Chemical Analysis Report

NE-DIST-2022-03-17-02

Florida Department of Environmental Protection
Central Laboratory
2600 Blair Stone Road
Tallahassee, FL 32399-2400
DOH Accreditation E31780

Event Description: **Nassau West 2022**
Request ID: **RQ-2022-02-21-23**
Customer: **NE-DIST**
Project ID: **SMP**

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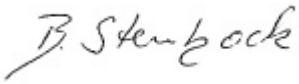
Certified by: Dr. rer. nat. Bettina Steinbock, Environmental Administrator Date Certified: 04-APR-2022 18:33



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: UNNAMED STREAM @ CR 121 **Collection Date/Time: 03/16/2022 11:00**

Field ID: 19010127 Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2313216	DEP SOP: NU-094-1	Color (true)**	290		PCU	P411441	
	EPA 180.1 Rev. 2.0	Turbidity	1.7		NTU	P411247	
	EPA 300.0 Rev. 2.1	Chloride	9.8		mg Cl/L	P411369	
		Sulfate	3.0		mg SO4/L	P411371	
	SM 2320 B-2011	Total Alkalinity	0.65	U	mg CaCO3/L	P411445	
	SM 2540 C-2011	TDS	97		mg/L	P411634	
	SM 2540 D-2011	TSS	2	U	mg/L	P411430	
	SM 4500 F-C-2011	Fluoride	0.035	U	mg F/L	P411454	
2313218	EPA 350.1 Rev. 2.0	Ammonia-N	0.017		mg N/L	P411552	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.0		mg N/L	P411466	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.006	I	mg N/L	P411336	
	EPA 365.1 Rev. 2.0	Total-P	0.024		mg P/L	P411460	
	SM 5310 B-2011	Organic Carbon	33		mg C/L	P411402	
2313227	EPA 200.7 Rev. 4.4	Calcium	4.05		mg/L	P411324	
		Iron	1.03E+03		ug/L	P411324	
		Magnesium	0.94		mg/L	P411324	
		Potassium	0.30	U	mg/L	P411324	
		Sodium	5.9		mg/L	P411324	
		Strontium	12.9		ug/L	P411324	
		Tin	3.0	U	ug/L	P411324	
		Titanium	2.1	I	ug/L	P411324	
		Vanadium	2.0	U	ug/L	P411324	
		Zinc	5.0	U	ug/L	P411324	
	EPA 200.8 Rev. 5.4	Aluminum	625		ug/L	P411324	
		Antimony	0.058	I	ug/L	P411324	
		Arsenic	0.46		ug/L	P411324	
		Barium	15.9		ug/L	P411324	
		Beryllium	0.053		ug/L	P411324	
		Boron**	18.8		ug/L	P411324	
		Cadmium	0.020	U	ug/L	P411324	
		Chromium	0.72	I	ug/L	P411324	
		Cobalt	0.227		ug/L	P411324	
		Copper	0.45	I	ug/L	P411324	
		Lead	0.49		ug/L	P411324	
		Manganese	13.9		ug/L	P411324	
		Molybdenum	0.15	U	ug/L	P411324	
		Nickel	0.77	I	ug/L	P411324	
		Selenium	0.20	U	ug/L	P411324	
		Silver	0.010	U	ug/L	P411324	
		Thallium	0.10	U	ug/L	P411324	
	SM 2340B	Hardness	14.0		mg/L	P411324	

Field ID: 19010127 Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes

Ref. Method and Comment:
SM 2540 D-2011: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.
EPA 365.1 Rev. 2.0: Total-P: Batch matrix spike recoveries are unavailable because of high analyte concentration in the QC sample.
EPA 200.8 Rev. 5.4: Batch matrix spike recoveries for manganese are unavailable for one of two spiked samples because of high analyte concentration in the QC sample.

Sample Location: FB03162022 **Collection Date/Time: 03/16/2022 11:05**

Field ID: FB03162022 Matrix: W-FIELD-BK

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2313221	EPA 180.1 Rev. 2.0	Turbidity	0.10	U	NTU	P411247	
	EPA 300.0 Rev. 2.1	Chloride	0.20	U	mg Cl/L	P411369	
		Sulfate	0.20	U	mg SO4/L	P411371	
	SM 2320 B-2011	Total Alkalinity	0.65	U	mg CaCO3/L	P411602	
	SM 2540 C-2011	TDS	15	U	mg/L	P411634	
	SM 2540 D-2011	TSS	2	U	mg/L	P411430	
	SM 4500 F-C-2011	Fluoride	0.035	U	mg F/L	P411605	
2313222	EPA 350.1 Rev. 2.0	Ammonia-N	0.002	U	mg N/L	P411553	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.080	U	mg N/L	P411466	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P411337	
	EPA 365.1 Rev. 2.0	Total-P	0.002	U	mg P/L	P411460	
	SM 5310 B-2011	Organic Carbon	0.50	U	mg C/L	P411402	
2313229	EPA 200.7 Rev. 4.4	Calcium	0.075	U	mg/L	P411324	
		Iron	30	U	ug/L	P411324	
		Magnesium	0.040	U	mg/L	P411324	
		Potassium	0.30	U	mg/L	P411324	
		Sodium	0.50	U	mg/L	P411324	
		Strontium	2.0	U	ug/L	P411324	
		Tin	3.0	U	ug/L	P411324	
		Titanium	0.75	U	ug/L	P411324	
		Vanadium	2.0	U	ug/L	P411324	
		Zinc	5.0	U	ug/L	P411324	
	EPA 200.8 Rev. 5.4	Aluminum	5.0	U	ug/L	P411324	
		Antimony	0.050	U	ug/L	P411324	
		Arsenic	0.050	U	ug/L	P411324	
		Barium	0.20	U	ug/L	P411324	
		Beryllium	0.010	U	ug/L	P411324	
		Boron**	2.0	U	ug/L	P411324	
		Cadmium	0.020	U	ug/L	P411324	
		Chromium	0.40	U	ug/L	P411324	
		Cobalt	0.020	U	ug/L	P411324	
		Copper	0.40	U	ug/L	P411324	
		Lead	0.20	U	ug/L	P411324	
		Manganese	0.10	U	ug/L	P411324	
		Molybdenum	0.15	U	ug/L	P411324	
		Nickel	0.50	U	ug/L	P411324	
		Selenium	0.20	U	ug/L	P411324	
		Silver	0.010	U	ug/L	P411324	
		Thallium	0.10	U	ug/L	P411324	
	SM 2340B	Hardness	0.35	U	mg/L	P411324	

Ref. Method and Comment:
SM 2540 D-2011: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.
EPA 365.1 Rev. 2.0: Total-P: Batch matrix spike recoveries are unavailable because of high analyte concentration in the QC sample.
EPA 200.8 Rev. 5.4: Batch matrix spike recoveries for manganese are unavailable for one of two spiked samples because of high analyte concentration in the QC sample.

Sample Location: Tributary to Deep Creek @ Kinard Rd. **Collection Date/Time: 03/16/2022 11:35**

Field ID: 19010083 Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2313217	DEP SOP: NU-094-1	Color (true)**	340		PCU	P411441	
	EPA 180.1 Rev. 2.0	Turbidity	4.0		NTU	P411247	
	EPA 300.0 Rev. 2.1	Chloride	8.8		mg Cl/L	P411369	
		Sulfate	1.9		mg SO4/L	P411371	
	SM 2320 B-2011	Total Alkalinity	0.65	U	mg CaCO3/L	P411602	
	SM 2540 C-2011	TDS	100		mg/L	P411634	
	SM 2540 D-2011	TSS	5	I	mg/L	P411430	
	SM 4500 F-C-2011	Fluoride	0.035	U	mg F/L	P411605	
2313219	EPA 350.1 Rev. 2.0	Ammonia-N	0.006		mg N/L	P411552	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.96		mg N/L	P411468	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.005	I	mg N/L	P411337	
	EPA 365.1 Rev. 2.0	Total-P	0.023		mg P/L	P411460	
	SM 5310 B-2011	Organic Carbon	36		mg C/L	P411474	
2313228	EPA 200.7 Rev. 4.4	Calcium	3.22		mg/L	P411324	
		Iron	1.58E+03		ug/L	P411324	
		Magnesium	0.78		mg/L	P411324	
		Potassium	0.30	U	mg/L	P411324	
		Sodium	5.6		mg/L	P411324	
		Strontium	11.5		ug/L	P411324	
		Tin	3.0	U	ug/L	P411324	
		Titanium	2.6	I	ug/L	P411324	
		Vanadium	2.2	I	ug/L	P411324	
		Zinc	5.5	I	ug/L	P411324	
	EPA 200.8 Rev. 5.4	Aluminum	867		ug/L	P411324	
		Antimony	0.066	I	ug/L	P411324	
		Arsenic	0.56		ug/L	P411324	
		Barium	14.9		ug/L	P411324	
		Beryllium	0.081		ug/L	P411324	
		Boron**	13.8		ug/L	P411324	
		Cadmium	0.020	U	ug/L	P411324	
		Chromium	0.90	I	ug/L	P411324	
		Cobalt	0.313		ug/L	P411324	
		Copper	0.52	I	ug/L	P411324	
		Lead	1.23		ug/L	P411324	
		Manganese	10.3		ug/L	P411324	
		Molybdenum	0.15	U	ug/L	P411324	
		Nickel	0.81	I	ug/L	P411324	
		Selenium	0.20	U	ug/L	P411324	
		Silver	0.010	U	ug/L	P411324	
		Thallium	0.10	U	ug/L	P411324	
	SM 2340B	Hardness	11.2		mg/L	P411324	

Field ID: 19010083 Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes

Ref. Method and Comment:
SM 2540 D-2011: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.
EPA 365.1 Rev. 2.0: Total-P: Batch matrix spike recoveries are unavailable because of high analyte concentration in the QC sample.
EPA 200.8 Rev. 5.4: Batch matrix spike recoveries for manganese 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 03/22/2022.

Quality Assurance Report
Method Blank Results

Reference Method: DEP SOP: NU-094-1
Batch ID: P411441

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P411247

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P411324

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: P411324

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: P411369

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: P411371

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P411552

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P411553

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P411466

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P411468

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P411336

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P411337

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P411460

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

Reference Method: SM 2320 B-2011
Batch ID: P411445

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

Quality Assurance Report
Method Blank Results

Reference Method: SM 2320 B-2011
Batch ID: P411602

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

Reference Method: SM 2540 C-2011
Batch ID: P411634

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-2011
Batch ID: P411430

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500 F-C-2011
Batch ID: P411454

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 4500 F-C-2011
Batch ID: P411605

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-2011
Batch ID: P411402

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

Reference Method: SM 5310 B-2011
Batch ID: P411474

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: P411441

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

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P411247

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

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P411324

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Calcium	103		P	85 - 115
Iron	106		P	85 - 115
Magnesium	107		P	85 - 115
Potassium	105		P	85 - 115
Sodium	107		P	85 - 115
Strontium	100		P	85 - 115
Tin	100		P	85 - 115
Titanium	99.9		P	85 - 115
Vanadium	93.7		P	85 - 115
Zinc	101		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P411324

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Aluminum	99.6		P	85 - 115
Antimony	101		P	85 - 115
Arsenic	101		P	85 - 115
Barium	106		P	85 - 115
Beryllium	92.3		P	85 - 115
Boron	104		P	85 - 115
Cadmium	101		P	85 - 115
Chromium	95.9		P	85 - 115
Cobalt	98.2		P	85 - 115
Copper	95.1		P	85 - 115
Lead	98.3		P	85 - 115
Manganese	95.8		P	85 - 115
Molybdenum	99.6		P	85 - 115
Nickel	95.7		P	85 - 115
Selenium	99.8		P	85 - 115
Silver	100		P	85 - 115
Thallium	99.5		P	85 - 115

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P411369

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

Quality Assurance Report
Laboratory Control Sample Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P411371

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P411552

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Ammonia-N	96.0		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P411553

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Ammonia-N	95.8		P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P411466

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P411468

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: P411336

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P411337

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
NO2NO3-N	99.0		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P411460

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

Reference Method: SM 2320 B-2011
Batch ID: P411445

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	97.4		P	94 - 106

Quality Assurance Report
Laboratory Control Sample Accuracy

Reference Method: SM 2320 B-2011
Batch ID: P411602

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	98.4		P	94 - 106

Reference Method: SM 4500 F-C-2011
Batch ID: P411454

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	101		P	93 - 104

Reference Method: SM 4500 F-C-2011
Batch ID: P411605

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	97.2		P	93 - 104

Reference Method: SM 5310 B-2011
Batch ID: P411402

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	93.9		P	85 - 115

Reference Method: SM 5310 B-2011
Batch ID: P411474

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

Quality Assurance Report
Matrix Spike Accuracy

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P411324

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2313175	Calcium	99.7		P	80 - 120
2313175	Iron	106	104	P/P	80 - 120
2313175	Magnesium	106	106	P/P	80 - 120
2313175	Potassium	103	102	P/P	80 - 120
2313175	Sodium	102	97.7	P/P	80 - 120
2313175	Strontium	102	99.4	P/P	80 - 120
2313175	Tin	103	103	P/P	80 - 120
2313175	Titanium	102	98.7	P/P	80 - 120
2313175	Vanadium	98.0	95.0	P/P	80 - 120
2313175	Zinc	104	101	P/P	80 - 120
2313176	Calcium	98.3		P	80 - 120
2313176	Iron	102		P	80 - 120
2313176	Magnesium	103		P	80 - 120
2313176	Potassium	101		P	80 - 120
2313176	Sodium	99.6		P	80 - 120
2313176	Strontium	98.3		P	80 - 120
2313176	Tin	99.4		P	80 - 120
2313176	Titanium	97.8		P	80 - 120
2313176	Vanadium	93.4		P	80 - 120
2313176	Zinc	98.3		P	80 - 120

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P411324

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2313175	Aluminum	115	119	P/P	80 - 120
2313175	Antimony	98.7	101	P/P	80 - 120
2313175	Arsenic	99.0	100	P/P	80 - 120
2313175	Barium	106	108	P/P	80 - 120
2313175	Beryllium	95.3	92.1	P/P	80 - 120
2313175	Boron	106	106	P/P	80 - 120
2313175	Cadmium	99.3	103	P/P	80 - 120
2313175	Chromium	96.3	100	P/P	80 - 120
2313175	Cobalt	96.1	98.4	P/P	80 - 120
2313175	Copper	95.1	97.2	P/P	80 - 120
2313175	Lead	98.4	100	P/P	80 - 120
2313175	Molybdenum	98.1	99.4	P/P	80 - 120
2313175	Nickel	95.1	97.1	P/P	80 - 120
2313175	Selenium	97.2	97.6	P/P	80 - 120
2313175	Silver	99.2	102	P/P	80 - 120
2313175	Thallium	101	105	P/P	80 - 120
2313176	Aluminum	110		P	80 - 120
2313176	Antimony	101		P	80 - 120
2313176	Arsenic	98.5		P	80 - 120
2313176	Barium	107		P	80 - 120
2313176	Beryllium	94.2		P	80 - 120
2313176	Boron	106		P	80 - 120
2313176	Cadmium	102		P	80 - 120
2313176	Chromium	98.2		P	80 - 120
2313176	Cobalt	95.4		P	80 - 120
2313176	Copper	93.9		P	80 - 120
2313176	Lead	98.6		P	80 - 120

Quality Assurance Report
Matrix Spike Accuracy

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P411324

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2313176	Manganese	96.3		P	80 - 120
2313176	Molybdenum	99.6		P	80 - 120
2313176	Nickel	93.3		P	80 - 120
2313176	Selenium	98.9		P	80 - 120
2313176	Silver	101		P	80 - 120
2313176	Thallium	102		P	80 - 120

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P411369

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2313153	Chloride	100		P	90 - 110
2313263	Chloride	99.5		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P411371

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2313153	Sulfate	99.8		P	90 - 110
2313263	Sulfate	99.6		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P411552

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2313159	Ammonia-N	98.0	98.4	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P411553

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2313374	Ammonia-N	97.2	105	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P411466

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2313040	Kjeldahl Nitrogen	109	105	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P411468

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2313001	Kjeldahl Nitrogen	100	91.0	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P411336

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2313158	NO2NO3-N	94.8	95.3	P/P	90 - 110

Quality Assurance Report
Matrix Spike Accuracy

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P411337

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2313241	NO2NO3-N	97.5	98.0	P/P	90 - 110

Reference Method: SM 4500 F-C-2011
Batch ID: P411454

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2313039	Fluoride	99.3	99.3	P/P	92 - 107

Reference Method: SM 4500 F-C-2011
Batch ID: P411605

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2313867	Fluoride	96.0	94.1	P/P	92 - 107

Reference Method: SM 5310 B-2011
Batch ID: P411402

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2312784	Organic Carbon	95.4	94.3	P/P	85 - 115

Reference Method: SM 5310 B-2011
Batch ID: P411474

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2313160	Organic Carbon	95.3	98.3	P/P	85 - 115

Quality Assurance Report
Precision

Reference Method: DEP SOP: NU-094-1
Batch ID: P411441

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2313155	Color (true)	2.28	Sample	P	0 - 20

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P411247

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2313155	Turbidity	6.35	Sample	P	0 - 20

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P411324

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2313175	Calcium	1.72	Spike	P	0 - 20
2313175	Iron	1.42	Spike	P	0 - 20
2313175	Magnesium	0.550	Spike	P	0 - 20
2313175	Potassium	0.994	Spike	P	0 - 20
2313175	Sodium	2.40	Spike	P	0 - 20
2313175	Strontium	2.71	Spike	P	0 - 20
2313175	Tin	0.371	Spike	P	0 - 20
2313175	Titanium	2.82	Spike	P	0 - 20
2313175	Vanadium	3.15	Spike	P	0 - 20
2313175	Zinc	2.70	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P411324

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2313175	Aluminum	3.34	Spike	P	0 - 20
2313175	Antimony	2.00	Spike	P	0 - 20
2313175	Arsenic	1.37	Spike	P	0 - 20
2313175	Barium	2.01	Spike	P	0 - 20
2313175	Beryllium	3.14	Spike	P	0 - 20
2313175	Boron	0.359	Spike	P	0 - 20
2313175	Cadmium	3.69	Spike	P	0 - 20
2313175	Chromium	3.65	Spike	P	0 - 20
2313175	Cobalt	2.34	Spike	P	0 - 20
2313175	Copper	2.18	Spike	P	0 - 20
2313175	Lead	1.75	Spike	P	0 - 20
2313175	Manganese	2.67	Spike	P	0 - 20
2313175	Molybdenum	1.30	Spike	P	0 - 20
2313175	Nickel	2.09	Spike	P	0 - 20
2313175	Selenium	0.336	Spike	P	0 - 20
2313175	Silver	2.36	Spike	P	0 - 20
2313175	Thallium	3.20	Spike	P	0 - 20

Quality Assurance Report
Precision

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P411369

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2313153	Chloride	0.134	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P411371

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2313153	Sulfate	0.689	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P411552

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2313159	Ammonia-N	0.311	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P411553

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2313374	Ammonia-N	6.37	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P411466

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2313040	Kjeldahl Nitrogen	2.44	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P411468

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2313001	Kjeldahl Nitrogen	5.37	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P411336

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2313158	NO2NO3-N	0.368	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P411337

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2313241	NO2NO3-N	0.512	Spike	P	0 - 20

Quality Assurance Report
Precision

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P411460

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2313202	Total-P	0.925	Spike	P	0 - 20

Reference Method: SM 2320 B-2011
Batch ID: P411445

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2313039	Total Alkalinity	1.78	Sample	P	0 - 5.2

Reference Method: SM 2320 B-2011
Batch ID: P411602

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2313867	Total Alkalinity	0.862	Sample	P	0 - 5.2

Reference Method: SM 2540 C-2011
Batch ID: P411634

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2313115	TDS	0.563	Sample	P	0 - 10

Reference Method: SM 4500 F-C-2011
Batch ID: P411454

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2313039	Fluoride	0.0	Spike	P	0 - 2.1

Reference Method: SM 4500 F-C-2011
Batch ID: P411605

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2313867	Fluoride	0.973	Spike	P	0 - 2.1

Reference Method: SM 5310 B-2011
Batch ID: P411402

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2312784	Organic Carbon	0.938	Spike	P	0 - 20

Reference Method: SM 5310 B-2011
Batch ID: P411474

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2313160	Organic Carbon	2.51	Spike	P	0 - 20

Quality Assurance Report
Precision

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

Quality Assurance Report
Calibration Verification

Reference Method: EPA 180.1 Rev. 2.0
Run ID: A111005
Included Lab Sample IDs: 2313216, 2313217, 2313221

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

Reference Method: EPA 353.2 Rev. 2.0
Run ID: A111053
Included Lab Sample IDs: 2313218, 2313219, 2313222

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	99.0	98.5	P/P	90 - 110
NO2NO3-N	99.0	99.0	P/P	90 - 110

Reference Method: EPA 200.8 Rev. 5.4
Run ID: A111067
Included Lab Sample IDs: 2313227, 2313228, 2313229

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Aluminum	98.1	98.0	P/P	90 - 110
Antimony	95.8	96.1	P/P	90 - 110
Antimony	96.1	97.3	P/P	90 - 110
Arsenic	99.1	97.5	P/P	90 - 110
Arsenic	99.4	99.1	P/P	90 - 110
Beryllium	93.5	94.4	P/P	90 - 110
Beryllium	94.4	93.9	P/P	90 - 110
Boron	102	104	P/P	90 - 110
Boron	97.3	102	P/P	90 - 110
Cadmium	97.9	99.5	P/P	90 - 110
Cadmium	99.5	99.8	P/P	90 - 110
Chromium	95.8	96.2	P/P	90 - 110
Chromium	96.2	97.0	P/P	90 - 110
Cobalt	95.8	93.9	P/P	90 - 110
Cobalt	97.6	95.8	P/P	90 - 110
Copper	95.5	93.3	P/P	90 - 110
Copper	95.7	95.5	P/P	90 - 110
Lead	97.1	97.5	P/P	90 - 110
Lead	97.4	97.1	P/P	90 - 110
Manganese	94.6	95.6	P/P	90 - 110
Manganese	95.6	95.8	P/P	90 - 110
Molybdenum	97.8	98.3	P/P	90 - 110
Molybdenum	98.3	98.2	P/P	90 - 110
Nickel	94.8	92.3	P/P	90 - 110
Nickel	96.5	94.8	P/P	90 - 110
Selenium	97.6	98.5	P/P	90 - 110
Selenium	98.5	98.5	P/P	90 - 110
Silver	98.4	98.5	P/P	90 - 110
Silver	98.5	98.2	P/P	90 - 110
Thallium	100	100	P/P	90 - 110
Thallium	99.4	100	P/P	90 - 110

Quality Assurance Report
Calibration Verification

Reference Method: EPA 300.0 Rev. 2.1
Run ID: A111070
Included Lab Sample IDs: 2313216, 2313217, 2313221

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

Reference Method: SM 5310 B-2011
Run ID: A111082
Included Lab Sample IDs: 2313218, 2313222

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	97.4	97.9	P/P	90 - 110

Reference Method: EPA 200.8 Rev. 5.4
Run ID: A111091
Included Lab Sample IDs: 2313227, 2313228, 2313229

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Aluminum	102	99.1	P/P	90 - 110
Barium	102	102	P/P	90 - 110
Barium	102	103	P/P	90 - 110

Reference Method: DEP SOP: NU-094-1
Run ID: A111097
Included Lab Sample IDs: 2313216, 2313217

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	99.7	101	P/P	85 - 115

Reference Method: SM 2320 B-2011
Run ID: A111098
Included Lab Sample IDs: 2313216

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	96.1	97.7	P/P	90 - 110

Reference Method: SM 4500 F-C-2011
Run ID: A111098
Included Lab Sample IDs: 2313216

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

Reference Method: SM 5310 B-2011
Run ID: A111102
Included Lab Sample IDs: 2313219

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	95.2	95.0	P/P	90 - 110

Quality Assurance Report
Calibration Verification

Reference Method: EPA 200.7 Rev. 4.4
Run ID: A111123
Included Lab Sample IDs: 2313227, 2313228, 2313229

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Calcium	100	98.5	P/P	90 - 110
Calcium	102	99.7	P/P	95 - 105
Iron	101	99.8	P/P	90 - 110
Iron	102	99.8	P/P	95 - 105
Magnesium	101	99.6	P/P	90 - 110
Magnesium	102	100	P/P	95 - 105
Potassium	103	102	P/P	90 - 110
Potassium	103	102	P/P	95 - 105
Sodium	101	99.2	P/P	95 - 105
Sodium	99.9	99.5	P/P	90 - 110
Strontium	95.9	93.4	P/P	90 - 110
Strontium	96.8	95.3	P/P	95 - 105
Tin	98.3	97.0	P/P	95 - 105
Tin	98.4	94.5	P/P	90 - 110
Titanium	96.3	93.5	P/P	90 - 110
Titanium	96.9	95.6	P/P	95 - 105
Vanadium	96.6	93.7	P/P	90 - 110
Vanadium	97.1	96.1	P/P	95 - 105
Zinc	100	98.5	P/P	95 - 105
Zinc	101	96.5	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Run ID: A111133
Included Lab Sample IDs: 2313218, 2313219, 2313222

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	98.2	98.4	P/P	90 - 110
Ammonia-N	99.5	98.2	P/P	90 - 110

Reference Method: SM 2320 B-2011
Run ID: A111156
Included Lab Sample IDs: 2313217, 2313221

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	96.4	98.1	P/P	90 - 110
Total Alkalinity	98.1	97.3	P/P	90 - 110

Reference Method: SM 4500 F-C-2011
Run ID: A111156
Included Lab Sample IDs: 2313217, 2313221

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

Reference Method: EPA 365.1 Rev. 2.0
Run ID: A111163
Included Lab Sample IDs: 2313218, 2313219, 2313222

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

Quality Assurance Report
Calibration Verification

Reference Method: EPA 351.2 Rev. 2.0
Run ID: A111178
Included Lab Sample IDs: 2313218, 2313219, 2313222

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	102	99.3	P/P	90 - 110
Kjeldahl Nitrogen	105	104	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		
						LCS	SMP	MS
DEP SOP: NU-094-1	Color (true)	100					2.28	
EPA 180.1 Rev. 2.0	Turbidity	97.5					6.35	
EPA 200.7 Rev. 4.4	Calcium	103	99.7	98.3				1.72
	Iron	106	106	104	102			1.42
	Magnesium	107	106	106	103			0.550
	Potassium	105	103	102	101			0.994
	Sodium	107	102	97.7	99.6			2.40
	Strontium	100	102	99.4	98.3			2.71
	Tin	100	103	103	99.4			0.371
	Titanium	99.9	102	98.7	97.8			2.82
	Vanadium	93.7	98.0	95.0	93.4			3.15
	Zinc	101	104	101	98.3			2.70
EPA 200.8 Rev. 5.4	Aluminum	99.6	115	119	110			3.34
	Antimony	101	98.7	101	101			2.00
	Arsenic	101	99.0	100	98.5			1.37
	Barium	106	106	108	107			2.01
	Beryllium	92.3	95.3	92.1	94.2			3.14
	Boron	104	106	106	106			0.359
	Cadmium	101	99.3	103	102			3.69
	Chromium	95.9	96.3	100	98.2			3.65
	Cobalt	98.2	96.1	98.4	95.4			2.34
	Copper	95.1	95.1	97.2	93.9			2.18
	Lead	98.3	98.4	100	98.6			1.75
	Manganese	95.8	96.3					2.67
	Molybdenum	99.6	98.1	99.4	99.6			1.30
	Nickel	95.7	95.1	97.1	93.3			2.09
	Selenium	99.8	97.2	97.6	98.9			0.336
	Silver	100	99.2	102	101			2.36
	Thallium	99.5	101	105	102			3.20
EPA 300.0 Rev. 2.1	Chloride	100	100	99.5			0.134	
	Sulfate	101	99.8	99.6			0.689	
EPA 350.1 Rev. 2.0	Ammonia-N	96.0	98.0	98.4				0.311
	Ammonia-N	95.8	97.2	105				6.37
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	105	109	105				2.44
	Kjeldahl Nitrogen	105	100	91.0				5.37
EPA 353.2 Rev. 2.0	NO2NO3-N	98.5	94.8	95.3				0.368
	NO2NO3-N	99.0	97.5	98.0				0.512
EPA 365.1 Rev. 2.0	Total-P	104						0.925
SM 2320 B-2011	Total Alkalinity	97.4					1.78	
	Total Alkalinity	98.4					0.862	
SM 2540 C-2011	TDS						0.563	
SM 4500 F-C-2011	Fluoride	101	99.3	99.3				0.0
	Fluoride	97.2	96.0	94.1				0.973
SM 5310 B-2011	Organic Carbon	93.9	95.4	94.3				0.938
	Organic Carbon	96.0	95.3	98.3				2.51

Reference Method Descriptions

Method	Description	Associated Samples
DEP SOP: NU-094-1	True Color measured at 450 nm (not valid for NPDES monitoring)	2313216, 2313217
EPA 180.1 Rev. 2.0	Turbidity in aqueous matrices	2313216, 2313217, 2313221
EPA 200.7 Rev. 4.4	Total Recoverable Metals analysis using ICP emission spectroscopy for aqueous samples supporting Clean Water Act Projects	2313227, 2313228, 2313229

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	2313227, 2313228, 2313229
EPA 300.0 Rev. 2.1	Chloride in aqueous matrices	2313216, 2313217, 2313221
EPA 300.0 Rev. 2.1	Sulfate in aqueous matrices	2313216, 2313217, 2313221
EPA 350.1 Rev. 2.0	Ammonia in aqueous matrices as mg N/L	2313218, 2313219, 2313222
EPA 351.2 Rev. 2.0	Total Kjeldahl Nitrogen in aqueous matrices	2313218, 2313219, 2313222
EPA 353.2 Rev. 2.0	Nitrite/Nitrate in aqueous matrices as mg N/L	2313218, 2313219, 2313222
EPA 365.1 Rev. 2.0	Total Phosphorus in aqueous matrices as mg P/L	2313218, 2313219, 2313222
SM 2320 B-2011	Alkalinity in aqueous matrices as mg CaCO3/L	2313216, 2313217, 2313221
SM 2340B	Hardness by calculation, in aqueous matrices, reported as mg/L CaCO3	2313227, 2313228, 2313229
SM 2540 C-2011	Total Dissolved Solids in aqueous matrices	2313216, 2313217, 2313221
SM 2540 D-2011	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2313216, 2313217, 2313221
SM 4500 F-C-2011	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2313216, 2313217, 2313221
SM 5310 B-2011	Nonpurgeable Organic Carbon in aqueous matrices	2313218, 2313219, 2313222

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	03/17/2022			03/17/2022 17:00	Anna M. Plaviak	2313216
	03/17/2022			03/17/2022 17:01	Anna M. Plaviak	2313217
EPA 180.1 Rev. 2.0	03/17/2022			03/17/2022 15:59	Khloe J Berg	2313216
	03/17/2022			03/17/2022 16:01	Khloe J Berg	2313217
	03/17/2022			03/17/2022 16:02	Khloe J Berg	2313221
EPA 200.7 Rev. 4.4	03/17/2022	03/21/2022 10:26	Megan Whitefoot	03/23/2022 17:19	Josef B Mick	2313229
	03/17/2022	03/21/2022 10:26	Megan Whitefoot	03/23/2022 20:33	Josef B Mick	2313227
	03/17/2022	03/21/2022 10:26	Megan Whitefoot	03/23/2022 20:41	Josef B Mick	2313228
EPA 200.8 Rev. 5.4	03/17/2022	03/21/2022 10:26	Megan Whitefoot	03/22/2022 01:20	Emily M Philpot	2313229
	03/17/2022	03/21/2022 10:26	Megan Whitefoot	03/22/2022 03:45	Emily M Philpot	2313227
	03/17/2022	03/21/2022 10:26	Megan Whitefoot	03/22/2022 03:55	Emily M Philpot	2313228
	03/17/2022	03/21/2022 10:26	Megan Whitefoot	03/22/2022 13:20	Alexander Thompson	2313229
	03/17/2022	03/21/2022 10:26	Megan Whitefoot	03/22/2022 13:51	Alexander Thompson	2313227
	03/17/2022	03/21/2022 10:26	Megan Whitefoot	03/22/2022 14:35	Alexander Thompson	2313228
EPA 300.0 Rev. 2.1	03/17/2022			03/22/2022 02:18	James L Waggerby	2313216
	03/17/2022			03/22/2022 02:30	James L Waggerby	2313217
	03/17/2022			03/22/2022 02:42	James L Waggerby	2313221
EPA 350.1 Rev. 2.0	03/17/2022			03/24/2022 12:45	Judith K. Clark	2313219
	03/17/2022			03/24/2022 12:49	Judith K. Clark	2313218
	03/17/2022			03/24/2022 13:13	Judith K. Clark	2313222
EPA 351.2 Rev. 2.0	03/17/2022	03/24/2022 16:16	Samantha L Bates	03/25/2022 16:48	Alexandra J Mattheus	2313218
	03/17/2022	03/24/2022 16:16	Samantha L Bates	03/25/2022 16:50	Alexandra J Mattheus	2313222
	03/17/2022	03/24/2022 16:17	Samantha L Bates	03/25/2022 17:50	Alexandra J Mattheus	2313219
EPA 353.2 Rev. 2.0	03/17/2022			03/21/2022 10:02	Beverly Y. Sanders	2313218
	03/17/2022			03/21/2022 10:15	Beverly Y. Sanders	2313219
	03/17/2022			03/21/2022 10:16	Beverly Y. Sanders	2313222
EPA 365.1 Rev. 2.0	03/17/2022	03/23/2022 17:20	Simonne.V. Calhoun	03/25/2022 14:53	James L Waggerby	2313222
	03/17/2022	03/23/2022 17:20	Simonne.V. Calhoun	03/25/2022 14:57	James L Waggerby	2313218
	03/17/2022	03/23/2022 17:20	Simonne.V. Calhoun	03/25/2022 14:58	James L Waggerby	2313219
SM 2320 B-2011	03/17/2022			03/22/2022 21:03	Dale L. Simmons	2313216
	03/17/2022			03/24/2022 22:21	Dale L. Simmons	2313217
	03/17/2022			03/24/2022 23:12	Dale L. Simmons	2313221
SM 2340B	03/17/2022			03/23/2022 17:19	Josef B Mick	2313229
	03/17/2022			03/23/2022 20:33	Josef B Mick	2313227
	03/17/2022			03/23/2022 20:41	Josef B Mick	2313228
SM 2540 C-2011	03/17/2022			03/18/2022 16:00	Simonne.V. Calhoun	2313216, 2313217, 2313221
SM 2540 D-2011	03/17/2022			03/18/2022 16:00	Simonne.V. Calhoun	2313216, 2313217, 2313221
SM 4500 F-C-2011	03/17/2022			03/22/2022 21:03	Dale L. Simmons	2313216
	03/17/2022			03/24/2022 22:21	Dale L. Simmons	2313217
	03/17/2022			03/24/2022 23:12	Dale L. Simmons	2313221

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
SM 5310 B-2011	03/17/2022			03/22/2022 02:32	Touraj Touran	2313218
	03/17/2022			03/22/2022 02:45	Touraj Touran	2313222
	03/17/2022			03/22/2022 19:52	Khloe J Berg	2313219