

Chemical Analysis Report

NE-DIST-2024-01-25-01

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

Event Description: **Nassau West 2024**
Request ID: **RQ-2024-01-22-19**
Customer: **NE-DIST**
Project ID: **SMP**

Send Reports to:
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8800 Baymeadows Way West
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Certified by: Marek Topolski, Environmental Specialist III

Date Certified: 16-FEB-2024 13:00

A handwritten signature in black ink, appearing to read "Marek Topolski", with a stylized, flowing script.

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: DAUGHTERY BRANCH AT CR125 S

Collection Date/Time: 01/24/2024 09:35

Field ID: 19010125

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2463308	DEP SOP: NU-094-1	Color (true)	310		PCU	P440451	
	EPA 180.1 Rev. 2.0	Turbidity	2.1		NTU	P440459	
	EPA 300.0 Rev. 2.1	Chloride	6.2		mg Cl/L	P440893	
		Sulfate	0.50		mg SO4/L	P440896	
	SM 2320 B-2011	Total Alkalinity	0.65	U	mg CaCO3/L	P440872	
	SM 2540 C-2015	TDS	70		mg/L	P440997	
	SM 2540 D-2015	TSS	3	I	mg/L	P440828	
	SM 4500-F- C-2011	Fluoride	0.028	I	mg F/L	P440875	
2463310	EPA 350.1 Rev. 2.0	Ammonia-N	0.007		mg N/L	P440793	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.68		mg N/L	P440952	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P440704	
	EPA 365.1 Rev. 2.0	Total-P	0.010		mg P/L	P440659	
	SM 5310 B-2014	Organic Carbon	30		mg C/L	P440787	
2463328	EPA 200.7 Rev. 4.4	Calcium	2.02		mg/L	P440528	
		Iron	810		ug/L	P440528	
		Magnesium	0.72		mg/L	P440528	
		Potassium	0.30	U	mg/L	P440528	
		Sodium	4.0		mg/L	P440528	
		Strontium	7.5	I	ug/L	P440528	
		Tin	3.0	U	ug/L	P440528	
		Titanium	1.5	I	ug/L	P440528	
	EPA 200.8 Rev. 5.4	Vanadium	2.0	U	ug/L	P440528	
		Zinc	8.2	I	ug/L	P440528	
		Aluminum	605		ug/L	P440528	
		Antimony	0.050	U	ug/L	P440528	
		Arsenic	0.30		ug/L	P440528	
		Barium	11.5		ug/L	P440528	
		Beryllium	0.058		ug/L	P440528	
		Boron	9.8		ug/L	P440528	
		Cadmium	0.020	U	ug/L	P440528	
		Chromium	0.78	I	ug/L	P440528	
		Cobalt	0.258		ug/L	P440528	
		Copper	0.40	U	ug/L	P440528	
		Lead	0.66		ug/L	P440528	
		Manganese	9.97		ug/L	P440528	
		Molybdenum	0.15	U	ug/L	P440528	
		Nickel	0.55	I	ug/L	P440528	
		Selenium	0.20	U	ug/L	P440528	
		Silver	0.010	U	ug/L	P440528	
		Thallium	0.10	U	ug/L	P440528	
	SM 2340 B-2011	Hardness	8.0		mg/L	P440528	

Ref. Method and Comment:

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

EPA 200.8 Rev. 5.4: The lead result was confirmed in the undigested sample on 01/30/2024.

Sample Location: UNNAMED BRANCH AT CR125

Collection Date/Time: 01/24/2024 10:00

Field ID: 19010123

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2463330	EPA 200.7 Rev. 4.4	Calcium	5.60		mg/L	P440528	
		Iron	690		ug/L	P440528	
		Magnesium	1.85		mg/L	P440528	
		Potassium	0.70	I	mg/L	P440528	
		Sodium	5.3		mg/L	P440528	
		Strontium	12.5		ug/L	P440528	
		Tin	3.0	U	ug/L	P440528	
		Titanium	1.4	I	ug/L	P440528	
		Vanadium	2.0	U	ug/L	P440528	
		Zinc	12	I	ug/L	P440528	
	EPA 200.8 Rev. 5.4	Aluminum	425		ug/L	P440528	
		Antimony	0.058	I	ug/L	P440528	
		Arsenic	0.42		ug/L	P440528	
		Barium	14.3		ug/L	P440528	
		Beryllium	0.020	I	ug/L	P440528	
		Boron	12.7		ug/L	P440528	
		Cadmium	0.020	U	ug/L	P440528	
		Chromium	0.73	I	ug/L	P440528	
		Cobalt	0.127		ug/L	P440528	
		Copper	0.58	I	ug/L	P440528	
		Lead	0.45		ug/L	P440528	
		Manganese	9.74		ug/L	P440528	
		Molybdenum	0.15	U	ug/L	P440528	
		Nickel	0.50	U	ug/L	P440528	
		Selenium	0.20	U	ug/L	P440528	
		Silver	0.010	U	ug/L	P440528	
		Thallium	0.10	U	ug/L	P440528	
	SM 2340 B-2011	Hardness	21.6		mg/L	P440528	

Sample Location: DEEP CR AT US 90

Collection Date/Time: 01/24/2024 11:20

Field ID: 19010085

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2463312	DEP SOP: NU-094-1	Color (true)	260		PCU	P440451	
	EPA 180.1 Rev. 2.0	Turbidity	4.0		NTU	P440459	
	EPA 300.0 Rev. 2.1	Chloride	15	A	mg Cl/L	P440893	
		Sulfate	6.4	A	mg SO4/L	P440896	
	SM 2320 B-2011	Total Alkalinity	14		mg CaCO3/L	P440873	
	SM 2540 C-2015	TDS	115		mg/L	P440997	
	SM 2540 D-2015	TSS	2	I	mg/L	P440828	
	SM 4500-F- C-2011	Fluoride	0.048	I	mg F/L	P440876	RPD
2463313	EPA 350.1 Rev. 2.0	Ammonia-N	0.012		mg N/L	P440793	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.80		mg N/L	P440942	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.10		mg N/L	P440704	
	EPA 365.1 Rev. 2.0	Total-P	0.068		mg P/L	P440659	
	SM 5310 B-2014	Organic Carbon	28		mg C/L	P440712	
2463332	EPA 200.7 Rev. 4.4	Calcium	11.1		mg/L	P440528	
		Iron	780		ug/L	P440528	
		Magnesium	2.37		mg/L	P440528	
		Potassium	1.3		mg/L	P440528	
		Sodium	11.2		mg/L	P440528	
		Strontium	42.2		ug/L	P440528	
		Tin	3.0	U	ug/L	P440528	
		Titanium	1.4	I	ug/L	P440528	
	EPA 200.8 Rev. 5.4	Vanadium	2.0	U	ug/L	P440528	
		Zinc	15	I	ug/L	P440528	
		Aluminum	443		ug/L	P440528	
		Antimony	0.12	I	ug/L	P440528	
		Arsenic	0.38		ug/L	P440528	
		Barium	17.3		ug/L	P440528	
		Beryllium	0.034	I	ug/L	P440528	
		Boron	32.4		ug/L	P440528	
		Cadmium	0.020	U	ug/L	P440528	
		Chromium	1.3	I	ug/L	P440528	
		Cobalt	0.119		ug/L	P440528	
		Copper	0.80		ug/L	P440528	
		Lead	0.42		ug/L	P440528	
		Manganese	13.0		ug/L	P440528	
		Molybdenum	0.75		ug/L	P440528	
		Nickel	0.77	I	ug/L	P440528	
		Selenium	0.20	U	ug/L	P440528	
		Silver	0.010	U	ug/L	P440528	
		Thallium	0.10	U	ug/L	P440528	
	SM 2340 B-2011	Hardness	37.5		mg/L	P440528	

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: UNNAMED STREAM AT CR 121

Collection Date/Time: 01/24/2024 12:00

Field ID: 19010127

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2463331	EPA 200.7 Rev. 4.4	Calcium	3.96		mg/L	P440528	
		Iron	920		ug/L	P440528	
		Magnesium	0.86		mg/L	P440528	
		Potassium	0.30	U	mg/L	P440528	
		Sodium	5.5		mg/L	P440528	
		Strontium	10.9		ug/L	P440528	
		Tin	3.0	U	ug/L	P440528	
		Titanium	1.2	I	ug/L	P440528	
		Vanadium	2.0	U	ug/L	P440528	
		Zinc	15	I	ug/L	P440528	
	EPA 200.8 Rev. 5.4	Aluminum	608		ug/L	P440528	
		Antimony	0.050	U	ug/L	P440528	
		Arsenic	0.37		ug/L	P440528	
		Barium	14.0		ug/L	P440528	
		Beryllium	0.060		ug/L	P440528	
		Boron	19.2		ug/L	P440528	
		Cadmium	0.020	U	ug/L	P440528	
		Chromium	0.79	I	ug/L	P440528	
		Cobalt	0.206		ug/L	P440528	
		Copper	0.40	U	ug/L	P440528	
		Lead	0.41		ug/L	P440528	
		Manganese	10.2		ug/L	P440528	
		Molybdenum	0.15	U	ug/L	P440528	
		Nickel	0.66	I	ug/L	P440528	
		Selenium	0.20	U	ug/L	P440528	
		Silver	0.010	U	ug/L	P440528	
		Thallium	0.10	U	ug/L	P440528	
	SM 2340 B-2011	Hardness	13.4		mg/L	P440528	

Sample Location: UNNAMED DRAIN TO BRANDY BRANCH AT
DILLON RD

Collection Date/Time: 01/24/2024 12:50

Field ID: G4NE0297

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2463333	EPA 200.7 Rev. 4.4	Calcium	1.50		mg/L	P440528	
		Iron	820		ug/L	P440528	
		Magnesium	0.68		mg/L	P440528	
		Potassium	0.30	U	mg/L	P440528	
		Sodium	6.1		mg/L	P440528	
		Strontium	8.0	I	ug/L	P440528	
		Tin	3.0	U	ug/L	P440528	
		Titanium	1.2	I	ug/L	P440528	
		Vanadium	2.0	U	ug/L	P440528	
		Zinc	6.0	I	ug/L	P440528	
	EPA 200.8 Rev. 5.4	Aluminum	512		ug/L	P440528	
		Antimony	0.050	U	ug/L	P440528	
		Arsenic	0.25		ug/L	P440528	
		Barium	8.60		ug/L	P440528	
		Beryllium	0.047		ug/L	P440528	
		Boron	12.9		ug/L	P440528	
		Cadmium	0.020	U	ug/L	P440528	
		Chromium	0.58	I	ug/L	P440528	
		Cobalt	0.189		ug/L	P440528	
		Copper	0.40	U	ug/L	P440528	
		Lead	0.50		ug/L	P440528	
		Manganese	6.15		ug/L	P440528	
		Molybdenum	0.15	U	ug/L	P440528	
		Nickel	0.53	I	ug/L	P440528	
		Selenium	0.20	U	ug/L	P440528	
		Silver	0.010	U	ug/L	P440528	
		Thallium	0.10	U	ug/L	P440528	
	SM 2340 B-2011	Hardness	6.5		mg/L	P440528	

Ref. Method and Comment:
EPA 200.8 Rev. 5.4: The lead result was confirmed in the undigested sample on 01/30/2024.

Sample Location: ST MARYS RIVER AT SR 121 GA LINE

Collection Date/Time: 01/24/2024 10:40

Field ID: 19010002

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2463309	DEP SOP: NU-094-1	Color (true)	320		PCU	P440451	
	EPA 180.1 Rev. 2.0	Turbidity	2.0		NTU	P440459	
	EPA 300.0 Rev. 2.1	Chloride	6.0		mg Cl/L	P440893	
		Sulfate	0.37	I	mg SO4/L	P440896	
	SM 2320 B-2011	Total Alkalinity	0.65	U	mg CaCO3/L	P440872	
	SM 2540 C-2015	TDS	72		mg/L	P440997	
	SM 2540 D-2015	TSS	3	I	mg/L	P440828	
	SM 4500-F- C-2011	Fluoride	0.027	I	mg F/L	P440875	
2463311	EPA 350.1 Rev. 2.0	Ammonia-N	0.008		mg N/L	P440793	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.73		mg N/L	P440952	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.016		mg N/L	P440704	
	EPA 365.1 Rev. 2.0	Total-P	0.013		mg P/L	P440659	
	SM 5310 B-2014	Organic Carbon	35		mg C/L	P440787	
2463329	EPA 200.7 Rev. 4.4	Calcium	1.69		mg/L	P440528	
		Iron	660		ug/L	P440528	
		Magnesium	0.84		mg/L	P440528	
		Potassium	0.30	U	mg/L	P440528	
		Sodium	3.7		mg/L	P440528	
		Strontium	6.8	I	ug/L	P440528	
		Tin	3.0	U	ug/L	P440528	
		Titanium	1.4	I	ug/L	P440528	
	EPA 200.8 Rev. 5.4	Vanadium	2.0	U	ug/L	P440528	
		Zinc	8.3	I	ug/L	P440528	
		Aluminum	436		ug/L	P440528	
		Antimony	0.050	U	ug/L	P440528	
		Arsenic	0.30		ug/L	P440528	
		Barium	9.35		ug/L	P440528	
		Beryllium	0.036	I	ug/L	P440528	
		Boron	11.5		ug/L	P440528	
		Cadmium	0.020	U	ug/L	P440528	
		Chromium	0.50	I	ug/L	P440528	
		Cobalt	0.215		ug/L	P440528	
		Copper	0.40	U	ug/L	P440528	
		Lead	0.49		ug/L	P440528	
		Manganese	9.82		ug/L	P440528	
		Molybdenum	0.15	U	ug/L	P440528	
		Nickel	0.50	U	ug/L	P440528	
		Selenium	0.20	U	ug/L	P440528	
		Silver	0.010	U	ug/L	P440528	
		Thallium	0.10	U	ug/L	P440528	
	SM 2340 B-2011	Hardness	7.7		mg/L	P440528	

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: P440451

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P440459

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P440528

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: P440528

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: P440893

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: P440896

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P440793

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P440942

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P440952

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P440704

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P440659

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

Reference Method: SM 2320 B-2011
Batch ID: P440872

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

Reference Method: SM 2320 B-2011
Batch ID: P440873

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

Reference Method: SM 2540 C-2015
Batch ID: P440997

Component	Result	Code	Units
TDS	15	U	mg/L

Quality Assurance Report
Method Blank Results

Reference Method: SM 2540 D-2015
Batch ID: P440828

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500-F- C-2011
Batch ID: P440875

Component	Result	Code	Units
Fluoride	0.025	U	mg F/L

Reference Method: SM 4500-F- C-2011
Batch ID: P440876

Component	Result	Code	Units
Fluoride	0.025	U	mg C/L

Reference Method: SM 5310 B-2014
Batch ID: P440712

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

Reference Method: SM 5310 B-2014
Batch ID: P440787

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: P440451

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Color (true)	102		P	90 - 110

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P440459

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

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P440528

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Calcium	112		P	85 - 115
Iron	112		P	85 - 115
Magnesium	112		P	85 - 115
Potassium	102		P	85 - 115
Sodium	105		P	85 - 115
Strontium	97.0		P	85 - 115
Tin	95.7		P	85 - 115
Titanium	101		P	85 - 115
Vanadium	102		P	85 - 115
Zinc	97.9		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P440528

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Aluminum	102		P	85 - 115
Antimony	98.5		P	85 - 115
Arsenic	99.4		P	85 - 115
Barium	99.5		P	85 - 115
Beryllium	94.8		P	85 - 115
Boron	106		P	85 - 115
Cadmium	99.1		P	85 - 115
Chromium	101		P	85 - 115
Cobalt	98.9		P	85 - 115
Copper	99.4		P	85 - 115
Lead	93.7		P	85 - 115
Manganese	98.2		P	85 - 115
Molybdenum	96.9		P	85 - 115
Nickel	98.1		P	85 - 115
Selenium	100		P	85 - 115
Silver	96.2		P	85 - 115
Thallium	98.2		P	85 - 115

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P440893

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

Quality Assurance Report
Laboratory Control Sample Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P440896

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Sulfate	98.1		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P440793

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P440942

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Kjeldahl Nitrogen	97.1		P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P440952

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P440704

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
NO2NO3-N	98.5		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P440659

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

Reference Method: SM 2320 B-2011
Batch ID: P440872

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	97.6		P	92 - 105

Reference Method: SM 2320 B-2011
Batch ID: P440873

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	101		P	92 - 105

Reference Method: SM 2540 C-2015
Batch ID: P440997

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
TDS	96.4		P	85 - 115

Quality Assurance Report
Laboratory Control Sample Accuracy

Reference Method: SM 2540 D-2015
Batch ID: P440828

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
TSS	92.8		P	85 - 115

Reference Method: SM 4500-F- C-2011
Batch ID: P440875

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	101		P	94 - 106

Reference Method: SM 4500-F- C-2011
Batch ID: P440876

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

Reference Method: SM 5310 B-2014
Batch ID: P440712

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	99.6		P	85 - 115

Reference Method: SM 5310 B-2014
Batch ID: P440787

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

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P440528

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2463330	Calcium	111		P	80 - 120
2463330	Iron	117	117	P/P	80 - 120
2463330	Magnesium	117	116	P/P	80 - 120
2463330	Potassium	102	102	P/P	80 - 120
2463330	Sodium	104		P	80 - 120
2463330	Strontium	96.9	95.7	P/P	80 - 120
2463330	Tin	93.9	93.6	P/P	80 - 120
2463330	Titanium	99.5	98.3	P/P	80 - 120
2463330	Vanadium	104	103	P/P	80 - 120
2463330	Zinc	99.9	99.0	P/P	80 - 120
2463384	Calcium	111		P	80 - 120
2463384	Iron	116		P	80 - 120
2463384	Magnesium	115		P	80 - 120
2463384	Potassium	102		P	80 - 120
2463384	Sodium	104		P	80 - 120
2463384	Strontium	95.3		P	80 - 120
2463384	Tin	91.4		P	80 - 120
2463384	Titanium	99.3		P	80 - 120
2463384	Vanadium	101		P	80 - 120
2463384	Zinc	98.2		P	80 - 120

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P440528

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2463330	Aluminum	102	101	P/P	80 - 120
2463330	Antimony	99.3	99.2	P/P	80 - 120
2463330	Arsenic	98.7	98.0	P/P	80 - 120
2463330	Barium	101	101	P/P	80 - 120
2463330	Beryllium	99.7	92.8	P/P	80 - 120
2463330	Boron	108	107	P/P	80 - 120
2463330	Cadmium	99.1	99.3	P/P	80 - 120
2463330	Chromium	101	101	P/P	80 - 120
2463330	Cobalt	97.3	98.1	P/P	80 - 120
2463330	Copper	96.5	96.6	P/P	80 - 120
2463330	Lead	95.1	94.5	P/P	80 - 120
2463330	Manganese	99.0	100	P/P	80 - 120
2463330	Molybdenum	99.8	99.9	P/P	80 - 120
2463330	Nickel	97.6	95.9	P/P	80 - 120
2463330	Selenium	98.5	97.3	P/P	80 - 120
2463330	Silver	94.8	94.4	P/P	80 - 120
2463330	Thallium	101	100	P/P	80 - 120
2463384	Aluminum	98.7		P	80 - 120
2463384	Antimony	99.5		P	80 - 120
2463384	Arsenic	98.1		P	80 - 120
2463384	Barium	101		P	80 - 120
2463384	Beryllium	93.0		P	80 - 120
2463384	Boron	107		P	80 - 120
2463384	Cadmium	100		P	80 - 120
2463384	Chromium	101		P	80 - 120
2463384	Cobalt	97.2		P	80 - 120
2463384	Copper	96.7		P	80 - 120

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P440528

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2463384	Lead	93.9		P	80 - 120
2463384	Manganese	98.4		P	80 - 120
2463384	Molybdenum	98.2		P	80 - 120
2463384	Nickel	92.0		P	80 - 120
2463384	Selenium	97.4		P	80 - 120
2463384	Silver	94.7		P	80 - 120
2463384	Thallium	100		P	80 - 120

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P440893

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2463312	Chloride	101		P	90 - 110
2463519	Chloride	101		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P440896

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2463312	Sulfate	99.4		P	90 - 110
2463519	Sulfate	99.4		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P440793

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2463282	Ammonia-N	100	101	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P440942

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2463373	Kjeldahl Nitrogen	97.1	97.3	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P440952

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2464128	Kjeldahl Nitrogen	110	104	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P440704

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2463278	NO2NO3-N	96.5	97.5	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P440659

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2463401	Total-P	104	103	P/P	90 - 110

Quality Assurance Report
Matrix Spike Accuracy

Reference Method: SM 4500-F- C-2011
Batch ID: P440875

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2463058	Fluoride	101	102	P/P	94 - 106

Reference Method: SM 4500-F- C-2011
Batch ID: P440876

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2463552	Fluoride	98.1	103	P/P	94 - 106

Reference Method: SM 5310 B-2014
Batch ID: P440712

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2462951	Organic Carbon	99.3	99.6	P/P	85 - 115

Reference Method: SM 5310 B-2014
Batch ID: P440787

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2463142	Organic Carbon	98.4	102	P/P	85 - 115

Quality Assurance Report

Precision

Reference Method: DEP SOP: NU-094-1
Batch ID: P440451

Replicated					
Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2463285	Color (true)	1.20	Sample	P	0 - 20

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P440459

Replicated					
Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2463272	Turbidity	2.03	Sample	P	0 - 20

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P440528

Replicated					
Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2463330	Calcium	1.77	Spike	P	0 - 20
2463330	Iron	0.163	Spike	P	0 - 20
2463330	Magnesium	0.487	Spike	P	0 - 20
2463330	Potassium	0.169	Spike	P	0 - 20
2463330	Sodium	1.25	Spike	P	0 - 20
2463330	Strontium	1.26	Spike	P	0 - 20
2463330	Tin	0.348	Spike	P	0 - 20
2463330	Titanium	1.16	Spike	P	0 - 20
2463330	Vanadium	0.962	Spike	P	0 - 20
2463330	Zinc	0.937	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P440528

Replicated					
Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2463330	Aluminum	0.592	Spike	P	0 - 20
2463330	Antimony	0.0901	Spike	P	0 - 20
2463330	Arsenic	0.706	Spike	P	0 - 20
2463330	Barium	0.183	Spike	P	0 - 20
2463330	Beryllium	6.86	Spike	P	0 - 20
2463330	Boron	0.613	Spike	P	0 - 20
2463330	Cadmium	0.247	Spike	P	0 - 20
2463330	Chromium	0.211	Spike	P	0 - 20
2463330	Cobalt	0.861	Spike	P	0 - 20
2463330	Copper	0.0447	Spike	P	0 - 20
2463330	Lead	0.587	Spike	P	0 - 20
2463330	Manganese	0.884	Spike	P	0 - 20
2463330	Molybdenum	0.105	Spike	P	0 - 20
2463330	Nickel	1.70	Spike	P	0 - 20
2463330	Selenium	1.30	Spike	P	0 - 20
2463330	Silver	0.413	Spike	P	0 - 20
2463330	Thallium	0.548	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P440893

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2463312	Chloride	1.64	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P440896

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2463312	Sulfate	1.68	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P440793

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2463282	Ammonia-N	0.520	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P440942

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2463373	Kjeldahl Nitrogen	0.176	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P440952

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2464128	Kjeldahl Nitrogen	2.89	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P440704

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2463278	NO2NO3-N	0.562	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P440659

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2463401	Total-P	1.15	Spike	P	0 - 20

Reference Method: SM 2320 B-2011
Batch ID: P440872

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2463058	Total Alkalinity	1.10	Sample	P	0 - 3.9

Quality Assurance Report Precision

Reference Method: SM 2320 B-2011
Batch ID: P440873

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2463552	Total Alkalinity	1.21	Sample	P	0 - 3.9

Reference Method: SM 2540 C-2015
Batch ID: P440997

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2463133	TDS	2.76	Sample	P	0 - 10

Reference Method: SM 4500-F- C-2011
Batch ID: P440875

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2463058	Fluoride	0.527	Spike	P	0 - 1.9

Reference Method: SM 4500-F- C-2011
Batch ID: P440876

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2463552	Fluoride	4.51	Spike	F	0 - 1.9

Reference Method: SM 5310 B-2014
Batch ID: P440712

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2462951	Organic Carbon	0.285	Spike	P	0 - 15

Reference Method: SM 5310 B-2014
Batch ID: P440787

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2463142	Organic Carbon	2.13	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: A123821
Included Lab Sample IDs: 2463308, 2463309, 2463312

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

Reference Method: EPA 180.1 Rev. 2.0
Run ID: A123828
Included Lab Sample IDs: 2463308, 2463309, 2463312

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

Reference Method: EPA 200.8 Rev. 5.4
Run ID: A123888
Included Lab Sample IDs: 2463328, 2463329, 2463330, 2463331, 2463332, 2463333

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Aluminum	98.6	99.6	P/P	90 - 110
Aluminum	99.6	98.9	P/P	90 - 110
Antimony	97.2	97.8	P/P	90 - 110
Antimony	97.8	97.8	P/P	90 - 110
Arsenic	94.4	94.9	P/P	90 - 110
Arsenic	98.4	94.4	P/P	90 - 110
Barium	97.5	97.8	P/P	90 - 110
Barium	97.8	96.8	P/P	90 - 110
Beryllium	96.9	95.7	P/P	90 - 110
Beryllium	97.6	96.9	P/P	90 - 110
Boron	101	105	P/P	90 - 110
Boron	105	103	P/P	90 - 110
Cadmium	95.2	97.0	P/P	90 - 110
Cadmium	97.0	95.9	P/P	90 - 110
Chromium	93.7	95.2	P/P	90 - 110
Chromium	95.2	95.1	P/P	90 - 110
Cobalt	93.3	93.0	P/P	90 - 110
Cobalt	95.7	93.3	P/P	90 - 110
Copper	94.3	93.8	P/P	90 - 110
Copper	98.1	94.3	P/P	90 - 110
Lead	92.5	92.1	P/P	90 - 110
Lead	93.0	92.5	P/P	90 - 110
Manganese	93.3	94.4	P/P	90 - 110
Manganese	94.4	95.2	P/P	90 - 110
Molybdenum	96.7	96.5	P/P	90 - 110
Molybdenum	96.9	96.7	P/P	90 - 110
Nickel	92.8	91.5	P/P	90 - 110
Nickel	97.8	92.8	P/P	90 - 110
Selenium	96.3	99.1	P/P	90 - 110
Selenium	97.0	96.3	P/P	90 - 110
Silver	96.8	97.0	P/P	90 - 110
Silver	97.0	96.6	P/P	90 - 110
Thallium	97.7	97.2	P/P	90 - 110
Thallium	98.0	97.7	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A123908

Included Lab Sample IDs: 2463308, 2463309, 2463312

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	97.3	98.9	P/P	90 - 110
Sulfate	96.9	98.0	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A123913

Included Lab Sample IDs: 2463313

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

Reference Method: SM 5310 B-2014

Run ID: A123916

Included Lab Sample IDs: 2463313

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	96.8	121	P/P	85 - 115

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A123917

Included Lab Sample IDs: 2463310, 2463311, 2463313

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	100	100	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A123918

Included Lab Sample IDs: 2463310, 2463311

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

Reference Method: SM 5310 B-2014

Run ID: A123942

Included Lab Sample IDs: 2463310, 2463311

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	118	96.3	P/P	70 - 130

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A123945

Included Lab Sample IDs: 2463310, 2463311, 2463313

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

Reference Method: SM 2320 B-2011

Run ID: A123977

Included Lab Sample IDs: 2463308, 2463309, 2463312

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	95.4	97.8	P/P	90 - 110

Quality Assurance Report

Calibration Verification

Reference Method: SM 2320 B-2011

Run ID: A123977

Included Lab Sample IDs: 2463308, 2463309, 2463312

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	98.0	95.4	P/P	90 - 110

Reference Method: SM 4500-F- C-2011

Run ID: A123977

Included Lab Sample IDs: 2463308, 2463309, 2463312

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

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A124018

Included Lab Sample IDs: 2463313

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	102	105	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A124046

Included Lab Sample IDs: 2463310, 2463311

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

Reference Method: EPA 200.7 Rev. 4.4

Run ID: A124121

Included Lab Sample IDs: 2463328, 2463329, 2463330, 2463331, 2463332, 2463333

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Calcium	108	108	P/P	90 - 110
Calcium	108	109	P/P	90 - 110
Iron	108	108	P/P	90 - 110
Iron	108	108	P/P	90 - 110
Magnesium	107	107	P/P	90 - 110
Magnesium	107	107	P/P	90 - 110
Potassium	103	103	P/P	90 - 110
Potassium	103	104	P/P	90 - 110
Sodium	101	102	P/P	90 - 110
Sodium	102	103	P/P	90 - 110
Strontium	93.8	95.6	P/P	90 - 110
Strontium	95.6	98.1	P/P	90 - 110
Tin	98.6	97.9	P/P	90 - 110
Tin	99.4	98.6	P/P	90 - 110
Titanium	100	100	P/P	90 - 110
Titanium	101	100	P/P	90 - 110
Vanadium	103	103	P/P	90 - 110
Vanadium	103	103	P/P	90 - 110
Zinc	102	103	P/P	90 - 110
Zinc	103	103	P/P	90 - 110

Quality Assurance Report

Calibration Verification

* 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)	102				1.20	
EPA 180.1 Rev. 2.0	Turbidity	104				2.03	
EPA 200.7 Rev. 4.4	Calcium	112	111	111			1.77
	Iron	112	117	117	116		0.163
	Magnesium	112	117	116	115		0.487
	Potassium	102	102	102	102		0.169
	Sodium	105	104	104			1.25
	Strontium	97.0	96.9	95.7	95.3		1.26
	Tin	95.7	93.9	93.6	91.4		0.348
	Titanium	101	99.5	98.3	99.3		1.16
	Vanadium	102	104	103	101		0.962
	Zinc	97.9	99.9	99.0	98.2		0.937
EPA 200.8 Rev. 5.4	Aluminum	102	102	101	98.7		0.592
	Antimony	98.5	99.3	99.2	99.5		0.0901
	Arsenic	99.4	98.7	98.0	98.1		0.706
	Barium	99.5	101	101	101		0.183
	Beryllium	94.8	99.7	92.8	93.0		6.86
	Boron	106	108	107	107		0.613
	Cadmium	99.1	99.1	99.3	100		0.247
	Chromium	101	101	101	101		0.211
	Cobalt	98.9	97.3	98.1	97.2		0.861
	Copper	99.4	96.5	96.6	96.7		0.0447
	Lead	93.7	95.1	94.5	93.9		0.587
	Manganese	98.2	99.0	100	98.4		0.884
	Molybdenum	96.9	99.8	99.9	98.2		0.105
	Nickel	98.1	97.6	95.9	92.0		1.70
	Selenium	100	98.5	97.3	97.4		1.30
	Silver	96.2	94.8	94.4	94.7		0.413
	Thallium	98.2	101	100	100		0.548
EPA 300.0 Rev. 2.1	Chloride	99.6	101	101		1.64	
	Sulfate	98.1	99.4	99.4		1.68	
EPA 350.1 Rev. 2.0	Ammonia-N	99.2	100	101			0.520
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	97.1	97.1	97.3			0.176
	Kjeldahl Nitrogen	101	110	104			2.89
EPA 353.2 Rev. 2.0	NO2NO3-N	98.5	96.5	97.5			0.562
EPA 365.1 Rev. 2.0	Total-P	103	104	103			1.15
SM 2320 B-2011	Total Alkalinity	97.6				1.10	
	Total Alkalinity	101				1.21	
SM 2540 C-2015	TDS	96.4				2.76	
SM 2540 D-2015	TSS	92.8					
SM 4500-F- C-2011	Fluoride	101	101	102			0.527
	Fluoride	103	98.1	103			4.51
SM 5310 B-2014	Organic Carbon	99.6	99.3	99.6			0.285
	Organic Carbon	98.9	98.4	102			2.13

Reference Method Descriptions

Method	Description	Associated Samples
DEP SOP: NU-094-1	True Color measured at 450 nm (not valid for NPDES monitoring)	2463308, 2463309, 2463312
EPA 180.1 Rev. 2.0	Turbidity in aqueous matrices	2463308, 2463309, 2463312
EPA 200.7 Rev. 4.4	Total Recoverable Metals analysis using ICP emission spectroscopy for aqueous samples supporting Clean Water Act Projects	2463328, 2463329, 2463330, 2463331, 2463332, 2463333

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	2463328, 2463329, 2463330, 2463331, 2463332, 2463333
EPA 300.0 Rev. 2.1	Chloride in aqueous matrices	2463308, 2463309, 2463312
EPA 300.0 Rev. 2.1	Sulfate in aqueous matrices	2463308, 2463309, 2463312
EPA 350.1 Rev. 2.0	Ammonia in aqueous matrices as mg N/L	2463310, 2463311, 2463313
EPA 351.2 Rev. 2.0	Total Kjeldahl Nitrogen in aqueous matrices	2463310, 2463311, 2463313
EPA 353.2 Rev. 2.0	Nitrite/Nitrate in aqueous matrices as mg N/L	2463310, 2463311, 2463313
EPA 365.1 Rev. 2.0	Total Phosphorus in aqueous matrices as mg P/L	2463310, 2463311, 2463313
SM 2320 B-2011	Alkalinity in aqueous matrices as mg CaCO3/L	2463308, 2463309, 2463312
SM 2340 B-2011	Hardness by calculation, in aqueous matrices, reported as mg/L CaCO3	2463328, 2463329, 2463330, 2463331, 2463332, 2463333
SM 2540 C-2015	Total Dissolved Solids in aqueous matrices	2463308, 2463309, 2463312
SM 2540 D-2015	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2463308, 2463309, 2463312
SM 4500-F- C-2011	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2463308, 2463309, 2463312
SM 5310 B-2014	Nonpurgeable Organic Carbon in aqueous matrices	2463310, 2463311, 2463313

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	01/25/2024			01/25/2024 13:57	Chandler E Cox	2463308
	01/25/2024			01/25/2024 13:58	Chandler E Cox	2463309, 2463312
EPA 180.1 Rev. 2.0	01/25/2024			01/25/2024 13:21	Anna M. Plaviak	2463308, 2463309
	01/25/2024			01/25/2024 13:22	Anna M. Plaviak	2463312
EPA 200.7 Rev. 4.4	01/25/2024	01/26/2024 11:25	George D Taylor	02/12/2024 18:27	Chase Roberts	2463328
	01/25/2024	01/26/2024 11:25	George D Taylor	02/12/2024 18:31	Chase Roberts	2463329
	01/25/2024	01/26/2024 11:25	George D Taylor	02/12/2024 19:01	Chase Roberts	2463330
	01/25/2024	01/26/2024 11:25	George D Taylor	02/12/2024 19:28	Chase Roberts	2463331
	01/25/2024	01/26/2024 11:25	George D Taylor	02/12/2024 19:35	Chase Roberts	2463332
EPA 200.8 Rev. 5.4	01/25/2024	01/26/2024 11:25	George D Taylor	02/12/2024 19:42	Chase Roberts	2463333
	01/25/2024	01/26/2024 11:25	George D Taylor	01/29/2024 17:24	Conrad Hartmann	2463330
	01/25/2024	01/26/2024 11:25	George D Taylor	01/29/2024 18:30	Conrad Hartmann	2463328
	01/25/2024	01/26/2024 11:25	George D Taylor	01/29/2024 18:40	Conrad Hartmann	2463329
	01/25/2024	01/26/2024 11:25	George D Taylor	01/29/2024 18:49	Conrad Hartmann	2463331
	01/25/2024	01/26/2024 11:25	George D Taylor	01/29/2024 18:59	Conrad Hartmann	2463332
EPA 300.0 Rev. 2.1	01/25/2024	01/26/2024 11:25	George D Taylor	01/29/2024 19:08	Conrad Hartmann	2463333
	01/25/2024			01/31/2024 15:19	James L Waggeberby	2463312
	01/25/2024			01/31/2024 17:04	James L Waggeberby	2463308
	01/25/2024			01/31/2024 17:19	James L Waggeberby	2463309
EPA 350.1 Rev. 2.0	01/25/2024			02/01/2024 12:27	Khloe J Berg	2463310
	01/25/2024			02/01/2024 12:29	Khloe J Berg	2463311
	01/25/2024			02/01/2024 12:30	Khloe J Berg	2463313
EPA 351.2 Rev. 2.0	01/25/2024	02/05/2024 15:18	Simonne.V. Calhoun	02/06/2024 13:11	Ping Hua	2463313
	01/25/2024	02/06/2024 11:55	Samantha L Bates	02/07/2024 13:50	Samantha L Bates	2463310
	01/25/2024	02/06/2024 11:55	Samantha L Bates	02/07/2024 13:54	Samantha L Bates	2463311
EPA 353.2 Rev. 2.0	01/25/2024			01/30/2024 11:48	Anna M. Plaviak	2463310
	01/25/2024			01/30/2024 11:49	Anna M. Plaviak	2463311
	01/25/2024			01/30/2024 11:50	Anna M. Plaviak	2463313
EPA 365.1 Rev. 2.0	01/25/2024	01/30/2024 14:24	Adam P Silver	01/31/2024 11:10	Elise M. Gillis	2463313
	01/25/2024	01/30/2024 14:24	Adam P Silver	01/31/2024 12:57	Elise M. Gillis	2463310
	01/25/2024	01/30/2024 14:24	Adam P Silver	01/31/2024 12:58	Elise M. Gillis	2463311
SM 2320 B-2011	01/25/2024			02/01/2024 05:26	Dale L. Simmons	2463308
	01/25/2024			02/01/2024 05:32	Dale L. Simmons	2463309
SM 2340 B-2011	01/25/2024			02/01/2024 07:47	Dale L. Simmons	2463312
	01/25/2024			02/12/2024 18:27	Chase Roberts	2463328
	01/25/2024			02/12/2024 18:31	Chase Roberts	2463329
	01/25/2024			02/12/2024 19:01	Chase Roberts	2463330
	01/25/2024			02/12/2024 19:28	Chase Roberts	2463331
	01/25/2024			02/12/2024 19:35	Chase Roberts	2463332
	01/25/2024			02/12/2024 19:42	Chase Roberts	2463333

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
SM 2540 C-2015	01/25/2024			01/30/2024 15:39	Yijie Li	2463308, 2463309, 2463312
SM 2540 D-2015	01/25/2024			01/30/2024 15:39	Yijie Li	2463308, 2463309, 2463312
SM 4500-F- C-2011	01/25/2024			02/01/2024 05:26	Dale L. Simmons	2463308
	01/25/2024			02/01/2024 05:32	Dale L. Simmons	2463309
	01/25/2024			02/01/2024 07:47	Dale L. Simmons	2463312
SM 5310 B-2014	01/25/2024			01/30/2024 08:51	Khloe J Berg	2463313
	01/25/2024			02/01/2024 08:31	Khloe J Berg	2463310
	01/25/2024			02/01/2024 08:46	Khloe J Berg	2463311