Chemical Analysis Report

NE-DIST-2021-07-21-03

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

Event Description: **Tolomato CM**
Request ID: **RQ-2021-07-19-28**
Customer: **NE-DIST**
Project ID: **SMP**

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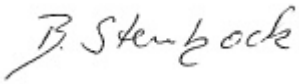
Certified by: Dr. rer. nat. Bettina Steinbock, Environmental Administrator Date Certified: 17-AUG-2021 13:59



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: Tolomato River 800 m N of Bridge **Collection Date/Time: 07/20/2021 09:00**

Field ID: G5NE0601 Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2264010	EPA 180.1 Rev. 2.0	Turbidity	13		NTU	P401343	
	SM 2320 B-2011	Total Alkalinity	96	A	mg CaCO3/L	P401517	
	SM 2540 D-2011	TSS	20		mg/L	P401808	
	SM 4500 F-C-2011	Fluoride	0.51		mg F/L	P401521	
2264011	EPA 350.1 Rev. 2.0	Ammonia-N	0.036		mg N/L	P401765	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.88		mg N/L	P402270	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.013		mg N/L	P401531	
	EPA 365.1 Rev. 2.0	Total-P	0.15		mg P/L	P401640	
	SM 5310 B-2011	Organic Carbon	13		mg C/L	P402094	
2264012	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.082		mg P/L	P401307	
2264015	EPA 200.7 Rev. 4.4	Calcium	149		mg/L	P401419	
		Iron	540		ug/L	P401419	
		Magnesium	384		mg/L	P401419	
		Manganese	54		ug/L	P401419	
		Zinc	15	U	ug/L	P401419	
	EPA 200.8 Rev. 5.4	Aluminum	650		ug/L	P401419	
		Antimony	0.24	I	ug/L	P401419	
		Arsenic	3.60		ug/L	P401419	
		Beryllium	0.045	I	ug/L	P401419	
		Cadmium	0.080	U	ug/L	P401419	
		Chromium	1.6	U	ug/L	P401419	
		Copper	1.6	U	ug/L	P401948	
		Lead	0.80	U	ug/L	P401419	
		Nickel	2.0	U	ug/L	P401419	
		Selenium	0.80	U	ug/L	P401419	
		Silver	0.040	U	ug/L	P401948	
		Thallium	0.40	U	ug/L	P401419	

Ref. Method and Comment:
SM 2540 D-2011: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.
EPA 200.7 Rev. 4.4: Batch matrix spike recoveries for calcium and magnesium 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: P401343

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P401419

Component	Result	Code	Units
Calcium	0.075	U	mg/L
Iron	30	U	ug/L
Magnesium	0.040	U	mg/L
Manganese	1.0	U	ug/L
Zinc	5.0	U	ug/L

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P401419

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

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P401948

Component	Result	Code	Units
Copper	0.40	U	ug/L
Silver	0.010	U	ug/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P401765

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P402270

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P401531

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: P401640

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P401307

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

Reference Method: SM 2320 B-2011
Batch ID: P401517

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

Reference Method: SM 2540 D-2011
Batch ID: P401808

Component	Result	Code	Units
TSS	3	U	mg/L

Reference Method: SM 4500 F-C-2011
Batch ID: P401521

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-2011
Batch ID: P402094

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: P401419

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Calcium	98.8		P	85 - 115
Iron	101		P	85 - 115
Magnesium	99.0		P	85 - 115
Manganese	98.5		P	85 - 115
Zinc	97.6		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P401419

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Aluminum	110		P	70 - 130
Antimony	110		P	85 - 115
Arsenic	99.8		P	85 - 115
Beryllium	98.9		P	85 - 115
Cadmium	105		P	85 - 115
Chromium	96.5		P	85 - 115
Lead	104		P	85 - 115
Nickel	94.0		P	85 - 115
Selenium	99.6		P	85 - 115
Thallium	107		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P401948

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Copper	101		P	85 - 115
Silver	101		P	85 - 115

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P401765

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P402270

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Kjeldahl Nitrogen	109		P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P401531

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P401640

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

Quality Assurance Report
Laboratory Control Sample Accuracy

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P401307

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

Reference Method: SM 2320 B-2011
Batch ID: P401517

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	102		P	94 - 106

Reference Method: SM 4500 F-C-2011
Batch ID: P401521

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	102		P	93 - 104

Reference Method: SM 5310 B-2011
Batch ID: P402094

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	97.4		P	85 - 115

Quality Assurance Report
Matrix Spike Accuracy

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P401419

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2264015	Iron	94.7	100	P/P	70 - 130
2264015	Manganese	96.5	98.6	P/P	70 - 130
2264015	Zinc	95.5	97.3	P/P	70 - 130

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P401419

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2264015	Aluminum	99.1	105	P/P	70 - 130
2264015	Antimony	104	106	P/P	70 - 130
2264015	Arsenic	107	109	P/P	70 - 130
2264015	Beryllium	101	99.9	P/P	70 - 130
2264015	Cadmium	94.8	95.8	P/P	70 - 130
2264015	Chromium	100	102	P/P	70 - 130
2264015	Lead	110	113	P/P	70 - 130
2264015	Nickel	113	110	P/P	70 - 130
2264015	Selenium	93.6	95.2	P/P	70 - 130
2264015	Thallium	112	115	P/P	70 - 130

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P401948

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2262822	Copper	107	110	P/P	70 - 130
2262822	Silver	95.5	96.5	P/P	70 - 130

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P401765

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2264011	Ammonia-N	99.2	97.4	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P402270

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2264025	Kjeldahl Nitrogen	106	110	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P401531

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2264011	NO2NO3-N	97.8	97.8	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P401640

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2264025	Total-P	102	105	P/P	90 - 110

Quality Assurance Report
Matrix Spike Accuracy

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P401307

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2263795	O-Phosphate-P	101	99.8	P/P	90 - 110

Reference Method: SM 4500 F-C-2011
Batch ID: P401521

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2264010	Fluoride	98.7	100	P/P	92 - 107

Reference Method: SM 5310 B-2011
Batch ID: P402094

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2264011	Organic Carbon	96.8	99.3	P/P	85 - 115

Quality Assurance Report
Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P401343

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2263920	Turbidity	2.35	Sample	P	0 - 20

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P401419

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2264015	Calcium	1.34	Spike	P	0 - 20
2264015	Iron	4.74	Spike	P	0 - 20
2264015	Magnesium	2.68	Spike	P	0 - 20
2264015	Manganese	1.71	Spike	P	0 - 20
2264015	Zinc	1.84	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P401419

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2264015	Aluminum	4.42	Spike	P	0 - 20
2264015	Antimony	1.70	Spike	P	0 - 20
2264015	Arsenic	1.86	Spike	P	0 - 20
2264015	Beryllium	0.755	Spike	P	0 - 20
2264015	Cadmium	1.08	Spike	P	0 - 20
2264015	Chromium	1.84	Spike	P	0 - 20
2264015	Lead	1.97	Spike	P	0 - 20
2264015	Nickel	2.67	Spike	P	0 - 20
2264015	Selenium	1.70	Spike	P	0 - 20
2264015	Thallium	2.37	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P401948

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2262822	Copper	2.60	Spike	P	0 - 20
2262822	Silver	1.12	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P401765

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2264011	Ammonia-N	1.06	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P402270

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2264025	Kjeldahl Nitrogen	2.83	Spike	P	0 - 20

Quality Assurance Report
Precision

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P401531

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2264011	NO2NO3-N	0.0	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P401640

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2264025	Total-P	2.44	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P401307

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2263795	O-Phosphate-P	0.799	Spike	P	0 - 20

Reference Method: SM 2320 B-2011
Batch ID: P401517

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2264010	Total Alkalinity	2.06	Sample	P	0 - 5.2

Reference Method: SM 4500 F-C-2011
Batch ID: P401521

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2264010	Fluoride	0.953	Spike	P	0 - 2.1

Reference Method: SM 5310 B-2011
Batch ID: P402094

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2264011	Organic Carbon	1.94	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: A106743
Included Lab Sample IDs: 2264012

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	99.4	99.6	P/P	90 - 110

Reference Method: EPA 180.1 Rev. 2.0
Run ID: A106752
Included Lab Sample IDs: 2264010

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

Reference Method: SM 2320 B-2011
Run ID: A106814
Included Lab Sample IDs: 2264010

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	99.9	102	P/P	90 - 110

Reference Method: SM 4500 F-C-2011
Run ID: A106814
Included Lab Sample IDs: 2264010

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

Reference Method: EPA 353.2 Rev. 2.0
Run ID: A106823
Included Lab Sample IDs: 2264011

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	101	100	P/P	90 - 110

Reference Method: EPA 200.8 Rev. 5.4
Run ID: A106890
Included Lab Sample IDs: 2264015

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Antimony	107	106	P/P	90 - 110
Arsenic	98.6	97.6	P/P	90 - 110
Beryllium	98.3	97.4	P/P	90 - 110
Cadmium	103	102	P/P	90 - 110
Chromium	97.0	93.5	P/P	90 - 110
Lead	101	101	P/P	90 - 110
Nickel	97.0	95.1	P/P	90 - 110
Selenium	97.9	97.4	P/P	90 - 110
Thallium	100	99.8	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Run ID: A106899
Included Lab Sample IDs: 2264011

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	106	105	P/P	90 - 110

Quality Assurance Report
Calibration Verification

Reference Method: EPA 350.1 Rev. 2.0
Run ID: A106946
Included Lab Sample IDs: 2264011

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	98.8	100	P/P	90 - 110

Reference Method: EPA 200.8 Rev. 5.4
Run ID: A106989
Included Lab Sample IDs: 2264015

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

Reference Method: EPA 200.7 Rev. 4.4
Run ID: A107030
Included Lab Sample IDs: 2264015

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Calcium	100	99.0	P/P	90 - 110
Iron	98.4	95.9	P/P	90 - 110
Magnesium	98.5	96.9	P/P	90 - 110
Manganese	102	100	P/P	90 - 110
Zinc	99.3	101	P/P	90 - 110

Reference Method: EPA 200.8 Rev. 5.4
Run ID: A107070
Included Lab Sample IDs: 2264015

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Copper	104	101	P/P	90 - 110
Silver	95.5	92.5	P/P	90 - 110

Reference Method: SM 5310 B-2011
Run ID: A107085
Included Lab Sample IDs: 2264011

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	99.0	99.4	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Run ID: A107191
Included Lab Sample IDs: 2264011

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	104	103	P/P	90 - 110

* Pass/Fail determinations are made for each bracketing calibration verification check.
Control limits for initial calibration checks may be different from those for continuing checks, depending on method requirements.
Where they are different, both control limits are provided.

Quality Assurance Report
Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery		Precision		
					LCS	SMP	MS
EPA 180.1 Rev. 2.0	Turbidity					2.35	
EPA 200.7 Rev. 4.4	Calcium	98.8					1.34
	Iron	101	94.7	100			4.74
	Magnesium	99.0					2.68
	Manganese	98.5	96.5	98.6			1.71
	Zinc	97.6	95.5	97.3			1.84
EPA 200.8 Rev. 5.4	Aluminum	110	99.1	105			4.42
	Antimony	110	104	106			1.70
	Arsenic	99.8	107	109			1.86
	Beryllium	98.9	101	99.9			0.755
	Cadmium	105	94.8	95.8			1.08
	Chromium	96.5	100	102			1.84
	Copper	101	107	110			2.60
	Lead	104	110	113			1.97
	Nickel	94.0	113	110			2.67
	Selenium	99.6	93.6	95.2			1.70
	Silver	101	95.5	96.5			1.12
	Thallium	107	112	115			2.37
EPA 350.1 Rev. 2.0	Ammonia-N	98.2	99.2	97.4			1.06
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	109	106	110			2.83
EPA 353.2 Rev. 2.0	NO2NO3-N	99.5	97.8	97.8			0.0
EPA 365.1 Rev. 2.0	Total-P	104	102	105			2.44
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	101	101	99.8			0.799
SM 2320 B-2011	Total Alkalinity	102				2.06	
SM 4500 F-C-2011	Fluoride	102	98.7	100			0.953
SM 5310 B-2011	Organic Carbon	97.4	96.8	99.3			1.94

Reference Method Descriptions

Method	Description	Associated Samples
EPA 180.1 Rev. 2.0	Turbidity in aqueous matrices	2264010
EPA 200.7 Rev. 4.4	Total Recoverable Metals analysis using ICP emission spectroscopy for aqueous samples supporting Clean Water Act Projects	2264015
EPA 200.8 Rev. 5.4	Total Recoverable Metals analysis using ICP-MS for aqueous samples supporting Clean Water Act Projects	2264015
EPA 350.1 Rev. 2.0	Ammonia in aqueous matrices as mg N/L	2264011
EPA 351.2 Rev. 2.0	Total Kjeldahl Nitrogen in aqueous matrices	2264011
EPA 353.2 Rev. 2.0	Nitrite/Nitrate in aqueous matrices as mg N/L	2264011
EPA 365.1 Rev. 2.0	Total Phosphorus in aqueous matrices as mg P/L	2264011
EPA 365.1 Rev. 2.0 dissolved	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	2264012
SM 2320 B-2011	Alkalinity in aqueous matrices as mg CaCO3/L	2264010
SM 2540 D-2011	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2264010
SM 4500 F-C-2011	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2264010
SM 5310 B-2011	Nonpurgeable Organic Carbon in aqueous matrices	2264011

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	07/21/2021			07/21/2021 16:04	Sarah A Nixon	2264010
EPA 200.7 Rev. 4.4	07/21/2021	07/22/2021 15:25	Elliott D. Healy	08/04/2021 21:04	Betina Topolski	2264015
	07/21/2021	07/22/2021 15:25	Elliott D. Healy	08/04/2021 21:51	Betina Topolski	2264015
EPA 200.8 Rev. 5.4	07/21/2021	07/22/2021 15:25	Elliott D. Healy	07/28/2021 15:54	Alexander Thompson	2264015
	07/21/2021	07/22/2021 15:25	Elliott D. Healy	08/02/2021 22:23	McKinley C Carter	2264015
	07/21/2021	08/04/2021 13:20	Elliott D. Healy	08/05/2021 13:17	Alexander Thompson	2264015
EPA 350.1 Rev. 2.0	07/21/2021			07/30/2021 13:26	Roberta Tatti	2264011
EPA 351.2 Rev. 2.0	07/21/2021	08/10/2021 16:25	Madeline Gruver	08/11/2021 14:28	Virginia P. Brown	2264011
EPA 353.2 Rev. 2.0	07/21/2021			07/26/2021 11:37	Beverly Y. Sanders	2264011
EPA 365.1 Rev. 2.0	07/21/2021	07/28/2021 14:07	Simonne.V. Calhoun	07/29/2021 08:08	Shengyu Ding	2264011
EPA 365.1 Rev. 2.0 dissolved	07/21/2021			07/21/2021 14:05	Lipi Saha	2264012
SM 2320 B-2011	07/21/2021			07/24/2021 05:49	Dale L. Simmons	2264010
SM 2540 D-2011	07/21/2021			07/23/2021 15:22	Yijie Li	2264010
SM 4500 F-C-2011	07/21/2021			07/24/2021 04:57	Dale L. Simmons	2264010
SM 5310 B-2011	07/21/2021			08/05/2021 17:06	Madeline Gruver	2264011