

Chemical Analysis Report

WQAP-2017-05-31-02

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

Event Description: **Sally, Sand, Eight, Chicken, Godby, Lafayette**

Request ID: **RQ-2017-05-29-22**

Customer: **WQAP**

Project ID: **SMP**

Send Reports to:
FL Dept. of Environmental Protection
2600 Blair Stone Rd
MS #3525
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Certified by: Thekkekalathil Chandrasekhar, Chemist Administrator

Date Certified: 23-JUN-2017 12:29



Case Narrative

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

Results for the following analytical groups are included in this report: Metals, 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: Sand Pond Middle

Collection Date/Time: 05/31/2017 08:09

Field ID: G1WA0044_05312017

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1902600	EPA 180.1 Rev. 2.0	Turbidity	1.2		NTU	P326055	
	EPA 300.0 Rev. 2.1	Chloride	2.1		mg Cl/L	P326786	
		Sulfate	0.55		mg SO4/L	P326789	
	SM 2120 B	Color (true)	24		PCU	P326045	
	SM 2320 B-97	Total Alkalinity	0.81	I	mg CaCO3/L	P326248	
	SM 2540 C-97	TDS	20	I	mg/L	P326286	
	SM 2540 D-97	TSS	2	I	mg/L	P326611	
	SM 4500 F-C-97	Fluoride	0.035	U	mg F/L	P326418	
1902605	EPA 350.1 Rev. 2.0	Ammonia-N	0.002	U	mg N/L	P326130	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.51		mg N/L	P326061	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P326153	
	EPA 365.1 Rev. 2.0	Total-P	0.012		mg P/L	P326137	
	SM 5310 B-00	Organic Carbon	6.6		mg C/L	P326191	
1902610	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P326042	

Ref. Method and Comment:

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

Sample Location: Sally Ward Spring at Wakulla Park Dr.

Collection Date/Time: 05/31/2017 08:56

Field ID: G1WA0021_05312017

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1902601	EPA 180.1 Rev. 2.0	Turbidity	0.10		NTU	P326055	
	EPA 300.0 Rev. 2.1	Chloride	8.7	A	mg Cl/L	P326786	
		Sulfate	10	A	mg SO4/L	P326789	
	SM 2120 B	Color (true)	2.5	U	PCU	P326045	
	SM 2320 B-97	Total Alkalinity	150	A	mg CaCO3/L	P326248	
	SM 2540 C-97	TDS	178		mg/L	P326286	
	SM 2540 D-97	TSS	2	U	mg/L	P326611	
	SM 4500 F-C-97	Fluoride	0.15		mg F/L	P326418	
1902606	EPA 350.1 Rev. 2.0	Ammonia-N	0.002	U	mg N/L	P326130	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.11	I	mg N/L	P326061	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.68		mg N/L	P326153	
	EPA 365.1 Rev. 2.0	Total-P	0.035		mg P/L	P326137	
	SM 5310 B-00	Organic Carbon	0.50	U	mg C/L	P326191	
1902611	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.033		mg P/L	P326042	

Ref. Method and Comment:

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

Sample Location: Eight Mile Pond Middle

Collection Date/Time: 05/31/2017 09:34

Field ID: G1WA0024_05312017

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1902602	EPA 180.1 Rev. 2.0	Turbidity	6.5		NTU	P326055	
	EPA 300.0 Rev. 2.1	Chloride	3.7		mg Cl/L	P326786	
		Sulfate	1.1		mg SO4/L	P326789	

Field ID: G1WA0024_05312017

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1902602	SM 2120 B	Color (true)	36	A	PCU	P326045	
	SM 2320 B-97	Total Alkalinity	44		mg CaCO3/L	P326248	
	SM 2540 C-97	TDS	66		mg/L	P326287	
	SM 2540 D-97	TSS	12		mg/L	P326612	
	SM 4500 F-C-97	Fluoride	0.099	I	mg F/L	P326418	
1902607	EPA 350.1 Rev. 2.0	Ammonia-N	0.005		mg N/L	P326130	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.77		mg N/L	P326061	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P326153	
	EPA 365.1 Rev. 2.0	Total-P	0.23		mg P/L	P326137	
	SM 5310 B-00	Organic Carbon	8.4		mg C/L	P326191	
1902612	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.069		mg P/L	P326042	

Ref. Method and Comment:

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

Sample Location: Eight Mile Pond Middle

Collection Date/Time: 05/31/2017 09:34

Field ID: G1WA0024_05312017

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1902626	EPA 8321B	Sucralose**	0.044		ug/L	P326155	
	USGS O-2060-01	2,4-D	0.023		ug/L	P325956	
		Diuron	0.0088		ug/L	P325956	
		Fenuron	0.0040	U	ug/L	P325956	
		Imidacloprid	0.0040		ug/L	P325956	MS
		Bentazon	8.0E-04	U	ug/L	P325956	MS
		Linuron	0.0040	U	ug/L	P325956	
		Acetaminophen**	0.0080	U	ug/L	P325956	
		MCP	0.0020	U	ug/L	P325956	
		Carbamazepine**	4.0E-04	U	ug/L	P325956	
		Triclopyr**	0.0040	U	ug/L	P325956	
		Primidone**	0.0040	U	ug/L	P325956	
		Fluridone**	0.0023		ug/L	P325956	

Ref. Method and Comment:

USGS O-2060-01: MS accuracy for fenuron and fluridone could not be assessed due to high concentration of parameter in the spiked sample.

Sample Location: Chicken Branch at Old Plank Rd

Collection Date/Time: 05/31/2017 10:23

Field ID: G1WA0031_05312017

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1902603	EPA 180.1 Rev. 2.0	Turbidity	1.1		NTU	P326055	
	EPA 300.0 Rev. 2.1	Chloride	5.4		mg Cl/L	P326786	
		Sulfate	9.2		mg SO4/L	P326789	
	SM 2120 B	Color (true)	68		PCU	P326045	
	SM 2320 B-97	Total Alkalinity	126		mg CaCO3/L	P326248	
	SM 2540 C-97	TDS	170	A	mg/L	P326287	
	SM 2540 D-97	TSS	2	IA	mg/L	P326612	
	SM 4500 F-C-97	Fluoride	0.16		mg F/L	P326418	

Field ID: G1WA0031_05312017

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1902608	EPA 350.1 Rev. 2.0	Ammonia-N	0.034		mg N/L	P326130	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.35		mg N/L	P326061	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.15		mg N/L	P326153	
	EPA 365.1 Rev. 2.0	Total-P	0.052		mg P/L	P326137	
	SM 5310 B-00	Organic Carbon	7.3		mg C/L	P326191	
1902613	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.039		mg P/L	P326042	

Ref. Method and Comment:

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

Sample Location: Chicken Branch at Old Plank Rd

Collection Date/Time: 05/31/2017 10:23

Field ID: G1WA0031_05312017

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1902627	EPA 8321B	Sucralose**	0.010	U	ug/L	P326155	
	USGS O-2060-01	2,4-D	8.0E-04	U	ug/L	P325956	
		Diuron	8.0E-04	U	ug/L	P325956	
		Fenuron	0.0040	U	ug/L	P325956	
		Imidacloprid	8.0E-04	U	ug/L	P325956	MS
		Bentazon	8.0E-04	U	ug/L	P325956	MS
		Linuron	0.0040	U	ug/L	P325956	
		Acetaminophen**	0.0080	U	ug/L	P325956	
		MCP	0.0020	U	ug/L	P325956	
		Carbamazepine**	4.0E-04	U	ug/L	P325956	
		Triclopyr**	0.0040	U	ug/L	P325956	
		Primidone**	0.0040	U	ug/L	P325956	
		Fluridone**	4.0E-04	U	ug/L	P325956	

Ref. Method and Comment:

USGS O-2060-01: MS accuracy for fenuron and fluridone could not be assessed due to high concentration of parameter in the spiked sample.

Sample Location: Lake Lafayette Drain 250 meters downstream
of Weems Rd

Collection Date/Time: 05/31/2017 11:27

Field ID: G1WA0007_05312017

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1902604	EPA 180.1 Rev. 2.0	Turbidity	1.4		NTU	P326055	
	EPA 300.0 Rev. 2.1	Chloride	3.4		mg Cl/L	P326787	
		Sulfate	21		mg SO4/L	P326790	
	SM 2120 B	Color (true)	8.6		PCU	P326045	
	SM 2320 B-97	Total Alkalinity	24		mg CaCO3/L	P326248	
	SM 2540 C-97	TDS	59		mg/L	P326287	
	SM 2540 D-97	TSS	3	I	mg/L	P326612	
	SM 4500 F-C-97	Fluoride	0.061	I	mg F/L	P326418	
1902609	EPA 350.1 Rev. 2.0	Ammonia-N	0.027		mg N/L	P326130	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.24		mg N/L	P326061	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.010		mg N/L	P326153	
	EPA 365.1 Rev. 2.0	Total-P	0.024		mg P/L	P326137	
	SM 5310 B-00	Organic Carbon	2.8		mg C/L	P326191	

Field ID: G1WA0007_05312017

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1902614	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.006	I	mg P/L	P326042	

Ref. Method and Comment:

EPA 300.0 Rev. 2.1: Sulfate: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.

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

Sample Location: Lake Lafayette Drain 250 meters downstream of Weems Rd Collection Date/Time: 05/31/2017 11:27

Field ID: G1WA0007_05312017

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1902629	EPA 200.7 Rev. 4.4	Calcium	12.8		mg/L	P326217	
		Iron	270		ug/L	P326217	
		Magnesium	3.95		mg/L	P326217	
		Potassium	1.0	I	mg/L	P326217	
		Sodium	2.3		mg/L	P326217	
	EPA 200.8 Rev. 5.4	Zinc	5.0	U	ug/L	P326217	
		Arsenic	0.43		ug/L	P326217	
		Cadmium	0.020	U	ug/L	P326217	
		Chromium	0.59	I	ug/L	P326217	
		Copper	0.58	I	ug/L	P326217	
		Lead	0.44		ug/L	P326217	
		Nickel	0.24	I	ug/L	P326217	
		Silver	0.010	U	ug/L	P326217	

Sample Location: Lake Lafayette Drain 250 meters downstream of Weems Rd Collection Date/Time: 05/31/2017 11:27

Field ID: G1WA0007_05312017

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1902628	EPA 8321B	Sucralose**	0.031	I	ug/L	P326155	
	USGS O-2060-01	2,4-D	0.079		ug/L	P325956	
		Diuron	0.0046		ug/L	P325956	
		Fenuron	0.0040	U	ug/L	P325956	
		Imidacloprid	0.014		ug/L	P325956	MS
		Bentazon	8.0E-04	U	ug/L	P325956	MS
		Linuron	0.0040	U	ug/L	P325956	
		Acetaminophen**	0.0080	U	ug/L	P325956	
		MCP	0.0020	U	ug/L	P325956	
		Carbamazepine**	4.0E-04	U	ug/L	P325956	
		Triclopyr**	0.0040	U	ug/L	P325956	
		Primidone**	0.0040	U	ug/L	P325956	
		Fluridone**	0.0021		ug/L	P325956	

Ref. Method and Comment:

USGS O-2060-01: MS accuracy for fenuron and fluridone could not be assessed due to high concentration of parameter in the spiked sample.

Quality Assurance Report

Method Blank Results

Quality Assurance Report Method Blank Results

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P326055

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P326217

Component	Result	Code	Units
Calcium	0.075	U	mg/L
Iron	30	U	ug/L
Magnesium	0.040	U	mg/L
Potassium	0.30	U	mg/L
Sodium	0.50	U	mg/L
Zinc	5.0	U	ug/L

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P326217

Component	Result	Code	Units
Arsenic	0.050	U	ug/L
Cadmium	0.020	U	ug/L
Chromium	0.40	U	ug/L
Copper	0.20	U	ug/L
Lead	0.050	U	ug/L
Nickel	0.20	U	ug/L
Silver	0.010	U	ug/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P326786

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P326787

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P326789

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P326790

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Quality Assurance Report Method Blank Results

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P326130

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P326061

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P326153

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P326137

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P326042

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

Reference Method: EPA 8321B
Batch ID: P326155

Component	Result	Code	Units
Sucralose	0.010	U	ug/L

Reference Method: SM 2120 B
Batch ID: P326045

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2320 B-97
Batch ID: P326248

Component	Result	Code	Units
Total Alkalinity	0.65	U	mg CaCO3/L

Reference Method: SM 2540 C-97
Batch ID: P326286

Component	Result	Code	Units
TDS	15	U	mg/L

Quality Assurance Report Method Blank Results

Reference Method: SM 2540 C-97
 Batch ID: P326287

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-97
 Batch ID: P326611

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 2540 D-97
 Batch ID: P326612

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500 F-C-97
 Batch ID: P326418

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-00
 Batch ID: P326191

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

Reference Method: USGS O-2060-01
 Batch ID: P325956

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
MCP	0.0020	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 200.7 Rev. 4.4
 Batch ID: P326217

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Calcium	105		P	85 - 115

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P326217

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Iron	106		P	85 - 115
Magnesium	103		P	85 - 115
Potassium	99.6		P	85 - 115
Sodium	101		P	85 - 115
Zinc	99.8		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P326217

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Arsenic	91.0		P	85 - 115
Cadmium	98.7		P	85 - 115
Chromium	90.5		P	85 - 115
Copper	96.5		P	85 - 115
Lead	91.6		P	85 - 115
Nickel	97.9		P	85 - 115
Silver	94.8		P	85 - 115

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P326786

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P326787

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P326789

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P326790

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P326130

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P326061

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

Reference Method: EPA 351.2 Rev. 2.0
 Batch ID: P326061

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

Reference Method: EPA 353.2 Rev. 2.0
 Batch ID: P326153

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

Reference Method: EPA 365.1 Rev. 2.0
 Batch ID: P326137

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
 Batch ID: P326042

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

Reference Method: EPA 8321B
 Batch ID: P326155

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Sucralose	49.0		P	40 - 140

Reference Method: SM 2320 B-97
 Batch ID: P326248

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

Reference Method: SM 4500 F-C-97
 Batch ID: P326418

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	100		P	92 - 103

Reference Method: SM 5310 B-00
 Batch ID: P326191

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	96.4		P	85 - 115

Reference Method: USGS O-2060-01
 Batch ID: P325956

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	90.0		P	40 - 140
Acetaminophen	119		P	40 - 140
Bentazon	71.6		P	40 - 140
Carbamazepine	127		P	40 - 140

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: USGS O-2060-01
 Batch ID: P325956

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Diuron	129		P	40 - 140
Fenuron	111		P	40 - 140
Fluridone	127		P	40 - 140
Imidacloprid	110		P	40 - 160
Linuron	117		P	40 - 140
MCPP	101		P	40 - 140
Primidone	112		P	40 - 140
Triclopyr	101		P	40 - 140

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.7 Rev. 4.4
 Batch ID: P326217

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1902426	Calcium	107		P	80 - 120
1902426	Iron	104		P	80 - 120
1902426	Magnesium	104		P	80 - 120
1902426	Potassium	96.7		P	80 - 120
1902426	Sodium	102		P	80 - 120
1902426	Zinc	96.3		P	80 - 120
1903011	Calcium	107		P	80 - 120
1903011	Iron	106	105	P/P	80 - 120
1903011	Magnesium	105		P	80 - 120
1903011	Potassium	99.0	99.1	P/P	80 - 120
1903011	Sodium	103		P	80 - 120
1903011	Zinc	98.5	98.7	P/P	80 - 120

Reference Method: EPA 200.8 Rev. 5.4
 Batch ID: P326217

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1902426	Arsenic	95.1		P	80 - 120
1902426	Cadmium	99.0		P	80 - 120
1902426	Chromium	95.1		P	80 - 120
1902426	Copper	91.9		P	80 - 120
1902426	Lead	94.3		P	80 - 120
1902426	Nickel	93.3		P	80 - 120
1902426	Silver	95.0		P	80 - 120
1903011	Arsenic	97.4	98.4	P/P	80 - 120
1903011	Cadmium	101	103	P/P	80 - 120
1903011	Chromium	94.0	94.8	P/P	80 - 120
1903011	Copper	93.2	94.5	P/P	80 - 120
1903011	Lead	98.8	100	P/P	80 - 120
1903011	Nickel	95.0	95.9	P/P	80 - 120
1903011	Silver	94.7	95.6	P/P	80 - 120

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P326786

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1902601	Chloride	97.9		P	90 - 110
1902602	Chloride	99.8		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P326787

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1902675	Chloride	101		P	90 - 110
1902867	Chloride	96.3		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P326789

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1902601	Sulfate	94.5		P	90 - 110
1902602	Sulfate	97.6		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P326790

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1902675	Sulfate	98.2		P	90 - 110
1902867	Sulfate	96.6		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P326130

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1902605	Ammonia-N	109	109	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P326061

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1902538	Kjeldahl Nitrogen	97.6	99.7	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P326153

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1902608	NO2NO3-N	104	103	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P326137

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1902606	Total-P	104	98.3	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P326042

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
 Batch ID: P326042

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1902610	O-Phosphate-P	96.5	94.3	P/P	90 - 110

Reference Method: EPA 8321B
 Batch ID: P326155

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1902433	Sucralose	108	93.0	P/P	40 - 140

Reference Method: SM 4500 F-C-97
 Batch ID: P326418

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1902601	Fluoride	100	102	P/P	91 - 105

Reference Method: SM 5310 B-00
 Batch ID: P326191

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1902538	Organic Carbon	97.8	97.8	P/P	85 - 115

Reference Method: USGS O-2060-01
 Batch ID: P325956

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1901733	2,4-D	98.6	131	P/P	40 - 140
1901733	Acetaminophen	119	126	P/P	40 - 140
1901733	Bentazon	36.8	41.0	F/P	40 - 140
1901733	Carbamazepine	76.8	92.0	P/P	40 - 140
1901733	Diuron	62.4	74.0	P/P	40 - 140
1901733	Imidacloprid	144	177	P/F	40 - 160
1901733	Linuron	91.0	104	P/P	40 - 140
1901733	MCP	72.0	75.4	P/P	40 - 140
1901733	Primidone	79.2	94.4	P/P	40 - 140
1901733	Triclopyr	84.8	85.8	P/P	40 - 140

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
 Batch ID: P326055

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1902587	Turbidity	0.0	Sample	P	0 - 20

Reference Method: EPA 200.7 Rev. 4.4
 Batch ID: P326217

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1903011	Calcium	1.20	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P326217

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1903011	Iron	0.847	Spike	P	0 - 20
1903011	Magnesium	0.378	Spike	P	0 - 20
1903011	Potassium	0.0319	Spike	P	0 - 20
1903011	Sodium	0.806	Spike	P	0 - 20
1903011	Zinc	0.202	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P326217

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1903011	Arsenic	0.968	Spike	P	0 - 20
1903011	Cadmium	1.70	Spike	P	0 - 20
1903011	Chromium	0.895	Spike	P	0 - 20
1903011	Copper	1.24	Spike	P	0 - 20
1903011	Lead	1.20	Spike	P	0 - 20
1903011	Nickel	0.929	Spike	P	0 - 20
1903011	Silver	1.03	Spike	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P326786

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1902601	Chloride	0.796	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P326787

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1902675	Chloride	0.908	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P326789

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1902601	Sulfate	0.830	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P326130

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1902605	Ammonia-N	0.116	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P326061

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1902538	Kjeldahl Nitrogen	1.98	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P326153

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1902608	NO2NO3-N	0.830	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P326137

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1902606	Total-P	5.48	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P326042

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1902610	O-Phosphate-P	2.31	Spike	P	0 - 20

Reference Method: EPA 8321B
Batch ID: P326155

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1902433	Sucralose	14.9	Spike	P	0 - 30

Reference Method: SM 2120 B
Batch ID: P326045

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1902602	Color (true)	0.950	Sample	P	0 - 20

Reference Method: SM 2320 B-97
Batch ID: P326248

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1902601	Total Alkalinity	0.547	Sample	P	0 - 4.8

Reference Method: SM 2540 C-97
Batch ID: P326286

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1902499	TDS	1.96	Sample	P	0 - 10

Quality Assurance Report Precision

Reference Method: SM 2540 C-97
 Batch ID: P326287

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1902603	TDS	6.49	Sample	P	0 - 10

Reference Method: SM 4500 F-C-97
 Batch ID: P326418

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1902601	Fluoride	1.47	Spike	P	0 - 3.0

Reference Method: SM 5310 B-00
 Batch ID: P326191

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1902538	Organic Carbon	0.0511	Spike	P	0 - 20

Reference Method: USGS O-2060-01
 Batch ID: P325956

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1901733	2,4-D	2.71	Spike	P	0 - 30
1901733	Acetaminophen	5.38	Spike	P	0 - 30
1901733	Bentazon	4.39	Spike	P	0 - 30
1901733	Carbamazepine	18.0	Spike	P	0 - 30
1901733	Diuron	14.1	Spike	P	0 - 30
1901733	Fenuron	4.58	Spike	P	0 - 30
1901733	Fluridone	10.3	Spike	P	0 - 30
1901733	Imidacloprid	15.9	Spike	P	0 - 30
1901733	Linuron	12.9	Spike	P	0 - 30
1901733	MCP	4.61	Spike	P	0 - 30
1901733	Primidone	17.5	Spike	P	0 - 30
1901733	Triclopyr	1.17	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

Lab Sample ID: 1902626
 Field Sample ID: G1WA0024_05312017

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Sucralose-d6	115	P	40 - 150
USGS O-2060-01	2,4-D-d3	92.9	P	30 - 150
USGS O-2060-01	Acetaminophen-d4	134	P	30 - 150
USGS O-2060-01	Carbamazepine-d10	114	P	30 - 160
USGS O-2060-01	Diuron-d6	90.3	P	30 - 160
USGS O-2060-01	Primidone-d5	124	P	30 - 150

Quality Assurance Report Surrogates

Lab Sample ID: 1902627

Field Sample ID: G1WA0031_05312017

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Sucralose-d6	114	P	40 - 150
USGS O-2060-01	2,4-D-d3	113	P	30 - 150
USGS O-2060-01	Acetaminophen-d4	131	P	30 - 150
USGS O-2060-01	Carbamazepine-d10	142	P	30 - 160
USGS O-2060-01	Diuron-d6	119	P	30 - 160
USGS O-2060-01	Primidone-d5	131	P	30 - 150

Lab Sample ID: 1902628

Field Sample ID: G1WA0007_05312017

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Sucralose-d6	96.4	P	40 - 150
USGS O-2060-01	2,4-D-d3	86.6	P	30 - 150
USGS O-2060-01	Acetaminophen-d4	128	P	30 - 150
USGS O-2060-01	Carbamazepine-d10	118	P	30 - 160
USGS O-2060-01	Diuron-d6	90.1	P	30 - 160
USGS O-2060-01	Primidone-d5	139	P	30 - 150

Quality Assurance Report Calibration Verification

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Run ID: A76783

Included Lab Sample IDs: 1902610, 1902611, 1902612, 1902613, 1902614

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

Reference Method: SM 2120 B

Run ID: A76785

Included Lab Sample IDs: 1902600, 1902601, 1902602, 1902603, 1902604

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	104	98.5	P/P	85 - 115

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A76787

Included Lab Sample IDs: 1902600, 1902601, 1902602, 1902603, 1902604

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

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A76815

Included Lab Sample IDs: 1902605, 1902606, 1902607, 1902608, 1902609

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	105	106	P/P	90 - 110
Ammonia-N	106	105	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A76822

Included Lab Sample IDs: 1902605, 1902606, 1902607, 1902608, 1902609

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

Reference Method: SM 5310 B-00

Run ID: A76846

Included Lab Sample IDs: 1902605, 1902606, 1902607, 1902608, 1902609

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

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A76848

Included Lab Sample IDs: 1902607

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	100	99.6	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A76852

Included Lab Sample IDs: 1902605, 1902606, 1902608, 1902609

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

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A76870

Included Lab Sample IDs: 1902605, 1902606, 1902607, 1902608, 1902609

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	99.2	101	P/P	90 - 110

Reference Method: SM 2320 B-97

Run ID: A76873

Included Lab Sample IDs: 1902600, 1902601, 1902602, 1902603, 1902604

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

Reference Method: EPA 8321B

Run ID: A76878

Included Lab Sample IDs: 1902626

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Sucralose	67.5	87.5	P/P	60 - 150

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A76899

Included Lab Sample IDs: 1902629

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Arsenic	91.4	92.9	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A76899

Included Lab Sample IDs: 1902629

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Cadmium	96.0	96.2	P/P	90 - 110
Silver	95.4	95.0	P/P	90 - 110

Reference Method: EPA 200.7 Rev. 4.4

Run ID: A76900

Included Lab Sample IDs: 1902629

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Calcium	106	104	P/P	90 - 110
Iron	104	103	P/P	90 - 110
Magnesium	102	103	P/P	90 - 110
Potassium	101	102	P/P	90 - 110
Sodium	101	101	P/P	90 - 110
Zinc	101	101	P/P	90 - 110

Reference Method: USGS O-2060-01

Run ID: A76921

Included Lab Sample IDs: 1902626, 1902627, 1902628

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	98.8	100	P/P	50 - 150
Acetaminophen	101	112	P/P	60 - 150
Bentazon	114	116	P/P	50 - 150
Carbamazepine	113	112	P/P	60 - 150
Diuron	114	110	P/P	60 - 150
Fenuron	104	105	P/P	60 - 150
Fluridone	122	123	P/P	60 - 160
Imidacloprid	102	110	P/P	60 - 150
Linuron	104	108	P/P	60 - 150
MCPP	95.6	94.8	P/P	50 - 150
Primidone	104	101	P/P	60 - 150
Triclopyr	98.0	92.8	P/P	50 - 150

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A76936

Included Lab Sample IDs: 1902629

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chromium	95.4	94.8	P/P	90 - 110
Copper	95.0	94.6	P/P	90 - 110
Lead	94.2	94.0	P/P	90 - 110
Nickel	94.6	93.7	P/P	90 - 110

Reference Method: SM 4500 F-C-97

Run ID: A76939

Included Lab Sample IDs: 1902600, 1902601, 1902602, 1902603, 1902604

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

Quality Assurance Report Calibration Verification

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A77076

Included Lab Sample IDs: 1902600, 1902601, 1902602, 1902603, 1902604

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	101	98.6	P/P	90 - 110
Chloride	102	101	P/P	90 - 110
Chloride	98.6	98.1	P/P	90 - 110
Chloride	99.7	102	P/P	90 - 110
Sulfate	102	108	P/P	90 - 110
Sulfate	105	103	P/P	90 - 110
Sulfate	108	99.9	P/P	90 - 110
Sulfate	99.9	104	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						0.0	
EPA 200.7 Rev. 4.4	Calcium	105		107	107			1.20
	Iron	106		104	106	105		0.847
	Magnesium	103		104	105			0.378
	Potassium	99.6		96.7	99.0	99.1		0.0319
	Sodium	101		102	103			0.806
	Zinc	99.8		96.3	98.5	98.7		0.202
EPA 200.8 Rev. 5.4	Arsenic	91.0		95.1	97.4	98.4		0.968
	Cadmium	98.7		99.0	101	103		1.70
	Chromium	90.5		95.1	94.0	94.8		0.895
	Copper	96.5		91.9	93.2	94.5		1.24
	Lead	91.6		94.3	98.8	100		1.20
	Nickel	97.9		93.3	95.0	95.9		0.929
	Silver	94.8		95.0	94.7	95.6		1.03
EPA 300.0 Rev. 2.1	Chloride	101		97.9	99.8		0.796	
	Chloride	99.5		101	96.3		0.908	
	Sulfate	99.5		94.5	97.6		0.830	
	Sulfate	98.9		98.2	96.6			
EPA 350.1 Rev. 2.0	Ammonia-N	105		109	109			0.116
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	101		97.6	99.7			1.98
EPA 353.2 Rev. 2.0	NO ₂ NO ₃ -N	104		104	103			0.830
EPA 365.1 Rev. 2.0	Total-P	97.5		104	98.3			5.48
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	99.6		96.5	94.3			2.31
EPA 8321B	Sucralose	49.0		108	93.0			14.9
SM 2120 B	Color (true)						0.950	
SM 2320 B-97	Total Alkalinity	103					0.547	
SM 2540 C-97	TDS						1.96	
	TDS						6.49	
SM 4500 F-C-97	Fluoride	100		100	102			1.47
SM 5310 B-00	Organic Carbon	96.4		97.8	97.8			0.0511
USGS O-2060-01	2,4-D	90.0		98.6	131			2.71
	Acetaminophen	119		119	126			5.38

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery		Precision LCS	SMP	MS
USGS O-2060-01	Bentazon	71.6	36.8	41.0			4.39
	Carbamazepine	127	76.8	92.0			18.0
	Diuron	129	62.4	74.0			14.1
	Fenuron	111					4.58
	Fluridone	127					10.3
	Imidacloprid	110	144	177			15.9
	Linuron	117	91.0	104			12.9
	MCP	101	72.0	75.4			4.61
	Primidone	112	79.2	94.4			17.5
	Triclopyr	101	84.8	85.8			1.17

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 180.1 Rev. 2.0 / E31780	Turbidity in aqueous matrices	1902600, 1902601, 1902602, 1902603, 1902604
EPA 200.7 Rev. 4.4 / E31780	Total Recoverable Metals analysis using ICP emission spectroscopy for aqueous samples supporting Clean Water Act Projects	1902629
EPA 200.8 Rev. 5.4 / E31780	Total Recoverable Metals analysis using ICP-MS for aqueous samples supporting Clean Water Act Projects	1902629
EPA 300.0 Rev. 2.1 / E31780	Chloride in aqueous matrices	1902600, 1902601, 1902602, 1902603, 1902604
EPA 300.0 Rev. 2.1 / E31780	Sulfate in aqueous matrices	1902600, 1902601, 1902602, 1902603, 1902604
EPA 350.1 Rev. 2.0 / E31780	Ammonia in aqueous matrices as mg N/L	1902605, 1902606, 1902607, 1902608, 1902609
EPA 351.2 Rev. 2.0 / E31780	Total Kjeldahl Nitrogen in aqueous matrices	1902605, 1902606, 1902607, 1902608, 1902609
EPA 353.2 Rev. 2.0 / E31780	Nitrite/Nitrate in aqueous matrices as mg N/L	1902605, 1902606, 1902607, 1902608, 1902609
EPA 365.1 Rev. 2.0 / E31780	Total Phosphorus in aqueous matrices as mg P/L	1902605, 1902606, 1902607, 1902608, 1902609
EPA 365.1 Rev. 2.0 dissolved / E31780	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	1902610, 1902611, 1902612, 1902613, 1902614
EPA 8321B / E31780	Water soluble organic compounds by HPLC/MS/MS	1902626, 1902627, 1902628
SM 2120 B / E31780	True Color measured at 450 nm	1902600, 1902601, 1902602, 1902603, 1902604
SM 2320 B-97 / E31780	Alkalinity in aqueous matrices as mg CaCO ₃ /L	1902600, 1902601, 1902602, 1902603, 1902604
SM 2540 C-97 / E31780	Total Dissolved Solids in aqueous matrices	1902600, 1902601, 1902602, 1902603, 1902604
SM 2540 D-97 / E31780	Total Suspended Solids in aqueous matrices	1902600, 1902601, 1902602, 1902603, 1902604
SM 4500 F-C-97 / E31780	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	1902600, 1902601, 1902602, 1902603, 1902604
SM 5310 B-00 / E31780	Nonpurgeable Organic Carbon in aqueous matrices	1902605, 1902606, 1902607, 1902608, 1902609
USGS O-2060-01 / E31780	Chlorinated (phenoxy acid) herbicides in water matrices by HPLC/MS/MS	1902626, 1902627, 1902628
USGS O-2060-01 / E31780	Urea herbicides and other chemicals in water matrices by HPLC/MS/MS	1902626, 1902627, 1902628

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	05/31/2017			05/31/2017 17:24	Sima Feizi	1902600, 1902601, 1902602, 1902603, 1902604
EPA 200.7 Rev. 4.4	05/31/2017	06/05/2017	Elliott D. Healy	06/06/2017	Betina Topolski	1902629
EPA 200.8 Rev. 5.4	05/31/2017	06/05/2017	Elliott D. Healy	06/07/2017	Robert K Palmer	1902629
EPA 300.0 Rev. 2.1	05/31/2017			06/13/2017	Julia Storbeck	1902600, 1902601, 1902602, 1902603, 1902604
EPA 350.1 Rev. 2.0	05/31/2017			06/01/2017	Julie Michelle Frank	1902605, 1902606, 1902607, 1902608, 1902609
EPA 351.2 Rev. 2.0	05/31/2017	06/01/2017	Adrian Shelby	06/05/2017	Joseph Suarez	1902605, 1902606, 1902607, 1902608, 1902609
EPA 353.2 Rev. 2.0	05/31/2017			06/02/2017	Beverly Y. Sanders	1902605, 1902606, 1902607, 1902608, 1902609
EPA 365.1 Rev. 2.0	05/31/2017	06/02/2017	Adrian Shelby	06/05/2017	Lipi Saha	1902605, 1902606, 1902607, 1902608, 1902609
EPA 365.1 Rev. 2.0 dissolved	05/31/2017			05/31/2017 14:45	Lipi Saha	1902610
	05/31/2017			05/31/2017 14:47	Lipi Saha	1902611
	05/31/2017			05/31/2017 14:48	Lipi Saha	1902612
	05/31/2017			05/31/2017 14:53	Lipi Saha	1902613
	05/31/2017			05/31/2017 14:54	Lipi Saha	1902614
EPA 8321B	05/31/2017	06/05/2017	Mohammad Ghaffari	06/05/2017	Mohammad Ghaffari	1902626
	05/31/2017	06/05/2017	Mohammad Ghaffari	06/06/2017	Mohammad Ghaffari	1902627, 1902628
SM 2120 B	05/31/2017			05/31/2017 16:11	Tanya Welborn	1902600
	05/31/2017			05/31/2017 16:12	Tanya Welborn	1902601
	05/31/2017			05/31/2017 16:14	Tanya Welborn	1902602, 1902603
	05/31/2017			05/31/2017 16:15	Tanya Welborn	1902604
SM 2320 B-97	05/31/2017			06/03/2017	Dale L. Simmons	1902600, 1902601, 1902602, 1902603, 1902604
SM 2540 C-97	05/31/2017			06/02/2017	Yijie Li	1902600, 1902601, 1902602, 1902603, 1902604
SM 2540 D-97	05/31/2017			06/02/2017	Yijie Li	1902600, 1902601, 1902602, 1902603, 1902604
SM 4500 F-C-97	05/31/2017			06/08/2017	Dale L. Simmons	1902600, 1902601, 1902602, 1902603, 1902604
SM 5310 B-00	05/31/2017			06/02/2017	Julie Michelle Frank	1902605, 1902606, 1902607, 1902608, 1902609
USGS O-2060-01	05/31/2017	05/31/2017	Hoor Shaik	06/02/2017	Juyoung Kim	1902626, 1902627, 1902628