

Chemical Analysis Report

NW-DIST-2016-05-05-01

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

Event Description: **WBID 271 179 19 21**

Request ID: **RQ-2016-05-02-86**

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: Thekkekalathil Chandrasekhar, Chemist Administrator

Date Certified: 01-JUN-2016 13:46



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: Ates Creek Bryant Bridge Rd

Collection Date/Time: 05/04/2016 10:35

Field ID: G4NW0332

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1796004	EPA 180.1 Rev. 2.0	Turbidity	2.2		NTU	P303664	
	EPA 300.0 Rev. 2.1	Chloride	5.1		mg Cl/L	P304287	
		Sulfate	1.5		mg SO4/L	P304290	
	SM 2120 B	Color (true)	25	A	PCU	P303616	
	SM 2320 B-97	Total Alkalinity	27		mg CaCO3/L	P304240	
	SM 2540 C-97	TDS	48	A	mg/L	P304453	
	SM 2540 D-97	TSS	3	I	mg/L	P304385	
	SM 4500 F-C-97	Fluoride	0.058	I	mg F/L	P304241	
1796015	EPA 350.1 Rev. 2.0	Ammonia-N	0.028		mg N/L	P304091	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.21		mg N/L	P304505	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.037		mg N/L	P304261	
	EPA 365.1 Rev. 2.0	Total-P	0.020		mg P/L	P304611	
	SM 5310 B-00	Organic Carbon	1.6		mg C/L	P304749	
1796026	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	I	mg P/L	P303642	

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: Big Juniper Creek Upstream of Red Rock Road **Collection Date/Time: 05/04/2016 11:55**

Field ID: G4NW0286

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1796005	EPA 180.1 Rev. 2.0	Turbidity	2.7		NTU	P303664	
	EPA 300.0 Rev. 2.1	Chloride	2.7		mg Cl/L	P304287	
		Sulfate	0.70		mg SO4/L	P304290	
	SM 2120 B	Color (true)	54		PCU	P303616	
	SM 2320 B-97	Total Alkalinity	0.93	I	mg CaCO3/L	P304240	
	SM 2540 C-97	TDS	24	I	mg/L	P304453	
	SM 2540 D-97	TSS	3	I	mg/L	P304385	
	SM 4500 F-C-97	Fluoride	0.035	U	mg F/L	P304241	
1796016	EPA 350.1 Rev. 2.0	Ammonia-N	0.002	U	mg N/L	P304091	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.17	I	mg N/L	P304505	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.069		mg N/L	P304261	
	EPA 365.1 Rev. 2.0	Total-P	0.007		mg P/L	P304611	
	SM 5310 B-00	Organic Carbon	3.6		mg C/L	P304749	
1796027	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.005	I	mg P/L	P303642	

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: Big Juniper Creek @ Munson HWY South of HWY4 **Collection Date/Time: 05/04/2016 12:15**

Field ID: G4NW0287

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1796006	EPA 180.1 Rev. 2.0	Turbidity	2.7		NTU	P303664	
	EPA 300.0 Rev. 2.1	Chloride	2.9		mg Cl/L	P304287	

Field ID: G4NW0287

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1796006	EPA 300.0 Rev. 2.1	Sulfate	0.65		mg SO4/L	P304290	
	SM 2120 B	Color (true)	51		PCU	P303616	
	SM 2320 B-97	Total Alkalinity	0.70	I	mg CaCO3/L	P304240	
	SM 2540 C-97	TDS	23	I	mg/L	P304453	
	SM 2540 D-97	TSS	4	I	mg/L	P304385	
	SM 4500 F-C-97	Fluoride	0.035	U	mg F/L	P304241	
1796017	EPA 350.1 Rev. 2.0	Ammonia-N	0.002	I	mg N/L	P304091	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.19	I	mg N/L	P304505	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.073		mg N/L	P304261	
	EPA 365.1 Rev. 2.0	Total-P	0.007		mg P/L	P304611	
	SM 5310 B-00	Organic Carbon	3.6		mg C/L	P304749	
1796028	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P303642	

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: Sweetwater CR blw Sandy Landing Rd.

Collection Date/Time: 05/04/2016 12:35

Field ID: G4NW0292

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1796007	EPA 180.1 Rev. 2.0	Turbidity	2.3		NTU	P303664	
	EPA 300.0 Rev. 2.1	Chloride	2.6		mg Cl/L	P304287	
		Sulfate	0.68		mg SO4/L	P304290	
	SM 2120 B	Color (true)	60		PCU	P303616	
	SM 2320 B-97	Total Alkalinity	0.65	U	mg CaCO3/L	P304240	
	SM 2540 C-97	TDS	17	I	mg/L	P304453	
	SM 2540 D-97	TSS	3	I	mg/L	P304385	
	SM 4500 F-C-97	Fluoride	0.035	U	mg F/L	P304241	
1796018	EPA 350.1 Rev. 2.0	Ammonia-N	0.002	U	mg N/L	P304091	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.18	I	mg N/L	P304505	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.063		mg N/L	P304261	
	EPA 365.1 Rev. 2.0	Total-P	0.007		mg P/L	P304611	
	SM 5310 B-00	Organic Carbon	3.9		mg C/L	P304749	
1796029	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P303642	

Ref. Method and Comment:

SM 2540 C-97: The reported result is consistent with the laboratory conductivity, 16 umhos/cm.

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

Sample Location: Big Juniper Cr. @ Amos Cabriss Rd.

Collection Date/Time: 05/04/2016 12:55

Field ID: G4NW0289

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1796008	EPA 180.1 Rev. 2.0	Turbidity	2.0		NTU	P303664	
	EPA 300.0 Rev. 2.1	Chloride	2.8		mg Cl/L	P304287	
		Sulfate	0.49	I	mg SO4/L	P304290	
	SM 2120 B	Color (true)	50		PCU	P303616	
	SM 2320 B-97	Total Alkalinity	0.65	U	mg CaCO3/L	P304240	

Field ID: G4NW0289

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1796008	SM 2540 C-97	TDS	17	I	mg/L	P304453	
	SM 2540 D-97	TSS	2	I	mg/L	P304385	
	SM 4500 F-C-97	Fluoride	0.035	U	mg F/L	P304241	
1796019	EPA 350.1 Rev. 2.0	Ammonia-N	0.002	I	mg N/L	P304091	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.19	I	mg N/L	P304505	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.065		mg N/L	P304263	
	EPA 365.1 Rev. 2.0	Total-P	0.007		mg P/L	P304611	
	SM 5310 B-00	Organic Carbon	3.7		mg C/L	P304749	
1796030	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P303642	

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: Big Juniper Cr. Munson Hwy North of Hwy 4 **Collection Date/Time: 05/04/2016 13:25**

Field ID: G4NW0290

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1796009	EPA 180.1 Rev. 2.0	Turbidity	1.7		NTU	P303664	
	EPA 300.0 Rev. 2.1	Chloride	2.9		mg Cl/L	P304287	
		Sulfate	0.44	I	mg SO4/L	P304290	
	SM 2120 B	Color (true)	51		PCU	P303616	
	SM 2320 B-97	Total Alkalinity	0.65	U	mg CaCO3/L	P304240	
	SM 2540 C-97	TDS	15	U	mg/L	P304453	
	SM 2540 D-97	TSS	2	U	mg/L	P304385	
	SM 4500 F-C-97	Fluoride	0.035	U	mg F/L	P304241	
1796020	EPA 350.1 Rev. 2.0	Ammonia-N	0.003	I	mg N/L	P304216	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.20	I	mg N/L	P304505	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.081		mg N/L	P304263	
	EPA 365.1 Rev. 2.0	Total-P	0.006		mg P/L	P304611	
	SM 5310 B-00	Organic Carbon	4.1		mg C/L	P304295	
1796031	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P303642	

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: Sweetwater Cr Green Rd **Collection Date/Time: 05/04/2016 13:45**

Field ID: G4NW0294

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1796010	EPA 180.1 Rev. 2.0	Turbidity	2.3		NTU	P303664	
	EPA 300.0 Rev. 2.1	Chloride	2.6		mg Cl/L	P304288	
		Sulfate	0.68		mg SO4/L	P304556	
	SM 2120 B	Color (true)	65		PCU	P303616	
	SM 2320 B-97	Total Alkalinity	0.65	U	mg CaCO3/L	P304240	
	SM 2540 C-97	TDS	19	I	mg/L	P304453	
	SM 2540 D-97	TSS	2	I	mg/L	P304385	
	SM 4500 F-C-97	Fluoride	0.035	U	mg F/L	P304241	
1796021	EPA 350.1 Rev. 2.0	Ammonia-N	0.002	I	mg N/L	P304216	

Field ID: G4NW0294

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1796021	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.22		mg N/L	P304505	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.065		mg N/L	P304263	
	EPA 365.1 Rev. 2.0	Total-P	0.008		mg P/L	P304611	
	SM 5310 B-00	Organic Carbon	4.8		mg C/L	P304295	
1796032	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P303642	

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: Sweetwater Cr. Hwy 4

Collection Date/Time: 05/04/2016 14:10

Field ID: G4NW0293

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1796011	EPA 180.1 Rev. 2.0	Turbidity	2.3		NTU	P303664	
	EPA 300.0 Rev. 2.1	Chloride	2.5		mg Cl/L	P304288	
		Sulfate	0.66		mg SO4/L	P304556	
	SM 2120 B	Color (true)	61		PCU	P303616	
	SM 2320 B-97	Total Alkalinity	0.65	U	mg CaCO3/L	P304242	
	SM 2540 C-97	TDS	23	I	mg/L	P304453	
	SM 2540 D-97	TSS	2	I	mg/L	P304385	
	SM 4500 F-C-97	Fluoride	0.035	U	mg F/L	P304244	
1796022	EPA 350.1 Rev. 2.0	Ammonia-N	0.002	U	mg N/L	P304216	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.19	I	mg N/L	P304505	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.059		mg N/L	P304263	
	EPA 365.1 Rev. 2.0	Total-P	0.007		mg P/L	P304611	
	SM 5310 B-00	Organic Carbon	4.3		mg C/L	P304295	
1796033	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P303643	

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: Bear Creek @ Forest Rd.

Collection Date/Time: 05/04/2016 14:25

Field ID: G4NW0380

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1796012	EPA 180.1 Rev. 2.0	Turbidity	2.4	A	NTU	P303665	
	EPA 300.0 Rev. 2.1	Chloride	2.4		mg Cl/L	P304288	
		Sulfate	0.49	I	mg SO4/L	P304556	
	SM 2120 B	Color (true)	50	A	PCU	P303617	
	SM 2320 B-97	Total Alkalinity	6.7		mg CaCO3/L	P304242	
	SM 2540 C-97	TDS	18	I	mg/L	P304454	
	SM 2540 D-97	TSS	2	U	mg/L	P304386	
	SM 4500 F-C-97	Fluoride	0.035	U	mg F/L	P304244	
1796023	EPA 350.1 Rev. 2.0	Ammonia-N	0.003	I	mg N/L	P304216	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.19	I	mg N/L	P304505	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.009	I	mg N/L	P304263	
	EPA 365.1 Rev. 2.0	Total-P	0.011		mg P/L	P304611	
	SM 5310 B-00	Organic Carbon	3.2		mg C/L	P304295	

Field ID: G4NW0380

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1796034	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P303643	

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: Bear Creek @ Forest Rd.

Collection Date/Time: 05/04/2016 14:30

Field ID: G4NW0380DUPLICATE

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1796013	EPA 180.1 Rev. 2.0	Turbidity	2.2		NTU	P303665	
	EPA 300.0 Rev. 2.1	Chloride	2.4		mg Cl/L	P304288	
		Sulfate	0.49	I	mg SO4/L	P304556	
	SM 2120 B	Color (true)	50		PCU	P303617	
	SM 2320 B-97	Total Alkalinity	6.7		mg CaCO3/L	P304242	
	SM 2540 C-97	TDS	19	I	mg/L	P304454	
	SM 2540 D-97	TSS	2	U	mg/L	P304386	
	SM 4500 F-C-97	Fluoride	0.035	U	mg F/L	P304244	
	EPA 350.1 Rev. 2.0	Ammonia-N	0.004	I	mg N/L	P304216	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.18	I	mg N/L	P304505	
1796024	EPA 353.2 Rev. 2.0	NO2NO3-N	0.009	I	mg N/L	P304263	
	EPA 365.1 Rev. 2.0	Total-P	0.011		mg P/L	P304611	
	SM 5310 B-00	Organic Carbon	3.2		mg C/L	P304295	
	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.005	I	mg P/L	P303643	

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: Field Blank

Collection Date/Time: 05/04/2016 14:35

Field ID: FIELDBLANK

Matrix: W-FIELD-BK

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1796014	EPA 180.1 Rev. 2.0	Turbidity	0.10	U	NTU	P303665	
	EPA 300.0 Rev. 2.1	Chloride	0.20	U	mg Cl/L	P304288	
		Sulfate	0.20	U	mg SO4/L	P304556	
	SM 2120 B	Color (true)	2.5	U	PCU	P303617	
	SM 2320 B-97	Total Alkalinity	0.65	U	mg CaCO3/L	P304242	
	SM 2540 C-97	TDS	15	U	mg/L	P304454	
	SM 2540 D-97	TSS	2	U	mg/L	P304386	
	SM 4500 F-C-97	Fluoride	0.035	U	mg F/L	P304244	
	EPA 350.1 Rev. 2.0	Ammonia-N	0.002	U	mg N/L	P304216	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.080	U	mg N/L	P304506	
1796025	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P304263	
	EPA 365.1 Rev. 2.0	Total-P	0.002	U	mg P/L	P304949	
	SM 5310 B-00	Organic Carbon	0.50	U	mg C/L	P304295	
	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P303643	

Ref. Method and Comment:

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

EPA 351.2 Rev. 2.0: Matrix spike recovery data is unavailable due to high analyte concentration in the QC sample.

Quality Assurance Report

Method Blank Results

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P303664

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P303665

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P304287

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P304288

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P304290

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P304556

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P304091

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P304216

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P304505

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

Quality Assurance Report Method Blank Results

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P304506

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P304261

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P304263

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P304611

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P304949

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P303642

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P303643

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

Reference Method: SM 2120 B
Batch ID: P303616

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2120 B
Batch ID: P303617

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Quality Assurance Report

Method Blank Results

Reference Method: SM 2320 B-97
Batch ID: P304240

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

Reference Method: SM 2320 B-97
Batch ID: P304242

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

Reference Method: SM 2540 C-97
Batch ID: P304453

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 C-97
Batch ID: P304454

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-97
Batch ID: P304385

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 2540 D-97
Batch ID: P304386

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500 F-C-97
Batch ID: P304241

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 4500 F-C-97
Batch ID: P304244

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-00
Batch ID: P304295

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

Quality Assurance Report Method Blank Results

Reference Method: SM 5310 B-00
Batch ID: P304749

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: P304287

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P304288

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Chloride	97.4		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P304290

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Sulfate	94.0		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P304556

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P304091

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Ammonia-N	94.6		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P304216

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Ammonia-N	99.1		P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P304505

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Kjeldahl Nitrogen	97.4		P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P304506

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

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P304506

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P304261

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: P304263

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: P304611

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P304949

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P303642

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P303643

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

Reference Method: SM 2320 B-97
Batch ID: P304240

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	101		P	95 - 105

Reference Method: SM 2320 B-97
Batch ID: P304242

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	101		P	95 - 105

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: SM 4500 F-C-97
Batch ID: P304241

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	96.5		P	92 - 103

Reference Method: SM 4500 F-C-97
Batch ID: P304244

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	96.5		P	92 - 103

Reference Method: SM 5310 B-00
Batch ID: P304295

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	98.4		P	85 - 115

Reference Method: SM 5310 B-00
Batch ID: P304749

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	99.6		P	85 - 115

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P304287

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1795772	Chloride	95.1		P	90 - 110
1795779	Chloride	96.1		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P304288

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1796059	Chloride	94.7		P	90 - 110
1796077	Chloride	95.6		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P304290

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1795772	Sulfate	93.5		P	90 - 110
1795779	Sulfate	94.3		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P304556

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1796062	Sulfate	97.1		P	90 - 110
1796077	Sulfate	96.0		P	90 - 110

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P304091

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1796015	Ammonia-N	94.6	95.8	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P304216

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1796020	Ammonia-N	99.2	99.2	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P304505

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1796015	Kjeldahl Nitrogen	99.5	97.4	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P304261

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1796015	NO2NO3-N	100	101	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P304263

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1796019	NO2NO3-N	102	103	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P304611

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1796015	Total-P	106	98.9	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P304949

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1797888	Total-P	102	105	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P303642

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1796026	O-Phosphate-P	99.3	99.9	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P303643

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1796033	O-Phosphate-P	101	102	P/P	90 - 110

Quality Assurance Report Matrix Spike Accuracy

Reference Method: SM 4500 F-C-97
Batch ID: P304241

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1796172	Fluoride	96.6	97.9	P/P	91 - 105

Reference Method: SM 4500 F-C-97
Batch ID: P304244

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1796076	Fluoride	97.4	96.7	P/P	91 - 105

Reference Method: SM 5310 B-00
Batch ID: P304295

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1796020	Organic Carbon	97.4	94.7	P/P	85 - 115

Reference Method: SM 5310 B-00
Batch ID: P304749

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1795787	Organic Carbon	95.4	98.8	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P303664

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1795989	Turbidity	6.42	Sample	P	0 - 20

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P303665

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1796012	Turbidity	1.70	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P304287

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1795772	Chloride	0.0368	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P304288

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1796059	Chloride	0.376	Sample	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P304290

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1795772	Sulfate	2.96	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P304556

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1796077	Sulfate	0.636	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P304091

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1796015	Ammonia-N	0.839	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P304216

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1796020	Ammonia-N	0.0723	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P304505

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1796015	Kjeldahl Nitrogen	1.84	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P304506

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1796063	Kjeldahl Nitrogen	2.34	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P304261

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1796015	NO2NO3-N	0.421	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P304263

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1796019	NO2NO3-N	0.370	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P304611

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1796015	Total-P	6.53	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P304949

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1797888	Total-P	2.41	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P303642

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1796026	O-Phosphate-P	0.576	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P303643

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1796033	O-Phosphate-P	1.48	Spike	P	0 - 20

Reference Method: SM 2120 B
Batch ID: P303616

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1796004	Color (true)	0.544	Sample	P	0 - 20

Reference Method: SM 2120 B
Batch ID: P303617

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1796012	Color (true)	1.20	Sample	P	0 - 20

Reference Method: SM 2320 B-97
Batch ID: P304240

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1796172	Total Alkalinity	0.109	Sample	P	0 - 4.8

Reference Method: SM 2320 B-97
Batch ID: P304242

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1796076	Total Alkalinity	1.44	Sample	P	0 - 4.8

Quality Assurance Report Precision

Reference Method: SM 2540 C-97
Batch ID: P304453

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1796004	TDS	8.33	Sample	P	0 - 10

Reference Method: SM 2540 C-97
Batch ID: P304454

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1796061	TDS	0.739	Sample	P	0 - 10

Reference Method: SM 4500 F-C-97
Batch ID: P304241

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1796172	Fluoride	0.959	Spike	P	0 - 3.0

Reference Method: SM 4500 F-C-97
Batch ID: P304244

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1796076	Fluoride	0.530	Spike	P	0 - 3.0

Reference Method: SM 5310 B-00
Batch ID: P304295

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1796020	Organic Carbon	2.28	Spike	P	0 - 20

Reference Method: SM 5310 B-00
Batch ID: P304749

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1795787	Organic Carbon	2.20	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: SM 2120 B
Run ID: A69297
Included Lab Sample IDs: 1796004, 1796005, 1796006, 1796007, 1796008, 1796009, 1796010, 1796011, 1796012, 1796013, 1796014

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	100	99.7	P/P	90 - 115
Color (true)	99.7	97.8	P/P	90 - 115

Quality Assurance Report Calibration Verification

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Run ID: A69300

Included Lab Sample IDs: 1796026, 1796027, 1796028, 1796029, 1796030, 1796031, 1796032, 1796033, 1796034, 1796035, 1796036

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	100	100	P/P	90 - 110
O-Phosphate-P	100	100	P/P	90 - 110
O-Phosphate-P	100	99.8	P/P	90 - 110
O-Phosphate-P	99.8	99.9	P/P	90 - 110

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A69305

Included Lab Sample IDs: 1796004, 1796005, 1796006, 1796007, 1796008, 1796009, 1796010, 1796011, 1796012, 1796013, 1796014

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Turbidity	100	100	P/P	95 - 105
Turbidity	98.5	100	P/P	95 - 105

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A69423

Included Lab Sample IDs: 1796004, 1796005, 1796006, 1796007, 1796008, 1796009, 1796010, 1796011, 1796012, 1796013, 1796014

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	100	98.9	P/P	90 - 110
Chloride	98.9	99.0	P/P	90 - 110
Chloride	99.0	100	P/P	90 - 110
Sulfate	98.1	97.9	P/P	90 - 110
Sulfate	98.2	98.1	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A69427

Included Lab Sample IDs: 1796015, 1796016, 1796017, 1796018, 1796019

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	94.1	95.1	P/P	90 - 110
Ammonia-N	95.7	94.1	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A69447

Included Lab Sample IDs: 1796020, 1796021, 1796022, 1796023, 1796024, 1796025

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

Reference Method: SM 2320 B-97

Run ID: A69463

Included Lab Sample IDs: 1796004, 1796005, 1796006, 1796007, 1796008, 1796009, 1796010, 1796011, 1796012, 1796013, 1796014

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	102	99.4	P/P	90 - 110
Total Alkalinity	98.9	102	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: SM 4500 F-C-97

Run ID: A69463

Included Lab Sample IDs: 1796004, 1796005, 1796006, 1796007, 1796008, 1796009, 1796010, 1796011, 1796012, 1796013, 1796014

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	98.5	98.5	P/P	90 - 110
Fluoride	98.5	99.5	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A69466

Included Lab Sample IDs: 1796015, 1796016, 1796017, 1796018, 1796019, 1796020, 1796021, 1796022, 1796023, 1796024, 1796025

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

Reference Method: SM 5310 B-00

Run ID: A69473

Included Lab Sample IDs: 1796020, 1796021, 1796022, 1796023, 1796024, 1796025

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	96.4	97.0	P/P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A69555

Included Lab Sample IDs: 1796010, 1796011, 1796012, 1796013, 1796014

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Sulfate	98.8	97.6	P/P	90 - 110
Sulfate	98.8	98.8	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A69582

Included Lab Sample IDs: 1796015, 1796016, 1796017, 1796018, 1796019, 1796020, 1796021, 1796022, 1796023, 1796024, 1796025

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	94.9	97.4	P/P	90 - 110
Kjeldahl Nitrogen	95.6	95.3	P/P	90 - 110

Reference Method: SM 5310 B-00

Run ID: A69610

Included Lab Sample IDs: 1796015, 1796016, 1796017, 1796018, 1796019

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

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A69622

Included Lab Sample IDs: 1796015, 1796016, 1796017, 1796018, 1796019, 1796020, 1796021, 1796022, 1796023, 1796024

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	97.8	99.0	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A69725

Included Lab Sample IDs: 1796025

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	100	98.8	P/P	90 - 110

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

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery	LCS	Precision SMP	MS
EPA 180.1 Rev. 2.0	Turbidity				6.42	
	Turbidity				1.70	
EPA 300.0 Rev. 2.1	Chloride	96.5	95.1 96.1		0.0368	
	Chloride	97.4	94.7 95.6		0.376	
	Sulfate	94.0	93.5 94.3		2.96	
	Sulfate	97.5	96.0 97.1		0.636	
EPA 350.1 Rev. 2.0	Ammonia-N	94.6	94.6 95.8			0.839
	Ammonia-N	99.1	99.2 99.2			0.0723
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	97.4	99.5 97.4			1.84
	Kjeldahl Nitrogen	99.6				2.34
EPA 353.2 Rev. 2.0	NO2NO3-N	102	100 101			0.421
	NO2NO3-N	104	102 103			0.370
EPA 365.1 Rev. 2.0	Total-P	102	106 98.9			6.53
	Total-P	103	102 105			2.41
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	101	99.3 99.9			0.576
	O-Phosphate-P	104	101 102			1.48
SM 2120 B	Color (true)				0.544	
	Color (true)				1.20	
SM 2320 B-97	Total Alkalinity	101			0.109	
	Total Alkalinity	101			1.44	
SM 2540 C-97	TDS				8.33	
	TDS				0.739	
SM 4500 F-C-97	Fluoride	96.5	96.6 97.9			0.959
	Fluoride	96.5	97.4 96.7			0.530
SM 5310 B-00	Organic Carbon	98.4	97.4 94.7			2.28
	Organic Carbon	99.6	95.4 98.8			2.20

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 180.1 Rev. 2.0 / E31780	Turbidity in aqueous matrices	1796004, 1796005, 1796006, 1796007, 1796008, 1796009, 1796010, 1796011, 1796012, 1796013, 1796014
EPA 300.0 Rev. 2.1 / E31780	Chloride in aqueous matrices	1796004, 1796005, 1796006, 1796007, 1796008, 1796009, 1796010, 1796011, 1796012, 1796013, 1796014
EPA 300.0 Rev. 2.1 / E31780	Sulfate in aqueous matrices	1796004, 1796005, 1796006, 1796007, 1796008, 1796009, 1796010, 1796011, 1796012, 1796013, 1796014

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 350.1 Rev. 2.0 / E31780	Ammonia in aqueous matrices as mg N/L	1796015, 1796016, 1796017, 1796018, 1796019, 1796020, 1796021, 1796022, 1796023, 1796024, 1796025
EPA 351.2 Rev. 2.0 / E31780	Total Kjeldahl Nitrogen in aqueous matrices	1796015, 1796016, 1796017, 1796018, 1796019, 1796020, 1796021, 1796022, 1796023, 1796024, 1796025
EPA 353.2 Rev. 2.0 / E31780	Nitrite/Nitrate in aqueous matrices as mg N/L	1796015, 1796016, 1796017, 1796018, 1796019, 1796020, 1796021, 1796022, 1796023, 1796024, 1796025
EPA 365.1 Rev. 2.0 / E31780	Total Phosphorus in aqueous matrices as mg P/L	1796015, 1796016, 1796017, 1796018, 1796019, 1796020, 1796021, 1796022, 1796023, 1796024, 1796025
EPA 365.1 Rev. 2.0 dissolved / E31780	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	1796026, 1796027, 1796028, 1796029, 1796030, 1796031, 1796032, 1796033, 1796034, 1796035, 1796036
SM 2120 B / E31780	True Color measured at 450 nm	1796004, 1796005, 1796006, 1796007, 1796008, 1796009, 1796010, 1796011, 1796012, 1796013, 1796014
SM 2320 B-97 / E31780	Alkalinity in aqueous matrices as mg CaCO ₃ /L	1796004, 1796005, 1796006, 1796007, 1796008, 1796009, 1796010, 1796011, 1796012, 1796013, 1796014
SM 2540 C-97 / E31780	Total Dissolved Solids in aqueous matrices	1796004, 1796005, 1796006, 1796007, 1796008, 1796009, 1796010, 1796011, 1796012, 1796013, 1796014
SM 2540 D-97 / E31780	Total Suspended Solids in aqueous matrices	1796004, 1796005, 1796006, 1796007, 1796008, 1796009, 1796010, 1796011, 1796012, 1796013, 1796014
SM 4500 F-C-97 / E31780	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	1796004, 1796005, 1796006, 1796007, 1796008, 1796009, 1796010, 1796011, 1796012, 1796013, 1796014
SM 5310 B-00 / E31780	Nonpurgeable Organic Carbon in aqueous matrices	1796015, 1796016, 1796017, 1796018, 1796019, 1796020, 1796021, 1796022, 1796023, 1796024, 1796025

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
EPA 180.1 Rev. 2.0	05/05/2016			05/05/2016 16:25	Blanca Fach	1796004, 1796005, 1796006, 1796007, 1796008, 1796009, 1796010, 1796011, 1796012, 1796013, 1796014
EPA 300.0 Rev. 2.1	05/05/2016			05/12/2016	Elisa J Lutz	1796004, 1796005
	05/05/2016			05/13/2016	Elisa J Lutz	1796006, 1796007, 1796008, 1796009
	05/05/2016			05/17/2016	Elisa J Lutz	1796010, 1796011, 1796012, 1796013, 1796014
EPA 350.1 Rev. 2.0	05/05/2016			05/11/2016	Diana M. Turner	1796015, 1796016, 1796017, 1796018, 1796019
	05/05/2016			05/12/2016	Diana M. Turner	1796020, 1796021, 1796022, 1796023, 1796024, 1796025
EPA 351.2 Rev. 2.0	05/05/2016	05/18/2016	Sofia Elnemr	05/19/2016	Vijayalakshmi Reddy	1796015, 1796016, 1796017, 1796018, 1796019, 1796020, 1796021, 1796022, 1796023, 1796024, 1796025
EPA 353.2 Rev. 2.0	05/05/2016			05/13/2016	Peter D. Kaus	1796015, 1796016, 1796017, 1796018, 1796019, 1796020, 1796021, 1796022, 1796023, 1796024, 1796025
EPA 365.1 Rev. 2.0	05/05/2016	05/19/2016	Vijayalakshmi Reddy	05/23/2016	Lipi Saha	1796015, 1796016, 1796017, 1796018, 1796019, 1796020, 1796021, 1796022, 1796023, 1796024
EPA 365.1 Rev. 2.0 dissolved	05/05/2016	05/25/2016	Vijayalakshmi Reddy	05/26/2016	Rochelle Y Jackson	1796025
	05/05/2016			05/05/2016 15:26	Julia Storbeck	1796026
	05/05/2016			05/05/2016 15:31	Julia Storbeck	1796033
	05/05/2016			05/05/2016 15:51	Julia Storbeck	1796036
	05/05/2016			05/05/2016 15:53	Julia Storbeck	1796034, 1796035
	05/05/2016			05/05/2016 16:03	Julia Storbeck	1796028
	05/05/2016			05/05/2016 16:04	Julia Storbeck	1796029
	05/05/2016			05/05/2016 16:05	Julia Storbeck	1796030, 1796031
	05/05/2016			05/05/2016 16:06	Julia Storbeck	1796032
	05/05/2016			05/05/2016 16:34	Julia Storbeck	1796027
	05/05/2016			05/05/2016 12:57	Rochelle Y Jackson	1796004
SM 2120 B	05/05/2016			05/05/2016 12:58	Rochelle Y Jackson	1796005
	05/05/2016			05/05/2016 12:59	Rochelle Y Jackson	1796006
	05/05/2016			05/05/2016 13:00	Rochelle Y Jackson	1796007, 1796008
	05/05/2016			05/05/2016 13:01	Rochelle Y Jackson	1796009
	05/05/2016			05/05/2016 13:02	Rochelle Y Jackson	1796010
	05/05/2016			05/05/2016 13:03	Rochelle Y Jackson	1796011
	05/05/2016			05/05/2016 13:06	Rochelle Y Jackson	1796012
	05/05/2016			05/05/2016 13:07	Rochelle Y Jackson	1796013
	05/05/2016			05/05/2016 13:08	Rochelle Y Jackson	1796014
	05/05/2016			05/12/2016	Dale L. Simmons	1796004, 1796005, 1796006, 1796007, 1796008, 1796009, 1796010, 1796011, 1796012, 1796013, 1796014
	05/05/2016					
SM 2320 B-97	05/05/2016			05/12/2016	Dale L. Simmons	1796004, 1796005, 1796006, 1796007, 1796008, 1796009, 1796010, 1796011, 1796012, 1796013, 1796014

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
SM 2540 C-97	05/05/2016			05/09/2016	Sima Feizi	1796004, 1796005, 1796006, 1796007, 1796008, 1796009, 1796010, 1796011, 1796012, 1796013, 1796014
SM 2540 D-97	05/05/2016			05/09/2016	Sima Feizi	1796004, 1796005, 1796006, 1796007, 1796008, 1796009, 1796010, 1796011, 1796012, 1796013, 1796014
SM 4500 F-C-97	05/05/2016			05/12/2016	Dale L. Simmons	1796004, 1796005, 1796006, 1796007, 1796008, 1796009, 1796010, 1796011, 1796012, 1796013, 1796014
SM 5310 B-00	05/05/2016			05/12/2016	Diana M. Turner	1796020, 1796021, 1796022, 1796023, 1796024, 1796025
	05/05/2016			05/21/2016	Rochelle Y Jackson	1796015, 1796016, 1796017, 1796018, 1796019