

Chemical Analysis Report

NW-DIST-2016-04-20-02

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

Event Description: **WBID 160 30G30**
Request ID: **RQ-2016-04-18-50**
Customer: **NW-DIST**
Project ID: **SMP**

Send Reports to:
FL Dept. of Environmental Protection
160 W Government St
Suite 208A
Pensacola, FL 32502-5794
Attn: Michael King

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: Liang Lin, Environmental Administrator

Date Certified: 16-MAY-2016 17:16

A handwritten signature in black ink, appearing to read "Liang Lin", is written on a light-colored, textured 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: Mithcell Creek @ Hwy 29

Collection Date/Time: 04/19/2016 10:40

Field ID: G4NW0116

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1791031	EPA 180.1 Rev. 2.0	Turbidity	1.9		NTU	P302660	
	EPA 300.0 Rev. 2.1	Chloride	3.1		mg Cl/L	P303239	
		Sulfate	1.1		mg SO4/L	P303242	
	SM 2120 B	Color (true)	38		PCU	P302665	
	SM 2320 B-97	Total Alkalinity	0.65	U	mg CaCO3/L	P302970	
	SM 2540 C-97	TDS	15	U	mg/L	P303356	
	SM 2540 D-97	TSS	6	I	mg/L	P303216	
	SM 4500 F-C-97	Fluoride	0.035	U	mg F/L	P302974	
1791036	EPA 350.1 Rev. 2.0	Ammonia-N	0.005	I	mg N/L	P303491	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.18	I	mg N/L	P303657	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.11		mg N/L	P303164	
	EPA 365.1 Rev. 2.0	Total-P	0.006		mg P/L	P303234	
	SM 5310 B-00	Organic Carbon	3.3		mg C/L	P303347	
1791041	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P302620	

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: CanoeCreek Above Hwy 29

Collection Date/Time: 04/19/2016 11:05

Field ID: G4NW0201

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1791019	EPA 180.1 Rev. 2.0	Turbidity	4.0		NTU	P302660	
	EPA 300.0 Rev. 2.1	Chloride	4.5		mg Cl/L	P303239	
		Sulfate	0.99		mg SO4/L	P303242	
	SM 2120 B	Color (true)	39	A	PCU	P302665	
	SM 2320 B-97	Total Alkalinity	2.5	I	mg CaCO3/L	P302970	
	SM 2540 C-97	TDS	33		mg/L	P303356	
	SM 2540 D-97	TSS	4	I	mg/L	P303216	
	SM 4500 F-C-97	Fluoride	0.035	U	mg F/L	P302974	
1791023	EPA 350.1 Rev. 2.0	Ammonia-N	0.012		mg N/L	P303491	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.19	I	mg N/L	P303656	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.73		mg N/L	P303164	
	EPA 365.1 Rev. 2.0	Total-P	0.013		mg P/L	P303234	
	SM 5310 B-00	Organic Carbon	2.6		mg C/L	P303347	
1791027	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P302619	
1791055	EPA 200.7 Rev. 4.4	Calcium	1.51		mg/L	P302729	
		Iron	900		ug/L	P302729	
		Magnesium	1.26		mg/L	P302729	
		Potassium	0.63	I	mg/L	P302729	
		Sodium	2.1		mg/L	P302729	
		Zinc	5.0	U	ug/L	P302729	
	EPA 200.8 Rev. 5.4	Arsenic	0.35		ug/L	P302729	
		Cadmium	0.020	U	ug/L	P302729	
		Chromium	0.40		ug/L	P302729	

Field ID: G4NW0201

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1791055	EPA 200.8 Rev. 5.4	Copper	0.33	I	ug/L	P302729	
		Lead	0.23		ug/L	P302729	
		Nickel	0.47		ug/L	P302729	
		Silver	0.0050	U	ug/L	P302729	

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: Mithcell Creek @ Camp Rd

Collection Date/Time: 04/19/2016 11:30

Field ID: G4NW0114

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1791032	EPA 180.1 Rev. 2.0	Turbidity	1.7		NTU	P302660	
	EPA 300.0 Rev. 2.1	Chloride	3.5		mg Cl/L	P303239	
		Sulfate	1.5		mg SO4/L	P303242	
	SM 2120 B	Color (true)	37		PCU	P302665	
	SM 2320 B-97	Total Alkalinity	1.6	I	mg CaCO3/L	P302970	
	SM 2540 C-97	TDS	25		mg/L	P303356	
	SM 2540 D-97	TSS	2	I	mg/L	P303216	
	SM 4500 F-C-97	Fluoride	0.035	U	mg F/L	P302974	
1791037	EPA 350.1 Rev. 2.0	Ammonia-N	0.011		mg N/L	P303493	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.18	I	mg N/L	P303657	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.077		mg N/L	P303164	
	EPA 365.1 Rev. 2.0	Total-P	0.011		mg P/L	P303234	
	SM 5310 B-00	Organic Carbon	3.1		mg C/L	P303347	
1791042	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P302620	

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: CanoeCreek CR-168

Collection Date/Time: 04/19/2016 11:55

Field ID: G4NW0282

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1791020	EPA 180.1 Rev. 2.0	Turbidity	2.6		NTU	P302660	
	EPA 300.0 Rev. 2.1	Chloride	6.6	A	mg Cl/L	P303239	
		Sulfate	1.1	A	mg SO4/L	P303242	
		Color (true)	22		PCU	P302665	
	SM 2320 B-97	Total Alkalinity	4.2		mg CaCO3/L	P302970	
	SM 2540 C-97	TDS	40		mg/L	P303356	
	SM 2540 D-97	TSS	3	I	mg/L	P303216	
	SM 4500 F-C-97	Fluoride	0.035	U	mg F/L	P302974	
1791024	EPA 350.1 Rev. 2.0	Ammonia-N	0.009		mg N/L	P303491	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.17	I	mg N/L	P303656	
	EPA 353.2 Rev. 2.0	NO2NO3-N	1.8		mg N/L	P303164	
	EPA 365.1 Rev. 2.0	Total-P	0.016		mg P/L	P303234	
	SM 5310 B-00	Organic Carbon	1.5		mg C/L	P303347	
1791028	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.005	I	mg P/L	P302619	

Field ID: G4NW0282

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1791056	EPA 200.7 Rev. 4.4	Calcium	2.79		mg/L	P302729	
		Iron	610		ug/L	P302729	
		Magnesium	2.32		mg/L	P302729	
		Potassium	1.1	I	mg/L	P302729	
		Sodium	2.5		mg/L	P302729	
	EPA 200.8 Rev. 5.4	Zinc	5.0	U	ug/L	P302729	
		Arsenic	0.35		ug/L	P302729	
		Cadmium	0.020	U	ug/L	P302729	
		Chromium	0.17	I	ug/L	P302729	
		Copper	0.22	I	ug/L	P302729	
		Lead	0.24		ug/L	P302729	
		Nickel	0.49		ug/L	P302729	
		Silver	0.0050	U	ug/L	P302729	

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: CanoeCreek CR-4

Collection Date/Time: 04/19/2016 12:15

Field ID: G4NW0280

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1791021	EPA 180.1 Rev. 2.0	Turbidity	3.1		NTU	P302660	
	EPA 300.0 Rev. 2.1	Chloride	4.9		mg Cl/L	P303239	
		Sulfate	0.91		mg SO4/L	P303242	
		Color (true)	30		PCU	P302665	
	SM 2320 B-97	Total Alkalinity	3.1		mg CaCO3/L	P302970	
	SM 2540 C-97	TDS	15	I	mg/L	P303356	
	SM 2540 D-97	TSS	7	I	mg/L	P303216	
	SM 4500 F-C-97	Fluoride	0.035	U	mg F/L	P302974	
	EPA 350.1 Rev. 2.0	Ammonia-N	0.011		mg N/L	P303491	
		Kjeldahl Nitrogen	0.18	I	mg N/L	P303656	
1791025	EPA 353.2 Rev. 2.0	NO2NO3-N	0.90		mg N/L	P303164	
	EPA 365.1 Rev. 2.0	Total-P	0.015		mg P/L	P303234	
	SM 5310 B-00	Organic Carbon	2.2		mg C/L	P303347	
	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P302620	
	EPA 200.7 Rev. 4.4	Calcium	1.81		mg/L	P302729	
		Iron	860		ug/L	P302729	
		Magnesium	1.46		mg/L	P302729	
		Potassium	0.74	I	mg/L	P302729	
		Sodium	2.2		mg/L	P302729	
		Zinc	5.0	U	ug/L	P302729	
	EPA 200.8 Rev. 5.4	Arsenic	0.39		ug/L	P302729	
		Cadmium	0.020	U	ug/L	P302729	
		Chromium	0.29		ug/L	P302729	
		Copper	0.31	I	ug/L	P302729	
		Lead	0.24		ug/L	P302729	

Field ID: G4NW0280

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1791057	EPA 200.8 Rev. 5.4	Nickel	0.54		ug/L	P302729	
		Silver	0.0050	U	ug/L	P302729	

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: CanoeCreek above Bratt Rd

Collection Date/Time: 04/19/2016 12:40

Field ID: G4NW0202

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1791022	EPA 180.1 Rev. 2.0	Turbidity	4.0		NTU	P302660	
	EPA 300.0 Rev. 2.1	Chloride	4.5		mg Cl/L	P303239	
		Sulfate	0.98		mg SO4/L	P303242	
	SM 2120 B	Color (true)	37		PCU	P302665	
	SM 2320 B-97	Total Alkalinity	2.6		mg CaCO3/L	P302970	
	SM 2540 C-97	TDS	24	I	mg/L	P303356	
	SM 2540 D-97	TSS	4	I	mg/L	P303216	
	SM 4500 F-C-97	Fluoride	0.035	U	mg F/L	P302974	
1791026	EPA 350.1 Rev. 2.0	Ammonia-N	0.008		mg N/L	P303491	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.19	I	mg N/L	P303656	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.74		mg N/L	P303164	
	EPA 365.1 Rev. 2.0	Total-P	0.013		mg P/L	P303234	
	SM 5310 B-00	Organic Carbon	2.4		mg C/L	P303347	
1791030	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P302620	
1791058	EPA 200.7 Rev. 4.4	Calcium	1.54		mg/L	P302729	
		Iron	830		ug/L	P302729	
		Magnesium	1.27		mg/L	P302729	
		Potassium	0.66	I	mg/L	P302729	
		Sodium	2.2		mg/L	P302729	
		Zinc	5.0	U	ug/L	P302729	
	EPA 200.8 Rev. 5.4	Arsenic	0.36		ug/L	P302729	
		Cadmium	0.020	U	ug/L	P302729	
		Chromium	0.33		ug/L	P302729	
		Copper	0.30	I	ug/L	P302729	
		Lead	0.25		ug/L	P302729	
		Nickel	0.49		ug/L	P302729	
		Silver	0.0050	U	ug/L	P302729	

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: McCostill Mill Creek Ebenezer Rd

Collection Date/Time: 04/19/2016 13:10

Field ID: G4NW0320

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1791033	EPA 180.1 Rev. 2.0	Turbidity	1.1		NTU	P302660	
	EPA 300.0 Rev. 2.1	Chloride	5.5		mg Cl/L	P303239	
		Sulfate	1.0		mg SO4/L	P303242	

Field ID: G4NW0320

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1791033	SM 2120 B	Color (true)	13		PCU	P302665	
	SM 2320 B-97	Total Alkalinity	0.66	I	mg CaCO3/L	P302970	
	SM 2540 C-97	TDS	30		mg/L	P303356	
	SM 2540 D-97	TSS	2	I	mg/L	P303216	
	SM 4500 F-C-97	Fluoride	0.035	U	mg F/L	P302974	
1791038	EPA 350.1 Rev. 2.0	Ammonia-N	0.004	I	mg N/L	P303493	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.098	I	mg N/L	P303657	
	EPA 353.2 Rev. 2.0	NO2NO3-N	1.6		mg N/L	P303164	
	EPA 365.1 Rev. 2.0	Total-P	0.005	I	mg P/L	P303234	
	SM 5310 B-00	Organic Carbon	1.7		mg C/L	P303347	
1791043	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P302620	

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: Moore Creek SR 197

Collection Date/Time: 04/19/2016 13:30

Field ID: g4nw0318

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1791034	EPA 180.1 Rev. 2.0	Turbidity	1.5		NTU	P302660	
	EPA 300.0 Rev. 2.1	Chloride	6.5		mg Cl/L	P303239	
		Sulfate	0.49	I	mg SO4/L	P303242	
	SM 2120 B	Color (true)	14		PCU	P302665	
	SM 2320 B-97	Total Alkalinity	4.3		mg CaCO3/L	P302970	
	SM 2540 C-97	TDS	41		mg/L	P303356	
	SM 2540 D-97	TSS	4	I	mg/L	P303216	
	SM 4500 F-C-97	Fluoride	0.035	U	mg F/L	P302974	
	EPA 350.1 Rev. 2.0	Ammonia-N	0.011		mg N/L	P303493	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.19	I	mg N/L	P303657	
1791039	EPA 353.2 Rev. 2.0	NO2NO3-N	2.3		mg N/L	P303164	
	EPA 365.1 Rev. 2.0	Total-P	0.008		mg P/L	P303234	
	SM 5310 B-00	Organic Carbon	1.6		mg C/L	P303347	
	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P302620	

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: Moore Creek above Mineral Springs Rd

Collection Date/Time: 04/19/2016 13:55

Field ID: G4NW0355

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1791035	EPA 180.1 Rev. 2.0	Turbidity	4.4		NTU	P302660	
	EPA 300.0 Rev. 2.1	Chloride	5.4		mg Cl/L	P303239	
		Sulfate	0.82		mg SO4/L	P303242	
	SM 2120 B	Color (true)	22		PCU	P302665	
	SM 2320 B-97	Total Alkalinity	2.4	I	mg CaCO3/L	P302970	
	SM 2540 C-97	TDS	27		mg/L	P303356	
	SM 2540 D-97	TSS	6	I	mg/L	P303216	

Field ID: G4NW0355

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1791035	SM 4500 F-C-97	Fluoride	0.035	U	mg F/L	P302974	
1791040	EPA 350.1 Rev. 2.0	Ammonia-N	0.007		mg N/L	P303493	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.18	I	mg N/L	P303657	
	EPA 353.2 Rev. 2.0	NO2NO3-N	1.9		mg N/L	P303164	
	EPA 365.1 Rev. 2.0	Total-P	0.008		mg P/L	P303234	
	SM 5310 B-00	Organic Carbon	1.8		mg C/L	P303347	
1791045	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P302620	

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: P302660

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 200.7 Rev. 4.4
 Batch ID: P302729

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: P302729

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: P303239

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
 Batch ID: P303242

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Quality Assurance Report Method Blank Results

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P303491

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P303493

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P303656

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P303657

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P303164

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P303234

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P302619

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P302620

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

Reference Method: SM 2120 B
Batch ID: P302665

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Quality Assurance Report Method Blank Results

Reference Method: SM 2320 B-97
Batch ID: P302970

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

Reference Method: SM 2540 C-97
Batch ID: P303356

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-97
Batch ID: P303216

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500 F-C-97
Batch ID: P302974

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-00
Batch ID: P303347

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: P302729

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Calcium	111		P	85 - 115
Iron	107		P	85 - 115
Magnesium	108		P	85 - 115
Potassium	103		P	85 - 115
Sodium	108		P	85 - 115
Zinc	97.2		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P302729

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Arsenic	96.3		P	85 - 115
Cadmium	95.8		P	85 - 115
Chromium	93.9		P	85 - 115
Copper	94.8		P	85 - 115
Lead	96.4		P	85 - 115
Nickel	97.5		P	85 - 115
Silver	93.4		P	85 - 115

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P303239

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P303242

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P303491

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P303493

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P303656

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Kjeldahl Nitrogen	93.2		P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P303657

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Kjeldahl Nitrogen	94.2		P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P303164

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P303234

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P302619

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

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P302620

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

Reference Method: SM 2320 B-97
Batch ID: P302970

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	98.7		P	95 - 105

Reference Method: SM 4500 F-C-97
Batch ID: P302974

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	95.1		P	92 - 103

Reference Method: SM 5310 B-00
Batch ID: P303347

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

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P302729

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1791057	Calcium	108	110	P/P	80 - 120
1791057	Iron	107	106	P/P	80 - 120
1791057	Magnesium	108	108	P/P	80 - 120
1791057	Potassium	100	102	P/P	80 - 120
1791057	Sodium	102	105	P/P	80 - 120
1791057	Zinc	102	102	P/P	80 - 120
1791093	Calcium	101		P	80 - 120
1791093	Iron	106		P	80 - 120
1791093	Magnesium	103		P	80 - 120
1791093	Potassium	97.9		P	80 - 120
1791093	Sodium	101		P	80 - 120
1791093	Zinc	99.7		P	80 - 120

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P302729

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1791057	Arsenic	94.2	94.9	P/P	80 - 120
1791057	Cadmium	98.2	98.2	P/P	80 - 120
1791057	Chromium	95.3	94.6	P/P	80 - 120
1791057	Copper	91.4	91.9	P/P	80 - 120
1791057	Lead	97.8	98.2	P/P	80 - 120
1791057	Nickel	93.4	92.9	P/P	80 - 120
1791057	Silver	93.4	94.4	P/P	80 - 120

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P302729

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1791093	Arsenic	95.9		P	80 - 120
1791093	Cadmium	99.3		P	80 - 120
1791093	Chromium	95.0		P	80 - 120
1791093	Copper	92.3		P	80 - 120
1791093	Lead	98.7		P	80 - 120
1791093	Nickel	93.3		P	80 - 120
1791093	Silver	93.3		P	80 - 120

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P303239

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1791020	Chloride	98.9		P	90 - 110
1791034	Chloride	99.9		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P303242

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1791020	Sulfate	96.1		P	90 - 110
1791034	Sulfate	96.3		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P303491

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1790908	Ammonia-N	105	102	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P303493

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1791073	Ammonia-N	104	103	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P303656

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1791013	Kjeldahl Nitrogen	95.4	92.0	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P303657

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1791037	Kjeldahl Nitrogen	96.6	91.5	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P303164

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1791036	NO2NO3-N	101	100	P/P	90 - 110

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P303234

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1791023	Total-P	101	99.9	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P302619

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1790911	O-Phosphate-P	99.2	102	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P302620

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1791029	O-Phosphate-P	104	104	P/P	90 - 110

Reference Method: SM 4500 F-C-97
Batch ID: P302974

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1791068	Fluoride	96.4	97.8	P/P	91 - 105

Reference Method: SM 5310 B-00
Batch ID: P303347

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1791012	Organic Carbon	101		P	85 - 115

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P302660

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1791000	Turbidity	16.0	Sample	P	0 - 20

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P302729

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1791057	Calcium	0.924	Spike	P	0 - 20
1791057	Iron	0.546	Spike	P	0 - 20
1791057	Magnesium	0.398	Spike	P	0 - 20
1791057	Potassium	1.26	Spike	P	0 - 20
1791057	Sodium	1.59	Spike	P	0 - 20
1791057	Zinc	0.393	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P302729

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1791057	Arsenic	0.758	Spike	P	0 - 20
1791057	Cadmium	0.0115	Spike	P	0 - 20
1791057	Chromium	0.687	Spike	P	0 - 20
1791057	Copper	0.609	Spike	P	0 - 20
1791057	Lead	0.349	Spike	P	0 - 20
1791057	Nickel	0.528	Spike	P	0 - 20
1791057	Silver	1.08	Spike	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P303239

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1791020	Chloride	0.281	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P303242

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1791020	Sulfate	4.05	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P303491

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1790908	Ammonia-N	2.67	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P303493

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1791073	Ammonia-N	0.971	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P303656

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1791013	Kjeldahl Nitrogen	2.22	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P303657

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1791037	Kjeldahl Nitrogen	4.68	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P303164

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1791036	NO2NO3-N	0.635	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P303234

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1791023	Total-P	0.776	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P302619

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1790911	O-Phosphate-P	2.15	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P302620

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1791029	O-Phosphate-P	0.672	Spike	P	0 - 20

Reference Method: SM 2120 B
Batch ID: P302665

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1791019	Color (true)	1.58	Sample	P	0 - 20

Reference Method: SM 2320 B-97
Batch ID: P302970

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1791068	Total Alkalinity	0.0516	Sample	P	0 - 4.8

Reference Method: SM 2540 C-97
Batch ID: P303356

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1790967	TDS	3.92	Sample	P	0 - 10

Reference Method: SM 4500 F-C-97
Batch ID: P302974

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1791068	Fluoride	1.01	Spike	P	0 - 3.0

Quality Assurance Report Precision

Reference Method: SM 5310 B-00
Batch ID: P303347

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1791012	Organic Carbon	0.974	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 365.1 Rev. 2.0 dissolved
Run ID: A68990

Included Lab Sample IDs: 1791027, 1791028, 1791029, 1791030, 1791041, 1791042, 1791043, 1791044, 1791045

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	101	98.0	P/P	90 - 110
O-Phosphate-P	99.6	100	P/P	90 - 110

Reference Method: EPA 180.1 Rev. 2.0
Run ID: A69002

Included Lab Sample IDs: 1791019, 1791020, 1791021, 1791022, 1791031, 1791032, 1791033, 1791034, 1791035

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

Reference Method: SM 2120 B
Run ID: A69006

Included Lab Sample IDs: 1791019, 1791020, 1791021, 1791022, 1791031, 1791032, 1791033, 1791034, 1791035

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	100	98.2	P/P	90 - 115

Reference Method: EPA 200.7 Rev. 4.4
Run ID: A69081

Included Lab Sample IDs: 1791055, 1791056, 1791057, 1791058

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Calcium	103	102	P/P	90 - 110
Iron	101	102	P/P	90 - 110
Magnesium	102	102	P/P	90 - 110
Potassium	99.7	99.7	P/P	90 - 110
Sodium	101	102	P/P	90 - 110
Zinc	100	102	P/P	90 - 110

Reference Method: SM 2320 B-97
Run ID: A69103

Included Lab Sample IDs: 1791019, 1791020, 1791021, 1791022, 1791031, 1791032, 1791033, 1791034, 1791035

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	98.3	96.8	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: SM 4500 F-C-97

Run ID: A69103

Included Lab Sample IDs: 1791019, 1791020, 1791021, 1791022, 1791031, 1791032, 1791033, 1791034, 1791035

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	96.5	99.5	P/P	90 - 110

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A69123

Included Lab Sample IDs: 1791055, 1791056, 1791057, 1791058

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Arsenic	96.6	95.9	P/P	90 - 110
Arsenic	97.4	96.6	P/P	90 - 110
Cadmium	97.3	98.1	P/P	90 - 110
Cadmium	98.1	97.6	P/P	90 - 110
Chromium	94.4	94.8	P/P	90 - 110
Chromium	94.8	96.5	P/P	90 - 110
Copper	94.1	92.5	P/P	90 - 110
Copper	96.9	94.1	P/P	90 - 110
Lead	95.7	94.9	P/P	90 - 110
Lead	96.0	95.7	P/P	90 - 110
Nickel	94.3	93.8	P/P	90 - 110
Nickel	97.2	94.3	P/P	90 - 110
Silver	96.0	96.1	P/P	90 - 110
Silver	96.1	94.5	P/P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A69144

Included Lab Sample IDs: 1791019, 1791020, 1791021, 1791022, 1791031, 1791032, 1791033, 1791034, 1791035

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	100	100	P/P	90 - 110
Chloride	100	99.6	P/P	90 - 110
Chloride	99.6	100	P/P	90 - 110
Sulfate	98.7	99.4	P/P	90 - 110
Sulfate	99.1	99.3	P/P	90 - 110
Sulfate	99.3	98.7	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A69154

Included Lab Sample IDs: 1791023, 1791024, 1791025, 1791026, 1791036, 1791037, 1791038, 1791039, 1791040

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	100	104	P/P	90 - 110
NO2NO3-N	101	102	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A69204

Included Lab Sample IDs: 1791023, 1791024, 1791025, 1791026, 1791036, 1791037, 1791038, 1791039, 1791040

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	97.0	97.8	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: SM 5310 B-00

Run ID: A69211

Included Lab Sample IDs: 1791023, 1791024, 1791025, 1791026, 1791036, 1791037, 1791038, 1791039, 1791040

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	100	98.0	P/P	90 - 110
Organic Carbon	98.0	99.7	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A69238

Included Lab Sample IDs: 1791023, 1791024, 1791025, 1791026, 1791036, 1791037, 1791038, 1791039, 1791040

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

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A69362

Included Lab Sample IDs: 1791023, 1791024, 1791025, 1791026, 1791036, 1791037, 1791038, 1791039, 1791040

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	95.0	95.0	P/P	90 - 110
Kjeldahl Nitrogen	95.0	92.4	P/P	90 - 110
Kjeldahl Nitrogen	96.0	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				LCS	Precision SMP	MS
EPA 180.1 Rev. 2.0	Turbidity							16.0	
EPA 200.7 Rev. 4.4	Calcium	111	108	110	101				0.924
	Iron	107	107	106	106				0.546
	Magnesium	108	108	108	103				0.398
	Potassium	103	100	102	97.9				1.26
	Sodium	108	102	105	101				1.59
	Zinc	97.2	102	102	99.7				0.393
EPA 200.8 Rev. 5.4	Arsenic	96.3	94.2	94.9	95.9				0.758
	Cadmium	95.8	98.2	98.2	99.3				0.0115
	Chromium	93.9	95.3	94.6	95.0				0.687
	Copper	94.8	91.4	91.9	92.3				0.609
	Lead	96.4	97.8	98.2	98.7				0.349
	Nickel	97.5	93.4	92.9	93.3				0.528
	Silver	93.4	93.4	94.4	93.3				1.08
EPA 300.0 Rev. 2.1	Chloride	101	99.9	98.9				0.281	
	Sulfate	98.0	96.3	96.1				4.05	
EPA 350.1 Rev. 2.0	Ammonia-N	103	105	102					2.67
	Ammonia-N	103	104	103					0.971
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	93.2	95.4	92.0					2.22
	Kjeldahl Nitrogen	94.2	96.6	91.5					4.68

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery		Precision	
					LCS	MS
EPA 353.2 Rev. 2.0	NO2NO3-N	101	101	100		0.635
EPA 365.1 Rev. 2.0	Total-P	102	101	99.9		0.776
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	102	99.2	102		2.15
	O-Phosphate-P	102	104	104		0.672
SM 2120 B	Color (true)				1.58	
SM 2320 B-97	Total Alkalinity	98.7			0.0516	
SM 2540 C-97	TDS				3.92	
SM 4500 F-C-97	Fluoride	95.1	96.4	97.8		1.01
SM 5310 B-00	Organic Carbon	101	101			0.974

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 180.1 Rev. 2.0 / E31780	Turbidity in aqueous matrices	1791019, 1791020, 1791021, 1791022, 1791031, 1791032, 1791033, 1791034, 1791035
EPA 200.7 Rev. 4.4 / E31780	Total Recoverable Metals analysis using ICP emission spectroscopy for aqueous samples supporting Clean Water Act Projects	1791055, 1791056, 1791057, 1791058
EPA 200.8 Rev. 5.4 / E31780	Total Recoverable Metals analysis using ICP-MS for aqueous samples supporting Clean Water Act Projects	1791055, 1791056, 1791057, 1791058
EPA 300.0 Rev. 2.1 / E31780	Chloride in aqueous matrices	1791019, 1791020, 1791021, 1791022, 1791031, 1791032, 1791033, 1791034, 1791035
EPA 300.0 Rev. 2.1 / E31780	Sulfate in aqueous matrices	1791019, 1791020, 1791021, 1791022, 1791031, 1791032, 1791033, 1791034, 1791035
EPA 350.1 Rev. 2.0 / E31780	Ammonia in aqueous matrices as mg N/L	1791023, 1791024, 1791025, 1791026, 1791036, 1791037, 1791038, 1791039, 1791040
EPA 351.2 Rev. 2.0 / E31780	Total Kjeldahl Nitrogen in aqueous matrices	1791023, 1791024, 1791025, 1791026, 1791036, 1791037, 1791038, 1791039, 1791040
EPA 353.2 Rev. 2.0 / E31780	Nitrite/Nitrate in aqueous matrices as mg N/L	1791023, 1791024, 1791025, 1791026, 1791036, 1791037, 1791038, 1791039, 1791040
EPA 365.1 Rev. 2.0 / E31780	Total Phosphorus in aqueous matrices as mg P/L	1791023, 1791024, 1791025, 1791026, 1791036, 1791037, 1791038, 1791039, 1791040
EPA 365.1 Rev. 2.0 dissolved / E31780	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	1791027, 1791028, 1791029, 1791030, 1791041, 1791042, 1791043, 1791044, 1791045
SM 2120 B / E31780	True Color measured at 450 nm	1791019, 1791020, 1791021, 1791022, 1791031, 1791032, 1791033, 1791034, 1791035
SM 2320 B-97 / E31780	Alkalinity in aqueous matrices as mg CaCO3/L	1791019, 1791020, 1791021, 1791022, 1791031, 1791032, 1791033, 1791034, 1791035
SM 2540 C-97 / E31780	Total Dissolved Solids in aqueous matrices	1791019, 1791020, 1791021, 1791022, 1791031, 1791032, 1791033, 1791034, 1791035
SM 2540 D-97 / E31780	Total Suspended Solids in aqueous matrices	1791019, 1791020, 1791021, 1791022, 1791031, 1791032, 1791033, 1791034, 1791035
SM 4500 F-C-97 / E31780	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	1791019, 1791020, 1791021, 1791022, 1791031, 1791032, 1791033, 1791034, 1791035
SM 5310 B-00 / E31780	Nonpurgeable Organic Carbon in aqueous matrices	1791023, 1791024, 1791025, 1791026, 1791036, 1791037, 1791038, 1791039, 1791040

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	04/20/2016			04/20/2016 15:29	Blanca Fach	1791019, 1791020, 1791021, 1791022, 1791031, 1791032, 1791033, 1791034, 1791035
EPA 200.7 Rev. 4.4	04/20/2016	04/21/2016	Elliott D. Healy	04/25/2016	Joshua Ayres	1791055, 1791056, 1791057, 1791058
EPA 200.8 Rev. 5.4	04/20/2016	04/21/2016	Elliott D. Healy	04/26/2016	Charles J. Peterson	1791055, 1791056, 1791057, 1791058
EPA 300.0 Rev. 2.1	04/20/2016			04/28/2016	Elisa J Lutz	1791019, 1791020, 1791021, 1791022, 1791031, 1791032, 1791033, 1791034, 1791035
EPA 350.1 Rev. 2.0	04/20/2016			05/03/2016	Diana M. Turner	1791023, 1791024, 1791025, 1791026, 1791036, 1791037, 1791038, 1791039, 1791040
EPA 351.2 Rev. 2.0	04/20/2016	05/06/2016	Sofia Elnemr	05/09/2016	Christopher Armour	1791023, 1791024, 1791025, 1791026, 1791036, 1791037, 1791038, 1791039, 1791040
EPA 353.2 Rev. 2.0	04/20/2016			04/28/2016	Diana M. Turner	1791023, 1791024, 1791025, 1791026, 1791036, 1791037, 1791038, 1791039, 1791040
EPA 365.1 Rev. 2.0	04/20/2016	04/29/2016	Christopher Armour	05/02/2016	Lipi Saha	1791023, 1791024, 1791025, 1791026, 1791036, 1791037, 1791038, 1791039, 1791040
EPA 365.1 Rev. 2.0 dissolved	04/20/2016			04/20/2016 13:59	Ping Hua	1791029
	04/20/2016			04/20/2016 15:04	Ping Hua	1791027
	04/20/2016			04/20/2016 15:05	Ping Hua	1791028, 1791030
	04/20/2016			04/20/2016 15:06	Ping Hua	1791041
	04/20/2016			04/20/2016 15:07	Ping Hua	1791042
	04/20/2016			04/20/2016 15:08	Ping Hua	1791043
	04/20/2016			04/20/2016 15:09	Ping Hua	1791044
	04/20/2016			04/20/2016 15:10	Ping Hua	1791045
SM 2120 B	04/20/2016			04/21/2016 08:27	Rochelle Y Jackson	1791019
	04/20/2016			04/21/2016 08:28	Rochelle Y Jackson	1791020
	04/20/2016			04/21/2016 08:29	Rochelle Y Jackson	1791021
	04/20/2016			04/21/2016 08:30	Rochelle Y Jackson	1791022, 1791031
	04/20/2016			04/21/2016 08:31	Rochelle Y Jackson	1791032
	04/20/2016			04/21/2016 08:32	Rochelle Y Jackson	1791033
SM 2320 B-97	04/20/2016			04/21/2016 08:33	Rochelle Y Jackson	1791034, 1791035
	04/20/2016			04/25/2016	Dale L. Simmons	1791019, 1791020, 1791021, 1791022, 1791031, 1791032, 1791033, 1791034, 1791035
SM 2540 C-97	04/20/2016			04/22/2016	Yijie Li	1791019, 1791020, 1791021, 1791022, 1791031, 1791032, 1791033, 1791034, 1791035

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
SM 2540 D-97	04/20/2016			04/22/2016	Yijie Li	1791019, 1791020, 1791021, 1791022, 1791031, 1791032, 1791033, 1791034, 1791035
SM 4500 F-C-97	04/20/2016			04/25/2016	Dale L. Simmons	1791019, 1791020, 1791021, 1791022, 1791031, 1791032, 1791033, 1791034, 1791035
SM 5310 B-00	04/20/2016			04/30/2016	Sofia Elnemr	1791023, 1791024, 1791025, 1791026, 1791036, 1791037, 1791038, 1791039, 1791040