

Chemical Analysis Report

SO-DIST-2019-07-30-02

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

Event Description: **2019 SMP : P Riv**
Request ID: **RQ-2019-07-29-16**
Customer: **SO-DIST**
Project ID: **SMP**

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FLDEP South District Office
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Date Certified: 14-AUG-2019 12:07



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: Alligator N@JonesLoopRd

Collection Date/Time: 07/29/2019 09:15

Field ID: G2SD0032

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2106794	EPA 180.1 Rev. 2.0	Turbidity	4.4		NTU	P368158	
	EPA 300.0 Rev. 2.1	Chloride	38		mg Cl/L	P368401	
		Sulfate	28		mg SO4/L	P368403	
	SM 2120 B	Color (true)	71	A	PCU	P368172	
	SM 2320 B-97	Total Alkalinity	124		mg CaCO3/L	P368559	
	SM 2540 C-97	TDS	272	A	mg/L	P368578	
	SM 2540 D-97	TSS	3	IA	mg/L	P368352	
	SM 4500 F-C-97	Fluoride	0.14		mg F/L	P368562	
2106796	EPA 350.1 Rev. 2.0	Ammonia-N	0.065		mg N/L	P368745	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.93		mg N/L	P368288	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.040		mg N/L	P368380	
	EPA 365.1 Rev. 2.0	Total-P	0.028		mg P/L	P368212	
	SM 5310 B-00	Organic Carbon	13		mg C/L	P368262	
2106798	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.012		mg P/L	P368216	

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: Peace River Estuary

Collection Date/Time: 07/29/2019 09:45

Field ID: G3SD0148

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2106800	EPA 180.1 Rev. 2.0	Turbidity	3.2	A	NTU	P368159	
	EPA 300.0	Bromide	0.14		mg Br/L	P368406	
	SM 2320 B-97	Total Alkalinity	46		mg CaCO3/L	P368559	
	SM 2540 D-97	TSS	3	I	mg/L	P368355	
	SM 4500 F-C-97	Fluoride	0.36		mg F/L	P368562	
2106801	EPA 350.1 Rev. 2.0	Ammonia-N	0.049		mg N/L	P368745	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.5		mg N/L	P368290	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.24		mg N/L	P368380	
	EPA 365.1 Rev. 2.0	Total-P	0.58		mg P/L	P368212	
	SM 5310 B-00	Organic Carbon	26		mg C/L	P368262	
2106802	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.48		mg P/L	P368216	

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: PeaceRiver HorseCreek2

Collection Date/Time: 07/29/2019 11:05

Field ID: G3SD0154

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2106795	EPA 180.1 Rev. 2.0	Turbidity	3.0		NTU	P368159	
	EPA 300.0 Rev. 2.1	Chloride	18		mg Cl/L	P368401	
		Sulfate	28		mg SO4/L	P368403	
	SM 2120 B	Color (true)	320		PCU	P368172	
	SM 2320 B-97	Total Alkalinity	45		mg CaCO3/L	P368559	
	SM 2540 C-97	TDS	194		mg/L	P368578	
	SM 2540 D-97	TSS	4	I	mg/L	P368352	
	SM 4500 F-C-97	Fluoride	0.36		mg F/L	P368562	
2106797	EPA 350.1 Rev. 2.0	Ammonia-N	0.041		mg N/L	P368745	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.6		mg N/L	P368288	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.24		mg N/L	P368380	
	EPA 365.1 Rev. 2.0	Total-P	0.65		mg P/L	P368212	
	SM 5310 B-00	Organic Carbon	28		mg C/L	P368262	
2106799	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.53		mg P/L	P368216	

Ref. Method and Comment:

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

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

Quality Assurance Report Method Blank Results

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P368158

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P368159

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 300.0
Batch ID: P368406

Component	Result	Code	Units
Bromide	0.013	U	mg Br/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P368401

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P368403

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P368745

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P368288

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P368290

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P368380

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

Quality Assurance Report Method Blank Results

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P368212

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P368216

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

Reference Method: SM 2120 B
Batch ID: P368172

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2320 B-97
Batch ID: P368559

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

Reference Method: SM 2540 C-97
Batch ID: P368578

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-97
Batch ID: P368352

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 2540 D-97
Batch ID: P368355

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500 F-C-97
Batch ID: P368562

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-00
Batch ID: P368262

Component	Result	Code	Units
Organic Carbon	0.50	U	mg C/L

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 300.0
Batch ID: P368406

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P368401

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Chloride	96.6		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P368403

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P368745

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Ammonia-N	99.8		P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P368288

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P368290

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Kjeldahl Nitrogen	94.0		P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P368380

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P368212

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total-P	99.3		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P368216

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

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: SM 2120 B
Batch ID: P368172

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

Reference Method: SM 2320 B-97
Batch ID: P368559

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

Reference Method: SM 4500 F-C-97
Batch ID: P368562

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	96.4		P	92 - 103

Reference Method: SM 5310 B-00
Batch ID: P368262

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

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 300.0
Batch ID: P368406

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2106270	Bromide	96.8	96.6	P/P	90 - 110
2106631	Bromide	98.1		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P368401

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2106563	Chloride	98.2		P	90 - 110
2106794	Chloride	99.0		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P368403

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2106563	Sulfate	103		P	90 - 110
2106794	Sulfate	101		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P368745

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2106746	Ammonia-N	99.0	99.8	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P368290

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2106817	Kjeldahl Nitrogen	103	99.0	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P368380

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2106670	NO2NO3-N	98.0	98.5	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P368212

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2106670	Total-P	102	97.7	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P368216

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2106818	O-Phosphate-P	98.1	98.2	P/P	90 - 110

Reference Method: SM 4500 F-C-97
Batch ID: P368562

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2106837	Fluoride	98.1	97.4	P/P	89 - 106

Quality Assurance Report Matrix Spike Accuracy

Reference Method: SM 5310 B-00
Batch ID: P368262

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2106624	Organic Carbon	98.2	94.0	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P368158

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2106750	Turbidity	3.04	Sample	P	0 - 20

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P368159

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2106800	Turbidity	4.75	Sample	P	0 - 20

Reference Method: EPA 300.0
Batch ID: P368406

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2106270	Bromide	0.0964	Spike	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P368401

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2106563	Chloride	0.162	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P368403

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2106563	Sulfate	0.380	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P368745

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2106746	Ammonia-N	0.639	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P368288

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2106679	Kjeldahl Nitrogen	2.62	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P368290

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2106817	Kjeldahl Nitrogen	2.13	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P368380

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2106670	NO2NO3-N	0.267	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P368212

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2106670	Total-P	4.43	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P368216

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2106818	O-Phosphate-P	0.102	Spike	P	0 - 20

Reference Method: SM 2120 B
Batch ID: P368172

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2106794	Color (true)	1.12	Sample	P	0 - 20

Reference Method: SM 2320 B-97
Batch ID: P368559

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2106837	Total Alkalinity	0.515	Sample	P	0 - 2.8

Reference Method: SM 2540 C-97
Batch ID: P368578

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2106794	TDS	1.83	Sample	P	0 - 10

Reference Method: SM 4500 F-C-97
Batch ID: P368562

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2106837	Fluoride	0.473	Spike	P	0 - 2.5

Reference Method: SM 5310 B-00
Batch ID: P368262

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2106624	Organic Carbon	3.81	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: EPA 180.1 Rev. 2.0

Run ID: A93137

Included Lab Sample IDs: 2106794, 2106795, 2106800

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Turbidity	100	100	P/P	95 - 105
Turbidity	102	100	P/P	95 - 105

Reference Method: SM 2120 B

Run ID: A93142

Included Lab Sample IDs: 2106794, 2106795

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	101	102	P/P	90 - 115
Color (true)	105	103	P/P	90 - 115

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A93147

Included Lab Sample IDs: 2106794, 2106795

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	97.2	98.0	P/P	90 - 110
Chloride	98.0	97.6	P/P	90 - 110
Sulfate	101	102	P/P	90 - 110
Sulfate	102	102	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Run ID: A93165

Included Lab Sample IDs: 2106798, 2106799, 2106802

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	100	101	P/P	90 - 110
O-Phosphate-P	97.9	95.6	P/P	90 - 110
O-Phosphate-P	98.9	97.9	P/P	90 - 110

Reference Method: SM 5310 B-00

Run ID: A93180

Included Lab Sample IDs: 2106796, 2106797, 2106801

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	95.4	96.4	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A93190

Included Lab Sample IDs: 2106796

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	99.0	99.2	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A93217

Included Lab Sample IDs: 2106797, 2106801

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	103	99.0	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A93231

Included Lab Sample IDs: 2106796, 2106797, 2106801

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

Reference Method: EPA 300.0

Run ID: A93239

Included Lab Sample IDs: 2106800

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

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A93244

Included Lab Sample IDs: 2106796, 2106797

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	101	99.7	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A93259

Included Lab Sample IDs: 2106801

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	98.2	96.9	P/P	90 - 110

Reference Method: SM 2320 B-97

Run ID: A93315

Included Lab Sample IDs: 2106794, 2106795, 2106800

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

Reference Method: SM 4500 F-C-97

Run ID: A93315

Included Lab Sample IDs: 2106794, 2106795, 2106800

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	98.6	98.5	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A93374

Included Lab Sample IDs: 2106796, 2106797, 2106801

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	103	104	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 SMP	MS
			LCS				
EPA 180.1 Rev. 2.0	Turbidity					3.04	
	Turbidity					4.75	
EPA 300.0	Bromide	100	96.8	96.6	98.1		0.0964
EPA 300.0 Rev. 2.1	Chloride	96.6	98.2	99.0		0.162	
	Sulfate	101	103	101		0.380	
EPA 350.1 Rev. 2.0	Ammonia-N	99.8	99.0	99.8			0.639
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	104					2.62
	Kjeldahl Nitrogen	94.0	103	99.0			2.13
EPA 353.2 Rev. 2.0	NO2NO3-N	99.0	98.0	98.5			0.267
EPA 365.1 Rev. 2.0	Total-P	99.3	102	97.7			4.43
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	99.3	98.1	98.2			0.102
SM 2120 B	Color (true)	101				1.12	
SM 2320 B-97	Total Alkalinity	104				0.515	
SM 2540 C-97	TDS					1.83	
SM 4500 F-C-97	Fluoride	96.4	98.1	97.4			0.473
SM 5310 B-00	Organic Carbon	97.8	98.2	94.0			3.81

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 180.1 Rev. 2.0 / E31780	Turbidity in aqueous matrices	2106794, 2106795, 2106800
EPA 300.0 / E31780	Bromide in aqueous matrices	2106800
EPA 300.0 Rev. 2.1 / E31780	Chloride in aqueous matrices	2106794, 2106795
EPA 300.0 Rev. 2.1 / E31780	Sulfate in aqueous matrices	2106794, 2106795
EPA 350.1 Rev. 2.0 / E31780	Ammonia in aqueous matrices as mg N/L	2106796, 2106797, 2106801
EPA 351.2 Rev. 2.0 / E31780	Total Kjeldahl Nitrogen in aqueous matrices	2106796, 2106797, 2106801
EPA 353.2 Rev. 2.0 / E31780	Nitrite/Nitrate in aqueous matrices as mg N/L	2106796, 2106797, 2106801
EPA 365.1 Rev. 2.0 / E31780	Total Phosphorus in aqueous matrices as mg P/L	2106796, 2106797, 2106801
EPA 365.1 Rev. 2.0 dissolved / E31780	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	2106798, 2106799, 2106802
SM 2120 B / E31780	True Color measured at 450 nm	2106794, 2106795
SM 2320 B-97 / E31780	Alkalinity in aqueous matrices as mg CaCO3/L	2106794, 2106795, 2106800
SM 2540 C-97 / E31780	Total Dissolved Solids in aqueous matrices	2106794, 2106795
SM 2540 D-97 / E31780	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2106794, 2106795, 2106800
SM 4500 F-C-97 / E31780	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2106794, 2106795, 2106800
SM 5310 B-00 / E31780	Nonpurgeable Organic Carbon in aqueous matrices	2106796, 2106797, 2106801

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	07/30/2019			07/30/2019 17:05	Adrian Shelby	2106794, 2106795, 2106800
EPA 300.0	07/30/2019			08/02/2019 02:43	Jhamieka S. Greenwood	2106800
EPA 300.0 Rev. 2.1	07/30/2019			07/31/2019 19:03	Jhamieka S. Greenwood	2106794
	07/30/2019			07/31/2019 21:41	Jhamieka S. Greenwood	2106795
EPA 350.1 Rev. 2.0	07/30/2019			08/08/2019 11:32	Ping Hua	2106796
	07/30/2019			08/08/2019 11:34	Ping Hua	2106797
	07/30/2019			08/08/2019 11:35	Ping Hua	2106801
EPA 351.2 Rev. 2.0	07/30/2019	08/01/2019 18:00	Adrian Shelby	08/02/2019 16:45	Joseph Suarez	2106796
	07/30/2019	08/01/2019 18:00	Adrian Shelby	08/02/2019 16:47	Joseph Suarez	2106797
	07/30/2019	08/01/2019 18:00	Adrian Shelby	08/05/2019 10:59	Joseph Suarez	2106801
EPA 353.2 Rev. 2.0	07/30/2019			08/02/2019 10:38	Beverly Y. Sanders	2106796
	07/30/2019			08/02/2019 10:39	Beverly Y. Sanders	2106797
	07/30/2019			08/02/2019 10:40	Beverly Y. Sanders	2106801
EPA 365.1 Rev. 2.0	07/30/2019	07/31/2019 12:24	Vijayalakshmi Reddy	08/01/2019 12:20	Lipi Saha	2106796
	07/30/2019	07/31/2019 12:24	Vijayalakshmi Reddy	08/01/2019 14:15	Lipi Saha	2106797
	07/30/2019	07/31/2019 12:24	Vijayalakshmi Reddy	08/01/2019 14:16	Lipi Saha	2106801
EPA 365.1 Rev. 2.0 dissolved	07/30/2019			07/30/2019 17:14	Jhamieka S. Greenwood	2106798
	07/30/2019			07/30/2019 18:08	Jhamieka S. Greenwood	2106799
	07/30/2019			07/30/2019 18:14	Jhamieka S. Greenwood	2106802
SM 2120 B	07/30/2019			07/30/2019 17:41	Madeline Funaro	2106794
	07/30/2019			07/30/2019 18:23	Madeline Funaro	2106795
SM 2320 B-97	07/30/2019			08/06/2019 02:21	Dale L. Simmons	2106794
	07/30/2019			08/06/2019 02:33	Dale L. Simmons	2106795
	07/30/2019			08/06/2019 02:46	Dale L. Simmons	2106800
SM 2540 C-97	07/30/2019			07/31/2019 17:30	Blanca Fach	2106794, 2106795
SM 2540 D-97	07/30/2019			07/31/2019 16:50	Blanca Fach	2106794, 2106795, 2106800
SM 4500 F-C-97	07/30/2019			08/06/2019 02:21	Dale L. Simmons	2106794
	07/30/2019			08/06/2019 02:33	Dale L. Simmons	2106795
	07/30/2019			08/06/2019 02:46	Dale L. Simmons	2106800
SM 5310 B-00	07/30/2019			07/31/2019 17:20	Lauren Lees	2106796
	07/30/2019			07/31/2019 17:35	Lauren Lees	2106797
	07/30/2019			07/31/2019 17:47	Lauren Lees	2106801