

Chemical Analysis Report

NW-DIST-2017-07-06-01

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

Event Description: **Milton Run WBID10G 11A 260 18 BLANK/DUP**

Request ID: **RQ-2017-06-26-14**

Customer: **NW-DIST**

Project ID: **SMP**

Send Reports to:
FL Dept. of Environmental Protection
160 Government Center
Suite 308
Pensacola, FL 32502-5794
Attn: Cheryl Bunch

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

Certified by: Thekkekalathil Chandrasekhar, Chemist Administrator Date Certified: 31-JUL-2017 11:06



NON-CONFORMANCE REPORT INCLUDED

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: CLEAR CK. @ CR 191

Collection Date/Time: 07/05/2017 10:15

Field ID: G4NW0143

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1911222	EPA 180.1 Rev. 2.0	Turbidity	16		NTU	P328020	
	EPA 300.0 Rev. 2.1	Chloride	6.3		mg Cl/L	P328252	
		Sulfate	0.87		mg SO4/L	P328251	
	SM 2120 B	Color (true)	20	A	PCU	P328024	
	SM 2320 B-97	Total Alkalinity	3.9		mg CaCO3/L	P328318	
	SM 2540 C-97	TDS	31		mg/L	P328354	
	SM 2540 D-97	TSS	7	I	mg/L	P328570	
	SM 4500 F-C-97	Fluoride	0.035	U	mg F/L	P328322	
1911224	EPA 350.1 Rev. 2.0	Ammonia-N	0.017		mg N/L	P328301	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.30		mg N/L	P328233	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.64		mg N/L	P328078	
	EPA 365.1 Rev. 2.0	Total-P	0.013		mg P/L	P328206	
	SM 5310 B-00	Organic Carbon	2.7		mg C/L	P328703	
1911226	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P328032	

Ref. Method and Comment:

SM 2540 D-97: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.

SM 5310 B-00: Batch matrix spike recoveries are unavailable because of high analyte concentration in the QC sample.

Sample Location: WEST FORK @ HWY 87

Collection Date/Time: 07/05/2017 11:15

Field ID: G4NW0017

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1911219	EPA 180.1 Rev. 2.0	Turbidity	4.9		NTU	P328020	
	EPA 300.0 Rev. 2.1	Chloride	4.8		mg Cl/L	P328252	
		Sulfate	0.80		mg SO4/L	P328251	
	SM 2120 B	Color (true)	59	A	PCU	P328028	
	SM 2320 B-97	Total Alkalinity	3.3		mg CaCO3/L	P328318	
	SM 2540 C-97	TDS	44		mg/L	P328354	
	SM 2540 D-97	TSS	6	I	mg/L	P328570	
	SM 4500 F-C-97	Fluoride	0.035	U	mg F/L	P328322	
1911220	EPA 350.1 Rev. 2.0	Ammonia-N	0.015		mg N/L	P328301	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.40		mg N/L	P328233	
	EPA 353.2 Rev. 2.0	NO2NO3-N	1.2		mg N/L	P328078	
	EPA 365.1 Rev. 2.0	Total-P	0.013		mg P/L	P328206	
	SM 5310 B-00	Organic Carbon	4.9		mg C/L	P328703	
1911221	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P328032	
1911231	EPA 200.7 Rev. 4.4	Calcium	2.19		mg/L	P328096	
		Iron	1.03E+03		ug/L	P328096	
		Magnesium	1.63		mg/L	P328096	
		Potassium	0.86	I	mg/L	P328096	
		Sodium	2.0	I	mg/L	P328096	
		Zinc	5.0	U	ug/L	P328096	
	EPA 200.8 Rev. 5.4	Arsenic	0.51		ug/L	P328096	
		Cadmium	0.020	U	ug/L	P328096	

Field ID: G4NW0017

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1911231	EPA 200.8 Rev. 5.4	Chromium	0.40	U	ug/L	P328096	
		Copper	0.25	I	ug/L	P328096	
		Lead	0.31		ug/L	P328096	
		Nickel	0.79	I	ug/L	P328096	
		Silver	0.010	U	ug/L	P328096	

Ref. Method and Comment:

SM 2540 D-97: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.

SM 5310 B-00: Batch matrix spike recoveries are unavailable because of high analyte concentration in the QC sample.

Sample Location: SEVEN-MILE CK UPSTREAM QUINTETTE RD **Collection Date/Time: 07/05/2017 12:20**

Field ID: G4NW0344DUPLICATE

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1911223	EPA 180.1 Rev. 2.0	Turbidity	1.3		NTU	P328020	
	EPA 300.0 Rev. 2.1	Chloride	3.6		mg Cl/L	P328252	
		Sulfate	0.47	I	mg SO4/L	P328251	
	SM 2120 B	Color (true)	13		PCU	P328028	
	SM 2320 B-97	Total Alkalinity	0.65	U	mg CaCO3/L	P328318	
	SM 2540 C-97	TDS	37		mg/L	P328354	
	SM 2540 D-97	TSS	4	I	mg/L	P328570	
	SM 4500 F-C-97	Fluoride	0.035	U	mg F/L	P328322	
1911225	EPA 350.1 Rev. 2.0	Ammonia-N	0.005	I	mg N/L	P328301	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.14	I	mg N/L	P328233	
	EPA 353.2 Rev. 2.0	NO2NO3-N	2.5		mg N/L	P328078	
	EPA 365.1 Rev. 2.0	Total-P	0.003	I	mg P/L	P328206	
	SM 5310 B-00	Organic Carbon	1.6		mg C/L	P328703	
1911227	EPA 365.1 Rev. 2.0	O-Phosphate-P	0.004	U	mg P/L	P328032	
	dissolved						

Ref. Method and Comment:

SM 2540 D-97: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.

SM 5310 B-00: Batch matrix spike recoveries are unavailable because of high analyte concentration in the QC sample.

Sample Location: Seven-Mile Ck Upstream of Quintette Rd **Collection Date/Time: 07/05/2017 12:15**

Field ID: G4NW0344

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1911521	EPA 180.1 Rev. 2.0	Turbidity	1.6		NTU	P328127	
	EPA 300.0 Rev. 2.1	Chloride	6.2		mg Cl/L	P328359	
		Sulfate	0.86		mg SO4/L	P328362	
	SM 2120 B	Color (true)	14	A	PCU	P328090	
	SM 2320 B-97	Total Alkalinity	0.65	U	mg CaCO3/L	P328318	
	SM 2540 C-97	TDS	39		mg/L	P328600	
	SM 2540 D-97	TSS	3	I	mg/L	P328650	
	SM 4500 F-C-97	Fluoride	0.035	U	mg F/L	P328322	
1911523	EPA 350.1 Rev. 2.0	Ammonia-N	0.003	I	mg N/L	P328226	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.15	I	mg N/L	P328345	
	EPA 353.2 Rev. 2.0	NO2NO3-N	2.5		mg N/L	P328197	
	EPA 365.1 Rev. 2.0	Total-P	0.003	I	mg P/L	P328255	

Field ID: G4NW0344

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1911523	SM 5310 B-00	Organic Carbon	1.4		mg C/L	P328704	
1911525	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P328123	

Ref. Method and Comment:

SM 2540 D-97: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.

Sample Location: FIELD BLANK

Collection Date/Time: 07/05/2017 12:25

Field ID: FIELD BLANK

Matrix: W-FIELD-BK

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1911522	EPA 180.1 Rev. 2.0	Turbidity	0.10	U	NTU	P328127	
	EPA 300.0 Rev. 2.1	Chloride	0.20	U	mg Cl/L	P328359	
		Sulfate	0.20	U	mg SO4/L	P328362	
	SM 2120 B	Color (true)	2.5	U	PCU	P328090	
	SM 2320 B-97	Total Alkalinity	0.65	U	mg CaCO3/L	P328318	
	SM 2540 C-97	TDS	15	U	mg/L	P328599	
	SM 2540 D-97	TSS	2	U	mg/L	P328649	
	SM 4500 F-C-97	Fluoride	0.035	U	mg F/L	P328322	
1911524	EPA 350.1 Rev. 2.0	Ammonia-N	0.002	U	mg N/L	P328226	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.080	U	mg N/L	P328345	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P328197	
	EPA 365.1 Rev. 2.0	Total-P	0.002	U	mg P/L	P328255	
	SM 5310 B-00	Organic Carbon	0.50	U	mg C/L	P328704	
1911526	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P328123	

Ref. Method and Comment:

SM 2540 D-97: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.

Non-Conformance Report

NCR ID: 6541

Event(s)

Job(s)

Sample(s)

Test(s)

NW-DIST-2017-07-06-01

NCR Type: SHIPPING/RECEIVING

NCR Category: Samples arrived late

Observation: Coolers arrived late on 07/07/17 at 09:55, Fed Ex tracking # 8113 0563 2825 / 8113 563 2836.
 1st cooler temp was 1.4C and the 2nd cooler was >13.1C.

Resolution: 1st cooler samples were logged in, 2nd cooler samples were not logged in per customer (Mike King) request.

Authorized by/Date: Ramsey K. White 7/21/2017

The Non-Conformance Report details exceptions or problems encountered with the events/jobs/samples/test.
 Please address questions to:

Chemistry Colin Wright (850) 245-8085
 Biology Cheryl Swanson (850) 245-8177

Quality Assurance Report Method Blank Results

Quality Assurance Report Method Blank Results

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P328020

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P328127

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P328096

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: P328096

Component	Result	Code	Units
Arsenic	0.050	U	ug/L
Cadmium	0.020	U	ug/L
Chromium	0.40	U	ug/L
Copper	0.20	U	ug/L
Lead	0.050	U	ug/L
Nickel	0.20	U	ug/L
Silver	0.010	U	ug/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P328251

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P328252

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P328359

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: P328362

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P328226

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P328301

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P328233

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P328345

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P328078

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P328197

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P328206

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P328255

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

Quality Assurance Report Method Blank Results

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P328032

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P328123

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

Reference Method: SM 2120 B
Batch ID: P328024

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2120 B
Batch ID: P328028

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2120 B
Batch ID: P328090

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2320 B-97
Batch ID: P328318

Component	Result	Code	Units
Total Alkalinity	0.65	U	mg CaCO ₃ /L

Reference Method: SM 2540 C-97
Batch ID: P328354

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 C-97
Batch ID: P328599

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 C-97
Batch ID: P328600

Component	Result	Code	Units
TDS	15	U	mg/L

Quality Assurance Report Method Blank Results

Reference Method: SM 2540 D-97
 Batch ID: P328570

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 2540 D-97
 Batch ID: P328649

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 2540 D-97
 Batch ID: P328650

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500 F-C-97
 Batch ID: P328322

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-00
 Batch ID: P328703

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

Reference Method: SM 5310 B-00
 Batch ID: P328704

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: P328096

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Calcium	102		P	85 - 115
Iron	106		P	85 - 115
Magnesium	108		P	85 - 115
Potassium	99.1		P	85 - 115
Sodium	100		P	85 - 115
Zinc	99.7		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4
 Batch ID: P328096

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Arsenic	101		P	85 - 115

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P328096

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Cadmium	99.3		P	85 - 115
Chromium	94.2		P	85 - 115
Copper	99.3		P	85 - 115
Lead	97.9		P	85 - 115
Nickel	100		P	85 - 115
Silver	98.7		P	85 - 115

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P328251

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P328252

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P328359

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P328362

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P328226

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P328301

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: P328233

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

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P328345

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P328078

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P328197

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: P328206

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P328255

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P328032

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P328123

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

Reference Method: SM 2320 B-97
Batch ID: P328318

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	102		P	95 - 108

Reference Method: SM 4500 F-C-97
Batch ID: P328322

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	96.1		P	92 - 103

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: SM 5310 B-00
Batch ID: P328703

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	97.1		P	85 - 115

Reference Method: SM 5310 B-00
Batch ID: P328704

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	97.4		P	85 - 115

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P328096

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1911187	Calcium	104		P	80 - 120
1911187	Iron	105	106	P/P	80 - 120
1911187	Magnesium	107	107	P/P	80 - 120
1911187	Potassium	105	105	P/P	80 - 120
1911187	Sodium	101		P	80 - 120
1911187	Zinc	103	104	P/P	80 - 120

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P328096

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1911187	Arsenic	99.9	101	P/P	80 - 120
1911187	Cadmium	100	101	P/P	80 - 120
1911187	Chromium	94.0	96.5	P/P	80 - 120
1911187	Copper	97.0	98.4	P/P	80 - 120
1911187	Lead	97.9	98.2	P/P	80 - 120
1911187	Nickel	98.4	98.8	P/P	80 - 120
1911187	Silver	98.8	98.4	P/P	80 - 120

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P328251

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1911114	Sulfate	96.0		P	90 - 110
1911183	Sulfate	96.8		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P328252

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1911114	Chloride	95.8		P	90 - 110
1911183	Chloride	95.8		P	90 - 110

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P328359

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1911417	Chloride	96.4		P	90 - 110
1911418	Chloride	98.2		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P328362

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1911417	Sulfate	97.2		P	90 - 110
1911418	Sulfate	97.1		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P328226

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1911488	Ammonia-N	95.4	94.7	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P328301

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1911178	Ammonia-N	98.9	99.2	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P328233

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1911224	Kjeldahl Nitrogen	102	103	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P328345

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1911523	Kjeldahl Nitrogen	94.8	92.7	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P328078

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1911178	NO2NO3-N	96.0	95.0	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P328197

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1911533	NO2NO3-N	101	100	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P328206

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1911300	Total-P	97.4	98.3	P/P	90 - 110

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P328255

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1911523	Total-P	102	102	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P328032

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1911221	O-Phosphate-P	98.7	99.0	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P328123

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1911491	O-Phosphate-P	95.6	98.0	P/P	90 - 110

Reference Method: SM 4500 F-C-97
Batch ID: P328322

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1911834	Fluoride	97.4	100	P/P	91 - 105

Reference Method: SM 5310 B-00
Batch ID: P328704

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1911439	Organic Carbon	96.3	97.2	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P328020

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1911177	Turbidity	0.933	Sample	P	0 - 20

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P328127

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1911531	Turbidity	8.68	Sample	P	0 - 20

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P328096

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1911187	Calcium	0.889	Spike	P	0 - 20
1911187	Iron	0.689	Spike	P	0 - 20
1911187	Magnesium	0.0167	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P328096

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1911187	Potassium	0.220	Spike	P	0 - 20
1911187	Sodium	0.583	Spike	P	0 - 20
1911187	Zinc	0.325	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P328096

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1911187	Arsenic	0.613	Spike	P	0 - 20
1911187	Cadmium	0.977	Spike	P	0 - 20
1911187	Chromium	2.50	Spike	P	0 - 20
1911187	Copper	1.39	Spike	P	0 - 20
1911187	Lead	0.364	Spike	P	0 - 20
1911187	Nickel	0.369	Spike	P	0 - 20
1911187	Silver	0.448	Spike	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P328251

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1911183	Sulfate	0.901	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P328252

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1911183	Chloride	0.0609	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P328359

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1911417	Chloride	0.191	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P328362

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1911417	Sulfate	0.323	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P328226

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1911488	Ammonia-N	0.640	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P328301

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1911178	Ammonia-N	0.159	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P328233

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1911224	Kjeldahl Nitrogen	0.157	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P328345

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1911523	Kjeldahl Nitrogen	1.94	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P328078

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1911178	NO2NO3-N	0.611	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P328197

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1911533	NO2NO3-N	1.43	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P328206

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1911300	Total-P	0.876	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P328255

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1911523	Total-P	0.490	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P328032

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1911221	O-Phosphate-P	0.303	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P328123

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1911491	O-Phosphate-P	1.98	Spike	P	0 - 20

Reference Method: SM 2120 B
Batch ID: P328024

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1911222	Color (true)	3.54	Sample	P	0 - 20

Reference Method: SM 2120 B
Batch ID: P328028

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1911219	Color (true)	2.57	Sample	P	0 - 20

Reference Method: SM 2120 B
Batch ID: P328090

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1911521	Color (true)	12.0	Sample	P	0 - 20

Reference Method: SM 2320 B-97
Batch ID: P328318

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1911834	Total Alkalinity	0.0818	Sample	P	0 - 4.8

Reference Method: SM 2540 C-97
Batch ID: P328354

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1911034	TDS	0.722	Sample	P	0 - 10

Reference Method: SM 2540 C-97
Batch ID: P328599

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1911398	TDS	3.60	Sample	P	0 - 10

Reference Method: SM 2540 C-97
Batch ID: P328600

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1911464	TDS	0.0	Sample	P	0 - 10

Quality Assurance Report Precision

Reference Method: SM 4500 F-C-97
Batch ID: P328322

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1911834	Fluoride	1.92	Spike	P	0 - 3.0

Reference Method: SM 5310 B-00
Batch ID: P328703

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1911184	Organic Carbon	0.0497	Spike	P	0 - 20

Reference Method: SM 5310 B-00
Batch ID: P328704

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1911439	Organic Carbon	0.905	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 180.1 Rev. 2.0
Run ID: A77545
Included Lab Sample IDs: 1911219, 1911222, 1911223

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

Reference Method: SM 2120 B
Run ID: A77546
Included Lab Sample IDs: 1911222

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	112	101	P/P	85 - 115

Reference Method: SM 2120 B
Run ID: A77547
Included Lab Sample IDs: 1911219, 1911223

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	97.8	99.9	P/P	85 - 115

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Run ID: A77548
Included Lab Sample IDs: 1911221, 1911226, 1911227

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

Quality Assurance Report Calibration Verification

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A77561

Included Lab Sample IDs: 1911220, 1911224, 1911225

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

Reference Method: SM 2120 B

Run ID: A77570

Included Lab Sample IDs: 1911521, 1911522

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	100	100	P/P	90 - 115

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Run ID: A77592

Included Lab Sample IDs: 1911525, 1911526

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	99.7	99.3	P/P	90 - 110

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A77595

Included Lab Sample IDs: 1911521, 1911522

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Turbidity	99.0	99.0	P/P	95 - 105

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A77611

Included Lab Sample IDs: 1911523, 1911524

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	100	100	P/P	90 - 110
NO2NO3-N	98.5	100	P/P	90 - 110

Reference Method: EPA 200.7 Rev. 4.4

Run ID: A77622

Included Lab Sample IDs: 1911231

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Calcium	100	98.3	P/P	90 - 110
Iron	99.0	99.7	P/P	90 - 110
Magnesium	99.4	99.9	P/P	90 - 110
Potassium	97.4	97.7	P/P	90 - 110
Sodium	98.2	97.1	P/P	90 - 110
Zinc	99.1	98.8	P/P	90 - 110

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A77627

Included Lab Sample IDs: 1911231

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Arsenic	102	101	P/P	90 - 110
Cadmium	99.4	100	P/P	90 - 110
Chromium	95.8	96.7	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A77627

Included Lab Sample IDs: 1911231

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Copper	101	101	P/P	90 - 110
Lead	98.3	97.8	P/P	90 - 110
Nickel	101	99.7	P/P	90 - 110
Silver	97.3	97.7	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A77630

Included Lab Sample IDs: 1911523, 1911524

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	100	98.6	P/P	90 - 110
Ammonia-N	98.6	99.7	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A77635

Included Lab Sample IDs: 1911220, 1911224, 1911225

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

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A77638

Included Lab Sample IDs: 1911219, 1911222, 1911223, 1911521, 1911522

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	101	102	P/P	90 - 110
Chloride	102	101	P/P	90 - 110
Chloride	99.7	101	P/P	90 - 110
Sulfate	93.9	99.8	P/P	90 - 110
Sulfate	95.7	98.8	P/P	90 - 110
Sulfate	96.3	99.2	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A77648

Included Lab Sample IDs: 1911220, 1911224, 1911225

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

Reference Method: SM 2320 B-97

Run ID: A77651

Included Lab Sample IDs: 1911219, 1911222, 1911223, 1911521, 1911522

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	99.9	103	P/P	90 - 110

Reference Method: SM 4500 F-C-97

Run ID: A77651

Included Lab Sample IDs: 1911219, 1911222, 1911223, 1911521, 1911522

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
-----------	---------	---------	------------	----------------

Quality Assurance Report Calibration Verification

Reference Method: SM 4500 F-C-97

Run ID: A77651

Included Lab Sample IDs: 1911219, 1911222, 1911223, 1911521, 1911522

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	97.6	98.5	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A77686

Included Lab Sample IDs: 1911220, 1911224, 1911225

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	94.3	97.1	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A77696

Included Lab Sample IDs: 1911523, 1911524

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	93.9	99.9	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A77703

Included Lab Sample IDs: 1911523, 1911524

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	99.5	99.2	P/P	90 - 110

Reference Method: SM 5310 B-00

Run ID: A77789

Included Lab Sample IDs: 1911220, 1911224, 1911225, 1911523, 1911524

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	96.6	96.8	P/P	90 - 110
Organic Carbon	96.8	97.2	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				0.933	
	Turbidity				8.68	
EPA 200.7 Rev. 4.4	Calcium	102	104			0.889
	Iron	106	105	106		0.689
	Magnesium	108	107	107		0.0167
	Potassium	99.1	105	105		0.220
	Sodium	100	101			0.583
	Zinc	99.7	103	104		0.325
EPA 200.8 Rev. 5.4	Arsenic	101	99.9	101		0.613
	Cadmium	99.3	100	101		0.977

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery		Precision	
					LCS	SMP
EPA 200.8 Rev. 5.4	Chromium	94.2	94.0	96.5		2.50
	Copper	99.3	97.0	98.4		1.39
	Lead	97.9	97.9	98.2		0.364
	Nickel	100	98.4	98.8		0.369
	Silver	98.7	98.8	98.4		0.448
EPA 300.0 Rev. 2.1	Chloride	96.8	95.8	95.8		0.0609
	Chloride	99.2	96.4	98.2		0.191
	Sulfate	96.5	96.8	96.0		0.901
	Sulfate	100	97.2	97.1		0.323
EPA 350.1 Rev. 2.0	Ammonia-N	105	95.4	94.7		0.640
	Ammonia-N	101	98.9	99.2		0.159
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	106	102	103		0.157
	Kjeldahl Nitrogen	110	94.8	92.7		1.94
EPA 353.2 Rev. 2.0	NO2NO3-N	102	96.0	95.0		0.611
	NO2NO3-N	100	101	100		1.43
EPA 365.1 Rev. 2.0	Total-P	96.4	97.4	98.3		0.876
	Total-P	97.2	102	102		0.490
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	104	98.7	99.0		0.303
	O-Phosphate-P	101	95.6	98.0		1.98
SM 2120 B	Color (true)					3.54
	Color (true)					2.57
	Color (true)					12.0
SM 2320 B-97	Total Alkalinity	102				0.0818
SM 2540 C-97	TDS					0.722
	TDS					3.60
	TDS					0.0
SM 4500 F-C-97	Fluoride	96.1	97.4	100		1.92
SM 5310 B-00	Organic Carbon	97.1				0.0497
	Organic Carbon	97.4	96.3	97.2		0.905

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 180.1 Rev. 2.0 / E31780	Turbidity in aqueous matrices	1911219, 1911222, 1911223, 1911521, 1911522
EPA 200.7 Rev. 4.4 / E31780	Total Recoverable Metals analysis using ICP emission spectroscopy for aqueous samples supporting Clean Water Act Projects	1911231
EPA 200.8 Rev. 5.4 / E31780	Total Recoverable Metals analysis using ICP-MS for aqueous samples supporting Clean Water Act Projects	1911231
EPA 300.0 Rev. 2.1 / E31780	Chloride in aqueous matrices	1911219, 1911222, 1911223, 1911521, 1911522
EPA 300.0 Rev. 2.1 / E31780	Sulfate in aqueous matrices	1911219, 1911222, 1911223, 1911521, 1911522
EPA 350.1 Rev. 2.0 / E31780	Ammonia in aqueous matrices as mg N/L	1911220, 1911224, 1911225, 1911523, 1911524
EPA 351.2 Rev. 2.0 / E31780	Total Kjeldahl Nitrogen in aqueous matrices	1911220, 1911224, 1911225, 1911523, 1911524
EPA 353.2 Rev. 2.0 / E31780	Nitrite/Nitrate in aqueous matrices as mg N/L	1911220, 1911224, 1911225, 1911523, 1911524
EPA 365.1 Rev. 2.0 / E31780	Total Phosphorus in aqueous matrices as mg P/L	1911220, 1911224, 1911225, 1911523, 1911524
EPA 365.1 Rev. 2.0 dissolved / E31780	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	1911221, 1911226, 1911227, 1911525, 1911526
SM 2120 B / E31780	True Color measured at 450 nm	1911219, 1911222, 1911223, 1911521, 1911522

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
SM 2320 B-97 / E31780	Alkalinity in aqueous matrices as mg CaCO ₃ /L	1911219, 1911222, 1911223, 1911521, 1911522
SM 2540 C-97 / E31780	Total Dissolved Solids in aqueous matrices	1911219, 1911222, 1911223, 1911521, 1911522
SM 2540 D-97 / E31780	Total Suspended Solids in aqueous matrices	1911219, 1911222, 1911223, 1911521, 1911522
SM 4500 F-C-97 / E31780	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	1911219, 1911222, 1911223, 1911521, 1911522
SM 5310 B-00 / E31780	Nonpurgeable Organic Carbon in aqueous matrices	1911220, 1911224, 1911225, 1911523, 1911524

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	07/06/2017			07/06/2017 17:01	DeAsia Armster	1911219, 1911222, 1911223
	07/07/2017			07/07/2017 11:10	DeAsia Armster	1911521
	07/07/2017			07/07/2017 11:11	DeAsia Armster	1911522
EPA 200.7 Rev. 4.4	07/06/2017	07/07/2017	Elliott D. Healy	07/10/2017	Betina Topolski	1911231
EPA 200.8 Rev. 5.4	07/06/2017	07/07/2017	Elliott D. Healy	07/10/2017	Nadine Brooks	1911231
EPA 300.0 Rev. 2.1	07/06/2017			07/11/2017	Ping Hua	1911219, 1911222, 1911223
	07/07/2017			07/11/2017	Ping Hua	1911521, 1911522
EPA 350.1 Rev. 2.0	07/06/2017			07/11/2017	Sofia Elnemr	1911220, 1911224, 1911225
	07/07/2017			07/10/2017	Sofia Elnemr	1911523, 1911524
EPA 351.2 Rev. 2.0	07/06/2017	07/11/2017	Adrian Shelby	07/13/2017	Joseph Suarez	1911220, 1911224, 1911225
	07/07/2017	07/12/2017	Adrian Shelby	07/13/2017	Joseph Suarez	1911523, 1911524
EPA 353.2 Rev. 2.0	07/06/2017			07/07/2017	Beverly Y. Sanders	1911220, 1911224, 1911225
	07/07/2017			07/10/2017	Beverly Y. Sanders	1911523, 1911524
EPA 365.1 Rev. 2.0	07/06/2017	07/10/2017	Vijayalakshmi Reddy	07/11/2017	Lipi Saha	1911220, 1911224, 1911225
	07/07/2017	07/11/2017	Vijayalakshmi Reddy	07/13/2017	Lipi Saha	1911523, 1911524
EPA 365.1 Rev. 2.0 dissolved	07/06/2017			07/06/2017 14:56	Anthony C. Onicha	1911221
	07/06/2017			07/06/2017 15:23	Anthony C. Onicha	1911226, 1911227
	07/07/2017			07/07/2017 11:42	Anthony C. Onicha	1911525
	07/07/2017			07/07/2017 11:43	Anthony C. Onicha	1911526
SM 2120 B	07/06/2017			07/06/2017 15:21	Tanya Welborn	1911219
	07/06/2017			07/06/2017 15:23	Tanya Welborn	1911223
	07/06/2017			07/06/2017 17:25	Tanya Welborn	1911222
	07/07/2017			07/07/2017 11:18	Tanya Welborn	1911521
	07/07/2017			07/07/2017 11:19	Tanya Welborn	1911522
SM 2320 B-97	07/06/2017			07/11/2017	Dale L. Simmons	1911219, 1911222, 1911223
	07/07/2017			07/11/2017	Dale L. Simmons	1911521, 1911522
SM 2540 C-97	07/06/2017			07/07/2017	Yijie Li	1911219, 1911222, 1911223
	07/07/2017			07/11/2017	Yijie Li	1911521, 1911522
SM 2540 D-97	07/06/2017			07/07/2017	Yijie Li	1911219, 1911222, 1911223
	07/07/2017			07/11/2017	Yijie Li	1911521, 1911522
SM 4500 F-C-97	07/06/2017			07/11/2017	Dale L. Simmons	1911219, 1911222, 1911223
	07/07/2017			07/11/2017	Dale L. Simmons	1911521, 1911522
SM 5310 B-00	07/06/2017			07/17/2017	Sofia Elnemr	1911220, 1911224, 1911225
	07/07/2017			07/18/2017	Sofia Elnemr	1911523, 1911524