Chemical Analysis Report

TLH-ROC-2018-09-11-01

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

Event Description: **Run 2**
Request ID: **RQ-2018-06-18-51**
Customer: **TLH-ROC**
Project ID: **SMP**

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Date Certified: 26-SEP-2018 11:47

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 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: Unnamed Branch 500m North of FR13 **Collection Date/Time: 09/11/2018 11:45**

Field ID: G2TLHR0005 Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2023929	EPA 180.1 Rev. 2.0	Turbidity	4.6		NTU	P351497	
	EPA 300.0 Rev. 2.1	Chloride	3.2		mg Cl/L	P351985	
		Sulfate	0.20	U	mg SO4/L	P351989	
	SM 2120 B	Color (true)	300		PCU	P351434	
	SM 2320 B-97	Total Alkalinity	0.65	U	mg CaCO3/L	P351706	
	SM 2540 C-97	TDS	54		mg/L	P351933	
	SM 2540 D-97	TSS	4	I	mg/L	P351975	
	SM 4500 F-C-97	Fluoride	0.035	U	mg F/L	P351709	
2023931	EPA 350.1 Rev. 2.0	Ammonia-N	0.021		mg N/L	P351683	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.79		mg N/L	P351571	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P351693	
	EPA 365.1 Rev. 2.0	Total-P	0.011		mg P/L	P351599	
	SM 5310 B-00	Organic Carbon	27		mg C/L	P351876	
2023933	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P351445	

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: NEW RIVER SOUTH OF SR65 **Collection Date/Time: 09/11/2018 12:35**

Field ID: G2TLHR0004 Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2023930	EPA 180.1 Rev. 2.0	Turbidity	5.9		NTU	P351497	
	EPA 300.0 Rev. 2.1	Chloride	2.6		mg Cl/L	P351985	
		Sulfate	0.20	U	mg SO4/L	P351989	
	SM 2120 B	Color (true)	500		PCU	P351434	
	SM 2320 B-97	Total Alkalinity	0.65	U	mg CaCO3/L	P351706	
	SM 2540 C-97	TDS	71		mg/L	P351933	
	SM 2540 D-97	TSS	3	I	mg/L	P351975	
	SM 4500 F-C-97	Fluoride	0.035	U	mg F/L	P351709	
2023932	EPA 350.1 Rev. 2.0	Ammonia-N	0.095		mg N/L	P351683	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.1		mg N/L	P351571	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P351693	
	EPA 365.1 Rev. 2.0	Total-P	0.017		mg P/L	P351599	
	SM 5310 B-00	Organic Carbon	38		mg C/L	P351876	
2023934	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.005	I	mg P/L	P351453	

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: Field Blank **Collection Date/Time: 09/11/2018 12:45**

Field ID: BLANK_09112018 Matrix: W-FIELD-BK

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2023935	EPA 180.1 Rev. 2.0	Turbidity	0.15		NTU	P351497	
	EPA 300.0 Rev. 2.1	Chloride	0.20	U	mg Cl/L	P351985	
		Sulfate	0.20	U	mg SO4/L	P351989	
	SM 2120 B	Color (true)	2.5	U	PCU	P351434	
	SM 2320 B-97	Total Alkalinity	0.65	U	mg CaCO3/L	P351706	
	SM 2540 C-97	TDS	15	U	mg/L	P351933	
	SM 2540 D-97	TSS	2	U	mg/L	P351975	
	SM 4500 F-C-97	Fluoride	0.035	U	mg F/L	P351709	
2023936	EPA 350.1 Rev. 2.0	Ammonia-N	0.002	U	mg N/L	P351683	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.080	U	mg N/L	P351571	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P351693	
	EPA 365.1 Rev. 2.0	Total-P	0.002	U	mg P/L	P351599	
	SM 5310 B-00	Organic Carbon	0.50	U	mg C/L	P351876	
2023937	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P351453	

Ref. Method and Comment:
EPA 180.1 Rev. 2.0: The result was confirmed on 09/11/2018.
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: P351497

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P351985

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P351989

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P351683

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P351571

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P351693

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P351599

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P351445

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P351453

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

Quality Assurance Report
Method Blank Results

Reference Method: SM 2120 B
Batch ID: P351434

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2320 B-97
Batch ID: P351706

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

Reference Method: SM 2540 C-97
Batch ID: P351933

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-97
Batch ID: P351975

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500 F-C-97
Batch ID: P351709

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-00
Batch ID: P351876

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: P351985

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P351989

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Sulfate	99.9		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P351683

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Ammonia-N	97.2		P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P351571

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Kjeldahl Nitrogen	95.1		P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P351693

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: P351599

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: P351445

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P351453

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

Reference Method: SM 2120 B
Batch ID: P351434

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Color (true)	99.8		P	85 - 115

Quality Assurance Report
Laboratory Control Sample Accuracy

Reference Method: SM 2320 B-97
Batch ID: P351706

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	102		P	98 - 107

Reference Method: SM 4500 F-C-97
Batch ID: P351709

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	97.9		P	91 - 105

Reference Method: SM 5310 B-00
Batch ID: P351876

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

Quality Assurance Report
Matrix Spike Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P351985

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2023823	Chloride	98.6		P	90 - 110
2024371	Chloride	100		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P351989

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2023823	Sulfate	97.2		P	90 - 110
2024371	Sulfate	100		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P351683

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2024042	Ammonia-N	96.2	97.5	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P351571

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2023857	Kjeldahl Nitrogen	100	105	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P351693

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2023859	NO2NO3-N	99.5		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P351599

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2024058	Total-P	105	105	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P351445

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2023728	O-Phosphate-P	98.9	96.3	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P351453

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2023934	O-Phosphate-P	92.6	91.0	P/P	90 - 110

Reference Method: SM 4500 F-C-97
Batch ID: P351709

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2024195	Fluoride	97.9	97.3	P/P	91 - 105

Quality Assurance Report
Matrix Spike Accuracy

Reference Method: SM 5310 B-00
Batch ID: P351876

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2023654	Organic Carbon	101	102	P/P	85 - 115

Quality Assurance Report
Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P351497

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2023745	Turbidity	3.10	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P351985

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2023823	Chloride	0.658	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P351989

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2023823	Sulfate	0.702	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P351683

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2024042	Ammonia-N	0.934	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P351571

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2023857	Kjeldahl Nitrogen	3.49	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P351693

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2023859	NO2NO3-N	0.623	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P351599

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2024058	Total-P	0.0894	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P351445

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2023728	O-Phosphate-P	2.38	Spike	P	0 - 20

Quality Assurance Report
Precision

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P351453

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2023934	O-Phosphate-P	1.65	Spike	P	0 - 20

Reference Method: SM 2120 B
Batch ID: P351434

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2023721	Color (true)	10.3	Sample	P	0 - 20

Reference Method: SM 2320 B-97
Batch ID: P351706

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2024195	Total Alkalinity	1.10	Sample	P	0 - 1.6

Reference Method: SM 2540 C-97
Batch ID: P351933

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2024161	TDS	1.87	Sample	P	0 - 10

Reference Method: SM 4500 F-C-97
Batch ID: P351709

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2024195	Fluoride	0.480	Spike	P	0 - 3.5

Reference Method: SM 5310 B-00
Batch ID: P351876

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2023654	Organic Carbon	0.403	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: SM 2120 B
Run ID: A86405
Included Lab Sample IDs: 2023929, 2023930, 2023935

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	100	99.8	P/P	90 - 115
Color (true)	99.7	100	P/P	90 - 115

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Run ID: A86408
Included Lab Sample IDs: 2023933

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	98.2	97.9	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Run ID: A86409
Included Lab Sample IDs: 2023934, 2023937

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	98.2	99.9	P/P	90 - 110
O-Phosphate-P	99.9	98.6	P/P	90 - 110

Reference Method: EPA 180.1 Rev. 2.0
Run ID: A86432
Included Lab Sample IDs: 2023929, 2023930, 2023935

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

Reference Method: EPA 350.1 Rev. 2.0
Run ID: A86500
Included Lab Sample IDs: 2023931, 2023932, 2023936

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	96.7	101	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Run ID: A86506
Included Lab Sample IDs: 2023931, 2023932, 2023936

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	101	101	P/P	90 - 110
NO2NO3-N	102	102	P/P	90 - 110

Reference Method: SM 2320 B-97
Run ID: A86511
Included Lab Sample IDs: 2023929, 2023930, 2023935

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	100	103	P/P	90 - 110

Quality Assurance Report
Calibration Verification

Reference Method: SM 4500 F-C-97
Run ID: A86511
Included Lab Sample IDs: 2023929, 2023930, 2023935

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	100	98.1	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Run ID: A86516
Included Lab Sample IDs: 2023931, 2023932, 2023936

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	95.8	98.2	P/P	90 - 110
Total-P	98.2	97.2	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Run ID: A86527
Included Lab Sample IDs: 2023931, 2023932, 2023936

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	107	100	P/P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Run ID: A86566
Included Lab Sample IDs: 2023929, 2023930, 2023935

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

Reference Method: SM 5310 B-00
Run ID: A86572
Included Lab Sample IDs: 2023931, 2023932, 2023936

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	98.3	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		Precision		
					LCS	SMP	MS
EPA 180.1 Rev. 2.0	Turbidity					3.10	
EPA 300.0 Rev. 2.1	Chloride	100	98.6	100		0.658	
	Sulfate	99.9	97.2	100		0.702	
EPA 350.1 Rev. 2.0	Ammonia-N	97.2	96.2	97.5			0.934
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	95.1	100	105			3.49
EPA 353.2 Rev. 2.0	NO2NO3-N	99.0	99.5				0.623
EPA 365.1 Rev. 2.0	Total-P	103	105	105			0.0894
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	98.2	98.9	96.3			2.38
	O-Phosphate-P	97.1	92.6	91.0			1.65
SM 2120 B	Color (true)	99.8				10.3	
SM 2320 B-97	Total Alkalinity	102				1.10	
SM 2540 C-97	TDS					1.87	
SM 4500 F-C-97	Fluoride	97.9	97.9	97.3			0.480
SM 5310 B-00	Organic Carbon	100	101	102			0.403

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 180.1 Rev. 2.0 / E31780	Turbidity in aqueous matrices	2023929, 2023930, 2023935
EPA 300.0 Rev. 2.1 / E31780	Chloride in aqueous matrices	2023929, 2023930, 2023935
EPA 300.0 Rev. 2.1 / E31780	Sulfate in aqueous matrices	2023929, 2023930, 2023935
EPA 350.1 Rev. 2.0 / E31780	Ammonia in aqueous matrices as mg N/L	2023931, 2023932, 2023936
EPA 351.2 Rev. 2.0 / E31780	Total Kjeldahl Nitrogen in aqueous matrices	2023931, 2023932, 2023936
EPA 353.2 Rev. 2.0 / E31780	Nitrite/Nitrate in aqueous matrices as mg N/L	2023931, 2023932, 2023936
EPA 365.1 Rev. 2.0 / E31780	Total Phosphorus in aqueous matrices as mg P/L	2023931, 2023932, 2023936
EPA 365.1 Rev. 2.0 dissolved / E31780	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	2023933, 2023934, 2023937
SM 2120 B / E31780	True Color measured at 450 nm	2023929, 2023930, 2023935
SM 2320 B-97 / E31780	Alkalinity in aqueous matrices as mg CaCO3/L	2023929, 2023930, 2023935
SM 2540 C-97 / E31780	Total Dissolved Solids in aqueous matrices	2023929, 2023930, 2023935
SM 2540 D-97 / E31780	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2023929, 2023930, 2023935
SM 4500 F-C-97 / E31780	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2023929, 2023930, 2023935
SM 5310 B-00 / E31780	Nonpurgeable Organic Carbon in aqueous matrices	2023931, 2023932, 2023936

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	09/11/2018			09/11/2018 15:38	Megan Treadwell	2023929, 2023930, 2023935
EPA 300.0 Rev. 2.1	09/11/2018			09/18/2018 22:57	Lipi Saha	2023929
	09/11/2018			09/18/2018 23:09	Lipi Saha	2023930
	09/11/2018			09/18/2018 23:21	Lipi Saha	2023935
EPA 350.1 Rev. 2.0	09/11/2018			09/14/2018 10:53	Adrian Shelby	2023931
	09/11/2018			09/14/2018 10:55	Adrian Shelby	2023932
	09/11/2018			09/14/2018 10:56	Adrian Shelby	2023936
EPA 351.2 Rev. 2.0	09/11/2018	09/13/2018 10:50	Adrian Shelby	09/17/2018 12:49	Joseph Suarez	2023931
	09/11/2018	09/13/2018 10:50	Adrian Shelby	09/17/2018 12:50	Joseph Suarez	2023932
	09/11/2018	09/13/2018 10:50	Adrian Shelby	09/17/2018 12:52	Joseph Suarez	2023936
EPA 353.2 Rev. 2.0	09/11/2018			09/14/2018 11:42	Lauren Bottorf	2023936
	09/11/2018			09/14/2018 11:49	Lauren Bottorf	2023932
	09/11/2018			09/14/2018 14:16	Lauren Bottorf	2023931
EPA 365.1 Rev. 2.0	09/11/2018	09/13/2018 15:36	Sima Feizi	09/14/2018 12:46	Beverly Y. Sanders	2023936
	09/11/2018	09/13/2018 15:36	Sima Feizi	09/14/2018 12:58	Beverly Y. Sanders	2023931
	09/11/2018	09/13/2018 15:36	Sima Feizi	09/14/2018 12:59	Beverly Y. Sanders	2023932
EPA 365.1 Rev. 2.0 dissolved	09/11/2018			09/11/2018 15:35	Lipi Saha	2023933
	09/11/2018			09/11/2018 16:19	Lipi Saha	2023934
	09/11/2018			09/11/2018 16:30	Lipi Saha	2023937
SM 2120 B	09/11/2018			09/11/2018 15:49	DeAsia Armster	2023935
	09/11/2018			09/11/2018 15:50	DeAsia Armster	2023929
	09/11/2018			09/11/2018 15:54	DeAsia Armster	2023930
SM 2320 B-97	09/11/2018			09/13/2018 23:13	Dale L. Simmons	2023929
	09/11/2018			09/13/2018 23:22	Dale L. Simmons	2023930
	09/11/2018			09/13/2018 23:33	Dale L. Simmons	2023935
SM 2540 C-97	09/11/2018			09/14/2018 15:32	Yijie Li	2023929, 2023930, 2023935
SM 2540 D-97	09/11/2018			09/14/2018 15:32	Yijie Li	2023929, 2023930, 2023935
SM 4500 F-C-97	09/11/2018			09/13/2018 23:13	Dale L. Simmons	2023929
	09/11/2018			09/13/2018 23:22	Dale L. Simmons	2023930
	09/11/2018			09/13/2018 23:33	Dale L. Simmons	2023935
SM 5310 B-00	09/11/2018			09/18/2018 06:07	Megan Treadwell	2023931
	09/11/2018			09/18/2018 06:19	Megan Treadwell	2023932
	09/11/2018			09/18/2018 06:31	Megan Treadwell	2023936