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2019632	Total-P	96.4	94.8	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P350696

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2019399	O-Phosphate-P	96.6	96.1	P/P	90 - 110

Reference Method: SM 4500 F-C-97
Batch ID: P350904

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2019112	Fluoride	98.4	98.4	P/P	91 - 105

Reference Method: SM 4500 F-C-97
Batch ID: P351145

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2019575	Fluoride	104	104	P/P	91 - 105

Quality Assurance Report Matrix Spike Accuracy

Reference Method: SM 5310 B-00
Batch ID: P350876

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2019393	Organic Carbon	99.6	99.4	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P350933

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2019572	Chloride	3.75	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P350935

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2019572	Sulfate	4.20	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P350915

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2019397	Ammonia-N	1.70	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P350753

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2019397	Kjeldahl Nitrogen	0.555	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P350856

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2019398	NO2NO3-N	1.03	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P350767

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2019632	Total-P	1.62	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P350696

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2019399	O-Phosphate-P	0.341	Spike	P	0 - 20

Reference Method: SM 2120 B
Batch ID: P350677

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2019392	Color (true)	2.17	Sample	P	0 - 20

Quality Assurance Report Precision

Reference Method: SM 2120 B
Batch ID: P350678

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2019629	Color (true)	0.896	Sample	P	0 - 20

Reference Method: SM 2320 B-97
Batch ID: P350902

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2019112	Total Alkalinity	0.187	Sample	P	0 - 1.6

Reference Method: SM 2320 B-97
Batch ID: P351049

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2019575	Total Alkalinity	0.917	Sample	P	0 - 1.6

Reference Method: SM 2540 C-97
Batch ID: P351066

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2019392	TDS	1.76	Sample	P	0 - 10

Reference Method: SM 2540 C-97
Batch ID: P351067

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2019575	TDS	6.84	Sample	P	0 - 10

Reference Method: SM 4500 F-C-97
Batch ID: P350904

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2019112	Fluoride	0.0	Spike	P	0 - 3.5

Reference Method: SM 4500 F-C-97
Batch ID: P351145

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2019575	Fluoride	0.0	Spike	P	0 - 3.5

Reference Method: SM 5310 B-00
Batch ID: P350876

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2019393	Organic Carbon	0.111	Spike	P	0 - 20

Quality Assurance Report

Precision

* 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: SM 2120 B

Run ID: A86089

Included Lab Sample IDs: 2019572, 2019575

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	98.5	99.7	P/P	90 - 115
Color (true)	99.7	101	P/P	90 - 115

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Run ID: A86099

Included Lab Sample IDs: 2019574, 2019577

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	98.2	98.1	P/P	90 - 110

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A86127

Included Lab Sample IDs: 2019572, 2019575

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

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A86147

Included Lab Sample IDs: 2019573, 2019576

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	99.8	99.5	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A86155

Included Lab Sample IDs: 2019573, 2019576

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

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A86157

Included Lab Sample IDs: 2019573, 2019576

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

Reference Method: SM 5310 B-00

Run ID: A86162

Included Lab Sample IDs: 2019573, 2019576

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	95.4	96.1	P/P	90 - 110
Organic Carbon	96.1	94.2	P/P	90 - 110

Reference Method: SM 2320 B-97

Run ID: A86172

Included Lab Sample IDs: 2019572

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
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Quality Assurance Report Calibration Verification

Reference Method: SM 2320 B-97
Run ID: A86172
Included Lab Sample IDs: 2019572

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	104	100	P/P	90 - 110

Reference Method: SM 4500 F-C-97
Run ID: A86172
Included Lab Sample IDs: 2019572

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	99.0	99.5	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Run ID: A86185
Included Lab Sample IDs: 2019573, 2019576

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

Reference Method: EPA 300.0 Rev. 2.1
Run ID: A86194
Included Lab Sample IDs: 2019572, 2019575

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

Reference Method: SM 2320 B-97
Run ID: A86252
Included Lab Sample IDs: 2019575

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	99.9	104	P/P	90 - 110

Reference Method: SM 4500 F-C-97
Run ID: A86303
Included Lab Sample IDs: 2019575

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	100	99.1	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 300.0 Rev. 2.1	Chloride	107	107	104		3.75	
	Sulfate	104	106	102		4.20	
EPA 350.1 Rev. 2.0	Ammonia-N	99.1	95.6	98.5			1.70
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	104	105	106			0.555
EPA 353.2 Rev. 2.0	NO ₂ NO ₃ -N	99.5	97.0	99.0			1.03
EPA 365.1 Rev. 2.0	Total-P	98.3	96.4	94.8			1.62
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	98.6	96.6	96.1			0.341
SM 2120 B	Color (true)	98.3				2.17	
	Color (true)	100				0.896	
SM 2320 B-97	Total Alkalinity	104				0.187	
	Total Alkalinity	103				0.917	
SM 2540 C-97	TDS					1.76	
	TDS					6.84	
SM 4500 F-C-97	Fluoride	96.6	98.4	98.4			0.0
	Fluoride	98.5	104	104			0.0
SM 5310 B-00	Organic Carbon	96.4	99.6	99.4			0.111

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 180.1 Rev. 2.0 / E31780	Turbidity in aqueous matrices	2019572, 2019575
EPA 300.0 Rev. 2.1 / E31780	Chloride in aqueous matrices	2019572, 2019575
EPA 300.0 Rev. 2.1 / E31780	Sulfate in aqueous matrices	2019572, 2019575
EPA 350.1 Rev. 2.0 / E31780	Ammonia in aqueous matrices as mg N/L	2019573, 2019576
EPA 351.2 Rev. 2.0 / E31780	Total Kjeldahl Nitrogen in aqueous matrices	2019573, 2019576
EPA 353.2 Rev. 2.0 / E31780	Nitrite/Nitrate in aqueous matrices as mg N/L	2019573, 2019576
EPA 365.1 Rev. 2.0 / E31780	Total Phosphorus in aqueous matrices as mg P/L	2019573, 2019576
EPA 365.1 Rev. 2.0 dissolved / E31780	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	2019574, 2019577
SM 2120 B / E31780	True Color measured at 450 nm	2019572, 2019575
SM 2320 B-97 / E31780	Alkalinity in aqueous matrices as mg CaCO ₃ /L	2019572, 2019575
SM 2540 C-97 / E31780	Total Dissolved Solids in aqueous matrices	2019572, 2019575
SM 2540 D-97 / E31780	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2019572, 2019575
SM 4500 F-C-97 / E31780	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2019572, 2019575
SM 5310 B-00 / E31780	Nonpurgeable Organic Carbon in aqueous matrices	2019573, 2019576

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	08/23/2018			08/23/2018 17:10	Megan Treadwell	2019572, 2019575
EPA 300.0 Rev. 2.1	08/23/2018			08/29/2018 22:52	Lipi Saha	2019572
	08/23/2018			08/29/2018 23:41	Lipi Saha	2019575
EPA 350.1 Rev. 2.0	08/23/2018			08/29/2018 12:19	Ping Hua	2019573
	08/23/2018			08/29/2018 12:21	Ping Hua	2019576
EPA 351.2 Rev. 2.0	08/23/2018	08/27/2018 11:00	Adrian Shelby	08/28/2018 15:47	Joseph Suarez	2019573
	08/23/2018	08/27/2018 11:00	Adrian Shelby	08/28/2018 15:49	Joseph Suarez	2019576
EPA 353.2 Rev. 2.0	08/23/2018			08/28/2018 12:59	Lauren Bottorf	2019573
	08/23/2018			08/28/2018 13:00	Lauren Bottorf	2019576
EPA 365.1 Rev. 2.0	08/23/2018	08/27/2018 12:15	Sima Feizi	08/28/2018 12:40	Beverly Y. Sanders	2019573
	08/23/2018	08/27/2018 12:15	Sima Feizi	08/28/2018 12:41	Beverly Y. Sanders	2019576
EPA 365.1 Rev. 2.0 dissolved	08/23/2018			08/23/2018 14:37	Julia Storbeck	2019574
	08/23/2018			08/23/2018 14:38	Julia Storbeck	2019577
SM 2120 B	08/23/2018			08/23/2018 15:56	William L. Brown IV	2019572
	08/23/2018			08/23/2018 16:00	William L. Brown IV	2019575
SM 2320 B-97	08/23/2018			08/28/2018 22:04	Dale L. Simmons	2019572
	08/23/2018			08/30/2018 21:13	Dale L. Simmons	2019575
SM 2540 C-97	08/23/2018			08/28/2018 15:02	Yijie Li	2019572, 2019575
SM 2540 D-97	08/23/2018			08/28/2018 15:02	Yijie Li	2019572, 2019575
SM 4500 F-C-97	08/23/2018			08/28/2018 22:04	Dale L. Simmons	2019572
	08/23/2018			09/05/2018 15:59	Dale L. Simmons	2019575
SM 5310 B-00	08/23/2018			08/28/2018 21:18	Megan Treadwell	2019573
	08/23/2018			08/28/2018 21:58	Megan Treadwell	2019576