

Chemical Analysis Report

WQAP-2016-04-13-03

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

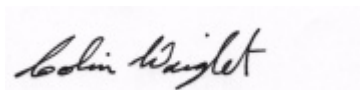
Event Description: **Lower Dianne Lake, Upper Dianne Lake, Lake Tom John,
Pine Hill Lake and Quincy C**
Request ID: **RQ-2016-04-11-33**
Customer: **WQAP**
Project ID: **SMP**

Send Reports to:
FL Dept. of Environmental Protection
2600 Blair Stone Rd
MS #3560
Tallahassee, FL 32399-2400
Attn: Katrina Sanders

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

Certified by: Colin Wright, Environmental Administrator

Date Certified: 09-MAY-2016 09:39

A handwritten signature in black ink, appearing to read "Colin Wright", is written over a light blue rectangular 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: LAKE MONKEY BUSINESS MIDDLE

Collection Date/Time: 04/13/2016 09:35

Field ID: G1WA0036

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1789157	EPA 180.1 Rev. 2.0	Turbidity	3.0		NTU	P302318	
	EPA 300.0 Rev. 2.1	Chloride	6.5		mg Cl/L	P302547	
	SM 2120 B	Color (true)	19		PCU	P302288	
	SM 2320 B-97	Total Alkalinity	16		mg CaCO3/L	P302634	
	SM 2540 C-97	TDS	33		mg/L	P302844	
	SM 2540 D-97	TSS	6	I	mg/L	P302829	
	SM 4500 F-C-97	Fluoride	0.061	I	mg F/L	P302637	
1789163	EPA 350.1 Rev. 2.0	Ammonia-N	0.003	I	mg N/L	P303034	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.47		mg N/L	P303027	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P302705	
	EPA 365.1 Rev. 2.0	Total-P	0.027		mg P/L	P302691	
	SM 5310 B-00	Organic Carbon	4.1		mg C/L	P302727	
1789169	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P302275	

Ref. Method and Comment:

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

Sample Location: UPPER DIANNE LAKE MIDDLE

Collection Date/Time: 04/13/2016 10:30

Field ID: G1WA0041

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1789158	EPA 180.1 Rev. 2.0	Turbidity	1.9		NTU	P302318	
	EPA 300.0 Rev. 2.1	Chloride	6.6		mg Cl/L	P302547	
	SM 2120 B	Color (true)	17		PCU	P302288	
	SM 2320 B-97	Total Alkalinity	17		mg CaCO3/L	P302634	
	SM 2540 C-97	TDS	33		mg/L	P302844	
	SM 2540 D-97	TSS	6	I	mg/L	P302830	
	SM 4500 F-C-97	Fluoride	0.058	I	mg F/L	P302637	
1789164	EPA 350.1 Rev. 2.0	Ammonia-N	0.003	I	mg N/L	P303034	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.46		mg N/L	P303027	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P302705	
	EPA 365.1 Rev. 2.0	Total-P	0.024		mg P/L	P302691	
	SM 5310 B-00	Organic Carbon	4.3		mg C/L	P302727	
1789170	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P302275	

Ref. Method and Comment:

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

Sample Location: LOWER DIANNE LAKE MIDDLE

Collection Date/Time: 04/13/2016 11:15

Field ID: G1WA0040

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1789159	EPA 180.1 Rev. 2.0	Turbidity	2.1		NTU	P302318	
	EPA 300.0 Rev. 2.1	Chloride	7.2		mg Cl/L	P302547	
	SM 2120 B	Color (true)	26		PCU	P302288	
	SM 2320 B-97	Total Alkalinity	15		mg CaCO3/L	P302634	
	SM 2540 C-97	TDS	38		mg/L	P302844	

Field ID: G1WA0040

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1789159	SM 2540 D-97	TSS	3	I	mg/L	P302830	
	SM 4500 F-C-97	Fluoride	0.055	I	mg F/L	P302637	
1789165	EPA 350.1 Rev. 2.0	Ammonia-N	0.044		mg N/L	P303035	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.46		mg N/L	P303027	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.019		mg N/L	P302705	
	EPA 365.1 Rev. 2.0	Total-P	0.019		mg P/L	P302691	
	SM 5310 B-00	Organic Carbon	4.2		mg C/L	P302727	
1789171	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P302275	

Ref. Method and Comment:

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

Sample Location: PINE HILL LAKE MIDDLE

Collection Date/Time: 04/13/2016 12:20

Field ID: G1WA0054

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1789160	EPA 180.1 Rev. 2.0	Turbidity	3.4		NTU	P302318	
	EPA 300.0 Rev. 2.1	Chloride	5.9		mg Cl/L	P302547	
	SM 2120 B	Color (true)	22		PCU	P302288	
	SM 2320 B-97	Total Alkalinity	9.9		mg CaCO3/L	P302634	
	SM 2540 C-97	TDS	35		mg/L	P302844	
	SM 2540 D-97	TSS	3	I	mg/L	P302830	
	SM 4500 F-C-97	Fluoride	0.045	I	mg F/L	P302637	
1789166	EPA 350.1 Rev. 2.0	Ammonia-N	0.003	I	mg N/L	P303035	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.53		mg N/L	P303027	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P302705	
	EPA 365.1 Rev. 2.0	Total-P	0.017		mg P/L	P302785	
	SM 5310 B-00	Organic Carbon	4.8		mg C/L	P302727	
1789172	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P302275	

Ref. Method and Comment:

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

Sample Location: LAKE TOM JOHN MIDDLE

Collection Date/Time: 04/13/2016 13:10

Field ID: G1WA0043

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1789161	EPA 180.1 Rev. 2.0	Turbidity	1.6		NTU	P302318	
	EPA 300.0 Rev. 2.1	Chloride	8.1		mg Cl/L	P302547	
	SM 2120 B	Color (true)	23		PCU	P302288	
	SM 2320 B-97	Total Alkalinity	14		mg CaCO3/L	P302634	
	SM 2540 C-97	TDS	41		mg/L	P302844	
	SM 2540 D-97	TSS	4	I	mg/L	P302830	
	SM 4500 F-C-97	Fluoride	0.048	I	mg F/L	P302637	
1789167	EPA 350.1 Rev. 2.0	Ammonia-N	0.004	I	mg N/L	P303035	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.62		mg N/L	P303027	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P302706	
	EPA 365.1 Rev. 2.0	Total-P	0.029		mg P/L	P302785	

Field ID: G1WA0043

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1789167	SM 5310 B-00	Organic Carbon	5.3		mg C/L	P302727	
1789173	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P302275	

Ref. Method and Comment:

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

Sample Location: PETTY GULF LAKE MIDDLE

Collection Date/Time: 04/13/2016 12:00

Field ID: G1WA0022

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1789162	EPA 180.1 Rev. 2.0	Turbidity	4.0		NTU	P302318	
	EPA 300.0 Rev. 2.1	Chloride	5.2		mg Cl/L	P302547	
	SM 2120 B	Color (true)	22		PCU	P302288	
	SM 2320 B-97	Total Alkalinity	16		mg CaCO3/L	P302634	
	SM 2540 C-97	TDS	28		mg/L	P302843	
	SM 2540 D-97	TSS	5	I	mg/L	P302830	
	SM 4500 F-C-97	Fluoride	0.046	I	mg F/L	P302637	
1789168	EPA 350.1 Rev. 2.0	Ammonia-N	0.004	I	mg N/L	P303035	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.67		mg N/L	P303027	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P302706	
	EPA 365.1 Rev. 2.0	Total-P	0.029		mg P/L	P302790	
	SM 5310 B-00	Organic Carbon	5.5		mg C/L	P302855	
1789174	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P302275	

Ref. Method and Comment:

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

Sample Location: QUINCY CREEK 100 METERS UPSTREAM OF RALPH STRONG RD.

Collection Date/Time: 04/13/2016 14:30

Field ID: G1WA0018

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1789151	EPA 180.1 Rev. 2.0	Turbidity	14	A	NTU	P302318	
	EPA 300.0 Rev. 2.1	Chloride	4.4		mg Cl/L	P302547	
	SM 2120 B	Color (true)	53		PCU	P302293	
	SM 2320 B-97	Total Alkalinity	22		mg CaCO3/L	P302634	
	SM 2540 C-97	TDS	46		mg/L	P302844	
	SM 2540 D-97	TSS	16		mg/L	P302829	
	SM 4500 F-C-97	Fluoride	0.086	I	mg F/L	P302637	
1789153	EPA 350.1 Rev. 2.0	Ammonia-N	0.031		mg N/L	P303034	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.32		mg N/L	P303027	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.22		mg N/L	P302705	
	EPA 365.1 Rev. 2.0	Total-P	0.11		mg P/L	P302691	
	SM 5310 B-00	Organic Carbon	4.3		mg C/L	P302727	
1789155	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.026		mg P/L	P302275	
1789191	EPA 200.7 Rev. 4.4	Calcium	7.14		mg/L	P302444	
		Iron	2.00E+03		ug/L	P302444	
		Magnesium	2.28		mg/L	P302444	

Field ID: G1WA0018

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1789191	EPA 200.7 Rev. 4.4	Potassium	0.33	I	mg/L	P302444	
		Sodium	3.0		mg/L	P302444	
		Zinc	5.0	U	ug/L	P302444	
	EPA 200.8 Rev. 5.4	Arsenic	0.78		ug/L	P302444	
		Cadmium	0.020	U	ug/L	P302444	
		Chromium	1.26		ug/L	P302444	
		Copper	0.35	I	ug/L	P302444	
		Lead	0.70		ug/L	P302444	
		Nickel	0.37		ug/L	P302444	
		Silver	0.0050	U	ug/L	P302444	

Ref. Method and Comment:

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

EPA 200.8 Rev. 5.4: The lead result was confirmed on 05/04/2016.

Sample Location: QUINCY CREEK UPSTREAM OF SR 12

Collection Date/Time: 04/13/2016 15:10

Field ID: G1WA0019

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1789152	EPA 180.1 Rev. 2.0	Turbidity	12		NTU	P302318	
	EPA 300.0 Rev. 2.1	Chloride	4.3		mg Cl/L	P302547	
	SM 2120 B	Color (true)	44	A	PCU	P302293	
	SM 2320 B-97	Total Alkalinity	21		mg CaCO3/L	P302634	
	SM 2540 C-97	TDS	38		mg/L	P302844	
	SM 2540 D-97	TSS	18		mg/L	P302829	
	SM 4500 F-C-97	Fluoride	0.081	I	mg F/L	P302637	
1789154	EPA 350.1 Rev. 2.0	Ammonia-N	0.028		mg N/L	P303034	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.33		mg N/L	P303027	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.23		mg N/L	P302705	
	EPA 365.1 Rev. 2.0	Total-P	0.10		mg P/L	P302691	
	SM 5310 B-00	Organic Carbon	4.0		mg C/L	P302727	
1789156	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.025		mg P/L	P302275	
1789192	EPA 200.7 Rev. 4.4	Calcium	6.77		mg/L	P302444	
		Iron	1.68E+03		ug/L	P302444	
		Magnesium	2.16		mg/L	P302444	
		Potassium	0.30	I	mg/L	P302444	
		Sodium	2.8		mg/L	P302444	
		Zinc	5.0	U	ug/L	P302444	
	EPA 200.8 Rev. 5.4	Arsenic	0.67		ug/L	P302444	
		Cadmium	0.020	U	ug/L	P302444	
		Chromium	1.04		ug/L	P302444	
		Copper	0.29	I	ug/L	P302444	
		Lead	0.55		ug/L	P302444	
		Nickel	0.31		ug/L	P302444	
		Silver	0.0050	U	ug/L	P302444	

Ref. Method and Comment:

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

Quality Assurance Report Method Blank Results

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P302318

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P302444

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: P302444

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P302547

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P303034

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P303035

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P303027

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

Quality Assurance Report Method Blank Results

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P302705

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P302706

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P302691

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P302785

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P302790

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P302275

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

Reference Method: SM 2120 B
Batch ID: P302288

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2120 B
Batch ID: P302293

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2320 B-97
Batch ID: P302634

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

Quality Assurance Report Method Blank Results

Reference Method: SM 2540 C-97
Batch ID: P302843

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 C-97
Batch ID: P302844

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-97
Batch ID: P302829

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 2540 D-97
Batch ID: P302830

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500 F-C-97
Batch ID: P302637

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-00
Batch ID: P302727

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

Reference Method: SM 5310 B-00
Batch ID: P302855

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: P302444

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Calcium	103		P	85 - 115
Iron	108		P	85 - 115
Magnesium	103		P	85 - 115
Potassium	101		P	85 - 115
Sodium	101		P	85 - 115
Zinc	100		P	85 - 115

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P302444

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Arsenic	94.9		P	85 - 115
Cadmium	93.4		P	85 - 115
Chromium	95.5		P	85 - 115
Copper	92.5		P	85 - 115
Lead	89.3		P	85 - 115
Nickel	95.3		P	85 - 115
Silver	92.5		P	85 - 115

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P302547

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P303034

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P303035

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P303027

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P302705

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: P302706

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: P302691

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

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P302785

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P302790

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P302275

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

Reference Method: SM 2320 B-97
Batch ID: P302634

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

Reference Method: SM 4500 F-C-97
Batch ID: P302637

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	95.6		P	92 - 103

Reference Method: SM 5310 B-00
Batch ID: P302727

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	93.8		P	85 - 115

Reference Method: SM 5310 B-00
Batch ID: P302855

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	97.8		P	85 - 115

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P302444

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1788959	Calcium	102		P	80 - 120
1788959	Iron	105		P	80 - 120
1788959	Magnesium	103		P	80 - 120
1788959	Potassium	95.7		P	80 - 120
1788959	Sodium	101		P	80 - 120
1788959	Zinc	103		P	80 - 120

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.7 Rev. 4.4
 Batch ID: P302444

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1789032	Calcium	105		P	80 - 120
1789032	Iron	106	107	P/P	80 - 120
1789032	Magnesium	104		P	80 - 120
1789032	Potassium	104		P	80 - 120
1789032	Sodium	103		P	80 - 120
1789032	Zinc	101	101	P/P	80 - 120

Reference Method: EPA 200.8 Rev. 5.4
 Batch ID: P302444

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1788959	Arsenic	97.8		P	80 - 120
1788959	Cadmium	95.6		P	80 - 120
1788959	Chromium	97.0		P	80 - 120
1788959	Copper	91.3		P	80 - 120
1788959	Lead	91.2		P	80 - 120
1788959	Nickel	93.8		P	80 - 120
1788959	Silver	91.9		P	80 - 120
1789032	Arsenic	96.9	97.3	P/P	80 - 120
1789032	Cadmium	95.1	97.6	P/P	80 - 120
1789032	Chromium	95.8	96.3	P/P	80 - 120
1789032	Copper	90.4	89.5	P/P	80 - 120
1789032	Lead	90.8	91.7	P/P	80 - 120
1789032	Nickel	92.4	93.6	P/P	80 - 120
1789032	Silver	92.6	92.3	P/P	80 - 120

Reference Method: EPA 300.0 Rev. 2.1
 Batch ID: P302547

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1789158	Chloride	101		P	90 - 110
1789219	Chloride	101		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
 Batch ID: P303034

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1789153	Ammonia-N	100	104	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
 Batch ID: P303035

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1789168	Ammonia-N	101	102	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
 Batch ID: P303027

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1789154	Kjeldahl Nitrogen	100	103	P/P	90 - 110

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P302705

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1789096	NO2NO3-N	96.0	98.6	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P302706

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1789167	NO2NO3-N	100	100	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P302691

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1789044	Total-P	99.0	97.3	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P302785

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1789166	Total-P	105	100	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P302790

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1789168	Total-P	102	103	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P302275

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1789156	O-Phosphate-P	99.9	100	P/P	90 - 110

Reference Method: SM 4500 F-C-97
Batch ID: P302637

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1789022	Fluoride	99.1	97.9	P/P	91 - 105

Reference Method: SM 5310 B-00
Batch ID: P302727

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1788994	Organic Carbon	97.3	94.4	P/P	85 - 115

Reference Method: SM 5310 B-00
Batch ID: P302855

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1789221	Organic Carbon	104		P	85 - 115

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P302318

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1789151	Turbidity	0.0	Sample	P	0 - 20

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P302444

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1789032	Calcium	2.14	Spike	P	0 - 20
1789032	Iron	1.18	Spike	P	0 - 20
1789032	Magnesium	1.21	Spike	P	0 - 20
1789032	Potassium	2.44	Spike	P	0 - 20
1789032	Sodium	2.02	Spike	P	0 - 20
1789032	Zinc	0.160	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P302444

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1789032	Arsenic	0.398	Spike	P	0 - 20
1789032	Cadmium	2.59	Spike	P	0 - 20
1789032	Chromium	0.473	Spike	P	0 - 20
1789032	Copper	0.994	Spike	P	0 - 20
1789032	Lead	0.928	Spike	P	0 - 20
1789032	Nickel	1.26	Spike	P	0 - 20
1789032	Silver	0.261	Spike	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P302547

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1789219	Chloride	0.0706	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P303034

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1789153	Ammonia-N	2.63	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P303035

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1789168	Ammonia-N	0.528	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P303027

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1789154	Kjeldahl Nitrogen	2.39	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P302705

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1789096	NO2NO3-N	2.25	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P302706

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1789167	NO2NO3-N	0.0	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P302691

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1789044	Total-P	1.63	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P302785

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1789166	Total-P	4.36	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P302790

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1789168	Total-P	0.594	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P302275

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1789156	O-Phosphate-P	0.159	Spike	P	0 - 20

Reference Method: SM 2120 B
Batch ID: P302288

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1789152	Color (true)	6.48	Sample	P	0 - 20

Quality Assurance Report Precision

Reference Method: SM 2120 B
Batch ID: P302293

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1789152	Color (true)	4.73	Sample	P	0 - 20

Reference Method: SM 2320 B-97
Batch ID: P302634

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1789022	Total Alkalinity	0.787	Sample	P	0 - 4.8

Reference Method: SM 2540 C-97
Batch ID: P302843

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1789093	TDS	3.80	Sample	P	0 - 10

Reference Method: SM 2540 C-97
Batch ID: P302844

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1789036	TDS	5.42	Sample	P	0 - 10

Reference Method: SM 4500 F-C-97
Batch ID: P302637

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1789022	Fluoride	0.947	Spike	P	0 - 3.0

Reference Method: SM 5310 B-00
Batch ID: P302727

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1788994	Organic Carbon	2.47	Spike	P	0 - 20

Reference Method: SM 5310 B-00
Batch ID: P302855

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1789221	Organic Carbon	0.299	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

Quality Assurance Report Calibration Verification

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Run ID: A68887

Included Lab Sample IDs: 1789155, 1789156, 1789169, 1789170, 1789171, 1789172, 1789173, 1789174

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	100	100	P/P	90 - 110
O-Phosphate-P	101	100	P/P	90 - 110
O-Phosphate-P	99.8	100	P/P	90 - 110

Reference Method: SM 2120 B

Run ID: A68890

Included Lab Sample IDs: 1789151, 1789152, 1789157, 1789158, 1789159, 1789160, 1789161, 1789162

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	100	100	P/P	90 - 115
Color (true)	101	98.5	P/P	90 - 115

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A68896

Included Lab Sample IDs: 1789151, 1789152, 1789157, 1789158, 1789159, 1789160, 1789161, 1789162

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Turbidity	99.0	100	P/P	95 - 105

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A68939

Included Lab Sample IDs: 1789151, 1789152, 1789157, 1789158, 1789159, 1789160, 1789161, 1789162

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	101	99.9	P/P	90 - 110
Chloride	98.4	98.9	P/P	90 - 110
Chloride	99.9	100	P/P	90 - 110

Reference Method: SM 2320 B-97

Run ID: A68993

Included Lab Sample IDs: 1789151, 1789152, 1789157, 1789158, 1789159, 1789160, 1789161, 1789162

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	102	99.7	P/P	90 - 110
Total Alkalinity	99.0	102	P/P	90 - 110

Reference Method: SM 4500 F-C-97

Run ID: A68993

Included Lab Sample IDs: 1789151, 1789152, 1789157, 1789158, 1789159, 1789160, 1789161, 1789162

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	99.1	99.5	P/P	90 - 110
Fluoride	99.5	99.5	P/P	90 - 110

Reference Method: EPA 200.7 Rev. 4.4

Run ID: A69000

Included Lab Sample IDs: 1789191, 1789192

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

Quality Assurance Report Calibration Verification

Reference Method: EPA 200.7 Rev. 4.4

Run ID: A69000

Included Lab Sample IDs: 1789191, 1789192

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Iron	102	102	P/P	90 - 110
Iron	102	102	P/P	90 - 110
Magnesium	102	103	P/P	90 - 110
Magnesium	103	103	P/P	90 - 110
Potassium	101	101	P/P	90 - 110
Potassium	101	101	P/P	90 - 110
Sodium	100	100	P/P	90 - 110
Sodium	100	100	P/P	90 - 110
Zinc	101	102	P/P	90 - 110
Zinc	99.9	101	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A69015

Included Lab Sample IDs: 1789153, 1789154, 1789163, 1789164, 1789165, 1789166, 1789167, 1789168

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	99.0	98.5	P/P	90 - 110
NO2NO3-N	99.0	99.0	P/P	90 - 110

Reference Method: SM 5310 B-00

Run ID: A69024

Included Lab Sample IDs: 1789153, 1789154, 1789163, 1789164, 1789165, 1789166, 1789167

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	95.7	95.9	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A69030

Included Lab Sample IDs: 1789153, 1789154

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

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A69037

Included Lab Sample IDs: 1789191, 1789192

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Arsenic	99.1	98.7	P/P	90 - 110
Cadmium	99.1	99.2	P/P	90 - 110
Chromium	101	99.9	P/P	90 - 110
Copper	97.0	96.6	P/P	90 - 110
Lead	95.2	94.6	P/P	90 - 110
Nickel	98.9	97.0	P/P	90 - 110
Silver	95.0	94.3	P/P	90 - 110

Reference Method: SM 5310 B-00

Run ID: A69060

Included Lab Sample IDs: 1789168

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

Quality Assurance Report Calibration Verification

Reference Method: SM 5310 B-00
 Run ID: A69060
 Included Lab Sample IDs: 1789168

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	94.2	94.8	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
 Run ID: A69073
 Included Lab Sample IDs: 1789163, 1789164, 1789165

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	97.8	98.2	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
 Run ID: A69085
 Included Lab Sample IDs: 1789166, 1789167, 1789168

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	99.0	99.5	P/P	90 - 110
Total-P	99.5	99.5	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
 Run ID: A69122
 Included Lab Sample IDs: 1789153, 1789154, 1789163, 1789164, 1789165, 1789166, 1789167, 1789168

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

Reference Method: EPA 351.2 Rev. 2.0
 Run ID: A69202
 Included Lab Sample IDs: 1789153, 1789154, 1789163, 1789164, 1789165, 1789166, 1789167, 1789168

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	93.8	96.1	P/P	90 - 110
Kjeldahl Nitrogen	96.1	95.0	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
EPA 180.1 Rev. 2.0	Turbidity					0.0
EPA 200.7 Rev. 4.4	Calcium	103		102	105	2.14
	Iron	108		105	106	1.18
	Magnesium	103		103	104	1.21
	Potassium	101		95.7	104	2.44
	Sodium	101		101	103	2.02
	Zinc	100		103	101	0.160

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery			Precision	
			LCS	SMP	MS		
EPA 200.8 Rev. 5.4	Arsenic	94.9	97.8	96.9	97.3		0.398
	Cadmium	93.4	95.6	95.1	97.6		2.59
	Chromium	95.5	97.0	95.8	96.3		0.473
	Copper	92.5	91.3	90.4	89.5		0.994
	Lead	89.3	91.2	90.8	91.7		0.928
	Nickel	95.3	93.8	92.4	93.6		1.26
	Silver	92.5	91.9	92.6	92.3		0.261
EPA 300.0 Rev. 2.1	Chloride	102	101	101		0.0706	
EPA 350.1 Rev. 2.0	Ammonia-N	101	100	104			2.63
	Ammonia-N	100	101	102			0.528
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	102	100	103			2.39
EPA 353.2 Rev. 2.0	NO2NO3-N	102	96.0	98.6			2.25
	NO2NO3-N	102	100	100			0.0
EPA 365.1 Rev. 2.0	Total-P	97.5	99.0	97.3			1.63
	Total-P	105	105	100			4.36
	Total-P	108	102	103			0.594
EPA 365.1 Rev. 2.0 dissolved SM 2120 B	O-Phosphate-P	101	99.9	100			0.159
	Color (true)					6.48	
	Color (true)					4.73	
SM 2320 B-97	Total Alkalinity	102				0.787	
SM 2540 C-97	TDS					3.80	
	TDS					5.42	
SM 4500 F-C-97	Fluoride	95.6	99.1	97.9			0.947
SM 5310 B-00	Organic Carbon	93.8	97.3	94.4			2.47
	Organic Carbon	97.8	104				0.299

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 180.1 Rev. 2.0 / E31780	Turbidity in aqueous matrices	1789151, 1789152, 1789157, 1789158, 1789159, 1789160, 1789161, 1789162
EPA 200.7 Rev. 4.4 / E31780	Total Recoverable Metals analysis using ICP emission spectroscopy for aqueous samples supporting Clean Water Act Projects	1789191, 1789192
EPA 200.8 Rev. 5.4 / E31780	Total Recoverable Metals analysis using ICP-MS for aqueous samples supporting Clean Water Act Projects	1789191, 1789192
EPA 300.0 Rev. 2.1 / E31780	Chloride in aqueous matrices	1789151, 1789152, 1789157, 1789158, 1789159, 1789160, 1789161, 1789162
EPA 350.1 Rev. 2.0 / E31780	Ammonia in aqueous matrices as mg N/L	1789153, 1789154, 1789163, 1789164, 1789165, 1789166, 1789167, 1789168
EPA 351.2 Rev. 2.0 / E31780	Total Kjeldahl Nitrogen in aqueous matrices	1789153, 1789154, 1789163, 1789164, 1789165, 1789166, 1789167, 1789168
EPA 353.2 Rev. 2.0 / E31780	Nitrite/Nitrate in aqueous matrices as mg N/L	1789153, 1789154, 1789163, 1789164, 1789165, 1789166, 1789167, 1789168
EPA 365.1 Rev. 2.0 / E31780	Total Phosphorus in aqueous matrices as mg P/L	1789153, 1789154, 1789163, 1789164, 1789165, 1789166, 1789167, 1789168
EPA 365.1 Rev. 2.0 dissolved / E31780	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	1789155, 1789156, 1789169, 1789170, 1789171, 1789172, 1789173, 1789174
SM 2120 B / E31780	True Color measured at 450 nm	1789151, 1789152, 1789157, 1789158, 1789159, 1789160, 1789161, 1789162
SM 2320 B-97 / E31780	Alkalinity in aqueous matrices as mg CaCO3/L	1789151, 1789152, 1789157, 1789158, 1789159, 1789160, 1789161, 1789162
SM 2540 C-97 / E31780	Total Dissolved Solids in aqueous matrices	1789151, 1789152, 1789157, 1789158, 1789159, 1789160, 1789161, 1789162
SM 2540 D-97 / E31780	Total Suspended Solids in aqueous matrices	1789151, 1789152, 1789157, 1789158, 1789159, 1789160, 1789161, 1789162

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
SM 4500 F-C-97 / E31780	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	1789151, 1789152, 1789157, 1789158, 1789159, 1789160, 1789161, 1789162
SM 5310 B-00 / E31780	Nonpurgeable Organic Carbon in aqueous matrices	1789153, 1789154, 1789163, 1789164, 1789165, 1789166, 1789167, 1789168

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	04/13/2016			04/14/2016 16:39	Blanca Fach	1789151, 1789152, 1789157, 1789158, 1789159, 1789160, 1789161, 1789162
EPA 200.7 Rev. 4.4	04/13/2016	04/18/2016	Elliott D. Healy	04/20/2016	Joshua Ayres	1789191, 1789192
EPA 200.8 Rev. 5.4	04/13/2016	04/18/2016	Elliott D. Healy	04/21/2016	Charles J. Peterson	1789191, 1789192
EPA 300.0 Rev. 2.1	04/13/2016			04/19/2016	Julia Storbeck	1789157, 1789158, 1789159, 1789160, 1789161
	04/13/2016			04/20/2016	Julia Storbeck	1789151, 1789152, 1789162
EPA 350.1 Rev. 2.0	04/13/2016			04/26/2016	Diana M. Turner	1789153, 1789154, 1789163, 1789164, 1789165, 1789166, 1789167, 1789168
EPA 351.2 Rev. 2.0	04/13/2016	04/27/2016	Sofia Elnemr	04/29/2016	Christopher Armour	1789153, 1789154, 1789163, 1789164, 1789165, 1789166, 1789167, 1789168
EPA 353.2 Rev. 2.0	04/13/2016			04/21/2016	Peter D. Kaus	1789153, 1789154, 1789163, 1789164, 1789165, 1789166, 1789167, 1789168
EPA 365.1 Rev. 2.0	04/13/2016	04/21/2016	Christopher Armour	04/21/2016	Lipi Saha	1789153, 1789154
	04/13/2016	04/21/2016	Christopher Armour	04/22/2016	Lipi Saha	1789163, 1789164, 1789165
	04/13/2016	04/22/2016	Lipi Saha	04/25/2016	Lipi Saha	1789166, 1789167, 1789168
EPA 365.1 Rev. 2.0 dissolved	04/13/2016			04/14/2016 14:07	Julia Storbeck	1789156
	04/13/2016			04/14/2016 14:47	Julia Storbeck	1789155
	04/13/2016			04/14/2016 14:48	Julia Storbeck	1789169
	04/13/2016			04/14/2016 14:49	Julia Storbeck	1789170
	04/13/2016			04/14/2016 14:50	Julia Storbeck	1789171
	04/13/2016			04/14/2016 14:51	Julia Storbeck	1789172, 1789173
	04/13/2016			04/14/2016 14:57	Julia Storbeck	1789174
SM 2120 B	04/13/2016			04/14/2016 15:42	Chrisoulla Rakowski	1789157, 1789158
	04/13/2016			04/14/2016 15:43	Chrisoulla Rakowski	1789159
	04/13/2016			04/14/2016 15:44	Chrisoulla Rakowski	1789160
	04/13/2016			04/14/2016 15:45	Chrisoulla Rakowski	1789161
	04/13/2016			04/14/2016 15:46	Chrisoulla Rakowski	1789162
	04/13/2016			04/14/2016 16:33	Chrisoulla Rakowski	1789151
	04/13/2016			04/14/2016 16:34	Chrisoulla Rakowski	1789152
SM 2320 B-97	04/13/2016			04/20/2016	Dale L. Simmons	1789151, 1789152, 1789157, 1789158, 1789159, 1789160, 1789161, 1789162
SM 2540 C-97	04/13/2016			04/15/2016	Yijie Li	1789151, 1789152, 1789157, 1789158, 1789159, 1789160, 1789161, 1789162
SM 2540 D-97	04/13/2016			04/15/2016	Yijie Li	1789151, 1789152, 1789157, 1789158, 1789159, 1789160, 1789161, 1789162
SM 4500 F-C-97	04/13/2016			04/20/2016	Dale L. Simmons	1789151, 1789152, 1789157, 1789158, 1789159, 1789160, 1789161, 1789162
SM 5310 B-00	04/13/2016			04/21/2016	Sofia Elnemr	1789153, 1789154, 1789163, 1789164, 1789165, 1789166, 1789167, 1789168