

Chemical Analysis Report

NW-DIST-2016-03-15-03

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

Event Description: **WBID 167 76 101 35A 269**

Request ID: **RQ-2016-03-14-48**

Customer: **NW-DIST**

Project ID: **SMP**

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Date Certified: 05-APR-2016 13:11



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: 03/14/2016 10:30

Field ID: G4NW0332

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1779916	EPA 180.1 Rev. 2.0	Turbidity	1.6		NTU	P300402	
	EPA 300.0 Rev. 2.1	Chloride	3.9		mg Cl/L	P300558	
		Sulfate	0.75		mg SO4/L	P300560	
	SM 2120 B	Color (true)	21		PCU	P300394	
	SM 2320 B-97	Total Alkalinity	7.0		mg CaCO3/L	P300686	
	SM 2540 C-97	TDS	17	I	mg/L	P301126	
	SM 2540 D-97	TSS	3	I	mg/L	P300901	
	SM 4500 F-C-97	Fluoride	0.035	U	mg F/L	P300689	
1779930	EPA 350.1 Rev. 2.0	Ammonia-N	0.003	I	mg N/L	P300971	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.087	I	mg N/L	P300925	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.014		mg N/L	P300732	
	EPA 365.1 Rev. 2.0	Total-P	0.008		mg P/L	P300776	
	SM 5310 B-00	Organic Carbon	1.7		mg C/L	P300786	
1779944	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P300371	

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 Rd

Collection Date/Time: 03/14/2016 11:10

Field ID: G4NW0286

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1779917	EPA 180.1 Rev. 2.0	Turbidity	2.4		NTU	P300402	
	EPA 300.0 Rev. 2.1	Chloride	2.9		mg Cl/L	P300558	
		Sulfate	0.83		mg SO4/L	P300560	
	SM 2120 B	Color (true)	33		PCU	P300394	
	SM 2320 B-97	Total Alkalinity	0.91	I	mg CaCO3/L	P300686	
	SM 2540 C-97	TDS	15	U	mg/L	P301126	
	SM 2540 D-97	TSS	6	I	mg/L	P300901	
	SM 4500 F-C-97	Fluoride	0.035	U	mg F/L	P300689	
1779931	EPA 350.1 Rev. 2.0	Ammonia-N	0.002	U	mg N/L	P300971	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.14	I	mg N/L	P300925	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.075		mg N/L	P300732	
	EPA 365.1 Rev. 2.0	Total-P	0.006		mg P/L	P300776	
	SM 5310 B-00	Organic Carbon	3.1		mg C/L	P300786	
1779945	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P300371	

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 Hwy 4

Collection Date/Time: 03/14/2016 11:25

Field ID: G4NW0287

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1779918	EPA 180.1 Rev. 2.0	Turbidity	2.7		NTU	P300402	
	EPA 300.0 Rev. 2.1	Chloride	3.0		mg Cl/L	P300558	
		Sulfate	0.79		mg SO4/L	P300560	

Field ID: G4NW0287

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1779918	SM 2120 B	Color (true)	34		PCU	P300394	
	SM 2320 B-97	Total Alkalinity	0.76	I	mg CaCO3/L	P300686	
	SM 2540 C-97	TDS	15	U	mg/L	P301126	
	SM 2540 D-97	TSS	2	I	mg/L	P300901	
	SM 4500 F-C-97	Fluoride	0.035	U	mg F/L	P300689	
1779932	EPA 350.1 Rev. 2.0	Ammonia-N	0.002	I	mg N/L	P300971	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.15	I	mg N/L	P300925	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.083		mg N/L	P300732	
	EPA 365.1 Rev. 2.0	Total-P	0.005		mg P/L	P300776	
	SM 5310 B-00	Organic Carbon	3.1		mg C/L	P300786	
1779946	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P300371	

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 Creek Sandy Landing Rd

Collection Date/Time: 03/14/2016 11:45

Field ID: G4NW0292

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1779919	EPA 180.1 Rev. 2.0	Turbidity	3.1		NTU	P300402	
	EPA 300.0 Rev. 2.1	Chloride	2.7		mg Cl/L	P300559	
		Sulfate	0.83		mg SO4/L	P300561	
	SM 2120 B	Color (true)	41		PCU	P300394	
	SM 2320 B-97	Total Alkalinity	0.69	I	mg CaCO3/L	P300686	
	SM 2540 C-97	TDS	16	I	mg/L	P301126	
	SM 2540 D-97	TSS	17		mg/L	P300901	
	SM 4500 F-C-97	Fluoride	0.035	U	mg F/L	P300689	
	EPA 350.1 Rev. 2.0	Ammonia-N	0.002	U	mg N/L	P300971	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.14	I	mg N/L	P300925	
1779933	EPA 353.2 Rev. 2.0	NO2NO3-N	0.069		mg N/L	P300732	
	EPA 365.1 Rev. 2.0	Total-P	0.006		mg P/L	P300776	
	SM 5310 B-00	Organic Carbon	3.5		mg C/L	P300786	
	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P300371	

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 Amos Cabniss Rd

Collection Date/Time: 03/14/2016 12:05

Field ID: G4NW0289

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1779920	EPA 180.1 Rev. 2.0	Turbidity	1.7	A	NTU	P300403	
	EPA 300.0 Rev. 2.1	Chloride	3.0		mg Cl/L	P300559	
		Sulfate	0.60		mg SO4/L	P300561	
	SM 2120 B	Color (true)	36		PCU	P300394	
	SM 2320 B-97	Total Alkalinity	0.65	U	mg CaCO3/L	P300686	
	SM 2540 C-97	TDS	15	U	mg/L	P301126	
	SM 2540 D-97	TSS	2	I	mg/L	P300901	

Field ID: G4NW0289

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1779920	SM 4500 F-C-97	Fluoride	0.035	U	mg F/L	P300689	
1779934	EPA 350.1 Rev. 2.0	Ammonia-N	0.004	I	mg N/L	P300972	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.12	I	mg N/L	P300925	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.074		mg N/L	P300732	
	EPA 365.1 Rev. 2.0	Total-P	0.005		mg P/L	P300776	
	SM 5310 B-00	Organic Carbon	3.2		mg C/L	P300786	
1779948	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P300368	

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 north of Hwy 4 **Collection Date/Time: 03/14/2016 12:20**

Field ID: G4NW0290

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1779921	EPA 180.1 Rev. 2.0	Turbidity	1.7		NTU	P300403	
	EPA 300.0 Rev. 2.1	Chloride	3.1		mg Cl/L	P300559	
		Sulfate	0.54		mg SO4/L	P300561	
	SM 2120 B	Color (true)	38	A	PCU	P300394	
	SM 2320 B-97	Total Alkalinity	0.65	U	mg CaCO3/L	P300686	
	SM 2540 C-97	TDS	15	U	mg/L	P301127	
	SM 2540 D-97	TSS	3	I	mg/L	P300902	
	SM 4500 F-C-97	Fluoride	0.035	U	mg F/L	P300689	
1779935	EPA 350.1 Rev. 2.0	Ammonia-N	0.004	I	mg N/L	P300972	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.13	I	mg N/L	P300926	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.094		mg N/L	P300732	
	EPA 365.1 Rev. 2.0	Total-P	0.006		mg P/L	P300776	
	SM 5310 B-00	Organic Carbon	3.2		mg C/L	P300787	
1779949	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P300368	

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 Creek Green Rd

Collection Date/Time: 03/14/2016 12:40

Field ID: G4NW0294

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1779922	EPA 180.1 Rev. 2.0	Turbidity	2.2		NTU	P300441	
	EPA 300.0 Rev. 2.1	Chloride	2.8		mg Cl/L	P300559	
		Sulfate	0.89		mg SO4/L	P300561	
	SM 2120 B	Color (true)	45		PCU	P300363	
	SM 2320 B-97	Total Alkalinity	0.65	U	mg CaCO3/L	P300686	
	SM 2540 C-97	TDS	18	I	mg/L	P301127	
	SM 2540 D-97	TSS	2	I	mg/L	P300902	
	SM 4500 F-C-97	Fluoride	0.035	U	mg F/L	P300689	
1779936	EPA 350.1 Rev. 2.0	Ammonia-N	0.003	I	mg N/L	P300972	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.17	I	mg N/L	P300926	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.059		mg N/L	P300733	

Field ID: G4NW0294

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1779936	EPA 365.1 Rev. 2.0	Total-P	0.007		mg P/L	P300774	
	SM 5310 B-00	Organic Carbon	3.9		mg C/L	P300787	
1779950	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P300368	

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 Creek Hwy 4

Collection Date/Time: 03/14/2016 13:00

Field ID: G4NW0293

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1779923	EPA 180.1 Rev. 2.0	Turbidity	2.4		NTU	P300441	
	EPA 300.0 Rev. 2.1	Chloride	2.7		mg Cl/L	P300559	
		Sulfate	0.85		mg SO4/L	P300561	
	SM 2120 B	Color (true)	43		PCU	P300363	
	SM 2320 B-97	Total Alkalinity	0.65	U	mg CaCO3/L	P300686	
	SM 2540 C-97	TDS	15	U	mg/L	P301127	
	SM 2540 D-97	TSS	4	I	mg/L	P300902	
	SM 4500 F-C-97	Fluoride	0.035	U	mg F/L	P300689	
1779937	EPA 350.1 Rev. 2.0	Ammonia-N	0.002	I	mg N/L	P300972	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.14	I	mg N/L	P300926	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.062		mg N/L	P300733	
	EPA 365.1 Rev. 2.0	Total-P	0.006		mg P/L	P300774	
	SM 5310 B-00	Organic Carbon	3.6		mg C/L	P300787	
1779951	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P300368	

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 below Bear Lake

Collection Date/Time: 03/14/2016 13:50

Field ID: G4NW0256

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1779924	EPA 180.1 Rev. 2.0	Turbidity	2.9	A	NTU	P300441	
	EPA 300.0 Rev. 2.1	Chloride	2.6		mg Cl/L	P300559	
		Sulfate	0.76		mg SO4/L	P300561	
	SM 2120 B	Color (true)	34		PCU	P300363	
	SM 2320 B-97	Total Alkalinity	10		mg CaCO3/L	P300686	
	SM 2540 C-97	TDS	15	I	mg/L	P301127	
	SM 2540 D-97	TSS	5	I	mg/L	P300902	
	SM 4500 F-C-97	Fluoride	0.035	U	mg F/L	P300689	
1779938	EPA 350.1 Rev. 2.0	Ammonia-N	0.022		mg N/L	P300972	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.41		mg N/L	P300926	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.044		mg N/L	P300733	
	EPA 365.1 Rev. 2.0	Total-P	0.026		mg P/L	P300774	
	SM 5310 B-00	Organic Carbon	5.0		mg C/L	P300787	
1779952	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P300368	

Field ID: G4NW0256

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
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: Panther Creek sherman Kennedy Rd

Collection Date/Time: 03/14/2016 14:20

Field ID: G4NW0295

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1779925	EPA 180.1 Rev. 2.0	Turbidity	3.5		NTU	P300441	
	EPA 300.0 Rev. 2.1	Chloride	3.2		mg Cl/L	P300559	
		Sulfate	0.95		mg SO4/L	P300561	
	SM 2120 B	Color (true)	36		PCU	P300363	
	SM 2320 B-97	Total Alkalinity	1.2	I	mg CaCO3/L	P300686	
	SM 2540 C-97	TDS	23	I	mg/L	P301127	
	SM 2540 D-97	TSS	2	I	mg/L	P300902	
	SM 4500 F-C-97	Fluoride	0.035	U	mg F/L	P300689	
	EPA 350.1 Rev. 2.0	Ammonia-N	0.003	I	mg N/L	P300972	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.16	I	mg N/L	P300926	
1779939	EPA 353.2 Rev. 2.0	NO2NO3-N	0.16		mg N/L	P300733	
	EPA 365.1 Rev. 2.0	Total-P	0.008		mg P/L	P300774	
	SM 5310 B-00	Organic Carbon	2.9		mg C/L	P300787	
	EPA 365.1 Rev. 2.0	O-Phosphate-P	0.004	U	mg P/L	P300368	
	dissolved						

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: Panther Creek John Riley Barnhill Rd

Collection Date/Time: 03/14/2016 14:40

Field ID: G4NW0296

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1779926	EPA 180.1 Rev. 2.0	Turbidity	5.1		NTU	P300441	
	EPA 300.0 Rev. 2.1	Chloride	3.0		mg Cl/L	P300559	
		Sulfate	1.3		mg SO4/L	P300561	
	SM 2120 B	Color (true)	38		PCU	P300363	
	SM 2320 B-97	Total Alkalinity	0.99	I	mg CaCO3/L	P300686	
	SM 2540 C-97	TDS	15	U	mg/L	P301127	
	SM 2540 D-97	TSS	3	I	mg/L	P300902	
	SM 4500 F-C-97	Fluoride	0.035	U	mg F/L	P300689	
	EPA 350.1 Rev. 2.0	Ammonia-N	0.005	I	mg N/L	P300972	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.14	I	mg N/L	P300926	
1779940	EPA 353.2 Rev. 2.0	NO2NO3-N	0.053		mg N/L	P300733	
	EPA 365.1 Rev. 2.0	Total-P	0.01		mg P/L	P300774	
	SM 5310 B-00	Organic Carbon	3.3		mg C/L	P300787	
	EPA 365.1 Rev. 2.0	O-Phosphate-P	0.004	U	mg P/L	P300368	
	dissolved						

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 Horse Creek Hwy 2

Collection Date/Time: 03/14/2016 15:00

Field ID: G4NW0299

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1779927	EPA 180.1 Rev. 2.0	Turbidity	4.1		NTU	P300441	
	EPA 300.0 Rev. 2.1	Chloride	3.8		mg Cl/L	P300559	
		Sulfate	0.91		mg SO4/L	P300561	
	SM 2120 B	Color (true)	37		PCU	P300363	
	SM 2320 B-97	Total Alkalinity	1.9	I	mg CaCO3/L	P300686	
	SM 2540 C-97	TDS	17	I	mg/L	P301127	
	SM 2540 D-97	TSS	5	I	mg/L	P300902	
	SM 4500 F-C-97	Fluoride	0.036	I	mg F/L	P300689	
1779941	EPA 350.1 Rev. 2.0	Ammonia-N	0.002	I	mg N/L	P300972	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.20		mg N/L	P300926	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.027		mg N/L	P300733	
	EPA 365.1 Rev. 2.0	Total-P	0.034		mg P/L	P300774	
	SM 5310 B-00	Organic Carbon	3.3		mg C/L	P300787	
1779955	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.015		mg P/L	P300368	

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 Horse Creek old River Rd

Collection Date/Time: 03/14/2016 15:20

Field ID: G4NW0298

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1779928	EPA 180.1 Rev. 2.0	Turbidity	4.6		NTU	P300441	
	EPA 300.0 Rev. 2.1	Chloride	3.6		mg Cl/L	P300559	
		Sulfate	0.97		mg SO4/L	P300561	
	SM 2120 B	Color (true)	40	A	PCU	P300363	
	SM 2320 B-97	Total Alkalinity	2.5	I	mg CaCO3/L	P300687	
	SM 2540 C-97	TDS	19	I	mg/L	P301127	
	SM 2540 D-97	TSS	5	I	mg/L	P300902	
	SM 4500 F-C-97	Fluoride	0.039	I	mg F/L	P300690	
1779942	EPA 350.1 Rev. 2.0	Ammonia-N	0.002	U	mg N/L	P300972	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.18	I	mg N/L	P300926	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.068		mg N/L	P300733	
	EPA 365.1 Rev. 2.0	Total-P	0.030		mg P/L	P300774	
	SM 5310 B-00	Organic Carbon	3.1		mg C/L	P300787	
1779956	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.012		mg P/L	P300368	

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: 03/14/2016 15:30

Field ID: FIELD BLANK

Matrix: W-FIELD-BK

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1779929	EPA 180.1 Rev. 2.0	Turbidity	0.10	U	NTU	P300441	
	EPA 300.0 Rev. 2.1	Chloride	0.20	U	mg Cl/L	P300559	
		Sulfate	0.20	U	mg SO4/L	P300561	
	SM 2120 B	Color (true)	2.5	U	PCU	P300363	

Field ID: FIELD BLANK

Matrix: W-FIELD-BK

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1779929	SM 2320 B-97	Total Alkalinity	0.65	U	mg CaCO3/L	P300687	
	SM 2540 C-97	TDS	15	U	mg/L	P301124	
	SM 2540 D-97	TSS	2	U	mg/L	P300899	
	SM 4500 F-C-97	Fluoride	0.035	U	mg F/L	P300690	
1779943	EPA 350.1 Rev. 2.0	Ammonia-N	0.002	U	mg N/L	P300972	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.080	U	mg N/L	P301045	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P300733	
	EPA 365.1 Rev. 2.0	Total-P	0.002	U	mg P/L	P300774	
	SM 5310 B-00	Organic Carbon	0.50	U	mg C/L	P300787	
1779957	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P300368	

Quality Assurance Report Method Blank Results

Reference Method: EPA 180.1 Rev. 2.0
 Batch ID: P300402

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 180.1 Rev. 2.0
 Batch ID: P300403

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 180.1 Rev. 2.0
 Batch ID: P300441

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 300.0 Rev. 2.1
 Batch ID: P300558

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
 Batch ID: P300559

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
 Batch ID: P300560

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Quality Assurance Report

Method Blank Results

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P300561

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P300971

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P300972

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P300925

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P300926

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P301045

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P300732

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P300733

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P300774

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

Quality Assurance Report Method Blank Results

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P300776

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P300368

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P300371

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

Reference Method: SM 2120 B
Batch ID: P300363

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2120 B
Batch ID: P300394

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2320 B-97
Batch ID: P300686

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

Reference Method: SM 2320 B-97
Batch ID: P300687

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

Reference Method: SM 2540 C-97
Batch ID: P301124

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 C-97
Batch ID: P301126

Component	Result	Code	Units
TDS	15	U	mg/L

Quality Assurance Report Method Blank Results

Reference Method: SM 2540 C-97
Batch ID: P301127

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-97
Batch ID: P300899

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 2540 D-97
Batch ID: P300901

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 2540 D-97
Batch ID: P300902

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500 F-C-97
Batch ID: P300689

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 4500 F-C-97
Batch ID: P300690

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-00
Batch ID: P300786

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

Reference Method: SM 5310 B-00
Batch ID: P300787

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: P300558

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: P300558

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P300559

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P300560

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P300561

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P300971

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P300972

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P300925

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P300926

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Kjeldahl Nitrogen	92.6		P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P301045

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

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P300732

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P300733

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P300774

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P300776

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P300368

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: P300371

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

Reference Method: SM 2320 B-97
Batch ID: P300686

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

Reference Method: SM 2320 B-97
Batch ID: P300687

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

Reference Method: SM 4500 F-C-97
Batch ID: P300689

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	98.3		P	94 - 108

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: SM 4500 F-C-97
Batch ID: P300690

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	98.8		P	94 - 108

Reference Method: SM 5310 B-00
Batch ID: P300786

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	96.5		P	85 - 115

Reference Method: SM 5310 B-00
Batch ID: P300787

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

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P300558

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1779587	Chloride	104		P	90 - 110
1779659	Chloride	103		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P300559

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1780046	Chloride	105		P	90 - 110
1780047	Chloride	105		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P300560

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1779587	Sulfate	101		P	90 - 110
1779659	Sulfate	101		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P300561

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1780046	Sulfate	102		P	90 - 110
1780047	Sulfate	102		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P300971

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1779889	Ammonia-N	101	101	P/P	90 - 110

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P300972

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1779937	Ammonia-N	101	101	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P300925

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1779889	Kjeldahl Nitrogen	91.5	95.3	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P300926

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1779937	Kjeldahl Nitrogen	91.2	90.6	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P301045

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1780460	Kjeldahl Nitrogen	99.8	95.1	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P300732

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1779931	NO2NO3-N	99.6	98.0	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P300733

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1779939	NO2NO3-N	99.0	99.0	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P300774

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1779936	Total-P	104	98.2	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P300776

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1779829	Total-P	100	96.9	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P300368

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1779952	O-Phosphate-P	100	101	P/P	90 - 110

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P300371

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1779947	O-Phosphate-P	101	101	P/P	90 - 110

Reference Method: SM 4500 F-C-97
Batch ID: P300689

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1780482	Fluoride	98.7	98.7	P/P	94 - 107

Reference Method: SM 4500 F-C-97
Batch ID: P300690

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1780046	Fluoride	95.5	97.1	P/P	94 - 107

Reference Method: SM 5310 B-00
Batch ID: P300786

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1779756	Organic Carbon	99.8		P	85 - 115

Reference Method: SM 5310 B-00
Batch ID: P300787

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1779935	Organic Carbon	98.4	99.0	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P300402

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1779717	Turbidity	4.80	Sample	P	0 - 20

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P300403

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1779920	Turbidity	4.11	Sample	P	0 - 20

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P300441

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1779924	Turbidity	5.15	Sample	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P300558

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1779587	Chloride	0.0664	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P300559

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1780046	Chloride	0.0422	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P300560

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1779587	Sulfate	1.80	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P300561

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1780046	Sulfate	9.48	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P300971

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1779889	Ammonia-N	0.721	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P300972

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1779937	Ammonia-N	0.448	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P300925

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1779889	Kjeldahl Nitrogen	3.70	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P300926

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1779937	Kjeldahl Nitrogen	0.526	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P301045

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1780460	Kjeldahl Nitrogen	2.40	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P300732

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1779931	NO2NO3-N	1.10	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P300733

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1779939	NO2NO3-N	0.0	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P300774

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1779936	Total-P	5.22	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P300776

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1779829	Total-P	1.70	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P300368

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1779952	O-Phosphate-P	0.793	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P300371

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1779947	O-Phosphate-P	0.693	Spike	P	0 - 20

Reference Method: SM 2120 B
Batch ID: P300363

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1779928	Color (true)	4.16	Sample	P	0 - 20

Quality Assurance Report Precision

Reference Method: SM 2120 B
Batch ID: P300394

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1779921	Color (true)	0.690	Sample	P	0 - 20

Reference Method: SM 2320 B-97
Batch ID: P300686

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1780482	Total Alkalinity	0.0473	Sample	P	0 - 4.8

Reference Method: SM 2320 B-97
Batch ID: P300687

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1780046	Total Alkalinity	0.404	Sample	P	0 - 4.8

Reference Method: SM 2540 C-97
Batch ID: P301124

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1779584	TDS	1.79	Sample	P	0 - 10

Reference Method: SM 2540 C-97
Batch ID: P301126

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1780045	TDS	2.76	Sample	P	0 - 10

Reference Method: SM 2540 C-97
Batch ID: P301127

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1780046	TDS	0.697	Sample	P	0 - 10

Reference Method: SM 2540 D-97
Batch ID: P300899

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1779584	TSS	7.14	Sample	P	0 - 10

Reference Method: SM 4500 F-C-97
Batch ID: P300689

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1780482	Fluoride	0.0	Spike	P	0 - 3.7

Quality Assurance Report Precision

Reference Method: SM 4500 F-C-97
Batch ID: P300690

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1780046	Fluoride	1.52	Spike	P	0 - 3.7

Reference Method: SM 5310 B-00
Batch ID: P300786

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1779756	Organic Carbon	0.311	Spike	P	0 - 20

Reference Method: SM 5310 B-00
Batch ID: P300787

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1779935	Organic Carbon	0.479	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: A68225
Included Lab Sample IDs: 1779922, 1779923, 1779924, 1779925, 1779926, 1779927, 1779928, 1779929

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	101	99.7	P/P	90 - 115

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Run ID: A68227
Included Lab Sample IDs: 1779944, 1779945, 1779946, 1779947, 1779948, 1779949, 1779950, 1779951, 1779952, 1779953, 1779954, 1779955, 1779956, 1779957

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	98.0	98.3	P/P	90 - 110
O-Phosphate-P	98.3	98.0	P/P	90 - 110
O-Phosphate-P	98.9	98.0	P/P	90 - 110

Reference Method: SM 2120 B
Run ID: A68234
Included Lab Sample IDs: 1779916, 1779917, 1779918, 1779919, 1779920, 1779921

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	98.2	99.5	P/P	90 - 115

Reference Method: EPA 180.1 Rev. 2.0
Run ID: A68237
Included Lab Sample IDs: 1779916, 1779917, 1779918, 1779919, 1779920, 1779921

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
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Quality Assurance Report Calibration Verification

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A68237

Included Lab Sample IDs: 1779916, 1779917, 1779918, 1779919, 1779920, 1779921

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

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A68252

Included Lab Sample IDs: 1779922, 1779923, 1779924, 1779925, 1779926, 1779927, 1779928, 1779929

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

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A68261

Included Lab Sample IDs: 1779916, 1779917, 1779918, 1779919, 1779920, 1779921, 1779922, 1779923, 1779924, 1779925, 1779926, 1779927, 1779928, 1779929

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	100	101	P/P	90 - 110
Chloride	101	99.6	P/P	90 - 110
Chloride	99.6	102	P/P	90 - 110
Sulfate	96.2	99.3	P/P	90 - 110
Sulfate	96.2	98.9	P/P	90 - 110
Sulfate	98.9	96.2	P/P	90 - 110

Reference Method: SM 2320 B-97

Run ID: A68331

Included Lab Sample IDs: 1779916, 1779917, 1779918, 1779919, 1779920, 1779921, 1779922, 1779923, 1779924, 1779925, 1779926, 1779927, 1779928, 1779929

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	103	99.8	P/P	90 - 110
Total Alkalinity	99.8	104	P/P	90 - 110

Reference Method: SM 4500 F-C-97

Run ID: A68331

Included Lab Sample IDs: 1779916, 1779917, 1779918, 1779919, 1779920, 1779921, 1779922, 1779923, 1779924, 1779925, 1779926, 1779927, 1779928, 1779929

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	98.5	99.5	P/P	90 - 110
Fluoride	99.5	100	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A68345

Included Lab Sample IDs: 1779930, 1779931, 1779932, 1779933, 1779934, 1779935, 1779936, 1779937, 1779938, 1779939, 1779940, 1779941, 1779942, 1779943

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

Quality Assurance Report Calibration Verification

Reference Method: SM 5310 B-00

Run ID: A68366

Included Lab Sample IDs: 1779930, 1779931, 1779932, 1779933, 1779934, 1779935, 1779936, 1779937, 1779938, 1779939, 1779940, 1779941, 1779942, 1779943

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	98.3	99.0	P/P	90 - 110
Organic Carbon	99.0	98.0	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A68408

Included Lab Sample IDs: 1779930, 1779931, 1779932, 1779933, 1779934, 1779935, 1779936, 1779937, 1779938, 1779939, 1779940, 1779941, 1779942, 1779943

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

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A68455

Included Lab Sample IDs: 1779943

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

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A68486

Included Lab Sample IDs: 1779930, 1779931, 1779932, 1779933, 1779934, 1779935, 1779936, 1779937, 1779938, 1779939, 1779940, 1779941, 1779942, 1779943

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	98.8	99.2	P/P	90 - 110
Total-P	99.2	98.8	P/P	90 - 110
Total-P	99.2	99.0	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A68518

Included Lab Sample IDs: 1779930, 1779931, 1779932, 1779933, 1779934, 1779935, 1779936, 1779937, 1779938, 1779939, 1779940, 1779941, 1779942

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	98.8	99.4	P/P	90 - 110
Kjeldahl Nitrogen	99.3	96.8	P/P	90 - 110
Kjeldahl Nitrogen	99.4	99.3	P/P	90 - 110

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

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery	Precision	MS
				LCS	SMP
EPA 180.1 Rev. 2.0	Turbidity			4.80	

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery		Precision	
					LCS	MS
EPA 180.1 Rev. 2.0	Turbidity				4.11	
	Turbidity				5.15	
EPA 300.0 Rev. 2.1	Chloride	104	104	103	0.0664	
	Chloride	105	105	105	0.0422	
	Sulfate	100	101	101	1.80	
	Sulfate	102	102	102	9.48	
EPA 350.1 Rev. 2.0	Ammonia-N	102	101	101		0.721
	Ammonia-N	102	101	101		0.448
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	95.3	91.5	95.3		3.70
	Kjeldahl Nitrogen	92.6	91.2	90.6		0.526
	Kjeldahl Nitrogen	103	99.8	95.1		2.40
EPA 353.2 Rev. 2.0	NO2NO3-N	100	99.6	98.0		1.10
	NO2NO3-N	102	99.0	99.0		0.0
EPA 365.1 Rev. 2.0	Total-P	96.2	104	98.2		5.22
	Total-P	99.8	100	96.9		1.70
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	101	100	101		0.793
	O-Phosphate-P	99.5	101	101		0.693
SM 2120 B	Color (true)				4.16	
	Color (true)				0.690	
SM 2320 B-97	Total Alkalinity	102			0.0473	
	Total Alkalinity	102			0.404	
SM 2540 C-97	TDS				1.79	
	TDS				2.76	
	TDS				0.697	
SM 2540 D-97	TSS				7.14	
SM 4500 F-C-97	Fluoride	98.3	98.7	98.7		0.0
	Fluoride	98.8	95.5	97.1		1.52
SM 5310 B-00	Organic Carbon	96.5	99.8			0.311
	Organic Carbon	98.8	98.4	99.0		0.479

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 180.1 Rev. 2.0 / E31780	Turbidity in aqueous matrices	1779916, 1779917, 1779918, 1779919, 1779920, 1779921, 1779922, 1779923, 1779924, 1779925, 1779926, 1779927, 1779928, 1779929
EPA 300.0 Rev. 2.1 / E31780	Chloride in aqueous matrices	1779916, 1779917, 1779918, 1779919, 1779920, 1779921, 1779922, 1779923, 1779924, 1779925, 1779926, 1779927, 1779928, 1779929
EPA 300.0 Rev. 2.1 / E31780	Sulfate in aqueous matrices	1779916, 1779917, 1779918, 1779919, 1779920, 1779921, 1779922, 1779923, 1779924, 1779925, 1779926, 1779927, 1779928, 1779929
EPA 350.1 Rev. 2.0 / E31780	Ammonia in aqueous matrices as mg N/L	1779930, 1779931, 1779932, 1779933, 1779934, 1779935, 1779936, 1779937, 1779938, 1779939, 1779940, 1779941, 1779942, 1779943
EPA 351.2 Rev. 2.0 / E31780	Total Kjeldahl Nitrogen in aqueous matrices	1779930, 1779931, 1779932, 1779933, 1779934, 1779935, 1779936, 1779937, 1779938, 1779939, 1779940, 1779941, 1779942, 1779943

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 353.2 Rev. 2.0 / E31780	Nitrite/Nitrate in aqueous matrices as mg N/L	1779930, 1779931, 1779932, 1779933, 1779934, 1779935, 1779936, 1779937, 1779938, 1779939, 1779940, 1779941, 1779942, 1779943
EPA 365.1 Rev. 2.0 / E31780	Total Phosphorus in aqueous matrices as mg P/L	1779930, 1779931, 1779932, 1779933, 1779934, 1779935, 1779936, 1779937, 1779938, 1779939, 1779940, 1779941, 1779942, 1779943
EPA 365.1 Rev. 2.0 dissolved / E31780	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	1779944, 1779945, 1779946, 1779947, 1779948, 1779949, 1779950, 1779951, 1779952, 1779953, 1779954, 1779955, 1779956, 1779957
SM 2120 B / E31780	True Color measured at 450 nm	1779916, 1779917, 1779918, 1779919, 1779920, 1779921, 1779922, 1779923, 1779924, 1779925, 1779926, 1779927, 1779928, 1779929
SM 2320 B-97 / E31780	Alkalinity in aqueous matrices as mg CaCO ₃ /L	1779916, 1779917, 1779918, 1779919, 1779920, 1779921, 1779922, 1779923, 1779924, 1779925, 1779926, 1779927, 1779928, 1779929
SM 2540 C-97 / E31780	Total Dissolved Solids in aqueous matrices	1779916, 1779917, 1779918, 1779919, 1779920, 1779921, 1779922, 1779923, 1779924, 1779925, 1779926, 1779927, 1779928, 1779929
SM 2540 D-97 / E31780	Total Suspended Solids in aqueous matrices	1779916, 1779917, 1779918, 1779919, 1779920, 1779921, 1779922, 1779923, 1779924, 1779925, 1779926, 1779927, 1779928, 1779929
SM 4500 F-C-97 / E31780	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	1779916, 1779917, 1779918, 1779919, 1779920, 1779921, 1779922, 1779923, 1779924, 1779925, 1779926, 1779927, 1779928, 1779929
SM 5310 B-00 / E31780	Nonpurgeable Organic Carbon in aqueous matrices	1779930, 1779931, 1779932, 1779933, 1779934, 1779935, 1779936, 1779937, 1779938, 1779939, 1779940, 1779941, 1779942, 1779943

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
EPA 180.1 Rev. 2.0	03/15/2016			03/15/2016 12:44	Blanca Fach	1779922, 1779923, 1779924, 1779925, 1779926, 1779927, 1779928, 1779929
	03/15/2016			03/15/2016 17:40	Ping Hua	1779916, 1779917, 1779918, 1779919, 1779920, 1779921
EPA 300.0 Rev. 2.1	03/15/2016			03/16/2016	Ping Hua	1779916, 1779917, 1779918
	03/15/2016			03/17/2016	Ping Hua	1779919, 1779920, 1779921, 1779922, 1779923, 1779924, 1779925, 1779926, 1779927, 1779928, 1779929
EPA 350.1 Rev. 2.0	03/15/2016			03/23/2016	Diana M. Turner	1779930, 1779931, 1779932, 1779933, 1779934, 1779935, 1779936, 1779937, 1779938, 1779939, 1779940, 1779941, 1779942, 1779943
EPA 351.2 Rev. 2.0	03/15/2016	03/24/2016	Sofia Elnemr	03/25/2016	Rochelle Y Jackson	1779930, 1779931, 1779932, 1779933, 1779934, 1779935, 1779936, 1779937, 1779938, 1779939, 1779940, 1779941, 1779942
EPA 353.2 Rev. 2.0	03/15/2016	03/25/2016	Sofia Elnemr	03/27/2016	Rochelle Y Jackson	1779943
	03/15/2016			03/21/2016	Diana M. Turner	1779930, 1779931, 1779932, 1779933, 1779934, 1779935, 1779936, 1779937, 1779938, 1779939, 1779940, 1779941, 1779942, 1779943
EPA 365.1 Rev. 2.0	03/15/2016	03/22/2016	Christopher Armour	03/24/2016	Lipi Saha	1779930, 1779931, 1779932, 1779933, 1779934, 1779935, 1779936, 1779937, 1779938, 1779939, 1779940, 1779941, 1779942, 1779943
EPA 365.1 Rev. 2.0 dissolved	03/15/2016			03/15/2016 13:04	Julia Storbeck	1779952
	03/15/2016			03/15/2016 13:07	Julia Storbeck	1779950
	03/15/2016			03/15/2016 13:08	Julia Storbeck	1779951
	03/15/2016			03/15/2016 13:09	Julia Storbeck	1779953, 1779954
	03/15/2016			03/15/2016 13:10	Julia Storbeck	1779955
	03/15/2016			03/15/2016 13:15	Julia Storbeck	1779956
	03/15/2016			03/15/2016 13:16	Julia Storbeck	1779957
	03/15/2016			03/15/2016 13:28	Julia Storbeck	1779948
	03/15/2016			03/15/2016 13:29	Julia Storbeck	1779949
	03/15/2016			03/15/2016 13:32	Julia Storbeck	1779947
	03/15/2016			03/15/2016 13:34	Julia Storbeck	1779944
	03/15/2016			03/15/2016 13:35	Julia Storbeck	1779945
	03/15/2016			03/15/2016 13:36	Julia Storbeck	1779946
	03/15/2016			03/15/2016 13:04	Rochelle Y Jackson	1779924, 1779925
SM 2120 B	03/15/2016			03/15/2016 13:05	Rochelle Y Jackson	1779926
	03/15/2016			03/15/2016 13:07	Rochelle Y Jackson	1779928, 1779929
	03/15/2016			03/15/2016 13:08	Rochelle Y Jackson	1779927
	03/15/2016			03/15/2016 13:09	Rochelle Y Jackson	1779923

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
SM 2120 B	03/15/2016			03/15/2016 13:10	Rochelle Y Jackson	1779922
	03/15/2016			03/15/2016 15:48	Rochelle Y Jackson	1779916
	03/15/2016			03/15/2016 15:49	Rochelle Y Jackson	1779917
	03/15/2016			03/15/2016 15:50	Rochelle Y Jackson	1779918
	03/15/2016			03/15/2016 15:51	Rochelle Y Jackson	1779919, 1779920
	03/15/2016			03/15/2016 15:53	Rochelle Y Jackson	1779921
SM 2320 B-97	03/15/2016			03/17/2016	Dale L. Simmons	1779916, 1779917, 1779918
	03/15/2016			03/18/2016	Dale L. Simmons	1779919, 1779920, 1779921, 1779922, 1779923, 1779924, 1779925, 1779926, 1779927, 1779928, 1779929
SM 2540 C-97	03/15/2016			03/18/2016	Yijie Li	1779916, 1779917, 1779918, 1779919, 1779920, 1779921, 1779922, 1779923, 1779924, 1779925, 1779926, 1779927, 1779928, 1779929
SM 2540 D-97	03/15/2016			03/18/2016	Yijie Li	1779916, 1779917, 1779918, 1779919, 1779920, 1779921, 1779922, 1779923, 1779924, 1779925, 1779926, 1779927, 1779928, 1779929
SM 4500 F-C-97	03/15/2016			03/17/2016	Dale L. Simmons	1779916, 1779917, 1779918
	03/15/2016			03/18/2016	Dale L. Simmons	1779919, 1779920, 1779921, 1779922, 1779923, 1779924, 1779925, 1779926, 1779927, 1779928, 1779929
SM 5310 B-00	03/15/2016			03/18/2016	Sofia Elnemr	1779930, 1779931, 1779932, 1779933, 1779934
	03/15/2016			03/19/2016	Sofia Elnemr	1779935, 1779936, 1779937, 1779938, 1779939, 1779940, 1779941, 1779942, 1779943