

Chemical Analysis Report

SW-DIST-2019-02-05-02

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

Event Description: **SMP - Bear, Green, Thomas**
Request ID: **RQ-2019-02-04-48**
Customer: **SW-DIST**
Project ID: **SMP**

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

Date Certified: 26-FEB-2019 12:36

A handwritten signature in black ink, appearing to read "Colin Wright", is shown on a light-colored 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 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: BEAR CREEK @ BEACON

Collection Date/Time: 02/04/2019 10:40

Field ID: G5SW0102

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2059514	EPA 180.1 Rev. 2.0	Turbidity	1.4		NTU	P358361	
	EPA 300.0 Rev. 2.1	Chloride	100		mg Cl/L	P359037	
		Sulfate	29		mg SO4/L	P359039	
	SM 2120 B	Color (true)	17		PCU	P358350	
	SM 2320 B-97	Total Alkalinity	164		mg CaCO3/L	P358920	
	SM 2540 C-97	TDS	386		mg/L	P358788	
	SM 2540 D-97	TSS	2	I	mg/L	P358781	
	SM 4500 F-C-97	Fluoride	0.12		mg F/L	P358924	
2059517	EPA 350.1 Rev. 2.0	Ammonia-N	0.22		mg N/L	P358643	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.87		mg N/L	P358477	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.49		mg N/L	P358848	
	EPA 365.1 Rev. 2.0	Total-P	0.085		mg P/L	P358430	
	SM 5310 B-00	Organic Carbon	3.9		mg C/L	P359053	
2059520	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.041		mg P/L	P358347	

Ref. Method and Comment:

EPA 300.0 Rev. 2.1: Sulfate: 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: GREEN LAKE NORTH

Collection Date/Time: 02/04/2019 11:40

Field ID: G5SW0107

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2059515	EPA 180.1 Rev. 2.0	Turbidity	0.65		NTU	P358361	
	EPA 300.0 Rev. 2.1	Chloride	17		mg Cl/L	P359037	
		Sulfate	0.26	I	mg SO4/L	P359039	
	SM 2120 B	Color (true)	39		PCU	P358350	
	SM 2320 B-97	Total Alkalinity	16		mg CaCO3/L	P358920	
	SM 2540 C-97	TDS	57		mg/L	P358788	
	SM 2540 D-97	TSS	2	I	mg/L	P358781	
	SM 4500 F-C-97	Fluoride	0.055	I	mg F/L	P358924	
2059518	EPA 350.1 Rev. 2.0	Ammonia-N	0.084		mg N/L	P358643	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.80		mg N/L	P358477	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.031		mg N/L	P358848	
	EPA 365.1 Rev. 2.0	Total-P	0.012		mg P/L	P358430	
	SM 5310 B-00	Organic Carbon	10		mg C/L	P359053	
2059521	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P358347	

Ref. Method and Comment:

EPA 300.0 Rev. 2.1: Sulfate: 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 THOMAS @ CENTER

Collection Date/Time: 02/04/2019 12:30

Field ID: G5SW0111

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2059516	EPA 180.1 Rev. 2.0	Turbidity	1.1		NTU	P358361	
	EPA 300.0 Rev. 2.1	Chloride	20		mg Cl/L	P359037	
		Sulfate	7.8		mg SO4/L	P359039	
	SM 2120 B	Color (true)	32		PCU	P358350	
	SM 2320 B-97	Total Alkalinity	4.2		mg CaCO3/L	P358920	
	SM 2540 C-97	TDS	64		mg/L	P358788	
	SM 2540 D-97	TSS	2	U	mg/L	P358781	
	SM 4500 F-C-97	Fluoride	0.068	I	mg F/L	P358924	
2059519	EPA 350.1 Rev. 2.0	Ammonia-N	0.003	I	mg N/L	P358643	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.59		mg N/L	P358533	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.025		mg N/L	P358754	
	EPA 365.1 Rev. 2.0	Total-P	0.023		mg P/L	P358430	
	SM 5310 B-00	Organic Carbon	7.4		mg C/L	P359053	
2059522	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P358347	

Ref. Method and Comment:

EPA 300.0 Rev. 2.1: Sulfate: 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: P358361

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P359037

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P359039

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P358643

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P358477

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P358533

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P358754

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P358848

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: P358430

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

Quality Assurance Report Method Blank Results

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P358347

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

Reference Method: SM 2120 B
Batch ID: P358350

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2320 B-97
Batch ID: P358920

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

Reference Method: SM 2540 C-97
Batch ID: P358788

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-97
Batch ID: P358781

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500 F-C-97
Batch ID: P358924

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-00
Batch ID: P359053

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: P359037

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P359039

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Sulfate	95.5		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P358643

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Ammonia-N	97.1		P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P358477

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P358533

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P358754

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
NO ₂ NO ₃ -N	99.5		P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P358848

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
NO ₂ NO ₃ -N	98.0		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P358430

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: P358347

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

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: SM 2120 B
Batch ID: P358350

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

Reference Method: SM 2320 B-97
Batch ID: P358920

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	101		P	98 - 107

Reference Method: SM 4500 F-C-97
Batch ID: P358924

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	96.2		P	91 - 105

Reference Method: SM 5310 B-00
Batch ID: P359053

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

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P359037

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2059499	Chloride	94.1		P	90 - 110
2059618	Chloride	94.2		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P359039

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2059499	Sulfate	93.3		P	90 - 110
2059618	Sulfate	96.3		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P358643

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2059798	Ammonia-N	99.1	99.1	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P358477

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2059517	Kjeldahl Nitrogen	97.7	96.2	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P358533

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2059519	Kjeldahl Nitrogen	107	104	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P358754

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2059519	NO2NO3-N	100	100	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P358848

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2059454	NO2NO3-N	98.2	98.2	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P358430

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2059503	Total-P	109	105	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P358347

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2059622	O-Phosphate-P	99.4	101	P/P	90 - 110

Quality Assurance Report Matrix Spike Accuracy

Reference Method: SM 4500 F-C-97
Batch ID: P358924

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2059986	Fluoride	97.1	97.1	P/P	91 - 105

Reference Method: SM 5310 B-00
Batch ID: P359053

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2059301	Organic Carbon	98.9	97.8	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P358361

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2059579	Turbidity	6.29	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P359037

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2059499	Chloride	0.504	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P358643

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2059798	Ammonia-N	0.0217	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P358477

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2059517	Kjeldahl Nitrogen	0.928	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P358533

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2059519	Kjeldahl Nitrogen	1.95	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P358754

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2059519	NO2NO3-N	0.0	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P358848

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2059454	NO2NO3-N	0.0	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P358430

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2059503	Total-P	3.27	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 365.1 Rev. 2.0 dissolved
 Batch ID: P358347

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2059622	O-Phosphate-P	1.60	Spike	P	0 - 20

Reference Method: SM 2120 B
 Batch ID: P358350

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2059499	Color (true)	0.934	Sample	P	0 - 20

Reference Method: SM 2320 B-97
 Batch ID: P358920

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2059986	Total Alkalinity	0.612	Sample	P	0 - 1.6

Reference Method: SM 2540 C-97
 Batch ID: P358788

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2059592	TDS	2.23	Sample	P	0 - 10

Reference Method: SM 4500 F-C-97
 Batch ID: P358924

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2059986	Fluoride	0.0	Spike	P	0 - 3.5

Reference Method: SM 5310 B-00
 Batch ID: P359053

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2059301	Organic Carbon	0.695	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: A89199
Included Lab Sample IDs: 2059520, 2059521, 2059522

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	99.3	98.8	P/P	90 - 110

Reference Method: SM 2120 B
Run ID: A89200
Included Lab Sample IDs: 2059514, 2059515, 2059516

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	102	101	P/P	90 - 115

Reference Method: EPA 180.1 Rev. 2.0
Run ID: A89202
Included Lab Sample IDs: 2059514, 2059515, 2059516

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

Reference Method: EPA 365.1 Rev. 2.0
Run ID: A89237
Included Lab Sample IDs: 2059517

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

Reference Method: EPA 365.1 Rev. 2.0
Run ID: A89260
Included Lab Sample IDs: 2059518, 2059519

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

Reference Method: EPA 351.2 Rev. 2.0
Run ID: A89270
Included Lab Sample IDs: 2059517, 2059518

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	97.9	99.6	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Run ID: A89283
Included Lab Sample IDs: 2059519

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	96.0	99.3	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Run ID: A89313
Included Lab Sample IDs: 2059517, 2059518, 2059519

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

Quality Assurance Report Calibration Verification

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A89360

Included Lab Sample IDs: 2059519

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

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A89395

Included Lab Sample IDs: 2059517, 2059518

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	99.5	99.0	P/P	90 - 110

Reference Method: SM 2320 B-97

Run ID: A89417

Included Lab Sample IDs: 2059514, 2059515, 2059516

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

Reference Method: SM 4500 F-C-97

Run ID: A89417

Included Lab Sample IDs: 2059514, 2059515, 2059516

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

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A89435

Included Lab Sample IDs: 2059514, 2059515, 2059516

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	98.9	98.2	P/P	90 - 110
Sulfate	98.6	97.7	P/P	90 - 110

Reference Method: SM 5310 B-00

Run ID: A89466

Included Lab Sample IDs: 2059517, 2059518, 2059519

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	96.4	97.6	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					6.29	
EPA 300.0 Rev. 2.1	Chloride	96.8	94.1	94.2		0.504	
	Sulfate	95.5	93.3	96.3			
EPA 350.1 Rev. 2.0	Ammonia-N	97.1	99.1	99.1			0.0217
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	106	97.7	96.2			0.928
	Kjeldahl Nitrogen	99.5	107	104			1.95
EPA 353.2 Rev. 2.0	NO2NO3-N	99.5	100	100			0.0
	NO2NO3-N	98.0	98.2	98.2			0.0
EPA 365.1 Rev. 2.0	Total-P	107	109	105			3.27
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	97.8	99.4	101			1.60
SM 2120 B	Color (true)	101				0.934	
SM 2320 B-97	Total Alkalinity	101				0.612	
SM 2540 C-97	TDS					2.23	
SM 4500 F-C-97	Fluoride	96.2	97.1	97.1			0.0
SM 5310 B-00	Organic Carbon	100	98.9	97.8			0.695

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 180.1 Rev. 2.0 / E31780	Turbidity in aqueous matrices	2059514, 2059515, 2059516
EPA 300.0 Rev. 2.1 / E31780	Chloride in aqueous matrices	2059514, 2059515, 2059516
EPA 300.0 Rev. 2.1 / E31780	Sulfate in aqueous matrices	2059514, 2059515, 2059516
EPA 350.1 Rev. 2.0 / E31780	Ammonia in aqueous matrices as mg N/L	2059517, 2059518, 2059519
EPA 351.2 Rev. 2.0 / E31780	Total Kjeldahl Nitrogen in aqueous matrices	2059517, 2059518, 2059519
EPA 353.2 Rev. 2.0 / E31780	Nitrite/Nitrate in aqueous matrices as mg N/L	2059517, 2059518, 2059519
EPA 365.1 Rev. 2.0 / E31780	Total Phosphorus in aqueous matrices as mg P/L	2059517, 2059518, 2059519
EPA 365.1 Rev. 2.0 dissolved / E31780	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	2059520, 2059521, 2059522
SM 2120 B / E31780	True Color measured at 450 nm	2059514, 2059515, 2059516
SM 2320 B-97 / E31780	Alkalinity in aqueous matrices as mg CaCO3/L	2059514, 2059515, 2059516
SM 2540 C-97 / E31780	Total Dissolved Solids in aqueous matrices	2059514, 2059515, 2059516
SM 2540 D-97 / E31780	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2059514, 2059515, 2059516
SM 4500 F-C-97 / E31780	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2059514, 2059515, 2059516
SM 5310 B-00 / E31780	Nonpurgeable Organic Carbon in aqueous matrices	2059517, 2059518, 2059519

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	02/05/2019			02/05/2019 17:23	Adrian Shelby	2059514, 2059515, 2059516
EPA 300.0 Rev. 2.1	02/05/2019			02/16/2019 08:25	Lipi Saha	2059514
	02/05/2019			02/16/2019 08:42	Lipi Saha	2059515
	02/05/2019			02/16/2019 09:00	Lipi Saha	2059516
EPA 350.1 Rev. 2.0	02/05/2019			02/08/2019 12:05	Ping Hua	2059518
	02/05/2019			02/08/2019 12:06	Ping Hua	2059519
	02/05/2019			02/08/2019 13:32	Ping Hua	2059517
EPA 351.2 Rev. 2.0	02/05/2019	02/06/2019 16:30	Adrian Shelby	02/07/2019 14:38	Joseph Suarez	2059517
	02/05/2019	02/06/2019 16:30	Adrian Shelby	02/07/2019 14:42	Joseph Suarez	2059518
	02/05/2019	02/07/2019 10:50	Adrian Shelby	02/08/2019 09:51	Joseph Suarez	2059519
EPA 353.2 Rev. 2.0	02/05/2019			02/12/2019 12:28	Beverly Y. Sanders	2059519
	02/05/2019			02/13/2019 09:31	Beverly Y. Sanders	2059517
	02/05/2019			02/13/2019 09:32	Beverly Y. Sanders	2059518
EPA 365.1 Rev. 2.0	02/05/2019	02/06/2019 14:00	Sima Feizi	02/06/2019 18:51	Rosalyn Ballman	2059517
	02/05/2019	02/06/2019 14:00	Sima Feizi	02/07/2019 12:55	Rosalyn Ballman	2059518
	02/05/2019	02/06/2019 14:00	Sima Feizi	02/07/2019 12:56	Rosalyn Ballman	2059519
EPA 365.1 Rev. 2.0 dissolved	02/05/2019			02/05/2019 15:20	Jhamieka S. Greenwood	2059520
	02/05/2019			02/05/2019 15:21	Jhamieka S. Greenwood	2059521
	02/05/2019			02/05/2019 15:22	Jhamieka S. Greenwood	2059522
SM 2120 B	02/05/2019			02/05/2019 15:37	Chelsea Hernandez	2059514
	02/05/2019			02/05/2019 15:38	Chelsea Hernandez	2059515
	02/05/2019			02/05/2019 15:39	Chelsea Hernandez	2059516
SM 2320 B-97	02/05/2019			02/13/2019 02:53	Dale L. Simmons	2059514
	02/05/2019			02/13/2019 03:05	Dale L. Simmons	2059515
	02/05/2019			02/13/2019 03:17	Dale L. Simmons	2059516
SM 2540 C-97	02/05/2019			02/06/2019 15:36	Yijie Li	2059514, 2059515, 2059516
SM 2540 D-97	02/05/2019			02/06/2019 15:36	Yijie Li	2059514, 2059515, 2059516
SM 4500 F-C-97	02/05/2019			02/13/2019 02:53	Dale L. Simmons	2059514
	02/05/2019			02/13/2019 03:05	Dale L. Simmons	2059515
	02/05/2019			02/13/2019 03:17	Dale L. Simmons	2059516
SM 5310 B-00	02/05/2019			02/15/2019 21:08	Chelsea Hernandez	2059517
	02/05/2019			02/15/2019 21:20	Chelsea Hernandez	2059518
	02/05/2019			02/15/2019 21:32	Chelsea Hernandez	2059519