

Chemical Analysis Report

CEN-DIST-2023-05-23-01

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

Event Description: **Run 3**
Request ID: **RQ-2023-05-22-09**
Customer: **CEN-DIST**
Project ID: **SMP**

Send Reports to:
FL Dept. of Environmental Protection
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3319 Maguire Blvd., Suite 232
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Certified by: Colin Wright, Program Administrator

Date Certified: 12-JUN-2023 11:58

A handwritten signature in black ink, appearing to read "Colin Wright", is displayed on a light blue 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: COW CREEK AT OSTEEN MAYTOWN ROAD

Collection Date/Time: 05/22/2023 11:12

Field ID: G2CE0086

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2411909	EPA 200.7 Rev. 4.4	Calcium	12.7		mg/L	P430320	
		Iron	1.11E+03		ug/L	P430320	
		Magnesium	1.80		mg/L	P430320	
		Potassium	0.48	I	mg/L	P430320	
		Sodium	9.3		mg/L	P430320	
		Strontium	55.5		ug/L	P430320	
		Tin	3.0	U	ug/L	P430320	
		Titanium	0.81	I	ug/L	P430320	
		Vanadium	2.0	U	ug/L	P430320	
		Zinc	5.0	U	ug/L	P430320	
	EPA 200.8 Rev. 5.4	Aluminum	181		ug/L	P430320	
		Antimony	0.080	I	ug/L	P430320	
		Arsenic	0.82		ug/L	P430320	
		Barium	10.3		ug/L	P430320	
		Beryllium	0.018	I	ug/L	P430320	
		Boron	22.2		ug/L	P430320	
		Cadmium	0.020	U	ug/L	P430320	
		Chromium	0.52	I	ug/L	P430320	
		Cobalt	0.129		ug/L	P430320	
		Copper	0.40	U	ug/L	P430320	
		Lead	0.78		ug/L	P430320	
		Manganese	12.5		ug/L	P430320	
		Molybdenum	0.86		ug/L	P430320	
		Nickel	0.50	U	ug/L	P430320	
		Selenium	0.20	U	ug/L	P430320	
		Silver	0.010	U	ug/L	P430320	
		Thallium	0.10	U	ug/L	P430320	
	SM 2340 B-2011	Hardness	39.0		mg/L	P430320	

Sample Location: UNNAMED SLOUGH AT ZOLTAN DRIVE

Collection Date/Time: 05/22/2023 12:19

Field ID: G3CE0054

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2411896	DEP SOP: NU-094-1	Color (true)	130		PCU	P430305	
	EPA 180.1 Rev. 2.0	Turbidity	14		NTU	P430255	
	EPA 300.0 Rev. 2.1	Chloride	74		mg Cl/L	P430524	
		Sulfate	33		mg SO4/L	P430525	
	SM 2320 B-2011	Total Alkalinity	104		mg CaCO3/L	P430510	
	SM 2540 C-2015	TDS	294		mg/L	P430790	
	SM 2540 D-2015	TSS	8	I	mg/L	P430857	
	SM 4500-F- C-2011	Fluoride	0.051	I	mg F/L	P430528	
2411897	EPA 350.1 Rev. 2.0	Ammonia-N	0.18		mg N/L	P430659	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.2		mg N/L	P430390	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P430734	
	EPA 365.1 Rev. 2.0	Total-P	0.19		mg P/L	P430313	
	SM 5310 B-2011	Organic Carbon	16		mg C/L	P430447	
2411908	EPA 200.7 Rev. 4.4	Calcium	51.5		mg/L	P430320	
		Iron	2.49E+03		ug/L	P430320	
		Magnesium	5.58		mg/L	P430320	
		Potassium	4.2		mg/L	P430320	
		Sodium	44.8		mg/L	P430320	
		Strontium	412		ug/L	P430320	
		Tin	3.0	U	ug/L	P430320	
		Titanium	0.86	I	ug/L	P430320	
	EPA 200.8 Rev. 5.4	Vanadium	2.0	U	ug/L	P430320	
		Zinc	5.0	U	ug/L	P430320	
		Aluminum	100		ug/L	P430320	
		Antimony	0.086	I	ug/L	P430320	
		Arsenic	4.90		ug/L	P430320	
		Barium	15.6		ug/L	P430320	
		Beryllium	0.021	I	ug/L	P430320	
		Boron	71.0		ug/L	P430320	
		Cadmium	0.020	U	ug/L	P430320	
		Chromium	0.79	I	ug/L	P430320	
		Cobalt	0.072	I	ug/L	P430320	
		Copper	0.40	U	ug/L	P430320	
		Lead	0.21	I	ug/L	P430320	
		Manganese	42.8		ug/L	P430320	
		Molybdenum	0.51	I	ug/L	P430320	
		Nickel	0.50	U	ug/L	P430320	
		Selenium	0.20	U	ug/L	P430320	
		Silver	0.023	I	ug/L	P430320	
		Thallium	0.10	U	ug/L	P430320	
	SM 2340 B-2011	Hardness	152		mg/L	P430320	

Ref. Method and Comment:

SM 2540 D-2015: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.

Sample Location: FB

Collection Date/Time: 05/22/2023 12:24

Field ID: FB_05222023

Matrix: W-FIELD-BK

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2411900	DEP SOP: NU-094-1	Color (true)	2.5	U	PCU	P430305	
	EPA 180.1 Rev. 2.0	Turbidity	0.10	U	NTU	P430255	
	EPA 300.0 Rev. 2.1	Chloride	0.20	U	mg Cl/L	P430524	
		Sulfate	0.20	U	mg SO4/L	P430525	
	SM 2320 B-2011	Total Alkalinity	0.65	U	mg CaCO3/L	P430510	
	SM 2540 C-2015	TDS	15	U	mg/L	P430790	
	SM 2540 D-2015	TSS	2	U	mg/L	P430857	
2411901	SM 4500-F- C-2011	Fluoride	0.025	U	mg F/L	P430528	
	EPA 350.1 Rev. 2.0	Ammonia-N	0.002	U	mg N/L	P430659	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.080	U	mg N/L	P430390	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P430734	
	EPA 365.1 Rev. 2.0	Total-P	0.002	U	mg P/L	P430313	
2411910	SM 5310 B-2011	Organic Carbon	0.50	U	mg C/L	P430447	
	EPA 200.7 Rev. 4.4	Calcium	0.075	U	mg/L	P430320	
		Iron	30	U	ug/L	P430320	
		Magnesium	0.040	U	mg/L	P430320	
		Potassium	0.30	U	mg/L	P430320	
		Sodium	0.50	U	mg/L	P430320	
		Strontium	2.0	U	ug/L	P430320	
		Tin	3.0	U	ug/L	P430320	
		Titanium	0.75	U	ug/L	P430320	
		Vanadium	2.0	U	ug/L	P430320	
		Zinc	5.0	U	ug/L	P430320	
	EPA 200.8 Rev. 5.4	Aluminum	5.0	U	ug/L	P430320	
		Antimony	0.050	U	ug/L	P430320	
		Arsenic	0.050	U	ug/L	P430320	
		Barium	0.20	U	ug/L	P430320	
		Beryllium	0.010	U	ug/L	P430320	
		Boron	2.0	U	ug/L	P430320	
		Cadmium	0.020	U	ug/L	P430320	
		Chromium	0.40	U	ug/L	P430320	
		Cobalt	0.020	U	ug/L	P430320	
		Copper	0.40	U	ug/L	P430320	
		Lead	0.20	U	ug/L	P430320	
		Manganese	0.10	U	ug/L	P430320	
		Molybdenum	0.15	U	ug/L	P430320	
	SM 2340 B-2011	Nickel	0.50	U	ug/L	P430320	
		Selenium	0.20	U	ug/L	P430320	
		Silver	0.010	U	ug/L	P430320	
		Thallium	0.10	U	ug/L	P430320	
		Hardness	0.35	U	mg/L	P430320	

Ref. Method and Comment:

SM 2540 D-2015: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.

Sample Location: ADDISON CREEK AT US1

Collection Date/Time: 05/22/2023 13:25

Field ID: G5CE0111

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2411898	DEP SOP: NU-094-1	Color (true)	65		PCU	P430307	
	EPA 180.1 Rev. 2.0	Turbidity	33		NTU	P430255	
	EPA 300.0 Rev. 2.1	Chloride	220		mg Cl/L	P430524	
		Sulfate	52		mg SO4/L	P430525	
	SM 2320 B-2011	Total Alkalinity	131		mg CaCO3/L	P430510	
	SM 2540 C-2015	TDS	598		mg/L	P430790	
	SM 2540 D-2015	TSS	24		mg/L	P430857	
	SM 4500-F- C-2011	Fluoride	0.072	I	mg F/L	P430528	
2411899	EPA 350.1 Rev. 2.0	Ammonia-N	0.044		mg N/L	P430659	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.1		mg N/L	P430390	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.24		mg N/L	P430734	
	EPA 365.1 Rev. 2.0	Total-P	0.28		mg P/L	P430313	
	SM 5310 B-2011	Organic Carbon	15		mg C/L	P430447	

Ref. Method and Comment:

SM 2540 D-2015: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.

Quality Assurance Report

Method Blank Results

Reference Method: DEP SOP: NU-094-1
Batch ID: P430305

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: DEP SOP: NU-094-1
Batch ID: P430307

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P430255

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P430320

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: P430320

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

Quality Assurance Report

Method Blank Results

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P430524

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P430525

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P430659

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P430390

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P430734

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P430313

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

Reference Method: SM 2320 B-2011
Batch ID: P430510

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

Reference Method: SM 2540 C-2015
Batch ID: P430790

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-2015
Batch ID: P430857

Component	Result	Code	Units
TSS	2	U	mg/L

Quality Assurance Report

Method Blank Results

Reference Method: SM 4500-F- C-2011
Batch ID: P430528

Component	Result	Code	Units
Fluoride	0.025	U	mg F/L

Reference Method: SM 5310 B-2011
Batch ID: P430447

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: P430305

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Color (true)	98.8		P	90 - 110

Reference Method: DEP SOP: NU-094-1
Batch ID: P430307

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

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P430255

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

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P430320

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Calcium	100		P	85 - 115
Iron	102		P	85 - 115
Magnesium	102		P	85 - 115
Potassium	102		P	85 - 115
Sodium	94.7		P	85 - 115
Strontium	99.6		P	85 - 115
Tin	103		P	85 - 115
Titanium	101		P	85 - 115
Vanadium	100		P	85 - 115
Zinc	100		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P430320

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Aluminum	97.7		P	85 - 115
Antimony	97.5		P	85 - 115
Arsenic	97.8		P	85 - 115
Barium	99.6		P	85 - 115
Beryllium	94.4		P	85 - 115
Boron	101		P	85 - 115
Cadmium	97.0		P	85 - 115
Chromium	94.6		P	85 - 115
Cobalt	97.2		P	85 - 115
Copper	96.3		P	85 - 115
Lead	98.6		P	85 - 115
Manganese	97.1		P	85 - 115
Molybdenum	95.2		P	85 - 115
Nickel	95.0		P	85 - 115
Selenium	97.9		P	85 - 115
Silver	99.0		P	85 - 115
Thallium	96.0		P	85 - 115

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P430524

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Chloride	99.0		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P430525

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Sulfate	97.4		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P430659

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Ammonia-N	95.2		P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P430390

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Kjeldahl Nitrogen	96.8		P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P430734

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P430313

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

Reference Method: SM 2320 B-2011
Batch ID: P430510

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	97.3		P	92 - 105

Reference Method: SM 2540 C-2015
Batch ID: P430790

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

Reference Method: SM 2540 D-2015
Batch ID: P430857

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
TSS	90.7		P	85 - 106

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: SM 4500-F- C-2011
Batch ID: P430528

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

Reference Method: SM 5310 B-2011
Batch ID: P430447

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	96.7		P	85 - 115

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.7 Rev. 4.4

Batch ID: P430320

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2411721	Calcium	99.4		P	80 - 120
2411721	Iron	103	102	P/P	80 - 120
2411721	Magnesium	99.4		P	80 - 120
2411721	Potassium	101	101	P/P	80 - 120
2411721	Sodium	94.3		P	80 - 120
2411721	Strontium	99.2	98.7	P/P	80 - 120
2411721	Tin	99.8	98.3	P/P	80 - 120
2411721	Titanium	101	101	P/P	80 - 120
2411721	Vanadium	101	100	P/P	80 - 120
2411721	Zinc	98.6	98.0	P/P	80 - 120
2411887	Calcium	102		P	80 - 120
2411887	Iron	105		P	80 - 120
2411887	Magnesium	102		P	80 - 120
2411887	Potassium	103		P	80 - 120
2411887	Sodium	95.2		P	80 - 120
2411887	Strontium	101		P	80 - 120
2411887	Tin	106		P	80 - 120
2411887	Titanium	104		P	80 - 120
2411887	Vanadium	104		P	80 - 120
2411887	Zinc	102		P	80 - 120

Reference Method: EPA 200.8 Rev. 5.4

Batch ID: P430320

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2411721	Aluminum	99.9	97.4	P/P	80 - 120
2411721	Antimony	99.9	101	P/P	80 - 120
2411721	Arsenic	98.3	98.4	P/P	80 - 120
2411721	Barium	99.4	101	P/P	80 - 120
2411721	Beryllium	100	96.8	P/P	80 - 120
2411721	Boron	105	106	P/P	80 - 120
2411721	Cadmium	99.1	101	P/P	80 - 120
2411721	Chromium	94.7	93.8	P/P	80 - 120
2411721	Cobalt	96.4	95.5	P/P	80 - 120
2411721	Copper	92.0	91.4	P/P	80 - 120
2411721	Lead	100	100	P/P	80 - 120
2411721	Manganese	96.8	96.4	P/P	80 - 120
2411721	Molybdenum	98.0	99.4	P/P	80 - 120
2411721	Nickel	94.2	92.9	P/P	80 - 120
2411721	Selenium	99.0	98.4	P/P	80 - 120
2411721	Silver	100	102	P/P	80 - 120
2411721	Thallium	99.7	100	P/P	80 - 120
2411887	Aluminum	101		P	80 - 120
2411887	Antimony	100		P	80 - 120
2411887	Arsenic	98.7		P	80 - 120
2411887	Barium	101		P	80 - 120
2411887	Beryllium	96.0		P	80 - 120
2411887	Boron	107		P	80 - 120
2411887	Cadmium	99.5		P	80 - 120
2411887	Chromium	96.6		P	80 - 120
2411887	Cobalt	98.1		P	80 - 120
2411887	Copper	96.2		P	80 - 120

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P430320

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2411887	Lead	102		P	80 - 120
2411887	Manganese	98.1		P	80 - 120
2411887	Molybdenum	98.1		P	80 - 120
2411887	Nickel	95.7		P	80 - 120
2411887	Selenium	98.4		P	80 - 120
2411887	Silver	100		P	80 - 120
2411887	Thallium	100		P	80 - 120

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P430524

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2411832	Chloride	96.4		P	90 - 110
2412105	Chloride	97.3		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P430525

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2411832	Sulfate	96.3		P	90 - 110
2412105	Sulfate	96.6		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P430659

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2411883	Ammonia-N	96.4	97.6	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P430390

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2411835	Kjeldahl Nitrogen	96.6	104	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P430734

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2411897	NO2NO3-N	103	103	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P430313

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2412099	Total-P	100	101	P/P	90 - 110

Reference Method: SM 4500-F- C-2011
Batch ID: P430528

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2411831	Fluoride	100	98.5	P/P	94 - 106

Quality Assurance Report

Matrix Spike Accuracy

Reference Method: SM 5310 B-2011
Batch ID: P430447

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2411835	Organic Carbon	91.4	95.2	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: DEP SOP: NU-094-1
Batch ID: P430305

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2411768	Color (true)	2.19	Sample	P	0 - 20

Reference Method: DEP SOP: NU-094-1
Batch ID: P430307

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2411830	Color (true)	1.98	Sample	P	0 - 20

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P430255

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2411724	Turbidity	1.75	Sample	P	0 - 20

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P430320

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2411721	Calcium	1.05	Spike	P	0 - 20
2411721	Iron	0.915	Spike	P	0 - 20
2411721	Magnesium	1.14	Spike	P	0 - 20
2411721	Potassium	0.110	Spike	P	0 - 20
2411721	Sodium	0.584	Spike	P	0 - 20
2411721	Strontium	0.464	Spike	P	0 - 20
2411721	Tin	1.49	Spike	P	0 - 20
2411721	Titanium	0.0977	Spike	P	0 - 20
2411721	Vanadium	0.510	Spike	P	0 - 20
2411721	Zinc	0.642	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P430320

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2411721	Aluminum	2.52	Spike	P	0 - 20
2411721	Antimony	0.950	Spike	P	0 - 20
2411721	Arsenic	0.0250	Spike	P	0 - 20
2411721	Barium	1.51	Spike	P	0 - 20
2411721	Beryllium	3.17	Spike	P	0 - 20
2411721	Boron	0.174	Spike	P	0 - 20
2411721	Cadmium	2.28	Spike	P	0 - 20
2411721	Chromium	0.883	Spike	P	0 - 20
2411721	Cobalt	0.898	Spike	P	0 - 20
2411721	Copper	0.610	Spike	P	0 - 20
2411721	Lead	0.106	Spike	P	0 - 20
2411721	Manganese	0.360	Spike	P	0 - 20
2411721	Molybdenum	1.23	Spike	P	0 - 20
2411721	Nickel	1.37	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P430320

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2411721	Selenium	0.568	Spike	P	0 - 20
2411721	Silver	2.26	Spike	P	0 - 20
2411721	Thallium	0.654	Spike	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P430524

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2411832	Chloride	0.741	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P430525

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2411832	Sulfate	1.29	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P430659

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2411883	Ammonia-N	1.15	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P430390

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2411835	Kjeldahl Nitrogen	4.50	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P430734

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2411897	NO2NO3-N	0.0	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P430313

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2412099	Total-P	0.658	Spike	P	0 - 20

Reference Method: SM 2320 B-2011
Batch ID: P430510

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
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Quality Assurance Report Precision

Reference Method: SM 2320 B-2011
Batch ID: P430510

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2411831	Total Alkalinity	2.68	Sample	P	0 - 3.9

Reference Method: SM 2540 C-2015
Batch ID: P430790

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2411828	TDS	4.65	Sample	P	0 - 10

Reference Method: SM 4500-F- C-2011
Batch ID: P430528

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2411831	Fluoride	0.959	Spike	P	0 - 1.9

Reference Method: SM 5310 B-2011
Batch ID: P430447

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2411835	Organic Carbon	2.39	Spike	P	0 - 20

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

Quality Assurance Report Calibration Verification

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A119351

Included Lab Sample IDs: 2411896, 2411898, 2411900

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	99.2	99.4	P/P	90 - 110
Sulfate	97.3	97.3	P/P	90 - 110

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A119352

Included Lab Sample IDs: 2411896, 2411898, 2411900

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Turbidity	99.5	99.5	P/P	95 - 105

Reference Method: DEP SOP: NU-094-1

Run ID: A119368

Included Lab Sample IDs: 2411896, 2411898, 2411900

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	101	99.3	P/P	90 - 110
Color (true)	99.8	99.9	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A119406

Included Lab Sample IDs: 2411897, 2411899

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	102	103	P/P	90 - 110

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A119424

Included Lab Sample IDs: 2411908, 2411909, 2411910

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Aluminum	98.5	100	P/P	90 - 110
Aluminum	99.3	98.5	P/P	90 - 110
Antimony	98.1	98.9	P/P	90 - 110
Antimony	99.1	98.1	P/P	90 - 110
Arsenic	97.8	97.5	P/P	90 - 110
Arsenic	99.3	97.8	P/P	90 - 110
Barium	97.1	98.8	P/P	90 - 110
Barium	98.7	97.1	P/P	90 - 110
Beryllium	97.1	96.7	P/P	90 - 110
Beryllium	97.6	97.1	P/P	90 - 110
Boron	101	104	P/P	90 - 110
Boron	98.3	101	P/P	90 - 110
Cadmium	97.9	99.0	P/P	90 - 110
Cadmium	98.7	97.9	P/P	90 - 110
Chromium	96.2	96.6	P/P	90 - 110
Chromium	97.6	96.2	P/P	90 - 110
Cobalt	98.2	98.4	P/P	90 - 110
Cobalt	99.0	98.2	P/P	90 - 110
Copper	94.7	95.3	P/P	90 - 110
Copper	96.9	94.7	P/P	90 - 110
Lead	98.4	99.8	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A119424

Included Lab Sample IDs: 2411908, 2411909, 2411910

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Lead	99.3	98.4	P/P	90 - 110
Manganese	97.5	99.0	P/P	90 - 110
Manganese	99.0	100	P/P	90 - 110
Molybdenum	96.8	96.6	P/P	90 - 110
Molybdenum	98.1	96.8	P/P	90 - 110
Nickel	96.4	96.6	P/P	90 - 110
Nickel	98.1	96.4	P/P	90 - 110
Selenium	99.5	99.5	P/P	90 - 110
Selenium	99.5	99.5	P/P	90 - 110
Silver	98.9	99.4	P/P	90 - 110
Silver	99.7	98.9	P/P	90 - 110
Thallium	99.1	99.3	P/P	90 - 110
Thallium	99.3	101	P/P	90 - 110

Reference Method: SM 5310 B-2011

Run ID: A119426

Included Lab Sample IDs: 2411897, 2411899, 2411901

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	96.8	97.8	P/P	90 - 110
Organic Carbon	97.8	97.3	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A119430

Included Lab Sample IDs: 2411897, 2411899, 2411901

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	93.5	95.0	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A119434

Included Lab Sample IDs: 2411901

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	100	99.5	P/P	90 - 110

Reference Method: SM 2320 B-2011

Run ID: A119457

Included Lab Sample IDs: 2411896, 2411898, 2411900

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	92.4	94.9	P/P	90 - 110
Total Alkalinity	96.2	92.4	P/P	90 - 110

Reference Method: SM 4500-F- C-2011

Run ID: A119457

Included Lab Sample IDs: 2411896, 2411898, 2411900

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

Quality Assurance Report Calibration Verification

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A119511

Included Lab Sample IDs: 2411897, 2411899, 2411901

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	99.2	99.1	P/P	90 - 110

Reference Method: EPA 200.7 Rev. 4.4

Run ID: A119529

Included Lab Sample IDs: 2411908, 2411909, 2411910

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Calcium	102	101	P/P	90 - 110
Calcium	102	100	P/P	90 - 110
Iron	102	102	P/P	90 - 110
Iron	102	102	P/P	90 - 110
Magnesium	101	101	P/P	90 - 110
Magnesium	101	101	P/P	90 - 110
Potassium	100	102	P/P	90 - 110
Potassium	101	100	P/P	90 - 110
Sodium	93.8	94.4	P/P	90 - 110
Sodium	95.6	93.6	P/P	90 - 110
Strontium	102	99.8	P/P	90 - 110
Strontium	98.7	98.8	P/P	90 - 110
Tin	101	101	P/P	90 - 110
Titanium	100	100	P/P	90 - 110
Titanium	101	101	P/P	90 - 110
Vanadium	101	101	P/P	90 - 110
Vanadium	99.9	100	P/P	90 - 110
Zinc	100	99.8	P/P	90 - 110
Zinc	101	99.3	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A119541

Included Lab Sample IDs: 2411897, 2411899, 2411901

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	104	105	P/P	90 - 110

Reference Method: EPA 200.7 Rev. 4.4

Run ID: A119557

Included Lab Sample IDs: 2411910

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Tin	99.4	102	P/P	95 - 105

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

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

Where they are different, both control limits are provided.

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery			Precision		
						LCS	SMP	MS
DEP SOP: NU-094-1	Color (true)	98.8					2.19	
	Color (true)	98.3					1.98	
EPA 180.1 Rev. 2.0	Turbidity	99.5					1.75	
EPA 200.7 Rev. 4.4	Calcium	100	99.4	102				1.05
	Iron	102	103	102	105			0.915
	Magnesium	102	99.4	102				1.14
	Potassium	102	101	101	103			0.110
	Sodium	94.7	94.3	95.2				0.584
	Strontium	99.6	99.2	98.7	101			0.464
	Tin	103	99.8	98.3	106			1.49
	Titanium	101	101	101	104			0.0977
	Vanadium	100	101	100	104			0.510
	Zinc	100	98.6	98.0	102			0.642
EPA 200.8 Rev. 5.4	Aluminum	97.7	99.9	97.4	101			2.52
	Antimony	97.5	99.9	101	100			0.950
	Arsenic	97.8	98.3	98.4	98.7			0.0250
	Barium	99.6	99.4	101	101			1.51
	Beryllium	94.4	100	96.8	96.0			3.17
	Boron	101	105	106	107			0.174
	Cadmium	97.0	99.1	101	99.5			2.28
	Chromium	94.6	94.7	93.8	96.6			0.883
	Cobalt	97.2	96.4	95.5	98.1			0.898
	Copper	96.3	92.0	91.4	96.2			0.610
	Lead	98.6	100	100	102			0.106
	Manganese	97.1	96.8	96.4	98.1			0.360
	Molybdenum	95.2	98.0	99.4	98.1			1.23
	Nickel	95.0	94.2	92.9	95.7			1.37
	Selenium	97.9	99.0	98.4	98.4			0.568
	Silver	99.0	102	100	100			2.26
	Thallium	96.0	99.7	100	100			0.654
EPA 300.0 Rev. 2.1	Chloride	99.0	96.4	97.3			0.741	
	Sulfate	97.4	96.3	96.6			1.29	
EPA 350.1 Rev. 2.0	Ammonia-N	95.2	96.4	97.6				1.15
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	96.8	96.6	104				4.50
EPA 353.2 Rev. 2.0	NO2NO3-N	104	103	103				0.0
EPA 365.1 Rev. 2.0	Total-P	102	100	101				0.658
SM 2320 B-2011	Total Alkalinity	97.3					2.68	
SM 2540 C-2015	TDS	106					4.65	
SM 2540 D-2015	TSS	90.7						
SM 4500-F- C-2011	Fluoride	103	100	98.5				0.959
SM 5310 B-2011	Organic Carbon	96.7	91.4	95.2				2.39

Reference Method Descriptions

Method	Description	Associated Samples
DEP SOP: NU-094-1	True Color measured at 450 nm (not valid for NPDES monitoring)	2411896, 2411898, 2411900
EPA 180.1 Rev. 2.0	Turbidity in aqueous matrices	2411896, 2411898, 2411900
EPA 200.7 Rev. 4.4	Total Recoverable Metals analysis using ICP emission spectroscopy for aqueous samples supporting Clean Water Act Projects	2411908, 2411909, 2411910
EPA 200.8 Rev. 5.4	Total Recoverable Metals analysis using ICP-MS for aqueous samples supporting Clean Water Act Projects	2411908, 2411909, 2411910
EPA 300.0 Rev. 2.1	Chloride in aqueous matrices	2411896, 2411898, 2411900
EPA 300.0 Rev. 2.1	Sulfate in aqueous matrices	2411896, 2411898, 2411900

Reference Method Descriptions

Method	Description	Associated Samples
EPA 350.1 Rev. 2.0	Ammonia in aqueous matrices as mg N/L	2411897, 2411899, 2411901
EPA 351.2 Rev. 2.0	Total Kjeldahl Nitrogen in aqueous matrices	2411897, 2411899, 2411901
EPA 353.2 Rev. 2.0	Nitrite/Nitrate in aqueous matrices as mg N/L	2411897, 2411899, 2411901
EPA 365.1 Rev. 2.0	Total Phosphorus in aqueous matrices as mg P/L	2411897, 2411899, 2411901
SM 2320 B-2011	Alkalinity in aqueous matrices as mg CaCO ₃ /L	2411896, 2411898, 2411900
SM 2340 B-2011	Hardness by calculation, in aqueous matrices, reported as mg/L CaCO ₃	2411908, 2411909, 2411910
SM 2540 C-2015	Total Dissolved Solids in aqueous matrices	2411896, 2411898, 2411900
SM 2540 D-2015	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2411896, 2411898, 2411900
SM 4500-F- C-2011	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2411896, 2411898, 2411900
SM 5310 B-2011	Nonpurgeable Organic Carbon in aqueous matrices	2411897, 2411899, 2411901

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	05/23/2023			05/23/2023 15:30	Anna M. Plaviak	2411900
	05/23/2023			05/23/2023 15:32	Anna M. Plaviak	2411896
	05/23/2023			05/23/2023 15:42	Anna M. Plaviak	2411898
EPA 180.1 Rev. 2.0	05/23/2023			05/23/2023 13:45	Alexis Price	2411896
	05/23/2023			05/23/2023 13:46	Alexis Price	2411898
	05/23/2023			05/23/2023 13:48	Alexis Price	2411900
EPA 200.7 Rev. 4.4	05/23/2023	05/24/2023 11:50	George D Taylor	06/01/2023 16:15	McKinley C Carter	2411910
	05/23/2023	05/24/2023 11:50	George D Taylor	06/01/2023 18:55	McKinley C Carter	2411908
	05/23/2023	05/24/2023 11:50	George D Taylor	06/01/2023 19:03	McKinley C Carter	2411909
EPA 200.8 Rev. 5.4	05/23/2023	05/24/2023 11:50	George D Taylor	06/02/2023 14:16	McKinley C Carter	2411910
	05/23/2023	05/24/2023 11:50	George D Taylor	05/25/2023 14:33	Conrad Hartmann	2411910
	05/23/2023	05/24/2023 11:50	George D Taylor	05/25/2023 16:29	Conrad Hartmann	2411908
EPA 300.0 Rev. 2.1	05/23/2023	05/24/2023 11:50	George D Taylor	05/25/2023 16:38	Conrad Hartmann	2411909
	05/23/2023			05/26/2023 13:10	James L Waggeberby	2411896
	05/23/2023			05/26/2023 13:25	James L Waggeberby	2411898
EPA 350.1 Rev. 2.0	05/23/2023			05/26/2023 13:40	James L Waggeberby	2411900
	05/23/2023			05/31/2023 13:51	Khloe J Berg	2411897
	05/23/2023			05/31/2023 13:53	Khloe J Berg	2411899
EPA 351.2 Rev. 2.0	05/23/2023			05/31/2023 13:54	Khloe J Berg	2411901
	05/23/2023	05/25/2023 11:53	Dana G. Hughes	05/26/2023 09:58	Samantha L Bates	2411897
	05/23/2023	05/25/2023 11:53	Dana G. Hughes	05/26/2023 10:00	Samantha L Bates	2411899
EPA 353.2 Rev. 2.0	05/23/2023	05/25/2023 11:53	Dana G. Hughes	05/26/2023 10:01	Samantha L Bates	2411901
	05/23/2023			06/02/2023 10:45	Beverly Y. Sanders	2411897
	05/23/2023			06/02/2023 10:51	Beverly Y. Sanders	2411899
EPA 365.1 Rev. 2.0	05/23/2023			06/02/2023 10:52	Beverly Y. Sanders	2411901
	05/23/2023	05/24/2023 14:00	Alexis Price	05/25/2023 11:15	Simonne.V. Calhoun	2411897
	05/23/2023	05/24/2023 14:00	Alexis Price	05/25/2023 11:16	Simonne.V. Calhoun	2411899
SM 2320 B-2011	05/23/2023	05/24/2023 14:00	Alexis Price	05/26/2023 11:31	Chandler E Cox	2411901
	05/23/2023			05/26/2023 23:26	Dale L. Simmons	2411896
	05/23/2023			05/26/2023 23:35	Dale L. Simmons	2411900
SM 2340 B-2011	05/23/2023			05/27/2023 01:56	Dale L. Simmons	2411898
	05/23/2023			06/01/2023 16:15	McKinley C Carter	2411910
	05/23/2023			06/01/2023 18:55	McKinley C Carter	2411908
SM 2540 C-2015	05/23/2023			06/01/2023 19:03	McKinley C Carter	2411909
	05/23/2023			05/26/2023 16:01	Yijie Li	2411896, 2411898, 2411900
	05/23/2023			05/26/2023 16:01	Yijie Li	2411896, 2411898, 2411900
SM 4500-F- C-2011	05/23/2023			05/26/2023 23:26	Dale L. Simmons	2411896
	05/23/2023			05/26/2023 23:35	Dale L. Simmons	2411900
	05/23/2023			05/27/2023 01:56	Dale L. Simmons	2411898
SM 5310 B-2011	05/23/2023			05/25/2023 15:22	Elise M. Gillis	2411897

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
SM 5310 B-2011	05/23/2023			05/25/2023 17:59	Elise M. Gillis	2411899
	05/23/2023			05/25/2023 18:12	Elise M. Gillis	2411901