Chemical Analysis Report

SO-DIST-2021-10-05-01

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

Event Description: **2021 SMP : Continuous Flopbuck**
Request ID: **RQ-2021-10-04-65**
Customer: **SO-DIST**
Project ID: **SMP**

Send Reports to:
FL Dept. of Environmental Protection
FLDEP South District Office
2295 Victoria Ave. Suite 364
Fort Myers, FL 33901-3381
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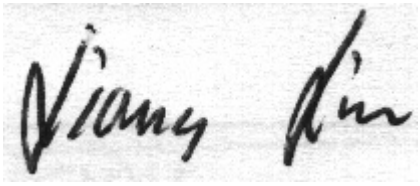
Certified by: Liang Lin, Environmental Administrator

Date Certified: 28-OCT-2021 14:40



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: Flopbuck Near Pearl St. **Collection Date/Time: 10/04/2021 08:50**

Field ID: G3SD0185 Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2280599	EPA 180.1 Rev. 2.0	Turbidity	3.3		NTU	P404634	
	SM 2320 B-2011	Total Alkalinity	148		mg CaCO3/L	P404823	
	SM 2540 D-2011	TSS	5	I A	mg/L	P404995	
	SM 4500 F-C-2011	Fluoride	0.33		mg F/L	P404829	
2280600	EPA 350.1 Rev. 2.0	Ammonia-N	0.069		mg N/L	P404905	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.0		mg N/L	P404876	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.11		mg N/L	P404781	
	EPA 365.1 Rev. 2.0	Total-P	0.19		mg P/L	P404739	
	SM 5310 B-2011	Organic Carbon	17		mg C/L	P404846	
2280601	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.13		mg P/L	P404596	
2280605	EPA 200.7 Rev. 4.4	Calcium	107		mg/L	P404746	
		Iron	800		ug/L	P404746	
		Magnesium	68.5		mg/L	P404746	
		Manganese	21.9		ug/L	P404746	
		Zinc	7.1	I	ug/L	P404746	
	EPA 200.8 Rev. 5.4	Aluminum	135		ug/L	P404746	
		Antimony	0.24		ug/L	P404746	
		Arsenic	2.40		ug/L	P404746	
		Beryllium	0.016	I	ug/L	P404746	
		Cadmium	0.020	U	ug/L	P404746	
		Chromium	0.71	I	ug/L	P404746	
		Copper	0.88		ug/L	P404746	
		Lead	0.28	I	ug/L	P404746	
		Nickel	0.90	I	ug/L	P404746	
		Selenium	0.32	I	ug/L	P404746	
		Silver	0.010	U	ug/L	P404746	
		Thallium	0.10	U	ug/L	P404746	

Ref. Method and Comment:
SM 2540 D-2011: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.
SM 4500 F-C-2011: Batch matrix spike recoveries are unavailable because of high analyte concentration in the QC sample.
EPA 351.2 Rev. 2.0: Batch matrix spike recoveries are unavailable because of high analyte concentration in the QC sample.

Quality Assurance Report
Method Blank Results

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P404634

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P404746

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: P404746

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
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 350.1 Rev. 2.0
Batch ID: P404905

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P404876

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P404781

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P404739

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: P404596

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

Reference Method: SM 2320 B-2011
Batch ID: P404823

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

Reference Method: SM 2540 D-2011
Batch ID: P404995

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500 F-C-2011
Batch ID: P404829

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-2011
Batch ID: P404846

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: P404746

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Calcium	102		P	85 - 115
Iron	105		P	85 - 115
Magnesium	105		P	85 - 115
Manganese	99.3		P	85 - 115
Zinc	98.1		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P404746

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Aluminum	105		P	85 - 115
Antimony	109		P	85 - 115
Arsenic	104		P	85 - 115
Beryllium	103		P	85 - 115
Cadmium	105		P	85 - 115
Chromium	106		P	85 - 115
Copper	101		P	85 - 115
Lead	102		P	85 - 115
Nickel	101		P	85 - 115
Selenium	103		P	85 - 115
Silver	101		P	85 - 115
Thallium	106		P	85 - 115

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P404905

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: P404876

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P404781

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: P404739

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total-P	108		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P404596

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
O-Phosphate-P	98.5		P	90 - 110

Quality Assurance Report
Laboratory Control Sample Accuracy

Reference Method: SM 2320 B-2011
Batch ID: P404823

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	97.7		P	94 - 106

Reference Method: SM 4500 F-C-2011
Batch ID: P404829

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	100		P	93 - 104

Reference Method: SM 5310 B-2011
Batch ID: P404846

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	95.4		P	85 - 115

Quality Assurance Report
Matrix Spike Accuracy

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P404746

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2280415	Calcium	99.8		P	80 - 120
2280415	Iron	106	106	P/P	80 - 120
2280415	Magnesium	106	105	P/P	80 - 120
2280415	Manganese	100	99.1	P/P	80 - 120
2280415	Zinc	103	102	P/P	80 - 120
2280756	Calcium	106		P	80 - 120
2280756	Iron	110		P	80 - 120
2280756	Magnesium	108		P	80 - 120
2280756	Manganese	101		P	80 - 120
2280756	Zinc	104		P	80 - 120

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P404746

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2280415	Aluminum	101	105	P/P	80 - 120
2280415	Antimony	105	109	P/P	80 - 120
2280415	Arsenic	103	106	P/P	80 - 120
2280415	Beryllium	99.3	104	P/P	80 - 120
2280415	Cadmium	100	107	P/P	80 - 120
2280415	Chromium	98.7	103	P/P	80 - 120
2280415	Copper	99.9	104	P/P	80 - 120
2280415	Lead	97.8	102	P/P	80 - 120
2280415	Nickel	97.4	102	P/P	80 - 120
2280415	Selenium	102	104	P/P	80 - 120
2280415	Silver	97.5	101	P/P	80 - 120
2280415	Thallium	103	108	P/P	80 - 120
2280756	Aluminum	103		P	80 - 120
2280756	Antimony	106		P	80 - 120
2280756	Arsenic	100		P	80 - 120
2280756	Beryllium	94.8		P	80 - 120
2280756	Cadmium	104		P	80 - 120
2280756	Chromium	99.2		P	80 - 120
2280756	Copper	97.3		P	80 - 120
2280756	Lead	99.5		P	80 - 120
2280756	Nickel	97.3		P	80 - 120
2280756	Selenium	99.8		P	80 - 120
2280756	Silver	96.8		P	80 - 120
2280756	Thallium	105		P	80 - 120

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P404905

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2280276	Ammonia-N	99.0	98.6	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P404781

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2280402	NO2NO3-N	103	102	P/P	90 - 110

Quality Assurance Report
Matrix Spike Accuracy

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P404739

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2280274	Total-P	104	108	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P404596

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2280571	O-Phosphate-P	98.2	98.5	P/P	90 - 110

Reference Method: SM 5310 B-2011
Batch ID: P404846

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2280430	Organic Carbon	94.0	92.6	P/P	85 - 115

Quality Assurance Report
Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P404634

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2280429	Turbidity	0.0	Sample	P	0 - 20

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P404746

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2280415	Calcium	0.496	Spike	P	0 - 20
2280415	Iron	0.154	Spike	P	0 - 20
2280415	Magnesium	0.233	Spike	P	0 - 20
2280415	Manganese	0.816	Spike	P	0 - 20
2280415	Zinc	0.656	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P404746

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2280415	Aluminum	3.96	Spike	P	0 - 20
2280415	Antimony	3.85	Spike	P	0 - 20
2280415	Arsenic	3.01	Spike	P	0 - 20
2280415	Beryllium	4.41	Spike	P	0 - 20
2280415	Cadmium	5.72	Spike	P	0 - 20
2280415	Chromium	4.04	Spike	P	0 - 20
2280415	Copper	4.14	Spike	P	0 - 20
2280415	Lead	4.11	Spike	P	0 - 20
2280415	Nickel	4.36	Spike	P	0 - 20
2280415	Selenium	1.58	Spike	P	0 - 20
2280415	Silver	3.11	Spike	P	0 - 20
2280415	Thallium	4.38	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P404905

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2280276	Ammonia-N	0.290	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P404876

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2280607	Kjeldahl Nitrogen	2.93	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P404781

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2280402	NO2NO3-N	0.976	Spike	P	0 - 20

Quality Assurance Report
Precision

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P404739

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2280274	Total-P	2.65	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P404596

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2280571	O-Phosphate-P	0.205	Spike	P	0 - 20

Reference Method: SM 2320 B-2011
Batch ID: P404823

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2280743	Total Alkalinity	1.65	Sample	P	0 - 5.2

Reference Method: SM 4500 F-C-2011
Batch ID: P404829

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2280743	Fluoride	0.953	Spike	P	0 - 2.1

Reference Method: SM 5310 B-2011
Batch ID: P404846

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2280430	Organic Carbon	0.870	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: A108152
Included Lab Sample IDs: 2280601

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	97.3	97.5	P/P	90 - 110

Reference Method: EPA 180.1 Rev. 2.0
Run ID: A108168
Included Lab Sample IDs: 2280599

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

Reference Method: EPA 353.2 Rev. 2.0
Run ID: A108229
Included Lab Sample IDs: 2280600

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

Reference Method: EPA 365.1 Rev. 2.0
Run ID: A108233
Included Lab Sample IDs: 2280600

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

Reference Method: SM 2320 B-2011
Run ID: A108253
Included Lab Sample IDs: 2280599

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	97.3	99.6	P/P	90 - 110

Reference Method: SM 4500 F-C-2011
Run ID: A108253
Included Lab Sample IDs: 2280599

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

Reference Method: SM 5310 B-2011
Run ID: A108262
Included Lab Sample IDs: 2280600

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	96.0	95.6	P/P	90 - 110

Reference Method: EPA 200.8 Rev. 5.4
Run ID: A108269
Included Lab Sample IDs: 2280605

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Aluminum	105	104	P/P	90 - 110
Antimony	108	107	P/P	90 - 110

Quality Assurance Report
Calibration Verification

Reference Method: EPA 200.8 Rev. 5.4
Run ID: A108269
Included Lab Sample IDs: 2280605

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Arsenic	103	101	P/P	90 - 110
Beryllium	103	99.5	P/P	90 - 110
Cadmium	103	103	P/P	90 - 110
Chromium	103	101	P/P	90 - 110
Copper	99.5	97.5	P/P	90 - 110
Lead	98.1	96.7	P/P	90 - 110
Nickel	99.1	96.9	P/P	90 - 110
Selenium	104	103	P/P	90 - 110
Silver	98.7	97.9	P/P	90 - 110
Thallium	104	102	P/P	90 - 110

Reference Method: EPA 200.7 Rev. 4.4
Run ID: A108274
Included Lab Sample IDs: 2280605

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Calcium	103	103	P/P	90 - 110
Iron	103	104	P/P	90 - 110
Magnesium	103	105	P/P	90 - 110
Manganese	100	101	P/P	90 - 110
Zinc	101	105	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Run ID: A108277
Included Lab Sample IDs: 2280600

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	99.9	99.2	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Run ID: A108306
Included Lab Sample IDs: 2280600

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	97.7	98.7	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						0.0	
EPA 200.7 Rev. 4.4	Calcium	102	99.8	106				0.496
	Iron	105	106	106	110			0.154
	Magnesium	105	106	105	108			0.233
	Manganese	99.3	100	99.1	101			0.816
	Zinc	98.1	103	102	104			0.656
EPA 200.8 Rev. 5.4	Aluminum	105	101	105	103			3.96
	Antimony	109	105	109	106			3.85
	Arsenic	104	103	106	100			3.01
	Beryllium	103	99.3	104	94.8			4.41
	Cadmium	105	100	107	104			5.72
	Chromium	106	98.7	103	99.2			4.04
	Copper	101	99.9	104	97.3			4.14
	Lead	102	97.8	102	99.5			4.11
	Nickel	101	97.4	102	97.3			4.36
	Selenium	103	102	104	99.8			1.58
	Silver	101	97.5	101	96.8			3.11
	Thallium	106	103	108	105			4.38
EPA 350.1 Rev. 2.0	Ammonia-N	98.2	99.0	98.6				0.290
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	106						2.93
EPA 353.2 Rev. 2.0	NO2NO3-N	99.5	103	102				0.976
EPA 365.1 Rev. 2.0	Total-P	108	104	108				2.65
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	98.5	98.2	98.5				0.205
SM 2320 B-2011	Total Alkalinity	97.7					1.65	
SM 4500 F-C-2011	Fluoride	100						0.953
SM 5310 B-2011	Organic Carbon	95.4	94.0	92.6				0.870

Reference Method Descriptions

Method	Description	Associated Samples
EPA 180.1 Rev. 2.0	Turbidity in aqueous matrices	2280599
EPA 200.7 Rev. 4.4	Total Recoverable Metals analysis using ICP emission spectroscopy for aqueous samples supporting Clean Water Act Projects	2280605
EPA 200.8 Rev. 5.4	Total Recoverable Metals analysis using ICP-MS for aqueous samples supporting Clean Water Act Projects	2280605
EPA 350.1 Rev. 2.0	Ammonia in aqueous matrices as mg N/L	2280600
EPA 351.2 Rev. 2.0	Total Kjeldahl Nitrogen in aqueous matrices	2280600
EPA 353.2 Rev. 2.0	Nitrite/Nitrate in aqueous matrices as mg N/L	2280600
EPA 365.1 Rev. 2.0	Total Phosphorus in aqueous matrices as mg P/L	2280600
EPA 365.1 Rev. 2.0 dissolved	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	2280601
SM 2320 B-2011	Alkalinity in aqueous matrices as mg CaCO3/L	2280599
SM 2540 D-2011	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2280599
SM 4500 F-C-2011	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2280599
SM 5310 B-2011	Nonpurgeable Organic Carbon in aqueous matrices	2280600

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	10/05/2021			10/05/2021 20:49	Sarah A Nixon	2280599
EPA 200.7 Rev. 4.4	10/05/2021	10/08/2021 10:00	Emily M Philpot	10/11/2021 14:30	Josef B Mick	2280605
EPA 200.8 Rev. 5.4	10/05/2021	10/08/2021 10:00	Emily M Philpot	10/11/2021 20:07	Alexander Thompson	2280605
EPA 350.1 Rev. 2.0	10/05/2021			10/11/2021 14:00	Ping Hua	2280600
EPA 351.2 Rev. 2.0	10/05/2021	10/11/2021 14:45	Benjamin T. Nordmann	10/13/2021 10:33	Alexandra J Mattheus	2280600
EPA 353.2 Rev. 2.0	10/05/2021			10/08/2021 10:55	Beverly Y. Sanders	2280600
EPA 365.1 Rev. 2.0	10/05/2021	10/07/2021 15:09	Simonne.V. Calhoun	10/08/2021 11:10	Lipi Saha	2280600
EPA 365.1 Rev. 2.0 dissolved	10/05/2021			10/05/2021 14:44	James L Waggerby	2280601
SM 2320 B-2011	10/05/2021			10/08/2021 19:43	Dale L. Simmons	2280599
SM 2540 D-2011	10/05/2021			10/07/2021 14:19	Yijie Li	2280599
SM 4500 F-C-2011	10/05/2021			10/08/2021 19:43	Dale L. Simmons	2280599
SM 5310 B-2011	10/05/2021			10/09/2021 02:24	Khloe J Berg	2280600