

Chemical Analysis Report

NE-DIST-2023-03-21-01

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

Event Description: **Nassau West 2023**
Request ID: **RQ-2023-03-13-07**
Customer: **NE-DIST**
Project ID: **SMP**

Send Reports to:
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8800 Baymeadows Way West
Suite 100
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Certified by: Colin Wright, Program Administrator

Date Certified: 17-APR-2023 13:45

A handwritten signature in black ink, reading "Colin Wright", is displayed on a light pink rectangular background.

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: DEEP CR @ CR US 90

Collection Date/Time: 03/20/2023 10:25

Field ID: 19010085

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2395078	DEP SOP: NU-094-1	Color (true)	220		PCU	P427412	
	EPA 180.1 Rev. 2.0	Turbidity	3.0		NTU	P427423	
	EPA 300.0 Rev. 2.1	Chloride	20		mg Cl/L	P427804	
		Sulfate	6.8		mg SO4/L	P427806	
	SM 2320 B-2011	Total Alkalinity	40		mg CaCO3/L	P427558	
	SM 2540 C-2015	TDS	140		mg/L	P428162	
	SM 2540 D-2015	TSS	2	I	mg/L	P427911	
	SM 4500-F- C-2011	Fluoride	0.075	I	mg F/L	P427560	
2395080	EPA 350.1 Rev. 2.0	Ammonia-N	0.014		mg N/L	P427572	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.87		mg N/L	P428403	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.046		mg N/L	P427548	
	EPA 365.1 Rev. 2.0	Total-P	0.089		mg P/L	P427533	
	SM 5310 B-2011	Organic Carbon	25		mg C/L	P427749	
2395097	EPA 200.7 Rev. 4.4	Calcium	16.4		mg/L	P427491	
		Iron	560		ug/L	P427491	
		Magnesium	3.12		mg/L	P427491	
		Potassium	2.5		mg/L	P427491	
		Sodium	12.7		mg/L	P427491	
		Strontium	79.6		ug/L	P427491	
		Tin	3.0	U	ug/L	P427491	
		Titanium	1.0	I	ug/L	P427491	
	EPA 200.8 Rev. 5.4	Vanadium	2.0	U	ug/L	P427491	
		Zinc	5.0	U	ug/L	P427491	
		Aluminum	256		ug/L	P427491	
		Antimony	0.16	I	ug/L	P427491	
		Arsenic	0.47		ug/L	P427491	
		Barium	19.3		ug/L	P427491	
		Beryllium	0.020	I	ug/L	P427491	
		Boron	53.6		ug/L	P427491	
		Cadmium	0.694		ug/L	P427491	
		Chromium	0.86	I	ug/L	P427491	
		Cobalt	0.124		ug/L	P427491	
		Copper	0.58	I	ug/L	P427491	
		Lead	0.29	I	ug/L	P427491	
		Manganese	13.4		ug/L	P427491	
		Molybdenum	1.45		ug/L	P427491	
		Nickel	0.76	I	ug/L	P427491	
		Selenium	0.20	U	ug/L	P427491	
		Silver	0.010	U	ug/L	P427491	
		Thallium	0.10	U	ug/L	P427491	
	SM 2340 B-2011	Hardness	53.7		mg/L	P427491	

Ref. Method and Comment:

SM 2540 D-2015: Batch relative percent difference is unavailable because of low 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.

EPA 200.8 Rev. 5.4: The cadmium result was confirmed in the undigested sample on 03/24/2023.

Sample Location: ST MARYS RIVER AT SR 121 GA LINE

Collection Date/Time: 03/20/2023 11:10

Field ID: 19010002

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2395079	DEP SOP: NU-094-1	Color (true)	300		PCU	P427412	
	EPA 180.1 Rev. 2.0	Turbidity	2.5		NTU	P427423	
	EPA 300.0 Rev. 2.1	Chloride	7.9		mg Cl/L	P427856	
		Sulfate	0.65		mg SO4/L	P427859	
	SM 2320 B-2011	Total Alkalinity	0.65	U	mg CaCO3/L	P427558	
	SM 2540 C-2015	TDS	74		mg/L	P428162	
	SM 2540 D-2015	TSS	2	I	mg/L	P427911	
	SM 4500-F- C-2011	Fluoride	0.034	I	mg F/L	P427560	
2395081	EPA 350.1 Rev. 2.0	Ammonia-N	0.007		mg N/L	P427572	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.81		mg N/L	P428403	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.028		mg N/L	P427548	
	EPA 365.1 Rev. 2.0	Total-P	0.020		mg P/L	P427533	
	SM 5310 B-2011	Organic Carbon	33		mg C/L	P427749	
2395098	EPA 200.7 Rev. 4.4	Calcium	2.49		mg/L	P427491	
		Iron	590		ug/L	P427491	
		Magnesium	1.17		mg/L	P427491	
		Potassium	0.30	U	mg/L	P427491	
		Sodium	3.9		mg/L	P427491	
		Strontium	10		ug/L	P427491	
		Tin	3.0	U	ug/L	P427491	
		Titanium	1.4	I	ug/L	P427491	
	EPA 200.8 Rev. 5.4	Vanadium	2.0	U	ug/L	P427491	
		Zinc	5.0	U	ug/L	P427491	
		Aluminum	433		ug/L	P427491	
		Antimony	0.050	U	ug/L	P427491	
		Arsenic	0.34		ug/L	P427491	
		Barium	12.5		ug/L	P427491	
		Beryllium	0.031	I	ug/L	P427491	
		Boron	14.2		ug/L	P427491	
		Cadmium	0.503		ug/L	P427491	
		Chromium	0.56	I	ug/L	P427491	
		Cobalt	0.211		ug/L	P427491	
		Copper	1.62		ug/L	P427491	
		Lead	0.56		ug/L	P427491	
		Manganese	12.4		ug/L	P427491	
		Molybdenum	0.15	U	ug/L	P427491	
		Nickel	0.50	U	ug/L	P427491	
		Selenium	0.20	U	ug/L	P427491	
		Silver	0.010	U	ug/L	P427491	
		Thallium	0.10	U	ug/L	P427491	
	SM 2340 B-2011	Hardness	11.0		mg/L	P427491	

Field ID: 19010002

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
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Ref. Method and Comment:
EPA 300.0 Rev. 2.1: Sulfate: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.
SM 2540 D-2015: Batch relative percent difference is unavailable because of low 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.
EPA 200.8 Rev. 5.4: The cadmium and lead result was confirmed in the undigested sample on 03/24/2023.

Sample Location: ST MARYS PRONG @ US 90

Collection Date/Time: 03/20/2023 11:40

Field ID: 19010021

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2395099	EPA 200.7 Rev. 4.4	Calcium	4.89		mg/L	P427491	
		Iron	550		ug/L	P427491	
		Magnesium	1.92		mg/L	P427491	
		Potassium	0.78	I	mg/L	P427491	
		Sodium	6.9		mg/L	P427491	
		Strontium	34.2		ug/L	P427491	
		Tin	3.0	U	ug/L	P427491	
		Titanium	1.0	I	ug/L	P427491	
		Vanadium	2.0	U	ug/L	P427491	
		Zinc	5.0	U	ug/L	P427491	
	EPA 200.8 Rev. 5.4	Aluminum	476		ug/L	P427491	
		Antimony	0.050	U	ug/L	P427491	
		Arsenic	0.32		ug/L	P427491	
		Barium	19.1		ug/L	P427491	
		Beryllium	0.029	I	ug/L	P427491	
		Boron	23.8		ug/L	P427491	
		Cadmium	0.020	U	ug/L	P427491	
		Chromium	0.69	I	ug/L	P427491	
		Cobalt	0.269		ug/L	P427491	
		Copper	0.40	U	ug/L	P427491	
	SM 2340 B-2011	Lead	0.35	I	ug/L	P427491	
		Manganese	20.2		ug/L	P427491	
		Molybdenum	0.22	I	ug/L	P427491	
		Nickel	0.54	I	ug/L	P427491	
		Selenium	0.20	U	ug/L	P427491	
		Silver	0.010	U	ug/L	P427491	
		Thallium	0.10	U	ug/L	P427491	
		Hardness	20.1		mg/L	P427491	

Sample Location: SWIFT CREEK POND CENTER

Collection Date/Time: 03/20/2023 12:25

Field ID: 21030066

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2395082	DEP SOP: NU-094-1	Color (true)	320		PCU	P427412	
	EPA 180.1 Rev. 2.0	Turbidity	8.2		NTU	P427423	
	EPA 300.0 Rev. 2.1	Chloride	7.5		mg Cl/L	P427856	
		Sulfate	1.3		mg SO4/L	P427859	
	SM 2320 B-2011	Total Alkalinity	0.74	I	mg CaCO3/L	P427558	
	SM 2540 C-2015	TDS	61		mg/L	P428162	
	SM 2540 D-2015	TSS	3	I	mg/L	P427911	
	SM 4500-F- C-2011	Fluoride	0.039	I	mg F/L	P427560	
2395083	EPA 350.1 Rev. 2.0	Ammonia-N	0.012		mg N/L	P427572	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.86		mg N/L	P428403	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.064		mg N/L	P427548	
	EPA 365.1 Rev. 2.0	Total-P	0.059		mg P/L	P427533	
	SM 5310 B-2011	Organic Carbon	24		mg C/L	P427749	
2395100	EPA 200.7 Rev. 4.4	Calcium	2.62		mg/L	P427491	
		Iron	550		ug/L	P427491	
		Magnesium	1.29		mg/L	P427491	
		Potassium	0.37	I	mg/L	P427491	
		Sodium	3.8		mg/L	P427491	
		Strontium	10.8		ug/L	P427491	
		Tin	3.0	U	ug/L	P427491	
		Titanium	1.6	I	ug/L	P427491	
	EPA 200.8 Rev. 5.4	Vanadium	2.0	U	ug/L	P427491	
		Zinc	5.0	U	ug/L	P427491	
		Aluminum	346		ug/L	P427491	
		Antimony	0.060	I	ug/L	P427491	
		Arsenic	0.35		ug/L	P427491	
		Barium	9.34		ug/L	P427491	
		Beryllium	0.018	I	ug/L	P427491	
		Boron	17.3		ug/L	P427491	
		Cadmium	0.020	U	ug/L	P427491	
		Chromium	0.40	U	ug/L	P427491	
		Cobalt	0.141		ug/L	P427491	
		Copper	0.40	U	ug/L	P427491	
		Lead	0.54		ug/L	P427491	
		Manganese	17.0		ug/L	P427491	
		Molybdenum	0.15	U	ug/L	P427491	
		Nickel	0.50	U	ug/L	P427491	
		Selenium	0.21	I	ug/L	P427491	
		Silver	0.010	U	ug/L	P427491	
		Thallium	0.10	U	ug/L	P427491	
	SM 2340 B-2011	Hardness	11.8		mg/L	P427491	

Field ID: 21030066

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
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Ref. Method and Comment:
EPA 300.0 Rev. 2.1: Sulfate: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.
SM 2540 D-2015: Batch relative percent difference is unavailable because of low 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.
EPA 200.8 Rev. 5.4: The lead result was confirmed in the undigested sample on 03/24/2023.

Quality Assurance Report Method Blank Results

Reference Method: DEP SOP: NU-094-1
Batch ID: P427412

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P427423

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P427491

Component	Result	Code	Units
Calcium	0.075	U	mg/L
Iron	30	U	ug/L
Magnesium	0.040	U	mg/L
Potassium	0.30	U	mg/L
Sodium	0.50	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: P427491

Component	Result	Code	Units
Aluminum	5.0	U	ug/L
Antimony	0.050	U	ug/L
Arsenic	0.050	U	ug/L
Barium	0.20	U	ug/L
Beryllium	0.010	U	ug/L
Boron	2.0	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 300.0 Rev. 2.1
Batch ID: P427804

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Quality Assurance Report Method Blank Results

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P427806

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P427856

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P427859

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P427572

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P428403

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P427548

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P427533

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

Reference Method: SM 2320 B-2011
Batch ID: P427558

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

Reference Method: SM 2540 C-2015
Batch ID: P428162

Component	Result	Code	Units
TDS	15	U	mg/L

Quality Assurance Report

Method Blank Results

Reference Method: SM 2540 D-2015
Batch ID: P427911

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500-F- C-2011
Batch ID: P427560

Component	Result	Code	Units
Fluoride	0.025	U	mg F/L

Reference Method: SM 5310 B-2011
Batch ID: P427749

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

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: DEP SOP: NU-094-1
Batch ID: P427412

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Color (true)	97.7		P	90 - 110

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P427423

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

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P427491

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Calcium	101		P	85 - 115
Iron	105		P	85 - 115
Magnesium	105		P	85 - 115
Potassium	102		P	85 - 115
Sodium	99.4		P	85 - 115
Strontium	98.4		P	85 - 115
Tin	101		P	85 - 115
Titanium	102		P	85 - 115
Vanadium	99.9		P	85 - 115
Zinc	98.5		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P427491

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Aluminum	103		P	85 - 115
Antimony	104		P	85 - 115
Arsenic	104		P	85 - 115
Barium	105		P	85 - 115
Beryllium	96.7		P	85 - 115
Boron	102		P	85 - 115
Cadmium	102		P	85 - 115
Chromium	103		P	85 - 115
Cobalt	105		P	85 - 115
Copper	103		P	85 - 115
Lead	97.1		P	85 - 115
Manganese	102		P	85 - 115
Molybdenum	102		P	85 - 115
Nickel	105		P	85 - 115
Selenium	102		P	85 - 115
Silver	101		P	85 - 115
Thallium	102		P	85 - 115

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P427804

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Chloride	99.7		P	90 - 110

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P427806

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P427856

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P427859

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P427572

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P428403

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P427548

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
NO2NO3-N	96.5		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P427533

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

Reference Method: SM 2320 B-2011
Batch ID: P427558

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	94.8		P	94 - 106

Reference Method: SM 2540 C-2015
Batch ID: P428162

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

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: SM 2540 D-2015
Batch ID: P427911

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
TSS	95.9		P	85 - 106

Reference Method: SM 4500-F- C-2011
Batch ID: P427560

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

Reference Method: SM 5310 B-2011
Batch ID: P427749

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

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.7 Rev. 4.4

Batch ID: P427491

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2395064	Calcium	96.8		P	80 - 120
2395064	Iron	103	103	P/P	80 - 120
2395064	Magnesium	102	101	P/P	80 - 120
2395064	Potassium	99.6	99.8	P/P	80 - 120
2395064	Sodium	95.9	96.9	P/P	80 - 120
2395064	Strontium	95.9	96.4	P/P	80 - 120
2395064	Tin	101	101	P/P	80 - 120
2395064	Titanium	101	100	P/P	80 - 120
2395064	Vanadium	99.0	98.2	P/P	80 - 120
2395064	Zinc	94.8	94.5	P/P	80 - 120
2395069	Calcium	97.1		P	80 - 120
2395069	Iron	103		P	80 - 120
2395069	Magnesium	101		P	80 - 120
2395069	Potassium	100		P	80 - 120
2395069	Sodium	92.9		P	80 - 120
2395069	Strontium	96.2		P	80 - 120
2395069	Tin	101		P	80 - 120
2395069	Titanium	98.3		P	80 - 120
2395069	Vanadium	97.4		P	80 - 120
2395069	Zinc	95.4		P	80 - 120

Reference Method: EPA 200.8 Rev. 5.4

Batch ID: P427491

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2395064	Aluminum	101	99.9	P/P	80 - 120
2395064	Antimony	105	105	P/P	80 - 120
2395064	Arsenic	103	103	P/P	80 - 120
2395064	Barium	104	103	P/P	80 - 120
2395064	Beryllium	96.7	95.7	P/P	80 - 120
2395064	Boron	101	102	P/P	80 - 120
2395064	Cadmium	105	105	P/P	80 - 120
2395064	Chromium	103	103	P/P	80 - 120
2395064	Cobalt	104	103	P/P	80 - 120
2395064	Copper	99.5	99.3	P/P	80 - 120
2395064	Lead	95.9	96.4	P/P	80 - 120
2395064	Manganese	103	102	P/P	80 - 120
2395064	Molybdenum	104	105	P/P	80 - 120
2395064	Nickel	104	102	P/P	80 - 120
2395064	Selenium	99.2	103	P/P	80 - 120
2395064	Silver	100	100	P/P	80 - 120
2395064	Thallium	102	104	P/P	80 - 120
2395069	Aluminum	101		P	80 - 120
2395069	Antimony	105		P	80 - 120
2395069	Arsenic	102		P	80 - 120
2395069	Barium	104		P	80 - 120
2395069	Beryllium	97.2		P	80 - 120
2395069	Boron	105		P	80 - 120
2395069	Cadmium	107		P	80 - 120
2395069	Chromium	105		P	80 - 120
2395069	Cobalt	102		P	80 - 120
2395069	Copper	98.5		P	80 - 120

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P427491

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2395069	Lead	96.5		P	80 - 120
2395069	Manganese	104		P	80 - 120
2395069	Molybdenum	103		P	80 - 120
2395069	Nickel	101		P	80 - 120
2395069	Selenium	101		P	80 - 120
2395069	Silver	102		P	80 - 120
2395069	Thallium	104		P	80 - 120

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P427804

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2394808	Chloride	96.7		P	90 - 110
2395078	Chloride	93.7		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P427806

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2394808	Sulfate	96.5		P	90 - 110
2395078	Sulfate	93.2		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P427856

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2395048	Chloride	99.3		P	90 - 110
2395416	Chloride	99.2		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P427859

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2395048	Sulfate	98.4		P	90 - 110
2395416	Sulfate	94.4		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P427572

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2395080	Ammonia-N	101	98.8	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P427548

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2395054	NO2NO3-N	91.0		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P427533

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
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Quality Assurance Report

Matrix Spike Accuracy

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P427533

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2395051	Total-P	99.5	102	P/P	90 - 110

Reference Method: SM 4500-F- C-2011
Batch ID: P427560

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2395045	Fluoride	104	103	P/P	94 - 104

Reference Method: SM 5310 B-2011
Batch ID: P427749

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2395049	Organic Carbon	94.9	97.3	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: DEP SOP: NU-094-1
Batch ID: P427412

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2395260	Color (true)	4.33	Sample	P	0 - 20

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P427423

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2394997	Turbidity	0.772	Sample	P	0 - 20

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P427491

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2395064	Calcium	0.388	Spike	P	0 - 20
2395064	Iron	0.0746	Spike	P	0 - 20
2395064	Magnesium	0.266	Spike	P	0 - 20
2395064	Potassium	0.164	Spike	P	0 - 20
2395064	Sodium	0.649	Spike	P	0 - 20
2395064	Strontium	0.486	Spike	P	0 - 20
2395064	Tin	0.00955	Spike	P	0 - 20
2395064	Titanium	0.415	Spike	P	0 - 20
2395064	Vanadium	0.770	Spike	P	0 - 20
2395064	Zinc	0.320	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P427491

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2395064	Aluminum	0.568	Spike	P	0 - 20
2395064	Antimony	0.279	Spike	P	0 - 20
2395064	Arsenic	0.0733	Spike	P	0 - 20
2395064	Barium	0.404	Spike	P	0 - 20
2395064	Beryllium	1.03	Spike	P	0 - 20
2395064	Boron	1.74	Spike	P	0 - 20
2395064	Cadmium	0.310	Spike	P	0 - 20
2395064	Chromium	0.755	Spike	P	0 - 20
2395064	Cobalt	1.15	Spike	P	0 - 20
2395064	Copper	0.197	Spike	P	0 - 20
2395064	Lead	0.545	Spike	P	0 - 20
2395064	Manganese	0.522	Spike	P	0 - 20
2395064	Molybdenum	1.03	Spike	P	0 - 20
2395064	Nickel	1.60	Spike	P	0 - 20
2395064	Selenium	3.28	Spike	P	0 - 20
2395064	Silver	0.434	Spike	P	0 - 20
2395064	Thallium	1.12	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P427804

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2394808	Chloride	0.705	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P427806

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2394808	Sulfate	0.785	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P427856

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2395048	Chloride	1.81	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P427572

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2395080	Ammonia-N	1.57	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P428403

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2395167	Kjeldahl Nitrogen	0.551	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P427548

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2395054	NO2NO3-N	0.204	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P427533

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2395051	Total-P	2.00	Spike	P	0 - 20

Reference Method: SM 2320 B-2011
Batch ID: P427558

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2395045	Total Alkalinity	1.45	Sample	P	0 - 3.8

Quality Assurance Report Precision

Reference Method: SM 2540 C-2015
Batch ID: P428162

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2395010	TDS	5.68	Sample	P	0 - 10

Reference Method: SM 4500-F- C-2011
Batch ID: P427560

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2395045	Fluoride	0.996	Spike	P	0 - 1.6

Reference Method: SM 5310 B-2011
Batch ID: P427749

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2395049	Organic Carbon	2.38	Spike	P	0 - 20

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

Quality Assurance Report Calibration Verification

Reference Method: DEP SOP: NU-094-1

Run ID: A118108

Included Lab Sample IDs: 2395078, 2395079, 2395082

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	96.0	98.3	P/P	90 - 110
Color (true)	98.3	96.6	P/P	90 - 110

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A118110

Included Lab Sample IDs: 2395078, 2395079, 2395082

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Turbidity	101	102	P/P	95 - 105

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A118155

Included Lab Sample IDs: 2395080, 2395081, 2395083

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	95.5	94.5	P/P	90 - 110
NO2NO3-N	97.0	96.0	P/P	90 - 110

Reference Method: SM 2320 B-2011

Run ID: A118161

Included Lab Sample IDs: 2395078, 2395079, 2395082

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	94.5	92.8	P/P	90 - 110

Reference Method: SM 4500-F- C-2011

Run ID: A118161

Included Lab Sample IDs: 2395078, 2395079, 2395082

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

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A118162

Included Lab Sample IDs: 2395080, 2395081, 2395083

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	99.4	102	P/P	90 - 110

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A118172

Included Lab Sample IDs: 2395097, 2395098, 2395099, 2395100

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Aluminum	100	100	P/P	90 - 110
Aluminum	101	100	P/P	90 - 110
Antimony	100	100	P/P	90 - 110
Antimony	101	100	P/P	90 - 110
Arsenic	98.3	98.7	P/P	90 - 110
Arsenic	99.9	98.3	P/P	90 - 110
Barium	99.0	98.4	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A118172

Included Lab Sample IDs: 2395097, 2395098, 2395099, 2395100

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Barium	99.7	99.0	P/P	90 - 110
Beryllium	96.5	96.4	P/P	90 - 110
Beryllium	98.1	96.5	P/P	90 - 110
Boron	102	103	P/P	90 - 110
Boron	103	103	P/P	90 - 110
Cadmium	100	101	P/P	90 - 110
Cadmium	101	99.9	P/P	90 - 110
Chromium	98.9	99.2	P/P	90 - 110
Chromium	99.3	98.9	P/P	90 - 110
Cobalt	97.0	98.3	P/P	90 - 110
Cobalt	98.2	97.0	P/P	90 - 110
Copper	96.2	96.8	P/P	90 - 110
Copper	97.8	96.2	P/P	90 - 110
Lead	93.9	92.8	P/P	90 - 110
Lead	94.2	93.9	P/P	90 - 110
Manganese	99.2	99.8	P/P	90 - 110
Manganese	99.8	100	P/P	90 - 110
Molybdenum	98.2	97.7	P/P	90 - 110
Molybdenum	99.4	98.2	P/P	90 - 110
Nickel	96.6	97.3	P/P	90 - 110
Nickel	97.9	96.6	P/P	90 - 110
Selenium	100	99.2	P/P	90 - 110
Selenium	99.2	100	P/P	90 - 110
Silver	98.4	98.5	P/P	90 - 110
Silver	98.5	98.1	P/P	90 - 110
Thallium	100	99.2	P/P	90 - 110
Thallium	99.2	97.9	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A118180

Included Lab Sample IDs: 2395080, 2395083

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	104	102	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A118186

Included Lab Sample IDs: 2395081

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

Reference Method: SM 5310 B-2011

Run ID: A118229

Included Lab Sample IDs: 2395080, 2395081, 2395083

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	98.2	99.4	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A118247

Included Lab Sample IDs: 2395078, 2395079, 2395082

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	96.9	98.1	P/P	90 - 110
Chloride	99.3	98.6	P/P	90 - 110
Sulfate	96.1	97.3	P/P	90 - 110
Sulfate	98.2	97.6	P/P	90 - 110

Reference Method: EPA 200.7 Rev. 4.4

Run ID: A118291

Included Lab Sample IDs: 2395097, 2395098, 2395099, 2395100

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Calcium	98.2	98.8	P/P	90 - 110
Iron	101	101	P/P	90 - 110
Magnesium	99.6	100	P/P	90 - 110
Potassium	99.2	99.4	P/P	90 - 110
Sodium	92.8	92.8	P/P	90 - 110
Strontium	95.9	97.0	P/P	90 - 110
Tin	98.7	99.0	P/P	90 - 110
Titanium	98.9	99.4	P/P	90 - 110
Vanadium	98.0	98.5	P/P	90 - 110
Zinc	96.5	96.8	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A118579

Included Lab Sample IDs: 2395080, 2395081, 2395083

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	97.9	92.1	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 SMP	MS
			LCS				
DEP SOP: NU-094-1	Color (true)	97.7				4.33	
EPA 180.1 Rev. 2.0	Turbidity	101				0.772	
EPA 200.7 Rev. 4.4	Calcium	101	96.8	97.1			0.388
	Iron	105	103	103	103		0.0746
	Magnesium	105	102	101	101		0.266
	Potassium	102	99.6	99.8	100		0.164
	Sodium	99.4	95.9	96.9	92.9		0.649
	Strontium	98.4	95.9	96.4	96.2		0.486
	Tin	101	101	101	101		0.0095
	Titanium	102	101	100	98.3		0.415
	Vanadium	99.9	99.0	98.2	97.4		0.770
	Zinc	98.5	94.8	94.5	95.4		0.320
EPA 200.8 Rev. 5.4	Aluminum	103	101	99.9	101		0.568
	Antimony	104	105	105	105		0.279
	Arsenic	104	103	103	102		0.0733
	Barium	105	104	103	104		0.404
	Beryllium	96.7	96.7	95.7	97.2		1.03
	Boron	102	101	102	105		1.74
	Cadmium	102	105	105	107		0.310
	Chromium	103	103	103	105		0.755
	Cobalt	105	104	103	102		1.15
	Copper	103	99.5	99.3	98.5		0.197
	Lead	97.1	95.9	96.4	96.5		0.545
	Manganese	102	103	102	104		0.522
	Molybdenum	102	104	105	103		1.03
	Nickel	105	104	102	101		1.60
	Selenium	102	99.2	103	101		3.28
	Silver	101	100	100	102		0.434
	Thallium	102	102	104	104		1.12
EPA 300.0 Rev. 2.1	Chloride	99.7	96.7	93.7		0.705	
	Chloride	100	99.3	99.2		1.81	
	Sulfate	98.2	96.5	93.2		0.785	
	Sulfate	99.2	98.4	94.4			
EPA 350.1 Rev. 2.0	Ammonia-N	99.2	101	98.8			1.57
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	104					0.551
EPA 353.2 Rev. 2.0	NO2NO3-N	96.5	91.0				0.204
EPA 365.1 Rev. 2.0	Total-P	101	99.5	102			2.00
SM 2320 B-2011	Total Alkalinity	94.8				1.45	
SM 2540 C-2015	TDS	98.6				5.68	
SM 2540 D-2015	TSS	95.9					
SM 4500-F- C-2011	Fluoride	103	104	103			0.996
SM 5310 B-2011	Organic Carbon	96.8	94.9	97.3			2.38

Reference Method Descriptions

Method	Description	Associated Samples
DEP SOP: NU-094-1	True Color measured at 450 nm (not valid for NPDES monitoring)	2395078, 2395079, 2395082
EPA 180.1 Rev. 2.0	Turbidity in aqueous matrices	2395078, 2395079, 2395082
EPA 200.7 Rev. 4.4	Total Recoverable Metals analysis using ICP emission spectroscopy for aqueous samples supporting Clean Water Act Projects	2395097, 2395098, 2395099, 2395100
EPA 200.8 Rev. 5.4	Total Recoverable Metals analysis using ICP-MS for aqueous samples supporting Clean Water Act Projects	2395097, 2395098, 2395099, 2395100
EPA 300.0 Rev. 2.1	Chloride in aqueous matrices	2395078, 2395079, 2395082

Reference Method Descriptions

Method	Description	Associated Samples
EPA 300.0 Rev. 2.1	Sulfate in aqueous matrices	2395078, 2395079, 2395082
EPA 350.1 Rev. 2.0	Ammonia in aqueous matrices as mg N/L	2395080, 2395081, 2395083
EPA 351.2 Rev. 2.0	Total Kjeldahl Nitrogen in aqueous matrices	2395080, 2395081, 2395083
EPA 353.2 Rev. 2.0	Nitrite/Nitrate in aqueous matrices as mg N/L	2395080, 2395081, 2395083
EPA 365.1 Rev. 2.0	Total Phosphorus in aqueous matrices as mg P/L	2395080, 2395081, 2395083
SM 2320 B-2011	Alkalinity in aqueous matrices as mg CaCO ₃ /L	2395078, 2395079, 2395082
SM 2340 B-2011	Hardness by calculation, in aqueous matrices, reported as mg/L CaCO ₃	2395097, 2395098, 2395099, 2395100
SM 2540 C-2015	Total Dissolved Solids in aqueous matrices	2395078, 2395079, 2395082
SM 2540 D-2015	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2395078, 2395079, 2395082
SM 4500-F- C-2011	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2395078, 2395079, 2395082
SM 5310 B-2011	Nonpurgeable Organic Carbon in aqueous matrices	2395080, 2395081, 2395083

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
DEP SOP: NU-094-1	03/21/2023			03/21/2023 14:13	Alexis Price	2395078
	03/21/2023			03/21/2023 14:14	Alexis Price	2395082
	03/21/2023			03/21/2023 14:19	Alexis Price	2395079
EPA 180.1 Rev. 2.0	03/21/2023			03/21/2023 13:41	Chandler E Cox	2395078
	03/21/2023			03/21/2023 13:42	Chandler E Cox	2395079, 2395082
EPA 200.7 Rev. 4.4	03/21/2023	03/22/2023 12:15	George D Taylor	03/29/2023 19:48	McKinley C Carter	2395097
	03/21/2023	03/22/2023 12:15	George D Taylor	03/29/2023 19:56	McKinley C Carter	2395098
	03/21/2023	03/22/2023 12:15	George D Taylor	03/29/2023 20:01	McKinley C Carter	2395099
	03/21/2023	03/22/2023 12:15	George D Taylor	03/29/2023 20:09	McKinley C Carter	2395100
EPA 200.8 Rev. 5.4	03/21/2023	03/22/2023 12:15	George D Taylor	03/23/2023 16:39	Emily M Philpot	2395097
	03/21/2023	03/22/2023 12:15	George D Taylor	03/23/2023 16:48	Emily M Philpot	2395098
	03/21/2023	03/22/2023 12:15	George D Taylor	03/23/2023 17:46	Emily M Philpot	2395099
	03/21/2023	03/22/2023 12:15	George D Taylor	03/23/2023 17:55	Emily M Philpot	2395100
EPA 300.0 Rev. 2.1	03/21/2023			03/28/2023 17:39	Anna M. Plaviak	2395078
	03/21/2023			03/29/2023 20:28	Anna M. Plaviak	2395079
	03/21/2023			03/29/2023 20:43	Anna M. Plaviak	2395082
EPA 350.1 Rev. 2.0	03/21/2023			03/23/2023 12:56	Khloe J Berg	2395080
	03/21/2023			03/23/2023 13:00	Khloe J Berg	2395081
	03/21/2023			03/23/2023 13:02	Khloe J Berg	2395083
EPA 351.2 Rev. 2.0	03/21/2023	04/13/2023 11:22	Simonne.V. Calhoun	04/14/2023 11:16	Samantha L Bates	2395080
	03/21/2023	04/13/2023 11:22	Simonne.V. Calhoun	04/14/2023 11:18	Samantha L Bates	2395081
	03/21/2023	04/13/2023 11:22	Simonne.V. Calhoun	04/14/2023 11:19	Samantha L Bates	2395083
EPA 353.2 Rev. 2.0	03/21/2023			03/23/2023 09:39	Beverly Y. Sanders	2395081
	03/21/2023			03/23/2023 09:40	Beverly Y. Sanders	2395083
	03/21/2023			03/23/2023 10:16	Beverly Y. Sanders	2395080
EPA 365.1 Rev. 2.0	03/21/2023	03/23/2023 14:00	Adam P Silver	03/24/2023 10:24	James L Waggeberby	2395080
	03/21/2023	03/23/2023 14:00	Adam P Silver	03/24/2023 10:26	James L Waggeberby	2395083
	03/21/2023	03/23/2023 14:00	Adam P Silver	03/24/2023 14:25	James L Waggeberby	2395081
SM 2320 B-2011	03/21/2023			03/23/2023 00:18	Dale L. Simmons	2395078
	03/21/2023			03/23/2023 00:26	Dale L. Simmons	2395079
	03/21/2023			03/23/2023 00:35	Dale L. Simmons	2395082
SM 2340 B-2011	03/21/2023			03/29/2023 19:48	McKinley C Carter	2395097
	03/21/2023			03/29/2023 19:56	McKinley C Carter	2395098
	03/21/2023			03/29/2023 20:01	McKinley C Carter	2395099
	03/21/2023			03/29/2023 20:09	McKinley C Carter	2395100
SM 2540 C-2015	03/21/2023			03/24/2023 15:34	Yijie Li	2395078, 2395079, 2395082
SM 2540 D-2015	03/21/2023			03/24/2023 15:34	Yijie Li	2395078, 2395079, 2395082
SM 4500-F- C-2011	03/21/2023			03/23/2023 00:18	Dale L. Simmons	2395078
	03/21/2023			03/23/2023 00:26	Dale L. Simmons	2395079
	03/21/2023			03/23/2023 00:35	Dale L. Simmons	2395082

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
SM 5310 B-2011	03/21/2023			03/28/2023 00:23	Elise M. Gillis	2395080
	03/21/2023			03/28/2023 00:39	Elise M. Gillis	2395081
	03/21/2023			03/28/2023 00:55	Elise M. Gillis	2395083