

Chemical Analysis Report

SE-DIST-2017-03-30-02

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

Event Description: **SMP-Keys Run (2/5)**

Request ID: **RQ-2017-02-13-14**

Customer: **SE-DIST**

Project ID: **SMP**

Send Reports to:

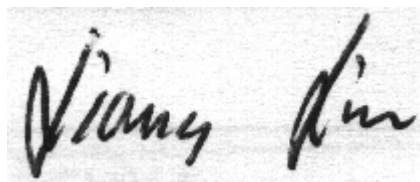
FL Dept. of Environmental Protection
FL Dept. of Environmental Protection
2199 South Rock Road
Fort Pierce, FL 34945
Attn: Matthew Sewell

For additional information please contact

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Certified by: Liang Lin, Environmental Administrator

Date Certified: 26-APR-2017 10:37

A handwritten signature in black ink, appearing to read "Liang Lin", on a light-colored background.

Case Narrative

Unless otherwise noted, all samples included in this report were received in accordance with protocols referenced in Chapter 62-160, Florida Administrative Code (F.A.C.). Results published in this report pertain only to the samples as submitted to, and received by the laboratory. All times in this report are adjusted to the applicable Eastern Time Zone (EST or EDT).

Results for the following analytical groups are included in this report: Metals and Nutrients.

Scientific notation may be used in reporting very large or small values. Values reported using scientific notation will take the form of the following example: 1.3E+03, which is equivalent to 1.3×10^3 or 1300.

Unless otherwise noted, analytical values for soil and sediment samples are reported on a dry weight basis, and analytical values for waste and tissue samples are reported on a wet weight basis.

Results for TNI accredited tests met requirements established by The NELAC Institute. A double asterisk (**) is used to indicate an analyte/matrix/method for which the laboratory is not TNI accredited 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: BARNES SOUND

Collection Date/Time: 03/29/2017 12:40

Field ID: BARNES SOUND

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1884660	EPA 180.1 Rev. 2.0	Turbidity	0.55		NTU	P322543	
	SM 2320 B-97	Total Alkalinity	150		mg CaCO3/L	P323075	
	SM 2540 D-97	TSS	3	U	mg/L	P322880	
	SM 4500 F-C-97	Fluoride	1.1		mg F/L	P323539	
1884665	EPA 350.1 Rev. 2.0	Ammonia-N	0.027		mg N/L	P322504	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.53		mg N/L	P322630	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.008	I	mg N/L	P322651	
	EPA 365.1 Rev. 2.0	Total-P	0.007	I	mg P/L	P322703	
	SM 5310 B-00	Organic Carbon	3.6		mg C/L	P322584	
1884670	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P322537	

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: ROUTE 1 KEY A (PIRATE HAT MARINA)

Collection Date/Time: 03/29/2017 12:55

Field ID: ROUTE 1 KEY A (PIRATE HAT MARI

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1884675	EPA 180.1 Rev. 2.0	Turbidity	1.0		NTU	P322544	
	SM 2320 B-97	Total Alkalinity	153		mg CaCO3/L	P323075	
	SM 2540 D-97	TSS	5	I	mg/L	P322880	
	SM 4500 F-C-97	Fluoride	1.1		mg F/L	P323539	
1884676	EPA 350.1 Rev. 2.0	Ammonia-N	0.026		mg N/L	P322504	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.55		mg N/L	P322630	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P322652	
	EPA 365.1 Rev. 2.0	Total-P	0.007	I	mg P/L	P322703	
	SM 5310 B-00	Organic Carbon	4.5		mg C/L	P322584	
1884677	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P322537	
1884687	EPA 200.7 Rev. 4.4	Iron	120	U	ug/L	P322769	
	EPA 200.8 Rev. 5.4	Arsenic	1.59		ug/L	P322769	
		Cadmium	0.080	U	ug/L	P322769	
		Chromium	1.6	U	ug/L	P322769	
		Copper	0.80	U	ug/L	P322769	
		Lead	0.20	U	ug/L	P322769	
		Nickel	0.80	U	ug/L	P322769	
		Silver	0.040	U	ug/L	P322769	
		Zinc	5.9	I	ug/L	P322769	

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: MANATEE @ CENTER

Collection Date/Time: 03/29/2017 13:10

Field ID: MANATEE @ CENTER

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1884661	EPA 180.1 Rev. 2.0	Turbidity	0.45		NTU	P322543	
	SM 2320 B-97	Total Alkalinity	158		mg CaCO3/L	P323075	

Field ID: MANATEE @ CENTER

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1884661	SM 2540 D-97	TSS	3	U	mg/L	P322880	
	SM 4500 F-C-97	Fluoride	1.1		mg F/L	P323539	
1884666	EPA 350.1 Rev. 2.0	Ammonia-N	0.022		mg N/L	P322504	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.57		mg N/L	P322630	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P322651	
	EPA 365.1 Rev. 2.0	Total-P	0.007	I	mg P/L	P322703	
	SM 5310 B-00	Organic Carbon	4.7		mg C/L	P322584	
1884671	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P322537	

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: 03/29/2017 13:30

Field ID: LITTLE BLACKWATER SOUND

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1884662	EPA 180.1 Rev. 2.0	Turbidity	0.50		NTU	P322543	
	SM 2320 B-97	Total Alkalinity	153		mg CaCO3/L	P323075	
	SM 2540 D-97	TSS	3	U	mg/L	P322880	
	SM 4500 F-C-97	Fluoride	1.1		mg F/L	P323539	
1884667	EPA 350.1 Rev. 2.0	Ammonia-N	0.019		mg N/L	P322606	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.50		mg N/L	P322630	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.01	I	mg N/L	P322651	
	EPA 365.1 Rev. 2.0	Total-P	0.007	I	mg P/L	P322703	
	SM 5310 B-00	Organic Carbon	4.3		mg C/L	P322584	
1884672	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P322537	

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: BLACKWATER SOUND

Collection Date/Time: 03/29/2017 13:40

Field ID: BLACKWATER SOUND

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1884663	EPA 180.1 Rev. 2.0	Turbidity	1.9	A	NTU	P322544	
	SM 2320 B-97	Total Alkalinity	161		mg CaCO3/L	P323075	
	SM 2540 D-97	TSS	3	U	mg/L	P322880	
	SM 4500 F-C-97	Fluoride	1.1		mg F/L	P323539	
1884668	EPA 350.1 Rev. 2.0	Ammonia-N	0.10		mg N/L	P322504	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.59		mg N/L	P323797	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.008	I	mg N/L	P322652	
	EPA 365.1 Rev. 2.0	Total-P	0.007	I	mg P/L	P322703	
	SM 5310 B-00	Organic Carbon	5.7		mg C/L	P322584	
1884673	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P322537	

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: 03/29/2017 13:50

Field ID: LONG SOUND

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1884664	EPA 180.1 Rev. 2.0	Turbidity	3.6		NTU	P322544	
	SM 2320 B-97	Total Alkalinity	171		mg CaCO3/L	P323075	
	SM 2540 D-97	TSS	14		mg/L	P322880	
	SM 4500 F-C-97	Fluoride	1.0		mg F/L	P323539	
1884669	EPA 350.1 Rev. 2.0	Ammonia-N	0.041		mg N/L	P322504	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.72		mg N/L	P322630	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.029		mg N/L	P322652	
	EPA 365.1 Rev. 2.0	Total-P	0.007	I	mg P/L	P322703	
	SM 5310 B-00	Organic Carbon	5.9		mg C/L	P322584	
1884674	EPA 365.1 Rev. 2.0	O-Phosphate-P	0.004	U	mg P/L	P322537	
	dissolved						

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: RAMP

Collection Date/Time: 03/29/2017 14:20

Field ID: BLANK

Matrix: W-FIELD-BK

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1884678	EPA 180.1 Rev. 2.0	Turbidity	0.10	U	NTU	P322544	
	SM 2320 B-97	Total Alkalinity	0.65	U	mg CaCO3/L	P323004	
	SM 2540 D-97	TSS	2	U	mg/L	P322877	
	SM 4500 F-C-97	Fluoride	0.035	U	mg F/L	P323007	
1884679	EPA 350.1 Rev. 2.0	Ammonia-N	0.002	U	mg N/L	P322504	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.080	U	mg N/L	P322567	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P322717	
	EPA 365.1 Rev. 2.0	Total-P	0.002	U	mg P/L	P322798	
	SM 5310 B-00	Organic Carbon	0.50	U	mg C/L	P322583	
1884680	EPA 365.1 Rev. 2.0	O-Phosphate-P	0.004	U	mg P/L	P322537	
	dissolved						
1884688	EPA 200.7 Rev. 4.4	Iron	30	U	ug/L	P322677	
	EPA 200.8 Rev. 5.4	Arsenic	0.050	U	ug/L	P322677	
		Cadmium	0.020	U	ug/L	P322677	
		Chromium	0.40	U	ug/L	P322677	
		Copper	0.20	U	ug/L	P322677	
		Lead	0.050	U	ug/L	P322677	
		Nickel	0.20	U	ug/L	P322677	
		Silver	0.010	U	ug/L	P322677	
		Zinc	1.0	U	ug/L	P322677	

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: P322543

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Quality Assurance Report Method Blank Results

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P322544

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P322677

Component	Result	Code	Units
Iron	30	U	ug/L

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P322769

Component	Result	Code	Units
Iron	30	U	ug/L

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P322677

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: P322769

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 350.1 Rev. 2.0
Batch ID: P322504

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P322606

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

Quality Assurance Report Method Blank Results

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P322567

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P322630

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P323797

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P322651

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P322652

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P322717

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P322703

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P322798

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P322537

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: P323004

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

Reference Method: SM 2320 B-97
Batch ID: P323075

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

Reference Method: SM 2540 D-97
Batch ID: P322877

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 2540 D-97
Batch ID: P322880

Component	Result	Code	Units
TSS	3	U	mg/L

Reference Method: SM 4500 F-C-97
Batch ID: P323007

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 4500 F-C-97
Batch ID: P323539

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-00
Batch ID: P322583

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

Reference Method: SM 5310 B-00
Batch ID: P322584

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: P322677

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: P322677

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Iron	100		P	85 - 115

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P322769

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Iron	103		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P322677

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Arsenic	101		P	85 - 115
Cadmium	97.2		P	85 - 115
Chromium	99.2		P	85 - 115
Copper	99.2		P	85 - 115
Lead	98.5		P	85 - 115
Nickel	100		P	85 - 115
Silver	101		P	85 - 115
Zinc	98.4		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P322769

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Arsenic	101		P	85 - 115
Cadmium	102		P	85 - 115
Chromium	101		P	85 - 115
Copper	99.5		P	85 - 115
Lead	101		P	85 - 115
Nickel	101		P	85 - 115
Silver	103		P	85 - 115
Zinc	101		P	85 - 115

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P322504

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: P322606

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P322567

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

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P322630

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P323797

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P322651

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P322652

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P322717

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: P322703

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P322798

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P322537

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
O-Phosphate-P	99.5		P	90 - 110

Reference Method: SM 2320 B-97
Batch ID: P323004

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	105		P	95 - 108

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: SM 2320 B-97
Batch ID: P323075

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	104		P	95 - 108

Reference Method: SM 4500 F-C-97
Batch ID: P323007

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	97.4		P	92 - 103

Reference Method: SM 4500 F-C-97
Batch ID: P323539

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	96.0		P	92 - 103

Reference Method: SM 5310 B-00
Batch ID: P322583

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

Reference Method: SM 5310 B-00
Batch ID: P322584

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	95.9		P	85 - 115

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P322677

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1883591	Iron	103		P	80 - 120
1883594	Iron	102	102	P/P	80 - 120

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P322769

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1884148	Iron	104	106	P/P	70 - 130
1885599	Iron	109		P	70 - 130

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P322677

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1883591	Arsenic	101		P	80 - 120
1883591	Cadmium	99.5		P	80 - 120
1883591	Chromium	98.1		P	80 - 120
1883591	Copper	95.7		P	80 - 120

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P322677

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1883591	Lead	98.9		P	80 - 120
1883591	Nickel	97.9		P	80 - 120
1883591	Silver	101		P	80 - 120
1883591	Zinc	97.1		P	80 - 120
1883594	Arsenic	103	102	P/P	80 - 120
1883594	Cadmium	102	101	P/P	80 - 120
1883594	Chromium	101	99.7	P/P	80 - 120
1883594	Copper	95.7	95.0	P/P	80 - 120
1883594	Lead	101	100	P/P	80 - 120
1883594	Nickel	98.7	96.9	P/P	80 - 120
1883594	Silver	103	103	P/P	80 - 120
1883594	Zinc	97.2	97.0	P/P	80 - 120

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P322769

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1884148	Arsenic	110	108	P/P	80 - 120
1884148	Cadmium	100	102	P/P	80 - 120
1884148	Chromium	97.4	94.6	P/P	80 - 120
1884148	Copper	91.8	92.8	P/P	80 - 120
1884148	Lead	108	107	P/P	80 - 120
1884148	Nickel	99.8	98.2	P/P	80 - 120
1884148	Silver	94.9	96.4	P/P	80 - 120
1884148	Zinc	93.6	94.2	P/P	80 - 120
1885599	Arsenic	112		P	80 - 120
1885599	Cadmium	105		P	80 - 120
1885599	Chromium	99.2		P	80 - 120
1885599	Copper	99.2		P	80 - 120
1885599	Lead	105		P	80 - 120
1885599	Nickel	101		P	80 - 120
1885599	Silver	97.6		P	80 - 120
1885599	Zinc	101		P	80 - 120

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P322504

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1884665	Ammonia-N	109	107	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P322606

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1884667	Ammonia-N	105	105	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P322567

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1884744	Kjeldahl Nitrogen	102	100	P/P	90 - 110

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P322630

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1884197	Kjeldahl Nitrogen	93.1	94.9	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P323797

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1890572	Kjeldahl Nitrogen	103	99.8	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P322651

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1884125	NO2NO3-N	101	101	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P322652

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1884668	NO2NO3-N	102	101	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P322717

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1884628	NO2NO3-N	103	103	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P322703

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1884666	Total-P	93.0	94.3	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P322798

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1885258	Total-P	103	102	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P322537

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1884670	O-Phosphate-P	96.1	97.9	P/P	90 - 110

Reference Method: SM 4500 F-C-97
Batch ID: P323007

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1885134	Fluoride	98.9	98.9	P/P	91 - 105

Quality Assurance Report Matrix Spike Accuracy

Reference Method: SM 4500 F-C-97
Batch ID: P323539

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1885557	Fluoride	95.5	94.3	P/P	91 - 105

Reference Method: SM 5310 B-00
Batch ID: P322583

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1884616	Organic Carbon	98.1	97.2	P/P	85 - 115

Reference Method: SM 5310 B-00
Batch ID: P322584

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1884197	Organic Carbon	90.2	90.7	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P322543

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1884623	Turbidity	0.692	Sample	P	0 - 20

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P322544

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1884663	Turbidity	7.49	Sample	P	0 - 20

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P322677

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1883594	Iron	0.442	Spike	P	0 - 20

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P322769

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1884148	Iron	2.22	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P322677

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1883594	Arsenic	0.317	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P322677

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1883594	Cadmium	0.969	Spike	P	0 - 20
1883594	Chromium	1.36	Spike	P	0 - 20
1883594	Copper	0.735	Spike	P	0 - 20
1883594	Lead	1.01	Spike	P	0 - 20
1883594	Nickel	1.77	Spike	P	0 - 20
1883594	Silver	0.140	Spike	P	0 - 20
1883594	Zinc	0.205	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P322769

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1884148	Arsenic	1.78	Spike	P	0 - 20
1884148	Cadmium	1.82	Spike	P	0 - 20
1884148	Chromium	2.90	Spike	P	0 - 20
1884148	Copper	1.01	Spike	P	0 - 20
1884148	Lead	0.403	Spike	P	0 - 20
1884148	Nickel	1.66	Spike	P	0 - 20
1884148	Silver	1.54	Spike	P	0 - 20
1884148	Zinc	0.602	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P322504

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1884665	Ammonia-N	0.974	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P322606

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1884667	Ammonia-N	0.270	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P322567

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1884744	Kjeldahl Nitrogen	1.62	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P322630

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1884197	Kjeldahl Nitrogen	1.40	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P323797

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1890572	Kjeldahl Nitrogen	2.48	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P322651

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1884125	NO2NO3-N	0.445	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P322652

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1884668	NO2NO3-N	0.948	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P322717

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1884628	NO2NO3-N	0.0	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P322703

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1884666	Total-P	1.41	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P322798

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1885258	Total-P	0.462	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P322537

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1884670	O-Phosphate-P	1.86	Spike	P	0 - 20

Reference Method: SM 2320 B-97
Batch ID: P323004

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1885134	Total Alkalinity	0.0234	Sample	P	0 - 4.8

Quality Assurance Report Precision

Reference Method: SM 2320 B-97
Batch ID: P323075

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1885006	Total Alkalinity	4.37	Sample	P	0 - 4.8

Reference Method: SM 4500 F-C-97
Batch ID: P323007

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1885134	Fluoride	0.0	Spike	P	0 - 3.0

Reference Method: SM 4500 F-C-97
Batch ID: P323539

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1885557	Fluoride	0.934	Spike	P	0 - 3.0

Reference Method: SM 5310 B-00
Batch ID: P322583

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1884616	Organic Carbon	0.841	Spike	P	0 - 20

Reference Method: SM 5310 B-00
Batch ID: P322584

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1884197	Organic Carbon	0.381	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 350.1 Rev. 2.0
Run ID: A75470
Included Lab Sample IDs: 1884665, 1884666, 1884668, 1884669, 1884676, 1884679

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Run ID: A75479
Included Lab Sample IDs: 1884670, 1884671, 1884672, 1884673, 1884674, 1884677, 1884680

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	99.0	98.2	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Run ID: A75479

Included Lab Sample IDs: 1884670, 1884671, 1884672, 1884673, 1884674, 1884677, 1884680

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	99.6	99.7	P/P	90 - 110
O-Phosphate-P	99.8	99.0	P/P	90 - 110
O-Phosphate-P	99.8	99.8	P/P	90 - 110

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A75482

Included Lab Sample IDs: 1884660, 1884661, 1884662, 1884663, 1884664, 1884675, 1884678

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

Reference Method: SM 5310 B-00

Run ID: A75496

Included Lab Sample IDs: 1884665, 1884666, 1884667, 1884668, 1884669, 1884676, 1884679

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	97.1	95.8	P/P	90 - 110
Organic Carbon	97.6	97.2	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A75505

Included Lab Sample IDs: 1884667

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

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A75520

Included Lab Sample IDs: 1884665, 1884666, 1884667, 1884668, 1884669, 1884676

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	97.5	97.5	P/P	90 - 110
NO2NO3-N	98.0	97.5	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A75533

Included Lab Sample IDs: 1884679

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	99.6	99.7	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A75553

Included Lab Sample IDs: 1884679

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

Quality Assurance Report Calibration Verification

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A75555

Included Lab Sample IDs: 1884665, 1884666, 1884667, 1884669, 1884676

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	96.7	97.6	P/P	90 - 110
Kjeldahl Nitrogen	97.6	102	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A75585

Included Lab Sample IDs: 1884665, 1884666, 1884667, 1884668, 1884669, 1884676

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

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A75591

Included Lab Sample IDs: 1884688

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Arsenic	104	101	P/P	90 - 110
Cadmium	101	98.7	P/P	90 - 110
Chromium	102	98.9	P/P	90 - 110
Copper	103	99.4	P/P	90 - 110
Lead	100	98.4	P/P	90 - 110
Nickel	104	101	P/P	90 - 110
Silver	102	100	P/P	90 - 110
Zinc	103	98.6	P/P	90 - 110

Reference Method: EPA 200.7 Rev. 4.4

Run ID: A75593

Included Lab Sample IDs: 1884688

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Iron	100	97.7	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A75612

Included Lab Sample IDs: 1884679

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

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A75631

Included Lab Sample IDs: 1884687

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Arsenic	98.9	99.0	P/P	90 - 110
Cadmium	99.4	97.3	P/P	90 - 110
Chromium	104	98.5	P/P	90 - 110
Copper	93.5	95.8	P/P	90 - 110
Lead	97.6	96.5	P/P	90 - 110
Nickel	94.7	96.9	P/P	90 - 110
Silver	98.5	96.3	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 200.7 Rev. 4.4

Run ID: A75643

Included Lab Sample IDs: 1884687

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

Reference Method: SM 2320 B-97

Run ID: A75665

Included Lab Sample IDs: 1884678

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	107	104	P/P	90 - 110

Reference Method: SM 4500 F-C-97

Run ID: A75665

Included Lab Sample IDs: 1884678

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

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A75667

Included Lab Sample IDs: 1884687

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Zinc	97.6	94.4	P/P	90 - 110

Reference Method: SM 2320 B-97

Run ID: A75710

Included Lab Sample IDs: 1884660, 1884661, 1884662, 1884663, 1884664, 1884675

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	101	104	P/P	90 - 110
Total Alkalinity	104	102	P/P	90 - 110

Reference Method: SM 4500 F-C-97

Run ID: A75833

Included Lab Sample IDs: 1884660, 1884661, 1884662, 1884663, 1884664, 1884675

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	97.2	95.0	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A75957

Included Lab Sample IDs: 1884668

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

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

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery			LCS	Precision	MS
							SMP	
EPA 180.1 Rev. 2.0	Turbidity						0.692	
	Turbidity						7.49	
EPA 200.7 Rev. 4.4	Iron	100	103	102	102			0.442
	Iron	103	104	106	109			2.22
EPA 200.8 Rev. 5.4	Arsenic	101	101	103	102			0.317
	Arsenic	101	110	108	112			1.78
	Cadmium	97.2	99.5	102	101			0.969
	Cadmium	102	100	102	105			1.82
	Chromium	99.2	98.1	101	99.7			1.36
	Chromium	101	97.4	94.6	99.2			2.90
	Copper	99.2	95.7	95.7	95.0			0.735
	Copper	99.5	91.8	92.8	99.2			1.01
	Lead	98.5	98.9	101	100			1.01
	Lead	101	108	107	105			0.403
	Nickel	100	97.9	98.7	96.9			1.77
	Nickel	101	99.8	98.2	101			1.66
	Silver	101	101	103	103			0.140
	Silver	103	94.9	96.4	97.6			1.54
	Zinc	98.4	97.1	97.2	97.0			0.205
	Zinc	101	93.6	94.2	101			0.602
EPA 350.1 Rev. 2.0	Ammonia-N	105	109	107				0.974
	Ammonia-N	102	105	105				0.270
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	99.2	102	100				1.62
	Kjeldahl Nitrogen	103	93.1	94.9				1.40
	Kjeldahl Nitrogen	97.5	103	99.8				2.48
EPA 353.2 Rev. 2.0	NO2NO3-N	100	101	101				0.445
	NO2NO3-N	98.5	102	101				0.948
	NO2NO3-N	100	103	103				0.0
EPA 365.1 Rev. 2.0	Total-P	103	93.0	94.3				1.41
	Total-P	101	103	102				0.462
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	99.5	96.1	97.9				1.86
SM 2320 B-97	Total Alkalinity	105					0.0234	
	Total Alkalinity	104					4.37	
SM 4500 F-C-97	Fluoride	97.4	98.9	98.9				0.0
	Fluoride	96.0	95.5	94.3				0.934
SM 5310 B-00	Organic Carbon	99.4	98.1	97.2				0.841
	Organic Carbon	95.9	90.2	90.7				0.381

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 180.1 Rev. 2.0 / E31780	Turbidity in aqueous matrices	1884660, 1884661, 1884662, 1884663, 1884664, 1884675, 1884678
EPA 200.7 Rev. 4.4 / E31780	Total Recoverable Metals analysis using ICP emission spectroscopy for aqueous samples supporting Clean Water Act Projects	1884687, 1884688
EPA 200.8 Rev. 5.4 / E31780	Total Recoverable Metals analysis using ICP-MS for aqueous samples supporting Clean Water Act Projects	1884687, 1884688
EPA 350.1 Rev. 2.0 / E31780	Ammonia in aqueous matrices as mg N/L	1884665, 1884666, 1884667, 1884668, 1884669, 1884676, 1884679
EPA 351.2 Rev. 2.0 / E31780	Total Kjeldahl Nitrogen in aqueous matrices	1884665, 1884666, 1884667, 1884668, 1884669, 1884676, 1884679
EPA 353.2 Rev. 2.0 / E31780	Nitrite/Nitrate in aqueous matrices as mg N/L	1884665, 1884666, 1884667, 1884668, 1884669, 1884676, 1884679

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 365.1 Rev. 2.0 / E31780	Total Phosphorus in aqueous matrices as mg P/L	1884665, 1884666, 1884667, 1884668, 1884669, 1884676, 1884679
EPA 365.1 Rev. 2.0 dissolved / E31780	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	1884670, 1884671, 1884672, 1884673, 1884674, 1884677, 1884680
SM 2320 B-97 / E31780	Alkalinity in aqueous matrices as mg CaCO ₃ /L	1884660, 1884661, 1884662, 1884663, 1884664, 1884675, 1884678
SM 2540 D-97 / E31780	Total Suspended Solids in aqueous matrices	1884660, 1884661, 1884662, 1884663, 1884664, 1884675, 1884678
SM 4500 F-C-97 / E31780	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	1884660, 1884661, 1884662, 1884663, 1884664, 1884675, 1884678
SM 5310 B-00 / E31780	Nonpurgeable Organic Carbon in aqueous matrices	1884665, 1884666, 1884667, 1884668, 1884669, 1884676, 1884679

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	03/30/2017			03/30/2017 15:54	Blanca Fach	1884660, 1884661, 1884662, 1884663, 1884664, 1884675, 1884678
EPA 200.7 Rev. 4.4	03/30/2017	04/03/2017	Elliott D. Healy	04/05/2017	Martin Acosta	1884688
	03/30/2017	04/04/2017	Elliott D. Healy	04/06/2017	Martin Acosta	1884687
EPA 200.8 Rev. 5.4	03/30/2017	04/03/2017	Elliott D. Healy	04/05/2017	Betina Topolski	1884688
	03/30/2017	04/04/2017	Elliott D. Healy	04/06/2017	Betina Topolski	1884687
	03/30/2017	04/04/2017	Elliott D. Healy	04/07/2017	Betina Topolski	1884687
EPA 350.1 Rev. 2.0	03/30/2017			03/30/2017	Julie Michelle Frank	1884665, 1884666, 1884668, 1884669, 1884676, 1884679
	03/30/2017			03/31/2017	Julie Michelle Frank	1884667
EPA 351.2 Rev. 2.0	03/30/2017	03/31/2017	Adrian Shelby	04/03/2017	Joseph Suarez	1884679
	03/30/2017	04/03/2017	Adrian Shelby	04/04/2017	Joseph Suarez	1884665, 1884666, 1884667, 1884669, 1884676
	03/30/2017	04/21/2017	Adrian Shelby	04/24/2017	Joseph Suarez	1884668
EPA 353.2 Rev. 2.0	03/30/2017			04/03/2017	Beverly Y. Sanders	1884665, 1884666, 1884667, 1884668, 1884669, 1884676
	03/30/2017			04/04/2017	Beverly Y. Sanders	1884679
EPA 365.1 Rev. 2.0	03/30/2017	04/04/2017	Adrian Shelby	04/05/2017	Lipi Saha	1884665, 1884666, 1884667, 1884668, 1884669, 1884676
	03/30/2017	04/05/2017	Vijayalakshmi Reddy	04/06/2017	Lipi Saha	1884679
EPA 365.1 Rev. 2.0 dissolved	03/30/2017			03/30/2017 15:50	Anthony C. Onicha	1884670
	03/30/2017			03/30/2017 16:27	Anthony C. Onicha	1884671
	03/30/2017			03/30/2017 16:28	Anthony C. Onicha	1884672
	03/30/2017			03/30/2017 16:29	Anthony C. Onicha	1884673
	03/30/2017			03/30/2017 16:35	Anthony C. Onicha	1884677
	03/30/2017			03/30/2017 16:36	Anthony C. Onicha	1884680
	03/30/2017			03/30/2017 16:55	Anthony C. Onicha	1884674
SM 2320 B-97	03/30/2017			04/07/2017	Dale L. Simmons	1884678
	03/30/2017			04/10/2017	Dale L. Simmons	1884660, 1884661, 1884662, 1884663, 1884664, 1884675
SM 2540 D-97	03/30/2017			04/03/2017	Sima Feizi	1884660, 1884661, 1884662, 1884663, 1884664, 1884675, 1884678
SM 4500 F-C-97	03/30/2017			04/07/2017	Dale L. Simmons	1884678
	03/30/2017			04/17/2017	Dale L. Simmons	1884660, 1884661, 1884662, 1884663, 1884664, 1884675
SM 5310 B-00	03/30/2017			03/31/2017	Julie Michelle Frank	1884665, 1884666, 1884667, 1884668, 1884669, 1884676, 1884679