Chemical Analysis Report

SE-DIST-2019-09-17-01

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

Event Description: **SMP- CM Deployment**
Request ID: **RQ-2019-09-16-46**
Customer: **SE-DIST**
Project ID: **SMP**

Send Reports to:
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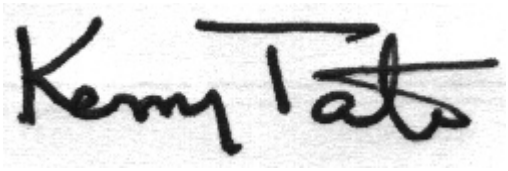
Date Certified: 15-OCT-2019 12:36



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 groups are included in this report: Metals and 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: Willoughby Creek **Collection Date/Time: 09/16/2019 12:00**

Field ID: G2SE0034 Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2119595	EPA 180.1 Rev. 2.0	Turbidity	3.9		NTU	P370833	
	EPA 300.0	Bromide	31		mg Br/L	P371116	
	SM 2320 B-97	Total Alkalinity	135		mg CaCO3/L	P371103	
	SM 2540 D-97	TSS	6	I	mg/L	P371573	
	SM 4500 F-C-97	Fluoride	0.60		mg F/L	P371107	
2119596	EPA 350.1 Rev. 2.0	Ammonia-N	0.018		mg N/L	P370933	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.5		mg N/L	P370893	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.085		mg N/L	P371046	
	EPA 365.1 Rev. 2.0	Total-P	0.11		mg P/L	P371312	
	SM 5310 B-00	Organic Carbon	10		mg C/L	P371023	
2119597	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.058		mg P/L	P370817	
2119645	EPA 200.7 Rev. 4.4	Iron	90	U	ug/L	P371246	
		Manganese	7.4	I	ug/L	P371246	
		Zinc	15	U	ug/L	P371246	
	EPA 200.8 Rev. 5.4	Aluminum	180	I	ug/L	P371246	
		Antimony	0.50	U	ug/L	P371246	
		Arsenic	2.5		ug/L	P371246	
		Cadmium	0.40	I	ug/L	P371246	
		Chromium	4.0	U	ug/L	P371246	
		Copper	4.2		ug/L	P371246	
		Lead	2.0	U	ug/L	P371246	
		Nickel	2.0	U	ug/L	P371246	
		Selenium	0.80	U	ug/L	P371246	
		Silver	0.10	U	ug/L	P371246	
		Thallium	1.0	U	ug/L	P371246	

Ref. Method and Comment:
EPA 200.8 Rev. 5.4: The copper result was confirmed in the undigested sample on 10/14/2019.

Quality Assurance Report
Method Blank Results

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P370833

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P371246

Component	Result	Code	Units
Iron	30	U	ug/L
Manganese	1.0	U	ug/L
Zinc	5.0	U	ug/L

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P371246

Component	Result	Code	Units
Aluminum	5.0	U	ug/L
Antimony	0.050	U	ug/L
Arsenic	0.050	U	ug/L
Cadmium	0.020	U	ug/L
Chromium	0.44	I	ug/L
Copper	0.40	U	ug/L
Lead	0.20	U	ug/L
Nickel	0.50	U	ug/L
Selenium	0.20	U	ug/L
Silver	0.010	U	ug/L
Thallium	0.10	U	ug/L

Reference Method: EPA 300.0
Batch ID: P371116

Component	Result	Code	Units
Bromide	0.013	U	mg Br/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P370933

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P370893

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P371046

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

Quality Assurance Report
Method Blank Results

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P371312

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P370817

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

Reference Method: SM 2320 B-97
Batch ID: P371103

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

Reference Method: SM 2540 D-97
Batch ID: P371573

Component	Result	Code	Units
TSS	3	U	mg/L

Reference Method: SM 4500 F-C-97
Batch ID: P371107

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-00
Batch ID: P371023

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

Quality Assurance Report
Laboratory Control Sample Accuracy

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P371246

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Iron	100		P	85 - 115
Manganese	96.0		P	85 - 115
Zinc	96.1		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P371246

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Aluminum	97.7		P	85 - 115
Antimony	98.4		P	85 - 115
Arsenic	100		P	85 - 115
Cadmium	98.6		P	85 - 115
Chromium	97.3		P	85 - 115
Copper	96.3		P	85 - 115
Lead	98.6		P	85 - 115
Nickel	98.3		P	85 - 115
Selenium	98.7		P	85 - 115
Silver	104		P	85 - 115
Thallium	98.3		P	85 - 115

Reference Method: EPA 300.0
Batch ID: P371116

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P370933

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Ammonia-N	95.9		P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P370893

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P371046

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P371312

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

Quality Assurance Report
Laboratory Control Sample Accuracy

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P370817

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

Reference Method: SM 2320 B-97
Batch ID: P371103

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

Reference Method: SM 4500 F-C-97
Batch ID: P371107

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	96.6		P	92 - 103

Reference Method: SM 5310 B-00
Batch ID: P371023

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

Quality Assurance Report
Matrix Spike Accuracy

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P371246

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2121676	Iron	98.0	97.8	P/P	70 - 130
2121676	Manganese	92.8	91.6	P/P	70 - 130
2121676	Zinc	101	100	P/P	70 - 130

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P371246

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2121676	Aluminum	100	100	P/P	70 - 130
2121676	Antimony	98.9	97.7	P/P	70 - 130
2121676	Arsenic	101	101	P/P	70 - 130
2121676	Cadmium	99.5	99.8	P/P	70 - 130
2121676	Chromium	93.6	92.5	P/P	70 - 130
2121676	Copper	94.6	92.9	P/P	70 - 130
2121676	Lead	103	102	P/P	70 - 130
2121676	Nickel	95.1	93.1	P/P	70 - 130
2121676	Selenium	109	105	P/P	70 - 130
2121676	Silver	103	101	P/P	70 - 130
2121676	Thallium	96.7	97.3	P/P	70 - 130

Reference Method: EPA 300.0
Batch ID: P371116

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2120060	Bromide	95.7	96.1	P/P	90 - 110
2120064	Bromide	95.2		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P370933

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2119211	Ammonia-N	99.1	99.2	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P370893

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2119211	Kjeldahl Nitrogen	101	103	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P371046

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2119554	NO2NO3-N	102	102	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P371312

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2121392	Total-P	95.4	91.8	P/P	90 - 110

Quality Assurance Report
Matrix Spike Accuracy

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P370817

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2119653	O-Phosphate-P	95.1	95.6	P/P	90 - 110

Reference Method: SM 4500 F-C-97
Batch ID: P371107

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2117596	Fluoride	93.6	96.2	P/P	89 - 106

Reference Method: SM 5310 B-00
Batch ID: P371023

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2118626	Organic Carbon	94.4	96.8	P/P	85 - 115

Quality Assurance Report
Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P370833

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2119577	Turbidity	9.05	Sample	P	0 - 20

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P371246

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2121676	Iron	0.125	Spike	P	0 - 20
2121676	Manganese	0.747	Spike	P	0 - 20
2121676	Zinc	0.694	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P371246

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2121676	Aluminum	0.281	Spike	P	0 - 20
2121676	Antimony	1.26	Spike	P	0 - 20
2121676	Arsenic	0.125	Spike	P	0 - 20
2121676	Cadmium	0.295	Spike	P	0 - 20
2121676	Chromium	1.21	Spike	P	0 - 20
2121676	Copper	1.66	Spike	P	0 - 20
2121676	Lead	1.00	Spike	P	0 - 20
2121676	Nickel	2.07	Spike	P	0 - 20
2121676	Selenium	3.28	Spike	P	0 - 20
2121676	Silver	1.30	Spike	P	0 - 20
2121676	Thallium	0.616	Spike	P	0 - 20

Reference Method: EPA 300.0
Batch ID: P371116

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2120060	Bromide	0.450	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P370933

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2119211	Ammonia-N	0.0365	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P370893

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2119211	Kjeldahl Nitrogen	1.79	Spike	P	0 - 20

Quality Assurance Report
Precision

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P371046

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2119554	NO2NO3-N	0.0	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P371312

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2121392	Total-P	2.91	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P370817

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2119653	O-Phosphate-P	0.501	Spike	P	0 - 20

Reference Method: SM 2320 B-97
Batch ID: P371103

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2117596	Total Alkalinity	0.228	Sample	P	0 - 2.8

Reference Method: SM 2540 D-97
Batch ID: P371573

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2120793	TSS	8.00	Sample	P	0 - 10

Reference Method: SM 4500 F-C-97
Batch ID: P371107

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2117596	Fluoride	1.95	Spike	P	0 - 2.5

Reference Method: SM 5310 B-00
Batch ID: P371023

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2118626	Organic Carbon	1.89	Spike	P	0 - 20

* Sample, spike and/or laboratory control sample precision (LCS) is reported.

Quality Assurance Report
Calibration Verification

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Run ID: A94279
Included Lab Sample IDs: 2119597

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

Reference Method: EPA 180.1 Rev. 2.0
Run ID: A94291
Included Lab Sample IDs: 2119595

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

Reference Method: EPA 350.1 Rev. 2.0
Run ID: A94334
Included Lab Sample IDs: 2119596

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	104	99.1	P/P	90 - 110

Reference Method: SM 5310 B-00
Run ID: A94349
Included Lab Sample IDs: 2119596

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

Reference Method: EPA 351.2 Rev. 2.0
Run ID: A94351
Included Lab Sample IDs: 2119596

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	105	101	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Run ID: A94371
Included Lab Sample IDs: 2119596

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	100	99.5	P/P	90 - 110

Reference Method: SM 2320 B-97
Run ID: A94392
Included Lab Sample IDs: 2119595

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	101	103	P/P	90 - 110

Reference Method: SM 4500 F-C-97
Run ID: A94392
Included Lab Sample IDs: 2119595

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	98.5	99.5	P/P	90 - 110

Quality Assurance Report
Calibration Verification

Reference Method: EPA 300.0
Run ID: A94401
Included Lab Sample IDs: 2119595

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Bromide	105	104	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Run ID: A94517
Included Lab Sample IDs: 2119596

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	97.6	99.9	P/P	90 - 110

Reference Method: EPA 200.7 Rev. 4.4
Run ID: A94562
Included Lab Sample IDs: 2119645

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Iron	101	98.1	P/P	90 - 110
Manganese	101	99.7	P/P	90 - 110
Zinc	99.1	96.0	P/P	90 - 110

Reference Method: EPA 200.8 Rev. 5.4
Run ID: A94771
Included Lab Sample IDs: 2119645

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Aluminum	101	100	P/P	90 - 110
Antimony	99.1	99.1	P/P	90 - 110
Arsenic	104	103	P/P	90 - 110
Cadmium	102	102	P/P	90 - 110
Chromium	100	99.2	P/P	90 - 110
Lead	103	103	P/P	90 - 110
Silver	104	103	P/P	90 - 110

Reference Method: EPA 200.8 Rev. 5.4
Run ID: A94842
Included Lab Sample IDs: 2119645

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Selenium	101	103	P/P	90 - 110

Reference Method: EPA 200.8 Rev. 5.4
Run ID: A94847
Included Lab Sample IDs: 2119645

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Copper	98.7	99.4	P/P	90 - 110
Nickel	99.1	100	P/P	90 - 110

Reference Method: EPA 200.8 Rev. 5.4
Run ID: A94888
Included Lab Sample IDs: 2119645

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits

Quality Assurance Report
Calibration Verification

Reference Method: EPA 200.8 Rev. 5.4
Run ID: A94888
Included Lab Sample IDs: 2119645

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Thallium	95.6	93.2	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					9.05	
EPA 200.7 Rev. 4.4	Iron	100	98.0	97.8			0.125
	Manganese	96.0	92.8	91.6			0.747
	Zinc	96.1	101	100			0.694
EPA 200.8 Rev. 5.4	Aluminum	97.7	100	100			0.281
	Antimony	98.4	98.9	97.7			1.26
	Arsenic	100	101	101			0.125
	Cadmium	98.6	99.5	99.8			0.295
	Chromium	97.3	93.6	92.5			1.21
	Copper	96.3	94.6	92.9			1.66
	Lead	98.6	103	102			1.00
	Nickel	98.3	95.1	93.1			2.07
	Selenium	98.7	109	105			3.28
	Silver	104	103	101			1.30
	Thallium	98.3	96.7	97.3			0.616
EPA 300.0	Bromide	98.2	95.7	96.1	95.2		0.450
EPA 350.1 Rev. 2.0	Ammonia-N	95.9	99.1	99.2			0.0365
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	101	101	103			1.79
EPA 353.2 Rev. 2.0	NO2NO3-N	100	102	102			0.0
EPA 365.1 Rev. 2.0	Total-P	95.8	95.4	91.8			2.91
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	98.9	95.1	95.6			0.501
SM 2320 B-97	Total Alkalinity	104				0.228	
SM 2540 D-97	TSS					8.00	
SM 4500 F-C-97	Fluoride	96.6	93.6	96.2			1.95
SM 5310 B-00	Organic Carbon	94.6	94.4	96.8			1.89

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 180.1 Rev. 2.0 / E31780	Turbidity in aqueous matrices	2119595
EPA 200.7 Rev. 4.4 / E31780	Total Recoverable Metals analysis using ICP emission spectroscopy for aqueous samples supporting Clean Water Act Projects	2119645
EPA 200.8 Rev. 5.4 / E31780	Total Recoverable Metals analysis using ICP-MS for aqueous samples supporting Clean Water Act Projects	2119645
EPA 300.0 / E31780	Bromide in aqueous matrices	2119595
EPA 350.1 Rev. 2.0 / E31780	Ammonia in aqueous matrices as mg N/L	2119596
EPA 351.2 Rev. 2.0 / E31780	Total Kjeldahl Nitrogen in aqueous matrices	2119596
EPA 353.2 Rev. 2.0 / E31780	Nitrite/Nitrate in aqueous matrices as mg N/L	2119596
EPA 365.1 Rev. 2.0 / E31780	Total Phosphorus in aqueous matrices as mg P/L	2119596
EPA 365.1 Rev. 2.0 dissolved / E31780	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	2119597
SM 2320 B-97 / E31780	Alkalinity in aqueous matrices as mg CaCO3/L	2119595
SM 2540 D-97 / E31780	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2119595
SM 4500 F-C-97 / E31780	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2119595
SM 5310 B-00 / E31780	Nonpurgeable Organic Carbon in aqueous matrices	2119596

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	09/17/2019			09/17/2019 15:16	Samantha Davila	2119595
EPA 200.7 Rev. 4.4	09/17/2019	09/25/2019 09:04	Alexander Thompson	09/27/2019 16:01	Betina Topolski	2119645
EPA 200.8 Rev. 5.4	09/17/2019	09/25/2019 09:04	Alexander Thompson	10/04/2019 23:49	Robert K Palmer	2119645
	09/17/2019	09/25/2019 09:04	Alexander Thompson	10/08/2019 20:07	Robert K Palmer	2119645
	09/17/2019	09/25/2019 09:04	Alexander Thompson	10/09/2019 16:51	Robert K Palmer	2119645
	09/17/2019	09/25/2019 09:04	Alexander Thompson	10/10/2019 17:39	Justin Cutchin	2119645
EPA 300.0	09/17/2019			09/20/2019 22:31	Jhamieka S. Greenwood	2119595
EPA 350.1 Rev. 2.0	09/17/2019			09/18/2019 14:16	Ping Hua	2119596
EPA 351.2 Rev. 2.0	09/17/2019	09/18/2019 11:40	Sima Feizi	09/19/2019 18:53	Julia Storbeck	2119596
EPA 353.2 Rev. 2.0	09/17/2019			09/20/2019 09:28	Beverly Y. Sanders	2119596
EPA 365.1 Rev. 2.0	09/17/2019	09/25/2019 14:00	Lipi Saha	09/26/2019 11:05	Lipi Saha	2119596
EPA 365.1 Rev. 2.0 dissolved	09/17/2019			09/17/2019 15:24	Jhamieka S. Greenwood	2119597
SM 2320 B-97	09/17/2019			09/19/2019 16:16	Dale L. Simmons	2119595
SM 2540 D-97	09/17/2019			09/23/2019 10:40	Yijie Li	2119595
SM 4500 F-C-97	09/17/2019			09/19/2019 11:18	Dale L. Simmons	2119595
SM 5310 B-00	09/17/2019			09/19/2019 08:22	Madeline Funaro	2119596