

Chemical Analysis Report

WQAP-2017-10-19-01

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

Event Description: **Pollywog OK Roberts & Telegraph**
Request ID: **RQ-2017-10-16-05**
Customer: **WQAP**
Project ID: **SMP**

Send Reports to:
FL Dept. of Environmental Protection
2295 Victoria Ave.
Suite 364
Fort Myers, FL 33901
Attn: Ben Paswater

For additional information please contact
Colin Wright, Ph.D.
Liang-Tsair Lin, Ph.D.
Thekkekalathil Chandrasekhar, Ph.D, QA Officer
Phone (850) 245-8085

Certified by: Colin Wright, Program Administrator

Date Certified: 22-NOV-2017 09:18

A handwritten signature in black ink, appearing to read "Colin Wright", is written over a light gray rectangular background.

Case Narrative

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

Results for the following analytical 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: Pollywog Creek @ SR78

Collection Date/Time: 10/17/2017 14:30

Field ID: G3SD101717-1

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1938361	EPA 180.1 Rev. 2.0	Turbidity	3.2		NTU	P333719	
	EPA 300.0 Rev. 2.1	Chloride	12		mg Cl/L	P333836	
		Sulfate	1.7		mg SO4/L	P333840	
	SM 2120 B	Color (true)	530		PCU	P333701	
	SM 2320 B-97	Total Alkalinity	22		mg CaCO3/L	P333855	
	SM 2540 C-97	TDS	102		mg/L	P334313	
	SM 2540 D-97	TSS	7	I	mg/L	P334524	
	SM 4500 F-C-97	Fluoride	0.078	I	mg F/L	P333861	
1938364	EPA 350.1 Rev. 2.0	Ammonia-N	0.045		mg N/L	P334086	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.5		mg N/L	P334065	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.048		mg N/L	P334094	
	EPA 365.1 Rev. 2.0	Total-P	0.20		mg P/L	P333947	
	SM 5310 B-00	Organic Carbon	33		mg C/L	P334245	
1938367	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.15		mg P/L	P333751	
1938381	EPA 200.7 Rev. 4.4	Calcium	10.4		mg/L	P333876	
		Iron	1.69E+03		ug/L	P333876	
		Magnesium	2.51		mg/L	P333876	
		Potassium	0.86	I	mg/L	P333876	
		Sodium	8.3		mg/L	P333876	
	EPA 200.8 Rev. 5.4	Zinc	5.0	U	ug/L	P333876	
		Arsenic	1.97		ug/L	P333876	
		Cadmium	0.020	U	ug/L	P333876	
		Chromium	2.2		ug/L	P333876	
		Copper	0.53	I	ug/L	P333876	
		Lead	0.49		ug/L	P333876	
		Nickel	0.71	I	ug/L	P334745	
		Silver	0.010	U	ug/L	P333876	

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.

EPA 350.1 Rev. 2.0: Batch matrix spike recoveries are unavailable because of high analyte concentration in the QC sample.

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

EPA 200.7 Rev. 4.4: Batch matrix spike recoveries for calcium are unavailable for one of two spiked samples because of high analyte concentration in the QC sample.

Sample Location: Pollywog Creek @ SR78

Collection Date/Time: 10/17/2017 14:30

Field ID: G3SD101717-1

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1938380	EPA 8321B	Sucralose**	0.052		ug/L	P333672	
	USGS O-2060-01	2,4-D	0.0020	UQ	ug/L	P335339	
		Diuron	8.0E-04	U	ug/L	P333877	
		Fenuron	0.0080	U	ug/L	P333877	
		Imidacloprid	0.0049		ug/L	P333877	MS
		Bentazon	8.0E-04	UQ	ug/L	P335339	
		Linuron	0.0040	U	ug/L	P333877	

Field ID: G3SD101717-1

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1938380	USGS O-2060-01	Acetaminophen**	0.0080	U	ug/L	P333877	
		MCP	0.0020	UQ	ug/L	P335339	
		Carbamazepine**	9.4E-04	I	ug/L	P333877	MS
		Triclopyr**	0.0040	UQ	ug/L	P335339	
		Primidone**	0.0040	U	ug/L	P333877	
		Fluridone**	4.0E-04	U	ug/L	P333877	

Ref. Method and Comment:

USGS O-2060-01: Sample required re-extraction beyond normal holding time due to reagent performance inconsistencies.

Sample Location: OK Branch @ Eucalyptus Bld.

Collection Date/Time: 10/17/2017 14:10

Field ID: G3SD101717-2

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1938362	EPA 180.1 Rev. 2.0	Turbidity	3.3		NTU	P333719	
	EPA 300.0 Rev. 2.1	Chloride	51		mg Cl/L	P333836	
		Sulfate	19		mg SO4/L	P333840	
	SM 2120 B	Color (true)	190		PCU	P333701	
	SM 2320 B-97	Total Alkalinity	200		mg CaCO3/L	P333855	
	SM 2540 C-97	TDS	347		mg/L	P334313	
	SM 2540 D-97	TSS	4	I	mg/L	P334524	
	SM 4500 F-C-97	Fluoride	0.17		mg F/L	P333861	
1938365	EPA 350.1 Rev. 2.0	Ammonia-N	0.24		mg N/L	P334086	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.6		mg N/L	P334065	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.098		mg N/L	P334094	
	EPA 365.1 Rev. 2.0	Total-P	0.17		mg P/L	P333947	
	SM 5310 B-00	Organic Carbon	24		mg C/L	P334245	
1938368	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.13	Q	mg P/L	P333751	
1938382	EPA 200.7 Rev. 4.4	Calcium	80.3		mg/L	P333876	
		Iron	1.19E+03		ug/L	P333876	
		Magnesium	5.89		mg/L	P333876	
		Potassium	4.7		mg/L	P333876	
		Sodium	37.4		mg/L	P333876	
		Zinc	5.0	U	ug/L	P333876	
	EPA 200.8 Rev. 5.4	Arsenic	2.47		ug/L	P333876	
		Cadmium	0.020	U	ug/L	P333876	
		Chromium	1.4	I	ug/L	P333876	
		Copper	0.45	I	ug/L	P333876	
		Lead	0.11	I	ug/L	P333876	
		Nickel	0.89		ug/L	P334745	
		Silver	0.010	U	ug/L	P333876	

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.

EPA 350.1 Rev. 2.0: Batch matrix spike recoveries are unavailable because of high analyte concentration in the QC sample.

EPA 365.1 Rev. 2.0 dissolved: O-Phosphate-P: The sample expired upon receipt. Batch matrix spike recoveries are unavailable because of high analyte concentration in the QC sample.

EPA 200.7 Rev. 4.4: Batch matrix spike recoveries for calcium are unavailable for one of two spiked samples because of high analyte concentration in the QC sample.

Sample Location: Banana Branch @ Ft. Denaud Rd.

Collection Date/Time: 10/17/2017 13:35

Field ID: G3SD101717-3

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1938355	EPA 180.1 Rev. 2.0	Turbidity	4.5	A	NTU	P333719	
	EPA 300.0 Rev. 2.1	Chloride	13		mg Cl/L	P333836	
		Sulfate	2.2		mg SO4/L	P333840	
	SM 2120 B	Color (true)	220		PCU	P333701	
	SM 2320 B-97	Total Alkalinity	88		mg CaCO3/L	P334018	
	SM 2540 C-97	TDS	146	A	mg/L	P334313	
	SM 2540 D-97	TSS	11	A	mg/L	P334524	
	SM 4500 F-C-97	Fluoride	0.12		mg F/L	P334462	
	EPA 350.1 Rev. 2.0	Ammonia-N	0.086		mg N/L	P334086	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.4		mg N/L	P334065	
1938357	EPA 353.2 Rev. 2.0	NO2NO3-N	0.059		mg N/L	P334094	
	EPA 365.1 Rev. 2.0	Total-P	0.19		mg P/L	P333946	
	SM 5310 B-00	Organic Carbon	21		mg C/L	P334245	
	EPA 365.1 Rev. 2.0	O-Phosphate-P	0.12	Q	mg P/L	P333751	
	dissolved						

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.

EPA 350.1 Rev. 2.0: Batch matrix spike recoveries are unavailable because of high analyte concentration in the QC sample.

EPA 365.1 Rev. 2.0 dissolved: O-Phosphate-P: The sample expired upon receipt. Batch matrix spike recoveries are unavailable because of high analyte concentration in the QC sample.

Sample Location: Telegraph Swamp South Site

Collection Date/Time: 10/17/2017 12:35

Field ID: G3SD101717-4

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1938356	EPA 180.1 Rev. 2.0	Turbidity	2.0	Q	NTU	P333719	
	EPA 300.0 Rev. 2.1	Chloride	41		mg Cl/L	P333836	
		Sulfate	3.4		mg SO4/L	P333840	
	SM 2120 B	Color (true)	230	Q	PCU	P333701	
	SM 2320 B-97	Total Alkalinity	63		mg CaCO3/L	P333855	
	SM 2540 C-97	TDS	183		mg/L	P334313	
	SM 2540 D-97	TSS	2	I	mg/L	P334524	
	SM 4500 F-C-97	Fluoride	0.11		mg F/L	P333861	
	EPA 350.1 Rev. 2.0	Ammonia-N	0.12		mg N/L	P334160	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.4		mg N/L	P334065	
1938358	EPA 353.2 Rev. 2.0	NO2NO3-N	0.14		mg N/L	P334094	
	EPA 365.1 Rev. 2.0	Total-P	0.091		mg P/L	P333946	
	SM 5310 B-00	Organic Carbon	25		mg C/L	P334245	
	EPA 365.1 Rev. 2.0	O-Phosphate-P	0.051	Q	mg P/L	P333751	
	dissolved						

Ref. Method and Comment:

EPA 180.1 Rev. 2.0: The sample expired upon receipt.

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

SM 2120 B: The sample expired upon receipt.

EPA 365.1 Rev. 2.0 dissolved: O-Phosphate-P: The sample expired upon receipt. Batch matrix spike recoveries are unavailable because of high analyte concentration in the QC sample.

Sample Location: Duplicate

Collection Date/Time: 10/17/2017 14:15

Field ID: G3SD101717-5

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1938363	EPA 180.1 Rev. 2.0	Turbidity	2.9		NTU	P333719	
	EPA 300.0 Rev. 2.1	Chloride	57		mg Cl/L	P333836	
		Sulfate	20		mg SO4/L	P333840	
	SM 2120 B	Color (true)	200		PCU	P333701	
	SM 2320 B-97	Total Alkalinity	203		mg CaCO3/L	P333855	
	SM 2540 C-97	TDS	370		mg/L	P334313	
	SM 2540 D-97	TSS	3	I	mg/L	P334524	
	SM 4500 F-C-97	Fluoride	0.18		mg F/L	P333861	
1938366	EPA 350.1 Rev. 2.0	Ammonia-N	0.27		mg N/L	P334086	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.4		mg N/L	P334065	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.099		mg N/L	P334094	
	EPA 365.1 Rev. 2.0	Total-P	0.19		mg P/L	P333947	
	SM 5310 B-00	Organic Carbon	24		mg C/L	P334245	
1938369	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.15	Q	mg P/L	P333751	
1938383	EPA 200.7 Rev. 4.4	Calcium	81.4		mg/L	P333876	
		Iron	1.17E+03		ug/L	P333876	
		Magnesium	6.41		mg/L	P333876	
		Potassium	5.2		mg/L	P333876	
		Sodium	42.0		mg/L	P333876	
		Zinc	5.0	U	ug/L	P333876	
	EPA 200.8 Rev. 5.4	Arsenic	2.43		ug/L	P333876	
		Cadmium	0.020	U	ug/L	P333876	
		Chromium	0.82	I	ug/L	P333876	
		Copper	0.55	I	ug/L	P333876	
		Lead	0.12	I	ug/L	P333876	
		Nickel	0.55	I	ug/L	P334745	
		Silver	0.010	U	ug/L	P333876	

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.

EPA 350.1 Rev. 2.0: Batch matrix spike recoveries are unavailable because of high analyte concentration in the QC sample.

EPA 365.1 Rev. 2.0 dissolved: O-Phosphate-P: The sample expired upon receipt. Batch matrix spike recoveries are unavailable because of high analyte concentration in the QC sample.

EPA 200.7 Rev. 4.4: Batch matrix spike recoveries for calcium are unavailable for one of two spiked samples 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: P333719

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 200.7 Rev. 4.4

Batch ID: P333876

Component	Result	Code	Units
Calcium	0.075	U	mg/L

Quality Assurance Report Method Blank Results

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P333876

Component	Result	Code	Units
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: P333876

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
Silver	0.010	U	ug/L

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P334745

Component	Result	Code	Units
Nickel	0.20	U	ug/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P333836

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P333840

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P334086

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P334160

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P334065

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

Quality Assurance Report Method Blank Results

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P334094

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P333946

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P333947

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P333751

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

Reference Method: EPA 8321B
Batch ID: P333672

Component	Result	Code	Units
Sucralose	0.010	U	ug/L

Reference Method: SM 2120 B
Batch ID: P333701

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2320 B-97
Batch ID: P333855

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

Reference Method: SM 2320 B-97
Batch ID: P334018

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

Reference Method: SM 2540 C-97
Batch ID: P334313

Component	Result	Code	Units
TDS	15	U	mg/L

Quality Assurance Report Method Blank Results

Reference Method: SM 2540 D-97
Batch ID: P334524

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500 F-C-97
Batch ID: P333861

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 4500 F-C-97
Batch ID: P334462

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-00
Batch ID: P334245

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

Reference Method: USGS O-2060-01
Batch ID: P333877

Component	Result	Code	Units
Acetaminophen	0.0080	U	ug/L
Carbamazepine	4.0E-04	U	ug/L
Diuron	8.0E-04	U	ug/L
Fenuron	0.0080	U	ug/L
Fluridone	4.0E-04	U	ug/L
Imidacloprid	8.0E-04	U	ug/L
Linuron	0.0040	U	ug/L
Primidone	0.0040	U	ug/L

Reference Method: USGS O-2060-01
Batch ID: P335339

Component	Result	Code	Units
2,4-D	0.0020	U	ug/L
Bentazon	8.0E-04	U	ug/L
MCPP	0.0020	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: P333876

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Calcium	102		P	85 - 115
Iron	103		P	85 - 115

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P333876

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Magnesium	103		P	85 - 115
Potassium	103		P	85 - 115
Sodium	102		P	85 - 115
Zinc	99.5		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P333876

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Arsenic	102		P	85 - 115
Cadmium	102		P	85 - 115
Chromium	98.7		P	85 - 115
Copper	101		P	85 - 115
Lead	96.9		P	85 - 115
Silver	96.7		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P334745

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P333836

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P333840

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P334086

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Ammonia-N	93.0		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P334160

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Ammonia-N	94.7		P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P334065

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

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P334094

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: P333946

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total-P	94.2		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P333947

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P333751

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

Reference Method: EPA 8321B
Batch ID: P333672

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Sucralose	81.5		P	40 - 150

Reference Method: SM 2320 B-97
Batch ID: P333855

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

Reference Method: SM 2320 B-97
Batch ID: P334018

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	101		P	95 - 108

Reference Method: SM 4500 F-C-97
Batch ID: P333861

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	96.8		P	92 - 103

Reference Method: SM 4500 F-C-97
Batch ID: P334462

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	99.1		P	92 - 103

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: SM 5310 B-00
Batch ID: P334245

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	96.8		P	85 - 115

Reference Method: USGS O-2060-01
Batch ID: P333877

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acetaminophen	77.5		P	30 - 150
Carbamazepine	128		P	40 - 150
Diuron	111		P	40 - 150
Fenuron	109		P	40 - 150
Fluridone	114		P	40 - 150
Imidacloprid	96.1		P	40 - 160
Linuron	110		P	40 - 150
Primidone	106		P	40 - 150

Reference Method: USGS O-2060-01
Batch ID: P335339

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	97.9		P	40 - 150
Bentazon	84.9		P	30 - 150
MCP	81.1		P	40 - 150
Triclopyr	81.4		P	40 - 150

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P333876

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1938323	Iron	103		P	75 - 125
1938323	Magnesium	104		P	75 - 125
1938323	Potassium	105	101	P/P	75 - 125
1938323	Sodium	103		P	75 - 125
1938323	Zinc	97.9	96.9	P/P	75 - 125
1938507	Calcium	99.1		P	80 - 120
1938507	Iron	105		P	80 - 120
1938507	Magnesium	103		P	80 - 120
1938507	Potassium	98.3		P	80 - 120
1938507	Sodium	101		P	80 - 120
1938507	Zinc	99.4		P	80 - 120

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P333876

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1938323	Arsenic	105	101	P/P	75 - 125
1938323	Cadmium	104	102	P/P	75 - 125
1938323	Chromium	95.6	94.4	P/P	75 - 125
1938323	Copper	97.9	96.3	P/P	75 - 125

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P333876

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1938323	Lead	98.4	97.5	P/P	75 - 125
1938323	Silver	96.4	95.1	P/P	75 - 125
1938507	Arsenic	99.5		P	80 - 120
1938507	Cadmium	99.2		P	80 - 120
1938507	Chromium	93.2		P	80 - 120
1938507	Copper	94.4		P	80 - 120
1938507	Lead	95.6		P	80 - 120
1938507	Silver	93.3		P	80 - 120

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P334745

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1938506	Nickel	100		P	80 - 120
1942857	Nickel	101	101	P/P	80 - 120

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P333836

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1938063	Chloride	100		P	90 - 110
1938064	Chloride	99.2		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P333840

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1938063	Sulfate	99.0		P	90 - 110
1938064	Sulfate	98.4		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P334160

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1938706	Ammonia-N	97.4	97.3	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P334065

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1938391	Kjeldahl Nitrogen	104	104	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P334094

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1936850	NO2NO3-N	101	102	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P333946

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

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P333946

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1938072	Total-P	96.5	99.6	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P333947

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1938450	Total-P	96.0	99.8	P/P	90 - 110

Reference Method: EPA 8321B
Batch ID: P333672

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1937810	Sucralose	54.8	53.2	P/P	40 - 150

Reference Method: SM 4500 F-C-97
Batch ID: P333861

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1938516	Fluoride	96.7	96.2	P/P	91 - 105

Reference Method: SM 4500 F-C-97
Batch ID: P334462

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1939076	Fluoride	98.6	102	P/P	91 - 105

Reference Method: SM 5310 B-00
Batch ID: P334245

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1938069	Organic Carbon	100	101	P/P	85 - 115

Reference Method: USGS O-2060-01
Batch ID: P333877

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1938443	Acetaminophen	119	115	P/P	30 - 150
1938443	Carbamazepine	154	147	F/P	40 - 150
1938443	Diuron	115	106	P/P	40 - 150
1938443	Fenuron	106	105	P/P	40 - 150
1938443	Fluridone	125	108	P/P	40 - 150
1938443	Imidacloprid	173	167	F/F	40 - 160
1938443	Linuron	120	114	P/P	40 - 150
1938443	Primidone	130	117	P/P	40 - 150

Reference Method: USGS O-2060-01
Batch ID: P335339

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1938672	2,4-D	76.7	84.3	P/P	40 - 150
1938672	Bentazon	69.2	66.4	P/P	30 - 150
1938672	MCP	58.9	58.9	P/P	40 - 150

Quality Assurance Report Matrix Spike Accuracy

Reference Method: USGS O-2060-01
Batch ID: P335339

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1938672	Triclopyr	54.0	59.8	P/P	40 - 150

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P333719

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1938355	Turbidity	9.92	Sample	P	0 - 20

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P333876

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1938323	Calcium	1.40	Spike	P	0 - 20
1938323	Iron	1.35	Spike	P	0 - 20
1938323	Magnesium	1.16	Spike	P	0 - 20
1938323	Potassium	1.73	Spike	P	0 - 20
1938323	Sodium	0.0153	Spike	P	0 - 20
1938323	Zinc	1.00	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P333876

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1938323	Arsenic	2.37	Spike	P	0 - 20
1938323	Cadmium	1.98	Spike	P	0 - 20
1938323	Chromium	1.14	Spike	P	0 - 20
1938323	Copper	1.26	Spike	P	0 - 20
1938323	Lead	0.974	Spike	P	0 - 20
1938323	Silver	1.37	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P334745

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1942857	Nickel	0.222	Spike	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P333836

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1938064	Chloride	1.39	Sample	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P334086

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1938357	Ammonia-N	0.658	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P334160

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1938706	Ammonia-N	0.133	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P334065

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1938391	Kjeldahl Nitrogen	0.415	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P334094

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1936850	NO2NO3-N	0.284	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P333946

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1938072	Total-P	1.60	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P333947

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1938450	Total-P	3.88	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P333751

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1938368	O-Phosphate-P	0.402	Spike	P	0 - 20

Reference Method: EPA 8321B
Batch ID: P333672

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1937810	Sucralose	2.12	Spike	P	0 - 30

Quality Assurance Report Precision

Reference Method: SM 2120 B
Batch ID: P333701

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1938389	Color (true)	0.287	Sample	P	0 - 20

Reference Method: SM 2320 B-97
Batch ID: P333855

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1938516	Total Alkalinity	1.14	Sample	P	0 - 4.8

Reference Method: SM 2320 B-97
Batch ID: P334018

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1939076	Total Alkalinity	0.334	Sample	P	0 - 4.8

Reference Method: SM 2540 C-97
Batch ID: P334313

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1938355	TDS	2.06	Sample	P	0 - 10

Reference Method: SM 2540 D-97
Batch ID: P334524

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1938355	TSS	7.41	Sample	P	0 - 10

Reference Method: SM 4500 F-C-97
Batch ID: P333861

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1938516	Fluoride	0.474	Spike	P	0 - 3.0

Reference Method: SM 4500 F-C-97
Batch ID: P334462

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1939076	Fluoride	2.95	Spike	P	0 - 3.0

Reference Method: SM 5310 B-00
Batch ID: P334245

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1938069	Organic Carbon	0.692	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: USGS O-2060-01
 Batch ID: P333877

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1938443	Acetaminophen	3.60	Spike	P	0 - 30
1938443	Carbamazepine	4.38	Spike	P	0 - 30
1938443	Diuron	8.17	Spike	P	0 - 30
1938443	Fenuron	1.12	Spike	P	0 - 30
1938443	Fluridone	14.2	Spike	P	0 - 30
1938443	Imidacloprid	3.83	Spike	P	0 - 30
1938443	Linuron	4.53	Spike	P	0 - 30
1938443	Primidone	10.8	Spike	P	0 - 30

Reference Method: USGS O-2060-01
 Batch ID: P335339

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1938672	2,4-D	5.24	Spike	P	0 - 30
1938672	Bentazon	2.28	Spike	P	0 - 30
1938672	MCP	0.0	Spike	P	0 - 30
1938672	Triclopyr	10.2	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: 1938380
 Field Sample ID: G3SD101717-1

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Acetaminophen-d4	94.1	P	30 - 160
EPA 8321B	Carbamazepine-d10	89.2	P	30 - 160
EPA 8321B	Diuron-d6	60.7	P	30 - 160
EPA 8321B	Primidone-d5	86.1	P	30 - 160
EPA 8321B	Sucralose-d6	74.2	P	40 - 160
USGS O-2060-01	2,4-D-d3	60.2	P	30 - 160
USGS O-2060-01	Acetaminophen-d4	94.1	P	30 - 160
USGS O-2060-01	Carbamazepine-d10	89.2	P	30 - 160
USGS O-2060-01	Diuron-d6	60.7	P	30 - 160
USGS O-2060-01	Primidone-d5	86.1	P	30 - 160
USGS O-2060-01	Sucralose-d6	74.2	P	40 - 160

Quality Assurance Report Calibration Verification

Reference Method: SM 2120 B
 Run ID: A79667
 Included Lab Sample IDs: 1938355, 1938356, 1938361, 1938362, 1938363

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	99.3	98.4	P/P	85 - 115

Quality Assurance Report Calibration Verification

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A79674

Included Lab Sample IDs: 1938355, 1938356, 1938361, 1938362, 1938363

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Run ID: A79682

Included Lab Sample IDs: 1938359, 1938360, 1938367, 1938368, 1938369

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	102	102	P/P	90 - 110
O-Phosphate-P	98.3	102	P/P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A79726

Included Lab Sample IDs: 1938355, 1938356, 1938361, 1938362, 1938363

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

Reference Method: SM 2320 B-97

Run ID: A79730

Included Lab Sample IDs: 1938356, 1938361, 1938362, 1938363

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	102	101	P/P	90 - 110
Total Alkalinity	99.9	102	P/P	90 - 110

Reference Method: SM 4500 F-C-97

Run ID: A79730

Included Lab Sample IDs: 1938356, 1938361, 1938362, 1938363

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

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A79773

Included Lab Sample IDs: 1938381, 1938382, 1938383

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Arsenic	108	108	P/P	90 - 110
Cadmium	107	105	P/P	90 - 110
Chromium	105	98.7	P/P	90 - 110
Copper	107	109	P/P	90 - 110
Lead	102	103	P/P	90 - 110
Silver	101	100	P/P	90 - 110

Reference Method: EPA 200.7 Rev. 4.4

Run ID: A79774

Included Lab Sample IDs: 1938381, 1938382, 1938383

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

Quality Assurance Report Calibration Verification

Reference Method: EPA 200.7 Rev. 4.4

Run ID: A79774

Included Lab Sample IDs: 1938381, 1938382, 1938383

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Calcium	101	101	P/P	90 - 110
Iron	104	102	P/P	90 - 110
Magnesium	104	103	P/P	90 - 110
Potassium	101	100	P/P	90 - 110
Sodium	101	101	P/P	90 - 110
Zinc	98.3	96.4	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A79781

Included Lab Sample IDs: 1938357, 1938358, 1938364, 1938365, 1938366

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	98.8	99.5	P/P	90 - 110
Total-P	99.4	98.8	P/P	90 - 110

Reference Method: SM 2320 B-97

Run ID: A79792

Included Lab Sample IDs: 1938355

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	99.5	103	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A79814

Included Lab Sample IDs: 1938357, 1938364, 1938365, 1938366

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	97.5	98.3	P/P	90 - 110
Ammonia-N	99.8	99.6	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A79823

Included Lab Sample IDs: 1938357, 1938358, 1938364, 1938365, 1938366

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	106	99.5	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A79843

Included Lab Sample IDs: 1938358

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	99.7	99.7	P/P	90 - 110

Reference Method: SM 5310 B-00

Run ID: A79871

Included Lab Sample IDs: 1938357, 1938358, 1938364, 1938365, 1938366

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	97.2	97.4	P/P	90 - 110
Organic Carbon	97.4	96.8	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A79896

Included Lab Sample IDs: 1938357, 1938358, 1938364, 1938365, 1938366

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	95.9	99.4	P/P	90 - 110
Kjeldahl Nitrogen	99.4	96.9	P/P	90 - 110

Reference Method: USGS O-2060-01

Run ID: A79905

Included Lab Sample IDs: 1938380

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acetaminophen	106	114	P/P	60 - 150
Carbamazepine	113	115	P/P	60 - 150
Diuron	105	109	P/P	60 - 150
Fenuron	108	110	P/P	60 - 150
Fluridone	112	112	P/P	60 - 160
Imidacloprid	103	118	P/P	60 - 150
Linuron	111	109	P/P	60 - 150
Primidone	102	107	P/P	60 - 150

Reference Method: EPA 8321B

Run ID: A79920

Included Lab Sample IDs: 1938380

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Sucralose	112	127	P/P	60 - 150

Reference Method: SM 4500 F-C-97

Run ID: A79949

Included Lab Sample IDs: 1938355

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

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A80104

Included Lab Sample IDs: 1938381, 1938382, 1938383

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

Reference Method: USGS O-2060-01

Run ID: A80386

Included Lab Sample IDs: 1938380

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	105	112	P/P	50 - 150
Bentazon	111	116	P/P	50 - 150
MCPP	111	107	P/P	50 - 150
Triclopyr	116	108	P/P	50 - 150

* 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						9.92	
EPA 200.7 Rev. 4.4	Calcium	102	99.1					1.40
	Iron	103	105	103				1.35
	Magnesium	103	103	104				1.16
	Potassium	103	98.3	105	101			1.73
	Sodium	102	103	101				0.0153
	Zinc	99.5	99.4	97.9	96.9			1.00
EPA 200.8 Rev. 5.4	Arsenic	102	105	101	99.5			2.37
	Cadmium	102	104	102	99.2			1.98
	Chromium	98.7	95.6	94.4	93.2			1.14
	Copper	101	97.9	96.3	94.4			1.26
	Lead	96.9	98.4	97.5	95.6			0.974
	Nickel	104	100	101	101			0.222
	Silver	96.7	96.4	95.1	93.3			1.37
EPA 300.0 Rev. 2.1	Chloride	101	99.2	100			1.39	
	Sulfate	98.8	98.4	99.0				
EPA 350.1 Rev. 2.0	Ammonia-N	93.0						0.658
	Ammonia-N	94.7	97.4	97.3				0.133
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	104	104	104				0.415
EPA 353.2 Rev. 2.0	NO2NO3-N	102	101	102				0.284
EPA 365.1 Rev. 2.0	Total-P	94.2	96.5	99.6				1.60
	Total-P	100	96.0	99.8				3.88
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	97.5						0.402
EPA 8321B	Sucralose	81.5	54.8	53.2				2.12
SM 2120 B	Color (true)						0.287	
SM 2320 B-97	Total Alkalinity	103					1.14	
	Total Alkalinity	101					0.334	
SM 2540 C-97	TDS						2.06	
SM 2540 D-97	TSS						7.41	
SM 4500 F-C-97	Fluoride	96.8	96.7	96.2				0.474
	Fluoride	99.1	98.6	102				2.95
SM 5310 B-00	Organic Carbon	96.8	100	101				0.692
USGS O-2060-01	2,4-D	97.9	76.7	84.3				5.24
	Acetaminophen	77.5	119	115				3.60
	Bentazon	84.9	69.2	66.4				2.28
	Carbamazepine	128	154	147				4.38
	Diuron	111	115	106				8.17
	Fenuron	109	106	105				1.12
	Fluridone	114	125	108				14.2
	Imidacloprid	96.1	173	167				3.83
	Linuron	110	120	114				4.53
	MCPP	81.1	58.9	58.9				0.0
	Primidone	106	130	117				10.8
	Triclopyr	81.4	54.0	59.8				10.2

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 180.1 Rev. 2.0 / E31780	Turbidity in aqueous matrices	1938355, 1938356, 1938361, 1938362, 1938363
EPA 200.7 Rev. 4.4 / E31780	Total Recoverable Metals analysis using ICP emission spectroscopy for aqueous samples supporting Clean Water Act Projects	1938381, 1938382, 1938383

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 200.8 Rev. 5.4 / E31780	Total Recoverable Metals analysis using ICP-MS for aqueous samples supporting Clean Water Act Projects	1938381, 1938382, 1938383
EPA 300.0 Rev. 2.1 / E31780	Chloride in aqueous matrices	1938355, 1938356, 1938361, 1938362, 1938363
EPA 300.0 Rev. 2.1 / E31780	Sulfate in aqueous matrices	1938355, 1938356, 1938361, 1938362, 1938363
EPA 350.1 Rev. 2.0 / E31780	Ammonia in aqueous matrices as mg N/L	1938357, 1938358, 1938364, 1938365, 1938366
EPA 351.2 Rev. 2.0 / E31780	Total Kjeldahl Nitrogen in aqueous matrices	1938357, 1938358, 1938364, 1938365, 1938366
EPA 353.2 Rev. 2.0 / E31780	Nitrite/Nitrate in aqueous matrices as mg N/L	1938357, 1938358, 1938364, 1938365, 1938366
EPA 365.1 Rev. 2.0 / E31780	Total Phosphorus in aqueous matrices as mg P/L	1938357, 1938358, 1938364, 1938365, 1938366
EPA 365.1 Rev. 2.0 dissolved / E31780	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	1938359, 1938360, 1938367, 1938368, 1938369
EPA 8321B / E31780	Analysis of sucralose in water matrices by HPLC/MS/MS	1938380
SM 2120 B / E31780	True Color measured at 450 nm	1938355, 1938356, 1938361, 1938362, 1938363
SM 2320 B-97 / E31780	Alkalinity in aqueous matrices as mg CaCO ₃ /L	1938355, 1938356, 1938361, 1938362, 1938363
SM 2540 C-97 / E31780	Total Dissolved Solids in aqueous matrices	1938355, 1938356, 1938361, 1938362, 1938363
SM 2540 D-97 / E31780	Total Suspended Solids in aqueous matrices	1938355, 1938356, 1938361, 1938362, 1938363
SM 4500 F-C-97 / E31780	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	1938355, 1938356, 1938361, 1938362, 1938363
SM 5310 B-00 / E31780	Nonpurgeable Organic Carbon in aqueous matrices	1938357, 1938358, 1938364, 1938365, 1938366
USGS O-2060-01 / E31780	Chlorinated (phenoxy acid) herbicides in water matrices by HPLC/MS/MS	1938380
USGS O-2060-01 / E31780	Urea herbicides and other chemicals in water matrices by HPLC/MS/MS	1938380

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	10/19/2017			10/19/2017 13:10	DeAsia Armster	1938355
	10/19/2017			10/19/2017 13:12	DeAsia Armster	1938356
	10/19/2017			10/19/2017 13:15	DeAsia Armster	1938361
	10/19/2017			10/19/2017 13:17	DeAsia Armster	1938362
	10/19/2017			10/19/2017 13:18	DeAsia Armster	1938363
EPA 200.7 Rev. 4.4	10/19/2017	10/23/2017	Elliott D. Healy	10/24/2017	Betina Topolski	1938381, 1938382, 1938383
EPA 200.8 Rev. 5.4	10/19/2017	10/23/2017	Elliott D. Healy	10/24/2017	Nadine Brooks	1938381, 1938382, 1938383
	10/19/2017	11/06/2017	Elliott D. Healy	11/07/2017	Robert K Palmer	1938381, 1938382, 1938383
EPA 300.0 Rev. 2.1	10/19/2017			10/20/2017	Julia Storbeck	1938355, 1938356, 1938361, 1938362, 1938363
EPA 350.1 Rev. 2.0	10/19/2017			10/25/2017	Sofia Elnemr	1938357, 1938364, 1938365, 1938366
	10/19/2017			10/26/2017	Sofia Elnemr	1938358
EPA 351.2 Rev. 2.0	10/19/2017	10/26/2017	Adrian Shelby	10/27/2017	Joseph Suarez	1938357, 1938358, 1938364, 1938365, 1938366
EPA 353.2 Rev. 2.0	10/19/2017			10/26/2017	Beverly Y. Sanders	1938357, 1938358, 1938364, 1938365, 1938366
EPA 365.1 Rev. 2.0	10/19/2017	10/24/2017	Sima Feizi	10/25/2017	Lipi Saha	1938357, 1938358, 1938364, 1938365, 1938366
EPA 365.1 Rev. 2.0 dissolved	10/19/2017			10/19/2017 14:14	Megan Treadwell	1938368
	10/19/2017			10/19/2017 14:17	Megan Treadwell	1938369
	10/19/2017			10/19/2017 14:18	Megan Treadwell	1938359
	10/19/2017			10/19/2017 14:19	Megan Treadwell	1938360
	10/19/2017			10/19/2017 14:27	Megan Treadwell	1938367
EPA 8321B	10/19/2017	10/25/2017	Juyoung Kim	10/26/2017	Juyoung Kim	1938380
SM 2120 B	10/19/2017			10/19/2017 13:13	Tanya Welborn	1938355
	10/19/2017			10/19/2017 13:14	Tanya Welborn	1938356
	10/19/2017			10/19/2017 13:15	Tanya Welborn	1938361
	10/19/2017			10/19/2017 13:16	Tanya Welborn	1938362, 1938363
SM 2320 B-97	10/19/2017			10/21/2017	Dale L. Simmons	1938356, 1938361, 1938362, 1938363
	10/19/2017			10/24/2017	Dale L. Simmons	1938355
SM 2540 C-97	10/19/2017			10/23/2017	DeAsia Armster	1938355, 1938356, 1938361, 1938362, 1938363
SM 2540 D-97	10/19/2017			10/23/2017	DeAsia Armster	1938355, 1938356, 1938361, 1938362, 1938363
SM 4500 F-C-97	10/19/2017			10/21/2017	Dale L. Simmons	1938356, 1938361, 1938362, 1938363
	10/19/2017			10/31/2017	Dale L. Simmons	1938355
SM 5310 B-00	10/19/2017			10/27/2017	Ping Hua	1938357, 1938358
	10/19/2017			10/28/2017	Ping Hua	1938364, 1938365, 1938366
USGS O-2060-01	10/19/2017	10/23/2017	Hoor Shaik	10/28/2017	Julie Michelle Frank	1938380
	10/19/2017	11/15/2017	Hoor Shaik	11/17/2017	Julie Michelle Frank	1938380