

Chemical Analysis Report

NE-DIST-2022-11-30-02

Florida DEP Laboratory
2600 Blair Stone Road
Tallahassee, FL 32399-2400
DOH Accreditation E31780

Event Description: **San Sebastian retrieve**
Request ID: **RQ-2022-10-31-24**
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

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Date Certified: 20-DEC-2022 12:35



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: SAN SEBASTIAN RIVER @ US 1

Collection Date/Time: 11/29/2022 11:00

Field ID: 27010141

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2371852	EPA 180.1 Rev. 2.0	Turbidity	11		NTU	P422942	
	SM 2320 B-2011	Total Alkalinity	113		mg CaCO3/L	P423430	
	SM 2540 D-2015	TSS	22	A	mg/L	P423373	
	SM 4500-F- C-2011	Fluoride	1.1		mg F/L	P423578	
2371853	EPA 350.1 Rev. 2.0	Ammonia-N	0.078		mg N/L	P423374	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.46		mg N/L	P423281	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.060		mg N/L	P423018	
	EPA 365.1 Rev. 2.0	Total-P	0.068		mg P/L	P423032	
	SM 5310 B-2011	Organic Carbon	6.0		mg C/L	P423123	
2371856	EPA 200.7 Rev. 4.4	Calcium	363		mg/L	P423148	
		Iron	810		ug/L	P423148	
		Magnesium	1.06E+03		mg/L	P423148	
		Manganese	19	I	ug/L	P423148	
		Strontium	6.74E+03		ug/L	P423148	
		Tin	30	U	ug/L	P423148	
		Titanium	52		ug/L	P423148	
		Vanadium	20	U	ug/L	P423148	
		Zinc	50	U	ug/L	P423148	
	EPA 200.8 Rev. 5.4	Aluminum	1.09E+03		ug/L	P423148	
		Antimony	0.20	U	ug/L	P423148	
		Arsenic	2.49		ug/L	P423148	
		Beryllium	0.054	I	ug/L	P423148	
		Cadmium	0.080	U	ug/L	P423148	
		Chromium	1.9	I	ug/L	P423148	
		Cobalt	0.25	I	ug/L	P423148	
		Copper	1.9	I	ug/L	P423148	
		Lead	2.0	U	ug/L	P423148	
		Molybdenum	10.3		ug/L	P423148	
		Nickel	2.0	U	ug/L	P423148	
		Selenium	0.80	U	ug/L	P423148	
		Silver	0.10	U	ug/L	P423148	
		Thallium	1.0	U	ug/L	P423148	

Ref. Method and Comment:

EPA 200.7 Rev. 4.4: Batch matrix spike recoveries for calcium, magnesium and strontium 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: P422942

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P423148

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
Strontium	2.0	U	ug/L
Tin	3.0	U	ug/L
Titanium	0.75	U	ug/L
Vanadium	2.0	U	ug/L
Zinc	5.0	U	ug/L

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P423148

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
Cobalt	0.020	U	ug/L
Copper	0.40	U	ug/L
Lead	0.20	U	ug/L
Molybdenum	0.15	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: P423374

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P423281

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P423018

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: P423032

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

Reference Method: SM 2320 B-2011
Batch ID: P423430

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

Reference Method: SM 2540 D-2015
Batch ID: P423373

Component	Result	Code	Units
TSS	3	U	mg/L

Reference Method: SM 4500-F- C-2011
Batch ID: P423578

Component	Result	Code	Units
Fluoride	0.025	U	mg F/L

Reference Method: SM 5310 B-2011
Batch ID: P423123

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

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P422942

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Turbidity	99.4		P	90 - 110

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P423148

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Calcium	101		P	85 - 115
Iron	102		P	85 - 115
Magnesium	99.2		P	85 - 115
Manganese	101		P	85 - 115
Strontium	98.0		P	85 - 115
Tin	100		P	85 - 115
Titanium	102		P	85 - 115
Vanadium	100		P	85 - 115
Zinc	98.8		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P423148

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Aluminum	93.7		P	85 - 115
Antimony	96.5		P	85 - 115
Arsenic	95.6		P	85 - 115
Beryllium	96.3		P	85 - 115
Cadmium	97.0		P	85 - 115
Chromium	101		P	85 - 115
Cobalt	100		P	85 - 115
Copper	91.7		P	85 - 115
Lead	97.1		P	85 - 115
Molybdenum	93.8		P	85 - 115
Nickel	91.6		P	85 - 115
Selenium	94.3		P	85 - 115
Silver	95.0		P	85 - 115
Thallium	105		P	85 - 115

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P423374

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Ammonia-N	94.2		P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P423281

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Kjeldahl Nitrogen	94.2		P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P423018

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
NO2NO3-N	104		P	90 - 110

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P423032

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

Reference Method: SM 2320 B-2011
Batch ID: P423430

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	96.6		P	94 - 106

Reference Method: SM 2540 D-2015
Batch ID: P423373

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
TSS	94.4		P	85 - 106

Reference Method: SM 4500-F- C-2011
Batch ID: P423578

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	103		P	96 - 104

Reference Method: SM 5310 B-2011
Batch ID: P423123

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	97.6		P	85 - 115

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P423148

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2371856	Iron	103	104	P/P	70 - 130
2371856	Manganese	106	98.0	P/P	70 - 130
2371856	Tin	108	98.3	P/P	70 - 130
2371856	Titanium	106	74.7	P/P	70 - 130
2371856	Vanadium	116	107	P/P	70 - 130
2371856	Zinc	109	101	P/P	70 - 130

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P423148

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2371856	Aluminum	105	107	P/P	70 - 130
2371856	Antimony	90.8	88.1	P/P	70 - 130
2371856	Arsenic	106	103	P/P	70 - 130
2371856	Beryllium	101	102	P/P	70 - 130
2371856	Cadmium	85.7	84.7	P/P	70 - 130
2371856	Chromium	109	108	P/P	70 - 130
2371856	Cobalt	107	105	P/P	70 - 130
2371856	Copper	103	105	P/P	70 - 130
2371856	Lead	104	102	P/P	70 - 130
2371856	Molybdenum	117	112	P/P	70 - 130
2371856	Nickel	115	112	P/P	70 - 130
2371856	Selenium	89.0	85.8	P/P	70 - 130
2371856	Silver	85.1	84.1	P/P	70 - 130
2371856	Thallium	110	109	P/P	70 - 130

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P423374

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2372106	Ammonia-N	99.0	102	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P423281

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2372787	Kjeldahl Nitrogen	97.8	94.6	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P423018

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2371447	NO2NO3-N	106	106	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P423032

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2372106	Total-P	98.5	102	P/P	90 - 110

Quality Assurance Report

Matrix Spike Accuracy

Reference Method: SM 4500-F- C-2011
Batch ID: P423578

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2374709	Fluoride	99.2	99.9	P/P	94 - 104

Reference Method: SM 5310 B-2011
Batch ID: P423123

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2372102	Organic Carbon	87.7	90.2	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P422942

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2371692	Turbidity	1.61	Sample	P	0 - 20

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P423148

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2371856	Calcium	2.01	Spike	P	0 - 20
2371856	Iron	1.49	Spike	P	0 - 20
2371856	Magnesium	2.83	Spike	P	0 - 20
2371856	Manganese	7.22	Spike	P	0 - 20
2371856	Strontium	2.18	Spike	P	0 - 20
2371856	Tin	9.75	Spike	P	0 - 20
2371856	Titanium	14.5	Spike	P	0 - 20
2371856	Vanadium	7.80	Spike	P	0 - 20
2371856	Zinc	7.20	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P423148

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2371856	Aluminum	1.14	Spike	P	0 - 20
2371856	Antimony	2.98	Spike	P	0 - 20
2371856	Arsenic	2.92	Spike	P	0 - 20
2371856	Beryllium	1.09	Spike	P	0 - 20
2371856	Cadmium	1.10	Spike	P	0 - 20
2371856	Chromium	0.709	Spike	P	0 - 20
2371856	Cobalt	1.74	Spike	P	0 - 20
2371856	Copper	2.06	Spike	P	0 - 20
2371856	Lead	1.65	Spike	P	0 - 20
2371856	Molybdenum	2.77	Spike	P	0 - 20
2371856	Nickel	2.46	Spike	P	0 - 20
2371856	Selenium	3.66	Spike	P	0 - 20
2371856	Silver	1.21	Spike	P	0 - 20
2371856	Thallium	0.631	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P423374

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2372106	Ammonia-N	2.46	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P423281

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2372787	Kjeldahl Nitrogen	3.03	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P423018

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2371447	NO2NO3-N	0.473	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P423032

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2372106	Total-P	3.52	Spike	P	0 - 20

Reference Method: SM 2320 B-2011
Batch ID: P423430

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2372105	Total Alkalinity	0.0847	Sample	P	0 - 3.8

Reference Method: SM 2540 D-2015
Batch ID: P423373

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2371852	TSS	5.50	Sample	P	0 - 10

Reference Method: SM 4500-F- C-2011
Batch ID: P423578

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2374709	Fluoride	0.470	Spike	P	0 - 1.6

Reference Method: SM 5310 B-2011
Batch ID: P423123

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2372102	Organic Carbon	2.48	Spike	P	0 - 20

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

Quality Assurance Report Calibration Verification

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A116196

Included Lab Sample IDs: 2371852

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

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A116225

Included Lab Sample IDs: 2371853

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	103	104	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A116260

Included Lab Sample IDs: 2371853

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	99.2	99.5	P/P	90 - 110

Reference Method: SM 5310 B-2011

Run ID: A116271

Included Lab Sample IDs: 2371853

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	99.2	92.4	P/P	90 - 110

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A116317

Included Lab Sample IDs: 2371856

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Aluminum	93.2	93.6	P/P	90 - 110
Antimony	91.8	90.7	P/P	90 - 110
Arsenic	97.3	95.2	P/P	90 - 110
Cadmium	93.7	92.3	P/P	90 - 110
Copper	93.9	94.4	P/P	90 - 110
Molybdenum	92.0	90.7	P/P	90 - 110
Nickel	92.6	93.1	P/P	90 - 110
Selenium	95.5	93.6	P/P	90 - 110
Silver	92.9	91.1	P/P	90 - 110

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A116345

Included Lab Sample IDs: 2371856

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Beryllium	106	103	P/P	90 - 110
Chromium	101	99.9	P/P	90 - 110
Cobalt	101	99.9	P/P	90 - 110
Lead	93.2	93.5	P/P	90 - 110
Thallium	99.9	99.8	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A116358

Included Lab Sample IDs: 2371853

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	97.6	97.0	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A116362

Included Lab Sample IDs: 2371853

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	90.6	90.7	P/P	90 - 110

Reference Method: SM 2320 B-2011

Run ID: A116396

Included Lab Sample IDs: 2371852

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	93.7	91.7	P/P	90 - 110

Reference Method: SM 4500-F- C-2011

Run ID: A116456

Included Lab Sample IDs: 2371852

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

Reference Method: EPA 200.7 Rev. 4.4

Run ID: A116524

Included Lab Sample IDs: 2371856

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Calcium	102	101	P/P	90 - 110
Iron	104	102	P/P	90 - 110
Magnesium	101	101	P/P	90 - 110
Manganese	102	100	P/P	90 - 110
Strontium	103	101	P/P	90 - 110
Tin	103	101	P/P	90 - 110
Titanium	102	99.3	P/P	90 - 110
Vanadium	100	97.7	P/P	90 - 110
Zinc	101	99.0	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	99.4				1.61	
EPA 200.7 Rev. 4.4	Calcium	101					2.01
	Iron	102	103	104			1.49
	Magnesium	99.2					2.83
	Manganese	101	106	98.0			7.22
	Strontium	98.0					2.18
	Tin	100	108	98.3			9.75
	Titanium	102	106	74.7			14.5
	Vanadium	100	116	107			7.80
	Zinc	98.8	109	101			7.20
EPA 200.8 Rev. 5.4	Aluminum	93.7	105	107			1.14
	Antimony	96.5	90.8	88.1			2.98
	Arsenic	95.6	106	103			2.92
	Beryllium	96.3	101	102			1.09
	Cadmium	97.0	85.7	84.7			1.10
	Chromium	101	109	108			0.709
	Cobalt	100	107	105			1.74
	Copper	91.7	103	105			2.06
	Lead	97.1	104	102			1.65
	Molybdenum	93.8	117	112			2.77
	Nickel	91.6	115	112			2.46
	Selenium	94.3	89.0	85.8			3.66
	Silver	95.0	85.1	84.1			1.21
	Thallium	105	110	109			0.631
EPA 350.1 Rev. 2.0	Ammonia-N	94.2	99.0	102			2.46
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	94.2	97.8	94.6			3.03
EPA 353.2 Rev. 2.0	NO2NO3-N	104	106	106			0.473
EPA 365.1 Rev. 2.0	Total-P	105	98.5	102			3.52
SM 2320 B-2011	Total Alkalinity	96.6				0.0847	
SM 2540 D-2015	TSS	94.4				5.50	
SM 4500-F- C-2011	Fluoride	103	99.2	99.9			0.470
SM 5310 B-2011	Organic Carbon	97.6	87.7	90.2			2.48

Reference Method Descriptions

Method	Description	Associated Samples
EPA 180.1 Rev. 2.0	Turbidity in aqueous matrices	2371852
EPA 200.7 Rev. 4.4	Total Recoverable Metals analysis using ICP emission spectroscopy for aqueous samples supporting Clean Water Act Projects	2371856
EPA 200.8 Rev. 5.4	Total Recoverable Metals analysis using ICP-MS for aqueous samples supporting Clean Water Act Projects	2371856
EPA 350.1 Rev. 2.0	Ammonia in aqueous matrices as mg N/L	2371853
EPA 351.2 Rev. 2.0	Total Kjeldahl Nitrogen in aqueous matrices	2371853
EPA 353.2 Rev. 2.0	Nitrite/Nitrate in aqueous matrices as mg N/L	2371853
EPA 365.1 Rev. 2.0	Total Phosphorus in aqueous matrices as mg P/L	2371853
SM 2320 B-2011	Alkalinity in aqueous matrices as mg CaCO3/L	2371852
SM 2540 D-2015	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2371852
SM 4500-F- C-2011	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2371852
SM 5310 B-2011	Nonpurgeable Organic Carbon in aqueous matrices	2371853

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	11/30/2022			11/30/2022 14:19	Anna M. Plaviak	2371852
EPA 200.7 Rev. 4.4	11/30/2022	12/06/2022 11:20	Vijayalakshmi Reddy	12/16/2022 12:54	Betina Topolski	2371856
	11/30/2022	12/06/2022 11:20	Vijayalakshmi Reddy	12/16/2022 13:47	Betina Topolski	2371856
	11/30/2022	12/06/2022 11:20	Vijayalakshmi Reddy	12/16/2022 14:11	Betina Topolski	2371856
	11/30/2022	12/06/2022 11:20	Vijayalakshmi Reddy	12/07/2022 22:47	Megan Whitefoot	2371856
EPA 200.8 Rev. 5.4	11/30/2022	12/06/2022 11:20	Vijayalakshmi Reddy	12/08/2022 00:32	Megan Whitefoot	2371856
	11/30/2022	12/06/2022 11:20	Vijayalakshmi Reddy	12/08/2022 18:05	Emily M Philpot	2371856
	11/30/2022	12/06/2022 11:20	Vijayalakshmi Reddy	12/08/2022 19:21	Emily M Philpot	2371856
	11/30/2022	12/06/2022 11:20	Vijayalakshmi Reddy	12/09/2022 11:18	Ping Hua	2371853
EPA 350.1 Rev. 2.0	11/30/2022			12/09/2022 14:10	Judith K. Clark	2371853
EPA 351.2 Rev. 2.0	11/30/2022	12/08/2022 11:30	Simonne.V. Calhoun	12/02/2022 09:41	Beverly Y. Sanders	2371853
EPA 353.2 Rev. 2.0	11/30/2022			12/05/2022 13:28	Simonne.V. Calhoun	2371853
EPA 365.1 Rev. 2.0	11/30/2022	12/02/2022 09:51	Adam P Silver	12/13/2022 00:59	Dale L. Simmons	2371852
SM 2320 B-2011	11/30/2022			12/05/2022 16:21	Yijie Li	2371852
SM 2540 D-2015	11/30/2022			12/14/2022 22:37	Dale L. Simmons	2371852
SM 4500-F- C-2011	11/30/2022			12/05/2022 22:30	Elise M. Gillis	2371853
SM 5310 B-2011	11/30/2022					