Chemical Analysis Report

SE-DIST-2017-05-05-01

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

Event Description: **SMP-Keys Run**
Request ID: **RQ-2017-04-10-50**
Customer: **SE-DIST**
Project ID: **SMP**

Send Reports to:
FL Dept. of Environmental Protection
FL Dept. of Environmental Protection
2199 South Rock Road
Fort Pierce, FL 34945
Attn: Matthew Sewell

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Certified by: Thekkekalathil Chandrasekhar, Chemist Administrator Date Certified: 02-JUN-2017 14:31

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: BLACKWATER SOUND **Collection Date/Time: 05/04/2017 12:20**

Field ID: G5SE0056 Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1896811	EPA 180.1 Rev. 2.0	Turbidity	0.95		NTU	P324724	
	SM 2320 B-97	Total Alkalinity	146		mg CaCO3/L	P325412	
	SM 2540 D-97	TSS	3	U	mg/L	P325328	
	SM 4500 F-C-97	Fluoride	1.3		mg F/L	P325415	
1896816	EPA 350.1 Rev. 2.0	Ammonia-N	0.019		mg N/L	P324814	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.55		mg N/L	P324982	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P325080	
	EPA 365.1 Rev. 2.0	Total-P	0.008	I	mg P/L	P324842	MS
	SM 5310 B-00	Organic Carbon	5.4		mg C/L	P324948	
1896821	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P324728	

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: LITTLE BLACKWATER SOUND **Collection Date/Time: 05/04/2017 12:40**

Field ID: G5SE0055 Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1896812	EPA 180.1 Rev. 2.0	Turbidity	1.9	A	NTU	P324725	
	SM 2320 B-97	Total Alkalinity	155		mg CaCO3/L	P325412	
	SM 2540 D-97	TSS	3	I	mg/L	P325328	
	SM 4500 F-C-97	Fluoride	1.2		mg F/L	P325415	
1896817	EPA 350.1 Rev. 2.0	Ammonia-N	0.048		mg N/L	P324814	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.69		mg N/L	P325085	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.006	I	mg N/L	P325080	
	EPA 365.1 Rev. 2.0	Total-P	0.007	I	mg P/L	P324842	MS
	SM 5310 B-00	Organic Carbon	6.7		mg C/L	P324948	
1896822	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P324728	

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: LONG SOUND **Collection Date/Time: 05/04/2017 12:50**

Field ID: G5SE0054 Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1896813	EPA 180.1 Rev. 2.0	Turbidity	3.0		NTU	P324725	
	SM 2320 B-97	Total Alkalinity	158		mg CaCO3/L	P325412	
	SM 2540 D-97	TSS	4	I	mg/L	P325328	
	SM 4500 F-C-97	Fluoride	1.2		mg F/L	P325415	
1896818	EPA 350.1 Rev. 2.0	Ammonia-N	0.11		mg N/L	P324814	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.74		mg N/L	P325085	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.026		mg N/L	P325080	
	EPA 365.1 Rev. 2.0	Total-P	0.007	IJ	mg P/L	P324842	MS
	SM 5310 B-00	Organic Carbon	5.7		mg C/L	P324948	
1896823	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P324728	

Field ID: G5SE0054 Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes

Ref. Method and Comment:
SM 2540 D-97: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.
EPA 365.1 Rev. 2.0: Total-P: Refer to the narrative for an explanation of QC Codes.

Sample Location: BARNES SOUND **Collection Date/Time: 05/04/2017 13:15**

Field ID: G5SE0053 Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1896814	EPA 180.1 Rev. 2.0	Turbidity	1.5		NTU	P324725	
	SM 2320 B-97	Total Alkalinity	144		mg CaCO3/L	P325412	
	SM 2540 D-97	TSS	3	U	mg/L	P325328	
	SM 4500 F-C-97	Fluoride	1.3		mg F/L	P325415	
1896819	EPA 350.1 Rev. 2.0	Ammonia-N	0.042		mg N/L	P324814	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.51		mg N/L	P325085	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P325080	
	EPA 365.1 Rev. 2.0	Total-P	0.007	I	mg P/L	P324842	MS
	SM 5310 B-00	Organic Carbon	3.9		mg C/L	P324948	
1896824	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P324728	

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: ROATE 1 KEY A (PIRATE HAT MARINA) **Collection Date/Time: 05/04/2017 13:30**

Field ID: G4SE0093 Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1896826	EPA 180.1 Rev. 2.0	Turbidity	1.0		NTU	P324725	
	SM 2320 B-97	Total Alkalinity	149		mg CaCO3/L	P325412	
	SM 2540 D-97	TSS	3	UA	mg/L	P325329	
	SM 4500 F-C-97	Fluoride	1.3		mg F/L	P325415	
1896827	EPA 350.1 Rev. 2.0	Ammonia-N	0.058		mg N/L	P324814	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.64		mg N/L	P325085	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.005	I	mg N/L	P325080	
	EPA 365.1 Rev. 2.0	Total-P	0.008	I	mg P/L	P324842	MS
	SM 5310 B-00	Organic Carbon	5.1		mg C/L	P324948	
1896828	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P324728	
1896870	EPA 200.7 Rev. 4.4	Iron	120	U	ug/L	P325044	
	EPA 200.8 Rev. 5.4	Arsenic	1.7	I	ug/L	P325506	
		Cadmium	0.25	U	ug/L	P325506	
		Chromium	1.6	I	ug/L	P325506	
		Copper	2.5	U	ug/L	P325506	
		Lead	1.0	U	ug/L	P325506	
		Nickel	1.2	U	ug/L	P325506	
		Silver	0.050	U	ug/L	P325044	
		Zinc	25	U	ug/L	P325506	

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: G4SE0093 **Collection Date/Time: 05/04/2017 13:35**

Field ID: BLANK Matrix: W-FIELD-BK

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1896829	EPA 180.1 Rev. 2.0	Turbidity	0.10	U	NTU	P324725	
	SM 2320 B-97	Total Alkalinity	0.65	U	mg CaCO3/L	P325465	
	SM 2540 D-97	TSS	2	U	mg/L	P325327	
	SM 4500 F-C-97	Fluoride	0.035	U	mg F/L	P325808	
1896830	EPA 350.1 Rev. 2.0	Ammonia-N	0.002	U	mg N/L	P324814	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.080	U	mg N/L	P324990	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P324976	
	EPA 365.1 Rev. 2.0	Total-P	0.002	U	mg P/L	P324811	
	SM 5310 B-00	Organic Carbon	0.66	I	mg C/L	P324947	
1896831	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P324728	
1896871	EPA 200.7 Rev. 4.4	Iron	30	U	ug/L	P325202	
	EPA 200.8 Rev. 5.4	Arsenic	0.050	U	ug/L	P325202	
		Cadmium	0.020	U	ug/L	P325202	
		Chromium	0.40	U	ug/L	P325202	
		Copper	0.20	U	ug/L	P325202	
		Lead	0.050	U	ug/L	P325202	
		Nickel	0.20	U	ug/L	P325202	
		Silver	0.010	U	ug/L	P325202	
		Zinc	1.0	U	ug/L	P325202	

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: The result was confirmed on 05/11/2017.

Sample Location: MANATEE BAY @ CENTER **Collection Date/Time: 05/04/2017 13:45**

Field ID: G5SE0052 Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1896815	EPA 180.1 Rev. 2.0	Turbidity	0.95		NTU	P324725	
	SM 2320 B-97	Total Alkalinity	152		mg CaCO3/L	P325412	
	SM 2540 D-97	TSS	3	IA	mg/L	P325328	
	SM 4500 F-C-97	Fluoride	1.3		mg F/L	P325415	
1896820	EPA 350.1 Rev. 2.0	Ammonia-N	0.028		mg N/L	P324814	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.54		mg N/L	P325085	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P325080	
	EPA 365.1 Rev. 2.0	Total-P	0.009	I	mg P/L	P324842	MS
	SM 5310 B-00	Organic Carbon	4.9		mg C/L	P324948	
1896825	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P324728	

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

Quality Assurance Report
Method Blank Results

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P324724

Component	Result	Code	Units

Quality Assurance Report
Method Blank Results

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P324724

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P324725

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P325044

Component	Result	Code	Units
Iron	30	U	ug/L

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P325202

Component	Result	Code	Units
Iron	30	U	ug/L

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P325044

Component	Result	Code	Units
Silver	0.010	U	ug/L

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P325202

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
Zinc	1.0	U	ug/L

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P325506

Component	Result	Code	Units
Arsenic	0.25	U	ug/L
Cadmium	0.050	U	ug/L
Chromium	0.30	U	ug/L
Copper	0.50	U	ug/L
Lead	0.20	U	ug/L
Nickel	0.25	U	ug/L
Zinc	5.0	U	ug/L

Quality Assurance Report
Method Blank Results

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P324814

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P324982

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P324990

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P325085

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P324976

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P325080

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P324811

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P324842

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P324728

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

Quality Assurance Report
Method Blank Results

Reference Method: SM 2320 B-97
Batch ID: P325412

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

Reference Method: SM 2320 B-97
Batch ID: P325465

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

Reference Method: SM 2540 D-97
Batch ID: P325327

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 2540 D-97
Batch ID: P325328

Component	Result	Code	Units
TSS	3	U	mg/L

Reference Method: SM 2540 D-97
Batch ID: P325329

Component	Result	Code	Units
TSS	3	U	mg/L

Reference Method: SM 4500 F-C-97
Batch ID: P325415

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 4500 F-C-97
Batch ID: P325808

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-00
Batch ID: P324947

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

Reference Method: SM 5310 B-00
Batch ID: P324948

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: P325044

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Iron	108		P	85 - 115

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P325202

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Iron	109		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P325044

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Silver	95.3		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P325202

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Arsenic	101		P	85 - 115
Cadmium	103		P	85 - 115
Chromium	102		P	85 - 115
Copper	92.5		P	85 - 115
Lead	96.9		P	85 - 115
Nickel	95.9		P	85 - 115
Silver	92.9		P	85 - 115
Zinc	96.2		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P325506

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Arsenic	98.9		P	85 - 115
Cadmium	97.1		P	85 - 115
Chromium	102		P	85 - 115
Copper	101		P	85 - 115
Lead	101		P	85 - 115
Nickel	101		P	85 - 115
Zinc	98.5		P	85 - 115

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P324814

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: P324982

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

Quality Assurance Report
Laboratory Control Sample Accuracy

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P324990

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P325085

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P324976

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
NO2NO3-N	104		P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P325080

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P324811

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P324842

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P324728

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
O-Phosphate-P	96.9		P	90 - 110

Reference Method: SM 2320 B-97
Batch ID: P325412

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

Reference Method: SM 2320 B-97
Batch ID: P325465

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

Quality Assurance Report
Laboratory Control Sample Accuracy

Reference Method: SM 4500 F-C-97
Batch ID: P325415

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	102		P	92 - 103

Reference Method: SM 4500 F-C-97
Batch ID: P325808

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	98.9		P	92 - 103

Reference Method: SM 5310 B-00
Batch ID: P324947

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	93.1		P	85 - 115

Reference Method: SM 5310 B-00
Batch ID: P324948

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	91.3		P	85 - 115

Quality Assurance Report
Matrix Spike Accuracy

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P325044

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1896253	Iron	100		P	70 - 130
1897134	Iron	98.1	97.9	P/P	80 - 120

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P325202

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1896152	Iron	107		P	80 - 120
1897166	Iron	107	108	P/P	80 - 120

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P325044

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1896253	Silver	89.9		P	80 - 120
1897134	Silver	89.3	90.6	P/P	80 - 120

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P325202

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1896152	Arsenic	101		P	80 - 120
1896152	Cadmium	104		P	80 - 120
1896152	Chromium	101		P	80 - 120

Quality Assurance Report
Matrix Spike Accuracy

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P325202

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1896152	Copper	89.9		P	80 - 120
1896152	Lead	96.5		P	80 - 120
1896152	Nickel	92.8		P	80 - 120
1896152	Silver	92.8		P	80 - 120
1896152	Zinc	94.1		P	80 - 120
1897166	Arsenic	103	102	P/P	80 - 120
1897166	Cadmium	105	102	P/P	80 - 120
1897166	Chromium	104	103	P/P	80 - 120
1897166	Copper	91.0	90.9	P/P	80 - 120
1897166	Lead	97.3	96.1	P/P	80 - 120
1897166	Nickel	93.5	94.1	P/P	80 - 120
1897166	Silver	95.2	93.0	P/P	80 - 120
1897166	Zinc	96.0	94.3	P/P	80 - 120

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P325506

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1896249	Arsenic	93.4		P	70 - 130
1896249	Cadmium	87.6		P	70 - 130
1896249	Chromium	92.9		P	70 - 130
1896249	Copper	93.2		P	70 - 130
1896249	Lead	101		P	70 - 130
1896249	Nickel	88.0		P	70 - 130
1896249	Zinc	84.8		P	70 - 130
1896308	Arsenic	104	101	P/P	70 - 130
1896308	Cadmium	95.1	91.0	P/P	70 - 130
1896308	Chromium	89.4	93.4	P/P	70 - 130
1896308	Copper	81.3	83.1	P/P	70 - 130
1896308	Lead	112	109	P/P	70 - 130
1896308	Nickel	87.5	90.3	P/P	70 - 130
1896308	Zinc	93.6	92.3	P/P	70 - 130

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P324814

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1896816	Ammonia-N	102	101	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P324982

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1896350	Kjeldahl Nitrogen	97.9	98.5	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P324990

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1896727	Kjeldahl Nitrogen	99.1	98.1	P/P	90 - 110

Quality Assurance Report
Matrix Spike Accuracy

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P325085

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1897065	Kjeldahl Nitrogen	102	97.5	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P324976

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1896794	NO2NO3-N	101	102	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P325080

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1896817	NO2NO3-N	104	105	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P324811

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1896797	Total-P	101	105	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P324842

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1896818	Total-P	92.3	88.6	P/F	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P324728

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1896821	O-Phosphate-P	97.1	97.3	P/P	90 - 110

Reference Method: SM 4500 F-C-97
Batch ID: P325415

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1897107	Fluoride	98.7	98.7	P/P	91 - 105

Reference Method: SM 4500 F-C-97
Batch ID: P325808

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1896723	Fluoride	98.7	99.4	P/P	91 - 105

Reference Method: SM 5310 B-00
Batch ID: P324947

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1896834	Organic Carbon	92.5	92.3	P/P	85 - 115

Quality Assurance Report
Matrix Spike Accuracy

Reference Method: SM 5310 B-00
Batch ID: P324948

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1893591	Organic Carbon	90.2	87.7	P/P	85 - 115

Quality Assurance Report
Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P324724

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1896723	Turbidity	16.1	Sample	P	0 - 20

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P324725

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1896812	Turbidity	2.65	Sample	P	0 - 20

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P325044

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1897134	Iron	0.223	Spike	P	0 - 20

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P325202

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1897166	Iron	1.34	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P325044

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1897134	Silver	1.38	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P325202

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1897166	Arsenic	0.312	Spike	P	0 - 20
1897166	Cadmium	2.41	Spike	P	0 - 20
1897166	Chromium	0.961	Spike	P	0 - 20
1897166	Copper	0.135	Spike	P	0 - 20
1897166	Lead	1.21	Spike	P	0 - 20
1897166	Nickel	0.594	Spike	P	0 - 20

Quality Assurance Report
Precision

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P325202

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1897166	Silver	2.31	Spike	P	0 - 20
1897166	Zinc	1.79	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P325506

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1896308	Arsenic	3.09	Spike	P	0 - 20
1896308	Cadmium	4.39	Spike	P	0 - 20
1896308	Chromium	4.19	Spike	P	0 - 20
1896308	Copper	1.97	Spike	P	0 - 20
1896308	Lead	2.12	Spike	P	0 - 20
1896308	Nickel	3.23	Spike	P	0 - 20
1896308	Zinc	1.42	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P324814

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1896816	Ammonia-N	1.08	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P324982

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1896350	Kjeldahl Nitrogen	0.368	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P324990

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1896727	Kjeldahl Nitrogen	0.755	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P325085

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1897065	Kjeldahl Nitrogen	2.64	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P324976

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1896794	NO2NO3-N	0.820	Spike	P	0 - 20

Quality Assurance Report
Precision

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P325080

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1896817	NO2NO3-N	0.466	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P324811

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1896797	Total-P	2.58	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P324842

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1896818	Total-P	4.03	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P324728

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1896821	O-Phosphate-P	0.206	Spike	P	0 - 20

Reference Method: SM 2320 B-97
Batch ID: P325412

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1897107	Total Alkalinity	0.119	Sample	P	0 - 4.8

Reference Method: SM 2320 B-97
Batch ID: P325465

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1897738	Total Alkalinity	0.304	Sample	P	0 - 4.8

Reference Method: SM 4500 F-C-97
Batch ID: P325415

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1897107	Fluoride	0.0	Spike	P	0 - 3.0

Reference Method: SM 4500 F-C-97
Batch ID: P325808

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1896723	Fluoride	0.480	Spike	P	0 - 3.0

Quality Assurance Report
Precision

Reference Method: SM 5310 B-00
Batch ID: P324947

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1896834	Organic Carbon	0.158	Spike	P	0 - 20

Reference Method: SM 5310 B-00
Batch ID: P324948

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1893591	Organic Carbon	2.58	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: A76221
Included Lab Sample IDs: 1896811, 1896812, 1896813, 1896814, 1896815, 1896826, 1896829

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Turbidity	100	100	P/P	95 - 105
Turbidity	101	100	P/P	95 - 105

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Run ID: A76222
Included Lab Sample IDs: 1896821, 1896822, 1896823, 1896824, 1896825, 1896828, 1896831

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	97.7	97.5	P/P	90 - 110
O-Phosphate-P	97.8	97.9	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Run ID: A76241
Included Lab Sample IDs: 1896816, 1896817, 1896818, 1896819, 1896820, 1896827, 1896830

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

Reference Method: EPA 365.1 Rev. 2.0
Run ID: A76286
Included Lab Sample IDs: 1896830

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	99.2	98.0	P/P	90 - 110

Quality Assurance Report
Calibration Verification

Reference Method: SM 5310 B-00
Run ID: A76303
Included Lab Sample IDs: 1896816, 1896817, 1896818, 1896819, 1896820, 1896827, 1896830

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	92.2	93.8	P/P	90 - 110
Organic Carbon	92.6	94.1	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Run ID: A76313
Included Lab Sample IDs: 1896830

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

Reference Method: EPA 353.2 Rev. 2.0
Run ID: A76348
Included Lab Sample IDs: 1896816, 1896817, 1896818, 1896819, 1896820, 1896827

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	102	101	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Run ID: A76370
Included Lab Sample IDs: 1896816, 1896817, 1896818, 1896819, 1896820, 1896827

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

Reference Method: EPA 351.2 Rev. 2.0
Run ID: A76391
Included Lab Sample IDs: 1896816

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

Reference Method: EPA 200.8 Rev. 5.4
Run ID: A76394
Included Lab Sample IDs: 1896870

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Silver	96.5	96.1	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Run ID: A76416
Included Lab Sample IDs: 1896817, 1896818, 1896819, 1896820, 1896827

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	104	104	P/P	90 - 110
Kjeldahl Nitrogen	104	109	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Run ID: A76434
Included Lab Sample IDs: 1896830

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

Quality Assurance Report
Calibration Verification

Reference Method: EPA 351.2 Rev. 2.0
Run ID: A76434
Included Lab Sample IDs: 1896830

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

Reference Method: SM 2320 B-97
Run ID: A76475
Included Lab Sample IDs: 1896811, 1896812, 1896813, 1896814, 1896815, 1896826

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	100	103	P/P	90 - 110
Total Alkalinity	103	101	P/P	90 - 110

Reference Method: SM 4500 F-C-97
Run ID: A76475
Included Lab Sample IDs: 1896811, 1896812, 1896813, 1896814, 1896815, 1896826

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	95.9	97.6	P/P	90 - 110

Reference Method: EPA 200.8 Rev. 5.4
Run ID: A76490
Included Lab Sample IDs: 1896871

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Arsenic	98.5	97.7	P/P	90 - 110
Cadmium	98.8	98.1	P/P	90 - 110
Chromium	100	101	P/P	90 - 110
Copper	94.3	93.1	P/P	90 - 110
Lead	94.4	95.0	P/P	90 - 110
Nickel	95.0	93.7	P/P	90 - 110
Silver	95.8	94.6	P/P	90 - 110
Zinc	96.3	95.0	P/P	90 - 110

Reference Method: SM 2320 B-97
Run ID: A76498
Included Lab Sample IDs: 1896829

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

Reference Method: EPA 200.7 Rev. 4.4
Run ID: A76504
Included Lab Sample IDs: 1896870

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

Reference Method: EPA 200.7 Rev. 4.4
Run ID: A76547
Included Lab Sample IDs: 1896871

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

Quality Assurance Report
Calibration Verification

Reference Method: SM 4500 F-C-97
Run ID: A76661
Included Lab Sample IDs: 1896829

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

Reference Method: EPA 200.8 Rev. 5.4
Run ID: A76664
Included Lab Sample IDs: 1896870

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Arsenic	100	95.0	P/P	90 - 110
Lead	102	98.2	P/P	90 - 110
Zinc	98.8	95.7	P/P	90 - 110

Reference Method: EPA 200.8 Rev. 5.4
Run ID: A76687
Included Lab Sample IDs: 1896870

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Cadmium	98.8	99.6	P/P	90 - 110
Chromium	98.3	100	P/P	90 - 110
Copper	95.9	97.7	P/P	90 - 110
Nickel	96.3	96.8	P/P	90 - 110

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

Quality Assurance Report
Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery			Precision		
						LCS	SMP	MS
EPA 180.1 Rev. 2.0	Turbidity						16.1	
	Turbidity						2.65	
EPA 200.7 Rev. 4.4	Iron	108	98.1	97.9	100			0.223
	Iron	109	107	107	108			1.34
EPA 200.8 Rev. 5.4	Arsenic	101	101	103	102			0.312
	Arsenic	98.9	93.4	104	101			3.09
	Cadmium	103	104	105	102			2.41
	Cadmium	97.1	87.6	95.1	91.0			4.39
	Chromium	102	101	104	103			0.961
	Chromium	102	92.9	89.4	93.4			4.19
	Copper	92.5	89.9	91.0	90.9			0.135
	Copper	101	93.2	81.3	83.1			1.97
	Lead	96.9	96.5	97.3	96.1			1.21
	Lead	101	101	112	109			2.12
	Nickel	95.9	92.8	93.5	94.1			0.594
	Nickel	101	88.0	87.5	90.3			3.23
	Silver	95.3	89.9	89.3	90.6			1.38
	Silver	92.9	92.8	95.2	93.0			2.31
	Zinc	96.2	94.1	96.0	94.3			1.79
	Zinc	98.5	84.8	93.6	92.3			1.42

Quality Assurance Report
Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery		Precision		
					LCS	SMP	MS
EPA 350.1 Rev. 2.0	Ammonia-N	101	102	101			1.08
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	100	97.9	98.5			0.368
	Kjeldahl Nitrogen	104	99.1	98.1			0.755
	Kjeldahl Nitrogen	101	102	97.5			2.64
EPA 353.2 Rev. 2.0	NO2NO3-N	104	101	102			0.820
	NO2NO3-N	102	104	105			0.466
EPA 365.1 Rev. 2.0	Total-P	97.6	101	105			2.58
	Total-P	106	92.3	88.6			4.03
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	96.9	97.1	97.3			0.206
SM 2320 B-97	Total Alkalinity	103				0.119	
	Total Alkalinity	102				0.304	
SM 4500 F-C-97	Fluoride	102	98.7	98.7			0.0
	Fluoride	98.9	98.7	99.4			0.480
SM 5310 B-00	Organic Carbon	93.1	92.5	92.3			0.158
	Organic Carbon	91.3	90.2	87.7			2.58

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 180.1 Rev. 2.0 / E31780	Turbidity in aqueous matrices	1896811, 1896812, 1896813, 1896814, 1896815, 1896826, 1896829
EPA 200.7 Rev. 4.4 / E31780	Total Recoverable Metals analysis using ICP emission spectroscopy for aqueous samples supporting Clean Water Act Projects	1896870, 1896871
EPA 200.8 Rev. 5.4 / E31780	Total Recoverable Metals analysis using ICP-MS for aqueous samples supporting Clean Water Act Projects	1896870, 1896871
EPA 350.1 Rev. 2.0 / E31780	Ammonia in aqueous matrices as mg N/L	1896816, 1896817, 1896818, 1896819, 1896820, 1896827, 1896830
EPA 351.2 Rev. 2.0 / E31780	Total Kjeldahl Nitrogen in aqueous matrices	1896816, 1896817, 1896818, 1896819, 1896820, 1896827, 1896830
EPA 353.2 Rev. 2.0 / E31780	Nitrite/Nitrate in aqueous matrices as mg N/L	1896816, 1896817, 1896818, 1896819, 1896820, 1896827, 1896830
EPA 365.1 Rev. 2.0 / E31780	Total Phosphorus in aqueous matrices as mg P/L	1896816, 1896817, 1896818, 1896819, 1896820, 1896827, 1896830
EPA 365.1 Rev. 2.0 dissolved / E31780	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	1896821, 1896822, 1896823, 1896824, 1896825, 1896828, 1896831
SM 2320 B-97 / E31780	Alkalinity in aqueous matrices as mg CaCO3/L	1896811, 1896812, 1896813, 1896814, 1896815, 1896826, 1896829
SM 2540 D-97 / E31780	Total Suspended Solids in aqueous matrices	1896811, 1896812, 1896813, 1896814, 1896815, 1896826, 1896829
SM 4500 F-C-97 / E31780	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	1896811, 1896812, 1896813, 1896814, 1896815, 1896826, 1896829
SM 5310 B-00 / E31780	Nonpurgeable Organic Carbon in aqueous matrices	1896816, 1896817, 1896818, 1896819, 1896820, 1896827, 1896830

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	05/05/2017			05/05/2017 15:29	Sima Feizi	1896811, 1896812, 1896813, 1896814, 1896815, 1896826, 1896829
EPA 200.7 Rev. 4.4	05/05/2017	05/10/2017	Elliott D. Healy	05/17/2017	Martin Acosta	1896870
	05/05/2017	05/12/2017	Elliott D. Healy	05/18/2017	Martin Acosta	1896871
EPA 200.8 Rev. 5.4	05/05/2017	05/10/2017	Elliott D. Healy	05/13/2017	Betina Topolski	1896870
	05/05/2017	05/12/2017	Elliott D. Healy	05/16/2017	Betina Topolski	1896871
	05/05/2017	05/18/2017	Elliott D. Healy	05/24/2017	Robert K Palmer	1896870
	05/05/2017	05/18/2017	Elliott D. Healy	05/25/2017	Robert K Palmer	1896870
EPA 350.1 Rev. 2.0	05/05/2017			05/08/2017	Julia Storbeck	1896816, 1896817, 1896818, 1896819, 1896820, 1896827, 1896830
EPA 351.2 Rev. 2.0	05/05/2017	05/10/2017	Adrian Shelby	05/12/2017	Joseph Suarez	1896816
	05/05/2017	05/11/2017	Adrian Shelby	05/15/2017	Joseph Suarez	1896817, 1896818, 1896819, 1896820, 1896827, 1896830
EPA 353.2 Rev. 2.0	05/05/2017			05/09/2017	Beverly Y. Sanders	1896830
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EPA 365.1 Rev. 2.0	05/05/2017	05/08/2017	Vijayalakshmi Reddy	05/09/2017	Lipi Saha	1896830
	05/05/2017	05/09/2017	Adrian Shelby	05/10/2017	Lipi Saha	1896816, 1896817, 1896818, 1896819, 1896820, 1896827
EPA 365.1 Rev. 2.0 dissolved	05/05/2017			05/05/2017 16:17	Anthony C. Onicha	1896821
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