

Chemical Analysis Report

NE-DIST-2016-06-15-01

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

Event Description: **Suwannee 4**
Request ID: **RQ-2016-06-13-09**
Customer: **NE-DIST**
Project ID: **SMP**

Send Reports to:
FL Dept. of Environmental Protection
8800 Baymeadows Way
Suite 100
Jacksonville, FL 32256
Attn: Nicole Frederick

For additional information please contact
Timothy W. Fitzpatrick
Liang-Tsair Lin, Ph.D.
Colin Wright, Ph.D.
Thekkekalathil Chandrasekhar, PhD, QA Officer
Phone (850) 245-8085

Certified by: Timothy Fitzpatrick, Program Administrator

Date Certified: 13-JUL-2016 11:35

A handwritten signature in black ink, appearing to read "Timothy Fitzpatrick", with a stylized flourish at the end.

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 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: Rocky Creek @ Woodpecker Rd

Collection Date/Time: 06/14/2016 10:50

Field ID: 21010032

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1808069	EPA 180.1 Rev. 2.0	Turbidity	2.2		NTU	P306326	
	EPA 300.0 Rev. 2.1	Chloride	5.4		mg Cl/L	P306618	
		Sulfate	1.1		mg SO4/L	P306621	
	SM 2120 B	Color (true)	970		PCU	P306242	
	SM 2320 B-97	Total Alkalinity	14		mg CaCO3/L	P306373	
	SM 2540 C-97	TDS	170		mg/L	P306885	
	SM 2540 D-97	TSS	2	I	mg/L	P306863	
	SM 4500 F-C-97	Fluoride	0.18		mg F/L	P306377	
1808071	EPA 350.1 Rev. 2.0	Ammonia-N	0.96		mg N/L	P306430	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	2.8		mg N/L	P306289	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P306829	
	EPA 365.1 Rev. 2.0	Total-P	0.47		mg P/L	P306384	
	SM 5310 B-00	Organic Carbon	69		mg C/L	P306568	
1808073	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.39		mg P/L	P306248	

Ref. Method and Comment:

SM 2540 D-97: The precision data is unavailable due to the low analyte concentration in the QC sample.

Sample Location: Jerry Br. @ SE CR 25 A

Collection Date/Time: 06/14/2016 12:40

Field ID: 21020136

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1808070	EPA 180.1 Rev. 2.0	Turbidity	3.6	A	NTU	P306326	
	EPA 300.0 Rev. 2.1	Chloride	4.2		mg Cl/L	P306618	
		Sulfate	3.1		mg SO4/L	P306621	
	SM 2120 B	Color (true)	190		PCU	P306242	
	SM 2320 B-97	Total Alkalinity	34		mg CaCO3/L	P306373	
	SM 2540 C-97	TDS	77		mg/L	P306885	
	SM 2540 D-97	TSS	11		mg/L	P306863	
	SM 4500 F-C-97	Fluoride	0.37		mg F/L	P306377	
1808072	EPA 350.1 Rev. 2.0	Ammonia-N	0.068		mg N/L	P306430	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.67		mg N/L	P306289	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.066		mg N/L	P306829	
	EPA 365.1 Rev. 2.0	Total-P	0.52		mg P/L	P306384	
	SM 5310 B-00	Organic Carbon	15		mg C/L	P306568	
1808074	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.36		mg P/L	P306248	

Ref. Method and Comment:

SM 2540 D-97: The precision data is unavailable due to the low analyte concentration in the QC sample.

Sample Location: Suwannee River @ SR 6

Collection Date/Time: 06/14/2016 10:20

Field ID: 21020141

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1808075	EPA 180.1 Rev. 2.0	Turbidity	1.1		NTU	P306326	
	EPA 300.0 Rev. 2.1	Chloride	6.9		mg Cl/L	P306618	
		Sulfate	0.67		mg SO4/L	P306621	

Field ID: 21020141

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1808075	SM 2120 B	Color (true)	460		PCU	P306242	
	SM 2320 B-97	Total Alkalinity	0.65	U	mg CaCO3/L	P306373	
	SM 2540 C-97	TDS	76		mg/L	P306885	
	SM 2540 D-97	TSS	3	I	mg/L	P306863	
	SM 4500 F-C-97	Fluoride	0.083	I	mg F/L	P306377	
1808079	EPA 350.1 Rev. 2.0	Ammonia-N	0.050		mg N/L	P306430	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.1		mg N/L	P306289	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.026		mg N/L	P306829	
	EPA 365.1 Rev. 2.0	Total-P	0.18		mg P/L	P306384	
	SM 5310 B-00	Organic Carbon	47		mg C/L	P306568	
1808083	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.15		mg P/L	P306248	
1808093	EPA 200.7 Rev. 4.4	Calcium	2.81		mg/L	P306257	
		Iron	970		ug/L	P306257	
		Magnesium	1.63		mg/L	P306257	
		Potassium	0.43	I	mg/L	P306257	
		Sodium	5.0		mg/L	P306257	
		Zinc	5.0	U	ug/L	P306257	
		Arsenic	0.66		ug/L	P306257	
	EPA 200.8 Rev. 5.4	Cadmium	0.028	I	ug/L	P306257	
		Chromium	0.56		ug/L	P306257	
		Copper	0.24	I	ug/L	P306257	
		Lead	0.58		ug/L	P306257	
		Nickel	0.62		ug/L	P306257	
		Silver	0.0050	U	ug/L	P306257	

Ref. Method and Comment:

SM 2540 D-97: The precision data is unavailable due to the low analyte concentration in the QC sample.

EPA 200.8 Rev. 5.4: The lead result was confirmed in the undigested sample on 06/25/2016.

Sample Location: Suwannee River @ Cone Bridge

Collection Date/Time: 06/14/2016 13:30

Field ID: 21010020

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1808076	EPA 180.1 Rev. 2.0	Turbidity	1.2		NTU	P306326	
	EPA 300.0 Rev. 2.1	Chloride	7.0		mg Cl/L	P306618	
		Sulfate	3.8		mg SO4/L	P306621	
		Color (true)	460		PCU	P306242	
	SM 2320 B-97	Total Alkalinity	5.7	Q	mg CaCO3/L	P307618	
1808080	SM 2540 C-97	TDS	102		mg/L	P306886	
	SM 2540 D-97	TSS	2	I	mg/L	P306864	
	SM 4500 F-C-97	Fluoride	0.13		mg F/L	P306377	
	EPA 350.1 Rev. 2.0	Ammonia-N	0.035		mg N/L	P306430	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.1		mg N/L	P306289	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.064		mg N/L	P306829	
	EPA 365.1 Rev. 2.0	Total-P	0.24		mg P/L	P306385	
	SM 5310 B-00	Organic Carbon	45		mg C/L	P306568	

Field ID: 21010020

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1808084	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.18		mg P/L	P306248	
1808094	EPA 200.7 Rev. 4.4	Calcium	4.85		mg/L	P306257	
		Iron	850		ug/L	P306257	
		Magnesium	2.76		mg/L	P306257	
		Potassium	0.58	I	mg/L	P306257	
		Sodium	6.7		mg/L	P306257	
		Zinc	5.0	U	ug/L	P306257	
	EPA 200.8 Rev. 5.4	Arsenic	0.73		ug/L	P306257	
		Cadmium	0.029	I	ug/L	P306257	
		Chromium	0.63		ug/L	P306257	
		Copper	0.26	I	ug/L	P306257	
		Lead	0.52		ug/L	P306257	
		Nickel	0.69		ug/L	P306257	
		Silver	0.0050	U	ug/L	P306257	

Ref. Method and Comment:

SM 2320 B-97: Sample expired prior to analysis due to analytical difficulties.

SM 2540 D-97: The precision data is unavailable due to the low analyte concentration in the QC sample.

Sample Location: Suwannee River @ Turner Boat Ramp

Collection Date/Time: 06/14/2016 11:10

Field ID: 21020152

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1808077	EPA 180.1 Rev. 2.0	Turbidity	1.0		NTU	P306326	
	EPA 300.0 Rev. 2.1	Chloride	6.8		mg Cl/L	P306618	
		Sulfate	0.53		mg SO4/L	P306621	
	SM 2120 B	Color (true)	450		PCU	P306242	
	SM 2320 B-97	Total Alkalinity	0.65	U	mg CaCO3/L	P306373	
	SM 2540 C-97	TDS	77		mg/L	P306886	
	SM 2540 D-97	TSS	2	I	mg/L	P306864	
	SM 4500 F-C-97	Fluoride	0.075	I	mg F/L	P306377	
1808081	EPA 350.1 Rev. 2.0	Ammonia-N	0.067		mg N/L	P306430	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.2		mg N/L	P306290	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.024		mg N/L	P306829	
	EPA 365.1 Rev. 2.0	Total-P	0.18		mg P/L	P306385	
	SM 5310 B-00	Organic Carbon	45		mg C/L	P306568	
1808085	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.15		mg P/L	P306248	
1808095	EPA 200.7 Rev. 4.4	Calcium	2.50		mg/L	P306257	
		Iron	870		ug/L	P306257	
		Magnesium	1.45		mg/L	P306257	
		Potassium	0.36	I	mg/L	P306257	
		Sodium	4.7		mg/L	P306257	
		Zinc	5.0	U	ug/L	P306257	
	EPA 200.8 Rev. 5.4	Arsenic	0.63		ug/L	P306257	
		Cadmium	0.026	I	ug/L	P306257	
		Chromium	0.55		ug/L	P306257	

Field ID: 21020152

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1808095	EPA 200.8 Rev. 5.4	Copper	0.21	I	ug/L	P306257	
		Lead	0.52		ug/L	P306257	
		Nickel	0.58		ug/L	P306257	
		Silver	0.0050	U	ug/L	P306257	

Ref. Method and Comment:

SM 2540 D-97: The precision data is unavailable due to the low analyte concentration in the QC sample.

Sample Location: Duplicate in field

Collection Date/Time: 06/14/2016 13:35

Field ID: 21010020

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1808078	EPA 180.1 Rev. 2.0	Turbidity	1.2		NTU	P306326	
	EPA 300.0 Rev. 2.1	Chloride	7.0		mg Cl/L	P306618	
		Sulfate	3.8		mg SO4/L	P306621	
		Color (true)	470		PCU	P306242	
	SM 2320 B-97	Total Alkalinity	5.7		mg CaCO3/L	P306670	
	SM 2540 C-97	TDS	104		mg/L	P306886	
	SM 2540 D-97	TSS	2	I	mg/L	P306864	
	SM 4500 F-C-97	Fluoride	0.13		mg F/L	P306378	
	EPA 350.1 Rev. 2.0	Ammonia-N	0.035		mg N/L	P306430	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.2		mg N/L	P306290	
1808082	EPA 353.2 Rev. 2.0	NO2NO3-N	0.064		mg N/L	P306829	
	EPA 365.1 Rev. 2.0	Total-P	0.22		mg P/L	P306385	
	SM 5310 B-00	Organic Carbon	45		mg C/L	P306615	
	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.17		mg P/L	P306248	
1808096	EPA 200.7 Rev. 4.4	Calcium	4.85		mg/L	P306257	
		Iron	860		ug/L	P306257	
		Magnesium	2.77		mg/L	P306257	
		Potassium	0.58	I	mg/L	P306257	
		Sodium	6.5		mg/L	P306257	
		Zinc	5.0	U	ug/L	P306257	
	EPA 200.8 Rev. 5.4	Arsenic	0.74		ug/L	P306257	
		Cadmium	0.031	I	ug/L	P306257	
		Chromium	0.62		ug/L	P306257	
		Copper	0.32	I	ug/L	P306257	
		Lead	0.50		ug/L	P306257	
		Nickel	0.62		ug/L	P306257	
		Silver	0.0050	U	ug/L	P306257	

Ref. Method and Comment:

SM 2540 D-97: The precision data is unavailable due to the low analyte concentration in the QC sample.

Quality Assurance Report

Method Blank Results

Quality Assurance Report Method Blank Results

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P306326

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P306257

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
Zinc	5.0	U	ug/L

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P306257

Component	Result	Code	Units
Arsenic	0.050	U	ug/L
Cadmium	0.020	U	ug/L
Chromium	0.050	U	ug/L
Copper	0.10	U	ug/L
Lead	0.050	U	ug/L
Nickel	0.050	U	ug/L
Silver	0.0050	U	ug/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P306618

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P306621

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P306430

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P306289

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

Quality Assurance Report Method Blank Results

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P306290

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P306829

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P306384

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P306385

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P306248

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

Reference Method: SM 2120 B
Batch ID: P306242

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2320 B-97
Batch ID: P306373

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

Reference Method: SM 2320 B-97
Batch ID: P306670

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

Reference Method: SM 2320 B-97
Batch ID: P307618

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

Quality Assurance Report Method Blank Results

Reference Method: SM 2540 C-97
Batch ID: P306885

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 C-97
Batch ID: P306886

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-97
Batch ID: P306863

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 2540 D-97
Batch ID: P306864

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500 F-C-97
Batch ID: P306377

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 4500 F-C-97
Batch ID: P306378

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-00
Batch ID: P306568

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

Reference Method: SM 5310 B-00
Batch ID: P306615

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

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P306257

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
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Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P306257

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Calcium	109		P	85 - 115
Iron	109		P	85 - 115
Magnesium	106		P	85 - 115
Potassium	104		P	85 - 115
Sodium	106		P	85 - 115
Zinc	103		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P306257

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Arsenic	98.7		P	85 - 115
Cadmium	98.3		P	85 - 115
Chromium	97.7		P	85 - 115
Copper	97.8		P	85 - 115
Lead	96.5		P	85 - 115
Nickel	98.7		P	85 - 115
Silver	97.8		P	85 - 115

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P306618

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Chloride	98.3		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P306621

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Sulfate	96.6		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P306430

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P306289

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Kjeldahl Nitrogen	99.4		P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P306290

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

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P306829

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P306384

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P306385

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P306248

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

Reference Method: SM 2320 B-97
Batch ID: P306373

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	102		P	95 - 105

Reference Method: SM 2320 B-97
Batch ID: P306670

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	106		P	95 - 108

Reference Method: SM 2320 B-97
Batch ID: P307618

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	103		P	95 - 108

Reference Method: SM 4500 F-C-97
Batch ID: P306377

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	98.1		P	92 - 103

Reference Method: SM 4500 F-C-97
Batch ID: P306378

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	99.0		P	92 - 103

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: SM 5310 B-00
Batch ID: P306568

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	99.4		P	85 - 115

Reference Method: SM 5310 B-00
Batch ID: P306615

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

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P306257

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1808095	Calcium	115		P	80 - 120
1808095	Iron	114		P	80 - 120
1808095	Magnesium	116		P	80 - 120
1808095	Potassium	108		P	80 - 120
1808095	Sodium	107		P	80 - 120
1808095	Zinc	107		P	80 - 120
1808217	Calcium	111		P	80 - 120
1808217	Iron	107	108	P/P	80 - 120
1808217	Magnesium	108		P	80 - 120
1808217	Potassium	102	103	P/P	80 - 120
1808217	Sodium	109		P	80 - 120
1808217	Zinc	100	100	P/P	80 - 120

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P306257

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1808095	Arsenic	98.8		P	80 - 120
1808095	Cadmium	101		P	80 - 120
1808095	Chromium	102		P	80 - 120
1808095	Copper	99.5		P	80 - 120
1808095	Lead	102		P	80 - 120
1808095	Nickel	99.3		P	80 - 120
1808095	Silver	97.8		P	80 - 120
1808217	Arsenic	98.3	97.7	P/P	80 - 120
1808217	Cadmium	103	102	P/P	80 - 120
1808217	Chromium	101	99.5	P/P	80 - 120
1808217	Copper	94.3	93.5	P/P	80 - 120
1808217	Lead	99.1	98.6	P/P	80 - 120
1808217	Nickel	95.4	93.5	P/P	80 - 120
1808217	Silver	99.8	98.1	P/P	80 - 120

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P306618

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
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Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P306618

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1808070	Chloride	99.0		P	90 - 110
1808104	Chloride	97.2		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P306621

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1808070	Sulfate	96.7		P	90 - 110
1808104	Sulfate	95.8		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P306430

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1808031	Ammonia-N	101	101	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P306289

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1808031	Kjeldahl Nitrogen	97.7	104	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P306290

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1808081	Kjeldahl Nitrogen	102	101	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P306829

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1808031	NO2NO3-N	95.0	98.4	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P306384

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1807947	Total-P	98.0	98.6	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P306385

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1808111	Total-P	96.6	99.2	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P306248

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1808114	O-Phosphate-P	100	101	P/P	90 - 110

Quality Assurance Report Matrix Spike Accuracy

Reference Method: SM 4500 F-C-97
Batch ID: P306377

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1808201	Fluoride	98.6	101	P/P	91 - 105

Reference Method: SM 4500 F-C-97
Batch ID: P306378

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1808183	Fluoride	99.4	99.4	P/P	91 - 105

Reference Method: SM 5310 B-00
Batch ID: P306568

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1808072	Organic Carbon	101	99.8	P/P	85 - 115

Reference Method: SM 5310 B-00
Batch ID: P306615

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1808108	Organic Carbon	95.4	92.0	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P306326

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1808070	Turbidity	8.31	Sample	P	0 - 20

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P306257

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1808217	Calcium	0.123	Spike	P	0 - 20
1808217	Iron	1.30	Spike	P	0 - 20
1808217	Magnesium	0.316	Spike	P	0 - 20
1808217	Potassium	1.48	Spike	P	0 - 20
1808217	Sodium	0.301	Spike	P	0 - 20
1808217	Zinc	0.452	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P306257

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1808217	Arsenic	0.651	Spike	P	0 - 20
1808217	Cadmium	1.32	Spike	P	0 - 20
1808217	Chromium	1.36	Spike	P	0 - 20
1808217	Copper	0.891	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P306257

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1808217	Lead	0.490	Spike	P	0 - 20
1808217	Nickel	1.97	Spike	P	0 - 20
1808217	Silver	1.80	Spike	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P306618

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1808104	Chloride	0.0249	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P306621

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1808104	Sulfate	0.0838	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P306430

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1808031	Ammonia-N	0.0167	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P306289

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1808031	Kjeldahl Nitrogen	4.42	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P306290

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1808081	Kjeldahl Nitrogen	0.869	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P306829

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1808031	NO2NO3-N	2.67	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P306384

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
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Quality Assurance Report Precision

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P306384

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1807947	Total-P	0.663	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P306385

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1808111	Total-P	2.44	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P306248

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1808114	O-Phosphate-P	0.568	Spike	P	0 - 20

Reference Method: SM 2120 B
Batch ID: P306242

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1808103	Color (true)	1.51	Sample	P	0 - 20

Reference Method: SM 2320 B-97
Batch ID: P306373

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1808201	Total Alkalinity	0.169	Sample	P	0 - 4.8

Reference Method: SM 2320 B-97
Batch ID: P306670

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1808975	Total Alkalinity	0.0789	Sample	P	0 - 4.8

Reference Method: SM 2320 B-97
Batch ID: P307618

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1812147	Total Alkalinity	0.0226	Sample	P	0 - 4.8

Reference Method: SM 2540 C-97
Batch ID: P306885

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1807843	TDS	5.68	Sample	P	0 - 10

Quality Assurance Report Precision

Reference Method: SM 2540 C-97
Batch ID: P306886

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1808182	TDS	5.18	Sample	P	0 - 10

Reference Method: SM 4500 F-C-97
Batch ID: P306377

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1808201	Fluoride	1.45	Spike	P	0 - 3.0

Reference Method: SM 4500 F-C-97
Batch ID: P306378

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1808183	Fluoride	0.0	Spike	P	0 - 3.0

Reference Method: SM 5310 B-00
Batch ID: P306568

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1808072	Organic Carbon	0.456	Spike	P	0 - 20

Reference Method: SM 5310 B-00
Batch ID: P306615

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1808108	Organic Carbon	2.14	Spike	P	0 - 20

* Sample, spike and/or laboratory control sample precision (LCS) is reported.
Replicate spike precision may be reported when sample results are below quantifiable levels.

Quality Assurance Report Calibration Verification

Reference Method: EPA 300.0 Rev. 2.1
Run ID: A70045
Included Lab Sample IDs: 1808069, 1808070, 1808075, 1808076, 1808077, 1808078

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	99.9	100	P/P	90 - 110
Sulfate	98.0	94.3	P/P	90 - 110

Reference Method: SM 2120 B
Run ID: A70057
Included Lab Sample IDs: 1808069, 1808070, 1808075, 1808076, 1808077, 1808078

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	101	99.9	P/P	90 - 115

Quality Assurance Report Calibration Verification

Reference Method: SM 2120 B

Run ID: A70057

Included Lab Sample IDs: 1808069, 1808070, 1808075, 1808076, 1808077, 1808078

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	99.9	99.4	P/P	90 - 115

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Run ID: A70064

Included Lab Sample IDs: 1808073, 1808074, 1808083, 1808084, 1808085, 1808086

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	101	99.9	P/P	90 - 110
O-Phosphate-P	101	101	P/P	90 - 110
O-Phosphate-P	102	101	P/P	90 - 110

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A70080

Included Lab Sample IDs: 1808069, 1808070, 1808075, 1808076, 1808077, 1808078

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

Reference Method: SM 2320 B-97

Run ID: A70097

Included Lab Sample IDs: 1808069, 1808070, 1808075, 1808077

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

Reference Method: SM 4500 F-C-97

Run ID: A70097

Included Lab Sample IDs: 1808069, 1808070, 1808075, 1808076, 1808077, 1808078

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

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A70105

Included Lab Sample IDs: 1808071, 1808072, 1808079, 1808080, 1808081, 1808082

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	100	100	P/P	90 - 110
Ammonia-N	101	100	P/P	90 - 110
Ammonia-N	99.3	99.7	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A70112

Included Lab Sample IDs: 1808071, 1808072, 1808079, 1808080, 1808081, 1808082

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	99.5	98.6	P/P	90 - 110
Kjeldahl Nitrogen	99.9	99.5	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A70119

Included Lab Sample IDs: 1808071, 1808072, 1808079, 1808080, 1808081, 1808082

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	100	99.9	P/P	90 - 110
Total-P	99.9	100	P/P	90 - 110

Reference Method: EPA 200.7 Rev. 4.4

Run ID: A70129

Included Lab Sample IDs: 1808093, 1808094, 1808095, 1808096

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Calcium	105	106	P/P	90 - 110
Iron	102	103	P/P	90 - 110
Magnesium	104	104	P/P	90 - 110
Potassium	101	102	P/P	90 - 110
Sodium	102	104	P/P	90 - 110
Zinc	101	101	P/P	90 - 110

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A70140

Included Lab Sample IDs: 1808093, 1808094, 1808095, 1808096

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Arsenic	98.1	97.0	P/P	90 - 110
Cadmium	100	101	P/P	90 - 110
Chromium	100	101	P/P	90 - 110
Copper	99.1	98.2	P/P	90 - 110
Nickel	98.9	97.2	P/P	90 - 110
Silver	96.9	97.3	P/P	90 - 110

Reference Method: SM 5310 B-00

Run ID: A70147

Included Lab Sample IDs: 1808071, 1808072, 1808079, 1808080, 1808081

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	99.5	97.6	P/P	90 - 110
Organic Carbon	99.8	99.5	P/P	90 - 110

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A70151

Included Lab Sample IDs: 1808093, 1808094, 1808095, 1808096

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Lead	99.2	101	P/P	90 - 110

Reference Method: SM 5310 B-00

Run ID: A70160

Included Lab Sample IDs: 1808082

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	95.7	95.4	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: SM 2320 B-97
Run ID: A70169
Included Lab Sample IDs: 1808078

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	108	105	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Run ID: A70218
Included Lab Sample IDs: 1808071, 1808072, 1808079, 1808080, 1808081, 1808082

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	99.5	99.5	P/P	90 - 110

Reference Method: SM 2320 B-97
Run ID: A70474
Included Lab Sample IDs: 1808076

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	101	104	P/P	90 - 110

* Pass/Fail determinations are made for each bracketing calibration verification check.
Control limits for initial calibration checks may be different from those for continuing checks, depending on method requirements.
Where they are different, both control limits are provided.

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery			LCS	Precision SMP	MS
EPA 180.1 Rev. 2.0	Turbidity						8.31	
EPA 200.7 Rev. 4.4	Calcium	109	115	111				0.123
	Iron	109	114	107	108			1.30
	Magnesium	106	116	108				0.316
	Potassium	104	108	102	103			1.48
	Sodium	106	107	109				0.301
	Zinc	103	107	100	100			0.452
EPA 200.8 Rev. 5.4	Arsenic	98.7	98.8	98.3	97.7			0.651
	Cadmium	98.3	101	103	102			1.32
	Chromium	97.7	102	101	99.5			1.36
	Copper	97.8	99.5	94.3	93.5			0.891
	Lead	96.5	102	99.1	98.6			0.490
	Nickel	98.7	99.3	95.4	93.5			1.97
	Silver	97.8	97.8	99.8	98.1			1.80
EPA 300.0 Rev. 2.1	Chloride	98.3	97.2	99.0			0.0249	
	Sulfate	96.6	95.8	96.7			0.0838	
EPA 350.1 Rev. 2.0	Ammonia-N	101	101	101				0.0167
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	99.4	97.7	104				4.42
	Kjeldahl Nitrogen	98.5	102	101				0.869
EPA 353.2 Rev. 2.0	NO2NO3-N	99.0	95.0	98.4				2.67
EPA 365.1 Rev. 2.0	Total-P	96.5	98.0	98.6				0.663
	Total-P	98.2	96.6	99.2				2.44
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	102	100	101				0.568
SM 2120 B	Color (true)						1.51	
SM 2320 B-97	Total Alkalinity	102					0.169	

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery	Precision		
				LCS	SMP	MS
SM 2320 B-97	Total Alkalinity	106			0.0789	
	Total Alkalinity	103			0.0226	
SM 2540 C-97	TDS				5.68	
	TDS				5.18	
SM 4500 F-C-97	Fluoride	98.1	98.6 101			1.45
	Fluoride	99.0	99.4 99.4			0.0
SM 5310 B-00	Organic Carbon	99.4	101 99.8			0.456
	Organic Carbon	96.8	95.4 92.0			2.14

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 180.1 Rev. 2.0 / E31780	Turbidity in aqueous matrices	1808069, 1808070, 1808075, 1808076, 1808077, 1808078
EPA 200.7 Rev. 4.4 / E31780	Total Recoverable Metals analysis using ICP emission spectroscopy for aqueous samples supporting Clean Water Act Projects	1808093, 1808094, 1808095, 1808096
EPA 200.8 Rev. 5.4 / E31780	Total Recoverable Metals analysis using ICP-MS for aqueous samples supporting Clean Water Act Projects	1808093, 1808094, 1808095, 1808096
EPA 300.0 Rev. 2.1 / E31780	Chloride in aqueous matrices	1808069, 1808070, 1808075, 1808076, 1808077, 1808078
EPA 300.0 Rev. 2.1 / E31780	Sulfate in aqueous matrices	1808069, 1808070, 1808075, 1808076, 1808077, 1808078
EPA 350.1 Rev. 2.0 / E31780	Ammonia in aqueous matrices as mg N/L	1808071, 1808072, 1808079, 1808080, 1808081, 1808082
EPA 351.2 Rev. 2.0 / E31780	Total Kjeldahl Nitrogen in aqueous matrices	1808071, 1808072, 1808079, 1808080, 1808081, 1808082
EPA 353.2 Rev. 2.0 / E31780	Nitrite/Nitrate in aqueous matrices as mg N/L	1808071, 1808072, 1808079, 1808080, 1808081, 1808082
EPA 365.1 Rev. 2.0 / E31780	Total Phosphorus in aqueous matrices as mg P/L	1808071, 1808072, 1808079, 1808080, 1808081, 1808082
EPA 365.1 Rev. 2.0 dissolved / E31780	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	1808073, 1808074, 1808083, 1808084, 1808085, 1808086
SM 2120 B / E31780	True Color measured at 450 nm	1808069, 1808070, 1808075, 1808076, 1808077, 1808078
SM 2320 B-97 / E31780	Alkalinity in aqueous matrices as mg CaCO3/L	1808069, 1808070, 1808075, 1808076, 1808077, 1808078
SM 2540 C-97 / E31780	Total Dissolved Solids in aqueous matrices	1808069, 1808070, 1808075, 1808076, 1808077, 1808078
SM 2540 D-97 / E31780	Total Suspended Solids in aqueous matrices	1808069, 1808070, 1808075, 1808076, 1808077, 1808078
SM 4500 F-C-97 / E31780	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	1808069, 1808070, 1808075, 1808076, 1808077, 1808078
SM 5310 B-00 / E31780	Nonpurgeable Organic Carbon in aqueous matrices	1808071, 1808072, 1808079, 1808080, 1808081, 1808082

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
EPA 180.1 Rev. 2.0	06/15/2016			06/15/2016 12:58	Rochelle Y Jackson	1808069
	06/15/2016			06/15/2016 13:11	Rochelle Y Jackson	1808070
	06/15/2016			06/15/2016 13:16	Rochelle Y Jackson	1808075
	06/15/2016			06/15/2016 13:27	Rochelle Y Jackson	1808076
	06/15/2016			06/15/2016 13:38	Rochelle Y Jackson	1808077
	06/15/2016			06/15/2016 13:47	Rochelle Y Jackson	1808078
EPA 200.7 Rev. 4.4	06/15/2016	06/15/2016	Elliott D. Healy	06/20/2016	Joshua Ayres	1808093, 1808094, 1808095, 1808096
EPA 200.8 Rev. 5.4	06/15/2016	06/15/2016	Elliott D. Healy	06/20/2016	Charles J. Peterson	1808093, 1808094, 1808095, 1808096
EPA 300.0 Rev. 2.1	06/15/2016			06/17/2016	Elisa J Lutz	1808069, 1808070, 1808075, 1808076, 1808077, 1808078
EPA 350.1 Rev. 2.0	06/15/2016			06/17/2016	Diana M. Turner	1808071, 1808072, 1808079, 1808080, 1808081, 1808082
EPA 351.2 Rev. 2.0	06/15/2016	06/16/2016	Sofia Elnemr	06/17/2016	Christopher Armour	1808071, 1808072, 1808079, 1808080, 1808081, 1808082
EPA 353.2 Rev. 2.0	06/15/2016			06/24/2016	Beverly Y. Sanders	1808071, 1808072, 1808079, 1808080, 1808081, 1808082
EPA 365.1 Rev. 2.0	06/15/2016	06/17/2016	Vijayalakshmi Reddy	06/20/2016	Lipi Saha	1808071, 1808072, 1808079, 1808080, 1808081, 1808082
EPA 365.1 Rev. 2.0 dissolved	06/15/2016			06/15/2016 13:55	Julia Storbeck	1808084, 1808085
	06/15/2016			06/15/2016 13:56	Julia Storbeck	1808086
	06/15/2016			06/15/2016 14:23	Julia Storbeck	1808073
	06/15/2016			06/15/2016 14:24	Julia Storbeck	1808074
	06/15/2016			06/15/2016 14:29	Julia Storbeck	1808083
SM 2120 B	06/15/2016			06/15/2016 12:45	Rochelle Y Jackson	1808069
	06/15/2016			06/15/2016 12:46	Rochelle Y Jackson	1808075
	06/15/2016			06/15/2016 12:47	Rochelle Y Jackson	1808076
	06/15/2016			06/15/2016 12:48	Rochelle Y Jackson	1808077, 1808078
	06/15/2016			06/15/2016 12:54	Rochelle Y Jackson	1808070
SM 2320 B-97	06/15/2016			06/16/2016	Dale L. Simmons	1808069, 1808070, 1808075, 1808077
	06/15/2016			06/22/2016	Rochelle Y Jackson	1808078
	06/15/2016			07/08/2016	Dale L. Simmons	1808076
SM 2540 C-97	06/15/2016			06/17/2016	Yijie Li	1808069, 1808070, 1808075, 1808076, 1808077, 1808078
SM 2540 D-97	06/15/2016			06/17/2016	Yijie Li	1808069, 1808070, 1808075, 1808076, 1808077, 1808078
SM 4500 F-C-97	06/15/2016			06/16/2016	Dale L. Simmons	1808069, 1808070, 1808075, 1808076, 1808077, 1808078
SM 5310 B-00	06/15/2016			06/21/2016	Diana M. Turner	1808071, 1808072, 1808079, 1808080, 1808081, 1808082