

Chemical Analysis Report

NW-DIST-2016-08-23-01

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

Event Description: **WBID 76 40A 101 35A 269**

Request ID: **RQ-2016-08-22-20**

Customer: **NW-DIST**

Project ID: **SMP**

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Certified by: Colin Wright, Environmental Administrator

Date Certified: 14-SEP-2016 14:27

A handwritten signature in black ink, appearing to read "Colin Wright", is written on a light-colored 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 group are included in this report: 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: West Sandy Cr. @ Old Landfill Rd. South of Spradlin Rd.

Collection Date/Time: 08/22/2016 11:05

Field ID: G3NW0054

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1825692	EPA 180.1 Rev. 2.0	Turbidity	6.5	A	NTU	P310159	
	EPA 300.0 Rev. 2.1	Chloride	2.7		mg Cl/L	P310942	
		Sulfate	0.82		mg SO4/L	P310945	
	SM 2120 B	Color (true)	100		PCU	P310162	
	SM 2320 B-97	Total Alkalinity	17		mg CaCO3/L	P310296	
	SM 2540 C-97	TDS	42		mg/L	P310625	
	SM 2540 D-97	TSS	3	I	mg/L	P310574	
	SM 4500 F-C-97	Fluoride	0.035	U	mg F/L	P310299	
1825703	EPA 350.1 Rev. 2.0	Ammonia-N	0.015		mg N/L	P310170	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.32		mg N/L	P310511	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.025		mg N/L	P310479	
	EPA 365.1 Rev. 2.0	Total-P	0.031		mg P/L	P310225	
	SM 5310 B-00	Organic Carbon	6.8		mg C/L	P310349	
1825714	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.01	I	mg P/L	P310152	

Ref. Method and Comment:

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

EPA 365.1 Rev. 2.0: Total-P: Batch matrix spike recoveries are unavailable because of high analyte concentration in the QC sample.

Sample Location: West Sandy Cr. @ CR 183

Collection Date/Time: 08/22/2016 11:35

Field ID: G3NW0053

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1825693	EPA 180.1 Rev. 2.0	Turbidity	4.6		NTU	P310159	
	EPA 300.0 Rev. 2.1	Chloride	3.6		mg Cl/L	P310942	
		Sulfate	0.98		mg SO4/L	P310945	
	SM 2120 B	Color (true)	78		PCU	P310162	
	SM 2320 B-97	Total Alkalinity	4.4		mg CaCO3/L	P310296	
	SM 2540 C-97	TDS	34		mg/L	P310625	
	SM 2540 D-97	TSS	7	I	mg/L	P310574	
	SM 4500 F-C-97	Fluoride	0.035	U	mg F/L	P310299	
1825704	EPA 350.1 Rev. 2.0	Ammonia-N	0.023		mg N/L	P310170	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.41		mg N/L	P310511	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.18		mg N/L	P310480	
	EPA 365.1 Rev. 2.0	Total-P	0.014		mg P/L	P310225	
	SM 5310 B-00	Organic Carbon	5.9		mg C/L	P310349	
1825715	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P310152	

Ref. Method and Comment:

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

EPA 365.1 Rev. 2.0: Total-P: Batch matrix spike recoveries are unavailable because of high analyte concentration in the QC sample.

Sample Location: Natural Bridge Creek CR 181

Collection Date/Time: 08/22/2016 12:20

Field ID: G3NW0082

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1825694	EPA 180.1 Rev. 2.0	Turbidity	4.6		NTU	P310159	

Field ID: G3NW0082

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1825694	EPA 300.0 Rev. 2.1	Chloride	3.3		mg Cl/L	P310942	
		Sulfate	0.98		mg SO4/L	P310945	
	SM 2120 B	Color (true)	64		PCU	P310163	
	SM 2320 B-97	Total Alkalinity	34		mg CaCO3/L	P310296	
	SM 2540 C-97	TDS	59		mg/L	P310626	
	SM 2540 D-97	TSS	7	I	mg/L	P310575	
	SM 4500 F-C-97	Fluoride	0.035	U	mg F/L	P310299	
1825705	EPA 350.1 Rev. 2.0	Ammonia-N	0.004	I	mg N/L	P310170	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.26		mg N/L	P310511	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.22		mg N/L	P310480	
	EPA 365.1 Rev. 2.0	Total-P	0.018		mg P/L	P310225	
	SM 5310 B-00	Organic Carbon	6.0		mg C/L	P310349	
1825716	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.006	I	mg P/L	P310152	

Ref. Method and Comment:

EPA 365.1 Rev. 2.0: Total-P: Batch matrix spike recoveries are unavailable because of high analyte concentration in the QC sample.

Sample Location: Long Creek Abv Campground Rd.

Collection Date/Time: 08/22/2016 12:50

Field ID: G4NW0303

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1825695	EPA 180.1 Rev. 2.0	Turbidity	3.6		NTU	P310159	
	EPA 300.0 Rev. 2.1	Chloride	5.2		mg Cl/L	P310942	
		Sulfate	0.41	I	mg SO4/L	P310945	
	SM 2120 B	Color (true)	94		PCU	P310163	
	SM 2320 B-97	Total Alkalinity	8.4		mg CaCO3/L	P310296	
	SM 2540 C-97	TDS	37		mg/L	P310626	
	SM 2540 D-97	TSS	3	I	mg/L	P310575	
1825706	SM 4500 F-C-97	Fluoride	0.035	U	mg F/L	P310299	
	EPA 350.1 Rev. 2.0	Ammonia-N	0.021		mg N/L	P310170	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.51		mg N/L	P310511	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.21		mg N/L	P310592	
	EPA 365.1 Rev. 2.0	Total-P	0.044		mg P/L	P310225	
1825717	SM 5310 B-00	Organic Carbon	8.5		mg C/L	P310349	
	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.011		mg P/L	P310152	

Ref. Method and Comment:

EPA 365.1 Rev. 2.0: Total-P: Batch matrix spike recoveries are unavailable because of high analyte concentration in the QC sample.

Sample Location: Long Creek Upstream of CR2

Collection Date/Time: 08/22/2016 13:10

Field ID: G4NW0304

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1825696	EPA 180.1 Rev. 2.0	Turbidity	8.5		NTU	P310159	
	EPA 300.0 Rev. 2.1	Chloride	4.9		mg Cl/L	P310942	
		Sulfate	0.66		mg SO4/L	P310945	
	SM 2120 B	Color (true)	87		PCU	P310163	
	SM 2320 B-97	Total Alkalinity	9.0		mg CaCO3/L	P310296	

Field ID: G4NW0304

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1825696	SM 2540 C-97	TDS	45		mg/L	P310626	
	SM 2540 D-97	TSS	8	I	mg/L	P310575	
	SM 4500 F-C-97	Fluoride	0.035	U	mg F/L	P310299	
1825707	EPA 350.1 Rev. 2.0	Ammonia-N	0.012		mg N/L	P310170	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.39		mg N/L	P310511	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.20		mg N/L	P310592	
	EPA 365.1 Rev. 2.0	Total-P	0.036		mg P/L	P310225	
	SM 5310 B-00	Organic Carbon	6.8		mg C/L	P310349	
1825718	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.010		mg P/L	P310153	

Ref. Method and Comment:

EPA 365.1 Rev. 2.0: Total-P: Batch matrix spike recoveries are unavailable because of high analyte concentration in the QC sample.

Sample Location: Pine Long Creek CR-2

Collection Date/Time: 08/22/2016 13:25

Field ID: G4NW0317

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1825697	EPA 180.1 Rev. 2.0	Turbidity	4.4		NTU	P310159	
	EPA 300.0 Rev. 2.1	Chloride	3.6		mg Cl/L	P310942	
		Sulfate	0.35	I	mg SO4/L	P310945	
	SM 2120 B	Color (true)	130		PCU	P310163	
	SM 2320 B-97	Total Alkalinity	5.7		mg CaCO3/L	P310296	
	SM 2540 C-97	TDS	37		mg/L	P310626	
	SM 2540 D-97	TSS	5	I	mg/L	P310575	
	SM 4500 F-C-97	Fluoride	0.035	U	mg F/L	P310299	
1825708	EPA 350.1 Rev. 2.0	Ammonia-N	0.005		mg N/L	P310170	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.49		mg N/L	P310511	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.10		mg N/L	P310592	
	EPA 365.1 Rev. 2.0	Total-P	0.024		mg P/L	P310225	
	SM 5310 B-00	Organic Carbon	11		mg C/L	P310350	
1825719	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.007	I	mg P/L	P310153	

Ref. Method and Comment:

EPA 365.1 Rev. 2.0: Total-P: Batch matrix spike recoveries are unavailable because of high analyte concentration in the QC sample.

Sample Location: Pine Long Creek Long Rd.

Collection Date/Time: 08/22/2016 13:40

Field ID: G4NW0315

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1825698	EPA 180.1 Rev. 2.0	Turbidity	5.1		NTU	P310159	
	EPA 300.0 Rev. 2.1	Chloride	3.5		mg Cl/L	P310943	
		Sulfate	0.68		mg SO4/L	P310946	
	SM 2120 B	Color (true)	100		PCU	P310163	
	SM 2320 B-97	Total Alkalinity	4.0		mg CaCO3/L	P310296	
	SM 2540 C-97	TDS	35		mg/L	P310626	
	SM 2540 D-97	TSS	7	I	mg/L	P310575	
	SM 4500 F-C-97	Fluoride	0.035	U	mg F/L	P310299	
1825709	EPA 350.1 Rev. 2.0	Ammonia-N	0.003	I	mg N/L	P310170	

Field ID: G4NW0315

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1825709	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.37		mg N/L	P310511	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.10		mg N/L	P310592	
	EPA 365.1 Rev. 2.0	Total-P	0.022		mg P/L	P310228	
	SM 5310 B-00	Organic Carbon	8.7		mg C/L	P310350	
1825720	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.006	I	mg P/L	P310153	

Sample Location: Long Creek Long Rd.

Collection Date/Time: 08/22/2016 13:55

Field ID: G4NW0308

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1825699	EPA 180.1 Rev. 2.0	Turbidity	5.7		NTU	P310159	
	EPA 300.0 Rev. 2.1	Chloride	3.3		mg Cl/L	P310943	
		Sulfate	0.57		mg SO4/L	P310946	
		Color (true)	71		PCU	P310163	
	SM 2320 B-97	Total Alkalinity	2.7		mg CaCO3/L	P310296	
	SM 2540 C-97	TDS	30		mg/L	P310626	
	SM 2540 D-97	TSS	8	I	mg/L	P310575	
	SM 4500 F-C-97	Fluoride	0.035	U	mg F/L	P310299	
1825710	EPA 350.1 Rev. 2.0	Ammonia-N	0.003	I	mg N/L	P310170	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.40		mg N/L	P310465	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.21		mg N/L	P310592	
	EPA 365.1 Rev. 2.0	Total-P	0.020		mg P/L	P310228	
	SM 5310 B-00	Organic Carbon	6.3		mg C/L	P310350	
1825721	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P310153	

Sample Location: Juniper Cr Fla 393

Collection Date/Time: 08/22/2016 14:20

Field ID: G4NW0349

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1825700	EPA 180.1 Rev. 2.0	Turbidity	5.5		NTU	P310159	
	EPA 300.0 Rev. 2.1	Chloride	4.1		mg Cl/L	P310943	
		Sulfate	1.2		mg SO4/L	P310946	
		Color (true)	55		PCU	P310163	
	SM 2320 B-97	Total Alkalinity	7.2		mg CaCO3/L	P310296	
	SM 2540 C-97	TDS	35		mg/L	P310626	
	SM 2540 D-97	TSS	4	I	mg/L	P310575	
	SM 4500 F-C-97	Fluoride	0.036	I	mg F/L	P310299	
1825711	EPA 350.1 Rev. 2.0	Ammonia-N	0.004	I	mg N/L	P310170	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.27		mg N/L	P310465	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.31		mg N/L	P310592	
	EPA 365.1 Rev. 2.0	Total-P	0.024		mg P/L	P310228	
	SM 5310 B-00	Organic Carbon	4.3		mg C/L	P310350	
1825722	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.008	I	mg P/L	P310153	

Sample Location: Pond Creek in McCloud Bay @ Pipeline off Sunburst Drive

Collection Date/Time: 08/22/2016 14:55

Field ID: G4NW0351

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1825701	EPA 180.1 Rev. 2.0	Turbidity	5.0		NTU	P310159	
	EPA 300.0 Rev. 2.1	Chloride	4.2		mg Cl/L	P310943	
		Sulfate	1.2		mg SO4/L	P310946	
	SM 2120 B	Color (true)	57		PCU	P310163	
	SM 2320 B-97	Total Alkalinity	6.9		mg CaCO3/L	P310296	
	SM 2540 C-97	TDS	38		mg/L	P310626	
	SM 2540 D-97	TSS	6	I	mg/L	P310575	
	SM 4500 F-C-97	Fluoride	0.036	I	mg F/L	P310299	
1825712	EPA 350.1 Rev. 2.0	Ammonia-N	0.003	I	mg N/L	P310170	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.27		mg N/L	P310465	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.32		mg N/L	P310592	
	EPA 365.1 Rev. 2.0	Total-P	0.024		mg P/L	P310228	
	SM 5310 B-00	Organic Carbon	4.5		mg C/L	P310350	
1825723	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.008	I	mg P/L	P310153	

Sample Location: Pond Creek in McCloud Bay Upstream of Lake Ella Road

Collection Date/Time: 08/22/2016 14:35

Field ID: G4NW0350

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1825702	EPA 180.1 Rev. 2.0	Turbidity	4.8	A	NTU	P310160	
	EPA 300.0 Rev. 2.1	Chloride	4.4		mg Cl/L	P310943	
		Sulfate	0.88		mg SO4/L	P310946	
	SM 2120 B	Color (true)	62	A	PCU	P310163	
	SM 2320 B-97	Total Alkalinity	8.1		mg CaCO3/L	P310296	
	SM 2540 C-97	TDS	37		mg/L	P310626	
	SM 2540 D-97	TSS	8	I	mg/L	P310575	
	SM 4500 F-C-97	Fluoride	0.037	I	mg F/L	P310299	
1825713	EPA 350.1 Rev. 2.0	Ammonia-N	0.006		mg N/L	P310171	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.37		mg N/L	P310465	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.36		mg N/L	P310592	
	EPA 365.1 Rev. 2.0	Total-P	0.030		mg P/L	P310228	
	SM 5310 B-00	Organic Carbon	4.9		mg C/L	P310350	
1825724	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.01	I	mg P/L	P310153	

Quality Assurance Report Method Blank Results

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P310159

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: P310160

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P310942

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P310943

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P310945

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P310946

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P310170

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P310171

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P310465

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P310511

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: P310479

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P310480

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P310592

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P310225

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P310228

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P310152

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P310153

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

Reference Method: SM 2120 B
Batch ID: P310162

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2120 B
Batch ID: P310163

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Quality Assurance Report Method Blank Results

Reference Method: SM 2320 B-97
Batch ID: P310296

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

Reference Method: SM 2540 C-97
Batch ID: P310625

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 C-97
Batch ID: P310626

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-97
Batch ID: P310574

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 2540 D-97
Batch ID: P310575

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500 F-C-97
Batch ID: P310299

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-00
Batch ID: P310349

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

Reference Method: SM 5310 B-00
Batch ID: P310350

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

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P310942

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
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Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P310942

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P310943

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P310945

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P310946

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Sulfate	98.9		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P310170

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P310171

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P310465

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P310511

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P310479

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

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P310480

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P310592

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P310225

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total-P	95.2		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P310228

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P310152

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P310153

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
O-Phosphate-P	98.6		P	90 - 110

Reference Method: SM 2320 B-97
Batch ID: P310296

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

Reference Method: SM 4500 F-C-97
Batch ID: P310299

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	98.5		P	92 - 103

Reference Method: SM 5310 B-00
Batch ID: P310349

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

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: SM 5310 B-00
 Batch ID: P310350

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

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 300.0 Rev. 2.1
 Batch ID: P310942

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1825580	Chloride	99.4		P	90 - 110
1825585	Chloride	98.6		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
 Batch ID: P310943

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1825726	Chloride	98.9		P	90 - 110
1826314	Chloride	98.9		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
 Batch ID: P310945

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1825580	Sulfate	98.7		P	90 - 110
1825585	Sulfate	96.1		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
 Batch ID: P310946

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1825726	Sulfate	98.4		P	90 - 110
1826314	Sulfate	96.9		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
 Batch ID: P310170

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1825703	Ammonia-N	102	98.5	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
 Batch ID: P310171

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1825779	Ammonia-N	102	104	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
 Batch ID: P310465

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1825713	Kjeldahl Nitrogen	97.5	95.1	P/P	90 - 110

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P310511

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1825707	Kjeldahl Nitrogen	106	106	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P310479

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1825599	NO2NO3-N	102	102	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P310480

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1825704	NO2NO3-N	96.0	95.0	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P310592

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1825706	NO2NO3-N	94.5	94.0	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P310228

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1825710	Total-P	102	102	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P310152

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1825608	O-Phosphate-P	98.7	98.9	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P310153

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1825718	O-Phosphate-P	96.9	98.2	P/P	90 - 110

Reference Method: SM 4500 F-C-97
Batch ID: P310299

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1825591	Fluoride	98.7	98.7	P/P	91 - 105

Reference Method: SM 5310 B-00
Batch ID: P310349

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1825059	Organic Carbon	99.8	98.2	P/P	85 - 115

Quality Assurance Report Matrix Spike Accuracy

Reference Method: SM 5310 B-00
 Batch ID: P310350

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1825708	Organic Carbon	102	100	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
 Batch ID: P310159

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1825692	Turbidity	1.23	Sample	P	0 - 20

Reference Method: EPA 180.1 Rev. 2.0
 Batch ID: P310160

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1825702	Turbidity	4.12	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
 Batch ID: P310942

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1825580	Chloride	0.277	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
 Batch ID: P310943

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1825726	Chloride	0.0216	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
 Batch ID: P310945

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1825580	Sulfate	0.106	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
 Batch ID: P310946

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1825726	Sulfate	0.599	Sample	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P310170

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1825703	Ammonia-N	2.51	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P310171

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1825779	Ammonia-N	1.88	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P310465

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1825713	Kjeldahl Nitrogen	1.87	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P310511

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1825707	Kjeldahl Nitrogen	0.253	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P310479

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1825599	NO2NO3-N	0.0	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P310480

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1825704	NO2NO3-N	0.542	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P310592

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1825706	NO2NO3-N	0.342	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P310225

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1825680	Total-P	2.13	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 365.1 Rev. 2.0

Batch ID: P310228

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1825710	Total-P	0.583	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Batch ID: P310152

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1825608	O-Phosphate-P	0.202	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Batch ID: P310153

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1825718	O-Phosphate-P	1.21	Spike	P	0 - 20

Reference Method: SM 2120 B

Batch ID: P310162

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1825592	Color (true)	1.02	Sample	P	0 - 20

Reference Method: SM 2120 B

Batch ID: P310163

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1825702	Color (true)	4.74	Sample	P	0 - 20

Reference Method: SM 2320 B-97

Batch ID: P310296

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1825591	Total Alkalinity	0.171	Sample	P	0 - 4.8

Reference Method: SM 2540 C-97

Batch ID: P310625

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1825505	TDS	2.35	Sample	P	0 - 10

Reference Method: SM 2540 C-97

Batch ID: P310626

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1825725	TDS	7.34	Sample	P	0 - 10

Quality Assurance Report Precision

Reference Method: SM 2540 D-97
Batch ID: P310575

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1825725	TSS	7.59	Sample	P	0 - 10

Reference Method: SM 4500 F-C-97
Batch ID: P310299

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1825591	Fluoride	0.0	Spike	P	0 - 3.0

Reference Method: SM 5310 B-00
Batch ID: P310349

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1825059	Organic Carbon	0.842	Spike	P	0 - 20

Reference Method: SM 5310 B-00
Batch ID: P310350

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1825708	Organic Carbon	1.19	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: A71271

Included Lab Sample IDs: 1825714, 1825715, 1825716, 1825717, 1825718, 1825719, 1825720, 1825721, 1825722, 1825723, 1825724

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	101	100	P/P	90 - 110
O-Phosphate-P	99.5	99.1	P/P	90 - 110
O-Phosphate-P	99.6	99.5	P/P	90 - 110

Reference Method: EPA 180.1 Rev. 2.0
Run ID: A71272

Included Lab Sample IDs: 1825692, 1825693, 1825694, 1825695, 1825696, 1825697, 1825698, 1825699, 1825700, 1825701, 1825702

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

Quality Assurance Report Calibration Verification

Reference Method: SM 2120 B

Run ID: A71273

Included Lab Sample IDs: 1825692, 1825693, 1825694, 1825695, 1825696, 1825697, 1825698, 1825699, 1825700, 1825701, 1825702

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	100	99.9	P/P	90 - 115
Color (true)	99.9	99.7	P/P	90 - 115

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A71275

Included Lab Sample IDs: 1825703, 1825704, 1825705, 1825706, 1825707, 1825708, 1825709, 1825710, 1825711, 1825712, 1825713

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	104	104	P/P	90 - 110
Ammonia-N	104	105	P/P	90 - 110
Ammonia-N	105	105	P/P	90 - 110

Reference Method: SM 2320 B-97

Run ID: A71312

Included Lab Sample IDs: 1825692, 1825693, 1825694, 1825695, 1825696, 1825697, 1825698, 1825699, 1825700, 1825701, 1825702

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

Reference Method: SM 4500 F-C-97

Run ID: A71312

Included Lab Sample IDs: 1825692, 1825693, 1825694, 1825695, 1825696, 1825697, 1825698, 1825699, 1825700, 1825701, 1825702

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	100	99.5	P/P	90 - 110
Fluoride	99.5	101	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A71321

Included Lab Sample IDs: 1825703, 1825704, 1825705, 1825706, 1825707, 1825708, 1825709, 1825710, 1825711, 1825712, 1825713

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	96.2	97.2	P/P	90 - 110
Total-P	96.8	96.2	P/P	90 - 110

Reference Method: SM 5310 B-00

Run ID: A71324

Included Lab Sample IDs: 1825703, 1825704, 1825705, 1825706, 1825707, 1825708, 1825709, 1825710, 1825711, 1825712, 1825713

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

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A71378

Included Lab Sample IDs: 1825703, 1825704, 1825705

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	100	100	P/P	90 - 110
NO2NO3-N	100	99.5	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A71398

Included Lab Sample IDs: 1825706, 1825707, 1825708, 1825709, 1825710, 1825711, 1825712, 1825713

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

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A71414

Included Lab Sample IDs: 1825710, 1825711, 1825712, 1825713

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	104	107	P/P	90 - 110
Kjeldahl Nitrogen	107	106	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A71419

Included Lab Sample IDs: 1825703, 1825704, 1825705, 1825706, 1825707, 1825708, 1825709

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	102	105	P/P	90 - 110
Kjeldahl Nitrogen	105	106	P/P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A71540

Included Lab Sample IDs: 1825692, 1825693, 1825694, 1825695, 1825696, 1825697, 1825698, 1825699, 1825700, 1825701, 1825702

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	100	101	P/P	90 - 110
Chloride	100	100	P/P	90 - 110
Chloride	101	103	P/P	90 - 110
Sulfate	99.2	99.9	P/P	90 - 110
Sulfate	99.9	99.4	P/P	90 - 110
Sulfate	99.9	99.2	P/P	90 - 110

* Pass/Fail determinations are made for each bracketing calibration verification check.

Control limits for initial calibration checks may be different from those for continuing checks, depending on method requirements.

Where they are different, both control limits are provided.

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery	LCS	Precision SMP	MS
EPA 180.1 Rev. 2.0	Turbidity				1.23	
	Turbidity				4.12	
EPA 300.0 Rev. 2.1	Chloride	99.5	99.4 98.6		0.277	
	Chloride	101	98.9 98.9		0.0216	
	Sulfate	97.7	98.7 96.1		0.106	
	Sulfate	98.9	98.4 96.9		0.599	
EPA 350.1 Rev. 2.0	Ammonia-N	107	102 98.5			2.51
	Ammonia-N	106	102 104			1.88
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	104	97.5 95.1			1.87

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery		Precision	
					LCS	MS
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	98.5	106	106		0.253
EPA 353.2 Rev. 2.0	NO ₂ NO ₃ -N	102	102	102		0.0
	NO ₂ NO ₃ -N	101	96.0	95.0		0.542
	NO ₂ NO ₃ -N	104	94.5	94.0		0.342
EPA 365.1 Rev. 2.0	Total-P	95.2				2.13
	Total-P	98.5	102	102		0.583
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	99.8	98.7	98.9		0.202
	O-Phosphate-P	98.6	96.9	98.2		1.21
SM 2120 B	Color (true)				1.02	
	Color (true)				4.74	
SM 2320 B-97	Total Alkalinity	104			0.171	
SM 2540 C-97	TDS				2.35	
	TDS				7.34	
SM 2540 D-97	TSS				7.59	
SM 4500 F-C-97	Fluoride	98.5	98.7	98.7		0.0
SM 5310 B-00	Organic Carbon	100	99.8	98.2		0.842
	Organic Carbon	104	102	100		1.19

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 180.1 Rev. 2.0 / E31780	Turbidity in aqueous matrices	1825692, 1825693, 1825694, 1825695, 1825696, 1825697, 1825698, 1825699, 1825700, 1825701, 1825702
EPA 300.0 Rev. 2.1 / E31780	Chloride in aqueous matrices	1825692, 1825693, 1825694, 1825695, 1825696, 1825697, 1825698, 1825699, 1825700, 1825701, 1825702
EPA 300.0 Rev. 2.1 / E31780	Sulfate in aqueous matrices	1825692, 1825693, 1825694, 1825695, 1825696, 1825697, 1825698, 1825699, 1825700, 1825701, 1825702
EPA 350.1 Rev. 2.0 / E31780	Ammonia in aqueous matrices as mg N/L	1825703, 1825704, 1825705, 1825706, 1825707, 1825708, 1825709, 1825710, 1825711, 1825712, 1825713
EPA 351.2 Rev. 2.0 / E31780	Total Kjeldahl Nitrogen in aqueous matrices	1825703, 1825704, 1825705, 1825706, 1825707, 1825708, 1825709, 1825710, 1825711, 1825712, 1825713
EPA 353.2 Rev. 2.0 / E31780	Nitrite/Nitrate in aqueous matrices as mg N/L	1825703, 1825704, 1825705, 1825706, 1825707, 1825708, 1825709, 1825710, 1825711, 1825712, 1825713
EPA 365.1 Rev. 2.0 / E31780	Total Phosphorus in aqueous matrices as mg P/L	1825703, 1825704, 1825705, 1825706, 1825707, 1825708, 1825709, 1825710, 1825711, 1825712, 1825713
EPA 365.1 Rev. 2.0 dissolved / E31780	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	1825714, 1825715, 1825716, 1825717, 1825718, 1825719, 1825720, 1825721, 1825722, 1825723, 1825724
SM 2120 B / E31780	True Color measured at 450 nm	1825692, 1825693, 1825694, 1825695, 1825696, 1825697, 1825698, 1825699, 1825700, 1825701, 1825702
SM 2320 B-97 / E31780	Alkalinity in aqueous matrices as mg CaCO ₃ /L	1825692, 1825693, 1825694, 1825695, 1825696, 1825697, 1825698, 1825699, 1825700, 1825701, 1825702
SM 2540 C-97 / E31780	Total Dissolved Solids in aqueous matrices	1825692, 1825693, 1825694, 1825695, 1825696, 1825697, 1825698, 1825699, 1825700, 1825701, 1825702
SM 2540 D-97 / E31780	Total Suspended Solids in aqueous matrices	1825692, 1825693, 1825694, 1825695, 1825696, 1825697, 1825698, 1825699, 1825700, 1825701, 1825702

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)	1825692, 1825693, 1825694, 1825695, 1825696, 1825697, 1825698, 1825699, 1825700, 1825701, 1825702
SM 5310 B-00 / E31780	Nonpurgeable Organic Carbon in aqueous matrices	1825703, 1825704, 1825705, 1825706, 1825707, 1825708, 1825709, 1825710, 1825711, 1825712, 1825713

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	08/23/2016			08/23/2016 14:34	Sima Feizi	1825692, 1825693, 1825694, 1825695, 1825696, 1825697, 1825698, 1825699, 1825700, 1825701, 1825702
EPA 300.0 Rev. 2.1	08/23/2016			09/09/2016	Ping Hua	1825692, 1825693, 1825694, 1825695, 1825696
	08/23/2016			09/10/2016	Ping Hua	1825697, 1825698, 1825699, 1825700, 1825701, 1825702
EPA 350.1 Rev. 2.0	08/23/2016			08/23/2016	Julie Michelle Frank	1825703, 1825704, 1825705, 1825706, 1825707, 1825708, 1825709, 1825710, 1825711, 1825712, 1825713
EPA 351.2 Rev. 2.0	08/23/2016	08/29/2016	Adrian Shelby	08/30/2016	Christopher Armour	1825710, 1825711, 1825712, 1825713
	08/23/2016	08/30/2016	Adrian Shelby	08/31/2016	Christopher Armour	1825703, 1825704, 1825705, 1825706, 1825707, 1825708, 1825709
EPA 353.2 Rev. 2.0	08/23/2016			08/29/2016	Beverly Y. Sanders	1825703, 1825704, 1825705
	08/23/2016			08/30/2016	Beverly Y. Sanders	1825706, 1825707, 1825708, 1825709, 1825710, 1825711, 1825712, 1825713
EPA 365.1 Rev. 2.0	08/23/2016	08/24/2016	Vijayalakshmi Reddy	08/25/2016	Lipi Saha	1825703, 1825704, 1825705, 1825706, 1825707, 1825708, 1825709, 1825710, 1825711, 1825712, 1825713
EPA 365.1 Rev. 2.0 dissolved	08/23/2016			08/23/2016 14:34	Julia Storbeck	1825718
	08/23/2016			08/23/2016 15:16	Julia Storbeck	1825714
	08/23/2016			08/23/2016 15:17	Julia Storbeck	1825715, 1825716
	08/23/2016			08/23/2016 15:18	Julia Storbeck	1825717
	08/23/2016			08/23/2016 15:23	Julia Storbeck	1825719
	08/23/2016			08/23/2016 15:24	Julia Storbeck	1825720
	08/23/2016			08/23/2016 15:25	Julia Storbeck	1825721
	08/23/2016			08/23/2016 15:26	Julia Storbeck	1825722
	08/23/2016			08/23/2016 15:27	Julia Storbeck	1825723
	08/23/2016			08/23/2016 15:28	Julia Storbeck	1825724
SM 2120 B	08/23/2016			08/23/2016 16:07	Rochelle Y Jackson	1825692
	08/23/2016			08/23/2016 16:08	Rochelle Y Jackson	1825693
	08/23/2016			08/23/2016 16:11	Rochelle Y Jackson	1825694
	08/23/2016			08/23/2016 16:12	Rochelle Y Jackson	1825695
	08/23/2016			08/23/2016 16:13	Rochelle Y Jackson	1825696, 1825697
	08/23/2016			08/23/2016 16:14	Rochelle Y Jackson	1825698
	08/23/2016			08/23/2016 16:15	Rochelle Y Jackson	1825699
	08/23/2016			08/23/2016 16:16	Rochelle Y Jackson	1825700, 1825701
	08/23/2016			08/23/2016 16:18	Rochelle Y Jackson	1825702
SM 2320 B-97	08/23/2016			08/24/2016	Dale L. Simmons	1825692, 1825693, 1825694, 1825695, 1825696
	08/23/2016			08/25/2016	Dale L. Simmons	1825697, 1825698, 1825699, 1825700, 1825701, 1825702

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
SM 2540 C-97	08/23/2016			08/26/2016	Yijie Li	1825692, 1825693, 1825694, 1825695, 1825696, 1825697, 1825698, 1825699, 1825700, 1825701, 1825702
SM 2540 D-97	08/23/2016			08/26/2016	Yijie Li	1825692, 1825693, 1825694, 1825695, 1825696, 1825697, 1825698, 1825699, 1825700, 1825701, 1825702
SM 4500 F-C-97	08/23/2016			08/24/2016	Dale L. Simmons	1825692, 1825693, 1825694, 1825695, 1825696
	08/23/2016			08/25/2016	Dale L. Simmons	1825697, 1825698, 1825699, 1825700, 1825701, 1825702
SM 5310 B-00	08/23/2016			08/25/2016	Sofia Elnemr	1825703, 1825704, 1825705, 1825706, 1825707, 1825708, 1825709, 1825710, 1825711, 1825712, 1825713