

Chemical Analysis Report

SE-DIST-2017-05-12-01

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

Event Description: **SMP-G5 South Run**
Request ID: **RQ-2017-05-01-31**
Customer: **SE-DIST**
Project ID: **SMP**

Send Reports to:
FL Dept. of Environmental Protection
FL Dept. of Environmental Protection
2199 South Rock Road
Fort Pierce, FL 34945
Attn: Matthew Sewell

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Certified by: Thekkekalathil Chandrasekhar, Chemist Administrator Date Certified: 15-JUN-2017 10:30



Case Narrative

Unless otherwise noted, all samples included in this report were received in accordance with protocols referenced in Chapter 62-160, Florida Administrative Code (F.A.C.). Results published in this report pertain only to the samples as submitted to, and received by the laboratory. All times in this report are adjusted to the applicable Eastern Time Zone (EST or EDT).

Results for the following analytical groups are included in this report: Nutrients and Pesticides.

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: L-8 @ G-541

Collection Date/Time: 05/11/2017 10:40

Field ID: G3SE0017

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1898852	EPA 180.1 Rev. 2.0	Turbidity	41		NTU	P325309	
	EPA 300.0 Rev. 2.1	Chloride	540		mg Cl/L	P325898	
		Sulfate	240		mg SO4/L	P325901	
	SM 2120 B	Color (true)	42		PCU	P325223	
	SM 2320 B-97	Total Alkalinity	285		mg CaCO3/L	P325698	
	SM 2540 C-97	TDS	1.66E+03		mg/L	P325687	
	SM 2540 D-97	TSS	24		mg/L	P325676	
	SM 4500 F-C-97	Fluoride	0.26		mg F/L	P325702	RPD
1898856	EPA 350.1 Rev. 2.0	Ammonia-N	0.006		mg N/L	P325277	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.2		mg N/L	P325452	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.058		mg N/L	P325356	
	EPA 365.1 Rev. 2.0	Total-P	0.47		mg P/L	P325335	
	SM 5310 B-00	Organic Carbon	16		mg C/L	P325517	
1898860	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.051		mg P/L	P325226	

Sample Location: M-Canal West of L-8

Collection Date/Time: 05/11/2017 10:55

Field ID: G5SE0011

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1898853	EPA 180.1 Rev. 2.0	Turbidity	7.7		NTU	P325309	
	EPA 300.0 Rev. 2.1	Chloride	99		mg Cl/L	P325898	
		Sulfate	73		mg SO4/L	P325901	
	SM 2120 B	Color (true)	150	A	PCU	P325220	
	SM 2320 B-97	Total Alkalinity	232		mg CaCO3/L	P325698	
	SM 2540 C-97	TDS	576		mg/L	P325687	
	SM 2540 D-97	TSS	11		mg/L	P325676	
	SM 4500 F-C-97	Fluoride	0.50		mg F/L	P325702	RPD
1898857	EPA 350.1 Rev. 2.0	Ammonia-N	0.043		mg N/L	P325277	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	3.1		mg N/L	P325452	
	EPA 353.2 Rev. 2.0	NO2NO3-N	1.2		mg N/L	P325356	
	EPA 365.1 Rev. 2.0	Total-P	0.21		mg P/L	P325335	
	SM 5310 B-00	Organic Carbon	28		mg C/L	P325517	
1898861	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.063		mg P/L	P325226	

Sample Location: Ocean Canal @ SR-700

Collection Date/Time: 05/11/2017 11:05

Field ID: G5SE0049

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1898854	EPA 180.1 Rev. 2.0	Turbidity	6.0		NTU	P325309	
	EPA 300.0 Rev. 2.1	Chloride	98		mg Cl/L	P326707	
		Sulfate	72		mg SO4/L	P326708	
	SM 2120 B	Color (true)	150		PCU	P325220	
	SM 2320 B-97	Total Alkalinity	234		mg CaCO3/L	P325698	

Field ID: G5SE0049

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1898854	SM 2540 C-97	TDS	655		mg/L	P325687	
	SM 2540 D-97	TSS	6	I	mg/L	P325676	
	SM 4500 F-C-97	Fluoride	0.53		mg F/L	P325702	RPD
1898858	EPA 350.1 Rev. 2.0	Ammonia-N	0.062		mg N/L	P325277	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	2.7		mg N/L	P325452	
	EPA 353.2 Rev. 2.0	NO2NO3-N	1.1		mg N/L	P325356	
	EPA 365.1 Rev. 2.0	Total-P	0.15		mg P/L	P325335	
	SM 5310 B-00	Organic Carbon	31		mg C/L	P325582	
1898862	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.053		mg P/L	P325226	

Ref. Method and Comment:

EPA 300.0 Rev. 2.1: Chloride: Batch matrix spike recoveries for one of two spiked samples are unavailable because of high analyte concentration in the QC sample.

Sample Location: WPB Canal @ 20mi Bend

Collection Date/Time: 05/11/2017 11:25

Field ID: G5SE0058

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1898870	EPA 180.1 Rev. 2.0	Turbidity	6.6		NTU	P325310	
	EPA 300.0 Rev. 2.1	Chloride	99		mg Cl/L	P326707	
		Sulfate	73		mg SO4/L	P326708	
	SM 2120 B	Color (true)	140		PCU	P325221	
	SM 2320 B-97	Total Alkalinity	238		mg CaCO3/L	P325698	
	SM 2540 C-97	TDS	623		mg/L	P325687	
	SM 2540 D-97	TSS	11		mg/L	P325676	
	SM 4500 F-C-97	Fluoride	0.52		mg F/L	P325702	RPD
1898871	EPA 350.1 Rev. 2.0	Ammonia-N	0.023		mg N/L	P325278	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	3.3		mg N/L	P325453	
	EPA 353.2 Rev. 2.0	NO2NO3-N	1.1		mg N/L	P325356	
	EPA 365.1 Rev. 2.0	Total-P	0.18		mg P/L	P325336	
	SM 5310 B-00	Organic Carbon	28		mg C/L	P325582	
1898872	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.038		mg P/L	P325226	
1898905	EPA 8321B	Sucralose**	0.053		ug/L	P325291	
	USGS O-2060-01	2,4-D	0.57		ug/L	P325285	
		Diuron	8.0E-04	U	ug/L	P325285	
		Fenuron	0.0040	U	ug/L	P325285	
		Imidacloprid	0.0010	I	ug/L	P325285	MS
		Bentazon	0.44		ug/L	P325285	
		Linuron	0.0040	U	ug/L	P325285	
		Acetaminophen**	0.0080	U	ug/L	P325285	
		MCP	8.0E-04	U	ug/L	P325285	
		Carbamazepine**	4.0E-04	U	ug/L	P325285	
		Triclopyr**	0.0040	U	ug/L	P325285	
		Primidone**	0.0040	U	ug/L	P325285	
		Fluridone**	0.0011	I	ug/L	P325285	

Field ID: G5SE0058

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
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Ref. Method and Comment:

EPA 300.0 Rev. 2.1: Chloride: Batch matrix spike recoveries for one of two spiked samples are unavailable because of high analyte concentration in the QC sample.

Sample Location: C-6 Miami Canal @ SR-80

Collection Date/Time: 05/11/2017 12:45

Field ID: 28010980

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
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1898855	EPA 180.1 Rev. 2.0	Turbidity	18	A	NTU	P325310	
	EPA 300.0 Rev. 2.1	Chloride	46		mg Cl/L	P326707	
		Sulfate	23		mg SO4/L	P326708	
	SM 2120 B	Color (true)	31		PCU	P325223	
	SM 2320 B-97	Total Alkalinity	115		mg CaCO3/L	P325700	
	SM 2540 C-97	TDS	288	A	mg/L	P325687	
	SM 2540 D-97	TSS	15	A	mg/L	P325676	
	SM 4500 F-C-97	Fluoride	0.17		mg F/L	P325703	RPD
1898859	EPA 350.1 Rev. 2.0	Ammonia-N	0.035		mg N/L	P325277	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.5		mg N/L	P325452	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.16		mg N/L	P325356	
	EPA 365.1 Rev. 2.0	Total-P	0.11		mg P/L	P325336	
	SM 5310 B-00	Organic Carbon	13		mg C/L	P325582	
1898863	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.034		mg P/L	P325226	

Ref. Method and Comment:

EPA 300.0 Rev. 2.1: Chloride: Batch matrix spike recoveries for one of two spiked samples are unavailable because of high analyte concentration in the QC sample.

Sample Location: 715 Farms - Morgan Rd @ CR-715

Collection Date/Time: 05/11/2017 13:30

Field ID: 28010984

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
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1898864	EPA 180.1 Rev. 2.0	Turbidity	8.6		NTU	P325310	
	EPA 300.0 Rev. 2.1	Chloride	600		mg Cl/L	P326707	
		Sulfate	320		mg SO4/L	P326708	
	SM 2120 B	Color (true)	150		PCU	P325221	
	SM 2320 B-97	Total Alkalinity	409		mg CaCO3/L	P325700	
	SM 2540 C-97	TDS	1.90E+03		mg/L	P325687	
	SM 2540 D-97	TSS	8	I	mg/L	P325676	
	SM 4500 F-C-97	Fluoride	0.69		mg F/L	P325703	RPD
1898866	EPA 350.1 Rev. 2.0	Ammonia-N	0.45		mg N/L	P325278	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	3.2		mg N/L	P325452	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.13		mg N/L	P325356	
	EPA 365.1 Rev. 2.0	Total-P	0.070		mg P/L	P325336	
	SM 5310 B-00	Organic Carbon	35		mg C/L	P325582	
1898868	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.009	I	mg P/L	P325226	
1898903	EPA 8321B	Sucralose**	0.025	I	ug/L	P325291	
	USGS O-2060-01	2,4-D	0.015		ug/L	P325285	

Field ID: 28010984

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1898903	USGS O-2060-01	Diuron	8.0E-04	U	ug/L	P325285	MS
		Fenuron	0.0040	U	ug/L	P325285	
		Imidacloprid	8.0E-04	U	ug/L	P325285	
		Bentazon	0.021		ug/L	P325285	
		Linuron	0.0040	U	ug/L	P325285	
		Acetaminophen**	0.0080	U	ug/L	P325285	
		MCP	8.0E-04	U	ug/L	P325285	
		Carbamazepine**	4.0E-04	U	ug/L	P325285	
		Triclopyr**	0.0040	U	ug/L	P325285	
		Primidone**	0.0040	U	ug/L	P325285	
		Fluridone**	4.0E-04	I	ug/L	P325285	

Ref. Method and Comment:

EPA 300.0 Rev. 2.1: Chloride: Batch matrix spike recoveries for one of two spiked samples are unavailable because of high analyte concentration in the QC sample.

Sample Location: East Beach - Canal near Pahokee WWTP

Collection Date/Time: 05/11/2017 13:45

Field ID: G5SE0059

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1898865	EPA 180.1 Rev. 2.0	Turbidity	16		NTU	P325310	RPD
	EPA 300.0 Rev. 2.1	Chloride	140		mg Cl/L	P326707	
		Sulfate	67		mg SO4/L	P326708	
	SM 2120 B	Color (true)	56		PCU	P325223	
	SM 2320 B-97	Total Alkalinity	195		mg CaCO3/L	P325700	
	SM 2540 C-97	TDS	559		mg/L	P325687	
	SM 2540 D-97	TSS	22		mg/L	P325676	
	SM 4500 F-C-97	Fluoride	0.29		mg F/L	P325703	
	EPA 350.1 Rev. 2.0	Ammonia-N	0.009		mg N/L	P325278	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.8		mg N/L	P325452	
1898867	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P325356	
	EPA 365.1 Rev. 2.0	Total-P	0.12		mg P/L	P325336	
	SM 5310 B-00	Organic Carbon	18		mg C/L	P325582	
	EPA 365.1 Rev. 2.0	O-Phosphate-P	0.015		mg P/L	P325226	
	dissolved						
1898904	EPA 8321B	Sucralose**	0.032	I	ug/L	P325291	MS
	USGS O-2060-01	2,4-D	0.20		ug/L	P325285	
		Diuron	8.0E-04	U	ug/L	P325285	
		Fenuron	0.0040	U	ug/L	P325285	
		Imidacloprid	0.0022	I	ug/L	P325285	
		Bentazon	0.0026	I	ug/L	P325285	
		Linuron	0.0040	U	ug/L	P325285	
		Acetaminophen**	0.0080	U	ug/L	P325285	
		MCP	8.0E-04	U	ug/L	P325285	
		Carbamazepine**	4.0E-04	U	ug/L	P325285	
		Triclopyr**	0.0040	U	ug/L	P325285	
		Primidone**	0.0040	U	ug/L	P325285	
		Fluridone**	0.0018		ug/L	P325285	

Field ID: G5SE0059

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
Ref. Method and Comment: EPA 300.0 Rev. 2.1: Chloride: Batch matrix spike recoveries for one of two spiked samples are unavailable because of high analyte concentration in the QC sample.							

Quality Assurance Report
Method Blank Results

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P325309

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P325310

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P325898

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P325901

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P326707

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P326708

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P325277

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P325278

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

Quality Assurance Report Method Blank Results

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P325452

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P325453

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P325356

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P325335

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P325336

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P325226

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

Reference Method: EPA 8321B
Batch ID: P325291

Component	Result	Code	Units
Sucralose	0.010	U	ug/L

Reference Method: SM 2120 B
Batch ID: P325220

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2120 B
Batch ID: P325221

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Quality Assurance Report Method Blank Results

Reference Method: SM 2120 B
Batch ID: P325223

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2320 B-97
Batch ID: P325698

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

Reference Method: SM 2320 B-97
Batch ID: P325700

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

Reference Method: SM 2540 C-97
Batch ID: P325687

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-97
Batch ID: P325676

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500 F-C-97
Batch ID: P325702

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 4500 F-C-97
Batch ID: P325703

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-00
Batch ID: P325517

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

Reference Method: SM 5310 B-00
Batch ID: P325582

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

Quality Assurance Report Method Blank Results

Reference Method: USGS O-2060-01
Batch ID: P325285

Component	Result	Code	Units
2,4-D	8.0E-04	U	ug/L
Acetaminophen	0.0080	U	ug/L
Bentazon	8.0E-04	U	ug/L
Carbamazepine	4.0E-04	U	ug/L
Diuron	8.0E-04	U	ug/L
Fenuron	0.0040	U	ug/L
Fluridone	4.0E-04	U	ug/L
Imidacloprid	8.0E-04	U	ug/L
Linuron	0.0040	U	ug/L
MCPP	8.0E-04	U	ug/L
Primidone	0.0040	U	ug/L
Triclopyr	0.0040	U	ug/L

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P325898

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Chloride	98.4		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P325901

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Sulfate	94.3		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P326707

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P326708

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P325277

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P325278

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

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P325452

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P325453

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P325356

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P325335

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: P325336

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P325226

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

Reference Method: EPA 8321B
Batch ID: P325291

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Sucralose	78.3		P	40 - 140

Reference Method: SM 2320 B-97
Batch ID: P325698

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	103		P	95 - 108

Reference Method: SM 2320 B-97
Batch ID: P325700

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	103		P	95 - 108

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: SM 4500 F-C-97
Batch ID: P325702

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	93.7		P	92 - 103

Reference Method: SM 4500 F-C-97
Batch ID: P325703

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	97.1		P	92 - 103

Reference Method: SM 5310 B-00
Batch ID: P325517

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	87.6		P	85 - 115

Reference Method: SM 5310 B-00
Batch ID: P325582

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

Reference Method: USGS O-2060-01
Batch ID: P325285

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	88.4		P	40 - 140
Acetaminophen	86.2		P	40 - 140
Bentazon	70.6		P	40 - 140
Carbamazepine	107		P	40 - 140
Diuron	108		P	40 - 140
Fenuron	93.2		P	40 - 140
Fluridone	103		P	40 - 140
Imidacloprid	92.0		P	40 - 160
Linuron	100		P	40 - 140
MCP	91.4		P	40 - 140
Primidone	98.0		P	40 - 140
Triclopyr	94.8		P	40 - 140

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P325898

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1898960	Chloride	95.3		P	90 - 110
1898993	Chloride	98.4		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P325901

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P325901

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1898960	Sulfate	93.2		P	90 - 110
1898993	Sulfate	94.7		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P326707

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1898961	Chloride	109		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P326708

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1898961	Sulfate	107		P	90 - 110
1899010	Sulfate	105		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P325277

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1898804	Ammonia-N	96.1	99.1	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P325278

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1898920	Ammonia-N	101	102	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P325452

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1898805	Kjeldahl Nitrogen	100	106	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P325453

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1898920	Kjeldahl Nitrogen	95.7	95.7	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P325356

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1898856	NO2NO3-N	103	99.6	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P325335

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1898804	Total-P	99.2	100	P/P	90 - 110

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P325336

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1898859	Total-P	93.7	99.5	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P325226

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1898860	O-Phosphate-P	99.2	100	P/P	90 - 110

Reference Method: EPA 8321B
Batch ID: P325291

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1898904	Sucralose	59.7	55.5	P/P	40 - 140

Reference Method: SM 4500 F-C-97
Batch ID: P325702

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1899364	Fluoride	93.4	101	P/P	91 - 105

Reference Method: SM 4500 F-C-97
Batch ID: P325703

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1899011	Fluoride	96.5	102	P/P	91 - 105

Reference Method: SM 5310 B-00
Batch ID: P325517

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1898484	Organic Carbon	88.8	90.4	P/P	85 - 115

Reference Method: SM 5310 B-00
Batch ID: P325582

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1898858	Organic Carbon	106		P	85 - 115

Reference Method: USGS O-2060-01
Batch ID: P325285

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1898769	2,4-D	81.2	80.8	P/P	40 - 140
1898769	Acetaminophen	97.0	95.4	P/P	40 - 140
1898769	Bentazon	45.6	45.4	P/P	40 - 140
1898769	Carbamazepine	110	122	P/P	40 - 140
1898769	Diuron	111	97.2	P/P	40 - 140
1898769	Fenuron	85.0	88.2	P/P	40 - 140
1898769	Fluridone	46.0	45.0	P/P	40 - 140
1898769	Imidacloprid	156	161	P/F	40 - 160
1898769	Linuron	97.6	102	P/P	40 - 140
1898769	MCPP	82.0	75.4	P/P	40 - 140

Quality Assurance Report Matrix Spike Accuracy

Reference Method: USGS O-2060-01
Batch ID: P325285

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1898769	Primidone	102	112	P/P	40 - 140
1898769	Triclopyr	83.2	82.4	P/P	40 - 140

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P325309

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1898776	Turbidity	1.73	Sample	P	0 - 20

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P325310

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1898855	Turbidity	1.12	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P325898

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1898960	Chloride	0.0573	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P325901

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1898960	Sulfate	0.221	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P326707

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1898961	Chloride	2.75	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P326708

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1898961	Sulfate	2.76	Sample	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P325277

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1898804	Ammonia-N	2.15	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P325278

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1898920	Ammonia-N	0.428	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P325452

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1898805	Kjeldahl Nitrogen	3.04	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P325453

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1898920	Kjeldahl Nitrogen	0.0	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P325356

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1898856	NO2NO3-N	2.31	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P325335

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1898804	Total-P	1.22	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P325336

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1898859	Total-P	4.69	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P325226

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1898860	O-Phosphate-P	0.533	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 8321B
Batch ID: P325291

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1898904	Sucralose	6.94	Spike	P	0 - 30

Reference Method: SM 2120 B
Batch ID: P325220

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1898853	Color (true)	0.242	Sample	P	0 - 20

Reference Method: SM 2120 B
Batch ID: P325221

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1898918	Color (true)	2.00	Sample	P	0 - 20

Reference Method: SM 2120 B
Batch ID: P325223

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1898776	Color (true)	4.30	Sample	P	0 - 20

Reference Method: SM 2320 B-97
Batch ID: P325698

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1899364	Total Alkalinity	0.593	Sample	P	0 - 4.8

Reference Method: SM 2320 B-97
Batch ID: P325700

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1899011	Total Alkalinity	0.127	Sample	P	0 - 4.8

Reference Method: SM 2540 C-97
Batch ID: P325687

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1898855	TDS	1.04	Sample	P	0 - 10

Reference Method: SM 2540 D-97
Batch ID: P325676

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1898855	TSS	7.79	Sample	P	0 - 10

Quality Assurance Report Precision

Reference Method: SM 4500 F-C-97
Batch ID: P325702

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1899364	Fluoride	4.36	Spike	F	0 - 3.0

Reference Method: SM 4500 F-C-97
Batch ID: P325703

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1899011	Fluoride	3.92	Spike	F	0 - 3.0

Reference Method: SM 5310 B-00
Batch ID: P325517

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1898484	Organic Carbon	0.925	Spike	P	0 - 20

Reference Method: SM 5310 B-00
Batch ID: P325582

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1898858	Organic Carbon	0.384	Spike	P	0 - 20

Reference Method: USGS O-2060-01
Batch ID: P325285

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1898769	2,4-D	0.480	Spike	P	0 - 30
1898769	Acetaminophen	1.66	Spike	P	0 - 30
1898769	Bentazon	0.440	Spike	P	0 - 30
1898769	Carbamazepine	10.4	Spike	P	0 - 30
1898769	Diuron	12.9	Spike	P	0 - 30
1898769	Fenuron	3.70	Spike	P	0 - 30
1898769	Fluridone	2.20	Spike	P	0 - 30
1898769	Imidacloprid	2.81	Spike	P	0 - 30
1898769	Linuron	4.21	Spike	P	0 - 30
1898769	MCPP	8.39	Spike	P	0 - 30
1898769	Primidone	9.74	Spike	P	0 - 30
1898769	Triclopyr	0.966	Spike	P	0 - 30

* 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 Surrogates

Quality Assurance Report Surrogates

Lab Sample ID: 1898903
Field Sample ID: 28010984

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Sucralose-d6	116	P	40 - 150
USGS O-2060-01	2,4-D-d3	66.9	P	30 - 150
USGS O-2060-01	Acetaminophen-d4	85.0	P	30 - 150
USGS O-2060-01	Carbamazepine-d10	62.4	P	30 - 160
USGS O-2060-01	Diuron-d6	53.0	P	30 - 150
USGS O-2060-01	Primidone-d5	60.0	P	30 - 150

Lab Sample ID: 1898904
Field Sample ID: G5SE0059

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Sucralose-d6	48.2	P	40 - 150
USGS O-2060-01	2,4-D-d3	85.6	P	30 - 150
USGS O-2060-01	Acetaminophen-d4	93.5	P	30 - 150
USGS O-2060-01	Carbamazepine-d10	78.6	P	30 - 160
USGS O-2060-01	Diuron-d6	65.4	P	30 - 150
USGS O-2060-01	Primidone-d5	71.7	P	30 - 150

Lab Sample ID: 1898905
Field Sample ID: G5SE0058

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Sucralose-d6	105	P	40 - 150
USGS O-2060-01	2,4-D-d3	85.0	P	30 - 150
USGS O-2060-01	Acetaminophen-d4	112	P	30 - 150
USGS O-2060-01	Carbamazepine-d10	81.7	P	30 - 160
USGS O-2060-01	Diuron-d6	64.8	P	30 - 150
USGS O-2060-01	Primidone-d5	72.1	P	30 - 150

Quality Assurance Report Calibration Verification

Reference Method: SM 2120 B
Run ID: A76385
Included Lab Sample IDs: 1898852, 1898853, 1898854, 1898855, 1898864, 1898865, 1898870

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	101	98.2	P/P	85 - 115
Color (true)	98.9	98.6	P/P	85 - 115
Color (true)	99.1	101	P/P	85 - 115

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Run ID: A76386
Included Lab Sample IDs: 1898860, 1898861, 1898862, 1898863, 1898868, 1898869, 1898872

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	98.4	98.5	P/P	90 - 110
O-Phosphate-P	98.6	98.7	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A76421

Included Lab Sample IDs: 1898856, 1898857, 1898858, 1898859, 1898866, 1898867, 1898871

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	103	105	P/P	90 - 110
Ammonia-N	105	104	P/P	90 - 110
Ammonia-N	105	105	P/P	90 - 110

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A76437

Included Lab Sample IDs: 1898852, 1898853, 1898854, 1898855, 1898864, 1898865, 1898870

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Turbidity	100	101	P/P	95 - 105
Turbidity	101	102	P/P	95 - 105
Turbidity	102	100	P/P	95 - 105

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A76449

Included Lab Sample IDs: 1898856, 1898857, 1898858, 1898859, 1898866, 1898867, 1898871

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

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A76489

Included Lab Sample IDs: 1898856, 1898857, 1898858, 1898859, 1898866, 1898867, 1898871

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

Reference Method: SM 5310 B-00

Run ID: A76527

Included Lab Sample IDs: 1898856, 1898857

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	92.7	93.1	P/P	90 - 110

Reference Method: EPA 8321B

Run ID: A76559

Included Lab Sample IDs: 1898903, 1898904, 1898905

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Sucralose	93.4	104	P/P	60 - 150

Reference Method: SM 5310 B-00

Run ID: A76560

Included Lab Sample IDs: 1898858, 1898859, 1898866, 1898867, 1898871

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	94.3	94.4	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: USGS O-2060-01

Run ID: A76569

Included Lab Sample IDs: 1898903, 1898904, 1898905

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	102	96.4	P/P	50 - 150
2,4-D	93.6	92.4	P/P	50 - 150
Acetaminophen	89.6	82.8	P/P	60 - 150
Bentazon	101	98.8	P/P	50 - 150
Bentazon	72.0	59.6	P/P	50 - 150
Carbamazepine	96.0	85.6	P/P	60 - 150
Diuron	88.0	78.4	P/P	60 - 150
Fenuron	96.0	88.0	P/P	60 - 150
Fluridone	94.4	86.8	P/P	60 - 150
Imidacloprid	82.4	81.6	P/P	60 - 150
Linuron	83.2	78.0	P/P	60 - 150
MCP	88.8	90.8	P/P	50 - 150
Primidone	89.2	83.6	P/P	60 - 150
Triclopyr	95.2	97.2	P/P	50 - 150

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A76593

Included Lab Sample IDs: 1898856, 1898857, 1898858, 1898859, 1898866, 1898867, 1898871

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	94.5	96.0	P/P	90 - 110
Kjeldahl Nitrogen	96.0	91.5	P/P	90 - 110

Reference Method: SM 2320 B-97

Run ID: A76617

Included Lab Sample IDs: 1898852, 1898853, 1898854, 1898855, 1898864, 1898865, 1898870

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	101	104	P/P	90 - 110
Total Alkalinity	101	104	P/P	90 - 110
Total Alkalinity	104	101	P/P	90 - 110

Reference Method: SM 4500 F-C-97

Run ID: A76617

Included Lab Sample IDs: 1898852, 1898853, 1898854, 1898855, 1898864, 1898865, 1898870

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	100	99.0	P/P	90 - 110
Fluoride	96.2	100	P/P	90 - 110
Fluoride	99.0	98.0	P/P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A76672

Included Lab Sample IDs: 1898852, 1898853

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	101	102	P/P	90 - 110
Sulfate	96.8	94.6	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A77051

Included Lab Sample IDs: 1898854, 1898855, 1898864, 1898865, 1898870

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	102	103	P/P	90 - 110
Chloride	103	95.0	P/P	90 - 110
Sulfate	103	109	P/P	90 - 110
Sulfate	109	95.5	P/P	90 - 110

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

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

Where they are different, both control limits are provided.

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery	LCS	Precision SMP	MS
EPA 180.1 Rev. 2.0	Turbidity				1.73	
	Turbidity				1.12	
EPA 300.0 Rev. 2.1	Chloride	98.4	95.3	98.4	0.0573	
	Chloride	107	109		2.75	
	Sulfate	94.3	93.2	94.7	0.221	
	Sulfate	106	107	105	2.76	
EPA 350.1 Rev. 2.0	Ammonia-N	101	96.1	99.1		2.15
	Ammonia-N	103	101	102		0.428
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	96.2	100	106		3.04
	Kjeldahl Nitrogen	103	95.7	95.7		0.0
EPA 353.2 Rev. 2.0	NO2NO3-N	100	103	99.6		2.31
EPA 365.1 Rev. 2.0	Total-P	102	99.2	100		1.22
	Total-P	99.0	93.7	99.5		4.69
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	103	99.2	100		0.533
EPA 8321B	Sucralose	78.3	59.7	55.5		6.94
SM 2120 B	Color (true)				0.242	
	Color (true)				2.00	
	Color (true)				4.30	
SM 2320 B-97	Total Alkalinity	103			0.593	
	Total Alkalinity	103			0.127	
SM 2540 C-97	TDS				1.04	
SM 2540 D-97	TSS				7.79	
SM 4500 F-C-97	Fluoride	93.7	93.4	101		4.36
	Fluoride	97.1	96.5	102		3.92
SM 5310 B-00	Organic Carbon	87.6	88.8	90.4		0.925
	Organic Carbon	94.4	106			0.384
USGS O-2060-01	2,4-D	88.4	81.2	80.8		0.480
	Acetaminophen	86.2	97.0	95.4		1.66
	Bentazon	70.6	45.6	45.4		0.440
	Carbamazepine	107	110	122		10.4
	Diuron	108	111	97.2		12.9
	Fenuron	93.2	85.0	88.2		3.70
	Fluridone	103	46.0	45.0		2.20
	Imidacloprid	92.0	156	161		2.81
	Linuron	100	97.6	102		4.21
	MCPP	91.4	82.0	75.4		8.39

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery		Precision	
					LCS	MS
USGS O-2060-01	Primidone	98.0	102	112		9.74
	Triclopyr	94.8	83.2	82.4		0.966

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 180.1 Rev. 2.0 / E31780	Turbidity in aqueous matrices	1898852, 1898853, 1898854, 1898855, 1898864, 1898865, 1898870
EPA 300.0 Rev. 2.1 / E31780	Chloride in aqueous matrices	1898852, 1898853, 1898854, 1898855, 1898864, 1898865, 1898870
EPA 300.0 Rev. 2.1 / E31780	Sulfate in aqueous matrices	1898852, 1898853, 1898854, 1898855, 1898864, 1898865, 1898870
EPA 350.1 Rev. 2.0 / E31780	Ammonia in aqueous matrices as mg N/L	1898856, 1898857, 1898858, 1898859, 1898866, 1898867, 1898871
EPA 351.2 Rev. 2.0 / E31780	Total Kjeldahl Nitrogen in aqueous matrices	1898856, 1898857, 1898858, 1898859, 1898866, 1898867, 1898871
EPA 353.2 Rev. 2.0 / E31780	Nitrite/Nitrate in aqueous matrices as mg N/L	1898856, 1898857, 1898858, 1898859, 1898866, 1898867, 1898871
EPA 365.1 Rev. 2.0 / E31780	Total Phosphorus in aqueous matrices as mg P/L	1898856, 1898857, 1898858, 1898859, 1898866, 1898867, 1898871
EPA 365.1 Rev. 2.0 dissolved / E31780	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	1898860, 1898861, 1898862, 1898863, 1898868, 1898869, 1898872
EPA 8321B / E31780	Water soluble organic compounds by HPLC/MS/MS	1898903, 1898904, 1898905
SM 2120 B / E31780	True Color measured at 450 nm	1898852, 1898853, 1898854, 1898855, 1898864, 1898865, 1898870
SM 2320 B-97 / E31780	Alkalinity in aqueous matrices as mg CaCO ₃ /L	1898852, 1898853, 1898854, 1898855, 1898864, 1898865, 1898870
SM 2540 C-97 / E31780	Total Dissolved Solids in aqueous matrices	1898852, 1898853, 1898854, 1898855, 1898864, 1898865, 1898870
SM 2540 D-97 / E31780	Total Suspended Solids in aqueous matrices	1898852, 1898853, 1898854, 1898855, 1898864, 1898865, 1898870
SM 4500 F-C-97 / E31780	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	1898852, 1898853, 1898854, 1898855, 1898864, 1898865, 1898870
SM 5310 B-00 / E31780	Nonpurgeable Organic Carbon in aqueous matrices	1898856, 1898857, 1898858, 1898859, 1898866, 1898867, 1898871
USGS O-2060-01 / E31780	Chlorinated (phenoxy acid) herbicides in water matrices by HPLC/MS/MS	1898903, 1898904, 1898905
USGS O-2060-01 / E31780	Urea herbicides and other chemicals in water matrices by HPLC/MS/MS	1898903, 1898904, 1898905

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	05/12/2017			05/12/2017 15:15	Blanca Fach	1898852, 1898853, 1898854, 1898855, 1898864, 1898865, 1898870
EPA 300.0 Rev. 2.1	05/12/2017			05/25/2017	Ping Hua	1898852, 1898853
	05/12/2017			06/08/2017	Julia Storbeck	1898854, 1898855, 1898864, 1898865, 1898870
EPA 350.1 Rev. 2.0	05/12/2017			05/15/2017	Julia Storbeck	1898856, 1898857, 1898858, 1898859, 1898866, 1898867, 1898871
EPA 351.2 Rev. 2.0	05/12/2017	05/18/2017	Adrian Shelby	05/22/2017	Joseph Suarez	1898856, 1898857, 1898858, 1898859, 1898866, 1898867, 1898871
EPA 353.2 Rev. 2.0	05/12/2017			05/16/2017	Beverly Y. Sanders	1898856, 1898857, 1898858, 1898859, 1898866, 1898867, 1898871
EPA 365.1 Rev. 2.0	05/12/2017	05/16/2017	Adrian Shelby	05/17/2017	Christopher Armour	1898856, 1898857, 1898858, 1898859, 1898866, 1898867, 1898871
EPA 365.1 Rev. 2.0 dissolved	05/12/2017			05/12/2017 12:48	Anthony C. Onicha	1898860
	05/12/2017			05/12/2017 13:08	Anthony C. Onicha	1898861
	05/12/2017			05/12/2017 13:09	Anthony C. Onicha	1898862
	05/12/2017			05/12/2017 13:10	Anthony C. Onicha	1898863
	05/12/2017			05/12/2017 13:11	Anthony C. Onicha	1898868
	05/12/2017			05/12/2017 13:12	Anthony C. Onicha	1898869, 1898872
EPA 8321B	05/12/2017	05/18/2017	Mohammad Ghaffari	05/18/2017	Mohammad Ghaffari	1898903, 1898904, 1898905
SM 2120 B	05/12/2017			05/12/2017 14:25	Julia Storbeck	1898853, 1898854
	05/12/2017			05/12/2017 14:29	Julia Storbeck	1898864
	05/12/2017			05/12/2017 14:31	Julia Storbeck	1898870
	05/12/2017			05/12/2017 14:50	Julia Storbeck	1898852
	05/12/2017			05/12/2017 14:51	Julia Storbeck	1898855
	05/12/2017			05/12/2017 14:52	Julia Storbeck	1898865
SM 2320 B-97	05/12/2017			05/22/2017	Dale L. Simmons	1898852, 1898853, 1898854, 1898870
	05/12/2017			05/23/2017	Dale L. Simmons	1898855, 1898864, 1898865
SM 2540 C-97	05/12/2017			05/17/2017	Yijie Li	1898852, 1898853, 1898854, 1898855, 1898864, 1898865, 1898870
SM 2540 D-97	05/12/2017			05/17/2017	Yijie Li	1898852, 1898853, 1898854, 1898855, 1898864, 1898865, 1898870
SM 4500 F-C-97	05/12/2017			05/22/2017	Dale L. Simmons	1898852, 1898853, 1898854, 1898870
	05/12/2017			05/23/2017	Dale L. Simmons	1898855, 1898864, 1898865
SM 5310 B-00	05/12/2017			05/17/2017	Christopher Armour	1898856, 1898857
	05/12/2017			05/19/2017	Christopher Armour	1898858, 1898859, 1898866, 1898867, 1898871
USGS O-2060-01	05/12/2017	05/17/2017	Hoor Shaik	05/20/2017	Juyoung Kim	1898903, 1898904, 1898905
	05/12/2017	05/17/2017	Hoor Shaik	05/22/2017	Juyoung Kim	1898905