

Chemical Analysis Report

CEN-DIST-2023-06-22-01

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

Event Description: **Run 12**
Request ID: **RQ-2023-06-05-26**
Customer: **CEN-DIST**
Project ID: **SMP**

Send Reports to:
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FL Dept. of Environmental Protection
3319 Maguire Blvd., Suite 232
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Certified by: Dr. rer. nat. Bettina Steinbock, Environmental Administrator

Date Certified: 11-JUL-2023 11:40



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: LAKE WARREN AT CENTER

Collection Date/Time: 06/21/2023 11:16

Field ID: G4CE0236

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2419436	DEP SOP: NU-094-1	Color (true)	40		PCU	P431666	
	EPA 180.1 Rev. 2.0	Turbidity	8.5		NTU	P431664	
	EPA 300.0 Rev. 2.1	Chloride	26		mg Cl/L	P431914	
		Sulfate	8.5		mg SO4/L	P431833	
	SM 2320 B-2011	Total Alkalinity	39		mg CaCO3/L	P431955	
	SM 2540 C-2015	TDS	113		mg/L	P432044	
	SM 2540 D-2015	TSS	13	I	mg/L	P432046	
	SM 4500-F- C-2011	Fluoride	0.091	I	mg F/L	P431774	
2419438	EPA 350.1 Rev. 2.0	Ammonia-N	0.004	I	mg N/L	P431806	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.3		mg N/L	P431803	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P431999	
	EPA 365.1 Rev. 2.0	Total-P	0.065		mg P/L	P431781	
	SM 5310 B-2011	Organic Carbon	11		mg C/L	P431960	

Ref. Method and Comment:

SM 2540 D-2015: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample. The PQL was elevated because of sample matrix interference.

SM 4500-F- C-2011: Batch matrix spike recoveries are unavailable because of high analyte concentration in the QC sample.

Sample Location: HOURGLASS LAKE AT CENTER

Collection Date/Time: 06/21/2023 12:08

Field ID: G4CE0178

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2419437	DEP SOP: NU-094-1	Color (true)	19		PCU	P431666	
	EPA 180.1 Rev. 2.0	Turbidity	3.7		NTU	P431664	
	EPA 300.0 Rev. 2.1	Chloride	19		mg Cl/L	P431914	
		Sulfate	18		mg SO4/L	P431833	
	SM 2320 B-2011	Total Alkalinity	28		mg CaCO3/L	P431955	
	SM 2540 C-2015	TDS	90		mg/L	P432044	
	SM 2540 D-2015	TSS	6	I	mg/L	P432046	
	SM 4500-F- C-2011	Fluoride	0.030	I	mg F/L	P431774	
2419439	EPA 350.1 Rev. 2.0	Ammonia-N	0.002	I	mg N/L	P431806	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.84		mg N/L	P431803	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P431999	
	EPA 365.1 Rev. 2.0	Total-P	0.062		mg P/L	P431781	
	SM 5310 B-2011	Organic Carbon	6.4		mg C/L	P431960	

Ref. Method and Comment:

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

SM 4500-F- C-2011: Batch matrix spike recoveries are unavailable because of high analyte concentration in the QC sample.

Sample Location: LAKE TERRACE AT CENTER

Collection Date/Time: 06/21/2023 12:32

Field ID: G4CE0153

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2419433	DEP SOP: NU-094-1	Color (true)	13		PCU	P431666	
	EPA 180.1 Rev. 2.0	Turbidity	3.3		NTU	P431664	
	EPA 300.0 Rev. 2.1	Chloride	18		mg Cl/L	P431914	
		Sulfate	21		mg SO4/L	P431833	
	SM 2320 B-2011	Total Alkalinity	34		mg CaCO3/L	P431955	
	SM 2540 C-2015	TDS	84		mg/L	P432044	
	SM 2540 D-2015	TSS	6	I	mg/L	P432046	
	SM 4500-F- C-2011	Fluoride	0.054	I	mg F/L	P431774	
2419434	EPA 350.1 Rev. 2.0	Ammonia-N	0.002	I	mg N/L	P431806	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.79	J	mg N/L	P431798	MS
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P431998	
	EPA 365.1 Rev. 2.0	Total-P	0.050		mg P/L	P431781	
	SM 5310 B-2011	Organic Carbon	5.4		mg C/L	P431960	
2419435	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P431657	
2419446	EPA 200.7 Rev. 4.4	Calcium	19.7		mg/L	P431717	
		Iron	30	U	ug/L	P431717	
		Magnesium	2.65		mg/L	P431717	
		Potassium	3.5		mg/L	P431717	
		Sodium	11.9		mg/L	P431717	
		Strontium	49.7		ug/L	P431717	
		Tin	3.0	U	ug/L	P431717	
		Titanium	0.75	U	ug/L	P431717	
	EPA 200.8 Rev. 5.4	Vanadium	4.0	I	ug/L	P431717	
		Zinc	5.0	U	ug/L	P431717	
		Aluminum	113		ug/L	P431717	
		Antimony	0.30		ug/L	P431717	
		Arsenic	0.63		ug/L	P431717	
		Barium	14.3		ug/L	P431717	
		Beryllium	0.010	U	ug/L	P431717	
		Boron	29.3		ug/L	P431717	
		Cadmium	0.020	U	ug/L	P431717	
		Chromium	0.40	U	ug/L	P431717	
		Cobalt	0.023	I	ug/L	P431717	
		Copper	4.31		ug/L	P431717	
		Lead	0.22	I	ug/L	P431717	
		Manganese	7.48		ug/L	P431717	
		Molybdenum	0.65		ug/L	P431717	
		Nickel	0.50	U	ug/L	P431717	
		Selenium	0.20	U	ug/L	P431717	
		Silver	0.010	U	ug/L	P431717	
		Thallium	0.10	U	ug/L	P431717	
	SM 2340 B-2011	Hardness	60.2		mg/L	P431717	

Field ID: G4CE0153

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
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Ref. Method and Comment:
SM 2540 D-2015: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.
SM 4500-F- C-2011: Batch matrix spike recoveries are unavailable because of high analyte concentration in the QC sample.
EPA 351.2 Rev. 2.0: Refer to the Lab Analysis Report for an explanation of QC Codes.

Sample Location: LAKE GILES AT CENTER

Collection Date/Time: 06/21/2023 13:16

Field ID: G4CE0193

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2419430	DEP SOP: NU-094-1	Color (true)	8.0	A	PCU	P431666	
	EPA 180.1 Rev. 2.0	Turbidity	1.4		NTU	P431664	
	EPA 300.0 Rev. 2.1	Chloride	23		mg Cl/L	P431914	
		Sulfate	18		mg SO4/L	P431833	
	SM 2320 B-2011	Total Alkalinity	24		mg CaCO3/L	P431955	
	SM 2540 C-2015	TDS	86		mg/L	P432044	
	SM 2540 D-2015	TSS	2	I	mg/L	P432046	
	SM 4500-F- C-2011	Fluoride	0.051	I	mg F/L	P431774	
2419431	EPA 350.1 Rev. 2.0	Ammonia-N	0.003	I	mg N/L	P431806	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.42		mg N/L	P431798	MS
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P431998	
	EPA 365.1 Rev. 2.0	Total-P	0.025		mg P/L	P431781	
	SM 5310 B-2011	Organic Carbon	4.1		mg C/L	P431958	
2419432	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P431657	

Ref. Method and Comment:

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

SM 4500-F- C-2011: Batch matrix spike recoveries are unavailable because of high analyte concentration in the QC sample.

Quality Assurance Report Method Blank Results

Reference Method: DEP SOP: NU-094-1
Batch ID: P431666

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P431664

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P431717

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: P431717

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: P431833

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Quality Assurance Report Method Blank Results

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P431914

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P431806

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P431798

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P431803

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P431998

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P431999

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P431781

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P431657

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

Reference Method: SM 2320 B-2011
Batch ID: P431955

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

Quality Assurance Report

Method Blank Results

Reference Method: SM 2540 C-2015
Batch ID: P432044

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-2015
Batch ID: P432046

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500-F- C-2011
Batch ID: P431774

Component	Result	Code	Units
Fluoride	0.025	U	mg F/L

Reference Method: SM 5310 B-2011
Batch ID: P431958

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

Reference Method: SM 5310 B-2011
Batch ID: P431960

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: P431666

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

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P431664

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: P431717

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Calcium	103		P	85 - 115
Iron	106		P	85 - 115
Magnesium	105		P	85 - 115
Potassium	103		P	85 - 115
Sodium	106		P	85 - 115
Strontium	103		P	85 - 115
Tin	103		P	85 - 115
Titanium	102		P	85 - 115
Vanadium	102		P	85 - 115
Zinc	104		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P431717

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Aluminum	105		P	85 - 115
Antimony	103		P	85 - 115
Arsenic	102		P	85 - 115
Barium	105		P	85 - 115
Beryllium	99.2		P	85 - 115
Boron	105		P	85 - 115
Cadmium	105		P	85 - 115
Chromium	99.4		P	85 - 115
Cobalt	100		P	85 - 115
Copper	99.7		P	85 - 115
Lead	96.4		P	85 - 115
Manganese	98.5		P	85 - 115
Molybdenum	101		P	85 - 115
Nickel	101		P	85 - 115
Selenium	103		P	85 - 115
Silver	105		P	85 - 115
Thallium	102		P	85 - 115

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P431833

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

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P431914

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P431806

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Ammonia-N	94.8		P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P431798

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P431803

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: P431998

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P431999

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: P431781

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total-P	96.1		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P431657

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

Reference Method: SM 2320 B-2011
Batch ID: P431955

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	97.2		P	92 - 105

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: SM 2540 C-2015
Batch ID: P432044

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
TDS	96.3		P	90 - 110

Reference Method: SM 2540 D-2015
Batch ID: P432046

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
TSS	95.3		P	85 - 106

Reference Method: SM 4500-F- C-2011
Batch ID: P431774

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	105		P	94 - 106

Reference Method: SM 5310 B-2011
Batch ID: P431958

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	94.5		P	85 - 115

Reference Method: SM 5310 B-2011
Batch ID: P431960

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	95.8		P	85 - 115

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.7 Rev. 4.4

Batch ID: P431717

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2418480	Calcium	104		P	80 - 120
2418480	Iron	109	107	P/P	80 - 120
2418480	Magnesium	108	106	P/P	80 - 120
2418480	Potassium	104	102	P/P	80 - 120
2418480	Sodium	108	106	P/P	80 - 120
2418480	Strontium	106	103	P/P	80 - 120
2418480	Tin	109	106	P/P	80 - 120
2418480	Titanium	105	105	P/P	80 - 120
2418480	Vanadium	107	105	P/P	80 - 120
2418480	Zinc	107	105	P/P	80 - 120

Reference Method: EPA 200.8 Rev. 5.4

Batch ID: P431717

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2418480	Aluminum	104	103	P/P	80 - 120
2418480	Antimony	104	103	P/P	80 - 120
2418480	Arsenic	102	101	P/P	80 - 120
2418480	Barium	105	104	P/P	80 - 120
2418480	Beryllium	99.9	101	P/P	80 - 120
2418480	Boron	107	103	P/P	80 - 120
2418480	Cadmium	106	103	P/P	80 - 120
2418480	Chromium	101	101	P/P	80 - 120
2418480	Cobalt	99.9	98.3	P/P	80 - 120
2418480	Copper	99.5	99.5	P/P	80 - 120
2418480	Lead	98.4	97.3	P/P	80 - 120
2418480	Manganese	101	99.4	P/P	80 - 120
2418480	Molybdenum	102	102	P/P	80 - 120
2418480	Nickel	99.3	98.7	P/P	80 - 120
2418480	Selenium	104	102	P/P	80 - 120
2418480	Silver	105	105	P/P	80 - 120
2418480	Thallium	106	105	P/P	80 - 120

Reference Method: EPA 300.0 Rev. 2.1

Batch ID: P431833

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2418864	Sulfate	101		P	90 - 110
2419270	Sulfate	105		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1

Batch ID: P431914

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2418864	Chloride	104		P	90 - 110
2419270	Chloride	106		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Batch ID: P431806

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2419431	Ammonia-N	97.0	97.8	P/P	90 - 110

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P431798

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2419434	Kjeldahl Nitrogen	106	110	P/F	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P431803

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2419564	Kjeldahl Nitrogen	107	106	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P431998

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2419319	NO2NO3-N	102	102	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P431999

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2419438	NO2NO3-N	104	104	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P431781

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2419511	Total-P	97.9	96.7	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P431657

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2419432	O-Phosphate-P	100	100	P/P	90 - 110

Reference Method: SM 5310 B-2011
Batch ID: P431958

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2418942	Organic Carbon	94.6	96.6	P/P	85 - 115

Reference Method: SM 5310 B-2011
Batch ID: P431960

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2419434	Organic Carbon	94.4	95.4	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: DEP SOP: NU-094-1
Batch ID: P431666

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2419430	Color (true)	1.12	Sample	P	0 - 20

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P431664

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2419268	Turbidity	3.15	Sample	P	0 - 20

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P431717

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2418480	Calcium	1.23	Spike	P	0 - 20
2418480	Iron	1.94	Spike	P	0 - 20
2418480	Magnesium	1.62	Spike	P	0 - 20
2418480	Potassium	1.20	Spike	P	0 - 20
2418480	Sodium	1.15	Spike	P	0 - 20
2418480	Strontium	2.04	Spike	P	0 - 20
2418480	Tin	2.31	Spike	P	0 - 20
2418480	Titanium	0.00544	Spike	P	0 - 20
2418480	Vanadium	1.12	Spike	P	0 - 20
2418480	Zinc	1.32	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P431717

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2418480	Aluminum	0.847	Spike	P	0 - 20
2418480	Antimony	0.929	Spike	P	0 - 20
2418480	Arsenic	1.62	Spike	P	0 - 20
2418480	Barium	1.08	Spike	P	0 - 20
2418480	Beryllium	1.52	Spike	P	0 - 20
2418480	Boron	3.13	Spike	P	0 - 20
2418480	Cadmium	3.16	Spike	P	0 - 20
2418480	Chromium	0.0591	Spike	P	0 - 20
2418480	Cobalt	1.63	Spike	P	0 - 20
2418480	Copper	0.0569	Spike	P	0 - 20
2418480	Lead	1.12	Spike	P	0 - 20
2418480	Manganese	1.35	Spike	P	0 - 20
2418480	Molybdenum	0.305	Spike	P	0 - 20
2418480	Nickel	0.629	Spike	P	0 - 20
2418480	Selenium	2.36	Spike	P	0 - 20
2418480	Silver	0.528	Spike	P	0 - 20
2418480	Thallium	1.21	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P431833

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2418864	Sulfate	1.22	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P431914

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2418864	Chloride	0.348	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P431806

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2419431	Ammonia-N	0.780	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P431798

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2419434	Kjeldahl Nitrogen	2.73	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P431803

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2419564	Kjeldahl Nitrogen	0.870	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P431998

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2419319	NO2NO3-N	0.980	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P431999

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2419438	NO2NO3-N	0.0	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P431781

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2419511	Total-P	1.14	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P431657

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2419432	O-Phosphate-P	0.399	Spike	P	0 - 20

Reference Method: SM 2320 B-2011
Batch ID: P431955

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2419404	Total Alkalinity	0.900	Sample	P	0 - 3.9

Reference Method: SM 2540 C-2015
Batch ID: P432044

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2419404	TDS	4.51	Sample	P	0 - 10

Reference Method: SM 4500-F- C-2011
Batch ID: P431774

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2418853	Fluoride	1.45	Spike	P	0 - 1.9

Reference Method: SM 5310 B-2011
Batch ID: P431958

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2418942	Organic Carbon	1.82	Spike	P	0 - 20

Reference Method: SM 5310 B-2011
Batch ID: P431960

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2419434	Organic Carbon	0.780	Spike	P	0 - 20

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

Quality Assurance Report Calibration Verification

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Run ID: A119976

Included Lab Sample IDs: 2419432, 2419435

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	98.0	98.1	P/P	90 - 110
O-Phosphate-P	99.2	98.0	P/P	90 - 110

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A119978

Included Lab Sample IDs: 2419430, 2419433, 2419436, 2419437

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Turbidity	100	101	P/P	95 - 105
Turbidity	101	100	P/P	95 - 105

Reference Method: DEP SOP: NU-094-1

Run ID: A119979

Included Lab Sample IDs: 2419430, 2419433, 2419436, 2419437

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	100	100	P/P	90 - 110

Reference Method: SM 4500-F- C-2011

Run ID: A120036

Included Lab Sample IDs: 2419430, 2419433, 2419436, 2419437

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

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A120039

Included Lab Sample IDs: 2419446

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Aluminum	105	105	P/P	90 - 110
Antimony	101	103	P/P	90 - 110
Arsenic	101	101	P/P	90 - 110
Barium	103	103	P/P	90 - 110
Beryllium	101	102	P/P	90 - 110
Boron	103	102	P/P	90 - 110
Cadmium	102	103	P/P	90 - 110
Chromium	102	102	P/P	90 - 110
Cobalt	99.8	100	P/P	90 - 110
Copper	99.3	98.4	P/P	90 - 110
Lead	95.8	95.8	P/P	90 - 110
Manganese	101	101	P/P	90 - 110
Molybdenum	101	101	P/P	90 - 110
Nickel	100	99.3	P/P	90 - 110
Selenium	102	103	P/P	90 - 110
Silver	104	105	P/P	90 - 110
Thallium	104	104	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A120041

Included Lab Sample IDs: 2419431, 2419434, 2419438, 2419439

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	96.8	98.3	P/P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A120051

Included Lab Sample IDs: 2419430, 2419433, 2419436, 2419437

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	101	101	P/P	90 - 110
Sulfate	102	105	P/P	90 - 110

Reference Method: EPA 200.7 Rev. 4.4

Run ID: A120063

Included Lab Sample IDs: 2419446

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Calcium	104	106	P/P	90 - 110
Iron	105	107	P/P	90 - 110
Magnesium	104	106	P/P	90 - 110
Potassium	103	104	P/P	90 - 110
Sodium	105	106	P/P	90 - 110
Strontium	106	105	P/P	90 - 110
Tin	105	105	P/P	90 - 110
Titanium	102	102	P/P	90 - 110
Vanadium	103	103	P/P	90 - 110
Zinc	106	105	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A120065

Included Lab Sample IDs: 2419431, 2419434

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	90.7	95.8	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A120073

Included Lab Sample IDs: 2419438, 2419439

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	93.7	94.7	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A120076

Included Lab Sample IDs: 2419438, 2419439

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

Quality Assurance Report Calibration Verification

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A120078

Included Lab Sample IDs: 2419431, 2419434

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	99.2	101	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A120095

Included Lab Sample IDs: 2419431, 2419434, 2419438, 2419439

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	102	102	P/P	90 - 110
NO2NO3-N	102	102	P/P	90 - 110

Reference Method: SM 2320 B-2011

Run ID: A120110

Included Lab Sample IDs: 2419430, 2419433, 2419436, 2419437

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	97.4	94.5	P/P	90 - 110

Reference Method: SM 5310 B-2011

Run ID: A120112

Included Lab Sample IDs: 2419431, 2419434, 2419438, 2419439

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	96.3	97.2	P/P	90 - 110
Organic Carbon	96.4	96.3	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	
DEP SOP: NU-094-1	Color (true)	101				1.12	
EPA 180.1 Rev. 2.0	Turbidity	99.5				3.15	
EPA 200.7 Rev. 4.4	Calcium	103	104				1.23
	Iron	106	109	107			1.94
	Magnesium	105	108	106			1.62
	Potassium	103	104	102			1.20
	Sodium	106	108	106			1.15
	Strontium	103	106	103			2.04
	Tin	103	109	106			2.31
	Titanium	102	105	105			0.0054
	Vanadium	102	107	105			1.12
	Zinc	104	107	105			1.32
EPA 200.8 Rev. 5.4	Aluminum	105	104	103			0.847
	Antimony	103	104	103			0.929
	Arsenic	102	102	101			1.62
	Barium	105	105	104			1.08
	Beryllium	99.2	99.9	101			1.52
	Boron	105	107	103			3.13
	Cadmium	105	106	103			3.16
	Chromium	99.4	101	101			0.0591
	Cobalt	100	99.9	98.3			1.63
	Copper	99.7	99.5	99.5			0.0569
	Lead	96.4	98.4	97.3			1.12
	Manganese	98.5	101	99.4			1.35
	Molybdenum	101	102	102			0.305
	Nickel	101	99.3	98.7			0.629
	Selenium	103	104	102			2.36
	Silver	105	105	105			0.528
	Thallium	102	106	105			1.21
EPA 300.0 Rev. 2.1	Chloride	99.5	104	106		0.348	
	Sulfate	103	101	105		1.22	
EPA 350.1 Rev. 2.0	Ammonia-N	94.8	97.0	97.8			0.780
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	107	106	110			2.73
	Kjeldahl Nitrogen	104	107	106			0.870
EPA 353.2 Rev. 2.0	NO2NO3-N	104	102	102			0.980
	NO2NO3-N	104	104	104			0.0
EPA 365.1 Rev. 2.0	Total-P	96.1	97.9	96.7			1.14
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	101	100	100			0.399
SM 2320 B-2011	Total Alkalinity	97.2				0.900	
SM 2540 C-2015	TDS	96.3				4.51	
SM 2540 D-2015	TSS	95.3					
SM 4500-F- C-2011	Fluoride	105					1.45
SM 5310 B-2011	Organic Carbon	94.5	94.6	96.6			1.82
	Organic Carbon	95.8	94.4	95.4			0.780

Reference Method Descriptions

Method	Description	Associated Samples
DEP SOP: NU-094-1	True Color measured at 450 nm (not valid for NPDES monitoring)	2419430, 2419433, 2419436, 2419437
EPA 180.1 Rev. 2.0	Turbidity in aqueous matrices	2419430, 2419433, 2419436, 2419437
EPA 200.7 Rev. 4.4	Total Recoverable Metals analysis using ICP emission spectroscopy for aqueous samples supporting Clean Water Act Projects	2419446

Reference Method Descriptions

Method	Description	Associated Samples
EPA 200.8 Rev. 5.4	Total Recoverable Metals analysis using ICP-MS for aqueous samples supporting Clean Water Act Projects	2419446
EPA 300.0 Rev. 2.1	Chloride in aqueous matrices	2419430, 2419433, 2419436, 2419437
EPA 300.0 Rev. 2.1	Sulfate in aqueous matrices	2419430, 2419433, 2419436, 2419437
EPA 350.1 Rev. 2.0	Ammonia in aqueous matrices as mg N/L	2419431, 2419434, 2419438, 2419439
EPA 351.2 Rev. 2.0	Total Kjeldahl Nitrogen in aqueous matrices	2419431, 2419434, 2419438, 2419439
EPA 353.2 Rev. 2.0	Nitrite/Nitrate in aqueous matrices as mg N/L	2419431, 2419434, 2419438, 2419439
EPA 365.1 Rev. 2.0	Total Phosphorus in aqueous matrices as mg P/L	2419431, 2419434, 2419438, 2419439
EPA 365.1 Rev. 2.0 dissolved	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	2419432, 2419435
SM 2320 B-2011	Alkalinity in aqueous matrices as mg CaCO ₃ /L	2419430, 2419433, 2419436, 2419437
SM 2340 B-2011	Hardness by calculation, in aqueous matrices, reported as mg/L CaCO ₃	2419446
SM 2540 C-2015	Total Dissolved Solids in aqueous matrices	2419430, 2419433, 2419436, 2419437
SM 2540 D-2015	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2419430, 2419433, 2419436, 2419437
SM 4500-F- C-2011	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2419430, 2419433, 2419436, 2419437
SM 5310 B-2011	Nonpurgeable Organic Carbon in aqueous matrices	2419431, 2419434, 2419438, 2419439

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	06/22/2023			06/22/2023 15:17	Anna M. Plaviak	2419430
	06/22/2023			06/22/2023 15:18	Anna M. Plaviak	2419433, 2419436
	06/22/2023			06/22/2023 15:19	Anna M. Plaviak	2419437
EPA 180.1 Rev. 2.0	06/22/2023			06/22/2023 13:42	Khloe J Berg	2419430
	06/22/2023			06/22/2023 13:44	Khloe J Berg	2419433
	06/22/2023			06/22/2023 13:45	Khloe J Berg	2419436
	06/22/2023			06/22/2023 13:46	Khloe J Berg	2419437
EPA 200.7 Rev. 4.4	06/22/2023	06/23/2023 12:35	George D Taylor	06/27/2023 15:29	Samatha Luckman	2419446
EPA 200.8 Rev. 5.4	06/22/2023	06/23/2023 12:35	George D Taylor	06/26/2023 16:36	Emily M Philpot	2419446
EPA 300.0 Rev. 2.1	06/22/2023			06/27/2023 07:16	James L Waggeberby	2419430
	06/22/2023			06/27/2023 07:31	James L Waggeberby	2419433
	06/22/2023			06/27/2023 07:47	James L Waggeberby	2419436
	06/22/2023			06/27/2023 08:02	James L Waggeberby	2419437
	06/22/2023			06/28/2023 15:21	James L Waggeberby	2419430
	06/22/2023			06/28/2023 15:36	James L Waggeberby	2419433
	06/22/2023			06/28/2023 15:51	James L Waggeberby	2419436
	06/22/2023			06/28/2023 16:07	James L Waggeberby	2419437
EPA 350.1 Rev. 2.0	06/22/2023			06/26/2023 13:05	Khloe J Berg	2419431
	06/22/2023			06/26/2023 13:11	Khloe J Berg	2419434
	06/22/2023			06/26/2023 13:12	Khloe J Berg	2419438
	06/22/2023			06/26/2023 13:13	Khloe J Berg	2419439
EPA 351.2 Rev. 2.0	06/22/2023	06/27/2023 10:05	Dana G. Hughes	06/28/2023 10:00	Ping Hua	2419431
	06/22/2023	06/27/2023 10:05	Dana G. Hughes	06/28/2023 10:02	Ping Hua	2419434
	06/22/2023	06/27/2023 10:05	Dana G. Hughes	06/28/2023 14:32	Ping Hua	2419438
	06/22/2023	06/27/2023 10:05	Dana G. Hughes	06/28/2023 14:33	Ping Hua	2419439
EPA 353.2 Rev. 2.0	06/22/2023			06/29/2023 11:27	Beverly Y. Sanders	2419431
	06/22/2023			06/29/2023 11:28	Beverly Y. Sanders	2419434
	06/22/2023			06/29/2023 11:35	Beverly Y. Sanders	2419438
	06/22/2023			06/29/2023 11:41	Beverly Y. Sanders	2419439
EPA 365.1 Rev. 2.0	06/22/2023	06/27/2023 13:15	Simonne.V. Calhoun	06/28/2023 14:33	Simonne.V. Calhoun	2419438
	06/22/2023	06/27/2023 13:15	Simonne.V. Calhoun	06/28/2023 14:36	Simonne.V. Calhoun	2419439
	06/22/2023	06/27/2023 13:15	Simonne.V. Calhoun	06/28/2023 15:26	Simonne.V. Calhoun	2419431
	06/22/2023	06/27/2023 13:15	Simonne.V. Calhoun	06/28/2023 15:27	Simonne.V. Calhoun	2419434
EPA 365.1 Rev. 2.0 dissolved	06/22/2023			06/22/2023 14:46	Elise M. Gillis	2419432
	06/22/2023			06/22/2023 14:57	Elise M. Gillis	2419435
SM 2320 B-2011	06/22/2023			06/29/2023 00:52	Dale L. Simmons	2419430
	06/22/2023			06/29/2023 01:05	Dale L. Simmons	2419433
	06/22/2023			06/29/2023 01:17	Dale L. Simmons	2419436
	06/22/2023			06/29/2023 01:29	Dale L. Simmons	2419437
SM 2340 B-2011	06/22/2023			06/27/2023 15:29	Samatha Luckman	2419446

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
SM 2540 C-2015	06/22/2023			06/23/2023 15:19	Yijie Li	2419430, 2419433, 2419436, 2419437
SM 2540 D-2015	06/22/2023			06/23/2023 15:19	Yijie Li	2419430, 2419433, 2419436, 2419437
SM 4500-F- C-2011	06/22/2023			06/24/2023 10:22	Dale L. Simmons	2419430
	06/22/2023			06/24/2023 10:35	Dale L. Simmons	2419433
	06/22/2023			06/24/2023 10:49	Dale L. Simmons	2419436
	06/22/2023			06/24/2023 11:01	Dale L. Simmons	2419437
SM 5310 B-2011	06/22/2023			06/28/2023 21:24	Elise M. Gillis	2419431
	06/22/2023			06/28/2023 22:34	Elise M. Gillis	2419434
	06/22/2023			06/28/2023 23:31	Elise M. Gillis	2419438
	06/22/2023			06/28/2023 23:44	Elise M. Gillis	2419439