

Chemical Analysis Report

NW-DIST-2019-11-15-02

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

Event Description: **Crestview/ Laurel Hill**
Request ID: **RQ-2019-11-11-23**
Customer: **NW-DIST**
Project ID: **SMP**

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

Date Certified: 02-DEC-2019 11:34

A handwritten signature in black ink, appearing to read "Colin Wright", is shown on a light-colored background.

Case Narrative

Unless otherwise noted, all samples included in this report were received in accordance with protocols referenced in Chapter 62-160, Florida Administrative Code (F.A.C.). Results published in this report pertain only to the samples as submitted to, and received by the laboratory. All times in this report are adjusted to the applicable Eastern Time Zone (EST or EDT).

Results for the following analytical group are included in this report: Nutrients.

Scientific notation may be used in reporting very large or small values. Values reported using scientific notation will take the form of the following example: 1.3E+03, which is equivalent to 1.3×10^3 or 1300.

Unless otherwise noted, analytical values for soil and sediment samples are reported on a dry weight basis, and analytical values for waste and tissue samples are reported on a wet weight basis.

Results for TNI accredited tests met requirements established by The NELAC Institute. A double asterisk (**) is used to indicate an analyte/matrix/method for which the laboratory is not TNI accredited by the Florida Department of Health Environmental Laboratory Certification Program or where accreditation for that field of testing is not applicable.

Any significant anomalies or deviations from established protocols are documented in Non-Conformance Reports, which, where appropriate, are included within this analytical report. Additional comments related to specific analytical tests may be included as remarks following the analytical results for each sample. Such comments and remarks are for informational purposes only and are not intended to convey judgement about the usability of the reported data.

A quality control report on the performance of the test method for the submitted samples is included. Uncertainty associated with the analytical results contained in this report can be estimated from the reported quality assurance results and from published quality control acceptance limits for each analytical test. Matrix quality control results (matrix spike recoveries and matrix sample precision) pertain only to the matrix sample tested and do not necessarily reflect test method performance for other samples.

Typical matrix quality control (QC) measurements may include matrix spike recovery, matrix spike duplicate recovery, matrix spike precision and matrix sample precision. Not all matrix QC results may be available or reportable; where they are not an explanation is provided. Typical reasons for unavailable QC results include, but are not limited to, a) insufficient matrix sample to perform some or all QC measurements; b) analyte concentration in the sample replicated was too low for a meaningful measurement of precision and c) analyte concentration in the matrix sample spiked was too high (relative to the amount of analyte spiked) for a meaningful measurement of recovery. Where matrix QC results are unavailable, other method performance metrics (e.g., LCS recovery, LCS precision, surrogate recovery) may be used to assess performance of the method. Comments explaining any missing QC measurements are not intended to convey any adverse conclusions about the quality of the reported data.

Precision is reported as relative percent difference unless otherwise noted.

Quality Control codes as defined below may be used in this report to indicate results that are associated with one or more quality control elements which did not fall within established test method criteria. Such results may be qualified as estimates using a J qualifier as required by 62-160 F.A.C. Explanations are included in the report for any results that were reported as estimates for other reasons.

QC Codes used in this report may include:

- LCS – Recovery for the batch Laboratory Control Sample (LCS) was outside existing control limits;
- MS – Recovery for the batch matrix spike (MS) was outside existing control limits;
- CCV – Recovery for a continuing calibration verification (CCV) standard was outside existing control limits;
- SUR – Recovery of a surrogate (SUR) for associated analytes was outside existing control limits;
- RPD – The precision, measured as relative percent difference (RPD), of batch replicate measurements was outside existing control limits;
- RSD – The precision, measured as relative standard deviation (RSD), of batch replicate measurements was outside existing control limits;
- SMP – Sample - used precision derived from replicate analyses of a sample;

The following data qualifiers are used, where applicable, in this report as specified in 62-160 F.A.C.

- A - Value reported is the mean of two or more determinations.
- B - Results based on colony counts outside the acceptable range.
- I - The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.
- J - Estimated value and/or the analysis did not meet established quality control criteria.
- K - Actual value is known to be less than value given.
- L - Actual value is known to be greater than value given.
- N - Presumptive evidence of presence of material.
- O - Sampled, but analysis lost or not performed.
- Q - Sample held beyond normal holding time.
- T - Value reported is less than the criterion of detection.
- U - Material was analyzed for but not detected. The reported value is the method detection limit for the sample analyzed.
- V - Analyte was detected in both sample and method blank.
- X - Too few individuals to calculate SCI value.
- Y - The laboratory analysis was from an unpreserved or improperly preserved sample. The data may not be accurate.
- Z - Colonies were too numerous to count (TNTC).

Quality control information from overflow laboratories may not be included in this report. Please refer to the associated report from the overflow laboratory for additional information.

Sample Location: Hurricane Creek below Hurricane Lake Road

Collection Date/Time: 11/14/2019 10:53

Field ID: G4NW0160

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2136626	EPA 180.1 Rev. 2.0	Turbidity	2.2		NTU	P374352	
	EPA 300.0 Rev. 2.1	Chloride	3.7		mg Cl/L	P374401	
		Sulfate	3.1		mg SO4/L	P374404	
	SM 2120 B	Color (true)	23		PCU	P374314	
	SM 2320 B-97	Total Alkalinity	1.7	I	mg CaCO3/L	P374898	
	SM 2540 C-97	TDS	29		mg/L	P374863	
	SM 2540 D-97	TSS	3	I	mg/L	P374855	
	SM 4500 F-C-97	Fluoride	0.035	U	mg F/L	P374902	
2136628	EPA 350.1 Rev. 2.0	Ammonia-N	0.028		mg N/L	P374677	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.20		mg N/L	P374752	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.009	I	mg N/L	P374477	
	EPA 365.1 Rev. 2.0	Total-P	0.005	I	mg P/L	P374588	
	SM 5310 B-00	Organic Carbon	4.4		mg C/L	P374429	
2136630	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P374381	

Ref. Method and Comment:

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

EPA 351.2 Rev. 2.0: Batch matrix spike recoveries are unavailable because of high analyte concentration in the QC sample.

Sample Location: Oak Creek below Tommy Steele Road

Collection Date/Time: 11/14/2019 11:55

Field ID: G4NW0395

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2136627	EPA 180.1 Rev. 2.0	Turbidity	2.0		NTU	P374352	
	EPA 300.0 Rev. 2.1	Chloride	4.4		mg Cl/L	P374401	
		Sulfate	6.6		mg SO4/L	P374404	
	SM 2120 B	Color (true)	72		PCU	P374315	
	SM 2320 B-97	Total Alkalinity	2.7		mg CaCO3/L	P374898	
	SM 2540 C-97	TDS	34		mg/L	P374863	
	SM 2540 D-97	TSS	3	I	mg/L	P374855	
	SM 4500 F-C-97	Fluoride	0.037	I	mg F/L	P374902	
2136629	EPA 350.1 Rev. 2.0	Ammonia-N	0.002	I	mg N/L	P374677	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.25		mg N/L	P374752	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P374477	
	EPA 365.1 Rev. 2.0	Total-P	0.028		mg P/L	P374588	
	SM 5310 B-00	Organic Carbon	6.0		mg C/L	P374429	
2136631	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.009	I	mg P/L	P374381	

Ref. Method and Comment:

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

EPA 351.2 Rev. 2.0: Batch matrix spike recoveries are unavailable because of high analyte concentration in the QC sample.

Sample Location: Panther Creek upstream of SR280

Collection Date/Time: 11/15/2019 14:35

Field ID: G3NW0061

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2136632	EPA 180.1 Rev. 2.0	Turbidity	3.8	A	NTU	P374353	
	EPA 300.0 Rev. 2.1	Chloride	4.2		mg Cl/L	P374401	
		Sulfate	7.5		mg SO4/L	P374404	
	SM 2120 B	Color (true)	42	A	PCU	P374315	
	SM 2320 B-97	Total Alkalinity	0.65	U	mg CaCO3/L	P374898	
	SM 2540 C-97	TDS	36		mg/L	P374863	
	SM 2540 D-97	TSS	4	I	mg/L	P374855	
	SM 4500 F-C-97	Fluoride	0.035	U	mg F/L	P374902	
2136633	EPA 350.1 Rev. 2.0	Ammonia-N	0.014		mg N/L	P374677	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.39		mg N/L	P374752	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.005	I	mg N/L	P374477	
	EPA 365.1 Rev. 2.0	Total-P	0.015		mg P/L	P374588	
	SM 5310 B-00	Organic Carbon	7.0		mg C/L	P374429	
2136634	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P374381	

Ref. Method and Comment:

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

EPA 351.2 Rev. 2.0: Batch matrix spike recoveries are unavailable because of high analyte concentration in the QC sample.

Quality Assurance Report Method Blank Results

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P374352

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P374353

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P374401

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P374404

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P374677

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P374752

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P374477

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P374588

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P374381

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

Quality Assurance Report

Method Blank Results

Reference Method: SM 2120 B
Batch ID: P374314

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2120 B
Batch ID: P374315

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2320 B-97
Batch ID: P374898

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

Reference Method: SM 2540 C-97
Batch ID: P374863

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-97
Batch ID: P374855

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500 F-C-97
Batch ID: P374902

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-00
Batch ID: P374429

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: P374401

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Chloride	98.9		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P374404

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Sulfate	98.7		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P374677

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Ammonia-N	96.8		P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P374752

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: P374477

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P374588

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P374381

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

Reference Method: SM 2120 B
Batch ID: P374314

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

Reference Method: SM 2120 B
Batch ID: P374315

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Color (true)	103		P	85 - 115

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: SM 2320 B-97
Batch ID: P374898

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	100		P	98 - 106

Reference Method: SM 4500 F-C-97
Batch ID: P374902

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	96.3		P	92 - 103

Reference Method: SM 5310 B-00
Batch ID: P374429

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

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P374401

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2136471	Chloride	99.8		P	90 - 110
2136626	Chloride	102		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P374404

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2136471	Sulfate	100		P	90 - 110
2136626	Sulfate	101		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P374677

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2136680	Ammonia-N	96.8	99.4	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P374477

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2136628	NO2NO3-N	100	99.6	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P374588

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2136579	Total-P	101	100	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P374381

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2136630	O-Phosphate-P	96.5	96.6	P/P	90 - 110

Reference Method: SM 4500 F-C-97
Batch ID: P374902

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2136671	Fluoride	98.3	97.6	P/P	89 - 106

Reference Method: SM 5310 B-00
Batch ID: P374429

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2136574	Organic Carbon	102		P	85 - 115

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P374352

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2136533	Turbidity	7.44	Sample	P	0 - 20

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P374353

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2136632	Turbidity	15.4	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P374401

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2136471	Chloride	0.0552	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P374404

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2136471	Sulfate	0.271	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P374677

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2136680	Ammonia-N	2.20	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P374752

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2136580	Kjeldahl Nitrogen	1.33	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P374477

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2136628	NO2NO3-N	0.480	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P374588

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2136579	Total-P	0.329	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 365.1 Rev. 2.0 dissolved
 Batch ID: P374381

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2136630	O-Phosphate-P	0.104	Spike	P	0 - 20

Reference Method: SM 2120 B
 Batch ID: P374314

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2136533	Color (true)	4.05	Sample	P	0 - 20

Reference Method: SM 2120 B
 Batch ID: P374315

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2136632	Color (true)	4.29	Sample	P	0 - 20

Reference Method: SM 2320 B-97
 Batch ID: P374898

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2136671	Total Alkalinity	0.0816	Sample	P	0 - 2.8

Reference Method: SM 2540 C-97
 Batch ID: P374863

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2136666	TDS	0.635	Sample	P	0 - 10

Reference Method: SM 4500 F-C-97
 Batch ID: P374902

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2136671	Fluoride	0.473	Spike	P	0 - 2.5

Reference Method: SM 5310 B-00
 Batch ID: P374429

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2136574	Organic Carbon	0.137	Spike	P	0 - 20

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

Quality Assurance Report Calibration Verification

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A95765

Included Lab Sample IDs: 2136626, 2136627, 2136632

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	102	102	P/P	90 - 110
Chloride	99.6	102	P/P	90 - 110
Sulfate	102	102	P/P	90 - 110
Sulfate	99.8	102	P/P	90 - 110

Reference Method: SM 2120 B

Run ID: A95771

Included Lab Sample IDs: 2136626, 2136627, 2136632

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	102	99.6	P/P	90 - 115
Color (true)	99.6	102	P/P	90 - 115

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A95786

Included Lab Sample IDs: 2136626, 2136627, 2136632

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Turbidity	98.0	97.5	P/P	95 - 105
Turbidity	99.5	98.0	P/P	95 - 105

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Run ID: A95799

Included Lab Sample IDs: 2136630, 2136631, 2136634

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	96.7	97.3	P/P	90 - 110
O-Phosphate-P	97.2	97.0	P/P	90 - 110

Reference Method: SM 5310 B-00

Run ID: A95823

Included Lab Sample IDs: 2136628, 2136629, 2136633

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	105	102	P/P	90 - 110
Organic Carbon	106	105	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A95835

Included Lab Sample IDs: 2136628, 2136629, 2136633

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

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A95904

Included Lab Sample IDs: 2136628, 2136629, 2136633

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	99.2	99.6	P/P	90 - 110
Ammonia-N	99.6	99.6	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A95945

Included Lab Sample IDs: 2136628, 2136629, 2136633

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

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A95975

Included Lab Sample IDs: 2136628, 2136629, 2136633

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	98.8	108	P/P	90 - 110

Reference Method: SM 2320 B-97

Run ID: A95978

Included Lab Sample IDs: 2136626, 2136627, 2136632

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	101	98.4	P/P	90 - 110

Reference Method: SM 4500 F-C-97

Run ID: A95978

Included Lab Sample IDs: 2136626, 2136627, 2136632

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

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

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

Where they are different, both control limits are provided.

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery		LCS	Precision	MS
						SMP	
EPA 180.1 Rev. 2.0	Turbidity					7.44	
	Turbidity					15.4	
EPA 300.0 Rev. 2.1	Chloride	98.9	99.8	102		0.0552	
	Sulfate	98.7	100	101		0.271	
EPA 350.1 Rev. 2.0	Ammonia-N	96.8	96.8	99.4			2.20
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	102					1.33
EPA 353.2 Rev. 2.0	NO ₂ NO ₃ -N	99.0	100	99.6			0.480
EPA 365.1 Rev. 2.0	Total-P	105	101	100			0.329
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	102	96.5	96.6			0.104
SM 2120 B	Color (true)	101				4.05	
	Color (true)	103				4.29	
SM 2320 B-97	Total Alkalinity	100				0.0816	
SM 2540 C-97	TDS					0.635	
SM 4500 F-C-97	Fluoride	96.3	98.3	97.6			0.473
SM 5310 B-00	Organic Carbon	105	102				0.137

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 180.1 Rev. 2.0 / E31780	Turbidity in aqueous matrices	2136626, 2136627, 2136632
EPA 300.0 Rev. 2.1 / E31780	Chloride in aqueous matrices	2136626, 2136627, 2136632
EPA 300.0 Rev. 2.1 / E31780	Sulfate in aqueous matrices	2136626, 2136627, 2136632
EPA 350.1 Rev. 2.0 / E31780	Ammonia in aqueous matrices as mg N/L	2136628, 2136629, 2136633
EPA 351.2 Rev. 2.0 / E31780	Total Kjeldahl Nitrogen in aqueous matrices	2136628, 2136629, 2136633
EPA 353.2 Rev. 2.0 / E31780	Nitrite/Nitrate in aqueous matrices as mg N/L	2136628, 2136629, 2136633
EPA 365.1 Rev. 2.0 / E31780	Total Phosphorus in aqueous matrices as mg P/L	2136628, 2136629, 2136633
EPA 365.1 Rev. 2.0 dissolved / E31780	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	2136630, 2136631, 2136634
SM 2120 B / E31780	True Color measured at 450 nm	2136626, 2136627, 2136632
SM 2320 B-97 / E31780	Alkalinity in aqueous matrices as mg CaCO ₃ /L	2136626, 2136627, 2136632
SM 2540 C-97 / E31780	Total Dissolved Solids in aqueous matrices	2136626, 2136627, 2136632
SM 2540 D-97 / E31780	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2136626, 2136627, 2136632
SM 4500 F-C-97 / E31780	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2136626, 2136627, 2136632
SM 5310 B-00 / E31780	Nonpurgeable Organic Carbon in aqueous matrices	2136628, 2136629, 2136633

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	11/15/2019			11/15/2019 17:09	Samantha Davila	2136626, 2136627, 2136632
EPA 300.0 Rev. 2.1	11/15/2019			11/19/2019 04:27	Lipi Saha	2136626
	11/15/2019			11/19/2019 07:41	Lipi Saha	2136627
	11/15/2019			11/19/2019 07:53	Lipi Saha	2136632
EPA 350.1 Rev. 2.0	11/15/2019			11/21/2019 12:35	Ping Hua	2136628
	11/15/2019			11/21/2019 12:37	Ping Hua	2136629
	11/15/2019			11/21/2019 12:46	Ping Hua	2136633
EPA 351.2 Rev. 2.0	11/15/2019	11/25/2019 11:28	Sima Feizi	11/26/2019 11:23	Jhamieka S. Greenwood	2136628
	11/15/2019	11/25/2019 11:28	Sima Feizi	11/26/2019 11:24	Jhamieka S. Greenwood	2136629
	11/15/2019	11/25/2019 11:28	Sima Feizi	11/26/2019 11:26	Jhamieka S. Greenwood	2136633
EPA 353.2 Rev. 2.0	11/15/2019			11/19/2019 10:12	Beverly Y. Sanders	2136628
	11/15/2019			11/19/2019 10:20	Beverly Y. Sanders	2136629
	11/15/2019			11/19/2019 10:21	Beverly Y. Sanders	2136633
EPA 365.1 Rev. 2.0	11/15/2019	11/21/2019 13:00	Yen Ta	11/25/2019 15:16	Benjamin T. Nordmann	2136628
	11/15/2019	11/21/2019 13:00	Yen Ta	11/25/2019 15:17	Benjamin T. Nordmann	2136629
	11/15/2019	11/21/2019 13:00	Yen Ta	11/25/2019 15:18	Benjamin T. Nordmann	2136633
EPA 365.1 Rev. 2.0 dissolved	11/15/2019			11/15/2019 14:44	Ping Hua	2136630
	11/15/2019			11/15/2019 15:41	Ping Hua	2136631
	11/15/2019			11/15/2019 15:43	Ping Hua	2136634
SM 2120 B	11/15/2019			11/15/2019 17:28	Madeline Funaro	2136626
	11/15/2019			11/15/2019 17:32	Madeline Funaro	2136627
	11/15/2019			11/15/2019 17:33	Madeline Funaro	2136632
SM 2320 B-97	11/15/2019			11/25/2019 21:15	Dale L. Simmons	2136626
	11/15/2019			11/25/2019 21:27	Dale L. Simmons	2136627
	11/15/2019			11/25/2019 21:36	Dale L. Simmons	2136632
SM 2540 C-97	11/15/2019			11/19/2019 15:21	Yijie Li	2136626, 2136627, 2136632
SM 2540 D-97	11/15/2019			11/19/2019 15:21	Yijie Li	2136626, 2136627, 2136632
SM 4500 F-C-97	11/15/2019			11/25/2019 21:15	Dale L. Simmons	2136626
	11/15/2019			11/25/2019 21:27	Dale L. Simmons	2136627
	11/15/2019			11/25/2019 21:36	Dale L. Simmons	2136632
SM 5310 B-00	11/15/2019			11/19/2019 01:07	Lauren Lees	2136628
	11/15/2019			11/19/2019 01:19	Lauren Lees	2136629
	11/15/2019			11/19/2019 02:00	Lauren Lees	2136633