

Chemical Analysis Report

SW-DIST-2018-11-20-01

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

Event Description: **Bear Creek & Green Lake**
Request ID: **RQ-2018-11-19-01**
Customer: **SW-DIST**
Project ID: **SMP**

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

Date Certified: 11-DEC-2018 12:38

A handwritten signature in black ink, appearing to read "Colin Wright", is displayed on a light gray rectangular background.

Case Narrative

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

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

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

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

Results for TNI accredited tests met requirements established by The NELAC Institute. A double asterisk (**) is used to indicate an analyte/matrix/method for which the laboratory is not TNI accredited 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: GREEN LAKE NORTH

Collection Date/Time: 11/19/2018 12:10

Field ID: G5SW0107

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2043000	EPA 180.1 Rev. 2.0	Turbidity	2.2	A	NTU	P355000	
	EPA 300.0 Rev. 2.1	Chloride	18		mg Cl/L	P355364	
		Sulfate	0.20	U	mg SO4/L	P355367	
	SM 2120 B	Color (true)	31		PCU	P355007	
	SM 2320 B-97	Total Alkalinity	18		mg CaCO3/L	P355468	
	SM 2540 C-97	TDS	68		mg/L	P355239	
	SM 2540 D-97	TSS	3	I	mg/L	P355196	
	SM 4500 F-C-97	Fluoride	0.059	I	mg F/L	P355473	
2043003	EPA 350.1 Rev. 2.0	Ammonia-N	0.004	I	mg N/L	P355247	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.71		mg N/L	P355124	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P355260	
	EPA 365.1 Rev. 2.0	Total-P	0.014		mg P/L	P355032	
	SM 5310 B-00	Organic Carbon	11		mg C/L	P355325	
2043006	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P354994	

Ref. Method and Comment:

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

Sample Location: BEAR CREEK @ BEACON

Collection Date/Time: 11/19/2018 10:30

Field ID: G5SW0102

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2043001	EPA 180.1 Rev. 2.0	Turbidity	1.1		NTU	P355000	
	EPA 300.0 Rev. 2.1	Chloride	140		mg Cl/L	P355364	
		Sulfate	36		mg SO4/L	P355367	
	SM 2120 B	Color (true)	13	A	PCU	P355007	
	SM 2320 B-97	Total Alkalinity	172		mg CaCO3/L	P355468	
	SM 2540 C-97	TDS	455	A	mg/L	P355239	
	SM 2540 D-97	TSS	2	U	mg/L	P355196	
	SM 4500 F-C-97	Fluoride	0.12		mg F/L	P355473	
2043004	EPA 350.1 Rev. 2.0	Ammonia-N	0.025		mg N/L	P355247	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.37		mg N/L	P355124	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.045		mg N/L	P355260	
	EPA 365.1 Rev. 2.0	Total-P	0.050		mg P/L	P355032	
	SM 5310 B-00	Organic Carbon	3.8		mg C/L	P355325	
2043007	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.019		mg P/L	P354994	

Ref. Method and Comment:

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

Sample Location: FIELD BLANK_11/09/2018

Collection Date/Time: 11/19/2018 12:35

Field ID: BLANK

Matrix: W-FIELD-BK

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2043002	EPA 180.1 Rev. 2.0	Turbidity	0.10	U	NTU	P355000	
	EPA 300.0 Rev. 2.1	Chloride	0.20	U	mg Cl/L	P355364	
		Sulfate	0.20	U	mg SO4/L	P355367	
	SM 2120 B	Color (true)	2.5	U	PCU	P355007	
	SM 2320 B-97	Total Alkalinity	0.65	U	mg CaCO3/L	P355468	
	SM 2540 C-97	TDS	15	U	mg/L	P355239	
	SM 2540 D-97	TSS	2	U	mg/L	P355196	
	SM 4500 F-C-97	Fluoride	0.035	U	mg F/L	P355473	
2043005	EPA 350.1 Rev. 2.0	Ammonia-N	0.002	U	mg N/L	P355373	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.080	U	mg N/L	P355124	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P355260	
	EPA 365.1 Rev. 2.0	Total-P	0.002	U	mg P/L	P355032	
	SM 5310 B-00	Organic Carbon	0.50	U	mg C/L	P355325	
2043008	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P354994	

Ref. Method and Comment:

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

Quality Assurance Report Method Blank Results

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P355000

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P355364

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P355367

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P355247

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P355373

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P355124

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P355260

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: P355032

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P354994

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: P355007

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2320 B-97
Batch ID: P355468

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

Reference Method: SM 2540 C-97
Batch ID: P355239

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-97
Batch ID: P355196

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500 F-C-97
Batch ID: P355473

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-00
Batch ID: P355325

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: P355364

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P355367

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Sulfate	99.4		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P355247

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Ammonia-N	96.3		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P355373

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Ammonia-N	98.0		P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P355124

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P355260

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: P355032

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P354994

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

Reference Method: SM 2120 B
Batch ID: P355007

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Color (true)	97.9		P	85 - 115

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: SM 2320 B-97
Batch ID: P355468

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	99.9		P	98 - 107

Reference Method: SM 4500 F-C-97
Batch ID: P355473

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	97.9		P	91 - 105

Reference Method: SM 5310 B-00
Batch ID: P355325

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	94.8		P	85 - 115

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P355364

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2042719	Chloride	96.2		P	90 - 110
2043000	Chloride	97.3		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P355367

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2042719	Sulfate	97.1		P	90 - 110
2043000	Sulfate	101		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P355247

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2043004	Ammonia-N	94.0	96.9	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P355373

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2043584	Ammonia-N	102	101	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P355124

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2043004	Kjeldahl Nitrogen	98.3	94.7	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P355260

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2042938	NO2NO3-N	100	101	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P355032

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2043004	Total-P	99.7	103	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P354994

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2043006	O-Phosphate-P	94.7	96.2	P/P	90 - 110

Reference Method: SM 4500 F-C-97
Batch ID: P355473

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2043270	Fluoride	98.6	98.0	P/P	91 - 105

Quality Assurance Report Matrix Spike Accuracy

Reference Method: SM 5310 B-00
Batch ID: P355325

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2043003	Organic Carbon	98.6	95.6	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P355000

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2043000	Turbidity	4.99	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P355364

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2042719	Chloride	0.0541	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P355367

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2042719	Sulfate	0.526	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P355247

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2043004	Ammonia-N	1.95	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P355373

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2043584	Ammonia-N	1.23	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P355124

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2043004	Kjeldahl Nitrogen	2.83	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P355260

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2042938	NO2NO3-N	0.893	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P355032

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2043004	Total-P	3.03	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 365.1 Rev. 2.0 dissolved
 Batch ID: P354994

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2043006	O-Phosphate-P	1.57	Spike	P	0 - 20

Reference Method: SM 2120 B
 Batch ID: P355007

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2043001	Color (true)	1.45	Sample	P	0 - 20

Reference Method: SM 2320 B-97
 Batch ID: P355468

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2043270	Total Alkalinity	1.03	Sample	P	0 - 1.6

Reference Method: SM 2540 C-97
 Batch ID: P355239

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2043001	TDS	2.64	Sample	P	0 - 10

Reference Method: SM 4500 F-C-97
 Batch ID: P355473

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2043270	Fluoride	0.530	Spike	P	0 - 3.5

Reference Method: SM 5310 B-00
 Batch ID: P355325

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2043003	Organic Carbon	2.03	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: A87896

Included Lab Sample IDs: 2043006, 2043007, 2043008

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	98.3	98.1	P/P	90 - 110
O-Phosphate-P	99.4	100	P/P	90 - 110

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A87897

Included Lab Sample IDs: 2043000, 2043001, 2043002

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Turbidity	100	100	P/P	95 - 105

Reference Method: SM 2120 B

Run ID: A87898

Included Lab Sample IDs: 2043000, 2043001, 2043002

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

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A87959

Included Lab Sample IDs: 2043003, 2043004, 2043005

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	100	99.5	P/P	90 - 110
Total-P	99.5	100	P/P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A87993

Included Lab Sample IDs: 2043000, 2043001, 2043002

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

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A88004

Included Lab Sample IDs: 2043003, 2043004, 2043005

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

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A88015

Included Lab Sample IDs: 2043003, 2043004

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	98.9	103	P/P	90 - 110
Ammonia-N	99.9	102	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A88017

Included Lab Sample IDs: 2043003, 2043004, 2043005

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

Reference Method: SM 5310 B-00

Run ID: A88042

Included Lab Sample IDs: 2043003, 2043004, 2043005

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	96.5	96.6	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A88053

Included Lab Sample IDs: 2043005

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	99.4	99.3	P/P	90 - 110

Reference Method: SM 2320 B-97

Run ID: A88097

Included Lab Sample IDs: 2043000, 2043001, 2043002

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	97.9	100	P/P	90 - 110

Reference Method: SM 4500 F-C-97

Run ID: A88097

Included Lab Sample IDs: 2043000, 2043001, 2043002

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	99.1	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					4.99	
EPA 300.0 Rev. 2.1	Chloride	98.3	96.2	97.3		0.0541	
	Sulfate	99.4	97.1	101		0.526	
EPA 350.1 Rev. 2.0	Ammonia-N	96.3	94.0	96.9			1.95
	Ammonia-N	98.0	102	101			1.23
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	108	98.3	94.7			2.83
EPA 353.2 Rev. 2.0	NO2NO3-N	100	100	101			0.893
EPA 365.1 Rev. 2.0	Total-P	104	99.7	103			3.03
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	98.0	94.7	96.2			1.57
SM 2120 B	Color (true)	97.9				1.45	
SM 2320 B-97	Total Alkalinity	99.9				1.03	
SM 2540 C-97	TDS					2.64	
SM 4500 F-C-97	Fluoride	97.9	98.6	98.0			0.530
SM 5310 B-00	Organic Carbon	94.8	98.6	95.6			2.03

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 180.1 Rev. 2.0 / E31780	Turbidity in aqueous matrices	2043000, 2043001, 2043002
EPA 300.0 Rev. 2.1 / E31780	Chloride in aqueous matrices	2043000, 2043001, 2043002
EPA 300.0 Rev. 2.1 / E31780	Sulfate in aqueous matrices	2043000, 2043001, 2043002
EPA 350.1 Rev. 2.0 / E31780	Ammonia in aqueous matrices as mg N/L	2043003, 2043004, 2043005
EPA 351.2 Rev. 2.0 / E31780	Total Kjeldahl Nitrogen in aqueous matrices	2043003, 2043004, 2043005
EPA 353.2 Rev. 2.0 / E31780	Nitrite/Nitrate in aqueous matrices as mg N/L	2043003, 2043004, 2043005
EPA 365.1 Rev. 2.0 / E31780	Total Phosphorus in aqueous matrices as mg P/L	2043003, 2043004, 2043005
EPA 365.1 Rev. 2.0 dissolved / E31780	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	2043006, 2043007, 2043008
SM 2120 B / E31780	True Color measured at 450 nm	2043000, 2043001, 2043002
SM 2320 B-97 / E31780	Alkalinity in aqueous matrices as mg CaCO3/L	2043000, 2043001, 2043002
SM 2540 C-97 / E31780	Total Dissolved Solids in aqueous matrices	2043000, 2043001, 2043002
SM 2540 D-97 / E31780	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2043000, 2043001, 2043002
SM 4500 F-C-97 / E31780	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2043000, 2043001, 2043002
SM 5310 B-00 / E31780	Nonpurgeable Organic Carbon in aqueous matrices	2043003, 2043004, 2043005

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	11/20/2018			11/20/2018 16:59	Megan Treadwell	2043000, 2043001, 2043002
EPA 300.0 Rev. 2.1	11/20/2018			11/29/2018 22:20	Lipi Saha	2043000
	11/20/2018			11/30/2018 02:33	Lipi Saha	2043001
	11/20/2018			11/30/2018 02:45	Lipi Saha	2043002
EPA 350.1 Rev. 2.0	11/20/2018			11/28/2018 13:06	Ping Hua	2043004
	11/20/2018			11/28/2018 14:37	Ping Hua	2043003
	11/20/2018			11/29/2018 14:09	Ping Hua	2043005
EPA 351.2 Rev. 2.0	11/20/2018	11/27/2018 12:30	Adrian Shelby	11/28/2018 11:02	Joseph Suarez	2043003
	11/20/2018	11/27/2018 12:30	Adrian Shelby	11/28/2018 11:03	Joseph Suarez	2043004
	11/20/2018	11/27/2018 12:30	Adrian Shelby	11/28/2018 11:11	Joseph Suarez	2043005
EPA 353.2 Rev. 2.0	11/20/2018			11/28/2018 13:46	Lauren Bottorf	2043005
	11/20/2018			11/28/2018 13:47	Lauren Bottorf	2043003
	11/20/2018			11/28/2018 13:49	Lauren Bottorf	2043004
EPA 365.1 Rev. 2.0	11/20/2018	11/21/2018 13:00	Sima Feizi	11/26/2018 15:46	Beverly Y. Sanders	2043005
	11/20/2018	11/21/2018 13:00	Sima Feizi	11/26/2018 15:53	Beverly Y. Sanders	2043003
	11/20/2018	11/21/2018 13:00	Sima Feizi	11/26/2018 15:54	Beverly Y. Sanders	2043004
EPA 365.1 Rev. 2.0 dissolved	11/20/2018			11/20/2018 14:50	Jhamieka S. Greenwood	2043006
	11/20/2018			11/20/2018 15:32	Jhamieka S. Greenwood	2043007
	11/20/2018			11/20/2018 15:33	Jhamieka S. Greenwood	2043008
SM 2120 B	11/20/2018			11/20/2018 15:54	Chelsea Hernandez	2043000
	11/20/2018			11/20/2018 15:56	Chelsea Hernandez	2043001, 2043002
SM 2320 B-97	11/20/2018			11/30/2018 03:33	Dale L. Simmons	2043000
	11/20/2018			11/30/2018 03:44	Dale L. Simmons	2043001
	11/20/2018			11/30/2018 03:57	Dale L. Simmons	2043002
SM 2540 C-97	11/20/2018			11/21/2018 16:40	Blanca Fach	2043000, 2043001, 2043002
SM 2540 D-97	11/20/2018			11/21/2018 16:40	Blanca Fach	2043000, 2043001, 2043002
SM 4500 F-C-97	11/20/2018			11/30/2018 03:33	Dale L. Simmons	2043000
	11/20/2018			11/30/2018 03:44	Dale L. Simmons	2043001
	11/20/2018			11/30/2018 03:57	Dale L. Simmons	2043002
SM 5310 B-00	11/20/2018			11/28/2018 15:17	Megan Treadwell	2043003
	11/20/2018			11/28/2018 16:11	Megan Treadwell	2043004
	11/20/2018			11/28/2018 16:40	Megan Treadwell	2043005