

Chemical Analysis Report

CEN-DIST-2019-08-22-01

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

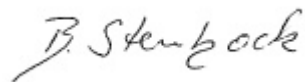
Event Description: **Bird x2 / Faulk / Flo**
Request ID: **RQ-2019-08-19-53**
Customer: **CEN-DIST**
Project ID: **SMP**

Send Reports to:
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Certified by: Dr. rer. nat. Bettina Steinbock, Environmental Administrator

Date Certified: 06-SEP-2019 19:32



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: Faulk Canal @ 50m upstream of Fiske Blvd

Collection Date/Time: 08/21/2019 09:48

Field ID: G3CE0016

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2113564	EPA 180.1 Rev. 2.0	Turbidity	6.8		NTU	P369553	
	EPA 300.0 Rev. 2.1	Chloride	240		mg Cl/L	P369923	
		Sulfate	62		mg SO4/L	P369926	
	SM 2120 B	Color (true)	120		PCU	P369561	
	SM 2320 B-97	Total Alkalinity	76		mg CaCO3/L	P370024	
	SM 2540 C-97	TDS	638		mg/L	P369988	
	SM 2540 D-97	TSS	9	I	mg/L	P369688	
	SM 4500 F-C-97	Fluoride	0.079	I	mg F/L	P370028	
2113567	EPA 350.1 Rev. 2.0	Ammonia-N	0.010		mg N/L	P370033	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.4		mg N/L	P369654	MS
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.023		mg N/L	P369825	
	EPA 365.1 Rev. 2.0	Total-P	0.060		mg P/L	P369746	
	SM 5310 B-00	Organic Carbon	22		mg C/L	P369737	
2113570	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.005	I	mg P/L	P369527	

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: Bird Lake Ditch @ E side of S Fork Rd

Collection Date/Time: 08/21/2019 10:24

Field ID: G3CE0013

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2113565	EPA 180.1 Rev. 2.0	Turbidity	6.7		NTU	P369553	
	EPA 300.0 Rev. 2.1	Chloride	110		mg Cl/L	P369923	
		Sulfate	51		mg SO4/L	P369926	
	SM 2120 B	Color (true)	74	A	PCU	P369561	
	SM 2320 B-97	Total Alkalinity	260		mg CaCO3/L	P370024	
	SM 2540 C-97	TDS	551		mg/L	P369988	
	SM 2540 D-97	TSS	6	I	mg/L	P369688	
	SM 4500 F-C-97	Fluoride	0.081	I	mg F/L	P370028	
2113568	EPA 350.1 Rev. 2.0	Ammonia-N	0.20		mg N/L	P370098	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.95		mg N/L	P369654	MS
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.13		mg N/L	P369825	
	EPA 365.1 Rev. 2.0	Total-P	0.12		mg P/L	P369746	
	SM 5310 B-00	Organic Carbon	13		mg C/L	P369737	
2113571	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.064		mg P/L	P369528	

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: Bird Lake Ditches @ 75m east of FL 407

Collection Date/Time: 08/21/2019 10:59

Field ID: G3CE0014

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2113566	EPA 180.1 Rev. 2.0	Turbidity	5.7		NTU	P369553	
	EPA 300.0 Rev. 2.1	Chloride	110		mg Cl/L	P369923	
		Sulfate	54		mg SO4/L	P369926	
	SM 2120 B	Color (true)	47	A	PCU	P369559	
	SM 2320 B-97	Total Alkalinity	266		mg CaCO3/L	P370024	
	SM 2540 C-97	TDS	552		mg/L	P369989	
	SM 2540 D-97	TSS	3	I	mg/L	P369689	
	SM 4500 F-C-97	Fluoride	0.060	I	mg F/L	P370028	
2113569	EPA 350.1 Rev. 2.0	Ammonia-N	0.19		mg N/L	P370098	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.80		mg N/L	P369640	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.15		mg N/L	P369825	
	EPA 365.1 Rev. 2.0	Total-P	0.089		mg P/L	P369746	
	SM 5310 B-00	Organic Carbon	9.9		mg C/L	P369737	
2113572	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.049		mg P/L	P369528	

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: P369553

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P369923

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P369926

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P370033

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P370098

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P369640

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P369654

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P369825

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: P369746

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: P369527

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P369528

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

Reference Method: SM 2120 B
Batch ID: P369559

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2120 B
Batch ID: P369561

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2320 B-97
Batch ID: P370024

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

Reference Method: SM 2540 C-97
Batch ID: P369988

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 C-97
Batch ID: P369989

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-97
Batch ID: P369688

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 2540 D-97
Batch ID: P369689

Component	Result	Code	Units
TSS	2	U	mg/L

Quality Assurance Report

Method Blank Results

Reference Method: SM 4500 F-C-97
Batch ID: P370028

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-00
Batch ID: P369737

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: P369923

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

Reference Method: EPA 300.0 Rev. 2.1
 Batch ID: P369926

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

Reference Method: EPA 350.1 Rev. 2.0
 Batch ID: P370033

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Ammonia-N	97.4		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
 Batch ID: P370098

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Ammonia-N	96.7		P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
 Batch ID: P369640

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Kjeldahl Nitrogen	97.0		P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
 Batch ID: P369654

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Kjeldahl Nitrogen	96.1		P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
 Batch ID: P369825

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: P369746

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
 Batch ID: P369527

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

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P369528

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

Reference Method: SM 2120 B
Batch ID: P369559

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

Reference Method: SM 2120 B
Batch ID: P369561

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Color (true)	102		P	85 - 115

Reference Method: SM 2320 B-97
Batch ID: P370024

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	103		P	98 - 106

Reference Method: SM 4500 F-C-97
Batch ID: P370028

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	98.6		P	92 - 103

Reference Method: SM 5310 B-00
Batch ID: P369737

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	97.0		P	85 - 115

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P369923

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2113514	Chloride	102		P	90 - 110
2113595	Chloride	103		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P369926

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2113514	Sulfate	100		P	90 - 110
2113595	Sulfate	102		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P370033

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2113516	Ammonia-N	96.7	96.0	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P370098

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2113617	Ammonia-N	95.1	95.2	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P369640

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2113616	Kjeldahl Nitrogen	95.0	91.0	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P369654

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2113540	Kjeldahl Nitrogen	101	87.8	P/F	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P369825

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2113540	NO2NO3-N	96.5	96.0	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P369746

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2113517	Total-P	93.8	95.2	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P369527

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2113541	O-Phosphate-P	98.9	98.0	P/P	90 - 110

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P369528

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2113571	O-Phosphate-P	97.1	97.5	P/P	90 - 110

Reference Method: SM 4500 F-C-97
Batch ID: P370028

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2113537	Fluoride	99.4	99.4	P/P	89 - 106

Reference Method: SM 5310 B-00
Batch ID: P369737

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2113569	Organic Carbon	95.3	95.0	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P369553

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2113536	Turbidity	2.71	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P369923

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2113514	Chloride	0.223	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P369926

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2113514	Sulfate	0.0501	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P370033

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2113516	Ammonia-N	0.694	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P370098

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2113617	Ammonia-N	0.0761	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P369640

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2113616	Kjeldahl Nitrogen	3.75	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P369654

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2113540	Kjeldahl Nitrogen	8.78	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P369825

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2113540	NO2NO3-N	0.314	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P369746

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2113517	Total-P	1.43	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P369527

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2113541	O-Phosphate-P	0.737	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P369528

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2113571	O-Phosphate-P	0.248	Spike	P	0 - 20

Reference Method: SM 2120 B
Batch ID: P369559

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2113566	Color (true)	1.29	Sample	P	0 - 20

Reference Method: SM 2120 B
Batch ID: P369561

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2113565	Color (true)	0.365	Sample	P	0 - 20

Reference Method: SM 2320 B-97
Batch ID: P370024

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2113537	Total Alkalinity	0.380	Sample	P	0 - 2.8

Reference Method: SM 2540 C-97
Batch ID: P369988

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2113535	TDS	5.76	Sample	P	0 - 10

Reference Method: SM 2540 C-97
Batch ID: P369989

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2113595	TDS	1.69	Sample	P	0 - 10

Quality Assurance Report Precision

Reference Method: SM 4500 F-C-97
Batch ID: P370028

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2113537	Fluoride	0.0	Spike	P	0 - 2.5

Reference Method: SM 5310 B-00
Batch ID: P369737

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2113569	Organic Carbon	0.242	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: A93725

Included Lab Sample IDs: 2113570, 2113571, 2113572

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

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A93736

Included Lab Sample IDs: 2113564, 2113565, 2113566

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

Reference Method: SM 2120 B

Run ID: A93738

Included Lab Sample IDs: 2113564, 2113565, 2113566

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

Reference Method: SM 5310 B-00

Run ID: A93808

Included Lab Sample IDs: 2113567, 2113568, 2113569

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	99.4	98.7	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A93818

Included Lab Sample IDs: 2113567, 2113568, 2113569

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	93.2	94.2	P/P	90 - 110
Kjeldahl Nitrogen	99.1	96.2	P/P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A93819

Included Lab Sample IDs: 2113564, 2113565, 2113566

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	102	102	P/P	90 - 110
Sulfate	104	103	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A93831

Included Lab Sample IDs: 2113567, 2113568

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	100	99.6	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A93832

Included Lab Sample IDs: 2113569

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	99.8	98.4	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A93836

Included Lab Sample IDs: 2113567, 2113568, 2113569

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	97.5	98.0	P/P	90 - 110

Reference Method: SM 2320 B-97

Run ID: A93928

Included Lab Sample IDs: 2113564, 2113565, 2113566

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: A93928

Included Lab Sample IDs: 2113564, 2113565, 2113566

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

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A93933

Included Lab Sample IDs: 2113567

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	98.1	98.5	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A93962

Included Lab Sample IDs: 2113568, 2113569

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	101	101	P/P	90 - 110
Ammonia-N	99.2	99.6	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					2.71	
EPA 300.0 Rev. 2.1	Chloride	99.4	102	103		0.223	
	Sulfate	99.8	100	102		0.0501	
EPA 350.1 Rev. 2.0	Ammonia-N	97.4	96.7	96.0			0.694
	Ammonia-N	96.7	95.1	95.2			0.0761
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	97.0	95.0	91.0			3.75
	Kjeldahl Nitrogen	96.1	101	87.8			8.78
EPA 353.2 Rev. 2.0	NO2NO3-N	97.5	96.5	96.0			0.314
EPA 365.1 Rev. 2.0	Total-P	96.2	93.8	95.2			1.43
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	102	98.9	98.0			0.737
	O-Phosphate-P	101	97.1	97.5			0.248
SM 2120 B	Color (true)	100				1.29	
	Color (true)	102				0.365	
SM 2320 B-97	Total Alkalinity	103				0.380	
SM 2540 C-97	TDS					5.76	
	TDS					1.69	
SM 4500 F-C-97	Fluoride	98.6	99.4	99.4			0.0
SM 5310 B-00	Organic Carbon	97.0	95.3	95.0			0.242

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 180.1 Rev. 2.0 / E31780	Turbidity in aqueous matrices	2113564, 2113565, 2113566
EPA 300.0 Rev. 2.1 / E31780	Chloride in aqueous matrices	2113564, 2113565, 2113566
EPA 300.0 Rev. 2.1 / E31780	Sulfate in aqueous matrices	2113564, 2113565, 2113566
EPA 350.1 Rev. 2.0 / E31780	Ammonia in aqueous matrices as mg N/L	2113567, 2113568, 2113569
EPA 351.2 Rev. 2.0 / E31780	Total Kjeldahl Nitrogen in aqueous matrices	2113567, 2113568, 2113569
EPA 353.2 Rev. 2.0 / E31780	Nitrite/Nitrate in aqueous matrices as mg N/L	2113567, 2113568, 2113569
EPA 365.1 Rev. 2.0 / E31780	Total Phosphorus in aqueous matrices as mg P/L	2113567, 2113568, 2113569
EPA 365.1 Rev. 2.0 dissolved / E31780	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	2113570, 2113571, 2113572
SM 2120 B / E31780	True Color measured at 450 nm	2113564, 2113565, 2113566
SM 2320 B-97 / E31780	Alkalinity in aqueous matrices as mg CaCO3/L	2113564, 2113565, 2113566
SM 2540 C-97 / E31780	Total Dissolved Solids in aqueous matrices	2113564, 2113565, 2113566
SM 2540 D-97 / E31780	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2113564, 2113565, 2113566
SM 4500 F-C-97 / E31780	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2113564, 2113565, 2113566
SM 5310 B-00 / E31780	Nonpurgeable Organic Carbon in aqueous matrices	2113567, 2113568, 2113569

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	08/22/2019			08/22/2019 15:30	Rosalyn Ballman	2113564, 2113565, 2113566
EPA 300.0 Rev. 2.1	08/22/2019			08/28/2019 15:35	Jhamieka S. Greenwood	2113564
	08/22/2019			08/28/2019 15:47	Jhamieka S. Greenwood	2113565
	08/22/2019			08/28/2019 15:59	Jhamieka S. Greenwood	2113566
EPA 350.1 Rev. 2.0	08/22/2019			08/30/2019 14:55	Ping Hua	2113567
	08/22/2019			09/03/2019 12:05	Ping Hua	2113568
	08/22/2019			09/03/2019 14:08	Ping Hua	2113569
EPA 351.2 Rev. 2.0	08/22/2019	08/26/2019 11:25	Sima Feizi	08/26/2019 20:04	Julia Storbeck	2113567
	08/22/2019	08/26/2019 11:25	Sima Feizi	08/26/2019 20:05	Julia Storbeck	2113568
	08/22/2019	08/26/2019 12:50	Sima Feizi	08/26/2019 20:49	Julia Storbeck	2113569
EPA 353.2 Rev. 2.0	08/22/2019			08/28/2019 11:12	Beverly Y. Sanders	2113567
	08/22/2019			08/28/2019 11:13	Beverly Y. Sanders	2113568
	08/22/2019			08/28/2019 11:15	Beverly Y. Sanders	2113569
EPA 365.1 Rev. 2.0	08/22/2019	08/27/2019 13:00	Lipi Saha	08/28/2019 11:41	Lipi Saha	2113567
	08/22/2019	08/27/2019 13:00	Lipi Saha	08/28/2019 11:42	Lipi Saha	2113568
	08/22/2019	08/27/2019 13:00	Lipi Saha	08/28/2019 12:19	Lipi Saha	2113569
EPA 365.1 Rev. 2.0 dissolved	08/22/2019			08/22/2019 13:48	Ping Hua	2113570
	08/22/2019			08/22/2019 13:50	Ping Hua	2113571
	08/22/2019			08/22/2019 13:53	Ping Hua	2113572
SM 2120 B	08/22/2019			08/22/2019 17:34	Madeline Funaro	2113566
	08/22/2019			08/22/2019 17:53	Madeline Funaro	2113564
	08/22/2019			08/22/2019 17:55	Madeline Funaro	2113565
SM 2320 B-97	08/22/2019			08/29/2019 23:53	Dale L. Simmons	2113564
	08/22/2019			08/30/2019 00:08	Dale L. Simmons	2113565
	08/22/2019			08/30/2019 00:22	Dale L. Simmons	2113566
SM 2540 C-97	08/22/2019			08/23/2019 18:44	Rosalyn Ballman	2113564, 2113565, 2113566
SM 2540 D-97	08/22/2019			08/23/2019 18:44	Rosalyn Ballman	2113564, 2113565, 2113566
SM 4500 F-C-97	08/22/2019			08/29/2019 23:53	Dale L. Simmons	2113564
	08/22/2019			08/30/2019 00:08	Dale L. Simmons	2113565
	08/22/2019			08/30/2019 00:22	Dale L. Simmons	2113566
SM 5310 B-00	08/22/2019			08/26/2019 18:56	Madeline Funaro	2113569
	08/22/2019			08/26/2019 20:21	Madeline Funaro	2113567
	08/22/2019			08/26/2019 20:34	Madeline Funaro	2113568