

Chemical Analysis Report

SE-DIST-2022-07-21-02

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

Event Description: **Sebastian Deploy and Pickup**

Request ID: **RQ-2022-06-27-42**

Customer: **SE-DIST**

Project ID: **SMP**

Send Reports to:

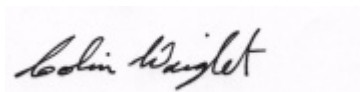
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Certified by: Colin Wright, Program Administrator

Date Certified: 08-AUG-2022 08:36



Case Narrative

Unless otherwise noted, all samples included in this report were received in accordance with protocols referenced in Chapter 62-160, Florida Administrative Code (F.A.C.). Results published in this report pertain only to the samples as submitted to, and received by the laboratory. All times in this report are adjusted to the applicable Eastern Time Zone (EST or EDT).

Results for the following analytical groups are included in this report: Metals and Nutrients.

Scientific notation may be used in reporting very large or small values. Values reported using scientific notation will take the form of the following example: 1.3E+03, which is equivalent to 1.3×10^3 or 1300.

Unless otherwise noted, analytical values for soil and sediment samples are reported on a dry weight basis, and analytical values for waste and tissue samples are reported on a wet weight basis.

Results for TNI accredited tests met requirements established by The NELAC Institute. A double asterisk (**) is used to indicate an analyte/matrix/method for which the laboratory is not TNI accredited by the Florida Department of Health Environmental Laboratory Certification Program or where accreditation for that field of testing is not applicable.

Any significant anomalies or deviations from established protocols are documented in Non-Conformance Reports, which, where appropriate, are included within this analytical report. Additional comments related to specific analytical tests may be included as remarks following the analytical results for each sample. Such comments and remarks are for informational purposes only and are not intended to convey judgement about the usability of the reported data.

A quality control report on the performance of the test method for the submitted samples is included. Uncertainty associated with the analytical results contained in this report can be estimated from the reported quality assurance results and from published quality control acceptance limits for each analytical test. Matrix quality control results (matrix spike recoveries and matrix sample precision) pertain only to the matrix sample tested and do not necessarily reflect test method performance for other samples.

Typical matrix quality control (QC) measurements may include matrix spike recovery, matrix spike duplicate recovery, matrix spike precision and matrix sample precision. Not all matrix QC results may be available or reportable; where they are not an explanation is provided. Typical reasons for unavailable QC results include, but are not limited to, a) insufficient matrix sample to perform some or all QC measurements; b) analyte concentration in the sample replicated was too low for a meaningful measurement of precision and c) analyte concentration in the matrix sample spiked was too high (relative to the amount of analyte spiked) for a meaningful measurement of recovery. Where matrix QC results are unavailable, other method performance metrics (e.g., LCS recovery, LCS precision, surrogate recovery) may be used to assess performance of the method. Comments explaining any missing QC measurements are not intended to convey any adverse conclusions about the quality of the reported data.

Precision is reported as relative percent difference unless otherwise noted.

Quality Control codes as defined below may be used in this report to indicate results that are associated with one or more quality control elements which did not fall within established test method criteria. Such results may be qualified as estimates using a J qualifier as required by 62-160 F.A.C. Explanations are included in the report for any results that were reported as estimates for other reasons.

QC Codes used in this report may include:

- LCS – Recovery for the batch Laboratory Control Sample (LCS) was outside existing control limits;
- MS – Recovery for the batch matrix spike (MS) was outside existing control limits;
- CCV – Recovery for a continuing calibration verification (CCV) standard was outside existing control limits;
- SUR – Recovery of a surrogate (SUR) for associated analytes was outside existing control limits;
- RPD – The precision, measured as relative percent difference (RPD), of batch replicate measurements was outside existing control limits;
- RSD – The precision, measured as relative standard deviation (RSD), of batch replicate measurements was outside existing control limits;
- SMP – Sample - used precision derived from replicate analyses of a sample;

The following data qualifiers are used, where applicable, in this report as specified in 62-160 F.A.C.

- A - Value reported is the mean of two or more determinations.
- B - Results based on colony counts outside the acceptable range.
- I - The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.
- J - Estimated value and/or the analysis did not meet established quality control criteria.
- K - Actual value is known to be less than value given.
- L - Actual value is known to be greater than value given.
- N - Presumptive evidence of presence of material.
- O - Sampled, but analysis lost or not performed.
- Q - Sample held beyond normal holding time.
- T - Value reported is less than the criterion of detection.
- U - Material was analyzed for but not detected. The reported value is the method detection limit for the sample analyzed.
- V - Analyte was detected in both sample and method blank.
- X - Too few individuals to calculate SCI value.
- Y - The laboratory analysis was from an unpreserved or improperly preserved sample. The data may not be accurate.
- Z - Colonies were too numerous to count (TNTC).

Quality control information from overflow laboratories may not be included in this report. Please refer to the associated report from the overflow laboratory for additional information.

Sample Location: C-54 confluence with Sebastian near Mockingbird Lane Dock

Collection Date/Time: 07/20/2022 13:30

Field ID: G5SE0106

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2343233	EPA 180.1 Rev. 2.0	Turbidity	3.2	A	NTU	P417012	
	SM 2320 B-2011	Total Alkalinity	118		mg CaCO3/L	P417354	
	SM 2540 D-2011	TSS	3	U	mg/L	P417483	
	SM 4500-F- C-2011	Fluoride	0.34		mg F/L	P417356	
2343234	EPA 350.1 Rev. 2.0	Ammonia-N	0.10		mg N/L	P417313	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.3		mg N/L	P417235	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.081		mg N/L	P417331	
	EPA 365.1 Rev. 2.0	Total-P	0.33		mg P/L	P417096	
	SM 5310 B-2011	Organic Carbon	22		mg C/L	P417158	
2343237	EPA 200.7 Rev. 4.4	Calcium	80.7		mg/L	P417137	
		Iron	1.11E+03		ug/L	P417137	
		Magnesium	93.0		mg/L	P417137	
		Strontium	3.01E+03		ug/L	P417137	
		Tin	12	U	ug/L	P417137	
		Titanium	3.0	U	ug/L	P417137	
		Vanadium	8.0	U	ug/L	P417137	
		Zinc	20	U	ug/L	P417137	
		Aluminum	76	I	ug/L	P417137	
		Antimony	0.20	U	ug/L	P417137	
		Arsenic	2.17		ug/L	P417137	
		Beryllium	0.040	U	ug/L	P417137	
	EPA 200.8 Rev. 5.4	Cadmium	0.080	U	ug/L	P417137	
		Chromium	1.6	U	ug/L	P417137	
		Cobalt	0.22	I	ug/L	P417137	
		Copper	9.4		ug/L	P417137	
		Lead	0.80	U	ug/L	P417137	
		Manganese	65.6		ug/L	P417137	
		Molybdenum	2.5		ug/L	P417137	
		Nickel	2.0	U	ug/L	P417137	
		Selenium	0.80	U	ug/L	P417137	
		Silver	0.040	U	ug/L	P417137	
		Thallium	0.40	U	ug/L	P417137	

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.

EPA 200.8 Rev. 5.4: The copper result was confirmed in the undigested sample on 07/28/2022.

Quality Assurance Report

Method Blank Results

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P417012

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P417137

Component	Result	Code	Units
Calcium	0.075	U	mg/L
Iron	30	U	ug/L
Magnesium	0.040	U	mg/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: P417137

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
Manganese	0.10	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: P417313

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P417235

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P417331

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: P417096

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

Reference Method: SM 2320 B-2011
Batch ID: P417354

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

Reference Method: SM 2540 D-2011
Batch ID: P417483

Component	Result	Code	Units
TSS	3	U	mg/L

Reference Method: SM 4500-F- C-2011
Batch ID: P417356

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-2011
Batch ID: P417158

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: P417012

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Turbidity	97.2		P	90 - 110

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P417137

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Calcium	105		P	85 - 115
Iron	106		P	85 - 115
Magnesium	104		P	85 - 115
Strontium	109		P	85 - 115
Tin	106		P	85 - 115
Titanium	105		P	85 - 115
Vanadium	104		P	85 - 115
Zinc	103		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P417137

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Aluminum	99.0		P	85 - 115
Antimony	96.6		P	85 - 115
Arsenic	98.8		P	85 - 115
Beryllium	85.5		P	85 - 115
Cadmium	96.2		P	85 - 115
Chromium	97.4		P	85 - 115
Cobalt	96.8		P	85 - 115
Copper	97.6		P	85 - 115
Lead	99.6		P	85 - 115
Manganese	97.1		P	85 - 115
Molybdenum	96.5		P	85 - 115
Nickel	96.0		P	85 - 115
Selenium	95.5		P	85 - 115
Silver	101		P	85 - 115
Thallium	101		P	85 - 115

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P417313

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Ammonia-N	96.2		P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P417235

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P417331

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

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P417096

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

Reference Method: SM 2320 B-2011
Batch ID: P417354

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	99.1		P	94 - 106

Reference Method: SM 4500-F- C-2011
Batch ID: P417356

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

Reference Method: SM 5310 B-2011
Batch ID: P417158

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	97.1		P	85 - 115

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P417137

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2343227	Iron	109	109	P/P	80 - 120
2343227	Tin	108	113	P/P	80 - 120
2343227	Titanium	114	115	P/P	80 - 120
2343227	Vanadium	104	103	P/P	80 - 120
2343227	Zinc	104	104	P/P	80 - 120

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P417137

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2343227	Aluminum	99.1	98.7	P/P	70 - 130
2343227	Antimony	106	103	P/P	70 - 130
2343227	Arsenic	113	110	P/P	70 - 130
2343227	Beryllium	103	101	P/P	70 - 130
2343227	Cadmium	99.2	97.7	P/P	70 - 130
2343227	Chromium	106	104	P/P	70 - 130
2343227	Cobalt	106	106	P/P	70 - 130
2343227	Copper	102	101	P/P	70 - 130
2343227	Lead	101	101	P/P	70 - 130
2343227	Manganese	101	100	P/P	70 - 130
2343227	Molybdenum	106	106	P/P	70 - 130
2343227	Nickel	106	105	P/P	70 - 130
2343227	Selenium	104	103	P/P	70 - 130
2343227	Silver	97.4	96.5	P/P	70 - 130
2343227	Thallium	101	102	P/P	70 - 130

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P417313

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2342195	Ammonia-N	105	101	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P417235

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2343341	Kjeldahl Nitrogen	93.8	93.7	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P417331

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2343212	NO2NO3-N	95.6	94.6	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P417096

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2343187	Total-P	103	105	P/P	90 - 110

Quality Assurance Report

Matrix Spike Accuracy

Reference Method: SM 4500-F- C-2011
Batch ID: P417356

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2342914	Fluoride	103	103	P/P	94 - 104

Reference Method: SM 5310 B-2011
Batch ID: P417158

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2341796	Organic Carbon	91.1	90.3	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0

Batch ID: P417012

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2343233	Turbidity	4.08	Sample	P	0 - 20

Reference Method: EPA 200.7 Rev. 4.4

Batch ID: P417137

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2343227	Calcium	2.06	Spike	P	0 - 20
2343227	Iron	0.292	Spike	P	0 - 20
2343227	Magnesium	1.14	Spike	P	0 - 20
2343227	Strontium	1.18	Spike	P	0 - 20
2343227	Tin	4.33	Spike	P	0 - 20
2343227	Titanium	0.152	Spike	P	0 - 20
2343227	Vanadium	1.50	Spike	P	0 - 20
2343227	Zinc	0.289	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4

Batch ID: P417137

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2343227	Aluminum	0.461	Spike	P	0 - 20
2343227	Antimony	2.75	Spike	P	0 - 20
2343227	Arsenic	2.31	Spike	P	0 - 20
2343227	Beryllium	1.96	Spike	P	0 - 20
2343227	Cadmium	1.53	Spike	P	0 - 20
2343227	Chromium	1.85	Spike	P	0 - 20
2343227	Cobalt	0.0433	Spike	P	0 - 20
2343227	Copper	1.04	Spike	P	0 - 20
2343227	Lead	0.109	Spike	P	0 - 20
2343227	Manganese	0.244	Spike	P	0 - 20
2343227	Molybdenum	0.0730	Spike	P	0 - 20
2343227	Nickel	1.41	Spike	P	0 - 20
2343227	Selenium	1.08	Spike	P	0 - 20
2343227	Silver	0.938	Spike	P	0 - 20
2343227	Thallium	0.715	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0

Batch ID: P417313

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2342195	Ammonia-N	3.66	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0

Batch ID: P417235

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2343341	Kjeldahl Nitrogen	0.134	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P417331

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2343212	NO2NO3-N	1.05	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P417096

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2343187	Total-P	1.69	Spike	P	0 - 20

Reference Method: SM 2320 B-2011
Batch ID: P417354

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2342914	Total Alkalinity	0.352	Sample	P	0 - 3.8

Reference Method: SM 2540 D-2011
Batch ID: P417483

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2343186	TSS	6.67	Sample	P	0 - 10

Reference Method: SM 4500-F- C-2011
Batch ID: P417356

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2342914	Fluoride	0.0	Spike	P	0 - 1.6

Reference Method: SM 5310 B-2011
Batch ID: P417158

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2341796	Organic Carbon	0.767	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: A113649

Included Lab Sample IDs: 2343233

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

Reference Method: SM 5310 B-2011

Run ID: A113703

Included Lab Sample IDs: 2343234

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	93.4	96.2	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A113730

Included Lab Sample IDs: 2343234

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

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A113745

Included Lab Sample IDs: 2343237

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Aluminum	99.4	98.1	P/P	90 - 110
Antimony	100	99.2	P/P	90 - 110
Arsenic	103	102	P/P	90 - 110
Beryllium	93.9	99.0	P/P	90 - 110
Cadmium	101	100	P/P	90 - 110
Chromium	102	101	P/P	90 - 110
Cobalt	99.5	101	P/P	90 - 110
Copper	100	101	P/P	90 - 110
Lead	98.6	98.3	P/P	90 - 110
Manganese	100	100	P/P	90 - 110
Molybdenum	98.8	97.9	P/P	90 - 110
Nickel	99.1	99.9	P/P	90 - 110
Selenium	99.8	98.8	P/P	90 - 110
Silver	104	103	P/P	90 - 110
Thallium	98.5	97.2	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A113763

Included Lab Sample IDs: 2343234

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	101	98.7	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A113764

Included Lab Sample IDs: 2343234

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	99.8	99.6	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A113767

Included Lab Sample IDs: 2343234

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

Reference Method: SM 2320 B-2011

Run ID: A113778

Included Lab Sample IDs: 2343233

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	99.4	97.9	P/P	90 - 110

Reference Method: SM 4500-F- C-2011

Run ID: A113778

Included Lab Sample IDs: 2343233

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	107	106	P/P	90 - 110

Reference Method: EPA 200.7 Rev. 4.4

Run ID: A113834

Included Lab Sample IDs: 2343237

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Calcium	101	99.6	P/P	90 - 110
Iron	101	102	P/P	90 - 110
Magnesium	100	101	P/P	90 - 110
Strontium	102	103	P/P	90 - 110
Tin	98.0	98.0	P/P	90 - 110
Titanium	97.4	99.0	P/P	90 - 110
Vanadium	98.7	98.2	P/P	90 - 110
Zinc	96.7	97.9	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	97.2				4.08	
EPA 200.7 Rev. 4.4	Calcium	105					2.06
	Iron	106	109	109			0.292
	Magnesium	104					1.14
	Strontium	109					1.18
	Tin	106	108	113			4.33
	Titanium	105	114	115			0.152
	Vanadium	104	104	103			1.50
	Zinc	103	104	104			0.289
EPA 200.8 Rev. 5.4	Aluminum	99.0	99.1	98.7			0.461
	Antimony	96.6	106	103			2.75
	Arsenic	98.8	113	110			2.31
	Beryllium	85.5	103	101			1.96
	Cadmium	96.2	99.2	97.7			1.53
	Chromium	97.4	106	104			1.85
	Cobalt	96.8	106	106			0.0433
	Copper	97.6	102	101			1.04
	Lead	99.6	101	101			0.109
	Manganese	97.1	101	100			0.244
	Molybdenum	96.5	106	106			0.0730
	Nickel	96.0	106	105			1.41
	Selenium	95.5	104	103			1.08
	Silver	101	97.4	96.5			0.938
	Thallium	101	101	102			0.715
EPA 350.1 Rev. 2.0	Ammonia-N	96.2	105	101			3.66
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	108	93.8	93.7			0.134
EPA 353.2 Rev. 2.0	NO2NO3-N	99.5	95.6	94.6			1.05
EPA 365.1 Rev. 2.0	Total-P	103	103	105			1.69
SM 2320 B-2011	Total Alkalinity	99.1				0.352	
SM 2540 D-2011	TSS					6.67	
SM 4500-F- C-2011	Fluoride	104	103	103			0.0
SM 5310 B-2011	Organic Carbon	97.1	91.1	90.3			0.767

Reference Method Descriptions

Method	Description	Associated Samples
EPA 180.1 Rev. 2.0	Turbidity in aqueous matrices	2343233
EPA 200.7 Rev. 4.4	Total Recoverable Metals analysis using ICP emission spectroscopy for aqueous samples supporting Clean Water Act Projects	2343237
EPA 200.8 Rev. 5.4	Total Recoverable Metals analysis using ICP-MS for aqueous samples supporting Clean Water Act Projects	2343237
EPA 350.1 Rev. 2.0	Ammonia in aqueous matrices as mg N/L	2343234
EPA 351.2 Rev. 2.0	Total Kjeldahl Nitrogen in aqueous matrices	2343234
EPA 353.2 Rev. 2.0	Nitrite/Nitrate in aqueous matrices as mg N/L	2343234
EPA 365.1 Rev. 2.0	Total Phosphorus in aqueous matrices as mg P/L	2343234
SM 2320 B-2011	Alkalinity in aqueous matrices as mg CaCO3/L	2343233
SM 2540 D-2011	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2343233
SM 4500-F- C-2011	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2343233
SM 5310 B-2011	Nonpurgeable Organic Carbon in aqueous matrices	2343234

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	07/21/2022			07/21/2022 14:27	Anna M. Plaviak	2343233
EPA 200.7 Rev. 4.4	07/21/2022	07/26/2022 09:00	Mackenzie Hunt	08/02/2022 00:46	McKinley C Carter	2343237
EPA 200.8 Rev. 5.4	07/21/2022	07/26/2022 09:00	Mackenzie Hunt	07/27/2022 19:32	Alexander Thompson	2343237
EPA 350.1 Rev. 2.0	07/21/2022			07/28/2022 11:08	Ping Hua	2343234
EPA 351.2 Rev. 2.0	07/21/2022	07/27/2022 11:55	Simonne.V. Calhoun	07/28/2022 12:34	Samantha L Bates	2343234
EPA 353.2 Rev. 2.0	07/21/2022			07/27/2022 17:00	Touraj Touran	2343234
EPA 365.1 Rev. 2.0	07/21/2022	07/25/2022 15:50	Adam P Silver	07/27/2022 10:51	James L Waggerby	2343234
SM 2320 B-2011	07/21/2022			07/29/2022 02:27	Dale L. Simmons	2343233
SM 2540 D-2011	07/21/2022			07/26/2022 15:02	Yijie Li	2343233
SM 4500-F- C-2011	07/21/2022			07/29/2022 02:27	Dale L. Simmons	2343233
SM 5310 B-2011	07/21/2022			07/23/2022 11:05	Touraj Touran	2343234