Chemical Analysis Report

NE-DIST-2019-06-06-02

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

Event Description: **Suwannee South**
Request ID: **RQ-2019-06-03-25**
Customer: **NE-DIST**
Project ID: **SMP**

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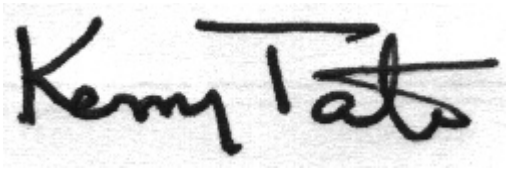
Date Certified: 24-JUN-2019 09:17



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: Little Waccasassa River 0.5 Mile Down from Blue Springs **Collection Date/Time: 06/05/2019 13:35**

Field ID: 23020032 Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2092548	EPA 180.1 Rev. 2.0	Turbidity	3.3		NTU	P365229	
	EPA 300.0 Rev. 2.1	Chloride	5.2		mg Cl/L	P365638	
		Sulfate	1.4		mg SO4/L	P365639	
	SM 2120 B	Color (true)	4.1	I	PCU	P365223	
	SM 2320 B-97	Total Alkalinity	109		mg CaCO3/L	P365796	
	SM 2540 C-97	TDS	126		mg/L	P365534	
	SM 2540 D-97	TSS	10		mg/L	P365372	
	SM 4500 F-C-97	Fluoride	0.069	I	mg F/L	P365670	
2092549	EPA 350.1 Rev. 2.0	Ammonia-N	0.026		mg N/L	P365730	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.35		mg N/L	P365813	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.86		mg N/L	P365580	
	EPA 365.1 Rev. 2.0	Total-P	0.049		mg P/L	P365592	
	SM 5310 B-00	Organic Carbon	1.0		mg C/L	P365505	
2092550	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.029		mg P/L	P365248	

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: Lake Kanapaha 300m N of 56th **Collection Date/Time: 06/05/2019 14:25**

Field ID: 20030925 Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2092551	EPA 180.1 Rev. 2.0	Turbidity	1.4	A	NTU	P365230	
	EPA 300.0 Rev. 2.1	Chloride	13		mg Cl/L	P365638	
		Sulfate	7.0		mg SO4/L	P365639	
	SM 2120 B	Color (true)	24		PCU	P365223	
	SM 2320 B-97	Total Alkalinity	255		mg CaCO3/L	P365796	
	SM 2540 C-97	TDS	304	A	mg/L	P365534	
	SM 2540 D-97	TSS	2	UA	mg/L	P365372	
	SM 4500 F-C-97	Fluoride	0.13		mg F/L	P365670	
2092553	EPA 350.1 Rev. 2.0	Ammonia-N	0.39		mg N/L	P365730	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.61		mg N/L	P365813	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P365581	
	EPA 365.1 Rev. 2.0	Total-P	0.27		mg P/L	P365592	
	SM 5310 B-00	Organic Carbon	4.2		mg C/L	P365505	
2092555	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.24		mg P/L	P365248	

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: Turtle Spring **Collection Date/Time: 06/05/2019 11:35**

Field ID: 22051013 Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2092552	EPA 180.1 Rev. 2.0	Turbidity	0.65		NTU	P365230	
	EPA 300.0 Rev. 2.1	Chloride	6.7		mg Cl/L	P365638	
		Sulfate	7.3		mg SO4/L	P365639	
	SM 2120 B	Color (true)	2.5	U	PCU	P365223	
	SM 2320 B-97	Total Alkalinity	200		mg CaCO3/L	P365796	
	SM 2540 C-97	TDS	228		mg/L	P365535	
	SM 2540 D-97	TSS	2	U	mg/L	P365373	
	SM 4500 F-C-97	Fluoride	0.053	I	mg F/L	P365670	
2092554	EPA 350.1 Rev. 2.0	Ammonia-N	0.003	I	mg N/L	P365730	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.18	I	mg N/L	P365813	
	EPA 353.2 Rev. 2.0	NO2NO3-N	1.2		mg N/L	P365581	
	EPA 365.1 Rev. 2.0	Total-P	0.021		mg P/L	P365592	
	SM 5310 B-00	Organic Carbon	0.92	I	mg C/L	P365505	
2092556	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.019		mg P/L	P365248	

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: P365229

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P365230

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P365638

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P365639

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P365730

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P365813

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P365580

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P365581

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P365592

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: P365248

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

Reference Method: SM 2120 B
Batch ID: P365223

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2320 B-97
Batch ID: P365796

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

Reference Method: SM 2540 C-97
Batch ID: P365534

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 C-97
Batch ID: P365535

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-97
Batch ID: P365372

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 2540 D-97
Batch ID: P365373

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500 F-C-97
Batch ID: P365670

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-00
Batch ID: P365505

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: P365638

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P365639

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P365730

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P365813

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P365580

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
NO2NO3-N	97.5		P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P365581

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
NO2NO3-N	97.5		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P365592

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P365248

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

Reference Method: SM 2120 B
Batch ID: P365223

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Color (true)	100		P	85 - 115

Quality Assurance Report
Laboratory Control Sample Accuracy

Reference Method: SM 2320 B-97
Batch ID: P365796

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	104		P	98 - 106

Reference Method: SM 4500 F-C-97
Batch ID: P365670

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	97.5		P	92 - 103

Reference Method: SM 5310 B-00
Batch ID: P365505

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

Quality Assurance Report
Matrix Spike Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P365638

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2092480	Chloride	98.6		P	90 - 110
2092785	Chloride	99.7		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P365639

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2092480	Sulfate	101		P	90 - 110
2092785	Sulfate	101		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P365730

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2092549	Ammonia-N	105	104	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P365813

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2092549	Kjeldahl Nitrogen	91.5	90.9	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P365580

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2092475	NO2NO3-N	96.8	95.2	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P365581

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2092553	NO2NO3-N	96.5	97.5	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P365592

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2092793	Total-P	99.2	97.2	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P365248

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2092550	O-Phosphate-P	97.5	98.0	P/P	90 - 110

Reference Method: SM 4500 F-C-97
Batch ID: P365670

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2092789	Fluoride	98.9	98.3	P/P	89 - 106

Quality Assurance Report
Matrix Spike Accuracy

Reference Method: SM 5310 B-00
Batch ID: P365505

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2092553	Organic Carbon	95.6	96.6	P/P	85 - 115

Quality Assurance Report
Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P365229

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2092252	Turbidity	2.48	Sample	P	0 - 20

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P365230

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2092551	Turbidity	13.4	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P365638

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2092480	Chloride	0.155	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P365639

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2092480	Sulfate	0.886	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P365730

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2092549	Ammonia-N	0.684	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P365813

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2092549	Kjeldahl Nitrogen	0.486	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P365580

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2092475	NO2NO3-N	1.20	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P365581

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2092553	NO2NO3-N	1.03	Spike	P	0 - 20

Quality Assurance Report
Precision

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P365592

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2092793	Total-P	1.88	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P365248

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2092550	O-Phosphate-P	0.394	Spike	P	0 - 20

Reference Method: SM 2120 B
Batch ID: P365223

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2092569	Color (true)	1.35	Sample	P	0 - 20

Reference Method: SM 2320 B-97
Batch ID: P365796

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2092789	Total Alkalinity	0.831	Sample	P	0 - 2.8

Reference Method: SM 2540 C-97
Batch ID: P365534

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2092551	TDS	0.988	Sample	P	0 - 10

Reference Method: SM 2540 C-97
Batch ID: P365535

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2092569	TDS	0.844	Sample	P	0 - 10

Reference Method: SM 4500 F-C-97
Batch ID: P365670

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2092789	Fluoride	0.473	Spike	P	0 - 2.5

Reference Method: SM 5310 B-00
Batch ID: P365505

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2092553	Organic Carbon	0.812	Spike	P	0 - 20

Quality Assurance Report
Precision

* Sample, spike and/or laboratory control sample precision (LCS) is reported.
Replicate spike precision may be reported when sample results are below quantifiable levels.

Quality Assurance Report
Calibration Verification

Reference Method: SM 2120 B
Run ID: A91919
Included Lab Sample IDs: 2092548, 2092551, 2092552

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	99.7	100	P/P	90 - 115

Reference Method: EPA 180.1 Rev. 2.0
Run ID: A91921
Included Lab Sample IDs: 2092548, 2092551, 2092552

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Turbidity	99.0	99.0	P/P	95 - 105
Turbidity	99.0	99.5	P/P	95 - 105

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Run ID: A91928
Included Lab Sample IDs: 2092550, 2092555, 2092556

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	98.5	98.8	P/P	90 - 110
O-Phosphate-P	99.2	98.1	P/P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Run ID: A92026
Included Lab Sample IDs: 2092548, 2092551, 2092552

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

Reference Method: SM 5310 B-00
Run ID: A92051
Included Lab Sample IDs: 2092549, 2092553, 2092554

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	95.3	95.6	P/P	90 - 110
Organic Carbon	95.6	95.3	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Run ID: A92073
Included Lab Sample IDs: 2092549, 2092553, 2092554

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	97.0	96.5	P/P	90 - 110
NO2NO3-N	97.5	97.5	P/P	90 - 110

Reference Method: SM 4500 F-C-97
Run ID: A92113
Included Lab Sample IDs: 2092548, 2092551, 2092552

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

Quality Assurance Report
Calibration Verification

Reference Method: EPA 365.1 Rev. 2.0
Run ID: A92119
Included Lab Sample IDs: 2092553

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

Reference Method: EPA 350.1 Rev. 2.0
Run ID: A92132
Included Lab Sample IDs: 2092549, 2092553, 2092554

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	104	106	P/P	90 - 110
Ammonia-N	106	106	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Run ID: A92147
Included Lab Sample IDs: 2092549, 2092554

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

Reference Method: SM 2320 B-97
Run ID: A92164
Included Lab Sample IDs: 2092548, 2092551, 2092552

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

Reference Method: EPA 351.2 Rev. 2.0
Run ID: A92208
Included Lab Sample IDs: 2092549, 2092553, 2092554

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	98.8	96.0	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					2.48	
	Turbidity					13.4	
EPA 300.0 Rev. 2.1	Chloride	99.1	98.6	99.7		0.155	
	Sulfate	100	101	101		0.886	
EPA 350.1 Rev. 2.0	Ammonia-N	104	105	104			0.684
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	96.2	91.5	90.9			0.486
EPA 353.2 Rev. 2.0	NO2NO3-N	97.5	96.8	95.2			1.20
	NO2NO3-N	97.5	96.5	97.5			1.03
EPA 365.1 Rev. 2.0	Total-P	100	99.2	97.2			1.88
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	98.8	97.5	98.0			0.394
SM 2120 B	Color (true)	100				1.35	
SM 2320 B-97	Total Alkalinity	104				0.831	
SM 2540 C-97	TDS					0.988	
	TDS					0.844	
SM 4500 F-C-97	Fluoride	97.5	98.9	98.3			0.473
SM 5310 B-00	Organic Carbon	95.6	95.6	96.6			0.812

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 180.1 Rev. 2.0 / E31780	Turbidity in aqueous matrices	2092548, 2092551, 2092552
EPA 300.0 Rev. 2.1 / E31780	Chloride in aqueous matrices	2092548, 2092551, 2092552
EPA 300.0 Rev. 2.1 / E31780	Sulfate in aqueous matrices	2092548, 2092551, 2092552
EPA 350.1 Rev. 2.0 / E31780	Ammonia in aqueous matrices as mg N/L	2092549, 2092553, 2092554
EPA 351.2 Rev. 2.0 / E31780	Total Kjeldahl Nitrogen in aqueous matrices	2092549, 2092553, 2092554
EPA 353.2 Rev. 2.0 / E31780	Nitrite/Nitrate in aqueous matrices as mg N/L	2092549, 2092553, 2092554
EPA 365.1 Rev. 2.0 / E31780	Total Phosphorus in aqueous matrices as mg P/L	2092549, 2092553, 2092554
EPA 365.1 Rev. 2.0 dissolved / E31780	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	2092550, 2092555, 2092556
SM 2120 B / E31780	True Color measured at 450 nm	2092548, 2092551, 2092552
SM 2320 B-97 / E31780	Alkalinity in aqueous matrices as mg CaCO3/L	2092548, 2092551, 2092552
SM 2540 C-97 / E31780	Total Dissolved Solids in aqueous matrices	2092548, 2092551, 2092552
SM 2540 D-97 / E31780	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2092548, 2092551, 2092552
SM 4500 F-C-97 / E31780	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2092548, 2092551, 2092552
SM 5310 B-00 / E31780	Nonpurgeable Organic Carbon in aqueous matrices	2092549, 2092553, 2092554

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	06/06/2019			06/06/2019 18:53	Julia Storbeck	2092548, 2092551, 2092552
EPA 300.0 Rev. 2.1	06/06/2019			06/13/2019 15:29	Lipi Saha	2092548
	06/06/2019			06/13/2019 15:41	Lipi Saha	2092551
	06/06/2019			06/13/2019 15:54	Lipi Saha	2092552
EPA 350.1 Rev. 2.0	06/06/2019			06/13/2019 13:35	Ping Hua	2092549
	06/06/2019			06/13/2019 13:54	Ping Hua	2092553
	06/06/2019			06/13/2019 13:56	Ping Hua	2092554
EPA 351.2 Rev. 2.0	06/06/2019	06/18/2019 13:00	Adrian Shelby	06/19/2019 11:22	Joseph Suarez	2092549
	06/06/2019	06/18/2019 13:00	Adrian Shelby	06/19/2019 11:27	Joseph Suarez	2092553
	06/06/2019	06/18/2019 13:00	Adrian Shelby	06/19/2019 11:29	Joseph Suarez	2092554
EPA 353.2 Rev. 2.0	06/06/2019			06/13/2019 11:19	Beverly Y. Sanders	2092553
	06/06/2019			06/13/2019 11:25	Beverly Y. Sanders	2092549
	06/06/2019			06/13/2019 11:47	Beverly Y. Sanders	2092554
EPA 365.1 Rev. 2.0	06/06/2019	06/13/2019 13:10	Sima Feizi	06/14/2019 18:02	Julia Storbeck	2092553
	06/06/2019	06/13/2019 13:10	Sima Feizi	06/17/2019 14:05	Julia Storbeck	2092549
	06/06/2019	06/13/2019 13:10	Sima Feizi	06/17/2019 14:06	Julia Storbeck	2092554
EPA 365.1 Rev. 2.0 dissolved	06/06/2019			06/06/2019 14:55	Jhamieka S. Greenwood	2092550
	06/06/2019			06/06/2019 15:42	Jhamieka S. Greenwood	2092555
	06/06/2019			06/06/2019 15:43	Jhamieka S. Greenwood	2092556
SM 2120 B	06/06/2019			06/06/2019 16:16	Madeline Funaro	2092548
	06/06/2019			06/06/2019 16:17	Madeline Funaro	2092551
	06/06/2019			06/06/2019 16:18	Madeline Funaro	2092552
SM 2320 B-97	06/06/2019			06/18/2019 00:20	Dale L. Simmons	2092548
	06/06/2019			06/18/2019 00:32	Dale L. Simmons	2092551
	06/06/2019			06/18/2019 00:44	Dale L. Simmons	2092552
SM 2540 C-97	06/06/2019			06/07/2019 16:20	Mariam Hanna	2092548, 2092551, 2092552
SM 2540 D-97	06/06/2019			06/07/2019 16:27	Mariam Hanna	2092548, 2092551, 2092552
SM 4500 F-C-97	06/06/2019			06/13/2019 22:35	Dale L. Simmons	2092548
	06/06/2019			06/13/2019 22:50	Dale L. Simmons	2092551
	06/06/2019			06/13/2019 23:03	Dale L. Simmons	2092552
SM 5310 B-00	06/06/2019			06/11/2019 07:41	Madeline Funaro	2092553
	06/06/2019			06/11/2019 11:20	Madeline Funaro	2092549
	06/06/2019			06/11/2019 11:35	Madeline Funaro	2092554