Chemical Analysis Report

NE-DIST-2022-09-14-01

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

Event Description: **Nassau West 2022**
Request ID: **RQ-2022-09-05-36**
Customer: **NE-DIST**
Project ID: **SMP**

Send Reports to:
FL Dept. of Environmental Protection
8800 Baymeadows Way West
Suite 100
Jacksonville, FL 32256
Attn: Jeremy Parrish

For additional information please contact
Colin Wright, Ph.D.
Liang-Tsair Lin, Ph.D.
Kerry Tate, Ph.D.
Dr. rer. nat. Bettina Steinbock
Thekkekalathil Chandrasekhar, Ph.D, QA Officer
Phone (850) 245-8085

Certified by: Thekkekalathil Chandrasekhar, Environmental Consultant Date Certified: 03-OCT-2022 13:40

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: 09/13/2022 09:45**

Field ID: 19010127 Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2356383	DEP SOP: NU-094-1	Color (true)	590		PCU	P419568	
	EPA 180.1 Rev. 2.0	Turbidity	1.0		NTU	P419571	
	EPA 300.0 Rev. 2.1	Chloride	6.4		mg Cl/L	P420087	
		Sulfate	0.73		mg SO4/L	P420092	
	SM 2320 B-2011	Total Alkalinity	0.65	U	mg CaCO3/L	P419885	
	SM 2540 C-2011	TDS	112		mg/L	P419890	
	SM 2540 D-2011	TSS	3	I	mg/L	P419846	
	SM 4500-F- C-2011	Fluoride	0.035	U	mg F/L	P419887	
2356386	EPA 350.1 Rev. 2.0	Ammonia-N	0.018		mg N/L	P419732	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.5		mg N/L	P419804	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P420053	
	EPA 365.1 Rev. 2.0	Total-P	0.030		mg P/L	P419690	
	SM 5310 B-2011	Organic Carbon	51		mg C/L	P419757	
2356401	EPA 200.7 Rev. 4.4	Calcium	4.54		mg/L	P419672	
		Iron	2.78E+03		ug/L	P419672	
		Magnesium	0.84		mg/L	P419672	
		Potassium	0.30	U	mg/L	P419672	
		Sodium	4.2		mg/L	P419672	
		Strontium	15.7		ug/L	P419672	
		Tin	3.0	U	ug/L	P419672	
		Titanium	2.5	I	ug/L	P419672	
		Vanadium	2.0	U	ug/L	P419672	
		Zinc	7.3	I	ug/L	P419672	
	EPA 200.8 Rev. 5.4	Aluminum	839		ug/L	P419672	
		Antimony	0.059	I	ug/L	P419672	
		Arsenic	0.97		ug/L	P419672	
		Barium	20.7		ug/L	P419672	
		Beryllium	0.060		ug/L	P419672	
		Boron	17.7		ug/L	P419672	
		Cadmium	0.022	I	ug/L	P419672	
		Chromium	1.0	I	ug/L	P419672	
		Cobalt	0.322		ug/L	P419672	
		Copper	0.40	U	ug/L	P419672	
		Lead	0.75		ug/L	P419672	
		Manganese	16.0		ug/L	P419672	
		Molybdenum	0.15	U	ug/L	P419672	
		Nickel	1.3	I	ug/L	P419672	
		Selenium	0.20	U	ug/L	P419672	
		Silver	0.010	U	ug/L	P419672	
		Thallium	0.10	U	ug/L	P419672	
	SM 2340 B-2011	Hardness	14.8		mg/L	P419672	

Ref. Method and Comment:
SM 2540 D-2011: 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 09/20/2022.

Sample Location: DEEP CR @ HAMP HICKS RD **Collection Date/Time: 09/13/2022 10:10**

Field ID: 19010084 Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2356384	DEP SOP: NU-094-1	Color (true)	580		PCU	P419568	
	EPA 180.1 Rev. 2.0	Turbidity	1.4		NTU	P419571	
	EPA 300.0 Rev. 2.1	Chloride	5.8		mg Cl/L	P420087	
		Sulfate	0.42	I	mg SO4/L	P420092	
	SM 2320 B-2011	Total Alkalinity	0.65	U	mg CaCO3/L	P419885	
	SM 2540 C-2011	TDS	127		mg/L	P419890	
	SM 2540 D-2011	TSS	2	I	mg/L	P419846	
	SM 4500-F- C-2011	Fluoride	0.035	U	mg F/L	P419887	
2356387	EPA 350.1 Rev. 2.0	Ammonia-N	0.008		mg N/L	P419732	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.3		mg N/L	P419804	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P420053	
	EPA 365.1 Rev. 2.0	Total-P	0.018		mg P/L	P419691	
	SM 5310 B-2011	Organic Carbon	55		mg C/L	P419757	
2356402	EPA 200.7 Rev. 4.4	Calcium	1.21		mg/L	P419672	
		Iron	2.74E+03		ug/L	P419672	
		Magnesium	0.61		mg/L	P419672	
		Potassium	0.30	U	mg/L	P419672	
		Sodium	3.4		mg/L	P419672	
		Strontium	15.5		ug/L	P419672	
		Tin	3.0	U	ug/L	P419672	
		Titanium	2.6	I	ug/L	P419672	
		Vanadium	2.0	U	ug/L	P419672	
		Zinc	5.0	U	ug/L	P419672	
	EPA 200.8 Rev. 5.4	Aluminum	896		ug/L	P419672	
		Antimony	0.050	U	ug/L	P419672	
		Arsenic	0.56		ug/L	P419672	
		Barium	16.9		ug/L	P419672	
		Beryllium	0.074		ug/L	P419672	
		Boron	15.2		ug/L	P419672	
		Cadmium	0.025	I	ug/L	P419672	
		Chromium	0.76	I	ug/L	P419672	
		Cobalt	0.419		ug/L	P419672	
		Copper	0.41	I	ug/L	P419672	
		Lead	1.09		ug/L	P419672	
		Manganese	11.1		ug/L	P419672	
		Molybdenum	0.15	U	ug/L	P419672	
		Nickel	1.2	I	ug/L	P419672	
		Selenium	0.20	U	ug/L	P419672	
		Silver	0.010	U	ug/L	P419672	
		Thallium	0.10	U	ug/L	P419672	
	SM 2340 B-2011	Hardness	5.6		mg/L	P419672	

Ref. Method and Comment:
SM 2540 D-2011: 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 09/20/2022.

Sample Location: Tributary to Deep Creek @ Kinard Rd. **Collection Date/Time: 09/13/2022 10:40**

Field ID: 19010083 Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2356385	DEP SOP: NU-094-1	Color (true)	510		PCU	P419568	
	EPA 180.1 Rev. 2.0	Turbidity	2.8		NTU	P419571	
	EPA 300.0 Rev. 2.1	Chloride	6.7		mg Cl/L	P420087	
		Sulfate	0.75		mg SO4/L	P420092	
	SM 2320 B-2011	Total Alkalinity	0.65	U	mg CaCO3/L	P420160	
	SM 2540 C-2011	TDS	125		mg/L	P419890	
	SM 2540 D-2011	TSS	3	I	mg/L	P419846	
	SM 4500-F- C-2011	Fluoride	0.035	U	mg F/L	P419967	
2356388	EPA 350.1 Rev. 2.0	Ammonia-N	0.006		mg N/L	P419732	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.2		mg N/L	P420072	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P420053	
	EPA 365.1 Rev. 2.0	Total-P	0.026		mg P/L	P419691	
	SM 5310 B-2011	Organic Carbon	50		mg C/L	P419757	
2356403	EPA 200.7 Rev. 4.4	Calcium	2.99		mg/L	P419672	
		Iron	3.87E+03		ug/L	P419672	
		Magnesium	0.71		mg/L	P419672	
		Potassium	0.30	U	mg/L	P419672	
		Sodium	4.6		mg/L	P419672	
		Strontium	13.3		ug/L	P419672	
		Tin	3.0	U	ug/L	P419672	
		Titanium	4.4		ug/L	P419672	
		Vanadium	2.5	I	ug/L	P419672	
		Zinc	8.0	I	ug/L	P419672	
	EPA 200.8 Rev. 5.4	Aluminum	1.14E+03		ug/L	P419672	
		Antimony	0.072	I	ug/L	P419672	
		Arsenic	0.95		ug/L	P419672	
		Barium	18.4		ug/L	P419672	
		Beryllium	0.099		ug/L	P419672	
		Boron	15.5		ug/L	P419672	
		Cadmium	0.023	I	ug/L	P419672	
		Chromium	1.2	I	ug/L	P419672	
		Cobalt	0.479		ug/L	P419672	
		Copper	0.88		ug/L	P419672	
		Lead	1.27		ug/L	P419672	
		Manganese	11.4		ug/L	P419672	
		Molybdenum	0.15	U	ug/L	P419672	
		Nickel	1.3	I	ug/L	P419672	
		Selenium	0.20	U	ug/L	P419672	
		Silver	0.010	U	ug/L	P419672	
		Thallium	0.10	U	ug/L	P419672	
	SM 2340 B-2011	Hardness	10.4		mg/L	P419672	

Ref. Method and Comment:
SM 2540 D-2011: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.
EPA 351.2 Rev. 2.0: Batch matrix spike recoveries are unavailable because of high analyte concentration in the QC sample.
EPA 200.8 Rev. 5.4: The lead result was confirmed in the undigested sample on 09/20/2022.

Sample Location: Tributary to Deep Creek at CR121 **Collection Date/Time: 09/13/2022 11:15**

Field ID: G4NE0314 Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2356404	EPA 200.7 Rev. 4.4	Calcium	0.86		mg/L	P419672	
		Iron	4.08E+03		ug/L	P419672	
		Magnesium	0.52		mg/L	P419672	
		Potassium	0.30	U	mg/L	P419672	
		Sodium	3.9		mg/L	P419672	
		Strontium	8.4		ug/L	P419672	
		Tin	3.0	U	ug/L	P419672	
		Titanium	3.4		ug/L	P419672	
		Vanadium	2.1	I	ug/L	P419672	
		Zinc	5.0	U	ug/L	P419672	
	EPA 200.8 Rev. 5.4	Aluminum	1.14E+03		ug/L	P419672	
		Antimony	0.058	I	ug/L	P419672	
		Arsenic	0.75		ug/L	P419672	
		Barium	16.2		ug/L	P419672	
		Beryllium	0.086		ug/L	P419672	
		Boron	14.6		ug/L	P419672	
		Cadmium	0.020	I	ug/L	P419672	
		Chromium	1.1	I	ug/L	P419672	
		Cobalt	0.453		ug/L	P419672	
		Copper	0.40	U	ug/L	P419672	
		Lead	1.10		ug/L	P419672	
		Manganese	8.30		ug/L	P419672	
		Molybdenum	0.15	U	ug/L	P419672	
		Nickel	1.3	I	ug/L	P419672	
		Selenium	0.20	U	ug/L	P419672	
		Silver	0.010	U	ug/L	P419672	
		Thallium	0.10	U	ug/L	P419672	
	SM 2340 B-2011	Hardness	4.3		mg/L	P419672	

Ref. Method and Comment:
EPA 200.8 Rev. 5.4: The lead result was confirmed in the undigested sample on 09/20/2022.

Quality Assurance Report
Method Blank Results

Reference Method: DEP SOP: NU-094-1
Batch ID: P419568

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P419571

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P419672

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: P419672

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: P420087

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: P420092

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P419732

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P419804

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P420072

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P420053

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P419690

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P419691

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

Reference Method: SM 2320 B-2011
Batch ID: P419885

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

Reference Method: SM 2320 B-2011
Batch ID: P420160

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

Quality Assurance Report
Method Blank Results

Reference Method: SM 2540 C-2011
Batch ID: P419890

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-2011
Batch ID: P419846

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500-F- C-2011
Batch ID: P419887

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 4500-F- C-2011
Batch ID: P419967

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-2011
Batch ID: P419757

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: P419568

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Color (true)	98.2		P	90 - 110

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P419571

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

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P419672

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Calcium	99.9		P	85 - 115
Iron	105		P	85 - 115
Magnesium	105		P	85 - 115
Potassium	104		P	85 - 115
Sodium	102		P	85 - 115
Strontium	104		P	85 - 115
Tin	102		P	85 - 115
Titanium	104		P	85 - 115
Vanadium	103		P	85 - 115
Zinc	99.3		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P419672

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Aluminum	103		P	85 - 115
Antimony	104		P	85 - 115
Arsenic	107		P	85 - 115
Barium	105		P	85 - 115
Beryllium	98.6		P	85 - 115
Boron	107		P	85 - 115
Cadmium	102		P	85 - 115
Chromium	102		P	85 - 115
Cobalt	101		P	85 - 115
Copper	104		P	85 - 115
Lead	94.8		P	85 - 115
Manganese	101		P	85 - 115
Molybdenum	102		P	85 - 115
Nickel	104		P	85 - 115
Selenium	102		P	85 - 115
Silver	87.4		P	85 - 115
Thallium	103		P	85 - 115

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P420087

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

Quality Assurance Report
Laboratory Control Sample Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P420092

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P419732

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Ammonia-N	95.4		P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P419804

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Kjeldahl Nitrogen	98.7		P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P420072

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P420053

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: P419690

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P419691

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

Reference Method: SM 2320 B-2011
Batch ID: P419885

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

Reference Method: SM 2320 B-2011
Batch ID: P420160

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

Quality Assurance Report
Laboratory Control Sample Accuracy

Reference Method: SM 4500-F- C-2011
Batch ID: P419887

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	99.1		P	96 - 104

Reference Method: SM 4500-F- C-2011
Batch ID: P419967

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	99.4		P	96 - 104

Reference Method: SM 5310 B-2011
Batch ID: P419757

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	95.6		P	85 - 115

Quality Assurance Report
Matrix Spike Accuracy

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P419672

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2356187	Calcium	99.3		P	80 - 120
2356187	Iron	106	109	P/P	80 - 120
2356187	Magnesium	107	112	P/P	80 - 120
2356187	Potassium	104	108	P/P	80 - 120
2356187	Sodium	97.4		P	80 - 120
2356187	Strontium	104	107	P/P	80 - 120
2356187	Tin	103	106	P/P	80 - 120
2356187	Titanium	106	108	P/P	80 - 120
2356187	Vanadium	105	109	P/P	80 - 120
2356187	Zinc	105	109	P/P	80 - 120
2356240	Calcium	101		P	80 - 120
2356240	Iron	104		P	80 - 120
2356240	Magnesium	104		P	80 - 120
2356240	Potassium	102		P	80 - 120
2356240	Sodium	100		P	80 - 120
2356240	Strontium	102		P	80 - 120
2356240	Tin	102		P	80 - 120
2356240	Titanium	103		P	80 - 120
2356240	Vanadium	104		P	80 - 120
2356240	Zinc	103		P	80 - 120

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P419672

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2356187	Aluminum	98.5	98.3	P/P	80 - 120
2356187	Antimony	103	102	P/P	80 - 120
2356187	Arsenic	105	105	P/P	80 - 120
2356187	Barium	102	102	P/P	80 - 120
2356187	Beryllium	97.1	95.9	P/P	80 - 120
2356187	Boron	98.6	101	P/P	80 - 120
2356187	Cadmium	99.2	98.3	P/P	80 - 120
2356187	Chromium	100	100	P/P	80 - 120
2356187	Cobalt	97.5	98.1	P/P	80 - 120
2356187	Copper	101	101	P/P	80 - 120
2356187	Lead	92.7	92.9	P/P	80 - 120
2356187	Manganese	98.9	99.0	P/P	80 - 120
2356187	Molybdenum	101	101	P/P	80 - 120
2356187	Nickel	101	102	P/P	80 - 120
2356187	Selenium	102	99.5	P/P	80 - 120
2356187	Silver	83.0	83.4	P/P	80 - 120
2356187	Thallium	102	102	P/P	80 - 120
2356240	Aluminum	99.2		P	80 - 120
2356240	Antimony	103		P	80 - 120
2356240	Arsenic	104		P	80 - 120
2356240	Barium	102		P	80 - 120
2356240	Beryllium	98.0		P	80 - 120
2356240	Boron	105		P	80 - 120
2356240	Cadmium	98.2		P	80 - 120
2356240	Chromium	102		P	80 - 120
2356240	Cobalt	95.8		P	80 - 120
2356240	Copper	99.1		P	80 - 120

Quality Assurance Report
Matrix Spike Accuracy

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P419672

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2356240	Lead	97.9		P	80 - 120
2356240	Manganese	99.3		P	80 - 120
2356240	Molybdenum	101		P	80 - 120
2356240	Nickel	98.9		P	80 - 120
2356240	Selenium	99.7		P	80 - 120
2356240	Silver	84.2		P	80 - 120
2356240	Thallium	102		P	80 - 120

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P420087

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2356409	Chloride	95.3		P	90 - 110
2356698	Chloride	96.5		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P420092

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2356409	Sulfate	95.5		P	90 - 110
2356698	Sulfate	97.5		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P419732

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2356365	Ammonia-N	99.2	99.4	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P419804

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2356264	Kjeldahl Nitrogen	102	102	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P420053

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2356301	NO2NO3-N	92.2		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P419690

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2356216	Total-P	106	104	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P419691

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2356410	Total-P	107	108	P/P	90 - 110

Quality Assurance Report
Matrix Spike Accuracy

Reference Method: SM 4500-F- C-2011
Batch ID: P419887

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2356250	Fluoride	98.1	100	P/P	94 - 104

Reference Method: SM 4500-F- C-2011
Batch ID: P419967

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2356587	Fluoride	99.1	99.1	P/P	94 - 104

Reference Method: SM 5310 B-2011
Batch ID: P419757

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2356759	Organic Carbon	95.6	97.0	P/P	85 - 115

Quality Assurance Report
Precision

Reference Method: DEP SOP: NU-094-1
Batch ID: P419568

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2356412	Color (true)	1.07	Sample	P	0 - 20

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P419571

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2356294	Turbidity	2.46	Sample	P	0 - 20

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P419672

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2356187	Calcium	3.39	Spike	P	0 - 20
2356187	Iron	2.41	Spike	P	0 - 20
2356187	Magnesium	2.79	Spike	P	0 - 20
2356187	Potassium	2.47	Spike	P	0 - 20
2356187	Sodium	3.08	Spike	P	0 - 20
2356187	Strontium	3.24	Spike	P	0 - 20
2356187	Tin	2.15	Spike	P	0 - 20
2356187	Titanium	2.43	Spike	P	0 - 20
2356187	Vanadium	3.39	Spike	P	0 - 20
2356187	Zinc	3.15	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P419672

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2356187	Aluminum	0.203	Spike	P	0 - 20
2356187	Antimony	1.19	Spike	P	0 - 20
2356187	Arsenic	0.743	Spike	P	0 - 20
2356187	Barium	0.483	Spike	P	0 - 20
2356187	Beryllium	1.23	Spike	P	0 - 20
2356187	Boron	1.70	Spike	P	0 - 20
2356187	Cadmium	0.860	Spike	P	0 - 20
2356187	Chromium	0.144	Spike	P	0 - 20
2356187	Cobalt	0.618	Spike	P	0 - 20
2356187	Copper	0.470	Spike	P	0 - 20
2356187	Lead	0.185	Spike	P	0 - 20
2356187	Manganese	0.124	Spike	P	0 - 20
2356187	Molybdenum	0.00894	Spike	P	0 - 20
2356187	Nickel	1.02	Spike	P	0 - 20
2356187	Selenium	2.86	Spike	P	0 - 20
2356187	Silver	0.396	Spike	P	0 - 20
2356187	Thallium	0.802	Spike	P	0 - 20

Quality Assurance Report
Precision

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P420087

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2356409	Chloride	0.0342	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P420092

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2356409	Sulfate	0.0268	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P419732

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2356365	Ammonia-N	0.189	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P419804

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2356264	Kjeldahl Nitrogen	0.117	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P420072

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2357730	Kjeldahl Nitrogen	3.17	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P420053

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2356301	NO2NO3-N	0.716	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P419690

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2356216	Total-P	1.65	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P419691

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2356410	Total-P	0.222	Spike	P	0 - 20

Quality Assurance Report
Precision

Reference Method: SM 2320 B-2011
Batch ID: P419885

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2356250	Total Alkalinity	3.31	Sample	P	0 - 3.8

Reference Method: SM 2320 B-2011
Batch ID: P420160

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2356699	Total Alkalinity	3.20	Sample	P	0 - 3.8

Reference Method: SM 2540 C-2011
Batch ID: P419890

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2356250	TDS	7.06	Sample	P	0 - 10

Reference Method: SM 4500-F- C-2011
Batch ID: P419887

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2356250	Fluoride	1.46	Spike	P	0 - 1.6

Reference Method: SM 4500-F- C-2011
Batch ID: P419967

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2356587	Fluoride	0.0	Spike	P	0 - 1.6

Reference Method: SM 5310 B-2011
Batch ID: P419757

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2356759	Organic Carbon	0.879	Spike	P	0 - 20

* 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: A114723
Included Lab Sample IDs: 2356383, 2356384, 2356385

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	99.6	100	P/P	90 - 110

Reference Method: EPA 180.1 Rev. 2.0
Run ID: A114724
Included Lab Sample IDs: 2356383, 2356384, 2356385

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

Reference Method: EPA 350.1 Rev. 2.0
Run ID: A114785
Included Lab Sample IDs: 2356386, 2356387, 2356388

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	96.8	97.1	P/P	90 - 110
Ammonia-N	97.2	96.3	P/P	90 - 110

Reference Method: SM 5310 B-2011
Run ID: A114799
Included Lab Sample IDs: 2356386, 2356387, 2356388

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	95.4	96.1	P/P	90 - 110

Reference Method: EPA 200.8 Rev. 5.4
Run ID: A114816
Included Lab Sample IDs: 2356401, 2356402, 2356403, 2356404

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Aluminum	97.6	100	P/P	90 - 110
Aluminum	98.6	97.6	P/P	90 - 110
Antimony	98.0	96.9	P/P	90 - 110
Antimony	98.9	98.0	P/P	90 - 110
Arsenic	103	102	P/P	90 - 110
Arsenic	105	103	P/P	90 - 110
Barium	97.6	99.5	P/P	90 - 110
Barium	97.7	97.6	P/P	90 - 110
Beryllium	101	98.6	P/P	90 - 110
Beryllium	98.6	102	P/P	90 - 110
Boron	98.4	97.3	P/P	90 - 110
Boron	98.6	98.4	P/P	90 - 110
Cadmium	101	101	P/P	90 - 110
Cadmium	101	102	P/P	90 - 110
Chromium	101	103	P/P	90 - 110
Chromium	102	101	P/P	90 - 110
Cobalt	96.0	99.4	P/P	90 - 110
Cobalt	99.1	96.0	P/P	90 - 110
Copper	102	104	P/P	90 - 110
Copper	104	102	P/P	90 - 110
Manganese	100	98.7	P/P	90 - 110
Manganese	98.7	103	P/P	90 - 110

Quality Assurance Report
Calibration Verification

Reference Method: EPA 200.8 Rev. 5.4
Run ID: A114816
Included Lab Sample IDs: 2356401, 2356402, 2356403, 2356404

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Molybdenum	97.5	97.4	P/P	90 - 110
Molybdenum	98.5	97.5	P/P	90 - 110
Nickel	103	99.6	P/P	90 - 110
Nickel	99.6	103	P/P	90 - 110
Selenium	102	99.1	P/P	90 - 110
Selenium	99.1	99.0	P/P	90 - 110
Silver	96.1	96.0	P/P	90 - 110
Silver	96.2	96.1	P/P	90 - 110
Thallium	101	101	P/P	90 - 110
Thallium	102	101	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Run ID: A114829
Included Lab Sample IDs: 2356386, 2356387, 2356388

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	100	96.5	P/P	90 - 110
Total-P	96.5	98.5	P/P	90 - 110

Reference Method: EPA 200.8 Rev. 5.4
Run ID: A114830
Included Lab Sample IDs: 2356401, 2356402, 2356403, 2356404

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Lead	97.6	93.5	P/P	90 - 110

Reference Method: SM 2320 B-2011
Run ID: A114840
Included Lab Sample IDs: 2356383, 2356384

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	101	98.3	P/P	90 - 110
Total Alkalinity	96.7	101	P/P	90 - 110

Reference Method: SM 4500-F- C-2011
Run ID: A114840
Included Lab Sample IDs: 2356383, 2356384

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

Reference Method: EPA 351.2 Rev. 2.0
Run ID: A114856
Included Lab Sample IDs: 2356386, 2356387

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

Quality Assurance Report
Calibration Verification

Reference Method: EPA 300.0 Rev. 2.1
Run ID: A114857
Included Lab Sample IDs: 2356383, 2356384, 2356385

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	98.7	99.2	P/P	90 - 110
Sulfate	98.8	99.2	P/P	90 - 110

Reference Method: SM 4500-F- C-2011
Run ID: A114876
Included Lab Sample IDs: 2356385

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

Reference Method: EPA 353.2 Rev. 2.0
Run ID: A114919
Included Lab Sample IDs: 2356386, 2356387, 2356388

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

Reference Method: SM 2320 B-2011
Run ID: A114959
Included Lab Sample IDs: 2356385

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	98.3	100	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Run ID: A114974
Included Lab Sample IDs: 2356388

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

Reference Method: EPA 200.7 Rev. 4.4
Run ID: A115017
Included Lab Sample IDs: 2356401, 2356402, 2356403, 2356404

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Calcium	101	103	P/P	90 - 110
Iron	102	103	P/P	90 - 110
Magnesium	100	102	P/P	90 - 110
Potassium	100	102	P/P	90 - 110
Sodium	102	103	P/P	90 - 110
Strontium	101	99.4	P/P	90 - 110
Tin	98.8	97.2	P/P	90 - 110
Titanium	101	98.3	P/P	90 - 110
Vanadium	101	98.3	P/P	90 - 110
Zinc	98.9	97.0	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)	98.2					1.07	
EPA 180.1 Rev. 2.0	Turbidity	101					2.46	
EPA 200.7 Rev. 4.4	Calcium	99.9	99.3	101				3.39
	Iron	105	106	109	104			2.41
	Magnesium	105	107	112	104			2.79
	Potassium	104	104	108	102			2.47
	Sodium	102	97.4	100				3.08
	Strontium	104	104	107	102			3.24
	Tin	102	103	106	102			2.15
	Titanium	104	106	108	103			2.43
	Vanadium	103	105	109	104			3.39
	Zinc	99.3	105	109	103			3.15
EPA 200.8 Rev. 5.4	Aluminum	103	98.5	98.3	99.2			0.203
	Antimony	104	103	102	103			1.19
	Arsenic	107	105	105	104			0.743
	Barium	105	102	102	102			0.483
	Beryllium	98.6	97.1	95.9	98.0			1.23
	Boron	107	98.6	101	105			1.70
	Cadmium	102	99.2	98.3	98.2			0.860
	Chromium	102	100	100	102			0.144
	Cobalt	101	98.1	95.8	97.5			0.618
	Copper	104	101	101	99.1			0.470
	Lead	94.8	97.9	92.7	92.9			0.185
	Manganese	101	98.9	99.0	99.3			0.124
	Molybdenum	102	101	101	101			0.0089
	Nickel	104	101	102	98.9			1.02
	Selenium	102	102	99.5	99.7			2.86
	Silver	87.4	83.0	83.4	84.2			0.396
	Thallium	103	102	102	102			0.802
EPA 300.0 Rev. 2.1	Chloride	99.7	95.3	96.5			0.0342	
	Sulfate	99.7	95.5	97.5			0.0268	
EPA 350.1 Rev. 2.0	Ammonia-N	95.4	99.2	99.4				0.189
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	98.7	102	102				0.117
	Kjeldahl Nitrogen	103						3.17
EPA 353.2 Rev. 2.0	NO2NO3-N	99.0	92.2					0.716
EPA 365.1 Rev. 2.0	Total-P	104	106	104				1.65
	Total-P	105	107	108				0.222
SM 2320 B-2011	Total Alkalinity	101					3.31	
	Total Alkalinity	101					3.20	
SM 2540 C-2011	TDS						7.06	
SM 4500-F- C-2011	Fluoride	99.1	98.1	100				1.46
	Fluoride	99.4	99.1	99.1				0.0
SM 5310 B-2011	Organic Carbon	95.6	95.6	97.0				0.879

Reference Method Descriptions

Method	Description	Associated Samples
DEP SOP: NU-094-1	True Color measured at 450 nm (not valid for NPDES monitoring)	2356383, 2356384, 2356385
EPA 180.1 Rev. 2.0	Turbidity in aqueous matrices	2356383, 2356384, 2356385
EPA 200.7 Rev. 4.4	Total Recoverable Metals analysis using ICP emission spectroscopy for aqueous samples supporting Clean Water Act Projects	2356401, 2356402, 2356403, 2356404
EPA 200.8 Rev. 5.4	Total Recoverable Metals analysis using ICP-MS for aqueous samples supporting Clean Water Act Projects	2356401, 2356402, 2356403, 2356404

Reference Method Descriptions

Method	Description	Associated Samples
EPA 300.0 Rev. 2.1	Chloride in aqueous matrices	2356383, 2356384, 2356385
EPA 300.0 Rev. 2.1	Sulfate in aqueous matrices	2356383, 2356384, 2356385
EPA 350.1 Rev. 2.0	Ammonia in aqueous matrices as mg N/L	2356386, 2356387, 2356388
EPA 351.2 Rev. 2.0	Total Kjeldahl Nitrogen in aqueous matrices	2356386, 2356387, 2356388
EPA 353.2 Rev. 2.0	Nitrite/Nitrate in aqueous matrices as mg N/L	2356386, 2356387, 2356388
EPA 365.1 Rev. 2.0	Total Phosphorus in aqueous matrices as mg P/L	2356386, 2356387, 2356388
SM 2320 B-2011	Alkalinity in aqueous matrices as mg CaCO3/L	2356383, 2356384, 2356385
SM 2340 B-2011	Hardness by calculation, in aqueous matrices, reported as mg/L CaCO3	2356401, 2356402, 2356403, 2356404
SM 2540 C-2011	Total Dissolved Solids in aqueous matrices	2356383, 2356384, 2356385
SM 2540 D-2011	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2356383, 2356384, 2356385
SM 4500-F- C-2011	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2356383, 2356384, 2356385
SM 5310 B-2011	Nonpurgeable Organic Carbon in aqueous matrices	2356386, 2356387, 2356388

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	09/14/2022			09/14/2022 15:35	Blanca Fach	2356383
	09/14/2022			09/14/2022 15:36	Blanca Fach	2356384
	09/14/2022			09/14/2022 15:37	Blanca Fach	2356385
EPA 180.1 Rev. 2.0	09/14/2022			09/14/2022 14:36	Khloe J Berg	2356383
	09/14/2022			09/14/2022 14:37	Khloe J Berg	2356384
	09/14/2022			09/14/2022 14:39	Khloe J Berg	2356385
EPA 200.7 Rev. 4.4	09/14/2022	09/16/2022 09:15	Megan Whitefoot	09/28/2022 16:34	Betina Topolski	2356401
	09/14/2022	09/16/2022 09:15	Megan Whitefoot	09/28/2022 16:42	Betina Topolski	2356402
	09/14/2022	09/16/2022 09:15	Megan Whitefoot	09/28/2022 16:47	Betina Topolski	2356403
	09/14/2022	09/16/2022 09:15	Megan Whitefoot	09/28/2022 16:55	Betina Topolski	2356404
EPA 200.8 Rev. 5.4	09/14/2022	09/16/2022 09:15	Megan Whitefoot	09/19/2022 17:53	Emily M Philpot	2356401
	09/14/2022	09/16/2022 09:15	Megan Whitefoot	09/19/2022 18:51	Emily M Philpot	2356402
	09/14/2022	09/16/2022 09:15	Megan Whitefoot	09/19/2022 19:00	Emily M Philpot	2356403
	09/14/2022	09/16/2022 09:15	Megan Whitefoot	09/19/2022 19:10	Emily M Philpot	2356404
	09/14/2022	09/16/2022 09:15	Megan Whitefoot	09/20/2022 13:56	Alexander Thompson	2356401
	09/14/2022	09/16/2022 09:15	Megan Whitefoot	09/20/2022 14:02	Alexander Thompson	2356402
	09/14/2022	09/16/2022 09:15	Megan Whitefoot	09/20/2022 14:07	Alexander Thompson	2356403
	09/14/2022	09/16/2022 09:15	Megan Whitefoot	09/20/2022 14:13	Alexander Thompson	2356404
EPA 300.0 Rev. 2.1	09/14/2022			09/22/2022 13:45	Anna M. Plaviak	2356383
	09/14/2022			09/22/2022 14:00	Anna M. Plaviak	2356384
	09/14/2022			09/22/2022 14:15	Anna M. Plaviak	2356385
EPA 350.1 Rev. 2.0	09/14/2022			09/16/2022 12:46	Ping Hua	2356386
	09/14/2022			09/16/2022 12:49	Ping Hua	2356388
	09/14/2022			09/16/2022 13:28	Ping Hua	2356387
EPA 351.2 Rev. 2.0	09/14/2022	09/20/2022 11:51	Alexandra J Mattheus	09/21/2022 10:14	Alexandra J Mattheus	2356386
	09/14/2022	09/20/2022 11:51	Alexandra J Mattheus	09/21/2022 10:15	Alexandra J Mattheus	2356387
	09/14/2022	09/26/2022 10:38	Alexandra J Mattheus	09/27/2022 10:15	Alexandra J Mattheus	2356388
EPA 353.2 Rev. 2.0	09/14/2022			09/23/2022 13:22	Judith K. Clark	2356386
	09/14/2022			09/23/2022 13:24	Judith K. Clark	2356387
	09/14/2022			09/23/2022 13:25	Judith K. Clark	2356388
EPA 365.1 Rev. 2.0	09/14/2022	09/16/2022 15:34	Adam P Silver	09/20/2022 14:51	Simonne.V. Calhoun	2356386
	09/14/2022	09/16/2022 15:34	Adam P Silver	09/20/2022 14:58	Simonne.V. Calhoun	2356387
	09/14/2022	09/16/2022 15:34	Adam P Silver	09/20/2022 15:06	Simonne.V. Calhoun	2356388
SM 2320 B-2011	09/14/2022			09/20/2022 23:42	Dale L. Simmons	2356383
	09/14/2022			09/21/2022 00:22	Dale L. Simmons	2356384
	09/14/2022			09/26/2022 16:29	Dale L. Simmons	2356385
SM 2340 B-2011	09/14/2022			09/28/2022 16:34	Betina Topolski	2356401
	09/14/2022			09/28/2022 16:42	Betina Topolski	2356402
	09/14/2022			09/28/2022 16:47	Betina Topolski	2356403
	09/14/2022			09/28/2022 16:55	Betina Topolski	2356404

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
SM 2540 C-2011	09/14/2022			09/16/2022 15:56	Yijie Li	2356383, 2356384, 2356385
SM 2540 D-2011	09/14/2022			09/16/2022 15:56	Yijie Li	2356383, 2356384, 2356385
SM 4500-F- C-2011	09/14/2022			09/20/2022 23:42	Dale L. Simmons	2356383
	09/14/2022			09/21/2022 00:22	Dale L. Simmons	2356384
	09/14/2022			09/21/2022 21:23	Dale L. Simmons	2356385
SM 5310 B-2011	09/14/2022			09/16/2022 22:51	Khloe J Berg	2356386
	09/14/2022			09/16/2022 23:05	Khloe J Berg	2356387
	09/14/2022			09/16/2022 23:20	Khloe J Berg	2356388