

Chemical Analysis Report

CEN-DIST-2023-04-13-02

Florida DEP Laboratory
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DOH Accreditation E31780

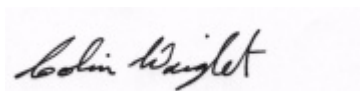
Event Description: **Run 13**
Request ID: **RQ-2023-04-10-21**
Customer: **CEN-DIST**
Project ID: **SMP**

Send Reports to:
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Certified by: Colin Wright, Program Administrator

Date Certified: 08-MAY-2023 08:50



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 LAWSONA NW OF CENTER

Collection Date/Time: 04/12/2023 10:35

Field ID: G2CE0286

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2400221	EPA 200.7 Rev. 4.4	Calcium	18.0		mg/L	P428501	
		Iron	30	U	ug/L	P428501	
		Magnesium	3.70		mg/L	P428501	
		Potassium	2.1		mg/L	P428501	
		Sodium	13.9		mg/L	P428501	
		Strontium	51.5		ug/L	P428501	
		Tin	3.0	U	ug/L	P428501	
		Titanium	0.75	U	ug/L	P428501	
		Vanadium	2.0	U	ug/L	P428501	
	EPA 200.8 Rev. 5.4	Zinc	5.0	U	ug/L	P428501	
		Aluminum	52		ug/L	P428501	
		Antimony	1.04		ug/L	P428501	
		Arsenic	0.81		ug/L	P428501	
		Barium	15.4		ug/L	P428501	
		Beryllium	0.010	U	ug/L	P428501	
		Boron	43.1		ug/L	P428501	
		Cadmium	0.020	U	ug/L	P428501	
		Chromium	0.40	U	ug/L	P428501	
		Cobalt	0.040	I	ug/L	P428501	
		Copper	1.83		ug/L	P428501	
		Lead	1.31		ug/L	P428501	
		Manganese	6.19		ug/L	P428501	
		Molybdenum	1.26		ug/L	P428501	
		Nickel	0.50	U	ug/L	P428501	
		Selenium	0.20	U	ug/L	P428501	
		Silver	0.012	I	ug/L	P428501	
		Thallium	0.10	U	ug/L	P428501	
	SM 2340 B-2011	Hardness	60.2		mg/L	P428501	

Sample Location: LAKE OLIVE AT CENTER

Collection Date/Time: 04/12/2023 10:55

Field ID: G4CE0223

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2400213	DEP SOP: NU-094-1	Color (true)	23	A	PCU	P428464	
	EPA 180.1 Rev. 2.0	Turbidity	2.9		NTU	P428492	
	EPA 300.0 Rev. 2.1	Chloride	20		mg Cl/L	P428891	
		Sulfate	7.1		mg SO4/L	P428895	
	SM 2320 B-2011	Total Alkalinity	80	A	mg CaCO3/L	P428656	
	SM 2540 C-2015	TDS	133		mg/L	P428693	
	SM 2540 D-2015	TSS	4	I	mg/L	P428803	
	SM 4500-F- C-2011	Fluoride	0.084	I	mg F/L	P429441	
2400215	EPA 350.1 Rev. 2.0	Ammonia-N	0.079		mg N/L	P428752	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.90		mg N/L	P428920	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.022		mg N/L	P428884	
	EPA 365.1 Rev. 2.0	Total-P	0.11		mg P/L	P428522	
	SM 5310 B-2011	Organic Carbon	7.7		mg C/L	P428700	

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 GEAR AT CENTER

Collection Date/Time: 04/12/2023 12:05

Field ID: G2CE0154

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2400222	EPA 200.7 Rev. 4.4	Calcium	26.3		mg/L	P428501	
		Iron	100	I	ug/L	P428501	
		Magnesium	1.67		mg/L	P428501	
		Potassium	1.9		mg/L	P428501	
		Sodium	9.2		mg/L	P428501	
		Strontium	58.5		ug/L	P428501	
		Tin	3.0	U	ug/L	P428501	
		Titanium	0.75	U	ug/L	P428501	
		Vanadium	2.0	U	ug/L	P428501	
	EPA 200.8 Rev. 5.4	Zinc	5.0	U	ug/L	P428501	
		Aluminum	56		ug/L	P428501	
		Antimony	0.30		ug/L	P428501	
		Arsenic	4.22		ug/L	P428501	
		Barium	10.3		ug/L	P428501	
		Beryllium	0.010	U	ug/L	P428501	
		Boron	27.2		ug/L	P428501	
		Cadmium	0.020	U	ug/L	P428501	
		Chromium	0.40	U	ug/L	P428501	
		Cobalt	0.038	I	ug/L	P428501	
		Copper	2.91		ug/L	P428501	
		Lead	0.47		ug/L	P428501	
		Manganese	6.61		ug/L	P428501	
		Molybdenum	0.81		ug/L	P428501	
		Nickel	0.50	U	ug/L	P428501	
		Selenium	0.20	U	ug/L	P428501	
		Silver	0.010	U	ug/L	P428501	
		Thallium	0.10	U	ug/L	P428501	
	SM 2340 B-2011	Hardness	72.7		mg/L	P428501	

Sample Location: LAKE DOWNEY AT CENTER

Collection Date/Time: 04/12/2023 12:45

Field ID: G2CE0227

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2400214	DEP SOP: NU-094-1	Color (true)	42		PCU	P428464	
	EPA 180.1 Rev. 2.0	Turbidity	0.90	I	NTU	P428492	
	EPA 300.0 Rev. 2.1	Chloride	22		mg Cl/L	P428891	
		Sulfate	3.5		mg SO4/L	P428895	
	SM 2320 B-2011	Total Alkalinity	8.8		mg CaCO3/L	P428656	
	SM 2540 C-2015	TDS	70		mg/L	P428693	
	SM 2540 D-2015	TSS	2	U	mg/L	P428803	
	SM 4500-F- C-2011	Fluoride	0.038	I	mg F/L	P428930	
2400216	EPA 350.1 Rev. 2.0	Ammonia-N	0.002	U	mg N/L	P428752	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.66		mg N/L	P428920	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P428884	
	EPA 365.1 Rev. 2.0	Total-P	0.010		mg P/L	P428522	
	SM 5310 B-2011	Organic Carbon	11		mg C/L	P428700	

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: LAKE LUCERNE SW

Collection Date/Time: 04/12/2023 10:10

Field ID: G4CE0202

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2400207	DEP SOP: NU-094-1	Color (true)	7.1		PCU	P428464	
	EPA 180.1 Rev. 2.0	Turbidity	3.7		NTU	P428492	
	EPA 300.0 Rev. 2.1	Chloride	11		mg Cl/L	P428891	
		Sulfate	20		mg SO4/L	P428895	
	SM 2320 B-2011	Total Alkalinity	94		mg CaCO3/L	P428656	
	SM 2540 C-2015	TDS	143		mg/L	P428693	
	SM 2540 D-2015	TSS	7	I	mg/L	P428803	
2400209	SM 4500-F- C-2011	Fluoride	0.11		mg F/L	P428930	
	EPA 350.1 Rev. 2.0	Ammonia-N	0.018		mg N/L	P428752	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.70		mg N/L	P428920	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.013		mg N/L	P428883	
	EPA 365.1 Rev. 2.0	Total-P	0.12		mg P/L	P428522	
2400211	SM 5310 B-2011	Organic Carbon	3.7		mg C/L	P428607	
	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P428448	

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: LAKE EMERALD AT CENTER

Collection Date/Time: 04/12/2023 11:22

Field ID: G4CE0204

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2400208	DEP SOP: NU-094-1	Color (true)	32		PCU	P428464	
	EPA 180.1 Rev. 2.0	Turbidity	14		NTU	P428492	
	EPA 300.0 Rev. 2.1	Chloride	28		mg Cl/L	P428891	
		Sulfate	15		mg SO4/L	P428895	
	SM 2320 B-2011	Total Alkalinity	76		mg CaCO3/L	P428656	
	SM 2540 C-2015	TDS	160		mg/L	P428693	
	SM 2540 D-2015	TSS	24		mg/L	P428803	
2400210	SM 4500-F- C-2011	Fluoride	0.11		mg F/L	P428930	
	EPA 350.1 Rev. 2.0	Ammonia-N	0.008		mg N/L	P428752	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	2.3		mg N/L	P428920	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P428883	
	EPA 365.1 Rev. 2.0	Total-P	0.23		mg P/L	P428522	
2400212	SM 5310 B-2011	Organic Carbon	11		mg C/L	P428700	
	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.005	I	mg P/L	P428448	

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: P428464

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P428492

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P428501

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: P428501

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: P428891

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: P428895

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P428752

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P428920

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P428883

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P428884

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P428522

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P428448

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

Reference Method: SM 2320 B-2011
Batch ID: P428656

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

Reference Method: SM 2540 C-2015
Batch ID: P428693

Component	Result	Code	Units
TDS	15	U	mg/L

Quality Assurance Report Method Blank Results

Reference Method: SM 2540 D-2015
Batch ID: P428803

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500-F- C-2011
Batch ID: P428930

Component	Result	Code	Units
Fluoride	0.025	U	mg F/L

Reference Method: SM 4500-F- C-2011
Batch ID: P429441

Component	Result	Code	Units
Fluoride	0.025	U	mg F/L

Reference Method: SM 5310 B-2011
Batch ID: P428607

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

Reference Method: SM 5310 B-2011
Batch ID: P428700

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: P428464

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

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P428492

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Turbidity	99.6		P	90 - 110

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P428501

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Calcium	103		P	85 - 115
Iron	105		P	85 - 115
Magnesium	103		P	85 - 115
Potassium	104		P	85 - 115
Sodium	104		P	85 - 115
Strontium	99.6		P	85 - 115
Tin	103		P	85 - 115
Titanium	102		P	85 - 115
Vanadium	102		P	85 - 115
Zinc	102		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P428501

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Aluminum	103		P	85 - 115
Antimony	105		P	85 - 115
Arsenic	101		P	85 - 115
Barium	103		P	85 - 115
Beryllium	99.1		P	85 - 115
Boron	103		P	85 - 115
Cadmium	102		P	85 - 115
Chromium	105		P	85 - 115
Cobalt	107		P	85 - 115
Copper	103		P	85 - 115
Lead	108		P	85 - 115
Manganese	106		P	85 - 115
Molybdenum	102		P	85 - 115
Nickel	105		P	85 - 115
Selenium	97.4		P	85 - 115
Silver	109		P	85 - 115
Thallium	100		P	85 - 115

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P428891

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Chloride	99.3		P	90 - 110

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P428895

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P428752

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P428920

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Kjeldahl Nitrogen	99.3		P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P428883

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P428884

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P428522

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P428448

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
O-Phosphate-P	99.1		P	90 - 110

Reference Method: SM 2320 B-2011
Batch ID: P428656

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	95.9		P	94 - 106

Reference Method: SM 2540 C-2015
Batch ID: P428693

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
TDS	97.7		P	90 - 110

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: SM 2540 D-2015
Batch ID: P428803

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
TSS	96.9		P	85 - 106

Reference Method: SM 4500-F- C-2011
Batch ID: P428930

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	99.3		P	96 - 104

Reference Method: SM 4500-F- C-2011
Batch ID: P429441

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	101		P	96 - 104

Reference Method: SM 5310 B-2011
Batch ID: P428607

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

Reference Method: SM 5310 B-2011
Batch ID: P428700

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	98.6		P	85 - 115

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.7 Rev. 4.4

Batch ID: P428501

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2400047	Calcium	101		P	80 - 120
2400047	Iron	105	105	P/P	80 - 120
2400047	Magnesium	103		P	80 - 120
2400047	Potassium	101	103	P/P	80 - 120
2400047	Sodium	104	107	P/P	80 - 120
2400047	Strontium	98.6	100	P/P	80 - 120
2400047	Tin	98.8	101	P/P	80 - 120
2400047	Titanium	101	101	P/P	80 - 120
2400047	Vanadium	101	102	P/P	80 - 120
2400047	Zinc	100	99.9	P/P	80 - 120
2400258	Calcium	103		P	80 - 120
2400258	Iron	103		P	80 - 120
2400258	Magnesium	106		P	80 - 120
2400258	Potassium	102		P	80 - 120
2400258	Sodium	105		P	80 - 120
2400258	Strontium	100		P	80 - 120
2400258	Tin	99.4		P	80 - 120
2400258	Titanium	103		P	80 - 120
2400258	Vanadium	103		P	80 - 120
2400258	Zinc	105		P	80 - 120

Reference Method: EPA 200.8 Rev. 5.4

Batch ID: P428501

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2400047	Aluminum	103	105	P/P	80 - 120
2400047	Antimony	108	109	P/P	80 - 120
2400047	Arsenic	102	103	P/P	80 - 120
2400047	Barium	102	104	P/P	80 - 120
2400047	Beryllium	96.1	93.7	P/P	80 - 120
2400047	Boron	106	104	P/P	80 - 120
2400047	Cadmium	105	104	P/P	80 - 120
2400047	Chromium	106	105	P/P	80 - 120
2400047	Cobalt	104	103	P/P	80 - 120
2400047	Copper	99.9	101	P/P	80 - 120
2400047	Lead	106	107	P/P	80 - 120
2400047	Manganese	104	106	P/P	80 - 120
2400047	Molybdenum	104	105	P/P	80 - 120
2400047	Nickel	101	103	P/P	80 - 120
2400047	Selenium	96.3	97.4	P/P	80 - 120
2400047	Silver	110	109	P/P	80 - 120
2400047	Thallium	99.1	106	P/P	80 - 120
2400258	Aluminum	101		P	80 - 120
2400258	Antimony	105		P	80 - 120
2400258	Arsenic	101		P	80 - 120
2400258	Barium	99.6		P	80 - 120
2400258	Beryllium	95.8		P	80 - 120
2400258	Boron	106		P	80 - 120
2400258	Cadmium	104		P	80 - 120
2400258	Chromium	108		P	80 - 120
2400258	Cobalt	107		P	80 - 120
2400258	Copper	105		P	80 - 120

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P428501

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2400258	Lead	108		P	80 - 120
2400258	Manganese	103		P	80 - 120
2400258	Molybdenum	102		P	80 - 120
2400258	Nickel	104		P	80 - 120
2400258	Selenium	96.5		P	80 - 120
2400258	Silver	108		P	80 - 120
2400258	Thallium	99.6		P	80 - 120

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P428891

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2400138	Chloride	100		P	90 - 110
2400207	Chloride	98.1		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P428895

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2400138	Sulfate	99.6		P	90 - 110
2400207	Sulfate	95.4		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P428752

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2400152	Ammonia-N	99.0	97.2	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P428920

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2400216	Kjeldahl Nitrogen	95.8	94.1	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P428883

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2400151	NO2NO3-N	100	99.5	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P428884

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2400245	NO2NO3-N	103	103	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P428522

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2400240	Total-P	106	106	P/P	90 - 110

Quality Assurance Report

Matrix Spike Accuracy

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P428448

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2400250	O-Phosphate-P	101	101	P/P	90 - 110

Reference Method: SM 4500-F- C-2011
Batch ID: P428930

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2400317	Fluoride	98.9	100	P/P	94 - 104

Reference Method: SM 5310 B-2011
Batch ID: P428607

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2400124	Organic Carbon	87.4	94.5	P/P	85 - 115

Reference Method: SM 5310 B-2011
Batch ID: P428700

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2400239	Organic Carbon	94.7	96.2	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: DEP SOP: NU-094-1
Batch ID: P428464

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2400213	Color (true)	0.758	Sample	P	0 - 20

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P428492

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2400143	Turbidity	3.24	Sample	P	0 - 20

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P428501

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2400047	Calcium	1.77	Spike	P	0 - 20
2400047	Iron	0.694	Spike	P	0 - 20
2400047	Magnesium	1.51	Spike	P	0 - 20
2400047	Potassium	1.40	Spike	P	0 - 20
2400047	Sodium	1.89	Spike	P	0 - 20
2400047	Strontium	1.50	Spike	P	0 - 20
2400047	Tin	2.49	Spike	P	0 - 20
2400047	Titanium	0.770	Spike	P	0 - 20
2400047	Vanadium	1.02	Spike	P	0 - 20
2400047	Zinc	0.194	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P428501

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2400047	Aluminum	1.73	Spike	P	0 - 20
2400047	Antimony	1.44	Spike	P	0 - 20
2400047	Arsenic	1.55	Spike	P	0 - 20
2400047	Barium	2.22	Spike	P	0 - 20
2400047	Beryllium	2.51	Spike	P	0 - 20
2400047	Boron	2.24	Spike	P	0 - 20
2400047	Cadmium	1.15	Spike	P	0 - 20
2400047	Chromium	1.43	Spike	P	0 - 20
2400047	Cobalt	0.899	Spike	P	0 - 20
2400047	Copper	1.32	Spike	P	0 - 20
2400047	Lead	1.50	Spike	P	0 - 20
2400047	Manganese	2.04	Spike	P	0 - 20
2400047	Molybdenum	0.841	Spike	P	0 - 20
2400047	Nickel	1.97	Spike	P	0 - 20
2400047	Selenium	1.16	Spike	P	0 - 20
2400047	Silver	0.892	Spike	P	0 - 20
2400047	Thallium	6.56	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P428891

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2400138	Chloride	0.969	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P428895

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2400138	Sulfate	0.730	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P428752

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2400152	Ammonia-N	1.67	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P428920

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2400216	Kjeldahl Nitrogen	1.32	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P428883

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2400151	NO2NO3-N	0.262	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P428884

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2400245	NO2NO3-N	0.0	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P428522

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2400240	Total-P	0.589	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P428448

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2400250	O-Phosphate-P	0.396	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: SM 2320 B-2011
Batch ID: P428656

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2400213	Total Alkalinity	0.177	Sample	P	0 - 3.8

Reference Method: SM 2540 C-2015
Batch ID: P428693

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2400030	TDS	2.60	Sample	P	0 - 10

Reference Method: SM 4500-F- C-2011
Batch ID: P428930

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2400317	Fluoride	1.05	Spike	P	0 - 1.6

Reference Method: SM 4500-F- C-2011
Batch ID: P429441

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2401465	Fluoride	0.475	Spike	P	0 - 1.6

Reference Method: SM 5310 B-2011
Batch ID: P428607

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2400124	Organic Carbon	7.56	Spike	P	0 - 20

Reference Method: SM 5310 B-2011
Batch ID: P428700

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2400239	Organic Carbon	1.33	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: A118556

Included Lab Sample IDs: 2400211, 2400212

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	98.6	98.4	P/P	90 - 110

Reference Method: DEP SOP: NU-094-1

Run ID: A118558

Included Lab Sample IDs: 2400207, 2400208, 2400213, 2400214

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	101	99.2	P/P	90 - 110

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A118570

Included Lab Sample IDs: 2400207, 2400208, 2400213, 2400214

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

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A118607

Included Lab Sample IDs: 2400209, 2400210, 2400215

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	101	103	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A118615

Included Lab Sample IDs: 2400216

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	98.0	97.2	P/P	90 - 110

Reference Method: SM 5310 B-2011

Run ID: A118628

Included Lab Sample IDs: 2400209

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	98.9	98.8	P/P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A118641

Included Lab Sample IDs: 2400207, 2400208, 2400213, 2400214

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	98.3	97.3	P/P	90 - 110
Chloride	98.3	98.3	P/P	90 - 110
Sulfate	99.2	99.3	P/P	90 - 110
Sulfate	99.3	98.4	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: SM 2320 B-2011

Run ID: A118645

Included Lab Sample IDs: 2400207, 2400208, 2400213, 2400214

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	93.9	96.4	P/P	90 - 110
Total Alkalinity	94.8	93.9	P/P	90 - 110

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A118647

Included Lab Sample IDs: 2400221, 2400222

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Aluminum	101	101	P/P	90 - 110
Antimony	105	105	P/P	90 - 110
Arsenic	99.1	99.9	P/P	90 - 110
Barium	98.9	98.1	P/P	90 - 110
Beryllium	98.6	97.9	P/P	90 - 110
Cadmium	101	101	P/P	90 - 110
Copper	101	102	P/P	90 - 110
Lead	104	104	P/P	90 - 110
Manganese	103	106	P/P	90 - 110
Molybdenum	99.7	99.4	P/P	90 - 110
Nickel	102	103	P/P	90 - 110
Selenium	98.0	96.9	P/P	90 - 110
Silver	106	107	P/P	90 - 110
Thallium	103	103	P/P	90 - 110

Reference Method: SM 5310 B-2011

Run ID: A118661

Included Lab Sample IDs: 2400210, 2400215, 2400216

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	98.5	99.6	P/P	90 - 110
Organic Carbon	99.4	98.5	P/P	90 - 110

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A118672

Included Lab Sample IDs: 2400221, 2400222

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Boron	93.5	99.4	P/P	90 - 110
Chromium	103	104	P/P	90 - 110
Cobalt	102	103	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A118680

Included Lab Sample IDs: 2400209, 2400210, 2400215, 2400216

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	99.0	98.7	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 200.7 Rev. 4.4

Run ID: A118729

Included Lab Sample IDs: 2400221, 2400222

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Calcium	101	101	P/P	90 - 110
Iron	102	103	P/P	90 - 110
Magnesium	101	102	P/P	90 - 110
Potassium	101	102	P/P	90 - 110
Sodium	102	103	P/P	90 - 110
Strontium	100	100	P/P	90 - 110
Tin	99.2	99.1	P/P	90 - 110
Titanium	99.4	101	P/P	90 - 110
Vanadium	101	101	P/P	90 - 110
Zinc	102	102	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A118730

Included Lab Sample IDs: 2400209, 2400210, 2400215, 2400216

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

Reference Method: SM 4500-F- C-2011

Run ID: A118753

Included Lab Sample IDs: 2400207, 2400208, 2400214

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

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A118789

Included Lab Sample IDs: 2400209, 2400210, 2400215, 2400216

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	103	102	P/P	90 - 110
Kjeldahl Nitrogen	104	103	P/P	90 - 110

Reference Method: SM 4500-F- C-2011

Run ID: A118968

Included Lab Sample IDs: 2400213

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	103	102	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)	100				0.758	
EPA 180.1 Rev. 2.0	Turbidity	99.6				3.24	
EPA 200.7 Rev. 4.4	Calcium	103	101	103			1.77
	Iron	105	105	105	103		0.694
	Magnesium	103	103	106			1.51
	Potassium	104	101	103	102		1.40
	Sodium	104	104	107	105		1.89
	Strontium	99.6	98.6	100	100		1.50
	Tin	103	98.8	101	99.4		2.49
	Titanium	102	101	101	103		0.770
	Vanadium	102	101	102	103		1.02
	Zinc	102	100	99.9	105		0.194
EPA 200.8 Rev. 5.4	Aluminum	103	103	105	101		1.73
	Antimony	105	108	109	105		1.44
	Arsenic	101	102	103	101		1.55
	Barium	103	102	104	99.6		2.22
	Beryllium	99.1	96.1	93.7	95.8		2.51
	Boron	103	106	104	106		2.24
	Cadmium	102	105	104	104		1.15
	Chromium	105	106	105	108		1.43
	Cobalt	107	104	103	107		0.899
	Copper	103	99.9	101	105		1.32
	Lead	108	106	107	108		1.50
	Manganese	106	104	106	103		2.04
	Molybdenum	102	104	105	102		0.841
	Nickel	105	101	103	104		1.97
	Selenium	97.4	96.3	97.4	96.5		1.16
	Silver	109	110	109	108		0.892
	Thallium	100	99.1	106	99.6		6.56
EPA 300.0 Rev. 2.1	Chloride	99.3	100	98.1		0.969	
	Sulfate	99.7	99.6	95.4		0.730	
EPA 350.1 Rev. 2.0	Ammonia-N	97.2	99.0	97.2			1.67
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	99.3	95.8	94.1			1.32
EPA 353.2 Rev. 2.0	NO2NO3-N	102	100	99.5			0.262
	NO2NO3-N	103	103	103			0.0
EPA 365.1 Rev. 2.0	Total-P	105	106	106			0.589
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	99.1	101	101			0.396
SM 2320 B-2011	Total Alkalinity	95.9				0.177	
SM 2540 C-2015	TDS	97.7				2.60	
SM 2540 D-2015	TSS	96.9					
SM 4500-F- C-2011	Fluoride	99.3	98.9	100			1.05
	Fluoride	101					0.475
SM 5310 B-2011	Organic Carbon	95.2	87.4	94.5			7.56
	Organic Carbon	98.6	94.7	96.2			1.33

Reference Method Descriptions

Method	Description	Associated Samples
DEP SOP: NU-094-1	True Color measured at 450 nm (not valid for NPDES monitoring)	2400207, 2400208, 2400213, 2400214
EPA 180.1 Rev. 2.0	Turbidity in aqueous matrices	2400207, 2400208, 2400213, 2400214
EPA 200.7 Rev. 4.4	Total Recoverable Metals analysis using ICP emission spectroscopy for aqueous samples supporting Clean Water Act Projects	2400221, 2400222

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	2400221, 2400222
EPA 300.0 Rev. 2.1	Chloride in aqueous matrices	2400207, 2400208, 2400213, 2400214
EPA 300.0 Rev. 2.1	Sulfate in aqueous matrices	2400207, 2400208, 2400213, 2400214
EPA 350.1 Rev. 2.0	Ammonia in aqueous matrices as mg N/L	2400209, 2400210, 2400215, 2400216
EPA 351.2 Rev. 2.0	Total Kjeldahl Nitrogen in aqueous matrices	2400209, 2400210, 2400215, 2400216
EPA 353.2 Rev. 2.0	Nitrite/Nitrate in aqueous matrices as mg N/L	2400209, 2400210, 2400215, 2400216
EPA 365.1 Rev. 2.0	Total Phosphorus in aqueous matrices as mg P/L	2400209, 2400210, 2400215, 2400216
EPA 365.1 Rev. 2.0 dissolved	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	2400211, 2400212
SM 2320 B-2011	Alkalinity in aqueous matrices as mg CaCO ₃ /L	2400207, 2400208, 2400213, 2400214
SM 2340 B-2011	Hardness by calculation, in aqueous matrices, reported as mg/L CaCO ₃	2400221, 2400222
SM 2540 C-2015	Total Dissolved Solids in aqueous matrices	2400207, 2400208, 2400213, 2400214
SM 2540 D-2015	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2400207, 2400208, 2400213, 2400214
SM 4500-F- C-2011	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2400207, 2400208, 2400213, 2400214
SM 5310 B-2011	Nonpurgeable Organic Carbon in aqueous matrices	2400209, 2400210, 2400215, 2400216

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	04/13/2023			04/13/2023 15:51	Alexis Price	2400207
	04/13/2023			04/13/2023 15:52	Alexis Price	2400208
	04/13/2023			04/13/2023 15:54	Alexis Price	2400213, 2400214
EPA 180.1 Rev. 2.0	04/13/2023			04/13/2023 14:50	Anna M. Plaviak	2400207, 2400208
	04/13/2023			04/13/2023 14:52	Anna M. Plaviak	2400213
	04/13/2023			04/13/2023 14:54	Anna M. Plaviak	2400214
EPA 200.7 Rev. 4.4	04/13/2023	04/14/2023 13:20	George D Taylor	04/21/2023 18:06	McKinley C Carter	2400221
	04/13/2023	04/14/2023 13:20	George D Taylor	04/21/2023 18:14	McKinley C Carter	2400222
EPA 200.8 Rev. 5.4	04/13/2023	04/14/2023 13:20	George D Taylor	04/18/2023 20:50	Conrad Hartmann	2400221
	04/13/2023	04/14/2023 13:20	George D Taylor	04/18/2023 20:59	Conrad Hartmann	2400222
	04/13/2023	04/14/2023 13:20	George D Taylor	04/19/2023 15:10	Conrad Hartmann	2400221
EPA 300.0 Rev. 2.1	04/13/2023	04/14/2023 13:20	George D Taylor	04/19/2023 15:17	Conrad Hartmann	2400222
	04/13/2023			04/20/2023 14:29	James L Waggeberby	2400207
	04/13/2023			04/20/2023 18:30	James L Waggeberby	2400208
EPA 350.1 Rev. 2.0	04/13/2023			04/20/2023 18:45	James L Waggeberby	2400213
	04/13/2023			04/20/2023 19:00	James L Waggeberby	2400214
	04/13/2023			04/19/2023 12:55	Ping Hua	2400209
EPA 351.2 Rev. 2.0	04/13/2023			04/19/2023 12:57	Ping Hua	2400210
	04/13/2023			04/19/2023 12:58	Ping Hua	2400215
	04/13/2023			04/19/2023 12:59	Ping Hua	2400216
EPA 353.2 Rev. 2.0	04/13/2023	04/25/2023 12:18	Simonne.V. Calhoun	04/26/2023 12:07	Samantha L Bates	2400209
	04/13/2023	04/25/2023 12:18	Simonne.V. Calhoun	04/26/2023 12:08	Samantha L Bates	2400210
	04/13/2023	04/25/2023 12:18	Simonne.V. Calhoun	04/26/2023 12:13	Samantha L Bates	2400215
EPA 365.1 Rev. 2.0	04/13/2023	04/25/2023 12:18	Simonne.V. Calhoun	04/26/2023 12:15	Samantha L Bates	2400216
	04/13/2023			04/24/2023 10:13	Beverly Y. Sanders	2400209
	04/13/2023			04/24/2023 10:14	Beverly Y. Sanders	2400210
EPA 365.1 Rev. 2.0 dissolved	04/13/2023			04/24/2023 10:27	Beverly Y. Sanders	2400215
	04/13/2023			04/24/2023 10:28	Beverly Y. Sanders	2400216
	04/13/2023	04/14/2023 14:15	Alexis Price	04/17/2023 10:07	James L Waggeberby	2400209
SM 2320 B-2011	04/13/2023	04/14/2023 14:15	Alexis Price	04/17/2023 10:08	James L Waggeberby	2400210
	04/13/2023	04/14/2023 14:15	Alexis Price	04/17/2023 10:09	James L Waggeberby	2400215
	04/13/2023	04/14/2023 14:15	Alexis Price	04/17/2023 16:11	James L Waggeberby	2400216
SM 2340 B-2011	04/13/2023			04/13/2023 13:59	Elise M. Gillis	2400211, 2400212
	04/13/2023			04/18/2023 18:17	Dale L. Simmons	2400213
	04/13/2023			04/18/2023 20:31	Dale L. Simmons	2400207
SM 2540 C-2015	04/13/2023			04/18/2023 20:43	Dale L. Simmons	2400208
	04/13/2023			04/18/2023 20:52	Dale L. Simmons	2400214
	04/13/2023			04/21/2023 18:06	McKinley C Carter	2400221
	04/13/2023			04/21/2023 18:14	McKinley C Carter	2400222
	04/13/2023			04/14/2023 13:00	Dana G. Hughes	2400207, 2400208, 2400213, 2400214

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
SM 2540 D-2015	04/13/2023			04/14/2023 13:00	Dana G. Hughes	2400207, 2400208, 2400213, 2400214
	04/13/2023			04/24/2023 23:01	Dale L. Simmons	2400207
	04/13/2023			04/24/2023 23:06	Dale L. Simmons	2400208
	04/13/2023			04/25/2023 08:14	Dale L. Simmons	2400214
	04/13/2023			05/04/2023 20:01	Adam P Silver	2400213
SM 4500-F- C-2011	04/13/2023			04/18/2023 06:37	Elise M. Gillis	2400209
	04/13/2023			04/18/2023 22:04	Elise M. Gillis	2400210
	04/13/2023			04/18/2023 22:18	Elise M. Gillis	2400215
	04/13/2023			04/18/2023 23:03	Elise M. Gillis	2400216
SM 5310 B-2011	04/13/2023					
	04/13/2023					
	04/13/2023					
	04/13/2023					