

Chemical Analysis Report

NE-DIST-2021-09-09-03

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

Event Description: **St. Augustine**
Request ID: **RQ-2021-09-06-22**
Customer: **NE-DIST**
Project ID: **SMP**

Send Reports to:
FL Dept. of Environmental Protection
8800 Baymeadows Way West
Suite 100
Jacksonville, FL 32256
Attn: Jeremy Parrish

For additional information please contact
Colin Wright, Ph.D.
Liang-Tsair Lin, Ph.D.
Kerry Tate, Ph.D.
Dr. rer. nat. Bettina Steinbock
Thekkekalathil Chandrasekhar, Ph.D, QA Officer
Phone (850) 245-8085

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

Date Certified: 30-SEP-2021 17:56



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: MOULTRIE CR @ US 1

Collection Date/Time: 09/08/2021 12:00

Field ID: 27010055

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2274949	EPA 180.1 Rev. 2.0	Turbidity	7.4		NTU	P403552	
	SM 2320 B-2011	Total Alkalinity	120		mg CaCO3/L	P403656	
	SM 2540 D-2011	TSS	15	A	mg/L	P403986	
	SM 4500 F-C-2011	Fluoride	1.1		mg F/L	P403660	
2274950	EPA 350.1 Rev. 2.0	Ammonia-N	0.080		mg N/L	P403645	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.60		mg N/L	P403664	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.050		mg N/L	P403623	
	EPA 365.1 Rev. 2.0	Total-P	0.081		mg P/L	P403760	
	SM 5310 B-2011	Organic Carbon	6.8		mg C/L	P403749	
2274951	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.049		mg P/L	P403525	
2274958	EPA 200.7 Rev. 4.4	Calcium	376		mg/L	P403821	
		Iron	380	I	ug/L	P403821	
		Magnesium	1.17E+03		mg/L	P403821	
		Manganese	18	I	ug/L	P403821	
		Zinc	50	U	ug/L	P403821	
	EPA 200.8 Rev. 5.4	Aluminum	501		ug/L	P403821	
		Antimony	0.22	I	ug/L	P403821	
		Arsenic	3.55		ug/L	P403821	
		Beryllium	0.048	I	ug/L	P403821	
		Cadmium	0.080	U	ug/L	P403821	
		Chromium	1.6	U	ug/L	P403821	
		Copper	1.6	U	ug/L	P403821	
		Lead	2.0	U	ug/L	P403821	
		Nickel	2.0	U	ug/L	P403821	
		Selenium	0.80	U	ug/L	P403821	
		Silver	0.040	U	ug/L	P403821	
		Thallium	1.0	U	ug/L	P403821	

Ref. Method and Comment:

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: P403552

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P403821

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: P403821

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: P403645

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P403664

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P403623

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P403760

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: P403525

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

Reference Method: SM 2320 B-2011
Batch ID: P403656

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

Reference Method: SM 2540 D-2011
Batch ID: P403986

Component	Result	Code	Units
TSS	3	U	mg/L

Reference Method: SM 4500 F-C-2011
Batch ID: P403660

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-2011
Batch ID: P403749

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: P403821

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Calcium	104		P	85 - 115
Iron	107		P	85 - 115
Magnesium	103		P	85 - 115
Manganese	102		P	85 - 115
Zinc	105		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P403821

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Aluminum	98.0		P	85 - 115
Antimony	99.7		P	85 - 115
Arsenic	94.0		P	85 - 115
Beryllium	90.4		P	85 - 115
Cadmium	96.6		P	85 - 115
Chromium	96.4		P	85 - 115
Copper	93.2		P	85 - 115
Lead	93.0		P	85 - 115
Nickel	93.3		P	85 - 115
Selenium	95.4		P	85 - 115
Silver	96.4		P	85 - 115
Thallium	99.5		P	85 - 115

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P403645

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P403664

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: P403623

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
NO2NO3-N	98.5		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P403760

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P403525

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

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: SM 2320 B-2011
Batch ID: P403656

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	103		P	94 - 106

Reference Method: SM 4500 F-C-2011
Batch ID: P403660

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	101		P	93 - 104

Reference Method: SM 5310 B-2011
Batch ID: P403749

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: P403821

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2275732	Iron	106	104	P/P	70 - 130
2275732	Manganese	101	98.4	P/P	70 - 130
2275732	Zinc	108	107	P/P	70 - 130

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P403821

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2275732	Aluminum	106	101	P/P	70 - 130
2275732	Antimony	103	99.5	P/P	70 - 130
2275732	Arsenic	109	104	P/P	70 - 130
2275732	Beryllium	107	106	P/P	70 - 130
2275732	Cadmium	92.7	90.5	P/P	70 - 130
2275732	Chromium	103	98.6	P/P	70 - 130
2275732	Copper	103	97.7	P/P	70 - 130
2275732	Lead	101	97.1	P/P	70 - 130
2275732	Nickel	108	104	P/P	70 - 130
2275732	Selenium	102	98.3	P/P	70 - 130
2275732	Silver	90.6	87.0	P/P	70 - 130
2275732	Thallium	108	104	P/P	70 - 130

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P403645

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2275245	Ammonia-N	97.8	97.2	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P403664

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2274950	Kjeldahl Nitrogen	97.3	98.7	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P403623

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2274950	NO2NO3-N	98.9	98.9	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P403760

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2274950	Total-P	100	102	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P403525

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2274866	O-Phosphate-P	105	103	P/P	90 - 110

Quality Assurance Report

Matrix Spike Accuracy

Reference Method: SM 4500 F-C-2011
Batch ID: P403660

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2274336	Fluoride	99.9	101	P/P	92 - 107

Reference Method: SM 5310 B-2011
Batch ID: P403749

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2273874	Organic Carbon	94.7	93.9	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0

Batch ID: P403552

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2274621	Turbidity	4.04	Sample	P	0 - 20

Reference Method: EPA 200.7 Rev. 4.4

Batch ID: P403821

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2275732	Calcium	3.20	Spike	P	0 - 20
2275732	Iron	2.26	Spike	P	0 - 20
2275732	Magnesium	3.41	Spike	P	0 - 20
2275732	Manganese	2.69	Spike	P	0 - 20
2275732	Zinc	0.750	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4

Batch ID: P403821

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2275732	Aluminum	4.76	Spike	P	0 - 20
2275732	Antimony	3.55	Spike	P	0 - 20
2275732	Arsenic	4.83	Spike	P	0 - 20
2275732	Beryllium	0.625	Spike	P	0 - 20
2275732	Cadmium	2.41	Spike	P	0 - 20
2275732	Chromium	4.17	Spike	P	0 - 20
2275732	Copper	5.45	Spike	P	0 - 20
2275732	Lead	4.41	Spike	P	0 - 20
2275732	Nickel	3.94	Spike	P	0 - 20
2275732	Selenium	3.30	Spike	P	0 - 20
2275732	Silver	4.08	Spike	P	0 - 20
2275732	Thallium	4.01	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0

Batch ID: P403645

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2275245	Ammonia-N	0.551	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0

Batch ID: P403664

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2274950	Kjeldahl Nitrogen	1.15	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0

Batch ID: P403623

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2274950	NO2NO3-N	0.0	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 365.1 Rev. 2.0

Batch ID: P403760

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2274950	Total-P	1.32	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Batch ID: P403525

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2274866	O-Phosphate-P	1.32	Spike	P	0 - 20

Reference Method: SM 2320 B-2011

Batch ID: P403656

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2274336	Total Alkalinity	1.93	Sample	P	0 - 5.2

Reference Method: SM 2540 D-2011

Batch ID: P403986

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2274949	TSS	8.22	Sample	P	0 - 10

Reference Method: SM 4500 F-C-2011

Batch ID: P403660

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2274336	Fluoride	0.461	Spike	P	0 - 2.1

Reference Method: SM 5310 B-2011

Batch ID: P403749

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2273874	Organic Carbon	0.781	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: A107698

Included Lab Sample IDs: 2274951

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	99.7	101	P/P	90 - 110

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A107705

Included Lab Sample IDs: 2274949

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Turbidity	98.0	100	P/P	95 - 105

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A107752

Included Lab Sample IDs: 2274950

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

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A107757

Included Lab Sample IDs: 2274950

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

Reference Method: SM 2320 B-2011

Run ID: A107760

Included Lab Sample IDs: 2274949

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

Reference Method: SM 4500 F-C-2011

Run ID: A107760

Included Lab Sample IDs: 2274949

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

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A107796

Included Lab Sample IDs: 2274950

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	107	109	P/P	90 - 110

Reference Method: SM 5310 B-2011

Run ID: A107799

Included Lab Sample IDs: 2274950

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	95.2	95.2	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A107836

Included Lab Sample IDs: 2274950

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	99.5	102	P/P	90 - 110

Reference Method: EPA 200.7 Rev. 4.4

Run ID: A107874

Included Lab Sample IDs: 2274958

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Calcium	101	102	P/P	90 - 110
Iron	100	101	P/P	90 - 110
Magnesium	101	102	P/P	90 - 110
Manganese	101	103	P/P	90 - 110
Zinc	103	105	P/P	90 - 110

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A107945

Included Lab Sample IDs: 2274958

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Aluminum	101	102	P/P	90 - 110
Antimony	99.0	99.6	P/P	90 - 110
Arsenic	96.2	95.8	P/P	90 - 110
Beryllium	95.0	101	P/P	90 - 110
Cadmium	97.3	97.5	P/P	90 - 110
Chromium	96.3	99.3	P/P	90 - 110
Copper	95.9	98.0	P/P	90 - 110
Lead	91.9	92.6	P/P	90 - 110
Nickel	96.2	97.8	P/P	90 - 110
Selenium	96.3	97.8	P/P	90 - 110
Silver	92.1	91.6	P/P	90 - 110
Thallium	96.9	97.6	P/P	90 - 110

* Pass/Fail determinations are made for each bracketing calibration verification check.

Control limits for initial calibration checks may be different from those for continuing checks, depending on method requirements.

Where they are different, both control limits are provided.

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery		LCS	Precision	MS
						SMP	
EPA 180.1 Rev. 2.0	Turbidity					4.04	
EPA 200.7 Rev. 4.4	Calcium	104					3.20
	Iron	107	106	104			2.26
	Magnesium	103					3.41
	Manganese	102	101	98.4			2.69
	Zinc	105	108	107			0.750
EPA 200.8 Rev. 5.4	Aluminum	98.0	106	101			4.76
	Antimony	99.7	103	99.5			3.55
	Arsenic	94.0	109	104			4.83
	Beryllium	90.4	107	106			0.625
	Cadmium	96.6	92.7	90.5			2.41
	Chromium	96.4	103	98.6			4.17
	Copper	93.2	103	97.7			5.45
	Lead	93.0	101	97.1			4.41
	Nickel	93.3	108	104			3.94
	Selenium	95.4	102	98.3			3.30
	Silver	96.4	90.6	87.0			4.08
	Thallium	99.5	108	104			4.01
EPA 350.1 Rev. 2.0	Ammonia-N	98.6	97.8	97.2			0.551
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	106	97.3	98.7			1.15
EPA 353.2 Rev. 2.0	NO2NO3-N	98.5	98.9	98.9			0.0
EPA 365.1 Rev. 2.0	Total-P	106	100	102			1.32
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	101	105	103			1.32
SM 2320 B-2011	Total Alkalinity	103				1.93	
SM 2540 D-2011	TSS					8.22	
SM 4500 F-C-2011	Fluoride	101	99.9	101			0.461
SM 5310 B-2011	Organic Carbon	94.6	94.7	93.9			0.781

Reference Method Descriptions

Method	Description	Associated Samples
EPA 180.1 Rev. 2.0	Turbidity in aqueous matrices	2274949
EPA 200.7 Rev. 4.4	Total Recoverable Metals analysis using ICP emission spectroscopy for aqueous samples supporting Clean Water Act Projects	2274958
EPA 200.8 Rev. 5.4	Total Recoverable Metals analysis using ICP-MS for aqueous samples supporting Clean Water Act Projects	2274958
EPA 350.1 Rev. 2.0	Ammonia in aqueous matrices as mg N/L	2274950
EPA 351.2 Rev. 2.0	Total Kjeldahl Nitrogen in aqueous matrices	2274950
EPA 353.2 Rev. 2.0	Nitrite/Nitrate in aqueous matrices as mg N/L	2274950
EPA 365.1 Rev. 2.0	Total Phosphorus in aqueous matrices as mg P/L	2274950
EPA 365.1 Rev. 2.0 dissolved	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	2274951
SM 2320 B-2011	Alkalinity in aqueous matrices as mg CaCO3/L	2274949
SM 2540 D-2011	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2274949
SM 4500 F-C-2011	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2274949
SM 5310 B-2011	Nonpurgeable Organic Carbon in aqueous matrices	2274950

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	09/09/2021			09/09/2021 15:33	Sarah A Nixon	2274949
EPA 200.7 Rev. 4.4	09/09/2021	09/16/2021 13:30	Elliott D. Healy	09/17/2021 17:48	Josef B Mick	2274958
	09/09/2021	09/16/2021 13:30	Elliott D. Healy	09/17/2021 17:56	Josef B Mick	2274958
	09/09/2021	09/16/2021 13:30	Elliott D. Healy	09/17/2021 18:04	Josef B Mick	2274958
	09/09/2021	09/16/2021 13:30	Elliott D. Healy	09/22/2021 15:13	Alexander Thompson	2274958
EPA 200.8 Rev. 5.4	09/09/2021	09/16/2021 13:30	Elliott D. Healy	09/22/2021 16:39	Alexander Thompson	2274958
	09/09/2021	09/16/2021 13:30	Elliott D. Healy	09/13/2021 13:28	Ping Hua	2274950
EPA 350.1 Rev. 2.0	09/09/2021			09/15/2021 10:40	Alexandra J Mattheus	2274950
EPA 351.2 Rev. 2.0	09/09/2021	09/14/2021 08:30	Benjamin T. Nordmann	09/13/2021 10:19	Beverly Y. Sanders	2274950
EPA 353.2 Rev. 2.0	09/09/2021			09/16/2021 15:56	Virginia P. Brown	2274950
EPA 365.1 Rev. 2.0	09/09/2021	09/15/2021 10:36	Simonne.V. Calhoun	09/09/2021 12:48	James L Waggeberby	2274951
EPA 365.1 Rev. 2.0 dissolved	09/09/2021			09/14/2021 05:39	Dale L. Simmons	2274949
SM 2320 B-2011	09/09/2021			09/13/2021 14:36	Yijie Li	2274949
SM 2540 D-2011	09/09/2021			09/14/2021 04:21	Dale L. Simmons	2274949
SM 4500 F-C-2011	09/09/2021			09/15/2021 05:13	Touraj Touran	2274950
SM 5310 B-2011	09/09/2021					