Chemical Analysis Report

SO-DIST-2019-02-19-01

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

Event Description: **MyBB**
Request ID: **RQ-2019-02-18-22**
Customer: **SO-DIST**
Project ID: **SMP**

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FLDEP South District Office
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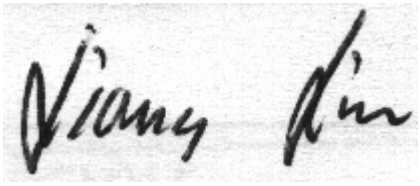
Date Certified: 12-MAR-2019 15:49



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: Brandy Branch @ SR 70 **Collection Date/Time: 02/18/2019 09:35**

Field ID: G3SD0083 Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2063380	EPA 180.1 Rev. 2.0	Turbidity	1.8		NTU	P359189	
	EPA 300.0 Rev. 2.1	Chloride	18		mg Cl/L	P359738	
		Sulfate	180		mg SO4/L	P359887	
	SM 2120 B	Color (true)	140		PCU	P359183	
	SM 2320 B-97	Total Alkalinity	14		mg CaCO3/L	P359425	
	SM 2540 C-97	TDS	355		mg/L	P359535	
	SM 2540 D-97	TSS	5	I	mg/L	P359441	
	SM 4500 F-C-97	Fluoride	0.22		mg F/L	P359429	
2063382	EPA 350.1 Rev. 2.0	Ammonia-N	0.024		mg N/L	P359347	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.84		mg N/L	P359302	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.15		mg N/L	P359485	
	EPA 365.1 Rev. 2.0	Total-P	0.14		mg P/L	P359306	
	SM 5310 B-00	Organic Carbon	18		mg C/L	P359498	
2063384	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.098		mg P/L	P359178	

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: Brandy Branch @ SR 70 **Collection Date/Time: 02/18/2019 09:40**

Field ID: G3SD0083_DUP Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2063381	EPA 180.1 Rev. 2.0	Turbidity	2.1		NTU	P359189	
	EPA 300.0 Rev. 2.1	Chloride	19		mg Cl/L	P359738	
		Sulfate	180		mg SO4/L	P359887	
	SM 2120 B	Color (true)	140		PCU	P359183	
	SM 2320 B-97	Total Alkalinity	14		mg CaCO3/L	P359425	
	SM 2540 C-97	TDS	330		mg/L	P359535	
	SM 2540 D-97	TSS	5	I	mg/L	P359441	
	SM 4500 F-C-97	Fluoride	0.22		mg F/L	P359429	
2063383	EPA 350.1 Rev. 2.0	Ammonia-N	0.025		mg N/L	P359378	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.84		mg N/L	P359302	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.15		mg N/L	P359485	
	EPA 365.1 Rev. 2.0	Total-P	0.14		mg P/L	P359306	
	SM 5310 B-00	Organic Carbon	18		mg C/L	P359498	
2063385	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.098		mg P/L	P359178	

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: LakeMyakka(Upper)Middle **Collection Date/Time: 02/18/2019 11:30**

Field ID: G3SD0133 Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2063386	EPA 180.1 Rev. 2.0	Turbidity	4.2		NTU	P359189	
	EPA 300.0 Rev. 2.1	Chloride	19		mg Cl/L	P359738	
		Sulfate	120		mg SO4/L	P359887	
	SM 2120 B	Color (true)	120		PCU	P359183	
	SM 2320 B-97	Total Alkalinity	28		mg CaCO3/L	P359425	
	SM 2540 C-97	TDS	251		mg/L	P359535	
	SM 2540 D-97	TSS	8	I	mg/L	P359441	
	SM 4500 F-C-97	Fluoride	0.17		mg F/L	P359429	
2063387	EPA 350.1 Rev. 2.0	Ammonia-N	0.026		mg N/L	P359378	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.2		mg N/L	P359370	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.13		mg N/L	P359485	
	EPA 365.1 Rev. 2.0	Total-P	0.30		mg P/L	P359306	
	SM 5310 B-00	Organic Carbon	17		mg C/L	P359498	
2063388	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.20		mg P/L	P359178	

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: P359189

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P359738

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P359887

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P359347

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P359378

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P359302

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P359370

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P359485

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P359306

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: P359178

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

Reference Method: SM 2120 B
Batch ID: P359183

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2320 B-97
Batch ID: P359425

Component	Result	Code	Units
Total Alkalinity	0.65	U	mg CaCO3/L

Reference Method: SM 2540 C-97
Batch ID: P359535

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-97
Batch ID: P359441

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500 F-C-97
Batch ID: P359429

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-00
Batch ID: P359498

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: P359738

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P359887

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P359347

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P359378

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Ammonia-N	94.4		P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P359302

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P359370

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: P359485

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
NO2NO3-N	98.5		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P359306

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P359178

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
O-Phosphate-P	97.5		P	90 - 110

Quality Assurance Report
Laboratory Control Sample Accuracy

Reference Method: SM 2120 B
Batch ID: P359183

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

Reference Method: SM 2320 B-97
Batch ID: P359425

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

Reference Method: SM 4500 F-C-97
Batch ID: P359429

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	97.3		P	91 - 105

Reference Method: SM 5310 B-00
Batch ID: P359498

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	98.3		P	85 - 115

Quality Assurance Report
Matrix Spike Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P359738

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2063358	Chloride	98.4		P	90 - 110
2063393	Chloride	101		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P359887

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2064199	Sulfate	101		P	90 - 110
2064252	Sulfate	102		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P359347

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2063359	Ammonia-N	99.4	97.8	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P359378

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2063383	Ammonia-N	102	102	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P359370

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2063394	Kjeldahl Nitrogen	102	97.6	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P359485

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2063325	NO2NO3-N	100	100	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P359306

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2063396	Total-P	108	102	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P359178

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2063479	O-Phosphate-P	95.5	97.1	P/P	90 - 110

Reference Method: SM 4500 F-C-97
Batch ID: P359429

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2063517	Fluoride	98.9	98.9	P/P	91 - 105

Quality Assurance Report
Matrix Spike Accuracy

Reference Method: SM 5310 B-00
Batch ID: P359498

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2063112	Organic Carbon	94.6	96.0	P/P	85 - 115

Quality Assurance Report
Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P359189

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2063351	Turbidity	2.32	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P359738

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2063358	Chloride	0.168	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P359887

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2064199	Sulfate	0.529	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P359347

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2063359	Ammonia-N	1.30	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P359378

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2063383	Ammonia-N	0.195	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P359302

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2063826	Kjeldahl Nitrogen	0.455	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P359370

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2063394	Kjeldahl Nitrogen	3.57	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P359485

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2063325	NO2NO3-N	0.0	Spike	P	0 - 20

Quality Assurance Report
Precision

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P359306

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2063396	Total-P	5.15	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P359178

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2063479	O-Phosphate-P	1.48	Spike	P	0 - 20

Reference Method: SM 2120 B
Batch ID: P359183

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2063369	Color (true)	0.331	Sample	P	0 - 20

Reference Method: SM 2320 B-97
Batch ID: P359425

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2063517	Total Alkalinity	0.279	Sample	P	0 - 1.6

Reference Method: SM 2540 C-97
Batch ID: P359535

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2063358	TDS	4.30	Sample	P	0 - 10

Reference Method: SM 4500 F-C-97
Batch ID: P359429

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2063517	Fluoride	0.0	Spike	P	0 - 3.5

Reference Method: SM 5310 B-00
Batch ID: P359498

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2063112	Organic Carbon	0.939	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: A89509
Included Lab Sample IDs: 2063384, 2063385, 2063388

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

Reference Method: SM 2120 B
Run ID: A89510
Included Lab Sample IDs: 2063380, 2063381, 2063386

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

Reference Method: EPA 180.1 Rev. 2.0
Run ID: A89511
Included Lab Sample IDs: 2063380, 2063381, 2063386

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

Reference Method: EPA 350.1 Rev. 2.0
Run ID: A89577
Included Lab Sample IDs: 2063382

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

Reference Method: EPA 365.1 Rev. 2.0
Run ID: A89588
Included Lab Sample IDs: 2063382, 2063383, 2063387

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

Reference Method: EPA 350.1 Rev. 2.0
Run ID: A89592
Included Lab Sample IDs: 2063383, 2063387

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	104	101	P/P	90 - 110

Reference Method: SM 2320 B-97
Run ID: A89606
Included Lab Sample IDs: 2063380, 2063381, 2063386

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	103	99.4	P/P	90 - 110

Reference Method: SM 4500 F-C-97
Run ID: A89606
Included Lab Sample IDs: 2063380, 2063381, 2063386

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	98.5	99.0	P/P	90 - 110

Quality Assurance Report
Calibration Verification

Reference Method: EPA 353.2 Rev. 2.0
Run ID: A89633
Included Lab Sample IDs: 2063382, 2063383, 2063387

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

Reference Method: EPA 351.2 Rev. 2.0
Run ID: A89639
Included Lab Sample IDs: 2063382, 2063383

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	94.7	98.7	P/P	90 - 110

Reference Method: SM 5310 B-00
Run ID: A89647
Included Lab Sample IDs: 2063382, 2063383, 2063387

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	93.6	94.8	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Run ID: A89664
Included Lab Sample IDs: 2063387

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	101	106	P/P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Run ID: A89674
Included Lab Sample IDs: 2063380, 2063381, 2063386

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

Reference Method: EPA 300.0 Rev. 2.1
Run ID: A89801
Included Lab Sample IDs: 2063380, 2063381, 2063386

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Sulfate	100	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		Precision		
					LCS	SMP	MS
EPA 180.1 Rev. 2.0	Turbidity					2.32	
EPA 300.0 Rev. 2.1	Chloride	101	98.4	101		0.168	
	Sulfate	102	101	102		0.529	
EPA 350.1 Rev. 2.0	Ammonia-N	98.7	99.4	97.8			1.30
	Ammonia-N	94.4	102	102			0.195
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	100					0.455
	Kjeldahl Nitrogen	102	102	97.6			3.57
EPA 353.2 Rev. 2.0	NO2NO3-N	98.5	100	100			0.0
EPA 365.1 Rev. 2.0	Total-P	103	108	102			5.15
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	97.5	95.5	97.1			1.48
SM 2120 B	Color (true)	101				0.331	
SM 2320 B-97	Total Alkalinity	101				0.279	
SM 2540 C-97	TDS					4.30	
SM 4500 F-C-97	Fluoride	97.3	98.9	98.9			0.0
SM 5310 B-00	Organic Carbon	98.3	94.6	96.0			0.939

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 180.1 Rev. 2.0 / E31780	Turbidity in aqueous matrices	2063380, 2063381, 2063386
EPA 300.0 Rev. 2.1 / E31780	Chloride in aqueous matrices	2063380, 2063381, 2063386
EPA 300.0 Rev. 2.1 / E31780	Sulfate in aqueous matrices	2063380, 2063381, 2063386
EPA 350.1 Rev. 2.0 / E31780	Ammonia in aqueous matrices as mg N/L	2063382, 2063383, 2063387
EPA 351.2 Rev. 2.0 / E31780	Total Kjeldahl Nitrogen in aqueous matrices	2063382, 2063383, 2063387
EPA 353.2 Rev. 2.0 / E31780	Nitrite/Nitrate in aqueous matrices as mg N/L	2063382, 2063383, 2063387
EPA 365.1 Rev. 2.0 / E31780	Total Phosphorus in aqueous matrices as mg P/L	2063382, 2063383, 2063387
EPA 365.1 Rev. 2.0 dissolved / E31780	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	2063384, 2063385, 2063388
SM 2120 B / E31780	True Color measured at 450 nm	2063380, 2063381, 2063386
SM 2320 B-97 / E31780	Alkalinity in aqueous matrices as mg CaCO3/L	2063380, 2063381, 2063386
SM 2540 C-97 / E31780	Total Dissolved Solids in aqueous matrices	2063380, 2063381, 2063386
SM 2540 D-97 / E31780	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2063380, 2063381, 2063386
SM 4500 F-C-97 / E31780	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2063380, 2063381, 2063386
SM 5310 B-00 / E31780	Nonpurgeable Organic Carbon in aqueous matrices	2063382, 2063383, 2063387

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	02/19/2019			02/19/2019 17:21	Adrian Shelby	2063380, 2063381, 2063386
EPA 300.0 Rev. 2.1	02/19/2019			02/28/2019 08:32	Lipi Saha	2063380
	02/19/2019			02/28/2019 08:47	Lipi Saha	2063381
	02/19/2019			02/28/2019 09:02	Lipi Saha	2063386
	02/19/2019			03/05/2019 11:08	Lipi Saha	2063380
	02/19/2019			03/05/2019 11:23	Lipi Saha	2063381
	02/19/2019			03/05/2019 11:53	Lipi Saha	2063386
EPA 350.1 Rev. 2.0	02/19/2019			02/21/2019 13:32	Ping Hua	2063382
	02/19/2019			02/22/2019 11:25	Ping Hua	2063383
	02/19/2019			02/22/2019 11:30	Ping Hua	2063387
EPA 351.2 Rev. 2.0	02/19/2019	02/21/2019 16:30	Adrian Shelby	02/22/2019 15:50	Joseph Suarez	2063382
	02/19/2019	02/21/2019 16:30	Adrian Shelby	02/22/2019 15:51	Joseph Suarez	2063383
	02/19/2019	02/22/2019 11:45	Adrian Shelby	02/26/2019 14:40	Joseph Suarez	2063387
EPA 353.2 Rev. 2.0	02/19/2019			02/25/2019 10:40	Beverly Y. Sanders	2063382
	02/19/2019			02/25/2019 10:42	Beverly Y. Sanders	2063383
	02/19/2019			02/25/2019 10:43	Beverly Y. Sanders	2063387
EPA 365.1 Rev. 2.0	02/19/2019	02/21/2019 13:10	Sima Feizi	02/22/2019 10:46	Rosalyn Ballman	2063382
	02/19/2019	02/21/2019 13:10	Sima Feizi	02/22/2019 10:47	Rosalyn Ballman	2063383
	02/19/2019	02/21/2019 13:10	Sima Feizi	02/22/2019 10:48	Rosalyn Ballman	2063387
EPA 365.1 Rev. 2.0 dissolved	02/19/2019			02/19/2019 14:55	Jhamieka S. Greenwood	2063384
	02/19/2019			02/19/2019 14:56	Jhamieka S. Greenwood	2063385
	02/19/2019			02/19/2019 14:59	Jhamieka S. Greenwood	2063388
SM 2120 B	02/19/2019			02/19/2019 16:28	Chelsea Hernandez	2063380, 2063381
	02/19/2019			02/19/2019 16:29	Chelsea Hernandez	2063386
SM 2320 B-97	02/19/2019			02/23/2019 09:08	Lauren Lees	2063380
	02/19/2019			02/23/2019 09:19	Lauren Lees	2063381
	02/19/2019			02/23/2019 09:31	Lauren Lees	2063386
SM 2540 C-97	02/19/2019			02/20/2019 16:21	Yijie Li	2063380, 2063381, 2063386
SM 2540 D-97	02/19/2019			02/20/2019 16:21	Yijie Li	2063380, 2063381, 2063386
SM 4500 F-C-97	02/19/2019			02/23/2019 09:08	Lauren Lees	2063380
	02/19/2019			02/23/2019 09:19	Lauren Lees	2063381
	02/19/2019			02/23/2019 09:31	Lauren Lees	2063386
SM 5310 B-00	02/19/2019			02/25/2019 11:26	Chelsea Hernandez	2063382
	02/19/2019			02/25/2019 11:40	Chelsea Hernandez	2063383
	02/19/2019			02/25/2019 11:54	Chelsea Hernandez	2063387