

Chemical Analysis Report

CEN-DIST-2023-02-09-02

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

Event Description: **Run 12**
Request ID: **RQ-2023-02-06-26**
Customer: **CEN-DIST**
Project ID: **SMP**

Send Reports to:
FL Dept. of Environmental Protection
FL Dept. of Environmental Protection
3319 Maguire Blvd., Suite 232
Orlando, FL 32803-3767
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Certified by: Colin Wright, Program Administrator

Date Certified: 06-MAR-2023 08:32

A handwritten signature in black ink, appearing to read "Colin Wright", is shown on a light-colored background.

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: Lake Warren @ Center

Collection Date/Time: 02/08/2023 13:26

Field ID: G4CE0236

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2386458	DEP SOP: NU-094-1	Color (true)	33		PCU	P425620	
	EPA 180.1 Rev. 2.0	Turbidity	3.0		NTU	P425616	
	EPA 300.0 Rev. 2.1	Chloride	27		mg Cl/L	P426265	
		Sulfate	18		mg SO4/L	P426267	
	SM 2320 B-2011	Total Alkalinity	32		mg CaCO3/L	P426049	
	SM 2540 C-2015	TDS	110		mg/L	P426311	
	SM 2540 D-2015	TSS	6	I	mg/L	P426113	
	SM 4500-F- C-2011	Fluoride	0.061	I	mg F/L	P426438	
2386460	EPA 350.1 Rev. 2.0	Ammonia-N	0.006		mg N/L	P426102	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.75		mg N/L	P425804	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P425857	
	EPA 365.1 Rev. 2.0	Total-P	0.037		mg P/L	P425818	
	SM 5310 B-2011	Organic Carbon	8.2		mg C/L	P425801	

Ref. Method and Comment:

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

Sample Location: Lake Michelle (East) NW of Center

Collection Date/Time: 02/08/2023 11:47

Field ID: G4CE0235

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2386469	EPA 200.7 Rev. 4.4	Calcium	20.0		mg/L	P425650	
		Chromium	1.0	U	ug/L	P425650	
		Iron	300		ug/L	P425650	
		Magnesium	3.10		mg/L	P425650	
		Potassium	2.2		mg/L	P425650	
		Sodium	12.3		mg/L	P425650	
		Strontium	86.9		ug/L	P425650	
		Tin	3.0	U	ug/L	P425650	
		Titanium	1.2	I	ug/L	P425650	
		Vanadium	2.0	U	ug/L	P425650	
		Zinc	5.0	U	ug/L	P425650	
	EPA 200.8 Rev. 5.4	Aluminum	74		ug/L	P425650	
		Antimony	0.68		ug/L	P425650	
		Arsenic	0.47		ug/L	P425650	
		Barium	10.7		ug/L	P425650	
		Beryllium	0.010	U	ug/L	P425650	
		Boron	26.2		ug/L	P425650	
		Cadmium	0.020	U	ug/L	P425650	
		Cobalt	0.058	I	ug/L	P425650	
		Copper	3.75		ug/L	P425650	
		Lead	0.20	U	ug/L	P425650	
		Manganese	7.05		ug/L	P425650	
		Molybdenum	0.97		ug/L	P425650	
		Nickel	0.50	U	ug/L	P425650	
		Selenium	0.20	U	ug/L	P425650	
		Silver	0.010	U	ug/L	P425650	
		Thallium	0.10	U	ug/L	P425650	
	SM 2340 B-2011	Hardness	62.8		mg/L	P425650	

Sample Location: Lake Giles @ Center

Collection Date/Time: 02/08/2023 09:15

Field ID: G4CE0193

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2386452	DEP SOP: NU-094-1	Color (true)	7.3	A	PCU	P425620	
	EPA 180.1 Rev. 2.0	Turbidity	0.85	I	NTU	P425616	
	EPA 300.0 Rev. 2.1	Chloride	23		mg Cl/L	P426057	
		Sulfate	18		mg SO4/L	P426060	
	SM 2320 B-2011	Total Alkalinity	23		mg CaCO3/L	P426049	
	SM 2540 C-2015	TDS	97		mg/L	P426311	
	SM 2540 D-2015	TSS	4	I	mg/L	P426113	
	SM 4500-F- C-2011	Fluoride	0.044	I	mg F/L	P426053	
2386453	EPA 350.1 Rev. 2.0	Ammonia-N	0.033		mg N/L	P425979	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.47		mg N/L	P425807	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.048		mg N/L	P425857	
	EPA 365.1 Rev. 2.0	Total-P	0.018		mg P/L	P425818	
	SM 5310 B-2011	Organic Carbon	3.9		mg C/L	P425801	
2386454	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P425625	

Ref. Method and Comment:

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

Sample Location: Hourglass Lake @ Center

Collection Date/Time: 02/08/2023 09:54

Field ID: G4CE0178

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2386459	DEP SOP: NU-094-1	Color (true)	14		PCU	P425620	
	EPA 180.1 Rev. 2.0	Turbidity	2.7		NTU	P425616	
	EPA 300.0 Rev. 2.1	Chloride	25		mg Cl/L	P426265	
		Sulfate	22		mg SO4/L	P426267	
	SM 2320 B-2011	Total Alkalinity	51		mg CaCO3/L	P426049	
	SM 2540 C-2015	TDS	131		mg/L	P426311	
	SM 2540 D-2015	TSS	5	I	mg/L	P426113	
	SM 4500-F- C-2011	Fluoride	0.025	U	mg F/L	P426053	
2386461	EPA 350.1 Rev. 2.0	Ammonia-N	0.003	I	mg N/L	P425980	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.92		mg N/L	P425809	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P425857	
	EPA 365.1 Rev. 2.0	Total-P	0.057		mg P/L	P425818	
	SM 5310 B-2011	Organic Carbon	5.3		mg C/L	P425801	

Ref. Method and Comment:

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

Sample Location: Lake Terrace SW of Center

Collection Date/Time: 02/08/2023 10:27

Field ID: G4CE0153

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2386455	DEP SOP: NU-094-1	Color (true)	20		PCU	P425620	
	EPA 180.1 Rev. 2.0	Turbidity	3.2		NTU	P425616	
	EPA 300.0 Rev. 2.1	Chloride	17		mg Cl/L	P426265	
		Sulfate	17		mg SO4/L	P426267	
	SM 2320 B-2011	Total Alkalinity	35		mg CaCO3/L	P426049	
	SM 2540 C-2015	TDS	91		mg/L	P426311	
	SM 2540 D-2015	TSS	5	I	mg/L	P426113	
2386456	SM 4500-F- C-2011	Fluoride	0.047	I	mg F/L	P426053	
	EPA 350.1 Rev. 2.0	Ammonia-N	0.029		mg N/L	P425980	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.81		mg N/L	P425809	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.008	I	mg N/L	P425857	
	EPA 365.1 Rev. 2.0	Total-P	0.067		mg P/L	P425818	
2386457	SM 5310 B-2011	Organic Carbon	5.5		mg C/L	P425801	
	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.005	I	mg P/L	P425625	
2386468	EPA 200.7 Rev. 4.4	Calcium	17.7		mg/L	P425650	
		Chromium	1.0	U	ug/L	P425650	
		Iron	30	U	ug/L	P425650	
		Magnesium	2.42		mg/L	P425650	
		Potassium	3.3		mg/L	P425650	
		Sodium	10.6		mg/L	P425650	
		Strontium	46.5		ug/L	P425650	
		Tin	3.0	U	ug/L	P425650	
		Titanium	0.75	U	ug/L	P425650	
		Vanadium	2.2	I	ug/L	P425650	
		Zinc	5.0	U	ug/L	P425650	
	EPA 200.8 Rev. 5.4	Aluminum	61		ug/L	P425650	
		Antimony	0.23		ug/L	P425650	
		Arsenic	0.59		ug/L	P425650	
		Barium	12.2		ug/L	P425650	
		Beryllium	0.010	U	ug/L	P425650	
		Boron	25.1		ug/L	P425650	
		Cadmium	0.020	U	ug/L	P425650	
		Cobalt	0.032	I	ug/L	P425650	
		Copper	4.62		ug/L	P425650	
		Lead	0.26	I	ug/L	P425650	
		Manganese	7.07		ug/L	P425650	
		Molybdenum	0.52	I	ug/L	P425650	
		Nickel	0.50	U	ug/L	P425650	
		Selenium	0.20	U	ug/L	P425650	
		Silver	0.010	U	ug/L	P425650	
		Thallium	0.10	U	ug/L	P425650	
	SM 2340 B-2011	Hardness	54.1		mg/L	P425650	

Ref. Method and Comment:

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

Quality Assurance Report Method Blank Results

Reference Method: DEP SOP: NU-094-1
Batch ID: P425620

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P425616

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P425650

Component	Result	Code	Units
Calcium	0.075	U	mg/L
Chromium	1.0	U	ug/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: P425650

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
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: P426057

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: P426060

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P426265

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P426267

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P425979

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P425980

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P426102

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P425804

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P425807

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P425809

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

Quality Assurance Report Method Blank Results

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P425857

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P425818

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P425625

Component	Result	Code	Units
O-Phosphate-P	0.004	U	mg P/L

Reference Method: SM 2320 B-2011
Batch ID: P426049

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

Reference Method: SM 2540 C-2015
Batch ID: P426311

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-2015
Batch ID: P426113

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500-F- C-2011
Batch ID: P426053

Component	Result	Code	Units
Fluoride	0.025	U	mg F/L

Reference Method: SM 4500-F- C-2011
Batch ID: P426438

Component	Result	Code	Units
Fluoride	0.025	U	mg F/L

Reference Method: SM 5310 B-2011
Batch ID: P425801

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: P425620

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

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P425616

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

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P425650

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Calcium	100		P	85 - 115
Chromium	99.9		P	85 - 115
Iron	104		P	85 - 115
Magnesium	103		P	85 - 115
Potassium	101		P	85 - 115
Sodium	106		P	85 - 115
Strontium	102		P	85 - 115
Tin	101		P	85 - 115
Titanium	101		P	85 - 115
Vanadium	100		P	85 - 115
Zinc	102		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P425650

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Aluminum	102		P	85 - 115
Antimony	96.5		P	85 - 115
Arsenic	102		P	85 - 115
Barium	102		P	85 - 115
Beryllium	98.7		P	85 - 115
Boron	103		P	85 - 115
Cadmium	102		P	85 - 115
Cobalt	101		P	85 - 115
Copper	101		P	85 - 115
Lead	98.0		P	85 - 115
Manganese	103		P	85 - 115
Molybdenum	102		P	85 - 115
Nickel	101		P	85 - 115
Selenium	101		P	85 - 115
Silver	101		P	85 - 115
Thallium	95.2		P	85 - 115

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P426057

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

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P426060

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P426265

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Chloride	106		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P426267

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P425979

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P425980

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P426102

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P425804

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P425807

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: P425809

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

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P425857

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: P425818

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total-P	99.1		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P425625

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
O-Phosphate-P	99.1		P	90 - 110

Reference Method: SM 2320 B-2011
Batch ID: P426049

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	97.0		P	94 - 106

Reference Method: SM 2540 C-2015
Batch ID: P426311

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

Reference Method: SM 2540 D-2015
Batch ID: P426113

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
TSS	91.9		P	85 - 106

Reference Method: SM 4500-F- C-2011
Batch ID: P426053

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	98.5		P	96 - 104

Reference Method: SM 4500-F- C-2011
Batch ID: P426438

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	97.7		P	96 - 104

Reference Method: SM 5310 B-2011
Batch ID: P425801

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	96.9		P	85 - 115

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.7 Rev. 4.4

Batch ID: P425650

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2386251	Calcium	102		P	80 - 120
2386251	Chromium	98.2	96.4	P/P	80 - 120
2386251	Iron	106	104	P/P	80 - 120
2386251	Magnesium	105	102	P/P	80 - 120
2386251	Potassium	101	101	P/P	80 - 120
2386251	Sodium	104	104	P/P	80 - 120
2386251	Strontium	102	102	P/P	80 - 120
2386251	Tin	101	101	P/P	80 - 120
2386251	Titanium	101	100	P/P	80 - 120
2386251	Vanadium	99.9	98.7	P/P	80 - 120
2386251	Zinc	100	98.2	P/P	80 - 120
2386397	Calcium	99.2		P	80 - 120
2386397	Chromium	98.3		P	80 - 120
2386397	Iron	105		P	80 - 120
2386397	Magnesium	101		P	80 - 120
2386397	Potassium	102		P	80 - 120
2386397	Sodium	105		P	80 - 120
2386397	Strontium	102		P	80 - 120
2386397	Tin	101		P	80 - 120
2386397	Titanium	101		P	80 - 120
2386397	Vanadium	102		P	80 - 120
2386397	Zinc	98.5		P	80 - 120

Reference Method: EPA 200.8 Rev. 5.4

Batch ID: P425650

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2386251	Aluminum	101	103	P/P	80 - 120
2386251	Antimony	97.1	99.6	P/P	80 - 120
2386251	Arsenic	101	103	P/P	80 - 120
2386251	Barium	102	104	P/P	80 - 120
2386251	Beryllium	101	101	P/P	80 - 120
2386251	Boron	102	107	P/P	80 - 120
2386251	Cadmium	102	106	P/P	80 - 120
2386251	Cobalt	99.0	101	P/P	80 - 120
2386251	Copper	96.7	99.9	P/P	80 - 120
2386251	Lead	97.6	98.0	P/P	80 - 120
2386251	Manganese	103	106	P/P	80 - 120
2386251	Molybdenum	103	105	P/P	80 - 120
2386251	Nickel	99.0	101	P/P	80 - 120
2386251	Selenium	101	101	P/P	80 - 120
2386251	Silver	100	102	P/P	80 - 120
2386251	Thallium	95.8	96.6	P/P	80 - 120
2386397	Aluminum	102		P	80 - 120
2386397	Antimony	97.9		P	80 - 120
2386397	Arsenic	102		P	80 - 120
2386397	Barium	102		P	80 - 120
2386397	Beryllium	98.2		P	80 - 120
2386397	Boron	106		P	80 - 120
2386397	Cadmium	105		P	80 - 120
2386397	Cobalt	97.5		P	80 - 120
2386397	Copper	97.9		P	80 - 120

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P425650

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2386397	Lead	97.7		P	80 - 120
2386397	Manganese	104		P	80 - 120
2386397	Molybdenum	105		P	80 - 120
2386397	Nickel	97.8		P	80 - 120
2386397	Selenium	99.5		P	80 - 120
2386397	Silver	98.9		P	80 - 120
2386397	Thallium	93.5		P	80 - 120

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P426057

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2386403	Chloride	102		P	90 - 110
2386452	Chloride	93.4		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P426060

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2386403	Sulfate	102		P	90 - 110
2386452	Sulfate	93.6		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P426265

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2383815	Chloride	104		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P426267

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2383815	Sulfate	96.4		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P425979

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2386360	Ammonia-N	97.2	97.4	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P425980

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2386461	Ammonia-N	99.0	98.8	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P426102

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2385100	Ammonia-N	97.2	98.4	P/P	90 - 110

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P425804

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2386363	Kjeldahl Nitrogen	98.2	105	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P425807

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2385927	Kjeldahl Nitrogen	95.0	99.6	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P425809

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2386461	Kjeldahl Nitrogen	98.7	91.4	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P425857

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2386432	NO2NO3-N	95.8		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P425818

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2386456	Total-P	100	103	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P425625

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2386454	O-Phosphate-P	98.1	98.9	P/P	90 - 110

Reference Method: SM 4500-F- C-2011
Batch ID: P426053

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2386771	Fluoride	100	98.9	P/P	94 - 104

Reference Method: SM 4500-F- C-2011
Batch ID: P426438

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2386877	Fluoride	99.5	100	P/P	94 - 104

Reference Method: SM 5310 B-2011
Batch ID: P425801

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2386453	Organic Carbon	95.7	96.3	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: DEP SOP: NU-094-1
Batch ID: P425620

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2386452	Color (true)	4.58	Sample	P	0 - 20

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P425616

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2386357	Turbidity	0.0	Sample	P	0 - 20

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P425650

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2386251	Calcium	0.0765	Spike	P	0 - 20
2386251	Chromium	1.85	Spike	P	0 - 20
2386251	Iron	1.36	Spike	P	0 - 20
2386251	Magnesium	1.25	Spike	P	0 - 20
2386251	Potassium	0.0512	Spike	P	0 - 20
2386251	Sodium	0.217	Spike	P	0 - 20
2386251	Strontium	0.364	Spike	P	0 - 20
2386251	Tin	0.618	Spike	P	0 - 20
2386251	Titanium	1.08	Spike	P	0 - 20
2386251	Vanadium	1.25	Spike	P	0 - 20
2386251	Zinc	2.22	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P425650

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2386251	Aluminum	2.03	Spike	P	0 - 20
2386251	Antimony	2.54	Spike	P	0 - 20
2386251	Arsenic	1.96	Spike	P	0 - 20
2386251	Barium	2.19	Spike	P	0 - 20
2386251	Beryllium	0.684	Spike	P	0 - 20
2386251	Boron	4.13	Spike	P	0 - 20
2386251	Cadmium	3.18	Spike	P	0 - 20
2386251	Cobalt	1.92	Spike	P	0 - 20
2386251	Copper	3.29	Spike	P	0 - 20
2386251	Lead	0.389	Spike	P	0 - 20
2386251	Manganese	2.91	Spike	P	0 - 20
2386251	Molybdenum	1.93	Spike	P	0 - 20
2386251	Nickel	2.13	Spike	P	0 - 20
2386251	Selenium	0.0788	Spike	P	0 - 20
2386251	Silver	1.67	Spike	P	0 - 20
2386251	Thallium	0.850	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P426057

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2386403	Chloride	0.380	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P426060

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2386403	Sulfate	0.0802	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P426265

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2383815	Chloride	3.29	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P426267

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2383815	Sulfate	3.10	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P425979

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2386360	Ammonia-N	0.187	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P425980

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2386461	Ammonia-N	0.190	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P426102

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2385100	Ammonia-N	0.942	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P425804

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2386363	Kjeldahl Nitrogen	4.76	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P425807

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2385927	Kjeldahl Nitrogen	2.54	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P425809

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2386461	Kjeldahl Nitrogen	4.99	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P425857

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2386432	NO2NO3-N	0.0	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P425818

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2386456	Total-P	1.82	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P425625

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2386454	O-Phosphate-P	0.812	Spike	P	0 - 20

Reference Method: SM 2320 B-2011
Batch ID: P426049

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2386771	Total Alkalinity	0.0992	Sample	P	0 - 3.8

Reference Method: SM 2540 C-2015
Batch ID: P426311

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2386420	TDS	1.78	Sample	P	0 - 10

Reference Method: SM 4500-F- C-2011
Batch ID: P426053

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2386771	Fluoride	0.974	Spike	P	0 - 1.6

Quality Assurance Report Precision

Reference Method: SM 4500-F- C-2011
Batch ID: P426438

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2386877	Fluoride	0.480	Spike	P	0 - 1.6

Reference Method: SM 5310 B-2011
Batch ID: P425801

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2386453	Organic Carbon	0.562	Spike	P	0 - 20

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

Quality Assurance Report Calibration Verification

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A117357

Included Lab Sample IDs: 2386452, 2386455, 2386458, 2386459

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Turbidity	100	102	P/P	95 - 105

Reference Method: DEP SOP: NU-094-1

Run ID: A117358

Included Lab Sample IDs: 2386452, 2386455, 2386458, 2386459

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	99.8	100	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Run ID: A117359

Included Lab Sample IDs: 2386454, 2386457

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	98.9	99.3	P/P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A117426

Included Lab Sample IDs: 2386452

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	94.7	92.0	P/P	90 - 110
Sulfate	98.7	95.8	P/P	90 - 110

Reference Method: EPA 200.7 Rev. 4.4

Run ID: A117439

Included Lab Sample IDs: 2386468, 2386469

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Calcium	97.0	96.1	P/P	90 - 110
Chromium	102	102	P/P	90 - 110
Iron	99.3	99.2	P/P	90 - 110
Magnesium	98.2	97.7	P/P	90 - 110
Potassium	99.5	98.6	P/P	90 - 110
Sodium	101	100	P/P	90 - 110
Strontium	106	104	P/P	90 - 110
Tin	101	102	P/P	90 - 110
Titanium	102	102	P/P	90 - 110
Vanadium	101	101	P/P	90 - 110
Zinc	105	104	P/P	90 - 110

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A117441

Included Lab Sample IDs: 2386468, 2386469

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Aluminum	100	100	P/P	90 - 110
Antimony	96.3	98.4	P/P	90 - 110
Arsenic	101	102	P/P	90 - 110
Barium	100	102	P/P	90 - 110
Beryllium	101	104	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A117441

Included Lab Sample IDs: 2386468, 2386469

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Boron	104	98.7	P/P	90 - 110
Cadmium	102	102	P/P	90 - 110
Cobalt	96.4	98.9	P/P	90 - 110
Copper	95.5	98.9	P/P	90 - 110
Lead	96.0	96.1	P/P	90 - 110
Manganese	102	103	P/P	90 - 110
Molybdenum	101	101	P/P	90 - 110
Nickel	96.2	99.3	P/P	90 - 110
Selenium	100	102	P/P	90 - 110
Silver	99.9	99.3	P/P	90 - 110

Reference Method: SM 5310 B-2011

Run ID: A117442

Included Lab Sample IDs: 2386453, 2386456, 2386460, 2386461

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	97.6	98.6	P/P	90 - 110
Organic Carbon	98.0	95.2	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A117454

Included Lab Sample IDs: 2386453, 2386456, 2386460, 2386461

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

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A117483

Included Lab Sample IDs: 2386456, 2386461

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

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A117485

Included Lab Sample IDs: 2386453, 2386460

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

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A117495

Included Lab Sample IDs: 2386453, 2386456, 2386461

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	99.1	98.2	P/P	90 - 110
Ammonia-N	99.8	99.1	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A117501

Included Lab Sample IDs: 2386468, 2386469

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Thallium	104	103	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A117528

Included Lab Sample IDs: 2386453, 2386456, 2386461

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	100	100	P/P	90 - 110
Kjeldahl Nitrogen	97.6	98.3	P/P	90 - 110

Reference Method: SM 2320 B-2011

Run ID: A117530

Included Lab Sample IDs: 2386452, 2386455, 2386458, 2386459

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	96.5	95.2	P/P	90 - 110

Reference Method: SM 4500-F- C-2011

Run ID: A117530

Included Lab Sample IDs: 2386452, 2386455, 2386459

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

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A117546

Included Lab Sample IDs: 2386460

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	99.1	99.2	P/P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A117607

Included Lab Sample IDs: 2386455, 2386458, 2386459

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	104	104	P/P	90 - 110
Sulfate	106	106	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A117612

Included Lab Sample IDs: 2386460

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	97.0	103	P/P	90 - 110

Reference Method: SM 4500-F- C-2011

Run ID: A117689

Included Lab Sample IDs: 2386458

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
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Quality Assurance Report

Calibration Verification

Reference Method: SM 4500-F- C-2011

Run ID: A117689

Included Lab Sample IDs: 2386458

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	101	100	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 SMP	MS
			LCS				
DEP SOP: NU-094-1	Color (true)	100				4.58	
EPA 180.1 Rev. 2.0	Turbidity	101				0.0	
EPA 200.7 Rev. 4.4	Calcium	100	102	99.2			0.0765
	Chromium	99.9	98.2	96.4	98.3		1.85
	Iron	104	106	104	105		1.36
	Magnesium	103	105	102	101		1.25
	Potassium	101	101	101	102		0.0512
	Sodium	106	104	104	105		0.217
	Strontium	102	102	102	102		0.364
	Tin	101	101	101	101		0.618
	Titanium	101	101	100	101		1.08
	Vanadium	100	99.9	98.7	102		1.25
	Zinc	102	100	98.2	98.5		2.22
EPA 200.8 Rev. 5.4	Aluminum	102	101	103	102		2.03
	Antimony	96.5	97.1	99.6	97.9		2.54
	Arsenic	102	101	103	102		1.96
	Barium	102	102	104	102		2.19
	Beryllium	98.7	101	101	98.2		0.684
	Boron	103	102	107	106		4.13
	Cadmium	102	102	106	105		3.18
	Cobalt	101	99.0	101	97.5		1.92
	Copper	101	96.7	99.9	97.9		3.29
	Lead	98.0	97.6	98.0	97.7		0.389
	Manganese	103	103	106	104		2.91
	Molybdenum	102	103	105	105		1.93
	Nickel	101	99.0	101	97.8		2.13
	Selenium	101	99.5	101	101		0.0788
	Silver	101	100	102	98.9		1.67
	Thallium	95.2	95.8	96.6	93.5		0.850
EPA 300.0 Rev. 2.1	Chloride	97.5	102	93.4		0.380	
	Chloride	106	104			3.29	
	Sulfate	100	102	93.6		0.0802	
	Sulfate	110	96.4			3.10	
EPA 350.1 Rev. 2.0	Ammonia-N	101	97.2	97.4			0.187
	Ammonia-N	98.4	99.0	98.8			0.190
	Ammonia-N	98.2	97.2	98.4			0.942
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	99.0	98.2	105			4.76
	Kjeldahl Nitrogen	101	95.0	99.6			2.54
	Kjeldahl Nitrogen	97.5	98.7	91.4			4.99
EPA 353.2 Rev. 2.0	NO2NO3-N	100	95.8				0.0
EPA 365.1 Rev. 2.0	Total-P	99.1	100	103			1.82
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	99.1	98.1	98.9			0.812
SM 2320 B-2011	Total Alkalinity	97.0				0.0992	
SM 2540 C-2015	TDS	95.8				1.78	
SM 2540 D-2015	TSS	91.9					
SM 4500-F- C-2011	Fluoride	98.5	100	98.9			0.974
	Fluoride	97.7	99.5	100			0.480
SM 5310 B-2011	Organic Carbon	96.9	95.7	96.3			0.562

Reference Method Descriptions

Method	Description	Associated Samples
DEP SOP: NU-094-1	True Color measured at 450 nm (not valid for NPDES monitoring)	2386452, 2386455, 2386458, 2386459

Reference Method Descriptions

Method	Description	Associated Samples
EPA 180.1 Rev. 2.0	Turbidity in aqueous matrices	2386452, 2386455, 2386458, 2386459
EPA 200.7 Rev. 4.4	Total Recoverable Metals analysis using ICP emission spectroscopy for aqueous samples supporting Clean Water Act Projects	2386468, 2386469
EPA 200.8 Rev. 5.4	Total Recoverable Metals analysis using ICP-MS for aqueous samples supporting Clean Water Act Projects	2386468, 2386469
EPA 300.0 Rev. 2.1	Chloride in aqueous matrices	2386452, 2386455, 2386458, 2386459
EPA 300.0 Rev. 2.1	Sulfate in aqueous matrices	2386452, 2386455, 2386458, 2386459
EPA 350.1 Rev. 2.0	Ammonia in aqueous matrices as mg N/L	2386453, 2386456, 2386460, 2386461
EPA 351.2 Rev. 2.0	Total Kjeldahl Nitrogen in aqueous matrices	2386453, 2386456, 2386460, 2386461
EPA 353.2 Rev. 2.0	Nitrite/Nitrate in aqueous matrices as mg N/L	2386453, 2386456, 2386460, 2386461
EPA 365.1 Rev. 2.0	Total Phosphorus in aqueous matrices as mg P/L	2386453, 2386456, 2386460, 2386461
EPA 365.1 Rev. 2.0 dissolved	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	2386454, 2386457
SM 2320 B-2011	Alkalinity in aqueous matrices as mg CaCO ₃ /L	2386452, 2386455, 2386458, 2386459
SM 2340 B-2011	Hardness by calculation, in aqueous matrices, reported as mg/L CaCO ₃	2386468, 2386469
SM 2540 C-2015	Total Dissolved Solids in aqueous matrices	2386452, 2386455, 2386458, 2386459
SM 2540 D-2015	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2386452, 2386455, 2386458, 2386459
SM 4500-F- C-2011	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2386452, 2386455, 2386458, 2386459
SM 5310 B-2011	Nonpurgeable Organic Carbon in aqueous matrices	2386453, 2386456, 2386460, 2386461

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	02/09/2023			02/09/2023 15:26	Anna M. Plaviak	2386452, 2386455
	02/09/2023			02/09/2023 15:27	Anna M. Plaviak	2386458, 2386459
EPA 180.1 Rev. 2.0	02/09/2023			02/09/2023 14:07	Chandler E Cox	2386452
	02/09/2023			02/09/2023 14:08	Chandler E Cox	2386455
	02/09/2023			02/09/2023 14:09	Chandler E Cox	2386458, 2386459
EPA 200.7 Rev. 4.4	02/09/2023	02/10/2023 13:20	George D Taylor	02/14/2023 22:34	McKinley C Carter	2386468
	02/09/2023	02/10/2023 13:20	George D Taylor	02/14/2023 22:42	McKinley C Carter	2386469
EPA 200.8 Rev. 5.4	02/09/2023	02/10/2023 13:20	George D Taylor	02/14/2023 20:29	Emily M Philpot	2386468
	02/09/2023	02/10/2023 13:20	George D Taylor	02/14/2023 20:38	Emily M Philpot	2386469
	02/09/2023	02/10/2023 13:20	George D Taylor	02/16/2023 22:45	Emily M Philpot	2386468
	02/09/2023	02/10/2023 13:20	George D Taylor	02/16/2023 22:54	Emily M Philpot	2386469
EPA 300.0 Rev. 2.1	02/09/2023			02/18/2023 08:23	Anna M. Plaviak	2386452
	02/09/2023			02/22/2023 21:40	Anna M. Plaviak	2386455
	02/09/2023			02/22/2023 21:55	Anna M. Plaviak	2386458
	02/09/2023			02/22/2023 22:10	Anna M. Plaviak	2386459
EPA 350.1 Rev. 2.0	02/09/2023			02/16/2023 13:34	Ping Hua	2386453
	02/09/2023			02/16/2023 13:46	Ping Hua	2386461
	02/09/2023			02/16/2023 13:51	Ping Hua	2386456
	02/09/2023			02/20/2023 10:44	Ping Hua	2386460
EPA 351.2 Rev. 2.0	02/09/2023	02/15/2023 11:45	Samantha L Bates	02/22/2023 15:46	Samantha L Bates	2386460
	02/09/2023	02/15/2023 11:46	Samantha L Bates	02/17/2023 15:28	Samantha L Bates	2386453
	02/09/2023	02/15/2023 11:46	Samantha L Bates	02/17/2023 16:12	Samantha L Bates	2386456
	02/09/2023	02/15/2023 11:46	Samantha L Bates	02/17/2023 16:13	Samantha L Bates	2386461
EPA 353.2 Rev. 2.0	02/09/2023			02/15/2023 09:52	Beverly Y. Sanders	2386453
	02/09/2023			02/15/2023 09:53	Beverly Y. Sanders	2386456
	02/09/2023			02/15/2023 09:54	Beverly Y. Sanders	2386460
	02/09/2023			02/15/2023 09:55	Beverly Y. Sanders	2386461
EPA 365.1 Rev. 2.0	02/09/2023	02/15/2023 13:30	Adam P Silver	02/16/2023 10:13	James L Waggeberby	2386456
	02/09/2023	02/15/2023 13:30	Adam P Silver	02/16/2023 10:22	James L Waggeberby	2386461
	02/09/2023	02/15/2023 13:30	Adam P Silver	02/16/2023 13:15	James L Waggeberby	2386453
	02/09/2023	02/15/2023 13:30	Adam P Silver	02/16/2023 13:16	James L Waggeberby	2386460
EPA 365.1 Rev. 2.0 dissolved	02/09/2023			02/09/2023 15:10	Elise M. Gillis	2386454
	02/09/2023			02/09/2023 15:14	Elise M. Gillis	2386457
SM 2320 B-2011	02/09/2023			02/17/2023 09:22	Chandler E Cox	2386452
	02/09/2023			02/17/2023 09:35	Chandler E Cox	2386455
	02/09/2023			02/17/2023 09:54	Chandler E Cox	2386458
	02/09/2023			02/17/2023 10:07	Chandler E Cox	2386459
SM 2340 B-2011	02/09/2023			02/14/2023 22:34	McKinley C Carter	2386468
	02/09/2023			02/14/2023 22:42	McKinley C Carter	2386469
SM 2540 C-2015	02/09/2023			02/14/2023 15:41	Yijie Li	2386452, 2386455, 2386458, 2386459

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
SM 2540 D-2015	02/09/2023			02/14/2023 15:41	Yijie Li	2386452, 2386455, 2386458, 2386459
	02/09/2023			02/17/2023 09:22	Chandler E Cox	2386452
	02/09/2023			02/17/2023 09:35	Chandler E Cox	2386455
	02/09/2023			02/17/2023 10:07	Chandler E Cox	2386459
	02/09/2023			02/28/2023 04:56	Chandler E Cox	2386458
SM 5310 B-2011	02/09/2023			02/14/2023 13:41	Elise M. Gillis	2386453
	02/09/2023			02/14/2023 14:44	Elise M. Gillis	2386461
	02/09/2023			02/14/2023 19:49	Elise M. Gillis	2386456
	02/09/2023			02/14/2023 20:02	Elise M. Gillis	2386460