

Chemical Analysis Report

WQAP-2017-04-25-01

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

Event Description: **SMP: OK Branch, Pollywog, Roberts, Telegraph**
Request ID: **RQ-2017-04-24-08**
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, PhD, QA Officer
Phone (850) 245-8085

Certified by: Thekkekalathil Chandrasekhar, Chemist Administrator

Date Certified: 19-MAY-2017 11:04



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: 04/24/2017 11:30

Field ID: G3SD042417-1

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1892005	EPA 180.1 Rev. 2.0	Turbidity	5.1		NTU	P323978	
	EPA 300.0 Rev. 2.1	Chloride	28		mg Cl/L	P324478	
		Sulfate	9.2		mg SO4/L	P324476	
	SM 2120 B	Color (true)	53		PCU	P324081	
	SM 2320 B-97	Total Alkalinity	45		mg CaCO3/L	P324652	
	SM 2540 C-97	TDS	147		mg/L	P324362	
	SM 2540 D-97	TSS	5	I	mg/L	P324368	
	SM 4500 F-C-97	Fluoride	0.33		mg F/L	P324654	RPD
1892008	EPA 350.1 Rev. 2.0	Ammonia-N	0.019		mg N/L	P324256	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.45		mg N/L	P323990	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.022		mg N/L	P324129	
	EPA 365.1 Rev. 2.0	Total-P	1.4		mg P/L	P324058	
	SM 5310 B-00	Organic Carbon	9.7		mg C/L	P323998	
1892011	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	1.0		mg P/L	P323982	
1892057	EPA 200.7 Rev. 4.4	Calcium	18.1		mg/L	P324211	
		Iron	1.71E+03		ug/L	P324211	
		Magnesium	6.21		mg/L	P324211	
		Potassium	2.1		mg/L	P324211	
		Sodium	14.3		mg/L	P324211	
	EPA 200.8 Rev. 5.4	Zinc	5.0	U	ug/L	P324211	
		Arsenic	0.58		ug/L	P324211	
		Cadmium	0.020	U	ug/L	P324211	
		Chromium	1.1	I	ug/L	P324211	
		Copper	0.20	U	ug/L	P324211	
		Lead	0.073	I	ug/L	P324211	
		Nickel	1.06		ug/L	P324211	
		Silver	0.010	U	ug/L	P324211	

Sample Location: Pollywog Creek @ SR78

Collection Date/Time: 04/24/2017 11:30

Field ID: G3SD042417-1

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1892054	EPA 8321B	Sucralose**	0.53		ug/L	P323816	
	USGS O-2060-01	2,4-D	0.0030	I	ug/L	P323974	
		Diuron	8.0E-04	U	ug/L	P323974	
		Fenuron	0.0040	U	ug/L	P323974	
		Imidacloprid	0.0012	IJ	ug/L	P323974	MS
		Bentazon	8.8E-04	I	ug/L	P323974	
		Linuron	0.0040	U	ug/L	P323974	
		Acetaminophen**	0.0080	U	ug/L	P323974	
		MCPD	0.0014	I	ug/L	P323974	
		Carbamazepine**	0.017		ug/L	P323974	
		Triclopyr**	0.0040	U	ug/L	P323974	
		Primidone**	0.0068	I	ug/L	P323974	

Field ID: G3SD042417-1

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1892054	USGS O-2060-01	Fluridone**	4.0E-04	U	ug/L	P323974	

Ref. Method and Comment:
USGS O-2060-01: Refer to the narrative for an explanation of QC Codes.

Sample Location: Field Blank

Collection Date/Time: 04/24/2017 11:35

Field ID: G3SD042417-2

Matrix: W-FIELD-BK

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1892006	EPA 180.1 Rev. 2.0	Turbidity	0.10	U	NTU	P323978	
	EPA 300.0 Rev. 2.1	Chloride	0.20	U	mg Cl/L	P324478	
		Sulfate	0.20	U	mg SO4/L	P324476	
	SM 2120 B	Color (true)	2.5	U	PCU	P324081	
	SM 2320 B-97	Total Alkalinity	0.65	U	mg CaCO3/L	P324652	
	SM 2540 C-97	TDS	15	U	mg/L	P324359	
	SM 2540 D-97	TSS	2	U	mg/L	P324365	
1892009	SM 4500 F-C-97	Fluoride	0.035	U	mg F/L	P324654	RPD
	EPA 350.1 Rev. 2.0	Ammonia-N	0.002	U	mg N/L	P324256	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.080	U	mg N/L	P323990	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P324129	
	EPA 365.1 Rev. 2.0	Total-P	0.002	U	mg P/L	P324058	
1892012	SM 5310 B-00	Organic Carbon	0.50	U	mg C/L	P323998	
	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P323982	
1892058	EPA 200.7 Rev. 4.4	Calcium	0.075	U	mg/L	P324211	
		Iron	30	U	ug/L	P324211	
		Magnesium	0.040	U	mg/L	P324211	
		Potassium	0.30	U	mg/L	P324211	
		Sodium	0.50	U	mg/L	P324211	
		Zinc	5.0	U	ug/L	P324211	
	EPA 200.8 Rev. 5.4	Arsenic	0.050	U	ug/L	P324211	
		Cadmium	0.020	U	ug/L	P324211	
		Chromium	0.40	U	ug/L	P324211	
		Copper	0.20	U	ug/L	P324211	
		Lead	0.050	U	ug/L	P324211	
		Nickel	0.20	U	ug/L	P324211	
		Silver	0.010	U	ug/L	P324211	

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: Field Blank

Collection Date/Time: 04/24/2017 11:35

Field ID: G3SD042417-2

Matrix: W-FIELD-BK

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1892055	EPA 8321B	Sucralose**	0.010	U	ug/L	P323816	
	USGS O-2060-01	2,4-D	8.0E-04	U	ug/L	P323974	
		Diuron	8.0E-04	U	ug/L	P323974	
		Fenuron	0.0040	U	ug/L	P323974	

Field ID: G3SD042417-2

Matrix: W-FIELD-BK

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1892055	USGS O-2060-01	Imidacloprid	8.0E-04	U	ug/L	P323974	MS
		Bentazon	8.0E-04	U	ug/L	P323974	
		Linuron	0.0040	U	ug/L	P323974	
		Acetaminophen**	0.0080	U	ug/L	P323974	
		MCPP	8.0E-04	U	ug/L	P323974	
		Carbamazepine**	4.0E-04	U	ug/L	P323974	
		Triclopyr**	0.0040	U	ug/L	P323974	
		Primidone**	0.0040	U	ug/L	P323974	
		Fluridone**	4.0E-04	U	ug/L	P323974	

Sample Location: OK Branch @ Eucalyptus Bld.

Collection Date/Time: 04/24/2017 10:50

Field ID: G3SD042417-3

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1892007	EPA 180.1 Rev. 2.0	Turbidity	11		NTU	P323978	
	EPA 300.0 Rev. 2.1	Chloride	49		mg Cl/L	P324477	
		Sulfate	28		mg SO4/L	P324475	
	SM 2120 B	Color (true)	43		PCU	P324081	
	SM 2320 B-97	Total Alkalinity	289		mg CaCO3/L	P324652	
	SM 2540 C-97	TDS	404		mg/L	P324362	
	SM 2540 D-97	TSS	13		mg/L	P324368	
	SM 4500 F-C-97	Fluoride	0.21		mg F/L	P324654	RPD
1892010	EPA 350.1 Rev. 2.0	Ammonia-N	0.12		mg N/L	P324256	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.01		mg N/L	P323990	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.040		mg N/L	P324129	
	EPA 365.1 Rev. 2.0	Total-P	0.071		mg P/L	P324058	
	SM 5310 B-00	Organic Carbon	12		mg C/L	P323998	
1892013	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.014		mg P/L	P323982	
1892059	EPA 200.7 Rev. 4.4	Calcium	107		mg/L	P324211	
		Iron	560		ug/L	P324211	
		Magnesium	9.39		mg/L	P324211	
		Potassium	4.9		mg/L	P324211	
		Sodium	42.5		mg/L	P324211	
		Zinc	5.0	U	ug/L	P324211	
	EPA 200.8 Rev. 5.4	Arsenic	2.44		ug/L	P324211	
		Cadmium	0.020	U	ug/L	P324211	
		Chromium	0.40	U	ug/L	P324211	
		Copper	0.32	I	ug/L	P324211	
		Lead	0.10	I	ug/L	P324211	
		Nickel	1.78		ug/L	P324211	
		Silver	0.010	U	ug/L	P324211	

Sample Location: Banana Branch @ Ft. Denaud Rd.

Collection Date/Time: 04/24/2017 10:25

Field ID: G3SD042417-4

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1892002	EPA 180.1 Rev. 2.0	Turbidity	4.6		NTU	P323978	
	EPA 300.0 Rev. 2.1	Chloride	51		mg Cl/L	P324478	
		Sulfate	23		mg SO4/L	P324476	
	SM 2120 B	Color (true)	43		PCU	P324081	
	SM 2320 B-97	Total Alkalinity	131		mg CaCO3/L	P324652	
	SM 2540 C-97	TDS	278	A	mg/L	P324362	
	SM 2540 D-97	TSS	10	A	mg/L	P324368	
	SM 4500 F-C-97	Fluoride	0.19		mg F/L	P324654	RPD
1892003	EPA 350.1 Rev. 2.0	Ammonia-N	0.023		mg N/L	P324256	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.98		mg N/L	P323990	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.084		mg N/L	P324129	
	EPA 365.1 Rev. 2.0	Total-P	0.072		mg P/L	P324057	
	SM 5310 B-00	Organic Carbon	14		mg C/L	P323998	
1892004	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.042		mg P/L	P323981	

Quality Assurance Report Method Blank Results

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P323978

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P324211

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: P324211

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: P324475

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Quality Assurance Report Method Blank Results

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P324476

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P324477

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P324478

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P324256

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P323990

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P324129

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P324057

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P324058

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P323981

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

Quality Assurance Report Method Blank Results

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P323982

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

Reference Method: EPA 8321B
Batch ID: P323816

Component	Result	Code	Units
Sucralose	0.010	U	ug/L

Reference Method: SM 2120 B
Batch ID: P324081

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2320 B-97
Batch ID: P324652

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

Reference Method: SM 2540 C-97
Batch ID: P324359

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 C-97
Batch ID: P324362

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-97
Batch ID: P324365

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 2540 D-97
Batch ID: P324368

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500 F-C-97
Batch ID: P324654

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Quality Assurance Report Method Blank Results

Reference Method: SM 5310 B-00
 Batch ID: P323998

Component	Result	Code	Units
Organic Carbon	0.5	U	mg C/L

Reference Method: USGS O-2060-01
 Batch ID: P323974

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	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 200.7 Rev. 4.4
 Batch ID: P324211

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Calcium	104		P	85 - 115
Iron	105		P	85 - 115
Magnesium	106		P	85 - 115
Potassium	103		P	85 - 115
Sodium	103		P	85 - 115
Zinc	100		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4
 Batch ID: P324211

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Arsenic	99.3		P	85 - 115
Cadmium	95.5		P	85 - 115
Chromium	98.4		P	85 - 115
Copper	97.6		P	85 - 115
Lead	98.3		P	85 - 115
Nickel	98.6		P	85 - 115
Silver	97.2		P	85 - 115

Reference Method: EPA 300.0 Rev. 2.1
 Batch ID: P324475

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

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P324476

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P324477

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P324478

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Chloride	99.2		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P324256

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P323990

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P324129

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
NO ₂ NO ₃ -N	104		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P324057

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total-P	96.6		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P324058

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P323981

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
O-Phosphate-P	99.7		P	90 - 110

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 365.1 Rev. 2.0 dissolved
 Batch ID: P323982

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

Reference Method: EPA 8321B
 Batch ID: P323816

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Sucralose	88.4		P	40 - 140

Reference Method: SM 2320 B-97
 Batch ID: P324652

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	102		P	95 - 108

Reference Method: SM 4500 F-C-97
 Batch ID: P324654

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	97.2		P	92 - 103

Reference Method: SM 5310 B-00
 Batch ID: P323998

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	96.2		P	85 - 115

Reference Method: USGS O-2060-01
 Batch ID: P323974

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	69.8		P	40 - 140
Acetaminophen	48.4		P	40 - 140
Bentazon	51.9		P	40 - 140
Carbamazepine	98.5		P	40 - 140
Diuron	94.8		P	40 - 140
Fenuron	93.6		P	40 - 140
Fluridone	89.0		P	40 - 140
Imidacloprid	93.5		P	40 - 160
Linuron	83.4		P	40 - 140
MCP	78.5		P	40 - 140
Primidone	93.4		P	40 - 140
Triclopyr	75.2		P	40 - 140

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.7 Rev. 4.4
 Batch ID: P324211

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1891986	Calcium	100		P	80 - 120

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P324211

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1891986	Iron	106		P	80 - 120
1891986	Magnesium	99.0		P	80 - 120
1891986	Potassium	102		P	80 - 120
1891986	Sodium	99.6		P	80 - 120
1891986	Zinc	98.8		P	80 - 120
1892076	Calcium	103	103	P/P	80 - 120
1892076	Iron	106	105	P/P	80 - 120
1892076	Magnesium	106	105	P/P	80 - 120
1892076	Potassium	101	99.4	P/P	80 - 120
1892076	Sodium	98.8	97.0	P/P	80 - 120
1892076	Zinc	100	100	P/P	80 - 120

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P324211

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1891986	Arsenic	101		P	80 - 120
1891986	Cadmium	99.4		P	80 - 120
1891986	Chromium	98.1		P	80 - 120
1891986	Copper	94.7		P	80 - 120
1891986	Lead	99.3		P	80 - 120
1891986	Nickel	95.9		P	80 - 120
1891986	Silver	99.2		P	80 - 120
1892076	Arsenic	100	98.4	P/P	80 - 120
1892076	Cadmium	97.4	97.5	P/P	80 - 120
1892076	Chromium	99.1	98.9	P/P	80 - 120
1892076	Copper	99.0	98.2	P/P	80 - 120
1892076	Lead	99.8	98.8	P/P	80 - 120
1892076	Nickel	99.9	97.8	P/P	80 - 120
1892076	Silver	98.0	97.6	P/P	80 - 120

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P324475

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1892103	Sulfate	101		P	90 - 110
1892216	Sulfate	101		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P324476

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1891993	Sulfate	99.6		P	90 - 110
1892005	Sulfate	100		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P324477

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1892103	Chloride	95.1		P	90 - 110
1892216	Chloride	97.9		P	90 - 110

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P324478

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1891993	Chloride	98.7		P	90 - 110
1892005	Chloride	94.7		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P324256

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1891965	Ammonia-N	101	101	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P323990

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1892069	Kjeldahl Nitrogen	98.4	96.3	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P324129

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1891999	NO2NO3-N	104	104	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P324057

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1891998	Total-P	96.9	100	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P324058

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1892069	Total-P	102	94.3	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P323981

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1891957	O-Phosphate-P	92.5	95.7	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P323982

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1892013	O-Phosphate-P	97.4	95.9	P/P	90 - 110

Reference Method: EPA 8321B
Batch ID: P323816

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1891019	Sucralose	111	112	P/P	40 - 140

Quality Assurance Report Matrix Spike Accuracy

Reference Method: SM 4500 F-C-97
Batch ID: P324654

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1891951	Fluoride	97.6	101	P/P	91 - 105

Reference Method: SM 5310 B-00
Batch ID: P323998

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1891997	Organic Carbon	96.0	95.1	P/P	85 - 115

Reference Method: USGS O-2060-01
Batch ID: P323974

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1892054	2,4-D	68.5	70.2	P/P	40 - 140
1892054	Acetaminophen	90.9	97.5	P/P	40 - 140
1892054	Bentazon	47.3	47.4	P/P	40 - 140
1892054	Carbamazepine	82.0	90.4	P/P	40 - 140
1892054	Diuron	74.8	76.8	P/P	40 - 140
1892054	Fenuron	69.9	66.1	P/P	40 - 140
1892054	Fluridone	76.0	81.2	P/P	40 - 140
1892054	Imidacloprid	166	164	F/F	40 - 160
1892054	Linuron	93.5	95.9	P/P	40 - 140
1892054	MCP	60.9	62.0	P/P	40 - 140
1892054	Primidone	101	94.9	P/P	40 - 140
1892054	Triclopyr	63.5	65.6	P/P	40 - 140

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P323978

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1891992	Turbidity	1.88	Sample	P	0 - 20

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P324211

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1892076	Calcium	0.188	Spike	P	0 - 20
1892076	Iron	1.01	Spike	P	0 - 20
1892076	Magnesium	0.829	Spike	P	0 - 20
1892076	Potassium	1.14	Spike	P	0 - 20
1892076	Sodium	1.07	Spike	P	0 - 20
1892076	Zinc	0.283	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P324211

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1892076	Arsenic	1.61	Spike	P	0 - 20
1892076	Cadmium	0.0928	Spike	P	0 - 20
1892076	Chromium	0.182	Spike	P	0 - 20
1892076	Copper	0.796	Spike	P	0 - 20
1892076	Lead	1.00	Spike	P	0 - 20
1892076	Nickel	1.88	Spike	P	0 - 20
1892076	Silver	0.448	Spike	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P324475

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1892103	Sulfate	0.370	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P324476

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1891993	Sulfate	0.841	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P324477

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1892103	Chloride	0.203	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P324478

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1891993	Chloride	0.138	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P324256

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1891965	Ammonia-N	0.349	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P323990

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1892069	Kjeldahl Nitrogen	2.12	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P324129

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1891999	NO2NO3-N	0.248	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P324057

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1891998	Total-P	3.35	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P324058

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1892069	Total-P	7.62	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P323981

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1891957	O-Phosphate-P	3.40	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P323982

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1892013	O-Phosphate-P	1.36	Spike	P	0 - 20

Reference Method: EPA 8321B
Batch ID: P323816

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1891019	Sucralose	0.722	Spike	P	0 - 30

Reference Method: SM 2120 B
Batch ID: P324081

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1891993	Color (true)	5.86	Sample	P	0 - 20

Reference Method: SM 2320 B-97
Batch ID: P324652

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1891951	Total Alkalinity	0.195	Sample	P	0 - 4.8

Quality Assurance Report Precision

Reference Method: SM 2540 C-97
 Batch ID: P324359

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1891236	TDS	5.17	Sample	P	0 - 10

Reference Method: SM 2540 C-97
 Batch ID: P324362

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1892002	TDS	5.04	Sample	P	0 - 10

Reference Method: SM 2540 D-97
 Batch ID: P324368

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1892002	TSS	7.69	Sample	P	0 - 10

Reference Method: SM 4500 F-C-97
 Batch ID: P324654

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1891951	Fluoride	3.01	Spike	F	0 - 3.0

Reference Method: SM 5310 B-00
 Batch ID: P323998

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1891997	Organic Carbon	0.786	Spike	P	0 - 20

Reference Method: USGS O-2060-01
 Batch ID: P323974

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1892054	2,4-D	2.31	Spike	P	0 - 30
1892054	Acetaminophen	7.00	Spike	P	0 - 30
1892054	Bentazon	0.251	Spike	P	0 - 30
1892054	Carbamazepine	8.60	Spike	P	0 - 30
1892054	Diuron	2.59	Spike	P	0 - 30
1892054	Fenuron	5.65	Spike	P	0 - 30
1892054	Fluridone	6.66	Spike	P	0 - 30
1892054	Imidacloprid	1.28	Spike	P	0 - 30
1892054	Linuron	2.49	Spike	P	0 - 30
1892054	MCP	1.67	Spike	P	0 - 30
1892054	Primidone	6.25	Spike	P	0 - 30
1892054	Triclopyr	3.22	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: 1892054

Field Sample ID: G3SD042417-1

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Sucralose-d6	110	P	40 - 150
USGS O-2060-01	2,4-D-d3	64.6	P	30 - 150
USGS O-2060-01	Acetaminophen-d4	77.5	P	30 - 150
USGS O-2060-01	Carbamazepine-d10	73.9	P	30 - 160
USGS O-2060-01	Diuron-d6	64.3	P	30 - 150
USGS O-2060-01	Primidone-d5	88.9	P	30 - 150

Lab Sample ID: 1892055

Field Sample ID: G3SD042417-2

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Sucralose-d6	96.5	P	40 - 150
USGS O-2060-01	2,4-D-d3	68.4	P	30 - 150
USGS O-2060-01	Acetaminophen-d4	68.2	P	30 - 150
USGS O-2060-01	Carbamazepine-d10	103	P	30 - 160
USGS O-2060-01	Diuron-d6	107	P	30 - 150
USGS O-2060-01	Primidone-d5	105	P	30 - 150

Quality Assurance Report Calibration Verification

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Run ID: A75986

Included Lab Sample IDs: 1892004, 1892011, 1892012, 1892013

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	100	99.3	P/P	90 - 110
O-Phosphate-P	98.4	97.3	P/P	90 - 110
O-Phosphate-P	98.6	98.6	P/P	90 - 110

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A75987

Included Lab Sample IDs: 1892002, 1892005, 1892006, 1892007

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

Reference Method: SM 5310 B-00

Run ID: A75992

Included Lab Sample IDs: 1892003, 1892008, 1892009, 1892010

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	97.0	96.7	P/P	90 - 110

Reference Method: SM 2120 B

Run ID: A76021

Included Lab Sample IDs: 1892002, 1892005, 1892006, 1892007

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	104	105	P/P	85 - 115

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B

Run ID: A76022

Included Lab Sample IDs: 1892054, 1892055

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Sucralose	125	109	P/P	60 - 150
Sucralose	80.6	113	P/P	60 - 150

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A76029

Included Lab Sample IDs: 1892003, 1892008, 1892009, 1892010

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

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A76033

Included Lab Sample IDs: 1892003, 1892008, 1892010

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

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A76038

Included Lab Sample IDs: 1892003, 1892008, 1892009, 1892010

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	99.5	101	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A76052

Included Lab Sample IDs: 1892009

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

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A76071

Included Lab Sample IDs: 1892003, 1892008, 1892009, 1892010

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

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A76134

Included Lab Sample IDs: 1892057, 1892058, 1892059

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Arsenic	95.7	94.9	P/P	90 - 110
Arsenic	99.3	96.7	P/P	90 - 110
Cadmium	93.4	93.1	P/P	90 - 110
Cadmium	96.0	94.7	P/P	90 - 110
Chromium	96.3	96.1	P/P	90 - 110
Chromium	99.7	97.1	P/P	90 - 110
Copper	101	97.8	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A76134

Included Lab Sample IDs: 1892057, 1892058, 1892059

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Copper	97.0	96.5	P/P	90 - 110
Lead	101	99.7	P/P	90 - 110
Lead	98.9	98.2	P/P	90 - 110
Nickel	95.6	94.9	P/P	90 - 110
Nickel	98.7	97.4	P/P	90 - 110
Silver	95.5	94.6	P/P	90 - 110
Silver	98.4	95.7	P/P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A76148

Included Lab Sample IDs: 1892002, 1892005, 1892006, 1892007

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	101	101	P/P	90 - 110
Chloride	102	103	P/P	90 - 110
Chloride	103	103	P/P	90 - 110
Sulfate	101	93.6	P/P	90 - 110
Sulfate	93.4	101	P/P	90 - 110
Sulfate	98.9	100	P/P	90 - 110

Reference Method: SM 2320 B-97

Run ID: A76196

Included Lab Sample IDs: 1892002, 1892005, 1892006, 1892007

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	103	100	P/P	90 - 110

Reference Method: SM 4500 F-C-97

Run ID: A76196

Included Lab Sample IDs: 1892002, 1892005, 1892006, 1892007

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

Reference Method: EPA 200.7 Rev. 4.4

Run ID: A76199

Included Lab Sample IDs: 1892057, 1892058, 1892059

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Calcium	101	100	P/P	90 - 110
Calcium	105	104	P/P	90 - 110
Iron	102	101	P/P	90 - 110
Iron	105	105	P/P	90 - 110
Magnesium	102	102	P/P	90 - 110
Magnesium	105	104	P/P	90 - 110
Potassium	102	101	P/P	90 - 110
Potassium	104	104	P/P	90 - 110
Sodium	104	103	P/P	90 - 110
Sodium	99.9	99.6	P/P	90 - 110
Zinc	102	104	P/P	90 - 110
Zinc	103	102	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: USGS O-2060-01

Run ID: A76477

Included Lab Sample IDs: 1892054, 1892055

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	106	89.2	P/P	50 - 150
2,4-D	89.2	87.6	P/P	50 - 150
Acetaminophen	103	89.2	P/P	60 - 150
Acetaminophen	89.2	90.0	P/P	60 - 150
Bentazon	84.0	84.4	P/P	50 - 150
Bentazon	98.0	84.0	P/P	50 - 150
Carbamazepine	86.0	87.2	P/P	60 - 150
Carbamazepine	87.6	86.0	P/P	60 - 150
Diuron	89.6	96.0	P/P	60 - 150
Diuron	97.2	89.6	P/P	60 - 150
Fenuron	85.6	87.6	P/P	60 - 150
Fenuron	94.4	85.6	P/P	60 - 150
Fluridone	102	89.6	P/P	60 - 150
Fluridone	89.6	92.4	P/P	60 - 150
Imidacloprid	88.4	88.4	P/P	60 - 150
Imidacloprid	94.8	88.4	P/P	60 - 150
Linuron	85.6	80.4	P/P	60 - 150
Linuron	86.0	85.6	P/P	60 - 150
MCPP	90.8	86.0	P/P	50 - 150
MCPP	98.4	90.8	P/P	50 - 150
Primidone	85.6	79.2	P/P	60 - 150
Primidone	92.4	85.6	P/P	60 - 150
Triclopyr	100	94.0	P/P	50 - 150
Triclopyr	94.0	82.8	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								1.88	
EPA 200.7 Rev. 4.4	Calcium	104			103	103	100			0.188
	Iron	105			106	105	106			1.01
	Magnesium	106			106	105	99.0			0.829
	Potassium	103			101	99.4	102			1.14
	Sodium	103			98.8	97.0	99.6			1.07
	Zinc	100			100	100	98.8			0.283
EPA 200.8 Rev. 5.4	Arsenic	99.3			101	100	98.4			1.61
	Cadmium	95.5			99.4	97.4	97.5			0.0928
	Chromium	98.4			98.1	99.1	98.9			0.182
	Copper	97.6			94.7	99.0	98.2			0.796
	Lead	98.3			99.3	99.8	98.8			1.00
	Nickel	98.6			95.9	99.9	97.8			1.88
	Silver	97.2			99.2	98.0	97.6			0.448
EPA 300.0 Rev. 2.1	Chloride	99.6			95.1	97.9			0.203	
	Chloride	99.2			98.7	94.7			0.138	

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery		Precision	
					LCS	MS
EPA 300.0 Rev. 2.1	Sulfate	99.8	101	101	0.370	
	Sulfate	100	99.6	100	0.841	
EPA 350.1 Rev. 2.0	Ammonia-N	102	101	101		0.349
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	99.5	98.4	96.3		2.12
EPA 353.2 Rev. 2.0	NO2NO3-N	104	104	104		0.248
EPA 365.1 Rev. 2.0	Total-P	96.6	96.9	100		3.35
	Total-P	105	102	94.3		7.62
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	99.7	92.5	95.7		3.40
	O-Phosphate-P	98.6	97.4	95.9		1.36
EPA 8321B	Sucralose	88.4	111	112		0.722
SM 2120 B	Color (true)				5.86	
SM 2320 B-97	Total Alkalinity	102			0.195	
SM 2540 C-97	TDS				5.17	
	TDS				5.04	
SM 2540 D-97	TSS				7.69	
SM 4500 F-C-97	Fluoride	97.2	97.6	101		3.01
SM 5310 B-00	Organic Carbon	96.2	96.0	95.1		0.786
USGS O-2060-01	2,4-D	69.8	68.5	70.2		2.31
	Acetaminophen	48.4	90.9	97.5		7.00
	Bentazon	51.9	47.3	47.4		0.251
	Carbamazepine	98.5	82.0	90.4		8.60
	Diuron	94.8	74.8	76.8		2.59
	Fenuron	93.6	69.9	66.1		5.65
	Fluridone	89.0	76.0	81.2		6.66
	Imidacloprid	93.5	166	164		1.28
	Linuron	83.4	93.5	95.9		2.49
	MCPP	78.5	60.9	62.0		1.67
	Primidone	93.4	101	94.9		6.25
	Triclopyr	75.2	63.5	65.6		3.22

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 180.1 Rev. 2.0 / E31780	Turbidity in aqueous matrices	1892002, 1892005, 1892006, 1892007
EPA 200.7 Rev. 4.4 / E31780	Total Recoverable Metals analysis using ICP emission spectroscopy for aqueous samples supporting Clean Water Act Projects	1892057, 1892058, 1892059
EPA 200.8 Rev. 5.4 / E31780	Total Recoverable Metals analysis using ICP-MS for aqueous samples supporting Clean Water Act Projects	1892057, 1892058, 1892059
EPA 300.0 Rev. 2.1 / E31780	Chloride in aqueous matrices	1892002, 1892005, 1892006, 1892007
EPA 300.0 Rev. 2.1 / E31780	Sulfate in aqueous matrices	1892002, 1892005, 1892006, 1892007
EPA 350.1 Rev. 2.0 / E31780	Ammonia in aqueous matrices as mg N/L	1892003, 1892008, 1892009, 1892010
EPA 351.2 Rev. 2.0 / E31780	Total Kjeldahl Nitrogen in aqueous matrices	1892003, 1892008, 1892009, 1892010
EPA 353.2 Rev. 2.0 / E31780	Nitrite/Nitrate in aqueous matrices as mg N/L	1892003, 1892008, 1892009, 1892010
EPA 365.1 Rev. 2.0 / E31780	Total Phosphorus in aqueous matrices as mg P/L	1892003, 1892008, 1892009, 1892010
EPA 365.1 Rev. 2.0 dissolved / E31780	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	1892004, 1892011, 1892012, 1892013
EPA 8321B / E31780	Water soluble organic compounds by HPLC/MS/MS	1892054, 1892055
SM 2120 B / E31780	True Color measured at 450 nm	1892002, 1892005, 1892006, 1892007

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
SM 2320 B-97 / E31780	Alkalinity in aqueous matrices as mg CaCO ₃ /L	1892002, 1892005, 1892006, 1892007
SM 2540 C-97 / E31780	Total Dissolved Solids in aqueous matrices	1892002, 1892005, 1892006, 1892007
SM 2540 D-97 / E31780	Total Suspended Solids in aqueous matrices	1892002, 1892005, 1892006, 1892007
SM 4500 F-C-97 / E31780	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	1892002, 1892005, 1892006, 1892007
SM 5310 B-00 / E31780	Nonpurgeable Organic Carbon in aqueous matrices	1892003, 1892008, 1892009, 1892010
USGS O-2060-01 / E31780	Chlorinated (phenoxy acid) herbicides in water matrices by HPLC/MS/MS	1892054, 1892055
USGS O-2060-01 / E31780	Urea herbicides and other chemicals in water matrices by HPLC/MS/MS	1892054, 1892055

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	04/25/2017			04/25/2017 15:41	Sima Feizi	1892002, 1892005, 1892006, 1892007
EPA 200.7 Rev. 4.4	04/25/2017	04/28/2017	Elliott D. Healy	05/04/2017	Martin Acosta	1892058
	04/25/2017	04/28/2017	Elliott D. Healy	05/05/2017	Martin Acosta	1892057, 1892059
EPA 200.8 Rev. 5.4	04/25/2017	04/28/2017	Elliott D. Healy	05/02/2017	Betina Topolski	1892057, 1892058, 1892059
EPA 300.0 Rev. 2.1	04/25/2017			05/02/2017	Ping Hua	1892005
	04/25/2017			05/03/2017	Ping Hua	1892002, 1892006, 1892007
EPA 350.1 Rev. 2.0	04/25/2017			04/28/2017	Julie Michelle Frank	1892003, 1892008, 1892009, 1892010
EPA 351.2 Rev. 2.0	04/25/2017	04/26/2017	Adrian Shelby	04/27/2017	Joseph Suarez	1892003, 1892008, 1892009, 1892010
EPA 353.2 Rev. 2.0	04/25/2017			04/27/2017	Beverly Y. Sanders	1892003, 1892008, 1892009, 1892010
EPA 365.1 Rev. 2.0	04/25/2017	04/26/2017	Vijayalakshmi Reddy	04/27/2017	Lipi Saha	1892003, 1892008, 1892009, 1892010
EPA 365.1 Rev. 2.0 dissolved	04/25/2017			04/25/2017 13:57	Lipi Saha	1892013
	04/25/2017			04/25/2017 14:23	Lipi Saha	1892004
	04/25/2017			04/25/2017 14:24	Lipi Saha	1892012
	04/25/2017			04/25/2017 14:47	Lipi Saha	1892011
EPA 8321B	04/25/2017	04/26/2017	Mohammad Ghaffari	04/26/2017	Mohammad Ghaffari	1892054, 1892055
SM 2120 B	04/25/2017			04/25/2017 17:30	Blanca Fach	1892002
	04/25/2017			04/25/2017 17:31	Blanca Fach	1892005
	04/25/2017			04/25/2017 17:32	Blanca Fach	1892006, 1892007
SM 2320 B-97	04/25/2017			05/04/2017	Dale L. Simmons	1892002, 1892005, 1892006, 1892007
SM 2540 C-97	04/25/2017			04/26/2017	Yijie Li	1892002, 1892005, 1892006, 1892007
SM 2540 D-97	04/25/2017			04/26/2017	Yijie Li	1892002, 1892005, 1892006, 1892007
SM 4500 F-C-97	04/25/2017			05/04/2017	Dale L. Simmons	1892002, 1892005, 1892006, 1892007
SM 5310 B-00	04/25/2017			04/26/2017	Julie Michelle Frank	1892003, 1892008, 1892009, 1892010
USGS O-2060-01	04/25/2017	04/29/2017	Hoor Shaik	05/13/2017	Juyoung Kim	1892054, 1892055