Chemical Analysis Report

NE-DIST-2022-08-12-01

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

Event Description: **Nassau North 2022**
Request ID: **RQ-2022-07-25-09**
Customer: **NE-DIST**
Project ID: **SMP**

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Certified by: Colin Wright, Program Administrator

Date Certified: 01-SEP-2022 13:10

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: Escambia Slough at Escambia st. **Collection Date/Time: 08/11/2022 11:40**

Field ID: G4NE0287 Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2348787	EPA 180.1 Rev. 2.0	Turbidity	8.8		NTU	P418063	
	SM 2320 B-2011	Total Alkalinity	142		mg CaCO3/L	P418392	
	SM 2540 D-2011	TSS	22		mg/L	P418462	
	SM 4500-F- C-2011	Fluoride	0.72		mg F/L	P418404	
2348788	EPA 350.1 Rev. 2.0	Ammonia-N	0.14		mg N/L	P418489	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.85		mg N/L	P418086	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.019		mg N/L	P418378	
	EPA 365.1 Rev. 2.0	Total-P	0.26		mg P/L	P418189	
	SM 5310 B-2011	Organic Carbon	11		mg C/L	P418503	
2348802	EPA 200.7 Rev. 4.4	Calcium	209		mg/L	P418088	
		Iron	520		ug/L	P418088	
		Magnesium	553		mg/L	P418088	
		Strontium	3.55E+03		ug/L	P418088	
		Tin	9.0	U	ug/L	P418088	
		Titanium	9.6		ug/L	P418088	
		Vanadium	6.0	U	ug/L	P418088	
		Zinc	15	U	ug/L	P418088	
	EPA 200.8 Rev. 5.4	Aluminum	450		ug/L	P418088	
		Antimony	0.20	U	ug/L	P418088	
		Arsenic	2.09		ug/L	P418088	
		Beryllium	0.043	I	ug/L	P418088	
		Cadmium	0.080	U	ug/L	P418088	
		Chromium	1.6	U	ug/L	P418088	
		Cobalt	0.20	I	ug/L	P418088	
		Copper	1.6	U	ug/L	P418088	
		Lead	0.91	I	ug/L	P418088	
		Manganese	40.1		ug/L	P418088	
		Molybdenum	4.9		ug/L	P418088	
		Nickel	2.0	U	ug/L	P418088	
		Selenium	0.80	U	ug/L	P418088	
		Silver	0.040	U	ug/L	P418088	
		Thallium	0.40	U	ug/L	P418088	

Ref. Method and Comment:
SM 4500-F- C-2011: Batch matrix spike recoveries and relative percent difference are unavailable because of analytical difficulties.
EPA 200.7 Rev. 4.4: Batch matrix spike recoveries for calcium, magnesium and strontium are unavailable because of high analyte concentration in the QC sample.

Sample Location: Egan creek at Atlantic **Collection Date/Time: 08/11/2022 12:05**

Field ID: G4NE0285 Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2348789	EPA 180.1 Rev. 2.0	Turbidity	15		NTU	P418063	
	SM 2320 B-2011	Total Alkalinity	140		mg CaCO3/L	P418392	
	SM 2540 D-2011	TSS	69		mg/L	P418462	
	SM 4500-F- C-2011	Fluoride	1.1		mg F/L	P418404	
2348791	EPA 350.1 Rev. 2.0	Ammonia-N	0.074		mg N/L	P418489	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.0		mg N/L	P418440	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.017		mg N/L	P418378	
	EPA 365.1 Rev. 2.0	Total-P	0.32		mg P/L	P418189	
	SM 5310 B-2011	Organic Carbon	9.3		mg C/L	P418503	

Ref. Method and Comment:
SM 4500-F- C-2011: Batch matrix spike recoveries and relative percent difference are unavailable because of analytical difficulties.

Sample Location: Egans Creek at Jasmine st. **Collection Date/Time: 08/11/2022 12:25**

Field ID: G4NE0305 Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2348790	EPA 180.1 Rev. 2.0	Turbidity	6.5		NTU	P418063	
	SM 2320 B-2011	Total Alkalinity	171		mg CaCO3/L	P418392	
	SM 2540 D-2011	TSS	15		mg/L	P418462	
	SM 4500-F- C-2011	Fluoride	0.77		mg F/L	P418404	
2348792	EPA 350.1 Rev. 2.0	Ammonia-N	0.45		mg N/L	P418489	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.5		mg N/L	P418440	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.021		mg N/L	P418378	
	EPA 365.1 Rev. 2.0	Total-P	0.87		mg P/L	P418219	
	SM 5310 B-2011	Organic Carbon	17		mg C/L	P418503	

Ref. Method and Comment:
SM 4500-F- C-2011: Batch matrix spike recoveries and relative percent difference are unavailable because of analytical difficulties.

Sample Location: Little St. Marys River at White Oak Rd. **Collection Date/Time: 08/11/2022 10:45**

Field ID: G4NE0289 Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2348804	EPA 200.7 Rev. 4.4	Calcium	5.55		mg/L	P418083	
		Iron	890		ug/L	P418083	
		Magnesium	3.61		mg/L	P418083	
		Potassium	1.2	I	mg/L	P418083	
		Sodium	18.8		mg/L	P418083	
		Strontium	36.9		ug/L	P418083	
		Tin	3.0	U	ug/L	P418083	
		Titanium	2.7	I	ug/L	P418083	
		Vanadium	2.0	U	ug/L	P418083	
		Zinc	5.0	U	ug/L	P418083	
	EPA 200.8 Rev. 5.4	Aluminum	565		ug/L	P418083	
		Antimony	0.062	I	ug/L	P418083	
		Arsenic	0.66		ug/L	P418083	
		Barium	15.1		ug/L	P418083	
		Beryllium	0.050		ug/L	P418083	
		Boron	24.4		ug/L	P418083	
		Cadmium	0.020	U	ug/L	P418083	
		Chromium	0.79	I	ug/L	P418083	
		Cobalt	0.189		ug/L	P418083	
		Copper	0.47	I	ug/L	P418083	
		Lead	0.70		ug/L	P418083	
		Manganese	12.3		ug/L	P418083	
		Molybdenum	0.20	I	ug/L	P418083	
		Nickel	0.62	I	ug/L	P418083	
		Selenium	0.20	U	ug/L	P418083	
		Silver	0.010	U	ug/L	P418083	
		Thallium	0.10	U	ug/L	P418083	
	SM 2340 B-2011	Hardness	28.7		mg/L	P418083	

Ref. Method and Comment:
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 08/17/2022.

Sample Location: LITTLE ST. MARYS @ CR 121 **Collection Date/Time: 08/11/2022 09:50**

Field ID: 19010046 Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2348793	DEP SOP: NU-094-1	Color (true)	320		PCU	P418052	
	EPA 180.1 Rev. 2.0	Turbidity	4.6		NTU	P418063	
	EPA 300.0 Rev. 2.1	Chloride	15	A	mg Cl/L	P418361	
		Sulfate	5.8	A	mg SO4/L	P418363	
	SM 2320 B-2011	Total Alkalinity	14		mg CaCO3/L	P418314	
	SM 2540 C-2011	TDS	132		mg/L	P418452	
	SM 2540 D-2011	TSS	4	I	mg/L	P418458	
	SM 4500-F- C-2011	Fluoride	0.051	I	mg F/L	P418317	
2348794	EPA 350.1 Rev. 2.0	Ammonia-N	0.018		mg N/L	P418330	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.1		mg N/L	P418282	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.029		mg N/L	P418148	
	EPA 365.1 Rev. 2.0	Total-P	0.038		mg P/L	P418192	
	SM 5310 B-2011	Organic Carbon	32		mg C/L	P418344	
2348803	EPA 200.7 Rev. 4.4	Calcium	10.6		mg/L	P418083	
		Iron	1.02E+03		ug/L	P418083	
		Magnesium	2.57		mg/L	P418083	
		Potassium	1.0	I	mg/L	P418083	
		Sodium	8.0		mg/L	P418083	
		Strontium	62.7		ug/L	P418083	
		Tin	3.3	I	ug/L	P418083	
		Titanium	1.4	I	ug/L	P418083	
		Vanadium	2.0	U	ug/L	P418083	
		Zinc	9.4	I	ug/L	P418083	
	EPA 200.8 Rev. 5.4	Aluminum	374		ug/L	P418083	
		Antimony	0.091	I	ug/L	P418083	
		Arsenic	0.72		ug/L	P418083	
		Barium	26.8		ug/L	P418083	
		Beryllium	0.040	I	ug/L	P418083	
		Boron	25.3		ug/L	P418083	
		Cadmium	0.020	U	ug/L	P418083	
		Chromium	0.80	I	ug/L	P418083	
		Cobalt	0.291		ug/L	P418083	
		Copper	1.11		ug/L	P418083	
		Lead	0.61		ug/L	P418083	
		Manganese	45.1		ug/L	P418083	
		Molybdenum	0.15	U	ug/L	P418083	
		Nickel	0.63	I	ug/L	P418083	
		Selenium	0.20	U	ug/L	P418083	
		Silver	0.039	I	ug/L	P418083	
		Thallium	0.10	U	ug/L	P418083	
	SM 2340 B-2011	Hardness	37.0		mg/L	P418083	

Field ID: 19010046 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 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: 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: FB **Collection Date/Time: 08/11/2022 10:05**

Field ID: FB_08112022 Matrix: W-FIELD-BK

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2348795	DEP SOP: NU-094-1	Color (true)	2.5	U	PCU	P418052	
	EPA 180.1 Rev. 2.0	Turbidity	0.10	U	NTU	P418063	
	EPA 300.0 Rev. 2.1	Chloride	0.20	U	mg Cl/L	P418361	
		Sulfate	0.20	U	mg SO4/L	P418363	
	SM 2320 B-2011	Total Alkalinity	0.65	U	mg CaCO3/L	P418314	
	SM 2540 C-2011	TDS	15	U	mg/L	P418452	
	SM 2540 D-2011	TSS	2	U	mg/L	P418458	
	SM 4500-F- C-2011	Fluoride	0.035	U	mg F/L	P418317	
2348796	EPA 350.1 Rev. 2.0	Ammonia-N	0.002	U	mg N/L	P418330	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.080	U	mg N/L	P418282	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P418148	
	EPA 365.1 Rev. 2.0	Total-P	0.002	U	mg P/L	P418512	
	SM 5310 B-2011	Organic Carbon	0.50	U	mg C/L	P418824	
2348805	EPA 200.7 Rev. 4.4	Calcium	0.075	U	mg/L	P418083	
		Iron	30	U	ug/L	P418083	
		Magnesium	0.040	U	mg/L	P418083	
		Potassium	0.30	U	mg/L	P418083	
		Sodium	0.50	U	mg/L	P418083	
		Strontium	2.0	U	ug/L	P418083	
		Tin	3.0	U	ug/L	P418083	
		Titanium	0.75	U	ug/L	P418083	
		Vanadium	2.0	U	ug/L	P418083	
		Zinc	5.0	U	ug/L	P418083	
	EPA 200.8 Rev. 5.4	Aluminum	5.0	U	ug/L	P418083	
		Antimony	0.050	U	ug/L	P418083	
		Arsenic	0.050	U	ug/L	P418083	
		Barium	0.20	U	ug/L	P418083	
		Beryllium	0.010	U	ug/L	P418083	
		Boron	2.0	U	ug/L	P418083	
		Cadmium	0.020	U	ug/L	P418083	
		Chromium	0.40	U	ug/L	P418083	
		Cobalt	0.020	U	ug/L	P418083	
		Copper	0.40	U	ug/L	P418083	
		Lead	0.20	U	ug/L	P418083	
		Manganese	0.10	U	ug/L	P418083	
		Molybdenum	0.15	U	ug/L	P418083	
		Nickel	0.50	U	ug/L	P418083	
		Selenium	0.20	U	ug/L	P418083	
		Silver	0.010	U	ug/L	P418083	
		Thallium	0.10	U	ug/L	P418083	
	SM 2340 B-2011	Hardness	0.35	U	mg/L	P418083	

Field ID: FB_08112022 Matrix: W-FIELD-BK

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 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: Batch matrix spike recoveries for manganese are unavailable for one of two spiked samples because of high analyte concentration in the QC sample.

Quality Assurance Report
Method Blank Results

Reference Method: DEP SOP: NU-094-1
Batch ID: P418052

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P418063

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P418083

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 200.7 Rev. 4.4
Batch ID: P418088

Component	Result	Code	Units
Calcium	0.075	U	mg/L
Iron	30.0	U	ug/L
Magnesium	0.040	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: P418083

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

Quality Assurance Report
Method Blank Results

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P418083

Component	Result	Code	Units
Molybdenum	0.15	U	ug/L
Nickel	0.50	U	ug/L
Selenium	0.20	U	ug/L
Silver	0.010	U	ug/L
Thallium	0.10	U	ug/L

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P418088

Component	Result	Code	Units
Aluminum	5.0	U	ug/L
Antimony	0.050	U	ug/L
Arsenic	0.050	U	ug/L
Beryllium	0.010	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: P418361

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P418363

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P418330

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P418489

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

Quality Assurance Report
Method Blank Results

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P418086

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P418282

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P418440

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P418148

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P418378

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P418189

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P418192

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P418219

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P418512

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

Quality Assurance Report
Method Blank Results

Reference Method: SM 2320 B-2011
Batch ID: P418314

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

Reference Method: SM 2320 B-2011
Batch ID: P418392

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

Reference Method: SM 2540 C-2011
Batch ID: P418452

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-2011
Batch ID: P418458

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 2540 D-2011
Batch ID: P418462

Component	Result	Code	Units
TSS	3	U	mg/L

Reference Method: SM 4500-F- C-2011
Batch ID: P418317

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 4500-F- C-2011
Batch ID: P418404

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-2011
Batch ID: P418344

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

Reference Method: SM 5310 B-2011
Batch ID: P418503

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

Quality Assurance Report
Method Blank Results

Reference Method: SM 5310 B-2011
Batch ID: P418824

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: P418052

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: P418063

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Turbidity	96.8		P	90 - 110

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P418083

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Calcium	106		P	85 - 115
Iron	109		P	85 - 115
Magnesium	109		P	85 - 115
Potassium	108		P	85 - 115
Sodium	103		P	85 - 115
Strontium	107		P	85 - 115
Tin	111		P	85 - 115
Titanium	107		P	85 - 115
Vanadium	102		P	85 - 115
Zinc	104		P	85 - 115

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P418088

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Calcium	97.0		P	85 - 115
Iron	101		P	85 - 115
Magnesium	96.3		P	85 - 115
Strontium	103		P	85 - 115
Tin	99.2		P	85 - 115
Titanium	101		P	85 - 115
Vanadium	101		P	85 - 115
Zinc	100		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P418083

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Aluminum	101		P	85 - 115
Antimony	102		P	85 - 115
Arsenic	98.5		P	85 - 115
Barium	104		P	85 - 115
Beryllium	91.7		P	85 - 115
Boron	102		P	85 - 115
Cadmium	97.2		P	85 - 115
Chromium	100		P	85 - 115
Cobalt	98.1		P	85 - 115
Copper	95.7		P	85 - 115
Lead	95.0		P	85 - 115
Manganese	101		P	85 - 115

Quality Assurance Report
Laboratory Control Sample Accuracy

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P418083

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Molybdenum	96.2		P	85 - 115
Nickel	97.9		P	85 - 115
Selenium	96.7		P	85 - 115
Silver	97.9		P	85 - 115
Thallium	94.0		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P418088

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Aluminum	99.6		P	85 - 115
Antimony	98.4		P	85 - 115
Arsenic	97.4		P	85 - 115
Beryllium	86.9		P	85 - 115
Cadmium	96.6		P	85 - 115
Chromium	96.7		P	85 - 115
Cobalt	94.6		P	85 - 115
Copper	96.4		P	85 - 115
Lead	91.2		P	85 - 115
Manganese	97.7		P	85 - 115
Molybdenum	94.8		P	85 - 115
Nickel	97.4		P	85 - 115
Selenium	97.4		P	85 - 115
Silver	96.0		P	85 - 115
Thallium	96.7		P	85 - 115

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P418361

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Chloride	97.2		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P418363

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Sulfate	97.9		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P418330

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P418489

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

Quality Assurance Report
Laboratory Control Sample Accuracy

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P418086

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P418282

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P418440

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P418148

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
NO2NO3-N	94.5		P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P418378

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P418189

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P418192

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P418219

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P418512

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

Quality Assurance Report
Laboratory Control Sample Accuracy

Reference Method: SM 2320 B-2011
Batch ID: P418314

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	98.9		P	94 - 106

Reference Method: SM 2320 B-2011
Batch ID: P418392

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	99.9		P	94 - 106

Reference Method: SM 4500-F- C-2011
Batch ID: P418317

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	99.5		P	96 - 104

Reference Method: SM 4500-F- C-2011
Batch ID: P418404

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	100		P	96 - 104

Reference Method: SM 5310 B-2011
Batch ID: P418344

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	94.2		P	85 - 115

Reference Method: SM 5310 B-2011
Batch ID: P418503

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	96.2		P	85 - 115

Reference Method: SM 5310 B-2011
Batch ID: P418824

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	96.1		P	85 - 115

Quality Assurance Report
Matrix Spike Accuracy

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P418083

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2348158	Calcium	108		P	80 - 120
2348158	Iron	110		P	80 - 120
2348158	Magnesium	111		P	80 - 120
2348158	Potassium	106		P	80 - 120
2348158	Sodium	105		P	80 - 120
2348158	Strontium	109		P	80 - 120
2348158	Tin	109		P	80 - 120
2348158	Titanium	108		P	80 - 120
2348158	Vanadium	105		P	80 - 120
2348158	Zinc	106		P	80 - 120
2348752	Calcium	106		P	80 - 120
2348752	Iron	105	107	P/P	80 - 120
2348752	Magnesium	107	107	P/P	80 - 120
2348752	Potassium	104	106	P/P	80 - 120
2348752	Sodium	106		P	80 - 120
2348752	Strontium	106	107	P/P	80 - 120
2348752	Tin	109	108	P/P	80 - 120
2348752	Titanium	101	103	P/P	80 - 120
2348752	Vanadium	102	102	P/P	80 - 120
2348752	Zinc	104	102	P/P	80 - 120

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P418088

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2348802	Iron	101	99.4	P/P	70 - 130
2348802	Tin	83.8	79.6	P/P	70 - 130
2348802	Titanium	103	101	P/P	70 - 130
2348802	Vanadium	105	104	P/P	70 - 130
2348802	Zinc	96.8	96.0	P/P	70 - 130

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P418083

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2348158	Aluminum	103		P	80 - 120
2348158	Antimony	106		P	80 - 120
2348158	Arsenic	102		P	80 - 120
2348158	Barium	107		P	80 - 120
2348158	Beryllium	95.4		P	80 - 120
2348158	Boron	106		P	80 - 120
2348158	Cadmium	101		P	80 - 120
2348158	Chromium	102		P	80 - 120
2348158	Cobalt	99.5		P	80 - 120
2348158	Copper	97.9		P	80 - 120
2348158	Lead	99.5		P	80 - 120
2348158	Manganese	104		P	80 - 120
2348158	Molybdenum	102		P	80 - 120
2348158	Nickel	97.5		P	80 - 120
2348158	Selenium	97.8		P	80 - 120
2348158	Silver	98.4		P	80 - 120
2348158	Thallium	99.3		P	80 - 120

Quality Assurance Report
Matrix Spike Accuracy

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P418083

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2348752	Aluminum	108	109	P/P	80 - 120
2348752	Antimony	100	99.4	P/P	80 - 120
2348752	Arsenic	98.5	98.4	P/P	80 - 120
2348752	Barium	104	104	P/P	80 - 120
2348752	Beryllium	92.7	92.7	P/P	80 - 120
2348752	Boron	103	104	P/P	80 - 120
2348752	Cadmium	99.3	98.8	P/P	80 - 120
2348752	Chromium	102	101	P/P	80 - 120
2348752	Cobalt	97.2	97.0	P/P	80 - 120
2348752	Copper	95.0	96.1	P/P	80 - 120
2348752	Lead	94.8	95.2	P/P	80 - 120
2348752	Molybdenum	96.2	97.3	P/P	80 - 120
2348752	Nickel	96.6	96.3	P/P	80 - 120
2348752	Selenium	93.0	93.7	P/P	80 - 120
2348752	Silver	97.4	97.9	P/P	80 - 120
2348752	Thallium	95.1	96.1	P/P	80 - 120

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P418088

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2348802	Aluminum	106	107	P/P	70 - 130
2348802	Antimony	96.8	96.9	P/P	70 - 130
2348802	Arsenic	109	109	P/P	70 - 130
2348802	Beryllium	92.4	93.0	P/P	70 - 130
2348802	Cadmium	90.3	87.2	P/P	70 - 130
2348802	Chromium	84.1	83.7	P/P	70 - 130
2348802	Cobalt	102	102	P/P	70 - 130
2348802	Copper	107	108	P/P	70 - 130
2348802	Lead	98.1	97.4	P/P	70 - 130
2348802	Manganese	93.2	93.4	P/P	70 - 130
2348802	Molybdenum	111	111	P/P	70 - 130
2348802	Nickel	106	106	P/P	70 - 130
2348802	Selenium	96.8	95.9	P/P	70 - 130
2348802	Silver	88.2	87.4	P/P	70 - 130
2348802	Thallium	102	103	P/P	70 - 130

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P418361

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2348793	Chloride	96.0		P	90 - 110
2349378	Chloride	99.3		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P418363

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2348793	Sulfate	96.4		P	90 - 110
2349378	Sulfate	99.9		P	90 - 110

Quality Assurance Report
Matrix Spike Accuracy

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P418330

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2348737	Ammonia-N	101	98.4	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P418489

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2349786	Ammonia-N	106	107	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P418086

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2348205	Kjeldahl Nitrogen	92.0	102	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P418440

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2348218	Kjeldahl Nitrogen	102	101	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P418148

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2348813	NO2NO3-N	91.4	91.4	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P418378

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2348766	NO2NO3-N	95.5	95.0	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P418189

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2348791	Total-P	94.9	92.2	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P418192

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2348644	Total-P	105	104	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P418219

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2349475	Total-P	92.6	93.4	P/P	90 - 110

Quality Assurance Report
Matrix Spike Accuracy

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P418512

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2350479	Total-P	104	104	P/P	90 - 110

Reference Method: SM 4500-F- C-2011
Batch ID: P418317

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2349241	Fluoride	97.7	97.7	P/P	94 - 104

Reference Method: SM 5310 B-2011
Batch ID: P418344

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2348741	Organic Carbon	98.1	99.1	P/P	85 - 115

Reference Method: SM 5310 B-2011
Batch ID: P418503

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2349551	Organic Carbon	94.2	94.3	P/P	85 - 115

Reference Method: SM 5310 B-2011
Batch ID: P418824

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2350691	Organic Carbon	98.2	98.0	P/P	85 - 115

Quality Assurance Report
Precision

Reference Method: DEP SOP: NU-094-1
Batch ID: P418052

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2348723	Color (true)	0.999	Sample	P	0 - 20

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P418063

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2348641	Turbidity	0.400	Sample	P	0 - 20

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P418083

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2348752	Calcium	0.0171	Spike	P	0 - 20
2348752	Iron	1.47	Spike	P	0 - 20
2348752	Magnesium	0.137	Spike	P	0 - 20
2348752	Potassium	1.60	Spike	P	0 - 20
2348752	Sodium	0.314	Spike	P	0 - 20
2348752	Strontium	0.627	Spike	P	0 - 20
2348752	Tin	1.10	Spike	P	0 - 20
2348752	Titanium	1.19	Spike	P	0 - 20
2348752	Vanadium	0.174	Spike	P	0 - 20
2348752	Zinc	1.58	Spike	P	0 - 20

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P418088

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2348802	Calcium	1.11	Spike	P	0 - 20
2348802	Iron	1.58	Spike	P	0 - 20
2348802	Magnesium	1.92	Spike	P	0 - 20
2348802	Strontium	0.806	Spike	P	0 - 20
2348802	Tin	5.09	Spike	P	0 - 20
2348802	Titanium	1.81	Spike	P	0 - 20
2348802	Vanadium	0.830	Spike	P	0 - 20
2348802	Zinc	0.851	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P418083

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2348752	Aluminum	0.751	Spike	P	0 - 20
2348752	Antimony	0.612	Spike	P	0 - 20
2348752	Arsenic	0.0997	Spike	P	0 - 20
2348752	Barium	0.0882	Spike	P	0 - 20
2348752	Beryllium	0.0103	Spike	P	0 - 20
2348752	Boron	1.11	Spike	P	0 - 20
2348752	Cadmium	0.503	Spike	P	0 - 20

Quality Assurance Report
Precision

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P418083

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2348752	Chromium	0.326	Spike	P	0 - 20
2348752	Cobalt	0.244	Spike	P	0 - 20
2348752	Copper	1.10	Spike	P	0 - 20
2348752	Lead	0.411	Spike	P	0 - 20
2348752	Manganese	1.22	Spike	P	0 - 20
2348752	Molybdenum	1.13	Spike	P	0 - 20
2348752	Nickel	0.302	Spike	P	0 - 20
2348752	Selenium	0.780	Spike	P	0 - 20
2348752	Silver	0.491	Spike	P	0 - 20
2348752	Thallium	1.05	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P418088

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2348802	Aluminum	1.02	Spike	P	0 - 20
2348802	Antimony	0.171	Spike	P	0 - 20
2348802	Arsenic	0.201	Spike	P	0 - 20
2348802	Beryllium	0.591	Spike	P	0 - 20
2348802	Cadmium	3.48	Spike	P	0 - 20
2348802	Chromium	0.478	Spike	P	0 - 20
2348802	Cobalt	0.364	Spike	P	0 - 20
2348802	Copper	0.554	Spike	P	0 - 20
2348802	Lead	0.700	Spike	P	0 - 20
2348802	Manganese	0.199	Spike	P	0 - 20
2348802	Molybdenum	0.169	Spike	P	0 - 20
2348802	Nickel	0.636	Spike	P	0 - 20
2348802	Selenium	0.950	Spike	P	0 - 20
2348802	Silver	0.921	Spike	P	0 - 20
2348802	Thallium	0.606	Spike	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P418361

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2348793	Chloride	2.28	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P418363

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2348793	Sulfate	2.62	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P418330

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

Quality Assurance Report
Precision

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P418330

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2348737	Ammonia-N	1.92	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P418489

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2349786	Ammonia-N	0.235	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P418086

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2348205	Kjeldahl Nitrogen	6.02	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P418282

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2348302	Kjeldahl Nitrogen	0.415	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P418440

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2348218	Kjeldahl Nitrogen	0.740	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P418148

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2348813	NO2NO3-N	0.0	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P418378

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2348766	NO2NO3-N	0.501	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P418189

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2348791	Total-P	2.08	Spike	P	0 - 20

Quality Assurance Report
Precision

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P418192

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2348644	Total-P	1.05	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P418219

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2349475	Total-P	0.821	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P418512

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2350479	Total-P	0.165	Spike	P	0 - 20

Reference Method: SM 2320 B-2011
Batch ID: P418314

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2349241	Total Alkalinity	0.106	Sample	P	0 - 3.8

Reference Method: SM 2320 B-2011
Batch ID: P418392

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2349557	Total Alkalinity	0.0308	Sample	P	0 - 3.8

Reference Method: SM 2540 C-2011
Batch ID: P418452

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2348285	TDS	4.79	Sample	P	0 - 10

Reference Method: SM 2540 D-2011
Batch ID: P418462

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2348161	TSS	7.69	Sample	P	0 - 10

Reference Method: SM 4500-F- C-2011
Batch ID: P418317

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2349241	Fluoride	0.0	Spike	P	0 - 1.6

Quality Assurance Report
Precision

Reference Method: SM 5310 B-2011
Batch ID: P418344

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2348741	Organic Carbon	0.741	Spike	P	0 - 20

Reference Method: SM 5310 B-2011
Batch ID: P418503

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2349551	Organic Carbon	0.0840	Spike	P	0 - 20

Reference Method: SM 5310 B-2011
Batch ID: P418824

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2350691	Organic Carbon	0.164	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: A114061
Included Lab Sample IDs: 2348793, 2348795

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	101	104	P/P	90 - 110

Reference Method: EPA 180.1 Rev. 2.0
Run ID: A114069
Included Lab Sample IDs: 2348787, 2348789, 2348790, 2348793, 2348795

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

Reference Method: EPA 353.2 Rev. 2.0
Run ID: A114122
Included Lab Sample IDs: 2348794, 2348796

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	94.5	93.5	P/P	90 - 110

Reference Method: EPA 200.8 Rev. 5.4
Run ID: A114133
Included Lab Sample IDs: 2348802

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Aluminum	102	102	P/P	90 - 110
Antimony	99.5	96.8	P/P	90 - 110
Arsenic	105	102	P/P	90 - 110
Beryllium	98.3	95.9	P/P	90 - 110
Cadmium	102	101	P/P	90 - 110
Chromium	101	97.9	P/P	90 - 110
Cobalt	101	99.0	P/P	90 - 110
Copper	106	104	P/P	90 - 110
Lead	92.2	91.5	P/P	90 - 110
Manganese	102	100	P/P	90 - 110
Molybdenum	98.7	97.4	P/P	90 - 110
Nickel	105	103	P/P	90 - 110
Selenium	103	99.6	P/P	90 - 110
Silver	98.7	97.0	P/P	90 - 110
Thallium	104	103	P/P	90 - 110

Reference Method: EPA 200.8 Rev. 5.4
Run ID: A114134
Included Lab Sample IDs: 2348803, 2348804, 2348805

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Aluminum	100	101	P/P	90 - 110
Aluminum	96.4	100	P/P	90 - 110
Antimony	99.7	101	P/P	90 - 110
Antimony	99.7	99.7	P/P	90 - 110
Arsenic	101	101	P/P	90 - 110
Arsenic	99.7	101	P/P	90 - 110
Barium	98.6	99.7	P/P	90 - 110
Barium	99.7	100	P/P	90 - 110

Quality Assurance Report
Calibration Verification

Reference Method: EPA 200.8 Rev. 5.4
Run ID: A114134
Included Lab Sample IDs: 2348803, 2348804, 2348805

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Beryllium	94.4	94.7	P/P	90 - 110
Beryllium	94.7	94.7	P/P	90 - 110
Boron	100	101	P/P	90 - 110
Boron	96.8	100	P/P	90 - 110
Cadmium	101	102	P/P	90 - 110
Cadmium	102	101	P/P	90 - 110
Chromium	101	102	P/P	90 - 110
Chromium	99.5	101	P/P	90 - 110
Cobalt	98.0	98.3	P/P	90 - 110
Cobalt	98.3	99.3	P/P	90 - 110
Copper	96.5	97.8	P/P	90 - 110
Copper	97.8	98.1	P/P	90 - 110
Lead	93.0	93.8	P/P	90 - 110
Lead	93.8	93.6	P/P	90 - 110
Manganese	100	102	P/P	90 - 110
Manganese	102	103	P/P	90 - 110
Molybdenum	95.8	96.6	P/P	90 - 110
Molybdenum	96.6	96.6	P/P	90 - 110
Nickel	96.9	97.7	P/P	90 - 110
Nickel	97.7	99.2	P/P	90 - 110
Selenium	101	102	P/P	90 - 110
Selenium	98.6	101	P/P	90 - 110
Silver	96.8	97.1	P/P	90 - 110
Silver	97.1	97.9	P/P	90 - 110
Thallium	97.0	98.6	P/P	90 - 110
Thallium	98.6	98.5	P/P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Run ID: A114142
Included Lab Sample IDs: 2348793, 2348795

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	97.8	98.1	P/P	90 - 110
Sulfate	99.2	99.4	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Run ID: A114163
Included Lab Sample IDs: 2348788, 2348791

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	101	99.4	P/P	90 - 110
Total-P	99.4	101	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Run ID: A114185
Included Lab Sample IDs: 2348792

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	99.9	98.4	P/P	90 - 110

Quality Assurance Report
Calibration Verification

Reference Method: SM 2320 B-2011
Run ID: A114186
Included Lab Sample IDs: 2348793, 2348795

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	99.5	97.9	P/P	90 - 110

Reference Method: SM 4500-F- C-2011
Run ID: A114186
Included Lab Sample IDs: 2348793, 2348795

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	101	103	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Run ID: A114189
Included Lab Sample IDs: 2348794, 2348796

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	99.7	99.1	P/P	90 - 110

Reference Method: SM 5310 B-2011
Run ID: A114194
Included Lab Sample IDs: 2348794

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	96.5	96.2	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Run ID: A114207
Included Lab Sample IDs: 2348788

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	95.2	98.6	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Run ID: A114209
Included Lab Sample IDs: 2348788, 2348791, 2348792

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	102	98.5	P/P	90 - 110

Reference Method: SM 2320 B-2011
Run ID: A114212
Included Lab Sample IDs: 2348787, 2348789, 2348790

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	100	97.2	P/P	90 - 110

Reference Method: SM 4500-F- C-2011
Run ID: A114212
Included Lab Sample IDs: 2348787, 2348789, 2348790

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

Quality Assurance Report
Calibration Verification

Reference Method: EPA 200.7 Rev. 4.4
Run ID: A114225
Included Lab Sample IDs: 2348803, 2348804, 2348805

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Calcium	100	101	P/P	90 - 110
Calcium	102	102	P/P	90 - 110
Iron	102	102	P/P	90 - 110
Iron	99.3	102	P/P	90 - 110
Magnesium	102	103	P/P	90 - 110
Magnesium	99.6	102	P/P	90 - 110
Potassium	101	102	P/P	90 - 110
Potassium	99.5	102	P/P	90 - 110
Sodium	97.5	99.7	P/P	90 - 110
Sodium	99.8	99.6	P/P	90 - 110
Strontium	101	101	P/P	90 - 110
Strontium	99.4	101	P/P	90 - 110
Tin	101	99.7	P/P	90 - 110
Tin	100	102	P/P	90 - 110
Titanium	100	102	P/P	90 - 110
Titanium	102	101	P/P	90 - 110
Vanadium	100	102	P/P	90 - 110
Vanadium	102	101	P/P	90 - 110
Zinc	100	101	P/P	90 - 110
Zinc	101	100	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Run ID: A114250
Included Lab Sample IDs: 2348794

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

Reference Method: EPA 350.1 Rev. 2.0
Run ID: A114252
Included Lab Sample IDs: 2348788, 2348791, 2348792

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	100		P	90 - 110
Ammonia-N	99.0	97.2	P/P	90 - 110

Reference Method: SM 5310 B-2011
Run ID: A114255
Included Lab Sample IDs: 2348788, 2348791, 2348792

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	96.2	95.6	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Run ID: A114262
Included Lab Sample IDs: 2348794, 2348796

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	98.0	104	P/P	90 - 110

Quality Assurance Report
Calibration Verification

Reference Method: EPA 200.7 Rev. 4.4
Run ID: A114269
Included Lab Sample IDs: 2348802

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Calcium	96.8	96.9	P/P	90 - 110
Iron	98.8	99.2	P/P	90 - 110
Magnesium	98.6	98.3	P/P	90 - 110
Strontium	98.6	97.6	P/P	90 - 110
Tin	96.5	95.5	P/P	90 - 110
Titanium	97.7	95.6	P/P	90 - 110
Vanadium	97.7	96.9	P/P	90 - 110
Zinc	97.6	97.0	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Run ID: A114279
Included Lab Sample IDs: 2348791, 2348792

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	94.4	99.0	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Run ID: A114348
Included Lab Sample IDs: 2348796

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	99.8	101	P/P	90 - 110

Reference Method: SM 5310 B-2011
Run ID: A114412
Included Lab Sample IDs: 2348796

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	96.0	96.3	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)	102					0.999	
EPA 180.1 Rev. 2.0	Turbidity	96.8					0.400	
EPA 200.7 Rev. 4.4	Calcium	106	108	106				0.0171
	Calcium	97.0						1.11
	Iron	109	110	105	107			1.47
	Iron	101	101	99.4				1.58
	Magnesium	109	111	107	107			0.137
	Magnesium	96.3						1.92
	Potassium	108	106	104	106			1.60
	Sodium	103	105	106				0.314
	Strontium	107	109	106	107			0.627
	Strontium	103						0.806
	Tin	111	109	109	108			1.10
	Tin	99.2	83.8	79.6				5.09
	Titanium	107	108	101	103			1.19
	Titanium	101	103	101				1.81
	Vanadium	102	105	102	102			0.174
	Vanadium	101	105	104				0.830
	Zinc	104	106	104	102			1.58
	Zinc	100	96.8	96.0				0.851
EPA 200.8 Rev. 5.4	Aluminum	101	103	108	109			0.751
	Aluminum	99.6	106	107				1.02
	Antimony	102	100	99.4	106			0.612
	Antimony	98.4	96.8	96.9				0.171
	Arsenic	98.5	98.5	98.4	102			0.0997
	Arsenic	97.4	109	109				0.201
	Barium	104	104	104	107			0.0882
	Beryllium	91.7	92.7	92.7	95.4			0.0103
	Beryllium	86.9	92.4	93.0				0.591
	Boron	102	106	103	104			1.11
	Cadmium	97.2	99.3	98.8	101			0.503
	Cadmium	96.6	90.3	87.2				3.48
	Chromium	100	102	101	102			0.326
	Chromium	96.7	84.1	83.7				0.478
	Cobalt	98.1	97.2	97.0	99.5			0.244
	Cobalt	94.6	102	102				0.364
	Copper	95.7	95.0	96.1	97.9			1.10
	Copper	96.4	107	108				0.554
	Lead	95.0	94.8	95.2	99.5			0.411
	Lead	91.2	98.1	97.4				0.700
	Manganese	101	104					1.22
	Manganese	97.7	93.2	93.4				0.199
	Molybdenum	96.2	96.2	97.3	102			1.13
	Molybdenum	94.8	111	111				0.169
	Nickel	97.9	96.6	96.3	97.5			0.302
	Nickel	97.4	106	106				0.636
	Selenium	96.7	93.0	93.7	97.8			0.780
	Selenium	97.4	96.8	95.9				0.950
	Silver	97.9	97.4	97.9	98.4			0.491
	Silver	96.0	88.2	87.4				0.921
	Thallium	94.0	95.1	96.1	99.3			1.05
	Thallium	96.7	102	103				0.606
EPA 300.0 Rev. 2.1	Chloride	97.2	96.0	99.3			2.28	
	Sulfate	97.9	96.4	99.9			2.62	

Quality Assurance Report
Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery		Precision		
					LCS	SMP	MS
EPA 350.1 Rev. 2.0	Ammonia-N	96.8	101	98.4			1.92
	Ammonia-N	98.4	106	107			0.235
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	101	92.0	102			6.02
	Kjeldahl Nitrogen	109					0.415
	Kjeldahl Nitrogen	102	102	101			0.740
EPA 353.2 Rev. 2.0	NO2NO3-N	94.5	91.4	91.4			0.0
	NO2NO3-N	100	95.5	95.0			0.501
EPA 365.1 Rev. 2.0	Total-P	103	94.9	92.2			2.08
	Total-P	105	105	104			1.05
	Total-P	101	92.6	93.4			0.821
	Total-P	103	104	104			0.165
SM 2320 B-2011	Total Alkalinity	98.9				0.106	
	Total Alkalinity	99.9				0.0308	
SM 2540 C-2011	TDS					4.79	
SM 2540 D-2011	TSS					7.69	
SM 4500-F- C-2011	Fluoride	99.5	97.7	97.7			0.0
	Fluoride	100					
SM 5310 B-2011	Organic Carbon	94.2	98.1	99.1			0.741
	Organic Carbon	96.2	94.2	94.3			0.0840
	Organic Carbon	96.1	98.2	98.0			0.164

Reference Method Descriptions

Method	Description	Associated Samples
DEP SOP: NU-094-1	True Color measured at 450 nm (not valid for NPDES monitoring)	2348793, 2348795
EPA 180.1 Rev. 2.0	Turbidity in aqueous matrices	2348787, 2348789, 2348790, 2348793, 2348795
EPA 200.7 Rev. 4.4	Total Recoverable Metals analysis using ICP emission spectroscopy for aqueous samples supporting Clean Water Act Projects	2348802, 2348803, 2348804, 2348805
EPA 200.8 Rev. 5.4	Total Recoverable Metals analysis using ICP-MS for aqueous samples supporting Clean Water Act Projects	2348802, 2348803, 2348804, 2348805
EPA 300.0 Rev. 2.1	Chloride in aqueous matrices	2348793, 2348795
EPA 300.0 Rev. 2.1	Sulfate in aqueous matrices	2348793, 2348795
EPA 350.1 Rev. 2.0	Ammonia in aqueous matrices as mg N/L	2348788, 2348791, 2348792, 2348794, 2348796
EPA 351.2 Rev. 2.0	Total Kjeldahl Nitrogen in aqueous matrices	2348788, 2348791, 2348792, 2348794, 2348796
EPA 353.2 Rev. 2.0	Nitrite/Nitrate in aqueous matrices as mg N/L	2348788, 2348791, 2348792, 2348794, 2348796
EPA 365.1 Rev. 2.0	Total Phosphorus in aqueous matrices as mg P/L	2348788, 2348791, 2348792, 2348794, 2348796
SM 2320 B-2011	Alkalinity in aqueous matrices as mg CaCO3/L	2348787, 2348789, 2348790, 2348793, 2348795
SM 2340 B-2011	Hardness by calculation, in aqueous matrices, reported as mg/L CaCO3	2348803, 2348804, 2348805
SM 2540 C-2011	Total Dissolved Solids in aqueous matrices	2348793, 2348795
SM 2540 D-2011	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2348787, 2348789, 2348790, 2348793, 2348795
SM 4500-F- C-2011	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2348787, 2348789, 2348790, 2348793, 2348795
SM 5310 B-2011	Nonpurgeable Organic Carbon in aqueous matrices	2348788, 2348791, 2348792, 2348794, 2348796

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
DEP SOP: NU-094-1	08/12/2022			08/12/2022 13:32	Samantha L Bates	2348793
	08/12/2022			08/12/2022 13:33	Samantha L Bates	2348795
EPA 180.1 Rev. 2.0	08/12/2022			08/12/2022 13:39	Anna M. Plaviak	2348787
	08/12/2022			08/12/2022 13:40	Anna M. Plaviak	2348789
	08/12/2022			08/12/2022 13:43	Anna M. Plaviak	2348790
	08/12/2022			08/12/2022 13:44	Anna M. Plaviak	2348793
	08/12/2022			08/12/2022 13:45	Anna M. Plaviak	2348795
EPA 200.7 Rev. 4.4	08/12/2022	08/15/2022 09:31	Mackenzie Hunt	08/20/2022 02:54	McKinley C Carter	2348805
	08/12/2022	08/15/2022 09:31	Mackenzie Hunt	08/20/2022 06:34	McKinley C Carter	2348803
	08/12/2022	08/15/2022 09:31	Mackenzie Hunt	08/20/2022 06:42	McKinley C Carter	2348804
	08/12/2022	08/15/2022 09:56	Mackenzie Hunt	08/22/2022 17:07	Alexander Thompson	2348802
	08/12/2022	08/15/2022 09:56	Mackenzie Hunt	08/22/2022 17:39	Alexander Thompson	2348802
EPA 200.8 Rev. 5.4	08/12/2022	08/15/2022 09:31	Mackenzie Hunt	08/16/2022 19:00	Emily M Philpot	2348805
	08/12/2022	08/15/2022 09:31	Mackenzie Hunt	08/16/2022 20:57	Emily M Philpot	2348803
	08/12/2022	08/15/2022 09:31	Mackenzie Hunt	08/16/2022 21:06	Emily M Philpot	2348804
	08/12/2022	08/15/2022 09:56	Mackenzie Hunt	08/16/2022 18:32	Alexander Thompson	2348802
EPA 300.0 Rev. 2.1	08/12/2022			08/18/2022 19:08	Anna M. Plaviak	2348793
	08/12/2022			08/18/2022 21:08	Anna M. Plaviak	2348795
EPA 350.1 Rev. 2.0	08/12/2022			08/18/2022 12:30	Ping Hua	2348794
	08/12/2022			08/18/2022 12:32	Ping Hua	2348796
	08/12/2022			08/22/2022 15:05	Judith K. Clark	2348788
	08/12/2022			08/22/2022 15:09	Judith K. Clark	2348791
	08/12/2022			08/22/2022 16:41	Judith K. Clark	2348792
EPA 351.2 Rev. 2.0	08/12/2022	08/16/2022 13:42	Samantha L Bates	08/19/2022 09:47	Alexandra J Mattheus	2348788
	08/12/2022	08/18/2022 16:55	Samantha L Bates	08/22/2022 13:32	Alexandra J Mattheus	2348794
	08/12/2022	08/18/2022 16:55	Samantha L Bates	08/22/2022 13:34	Alexandra J Mattheus	2348796
	08/12/2022	08/22/2022 16:54	Samantha L Bates	08/23/2022 14:32	Alexandra J Mattheus	2348791
	08/12/2022	08/22/2022 16:54	Samantha L Bates	08/23/2022 14:33	Alexandra J Mattheus	2348792
EPA 353.2 Rev. 2.0	08/12/2022			08/16/2022 10:30	Beverly Y. Sanders	2348794
	08/12/2022			08/16/2022 10:32	Beverly Y. Sanders	2348796
	08/12/2022			08/19/2022 11:04	Beverly Y. Sanders	2348788
	08/12/2022			08/19/2022 11:05	Beverly Y. Sanders	2348791
	08/12/2022			08/19/2022 11:06	Beverly Y. Sanders	2348792
EPA 365.1 Rev. 2.0	08/12/2022	08/17/2022 08:50	Simonne.V. Calhoun	08/17/2022 14:31	James L Waggerby	2348791
	08/12/2022	08/17/2022 08:50	Simonne.V. Calhoun	08/17/2022 14:45	James L Waggerby	2348788
	08/12/2022	08/17/2022 08:50	Simonne.V. Calhoun	08/22/2022 13:29	Simonne.V. Calhoun	2348794
	08/12/2022	08/17/2022 15:03	Adam P Silver	08/18/2022 09:55	James L Waggerby	2348792
	08/12/2022	08/24/2022 15:20	Simonne.V. Calhoun	08/25/2022 14:19	James L Waggerby	2348796
SM 2320 B-2011	08/12/2022			08/18/2022 08:41	Dale L. Simmons	2348793
	08/12/2022			08/18/2022 08:50	Dale L. Simmons	2348795

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
SM 2320 B-2011	08/12/2022			08/19/2022 10:57	Adam P Silver	2348790
	08/12/2022			08/19/2022 11:12	Adam P Silver	2348787
	08/12/2022			08/19/2022 11:53	Adam P Silver	2348789
SM 2340 B-2011	08/12/2022			08/20/2022 02:54	McKinley C Carter	2348805
	08/12/2022			08/20/2022 06:34	McKinley C Carter	2348803
	08/12/2022			08/20/2022 06:42	McKinley C Carter	2348804
SM 2540 C-2011	08/12/2022			08/16/2022 16:02	Yijie Li	2348793, 2348795
SM 2540 D-2011	08/12/2022			08/16/2022 16:02	Yijie Li	2348787, 2348789, 2348790, 2348793, 2348795
SM 4500-F- C-2011	08/12/2022			08/18/2022 08:41	Dale L. Simmons	2348793
	08/12/2022			08/18/2022 08:50	Dale L. Simmons	2348795
	08/12/2022			08/19/2022 08:05	Adam P Silver	2348790
	08/12/2022			08/19/2022 08:10	Adam P Silver	2348787
	08/12/2022			08/19/2022 08:25	Adam P Silver	2348789
SM 5310 B-2011	08/12/2022			08/17/2022 22:36	Khloe J Berg	2348794
	08/12/2022			08/23/2022 02:07	Khloe J Berg	2348788
	08/12/2022			08/23/2022 02:26	Khloe J Berg	2348791
	08/12/2022			08/23/2022 02:56	Khloe J Berg	2348792
	08/12/2022			08/29/2022 17:17	Khloe J Berg	2348796