

Chemical Analysis Report

CEN-DIST-2023-08-08-03

Florida DEP Laboratory
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DOH Accreditation E31780

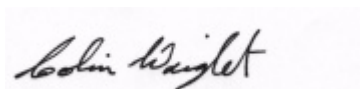
Event Description: **Run 11**
Request ID: **RQ-2023-08-07-44**
Customer: **CEN-DIST**
Project ID: **SMP**

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Certified by: Colin Wright, Program Administrator

Date Certified: 28-AUG-2023 11:21



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 Jane at Center

Collection Date/Time: 08/07/2023 11:48

Field ID: G4CE0152

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2429364	DEP SOP: NU-094-1	Color (true)	31		PCU	P433588	
	EPA 180.1 Rev. 2.0	Turbidity	5.9		NTU	P433581	
	EPA 300.0 Rev. 2.1	Chloride	11		mg Cl/L	P433891	
		Sulfate	8.3		mg SO4/L	P433893	
	SM 2320 B-2011	Total Alkalinity	60		mg CaCO3/L	P433672	
	SM 2540 C-2015	TDS	107		mg/L	P433933	
	SM 2540 D-2015	TSS	4	I	mg/L	P433896	
	SM 4500-F- C-2011	Fluoride	0.090	I	mg F/L	P433676	
2429367	EPA 350.1 Rev. 2.0	Ammonia-N	0.006		mg N/L	P433838	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.1		mg N/L	P433840	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P433686	
	EPA 365.1 Rev. 2.0	Total-P	0.090		mg P/L	P433718	
	SM 5310 B-2011	Organic Carbon	9.3		mg C/L	P433659	

Ref. Method and Comment:

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

EPA 351.2 Rev. 2.0: Batch matrix spike recoveries are unavailable because of high analyte concentration in the QC sample.

Sample Location: Lake Lorna Doone at Center

Collection Date/Time: 08/07/2023 09:10

Field ID: G4CE0239

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2429365	DEP SOP: NU-094-1	Color (true)	11		PCU	P433588	
	EPA 180.1 Rev. 2.0	Turbidity	2.4		NTU	P433581	
	EPA 300.0 Rev. 2.1	Chloride	8.3		mg Cl/L	P433891	
		Sulfate	4.6		mg SO4/L	P433893	
	SM 2320 B-2011	Total Alkalinity	49		mg CaCO3/L	P433672	
	SM 2540 C-2015	TDS	79		mg/L	P433933	
	SM 2540 D-2015	TSS	3	I	mg/L	P433896	
	SM 4500-F- C-2011	Fluoride	0.059	I	mg F/L	P433676	
2429368	EPA 350.1 Rev. 2.0	Ammonia-N	0.025		mg N/L	P433838	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.83		mg N/L	P433840	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P433686	
	EPA 365.1 Rev. 2.0	Total-P	0.028		mg P/L	P433718	
	SM 5310 B-2011	Organic Carbon	5.9		mg C/L	P433659	

Ref. Method and Comment:

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

EPA 351.2 Rev. 2.0: Batch matrix spike recoveries are unavailable because of high analyte concentration in the QC sample.

Sample Location: Lake Lotta at Center of Southern Lobe

Collection Date/Time: 08/07/2023 09:50

Field ID: G2CE0093

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2429361	DEP SOP: NU-094-1	Color (true)	75		PCU	P433588	
	EPA 180.1 Rev. 2.0	Turbidity	2.4		NTU	P433581	
	EPA 300.0 Rev. 2.1	Chloride	9.8	A	mg Cl/L	P433891	
		Sulfate	8.8	A	mg SO4/L	P433893	
	SM 2320 B-2011	Total Alkalinity	46		mg CaCO3/L	P433672	
	SM 2540 C-2015	TDS	107		mg/L	P433933	
	SM 2540 D-2015	TSS	4	I	mg/L	P433896	
	SM 4500-F- C-2011	Fluoride	0.13		mg F/L	P433676	
2429362	EPA 350.1 Rev. 2.0	Ammonia-N	0.005		mg N/L	P433838	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.94		mg N/L	P433840	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P433685	
	EPA 365.1 Rev. 2.0	Total-P	0.061		mg P/L	P433718	
	SM 5310 B-2011	Organic Carbon	12		mg C/L	P433659	
2429363	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	I	mg P/L	P433577	

Ref. Method and Comment:

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

EPA 351.2 Rev. 2.0: Batch matrix spike recoveries are unavailable because of high analyte concentration in the QC sample.

Sample Location: Lake Walker at Center

Collection Date/Time: 08/07/2023 10:30

Field ID: G4CE0238

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2429366	DEP SOP: NU-094-1	Color (true)	21		PCU	P433588	
	EPA 180.1 Rev. 2.0	Turbidity	11		NTU	P433581	
	EPA 300.0 Rev. 2.1	Chloride	6.7		mg Cl/L	P433891	
		Sulfate	0.57		mg SO4/L	P433893	
	SM 2320 B-2011	Total Alkalinity	48		mg CaCO3/L	P433672	
	SM 2540 C-2015	TDS	71		mg/L	P433933	
	SM 2540 D-2015	TSS	11	I	mg/L	P433896	
	SM 4500-F- C-2011	Fluoride	0.066	I	mg F/L	P433676	
2429369	EPA 350.1 Rev. 2.0	Ammonia-N	0.006		mg N/L	P433838	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.8		mg N/L	P434137	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P433686	
	EPA 365.1 Rev. 2.0	Total-P	0.11		mg P/L	P433718	
	SM 5310 B-2011	Organic Carbon	8.4		mg C/L	P433659	

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.

EPA 351.2 Rev. 2.0: Batch matrix spike recoveries are unavailable because of high analyte concentration in the QC sample.

Sample Location: Lake Catherine at Center

Collection Date/Time: 08/07/2023 11:15

Field ID: G4CE0240

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2429374	EPA 200.7 Rev. 4.4	Calcium	26.0		mg/L	P433806	
		Iron	30	U	ug/L	P433806	
		Magnesium	2.39		mg/L	P433806	
		Potassium	1.2		mg/L	P433806	
		Sodium	7.2		mg/L	P433806	
		Strontium	64.7		ug/L	P433806	
		Tin	3.0	U	ug/L	P433806	
		Titanium	0.75	U	ug/L	P433806	
		Vanadium	2.0	U	ug/L	P433806	
	EPA 200.8 Rev. 5.4	Zinc	5.0	U	ug/L	P433806	
		Aluminum	5.6	I	ug/L	P433987	
		Antimony	0.59		ug/L	P433806	
		Arsenic	0.60		ug/L	P433806	
		Barium	8.43		ug/L	P433806	
		Beryllium	0.010	U	ug/L	P433806	
		Boron	42.5		ug/L	P433806	
		Cadmium	0.020	U	ug/L	P433806	
		Chromium	0.40	U	ug/L	P433806	
		Cobalt	0.020	U	ug/L	P433806	
		Copper	0.40	U	ug/L	P433806	
		Lead	0.20	U	ug/L	P433806	
		Manganese	5.68		ug/L	P433806	
		Molybdenum	0.91		ug/L	P433806	
		Nickel	0.50	U	ug/L	P433806	
		Selenium	0.20	U	ug/L	P433806	
		Silver	0.010	U	ug/L	P433806	
		Thallium	0.10	U	ug/L	P433806	
	SM 2340 B-2011	Hardness	74.8		mg/L	P433806	

Quality Assurance Report Method Blank Results

Reference Method: DEP SOP: NU-094-1
Batch ID: P433588

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P433581

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P433806

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: P433806

Component	Result	Code	Units
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 200.8 Rev. 5.4
Batch ID: P433987

Component	Result	Code	Units
Aluminum	5.0	U	ug/L

Quality Assurance Report

Method Blank Results

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P433891

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P433893

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P433838

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P433840

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P434137

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P433685

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P433686

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P433718

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P433577

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

Quality Assurance Report

Method Blank Results

Reference Method: SM 2320 B-2011
Batch ID: P433672

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

Reference Method: SM 2540 C-2015
Batch ID: P433933

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-2015
Batch ID: P433896

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500-F- C-2011
Batch ID: P433676

Component	Result	Code	Units
Fluoride	0.025	U	mg F/L

Reference Method: SM 5310 B-2011
Batch ID: P433659

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: P433588

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Color (true)	97.8		P	90 - 110

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P433581

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

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P433806

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Calcium	102		P	85 - 115
Iron	104		P	85 - 115
Magnesium	104		P	85 - 115
Potassium	94.0		P	85 - 115
Sodium	97.3		P	85 - 115
Strontium	96.4		P	85 - 115
Tin	98.6		P	85 - 115
Titanium	101		P	85 - 115
Vanadium	100		P	85 - 115
Zinc	101		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P433806

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Antimony	103		P	85 - 115
Arsenic	99.5		P	85 - 115
Barium	104		P	85 - 115
Beryllium	96.3		P	85 - 115
Boron	104		P	85 - 115
Cadmium	101		P	85 - 115
Chromium	99.1		P	85 - 115
Cobalt	96.4		P	85 - 115
Copper	95.2		P	85 - 115
Lead	93.9		P	85 - 115
Manganese	99.4		P	85 - 115
Molybdenum	99.6		P	85 - 115
Nickel	96.0		P	85 - 115
Selenium	100		P	85 - 115
Silver	111		P	85 - 115
Thallium	101		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P433987

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

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P433891

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P433893

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P433838

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Ammonia-N	93.6		P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P433840

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P434137

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P433685

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P433686

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: P433718

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P433577

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

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: SM 2320 B-2011
Batch ID: P433672

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	96.6		P	92 - 105

Reference Method: SM 2540 C-2015
Batch ID: P433933

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

Reference Method: SM 2540 D-2015
Batch ID: P433896

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
TSS	91.4		P	85 - 106

Reference Method: SM 4500-F- C-2011
Batch ID: P433676

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	99.8		P	94 - 106

Reference Method: SM 5310 B-2011
Batch ID: P433659

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	97.0		P	85 - 115

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.7 Rev. 4.4

Batch ID: P433806

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2429374	Calcium	102		P	80 - 120
2429374	Iron	102	103	P/P	80 - 120
2429374	Magnesium	101	103	P/P	80 - 120
2429374	Potassium	91.4	93.0	P/P	80 - 120
2429374	Sodium	98.2		P	80 - 120
2429374	Strontium	94.8	95.5	P/P	80 - 120
2429374	Tin	97.6	95.9	P/P	80 - 120
2429374	Titanium	102	100	P/P	80 - 120
2429374	Vanadium	102	99.9	P/P	80 - 120
2429374	Zinc	101	98.9	P/P	80 - 120
2429871	Calcium	104		P	75 - 125
2429871	Iron	104		P	75 - 125
2429871	Magnesium	102		P	75 - 125
2429871	Potassium	98.3		P	75 - 125
2429871	Sodium	102		P	75 - 125
2429871	Strontium	101		P	75 - 125
2429871	Tin	99.1		P	75 - 125
2429871	Titanium	103		P	75 - 125
2429871	Vanadium	104		P	75 - 125
2429871	Zinc	99.9		P	75 - 125

Reference Method: EPA 200.8 Rev. 5.4

Batch ID: P433806

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2429374	Antimony	105	105	P/P	80 - 120
2429374	Arsenic	98.3	99.5	P/P	80 - 120
2429374	Barium	106	105	P/P	80 - 120
2429374	Beryllium	96.2	98.0	P/P	80 - 120
2429374	Boron	102	101	P/P	80 - 120
2429374	Cadmium	103	104	P/P	80 - 120
2429374	Chromium	97.4	97.4	P/P	80 - 120
2429374	Cobalt	93.8	93.6	P/P	80 - 120
2429374	Copper	94.0	94.1	P/P	80 - 120
2429374	Lead	94.2	94.5	P/P	80 - 120
2429374	Manganese	97.2	100	P/P	80 - 120
2429374	Molybdenum	101	101	P/P	80 - 120
2429374	Nickel	91.7	92.0	P/P	80 - 120
2429374	Selenium	98.4	98.5	P/P	80 - 120
2429374	Silver	110	109	P/P	80 - 120
2429374	Thallium	105	105	P/P	80 - 120
2429871	Antimony	106		P	80 - 120
2429871	Arsenic	99.3		P	80 - 120
2429871	Barium	106		P	80 - 120
2429871	Beryllium	98.4		P	80 - 120
2429871	Boron	104		P	80 - 120
2429871	Cadmium	103		P	80 - 120
2429871	Chromium	98.0		P	80 - 120
2429871	Cobalt	91.5		P	80 - 120
2429871	Copper	89.0		P	80 - 120
2429871	Lead	93.0		P	80 - 120
2429871	Manganese	99.2		P	80 - 120

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P433806

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2429871	Molybdenum	103		P	80 - 120
2429871	Nickel	89.8		P	80 - 120
2429871	Selenium	97.0		P	80 - 120
2429871	Silver	110		P	80 - 120
2429871	Thallium	104		P	80 - 120

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P433987

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2431032	Aluminum	95.6	96.2	P/P	80 - 120
2431167	Aluminum	97.1		P	80 - 120

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P433891

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2429361	Chloride	100		P	90 - 110
2429435	Chloride	99.5		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P433893

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2429361	Sulfate	97.2		P	90 - 110
2429435	Sulfate	95.9		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P433838

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2428851	Ammonia-N	97.6	101	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P433685

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2429263	NO2NO3-N	104	104	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P433686

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2429367	NO2NO3-N	104	103	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P433718

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2429368	Total-P	103	104	P/P	90 - 110

Quality Assurance Report

Matrix Spike Accuracy

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P433577

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2429079	O-Phosphate-P	97.6	97.4	P/P	90 - 110

Reference Method: SM 4500-F- C-2011
Batch ID: P433676

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2429321	Fluoride	98.3	99.7	P/P	94 - 106

Reference Method: SM 5310 B-2011
Batch ID: P433659

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2429301	Organic Carbon	96.3	98.9	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: DEP SOP: NU-094-1
Batch ID: P433588

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2429323	Color (true)	1.76	Sample	P	0 - 20

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P433581

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2429303	Turbidity	3.62	Sample	P	0 - 20

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P433806

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2429374	Calcium	1.21	Spike	P	0 - 20
2429374	Iron	1.24	Spike	P	0 - 20
2429374	Magnesium	1.35	Spike	P	0 - 20
2429374	Potassium	1.26	Spike	P	0 - 20
2429374	Sodium	0.0302	Spike	P	0 - 20
2429374	Strontium	0.713	Spike	P	0 - 20
2429374	Tin	1.69	Spike	P	0 - 20
2429374	Titanium	2.08	Spike	P	0 - 20
2429374	Vanadium	2.05	Spike	P	0 - 20
2429374	Zinc	1.91	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P433806

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2429374	Antimony	0.407	Spike	P	0 - 20
2429374	Arsenic	1.16	Spike	P	0 - 20
2429374	Barium	1.13	Spike	P	0 - 20
2429374	Beryllium	1.89	Spike	P	0 - 20
2429374	Boron	0.628	Spike	P	0 - 20
2429374	Cadmium	1.04	Spike	P	0 - 20
2429374	Chromium	0.0312	Spike	P	0 - 20
2429374	Cobalt	0.120	Spike	P	0 - 20
2429374	Copper	0.0690	Spike	P	0 - 20
2429374	Lead	0.344	Spike	P	0 - 20
2429374	Manganese	2.49	Spike	P	0 - 20
2429374	Molybdenum	0.522	Spike	P	0 - 20
2429374	Nickel	0.306	Spike	P	0 - 20
2429374	Selenium	0.112	Spike	P	0 - 20
2429374	Silver	1.30	Spike	P	0 - 20
2429374	Thallium	0.170	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P433987

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2431032	Aluminum	0.488	Spike	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P433891

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2429361	Chloride	0.977	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P433893

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2429361	Sulfate	0.363	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P433838

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2428851	Ammonia-N	1.73	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P433840

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2429305	Kjeldahl Nitrogen	3.39	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P434137

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2429369	Kjeldahl Nitrogen	0.151	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P433685

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2429263	NO2NO3-N	0.480	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P433686

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2429367	NO2NO3-N	0.966	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 365.1 Rev. 2.0

Batch ID: P433718

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2429368	Total-P	0.913	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Batch ID: P433577

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2429079	O-Phosphate-P	0.205	Spike	P	0 - 20

Reference Method: SM 2320 B-2011

Batch ID: P433672

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2429321	Total Alkalinity	0.483	Sample	P	0 - 3.9

Reference Method: SM 2540 C-2015

Batch ID: P433933

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2428838	TDS	2.32	Sample	P	0 - 10

Reference Method: SM 4500-F- C-2011

Batch ID: P433676

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2429321	Fluoride	0.960	Spike	P	0 - 1.9

Reference Method: SM 5310 B-2011

Batch ID: P433659

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2429301	Organic Carbon	2.01	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: A120898

Included Lab Sample IDs: 2429363

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	98.5	98.8	P/P	90 - 110

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A120899

Included Lab Sample IDs: 2429361, 2429364, 2429365, 2429366

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: A120900

Included Lab Sample IDs: 2429361, 2429364, 2429365, 2429366

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	98.7	98.9	P/P	90 - 110

Reference Method: SM 5310 B-2011

Run ID: A120947

Included Lab Sample IDs: 2429362, 2429367, 2429368, 2429369

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	99.2	98.4	P/P	90 - 110

Reference Method: SM 2320 B-2011

Run ID: A120949

Included Lab Sample IDs: 2429361, 2429364, 2429365, 2429366

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	96.6	94.0	P/P	90 - 110

Reference Method: SM 4500-F- C-2011

Run ID: A120949

Included Lab Sample IDs: 2429361, 2429364, 2429365, 2429366

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

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A120956

Included Lab Sample IDs: 2429362, 2429367, 2429368, 2429369

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

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A120993

Included Lab Sample IDs: 2429362, 2429367, 2429369

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	98.9	99.8	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A120996

Included Lab Sample IDs: 2429368

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	99.5	97.5	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A121029

Included Lab Sample IDs: 2429362, 2429367, 2429368, 2429369

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	99.0	98.9	P/P	90 - 110

Reference Method: EPA 200.7 Rev. 4.4

Run ID: A121050

Included Lab Sample IDs: 2429374

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Calcium	102	102	P/P	90 - 110
Iron	102	101	P/P	90 - 110
Magnesium	101	101	P/P	90 - 110
Potassium	96.0	96.8	P/P	90 - 110
Sodium	98.2	99.0	P/P	90 - 110
Strontium	96.8	98.0	P/P	90 - 110
Tin	102	102	P/P	90 - 110
Titanium	103	102	P/P	90 - 110
Vanadium	102	101	P/P	90 - 110
Zinc	103	102	P/P	90 - 110

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A121054

Included Lab Sample IDs: 2429374

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Antimony	99.4	102	P/P	90 - 110
Arsenic	99.0	99.2	P/P	90 - 110
Barium	101	102	P/P	90 - 110
Beryllium	98.3	98.1	P/P	90 - 110
Boron	100	98.8	P/P	90 - 110
Cadmium	100	103	P/P	90 - 110
Chromium	100	102	P/P	90 - 110
Cobalt	96.4	95.4	P/P	90 - 110
Copper	96.1	95.0	P/P	90 - 110
Lead	92.7	93.0	P/P	90 - 110
Manganese	99.5	102	P/P	90 - 110
Molybdenum	98.8	100	P/P	90 - 110
Selenium	99.6	102	P/P	90 - 110
Silver	96.2	97.2	P/P	90 - 110
Thallium	97.9	99.3	P/P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A121057

Included Lab Sample IDs: 2429361, 2429364, 2429365, 2429366

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
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Quality Assurance Report Calibration Verification

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A121057

Included Lab Sample IDs: 2429361, 2429364, 2429365, 2429366

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	97.5	99.2	P/P	90 - 110
Sulfate	97.3	98.5	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A121065

Included Lab Sample IDs: 2429362, 2429367, 2429368

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	99.2	94.1	P/P	90 - 110

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A121080

Included Lab Sample IDs: 2429374

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Nickel	98.2	94.1	P/P	90 - 110

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A121158

Included Lab Sample IDs: 2429374

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Aluminum	99.6	99.9	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A121202

Included Lab Sample IDs: 2429369

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	96.6	103	P/P	90 - 110

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

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

Where they are different, both control limits are provided.

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery			Precision SMP	MS
			LCS				
DEP SOP: NU-094-1	Color (true)	97.8				1.76	
EPA 180.1 Rev. 2.0	Turbidity	99.1				3.62	
EPA 200.7 Rev. 4.4	Calcium	102	102	104			1.21
	Iron	104	102	103	104		1.24
	Magnesium	104	101	103	102		1.35
	Potassium	94.0	91.4	93.0	98.3		1.26
	Sodium	97.3	98.2	102			0.0302
	Strontium	96.4	94.8	95.5	101		0.713
	Tin	98.6	99.1	97.6	95.9		1.69
	Titanium	101	102	100	103		2.08
	Vanadium	100	102	99.9	104		2.05
	Zinc	101	101	98.9	99.9		1.91
EPA 200.8 Rev. 5.4	Aluminum	97.1	95.6	96.2	97.1		0.488
	Antimony	103	105	105	106		0.407
	Arsenic	99.5	98.3	99.5	99.3		1.16
	Barium	104	106	105	106		1.13
	Beryllium	96.3	96.2	98.0	98.4		1.89
	Boron	104	102	101	104		0.628
	Cadmium	101	103	104	103		1.04
	Chromium	99.1	97.4	97.4	98.0		0.0312
	Cobalt	96.4	93.8	93.6	91.5		0.120
	Copper	95.2	94.0	94.1	89.0		0.0690
	Lead	93.9	94.2	94.5	93.0		0.344
	Manganese	99.4	97.2	100	99.2		2.49
	Molybdenum	99.6	101	101	103		0.522
	Nickel	96.0	91.7	92.0	89.8		0.306
	Selenium	100	98.4	98.5	97.0		0.112
	Silver	111	110	109	110		1.30
	Thallium	101	105	105	104		0.170
EPA 300.0 Rev. 2.1	Chloride	101	100	99.5		0.977	
	Sulfate	98.6	97.2	95.9		0.363	
EPA 350.1 Rev. 2.0	Ammonia-N	93.6	97.6	101			1.73
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	99.5					3.39
	Kjeldahl Nitrogen	105					0.151
EPA 353.2 Rev. 2.0	NO2NO3-N	103	104	104			0.480
	NO2NO3-N	104	104	103			0.966
EPA 365.1 Rev. 2.0	Total-P	102	103	104			0.913
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	102	97.6	97.4			0.205
SM 2320 B-2011	Total Alkalinity	96.6				0.483	
SM 2540 C-2015	TDS	103				2.32	
SM 2540 D-2015	TSS	91.4					
SM 4500-F- C-2011	Fluoride	99.8	98.3	99.7			0.960
SM 5310 B-2011	Organic Carbon	97.0	96.3	98.9			2.01

Reference Method Descriptions

Method	Description	Associated Samples
DEP SOP: NU-094-1	True Color measured at 450 nm (not valid for NPDES monitoring)	2429361, 2429364, 2429365, 2429366
EPA 180.1 Rev. 2.0	Turbidity in aqueous matrices	2429361, 2429364, 2429365, 2429366
EPA 200.7 Rev. 4.4	Total Recoverable Metals analysis using ICP emission spectroscopy for aqueous samples supporting Clean Water Act Projects	2429374
EPA 200.8 Rev. 5.4	Total Recoverable Metals analysis using ICP-MS for aqueous samples supporting Clean Water Act Projects	2429374

Reference Method Descriptions

Method	Description	Associated Samples
EPA 300.0 Rev. 2.1	Chloride in aqueous matrices	2429361, 2429364, 2429365, 2429366
EPA 300.0 Rev. 2.1	Sulfate in aqueous matrices	2429361, 2429364, 2429365, 2429366
EPA 350.1 Rev. 2.0	Ammonia in aqueous matrices as mg N/L	2429362, 2429367, 2429368, 2429369
EPA 351.2 Rev. 2.0	Total Kjeldahl Nitrogen in aqueous matrices	2429362, 2429367, 2429368, 2429369
EPA 353.2 Rev. 2.0	Nitrite/Nitrate in aqueous matrices as mg N/L	2429362, 2429367, 2429368, 2429369
EPA 365.1 Rev. 2.0	Total Phosphorus in aqueous matrices as mg P/L	2429362, 2429367, 2429368, 2429369
EPA 365.1 Rev. 2.0 dissolved	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	2429363
SM 2320 B-2011	Alkalinity in aqueous matrices as mg CaCO ₃ /L	2429361, 2429364, 2429365, 2429366
SM 2340 B-2011	Hardness by calculation, in aqueous matrices, reported as mg/L CaCO ₃	2429374
SM 2540 C-2015	Total Dissolved Solids in aqueous matrices	2429361, 2429364, 2429365, 2429366
SM 2540 D-2015	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2429361, 2429364, 2429365, 2429366
SM 4500-F- C-2011	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2429361, 2429364, 2429365, 2429366
SM 5310 B-2011	Nonpurgeable Organic Carbon in aqueous matrices	2429362, 2429367, 2429368, 2429369

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	08/08/2023			08/08/2023 16:00	Anna M. Plaviak	2429361
	08/08/2023			08/08/2023 16:01	Anna M. Plaviak	2429364, 2429365
	08/08/2023			08/08/2023 16:02	Anna M. Plaviak	2429366
EPA 180.1 Rev. 2.0	08/08/2023			08/08/2023 14:00	Alexis Price	2429361
	08/08/2023			08/08/2023 14:08	Alexis Price	2429364
	08/08/2023			08/08/2023 14:09	Alexis Price	2429365
	08/08/2023			08/08/2023 14:10	Alexis Price	2429366
EPA 200.7 Rev. 4.4	08/08/2023	08/14/2023 14:30	George D Taylor	08/15/2023 16:48	Chase Roberts	2429374
EPA 200.8 Rev. 5.4	08/08/2023	08/14/2023 14:30	George D Taylor	08/15/2023 14:54	Emily M Philpot	2429374
	08/08/2023	08/14/2023 14:30	George D Taylor	08/16/2023 14:15	Emily M Philpot	2429374
	08/08/2023	08/17/2023 13:10	George D Taylor	08/21/2023 19:50	Conrad Hartmann	2429374
EPA 300.0 Rev. 2.1	08/08/2023			08/15/2023 03:49	James L Waggeberby	2429361
	08/08/2023			08/15/2023 06:28	James L Waggeberby	2429364
	08/08/2023			08/15/2023 06:43	James L Waggeberby	2429365
	08/08/2023			08/15/2023 06:58	James L Waggeberby	2429366
EPA 350.1 Rev. 2.0	08/08/2023			08/14/2023 13:59	Khloe J Berg	2429362
	08/08/2023			08/14/2023 14:01	Khloe J Berg	2429367
	08/08/2023			08/14/2023 14:02	Khloe J Berg	2429368
	08/08/2023			08/14/2023 14:03	Khloe J Berg	2429369
EPA 351.2 Rev. 2.0	08/08/2023	08/15/2023 11:03	Simonne.V. Calhoun	08/16/2023 10:58	Samantha L Bates	2429362
	08/08/2023	08/15/2023 11:03	Simonne.V. Calhoun	08/16/2023 10:59	Samantha L Bates	2429367
	08/08/2023	08/15/2023 11:03	Simonne.V. Calhoun	08/16/2023 11:01	Samantha L Bates	2429368
	08/08/2023	08/22/2023 15:30	Simonne.V. Calhoun	08/23/2023 13:43	Samantha L Bates	2429369
EPA 353.2 Rev. 2.0	08/08/2023			08/10/2023 10:26	Beverly Y. Sanders	2429362
	08/08/2023			08/10/2023 10:42	Beverly Y. Sanders	2429367
	08/08/2023			08/10/2023 10:48	Beverly Y. Sanders	2429368
	08/08/2023			08/10/2023 10:49	Beverly Y. Sanders	2429369
EPA 365.1 Rev. 2.0	08/08/2023	08/10/2023 17:20	Adam P Silver	08/11/2023 09:47	James L Waggeberby	2429362
	08/08/2023	08/10/2023 17:20	Adam P Silver	08/11/2023 09:48	James L Waggeberby	2429367
	08/08/2023	08/10/2023 17:20	Adam P Silver	08/11/2023 09:49	James L Waggeberby	2429369
	08/08/2023	08/10/2023 17:20	Adam P Silver	08/11/2023 13:37	James L Waggeberby	2429368
EPA 365.1 Rev. 2.0 dissolved SM 2320 B-2011	08/08/2023			08/08/2023 15:33	Elise M. Gillis	2429363
	08/08/2023			08/10/2023 04:03	Dale L. Simmons	2429361
	08/08/2023			08/10/2023 04:15	Dale L. Simmons	2429364
	08/08/2023			08/10/2023 04:28	Dale L. Simmons	2429365
	08/08/2023			08/10/2023 04:40	Dale L. Simmons	2429366
SM 2340 B-2011	08/08/2023			08/15/2023 16:48	Chase Roberts	2429374
SM 2540 C-2015	08/08/2023			08/09/2023 15:59	Yijie Li	2429361, 2429364, 2429365, 2429366
SM 2540 D-2015	08/08/2023			08/09/2023 15:59	Yijie Li	2429361, 2429364, 2429365, 2429366
SM 4500-F- C-2011	08/08/2023			08/10/2023 04:03	Dale L. Simmons	2429361

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
SM 4500-F- C-2011	08/08/2023			08/10/2023 04:15	Dale L. Simmons	2429364
	08/08/2023			08/10/2023 04:28	Dale L. Simmons	2429365
	08/08/2023			08/10/2023 04:40	Dale L. Simmons	2429366
SM 5310 B-2011	08/08/2023			08/10/2023 02:50	Elise M. Gillis	2429362
	08/08/2023			08/10/2023 03:04	Elise M. Gillis	2429367
	08/08/2023			08/10/2023 03:18	Elise M. Gillis	2429368
	08/08/2023			08/10/2023 03:32	Elise M. Gillis	2429369