

Chemical Analysis Report

NE-DIST-2024-01-12-01

Florida DEP Laboratory
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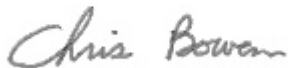
Event Description: **Nassau North Boat 2024**
Request ID: **RQ-2024-01-15-34**
Customer: **NE-DIST**
Project ID: **SMP**

Send Reports to:
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Certified by: Chris Bowen, Environmental Administrator

Date Certified: 08-FEB-2024 09:09



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: EGAN CREEK AT ATLANTIC

Collection Date/Time: 01/11/2024 10:05

Field ID: G4NE0285

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2461198	DEP SOP: NU-094-1	Color (true)	78	A	PCU	P439888	
	EPA 180.1 Rev. 2.0	Turbidity	9.5		NTU	P439908	
	EPA 300.0 Rev. 2.1	Chloride	8.0E+03		mg Cl/L	P440404	
		Sulfate	1.1E+03		mg SO4/L	P440408	
	SM 2320 B-2011	Total Alkalinity	101		mg CaCO3/L	P440195	
	SM 2540 C-2015	TDS	1.38E+04	Q	mg/L	P440595	
	SM 2540 D-2015	TSS	19	J	mg/L	P440329	
	SM 4500-F- C-2011	Fluoride	0.69		mg F/L	P440480	
2461199	EPA 350.1 Rev. 2.0	Ammonia-N	0.15		mg N/L	P440145	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.77		mg N/L	P440416	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.041		mg N/L	P440202	
	EPA 365.1 Rev. 2.0	Total-P	0.24		mg P/L	P440144	
	SM 5310 B-2014	Organic Carbon	13		mg C/L	P440137	

Ref. Method and Comment:
SM 2540 C-2015: The sample was analyzed out of holding time because of analytical difficulties.
SM 2540 D-2015: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample. Sample was not analyzed using the protocol for saline matrices. Result may be biased high.

Sample Location: ST MARYS R AT GA LINE US 17

Collection Date/Time: 01/11/2024 11:05

Field ID: 19010001

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2461196	DEP SOP: NU-094-1	Color (true)	300		PCU	P439887	
	EPA 180.1 Rev. 2.0	Turbidity	7.6		NTU	P439908	
	EPA 300.0 Rev. 2.1	Chloride	17	A	mg Cl/L	P440404	
		Sulfate	3.1	A	mg SO4/L	P440408	
	SM 2320 B-2011	Total Alkalinity	1.6	I	mg CaCO3/L	P440473	
	SM 2540 C-2015	TDS	143	Q	mg/L	P440595	
	SM 2540 D-2015	TSS	5	IA	mg/L	P440331	
2461197	SM 4500-F- C-2011	Fluoride	0.031	I	mg F/L	P440874	
	EPA 350.1 Rev. 2.0	Ammonia-N	0.009		mg N/L	P440066	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.82		mg N/L	P440100	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.014		mg N/L	P440015	
	EPA 365.1 Rev. 2.0	Total-P	0.032		mg P/L	P440261	
2461206	SM 5310 B-2014	Organic Carbon	30		mg C/L	P440136	
	EPA 200.7 Rev. 4.4	Calcium	4.40		mg/L	P439925	
		Iron	870		ug/L	P439925	
		Magnesium	2.11		mg/L	P439925	
		Potassium	0.68	I	mg/L	P439925	
		Sodium	10.3		mg/L	P439925	
		Strontium	20.7		ug/L	P439925	
		Tin	3.0	U	ug/L	P439925	
		Titanium	3.4		ug/L	P439925	
		Vanadium	2.0	U	ug/L	P439925	
		Zinc	29		ug/L	P439925	
	EPA 200.8 Rev. 5.4	Aluminum	802		ug/L	P439925	
		Antimony	0.050	U	ug/L	P439925	
		Arsenic	0.43		ug/L	P439925	
		Barium	15.0		ug/L	P439925	
		Beryllium	0.047		ug/L	P439925	
		Boron	17.5		ug/L	P439925	
		Cadmium	0.020	U	ug/L	P439925	
		Chromium	0.98	I	ug/L	P439925	
		Cobalt	0.316		ug/L	P439925	
		Copper	0.51	I	ug/L	P439925	
		Lead	0.71		ug/L	P439925	
		Manganese	22.1		ug/L	P439925	
		Molybdenum	0.15	U	ug/L	P439925	
		Nickel	0.68	I	ug/L	P439925	
		Selenium	0.20	U	ug/L	P439925	
		Silver	0.010	U	ug/L	P439925	
		Thallium	0.10	U	ug/L	P439925	
	SM 2340 B-2011	Hardness	19.7		mg/L	P439925	

Field ID: 19010001

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 C-2015: The sample was analyzed out of holding time because of analytical difficulties.
SM 2540 D-2015: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.
EPA 200.7 Rev. 4.4: Batch matrix spike recoveries for potassium are unavailable for one of two spiked samples because of high analyte concentration in the QC sample.
EPA 200.8 Rev. 5.4: Batch matrix spike recoveries for boron are unavailable for one of two spiked samples because of high analyte concentration in the QC sample. The lead result was confirmed in the undigested sample on 01/18/2024.

Sample Location: ST MARYS RIVER AT CRANDALL RD

Collection Date/Time: 01/11/2024 12:20

Field ID: G4NE0293

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2461207	EPA 200.7 Rev. 4.4	Calcium	26.8		mg/L	P439925	
		Iron	1.21E+03		ug/L	P439925	
		Magnesium	73.6		mg/L	P439925	
		Potassium	22.2		mg/L	P439925	
		Sodium	610		mg/L	P439925	
		Strontium	407		ug/L	P439925	
		Tin	3.0	U	ug/L	P439925	
		Titanium	7.2		ug/L	P439925	
		Vanadium	2.3	I	ug/L	P439925	
	EPA 200.8 Rev. 5.4	Zinc	11	I	ug/L	P439925	
		Aluminum	1.02E+03		ug/L	P439925	
		Antimony	0.059	I	ug/L	P439925	
		Arsenic	0.91		ug/L	P439925	
		Barium	14.2		ug/L	P439925	
		Beryllium	0.076		ug/L	P439925	
		Boron	261		ug/L	P439925	
		Cadmium	0.020	U	ug/L	P439925	
		Chromium	1.4	I	ug/L	P439925	
		Cobalt	0.388		ug/L	P439925	
		Copper	0.71	I	ug/L	P439925	
		Lead	0.88		ug/L	P439925	
		Manganese	32.5		ug/L	P439925	
		Molybdenum	0.91		ug/L	P439925	
		Nickel	0.85	I	ug/L	P439925	
		Selenium	0.21	I	ug/L	P439925	
		Silver	0.010	U	ug/L	P439925	
		Thallium	0.10	U	ug/L	P439925	
	SM 2340 B-2011	Hardness	370		mg/L	P439925	

Ref. Method and Comment:
EPA 200.7 Rev. 4.4: Batch matrix spike recoveries for potassium are unavailable for one of two spiked samples because of high analyte concentration in the QC sample.
EPA 200.8 Rev. 5.4: Batch matrix spike recoveries for boron are unavailable for one of two spiked samples because of high analyte concentration in the QC sample.

Sample Location: NASSAU RIV US 17

Collection Date/Time: 01/11/2024 14:35

Field ID: 19020002

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2461208	EPA 200.7 Rev. 4.4	Calcium	12.2		mg/L	P439925	
		Iron	1.77E+03		ug/L	P439925	
		Magnesium	19.4		mg/L	P439925	
		Potassium	7.0		mg/L	P439925	
		Sodium	158		mg/L	P439925	
		Strontium	119		ug/L	P439925	
		Tin	3.0	U	ug/L	P439925	
		Titanium	15.6		ug/L	P439925	
		Vanadium	3.5	I	ug/L	P439925	
	EPA 200.8 Rev. 5.4	Zinc	20	I	ug/L	P439925	
		Aluminum	1.32E+03		ug/L	P439925	
		Antimony	0.057	I	ug/L	P439925	
		Arsenic	1.40		ug/L	P439925	
		Barium	10.3		ug/L	P439925	
		Beryllium	0.103		ug/L	P439925	
		Boron	93.5		ug/L	P439925	
		Cadmium	0.020	U	ug/L	P439925	
		Chromium	2.5		ug/L	P439925	
		Cobalt	0.383		ug/L	P439925	
		Copper	0.84		ug/L	P439925	
		Lead	1.11		ug/L	P439925	
		Manganese	39.2		ug/L	P439925	
		Molybdenum	0.38	I	ug/L	P439925	
		Nickel	0.99	I	ug/L	P439925	
		Selenium	0.20	U	ug/L	P439925	
		Silver	0.010	U	ug/L	P439925	
		Thallium	0.10	U	ug/L	P439925	
		Hardness	110		mg/L	P439925	

Ref. Method and Comment:
 EPA 200.7 Rev. 4.4: Batch matrix spike recoveries for potassium are unavailable for one of two spiked samples because of high analyte concentration in the QC sample.
 EPA 200.8 Rev. 5.4: Batch matrix spike recoveries for boron are unavailable for one of two spiked samples because of high analyte concentration in the QC sample.

Quality Assurance Report
Method Blank Results

Reference Method: DEP SOP: NU-094-1
Batch ID: P439887

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: DEP SOP: NU-094-1
Batch ID: P439888

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P439908

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P439925

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: P439925

Component	Result	Code	Units
Aluminum	5.0	U	ug/L
Antimony	0.050	U	ug/L
Arsenic	0.050	U	ug/L
Barium	0.20	U	ug/L
Beryllium	0.010	U	ug/L
Boron	2.0	U	ug/L
Cadmium	0.020	U	ug/L
Chromium	0.40	U	ug/L
Cobalt	0.020	U	ug/L
Copper	0.40	U	ug/L
Lead	0.20	U	ug/L
Manganese	0.10	U	ug/L
Molybdenum	0.15	U	ug/L
Nickel	0.50	U	ug/L
Selenium	0.20	U	ug/L
Silver	0.010	U	ug/L
Thallium	0.10	U	ug/L

Quality Assurance Report

Method Blank Results

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P440404

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P440408

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P440066

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P440145

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P440100

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P440416

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P440015

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P440202

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P440144

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

Quality Assurance Report

Method Blank Results

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P440261

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

Reference Method: SM 2320 B-2011
Batch ID: P440195

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

Reference Method: SM 2320 B-2011
Batch ID: P440473

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

Reference Method: SM 2540 C-2015
Batch ID: P440595

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-2015
Batch ID: P440329

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 2540 D-2015
Batch ID: P440331

Component	Result	Code	Units
TSS	3	U	mg/L

Reference Method: SM 4500-F- C-2011
Batch ID: P440480

Component	Result	Code	Units
Fluoride	0.025	U	mg F/L

Reference Method: SM 4500-F- C-2011
Batch ID: P440874

Component	Result	Code	Units
Fluoride	0.025	U	mg F/L

Reference Method: SM 5310 B-2014
Batch ID: P440136

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

Quality Assurance Report
Method Blank Results

Reference Method: SM 5310 B-2014
Batch ID: P440137

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: P439887

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

Reference Method: DEP SOP: NU-094-1
Batch ID: P439888

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Color (true)	95.5		P	90 - 110

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P439908

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

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P439925

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Calcium	105		P	85 - 115
Iron	112		P	85 - 115
Magnesium	112		P	85 - 115
Potassium	100		P	85 - 115
Sodium	102		P	85 - 115
Strontium	100		P	85 - 115
Tin	95.1		P	85 - 115
Titanium	99.9		P	85 - 115
Vanadium	99.7		P	85 - 115
Zinc	97.5		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P439925

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Aluminum	100		P	85 - 115
Antimony	100		P	85 - 115
Arsenic	99.8		P	85 - 115
Barium	99.6		P	85 - 115
Beryllium	94.9		P	85 - 115
Boron	105		P	85 - 115
Cadmium	101		P	85 - 115
Chromium	103		P	85 - 115
Cobalt	98.4		P	85 - 115
Copper	97.2		P	85 - 115
Lead	94.7		P	85 - 115
Manganese	101		P	85 - 115
Molybdenum	97.8		P	85 - 115
Nickel	97.9		P	85 - 115
Selenium	102		P	85 - 115
Silver	88.8		P	85 - 115
Thallium	97.4		P	85 - 115

Quality Assurance Report
Laboratory Control Sample Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P440404

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P440408

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P440066

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P440145

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Ammonia-N	94.6		P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P440100

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P440416

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P440015

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: P440202

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P440144

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

Quality Assurance Report
Laboratory Control Sample Accuracy

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P440261

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

Reference Method: SM 2320 B-2011
Batch ID: P440195

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	96.9		P	92 - 105

Reference Method: SM 2320 B-2011
Batch ID: P440473

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	97.4		P	92 - 105

Reference Method: SM 2540 C-2015
Batch ID: P440595

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
TDS	105		P	85 - 115

Reference Method: SM 2540 D-2015
Batch ID: P440329

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

Reference Method: SM 2540 D-2015
Batch ID: P440331

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
TSS	96.0		P	85 - 115

Reference Method: SM 4500-F- C-2011
Batch ID: P440480

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

Reference Method: SM 4500-F- C-2011
Batch ID: P440874

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	98.8		P	94 - 106

Reference Method: SM 5310 B-2014
Batch ID: P440136

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	99.7		P	85 - 115

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: SM 5310 B-2014
Batch ID: P440137

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: P439925

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2461206	Calcium	106		P	80 - 120
2461206	Iron	111	110	P/P	80 - 120
2461206	Magnesium	111	110	P/P	80 - 120
2461206	Potassium	101	100	P/P	80 - 120
2461206	Sodium	103		P	80 - 120
2461206	Strontium	99.5	99.2	P/P	80 - 120
2461206	Tin	91.4	90.6	P/P	80 - 120
2461206	Titanium	95.0	96.5	P/P	80 - 120
2461206	Vanadium	100	100	P/P	80 - 120
2461206	Zinc	99.2	96.2	P/P	80 - 120
2461292	Calcium	105		P	80 - 120
2461292	Iron	107		P	80 - 120
2461292	Magnesium	101		P	80 - 120
2461292	Sodium	103		P	80 - 120
2461292	Strontium	98.0		P	80 - 120
2461292	Tin	91.0		P	80 - 120
2461292	Titanium	97.5		P	80 - 120
2461292	Vanadium	96.6		P	80 - 120
2461292	Zinc	94.2		P	80 - 120

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P439925

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2461206	Aluminum	102	97.4	P/P	80 - 120
2461206	Antimony	97.9	97.6	P/P	80 - 120
2461206	Arsenic	98.6	99.7	P/P	80 - 120
2461206	Barium	99.9	99.2	P/P	80 - 120
2461206	Beryllium	95.5	93.9	P/P	80 - 120
2461206	Boron	108	105	P/P	80 - 120
2461206	Cadmium	99.5	101	P/P	80 - 120
2461206	Chromium	103	102	P/P	80 - 120
2461206	Cobalt	98.3	97.9	P/P	80 - 120
2461206	Copper	96.9	96.5	P/P	80 - 120
2461206	Lead	95.3	95.4	P/P	80 - 120
2461206	Manganese	101	99.4	P/P	80 - 120
2461206	Molybdenum	98.1	98.5	P/P	80 - 120
2461206	Nickel	96.5	97.5	P/P	80 - 120
2461206	Selenium	99.5	99.6	P/P	80 - 120
2461206	Silver	87.3	87.1	P/P	80 - 120
2461206	Thallium	101	101	P/P	80 - 120
2461292	Aluminum	102		P	80 - 120
2461292	Antimony	103		P	80 - 120
2461292	Arsenic	103		P	80 - 120
2461292	Barium	102		P	80 - 120
2461292	Beryllium	94.8		P	80 - 120
2461292	Cadmium	102		P	80 - 120
2461292	Chromium	105		P	80 - 120
2461292	Cobalt	101		P	80 - 120
2461292	Copper	100		P	80 - 120
2461292	Lead	97.9		P	80 - 120
2461292	Manganese	101		P	80 - 120

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P439925

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2461292	Molybdenum	105		P	80 - 120
2461292	Nickel	101		P	80 - 120
2461292	Selenium	101		P	80 - 120
2461292	Silver	88.2		P	80 - 120
2461292	Thallium	102		P	80 - 120

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P440404

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2461196	Chloride	102		P	90 - 110
2461638	Chloride	101		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P440408

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2461196	Sulfate	103		P	90 - 110
2461638	Sulfate	100		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P440066

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2461153	Ammonia-N	97.4	98.0	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P440145

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2460595	Ammonia-N	98.2	100	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P440100

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2461197	Kjeldahl Nitrogen	102	106	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P440416

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2461641	Kjeldahl Nitrogen	102	94.6	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P440015

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2461099	NO2NO3-N	102	104	P/P	90 - 110

Quality Assurance Report

Matrix Spike Accuracy

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P440202

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2460869	NO2NO3-N	92.6	92.2	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P440144

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2461131	Total-P	95.4	97.6	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P440261

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2461154	Total-P	99.3	99.9	P/P	90 - 110

Reference Method: SM 4500-F- C-2011
Batch ID: P440480

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2462476	Fluoride	102	103	P/P	94 - 106

Reference Method: SM 4500-F- C-2011
Batch ID: P440874

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2462866	Fluoride	102	100	P/P	94 - 106

Reference Method: SM 5310 B-2014
Batch ID: P440136

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2461278	Organic Carbon	99.9	100	P/P	85 - 115

Reference Method: SM 5310 B-2014
Batch ID: P440137

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2460668	Organic Carbon	87.8	89.7	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: DEP SOP: NU-094-1
Batch ID: P439887

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2461150	Color (true)	2.56	Sample	P	0 - 20

Reference Method: DEP SOP: NU-094-1
Batch ID: P439888

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2461198	Color (true)	0.482	Sample	P	0 - 20

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P439908

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2461096	Turbidity	2.42	Sample	P	0 - 20

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P439925

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2461206	Calcium	0.564	Spike	P	0 - 20
2461206	Iron	0.771	Spike	P	0 - 20
2461206	Magnesium	0.519	Spike	P	0 - 20
2461206	Potassium	0.739	Spike	P	0 - 20
2461206	Sodium	0.265	Spike	P	0 - 20
2461206	Strontium	0.308	Spike	P	0 - 20
2461206	Tin	0.866	Spike	P	0 - 20
2461206	Titanium	1.40	Spike	P	0 - 20
2461206	Vanadium	0.351	Spike	P	0 - 20
2461206	Zinc	2.87	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P439925

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2461206	Aluminum	2.38	Spike	P	0 - 20
2461206	Antimony	0.239	Spike	P	0 - 20
2461206	Arsenic	1.11	Spike	P	0 - 20
2461206	Barium	0.553	Spike	P	0 - 20
2461206	Beryllium	1.52	Spike	P	0 - 20
2461206	Boron	2.42	Spike	P	0 - 20
2461206	Cadmium	1.61	Spike	P	0 - 20
2461206	Chromium	0.941	Spike	P	0 - 20
2461206	Cobalt	0.347	Spike	P	0 - 20
2461206	Copper	0.367	Spike	P	0 - 20
2461206	Lead	0.101	Spike	P	0 - 20
2461206	Manganese	0.760	Spike	P	0 - 20
2461206	Molybdenum	0.340	Spike	P	0 - 20
2461206	Nickel	0.995	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P439925

Replicated					
Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2461206	Selenium	0.0955	Spike	P	0 - 20
2461206	Silver	0.222	Spike	P	0 - 20
2461206	Thallium	0.128	Spike	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P440404

Replicated					
Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2461196	Chloride	2.77	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P440408

Replicated					
Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2461196	Sulfate	2.96	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P440066

Replicated					
Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2461153	Ammonia-N	0.480	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P440145

Replicated					
Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2460595	Ammonia-N	1.95	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P440100

Replicated					
Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2461197	Kjeldahl Nitrogen	2.80	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P440416

Replicated					
Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2461641	Kjeldahl Nitrogen	6.11	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P440015

Replicated					
Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits

Quality Assurance Report Precision

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P440015

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2461099	NO2NO3-N	0.562	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P440202

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2460869	NO2NO3-N	0.522	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P440144

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2461131	Total-P	2.38	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P440261

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2461154	Total-P	0.533	Spike	P	0 - 20

Reference Method: SM 2320 B-2011
Batch ID: P440195

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2461277	Total Alkalinity	0.536	Sample	P	0 - 3.9

Reference Method: SM 2320 B-2011
Batch ID: P440473

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2461310	Total Alkalinity	1.12	Sample	P	0 - 3.9

Reference Method: SM 2540 C-2015
Batch ID: P440595

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2461932	TDS	2.87	Sample	P	0 - 10

Reference Method: SM 4500-F- C-2011
Batch ID: P440480

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2462476	Fluoride	0.480	Spike	P	0 - 1.9

Quality Assurance Report

Precision

Reference Method: SM 4500-F- C-2011
Batch ID: P440874

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2462866	Fluoride	0.973	Spike	P	0 - 1.9

Reference Method: SM 5310 B-2014
Batch ID: P440136

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2461278	Organic Carbon	0.222	Spike	P	0 - 15

Reference Method: SM 5310 B-2014
Batch ID: P440137

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2460668	Organic Carbon	1.65	Spike	P	0 - 15

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

Quality Assurance Report Calibration Verification

Reference Method: DEP SOP: NU-094-1

Run ID: A123610

Included Lab Sample IDs: 2461196, 2461198

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	100	99.3	P/P	90 - 110
Color (true)	99.3	97.6	P/P	90 - 110

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A123618

Included Lab Sample IDs: 2461196, 2461198

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Turbidity	100	99.5	P/P	95 - 105
Turbidity	100	100	P/P	95 - 105

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A123669

Included Lab Sample IDs: 2461197

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

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A123676

Included Lab Sample IDs: 2461206, 2461207, 2461208

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Aluminum	98.9	100	P/P	90 - 110
Aluminum	99.5	98.9	P/P	90 - 110
Antimony	97.9	99.1	P/P	90 - 110
Antimony	99.3	97.9	P/P	90 - 110
Arsenic	101	97.2	P/P	90 - 110
Arsenic	97.2	96.3	P/P	90 - 110
Barium	96.5	98.6	P/P	90 - 110
Barium	98.9	96.5	P/P	90 - 110
Beryllium	97.6	94.5	P/P	90 - 110
Beryllium	99.7	97.6	P/P	90 - 110
Boron	104	105	P/P	90 - 110
Boron	99.4	104	P/P	90 - 110
Cadmium	96.9	98.6	P/P	90 - 110
Cadmium	98.9	96.9	P/P	90 - 110
Chromium	96.6	98.0	P/P	90 - 110
Chromium	97.4	96.6	P/P	90 - 110
Cobalt	95.2	95.8	P/P	90 - 110
Cobalt	97.0	95.2	P/P	90 - 110
Copper	95.2	95.1	P/P	90 - 110
Copper	98.0	95.2	P/P	90 - 110
Lead	94.6	94.8	P/P	90 - 110
Lead	96.4	94.6	P/P	90 - 110
Manganese	95.8	96.1	P/P	90 - 110
Manganese	96.1	97.5	P/P	90 - 110
Molybdenum	97.0	97.1	P/P	90 - 110
Molybdenum	99.4	97.0	P/P	90 - 110
Nickel	95.6	96.0	P/P	90 - 110
Nickel	98.1	95.6	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A123676

Included Lab Sample IDs: 2461206, 2461207, 2461208

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Selenium	96.6	97.1	P/P	90 - 110
Selenium	99.0	96.6	P/P	90 - 110
Silver	97.6	98.4	P/P	90 - 110
Silver	99.6	97.6	P/P	90 - 110
Thallium	101	98.8	P/P	90 - 110
Thallium	98.8	99.4	P/P	90 - 110

Reference Method: EPA 200.7 Rev. 4.4

Run ID: A123677

Included Lab Sample IDs: 2461206, 2461207, 2461208

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Calcium	102	103	P/P	90 - 110
Iron	102	103	P/P	90 - 110
Magnesium	102	102	P/P	90 - 110
Potassium	101	101	P/P	90 - 110
Sodium	101	101	P/P	90 - 110
Strontium	100	100	P/P	90 - 110
Tin	98.4	98.4	P/P	90 - 110
Titanium	102	102	P/P	90 - 110
Vanadium	101	101	P/P	90 - 110
Zinc	102	102	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A123689

Included Lab Sample IDs: 2461197

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	99.5	99.6	P/P	90 - 110

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A123704

Included Lab Sample IDs: 2461207

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

Reference Method: SM 5310 B-2014

Run ID: A123713

Included Lab Sample IDs: 2461197, 2461199

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	117	97.0	P/P	70 - 130
Organic Carbon	96.0	117	P/P	85 - 115

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A123720

Included Lab Sample IDs: 2461199

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	98.6	98.2	P/P	90 - 110

Quality Assurance Report
Calibration Verification

Reference Method: SM 2320 B-2011
Run ID: A123741
Included Lab Sample IDs: 2461198

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	97.5	94.9	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Run ID: A123742
Included Lab Sample IDs: 2461199

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

Reference Method: EPA 365.1 Rev. 2.0
Run ID: A123744
Included Lab Sample IDs: 2461199

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	99.6	99.0	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Run ID: A123769
Included Lab Sample IDs: 2461197

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	98.6	100	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Run ID: A123788
Included Lab Sample IDs: 2461197

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

Reference Method: EPA 300.0 Rev. 2.1
Run ID: A123802
Included Lab Sample IDs: 2461196, 2461198

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	100	102	P/P	90 - 110
Sulfate	102	104	P/P	90 - 110

Reference Method: SM 2320 B-2011
Run ID: A123838
Included Lab Sample IDs: 2461196

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	95.1	96.8	P/P	90 - 110

Reference Method: SM 4500-F- C-2011
Run ID: A123838
Included Lab Sample IDs: 2461198

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

Quality Assurance Report

Calibration Verification

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A123866

Included Lab Sample IDs: 2461199

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

Reference Method: SM 4500-F- C-2011

Run ID: A123977

Included Lab Sample IDs: 2461196

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	102	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	MS
			LCS	SMP	MS		
DEP SOP: NU-094-1	Color (true)	101				2.56	
	Color (true)	95.5				0.482	
EPA 180.1 Rev. 2.0	Turbidity	104				2.42	
EPA 200.7 Rev. 4.4	Calcium	105	106	105			0.564
	Iron	112	111	110	107		0.771
	Magnesium	112	111	110	101		0.519
	Potassium	100	101	100			0.739
	Sodium	102	103	103			0.265
	Strontium	100	99.5	99.2	98.0		0.308
	Tin	95.1	91.4	90.6	91.0		0.866
	Titanium	99.9	95.0	96.5	97.5		1.40
	Vanadium	99.7	100	100	96.6		0.351
	Zinc	97.5	99.2	96.2	94.2		2.87
EPA 200.8 Rev. 5.4	Aluminum	100	102	102	97.4		2.38
	Antimony	100	103	97.9	97.6		0.239
	Arsenic	99.8	103	98.6	99.7		1.11
	Barium	99.6	102	99.9	99.2		0.553
	Beryllium	94.9	94.8	95.5	93.9		1.52
	Boron	105	108	105			2.42
	Cadmium	101	102	99.5	101		1.61
	Chromium	103	105	103	102		0.941
	Cobalt	98.4	101	98.3	97.9		0.347
	Copper	97.2	100	96.9	96.5		0.367
	Lead	94.7	97.9	95.3	95.4		0.101
	Manganese	101	101	101	99.4		0.760
	Molybdenum	97.8	105	98.1	98.5		0.340
	Nickel	97.9	101	96.5	97.5		0.995
	Selenium	102	101	99.5	99.6		0.0955
	Silver	88.8	88.2	87.3	87.1		0.222
	Thallium	97.4	102	101	101		0.128
EPA 300.0 Rev. 2.1	Chloride	101	102	101		2.77	
	Sulfate	101	103	100		2.96	
EPA 350.1 Rev. 2.0	Ammonia-N	99.0	97.4	98.0			0.480
	Ammonia-N	94.6	98.2	100			1.95
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	103	102	106			2.80
	Kjeldahl Nitrogen	98.6	102	94.6			6.11
EPA 353.2 Rev. 2.0	NO2NO3-N	102	102	104			0.562
	NO2NO3-N	102	92.6	92.2			0.522
EPA 365.1 Rev. 2.0	Total-P	104	95.4	97.6			2.38
	Total-P	98.0	99.3	99.9			0.533
SM 2320 B-2011	Total Alkalinity	96.9				0.536	
	Total Alkalinity	97.4				1.12	
SM 2540 C-2015	TDS	105				2.87	
SM 2540 D-2015	TSS	95.2					
	TSS	96.0					
SM 4500-F- C-2011	Fluoride	105	102	103			0.480
	Fluoride	98.8	102	100			0.973
SM 5310 B-2014	Organic Carbon	99.7	99.9	100			0.222
	Organic Carbon	97.0	87.8	89.7			1.65

Reference Method Descriptions

Method	Description	Associated Samples
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Reference Method Descriptions

Method	Description	Associated Samples
DEP SOP: NU-094-1	True Color measured at 450 nm (not valid for NPDES monitoring)	2461196, 2461198
EPA 180.1 Rev. 2.0	Turbidity in aqueous matrices	2461196, 2461198
EPA 200.7 Rev. 4.4	Total Recoverable Metals analysis using ICP emission spectroscopy for aqueous samples supporting Clean Water Act Projects	2461206, 2461207, 2461208
EPA 200.8 Rev. 5.4	Total Recoverable Metals analysis using ICP-MS for aqueous samples supporting Clean Water Act Projects	2461206, 2461207, 2461208
EPA 300.0 Rev. 2.1	Chloride in aqueous matrices	2461196, 2461198
EPA 300.0 Rev. 2.1	Sulfate in aqueous matrices	2461196, 2461198
EPA 350.1 Rev. 2.0	Ammonia in aqueous matrices as mg N/L	2461197, 2461199
EPA 351.2 Rev. 2.0	Total Kjeldahl Nitrogen in aqueous matrices	2461197, 2461199
EPA 353.2 Rev. 2.0	Nitrite/Nitrate in aqueous matrices as mg N/L	2461197, 2461199
EPA 365.1 Rev. 2.0	Total Phosphorus in aqueous matrices as mg P/L	2461197, 2461199
SM 2320 B-2011	Alkalinity in aqueous matrices as mg CaCO ₃ /L	2461196, 2461198
SM 2340 B-2011	Hardness by calculation, in aqueous matrices, reported as mg/L CaCO ₃	2461206, 2461207, 2461208
SM 2540 C-2015	Total Dissolved Solids in aqueous matrices	2461196, 2461198
SM 2540 D-2015	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2461196, 2461198
SM 4500-F- C-2011	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2461196, 2461198
SM 5310 B-2014	Nonpurgeable Organic Carbon in aqueous matrices	2461197, 2461199

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	01/12/2024			01/12/2024 13:17	Chandler E Cox	2461196
	01/12/2024			01/12/2024 13:25	Chandler E Cox	2461198
EPA 180.1 Rev. 2.0	01/12/2024			01/12/2024 14:10	Anna M. Plaviak	2461198
	01/12/2024			01/12/2024 14:13	Anna M. Plaviak	2461196
EPA 200.7 Rev. 4.4	01/12/2024	01/16/2024 10:30	George D Taylor	01/17/2024 18:33	Chase Roberts	2461206
	01/12/2024	01/16/2024 10:30	George D Taylor	01/17/2024 19:00	Chase Roberts	2461207
	01/12/2024	01/16/2024 10:30	George D Taylor	01/17/2024 19:07	Chase Roberts	2461207
	01/12/2024	01/16/2024 10:30	George D Taylor	01/17/2024 19:15	Chase Roberts	2461208
EPA 200.8 Rev. 5.4	01/12/2024	01/16/2024 10:30	George D Taylor	01/17/2024 18:08	Emily M Philpot	2461207
	01/12/2024	01/16/2024 10:30	George D Taylor	01/17/2024 18:17	Emily M Philpot	2461208
	01/12/2024	01/16/2024 10:30	George D Taylor	01/17/2024 20:49	Emily M Philpot	2461206
	01/12/2024	01/16/2024 10:30	George D Taylor	01/18/2024 15:40	Emily M Philpot	2461207
EPA 300.0 Rev. 2.1	01/12/2024			01/23/2024 12:28	James L Waggerby	2461196
	01/12/2024			01/23/2024 14:44	James L Waggerby	2461198
EPA 350.1 Rev. 2.0	01/12/2024			01/18/2024 12:34	Khloe J Berg	2461197
	01/12/2024			01/19/2024 11:19	Khloe J Berg	2461199
EPA 351.2 Rev. 2.0	01/12/2024	01/18/2024 11:50	Simonne.V. Calhoun	01/23/2024 12:07	Samantha L Bates	2461197
	01/12/2024	01/25/2024 11:55	Simonne.V. Calhoun	01/26/2024 11:25	Samantha L Bates	2461199
EPA 353.2 Rev. 2.0	01/12/2024			01/17/2024 12:37	Anna M. Plaviak	2461197
	01/12/2024			01/18/2024 13:23	Fadila Guebre	2461199
EPA 365.1 Rev. 2.0	01/12/2024	01/19/2024 13:26	Adam P Silver	01/22/2024 10:59	Chandler E Cox	2461199
	01/12/2024	01/23/2024 15:42	Adam P Silver	01/24/2024 11:27	Chandler E Cox	2461197
SM 2320 B-2011	01/12/2024			01/18/2024 22:59	Dale L. Simmons	2461198
	01/12/2024			01/25/2024 01:40	Dale L. Simmons	2461196
SM 2340 B-2011	01/12/2024			01/17/2024 18:33	Chase Roberts	2461206
	01/12/2024			01/17/2024 19:00	Chase Roberts	2461207
	01/12/2024			01/17/2024 19:15	Chase Roberts	2461208
SM 2540 C-2015	01/12/2024			01/22/2024 16:14	Yijie Li	2461196, 2461198
SM 2540 D-2015	01/12/2024			01/17/2024 15:41	Yijie Li	2461196, 2461198
SM 4500-F- C-2011	01/12/2024			01/25/2024 07:04	Dale L. Simmons	2461198
	01/12/2024			01/31/2024 23:56	Dale L. Simmons	2461196
SM 5310 B-2014	01/12/2024			01/18/2024 01:36	Kenneth H Lee	2461197
	01/12/2024			01/18/2024 11:50	Kenneth H Lee	2461199