

Chemical Analysis Report

WQAP-2017-04-27-06

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

Event Description: **RUN 15**
Request ID: **RQ-2017-04-24-20**
Customer: **WQAP**
Project ID: **SMP**

Send Reports to:
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Certified by: Thekkekalathil Chandrasekhar, Chemist Administrator

Date Certified: 24-MAY-2017 10:49



Case Narrative

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

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

Scientific notation may be used in reporting very large or small values. Values reported using scientific notation will take the form of the following example: 1.3E+03, which is equivalent to 1.3×10^3 or 1300.

Unless otherwise noted, analytical values for soil and sediment samples are reported on a dry weight basis, and analytical values for waste and tissue samples are reported on a wet weight basis.

Results for TNI accredited tests met requirements established by The NELAC Institute. A double asterisk (**) is used to indicate an analyte/matrix/method for which the laboratory is not TNI accredited or where accreditation for that field of testing is not applicable.

Any significant anomalies or deviations from established protocols are documented in Non-Conformance Reports, which, where appropriate, are included within this analytical report. Additional comments related to specific analytical tests may be included as remarks following the analytical results for each sample. Such comments and remarks are for informational purposes only and are not intended to convey judgement about the usability of the reported data.

A quality control report on the performance of the test method for the submitted samples is included. Uncertainty associated with the analytical results contained in this report can be estimated from the reported quality assurance results and from published quality control acceptance limits for each analytical test. Matrix quality control results (matrix spike recoveries and matrix sample precision) pertain only to the matrix sample tested and do not necessarily reflect test method performance for other samples.

Typical matrix quality control (QC) measurements may include matrix spike recovery, matrix spike duplicate recovery, matrix spike precision and matrix sample precision. Not all matrix QC results may be available or reportable; where they are not an explanation is provided. Typical reasons for unavailable QC results include, but are not limited to, a) insufficient matrix sample to perform some or all QC measurements; b) analyte concentration in the sample replicated was too low for a meaningful measurement of precision and c) analyte concentration in the matrix sample spiked was too high (relative to the amount of analyte spiked) for a meaningful measurement of recovery. Where matrix QC results are unavailable, other method performance metrics (e.g., LCS recovery, LCS precision, surrogate recovery) may be used to assess performance of the method. Comments explaining any missing QC measurements are not intended to convey any adverse conclusions about the quality of the reported data.

Precision is reported as relative percent difference unless otherwise noted.

Quality Control codes as defined below may be used in this report to indicate results that are associated with one or more quality control elements which did not fall within established test method criteria. Such results may be qualified as estimates using a J qualifier as required by 62-160 F.A.C. Explanations are included in the report for any results that were reported as estimates for other reasons.

QC Codes used in this report may include:

- LCS – Recovery for the batch Laboratory Control Sample (LCS) was outside existing control limits;
- MS – Recovery for the batch matrix spike (MS) was outside existing control limits;
- CCV – Recovery for a continuing calibration verification (CCV) standard was outside existing control limits;
- SUR – Recovery of a surrogate (SUR) for associated analytes was outside existing control limits;
- RPD – The precision, measured as relative percent difference (RPD), of batch replicate measurements was outside existing control limits;
- RSD – The precision, measured as relative standard deviation (RSD), of batch replicate measurements was outside existing control limits;
- SMP – Sample - used precision derived from replicate analyses of a sample;

The following data qualifiers are used, where applicable, in this report as specified in 62-160 F.A.C.

- A - Value reported is the mean of two or more determinations.
- B - Results based on colony counts outside the acceptable range.
- I - The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.
- J - Estimated value and/or the analysis did not meet established quality control criteria.
- K - Actual value is known to be less than value given.
- L - Actual value is known to be greater than value given.
- N - Presumptive evidence of presence of material.
- O - Sampled, but analysis lost or not performed.
- Q - Sample held beyond normal holding time.
- T - Value reported is less than the criterion of detection.
- U - Material was analyzed for but not detected. The reported value is the method detection limit for the sample analyzed.
- V - Analyte was detected in both sample and method blank.
- X - Too few individuals to calculate SCI value.
- Y - The laboratory analysis was from an unpreserved or improperly preserved sample. The data may not be accurate.
- Z - Colonies were too numerous to count (TNTC).

Quality control information from overflow laboratories may not be included in this report. Please refer to the associated report from the overflow laboratory for additional information.

Sample Location: GAP CRK

Collection Date/Time: 04/26/2017 09:30

Field ID: G2SW0030

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1893543	EPA 180.1 Rev. 2.0	Turbidity	6.3		NTU	P324192	
	EPA 300.0 Rev. 2.1	Chloride	4.9E+03		mg Cl/L	P324870	
		Sulfate	800		mg SO4/L	P324874	
	SM 2120 B	Color (true)	51		PCU	P324148	
	SM 2320 B-97	Total Alkalinity	186		mg CaCO3/L	P324857	
	SM 2540 C-97	TDS	8.73E+03		mg/L	P325036	
	SM 2540 D-97	TSS	12		mg/L	P324593	
	SM 4500 F-C-97	Fluoride	0.81		mg F/L	P325415	
1893546	EPA 350.1 Rev. 2.0	Ammonia-N	0.004	I	mg N/L	P324254	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.85		mg N/L	P324532	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P324319	
	EPA 365.1 Rev. 2.0	Total-P	0.78		mg P/L	P324326	
	SM 5310 B-00	Organic Carbon	14		mg C/L	P324235	
1893549	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.52		mg P/L	P324186	

Sample Location: WARES CRK (FRESH)

Collection Date/Time: 04/26/2017 10:00

Field ID: G2SW0031

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1893544	EPA 180.1 Rev. 2.0	Turbidity	1.0		NTU	P324192	
	EPA 300.0 Rev. 2.1	Chloride	42		mg Cl/L	P324870	
		Sulfate	98		mg SO4/L	P324874	
	SM 2120 B	Color (true)	33	A	PCU	P324148	
	SM 2320 B-97	Total Alkalinity	188		mg CaCO3/L	P325141	
	SM 2540 C-97	TDS	458		mg/L	P325072	
	SM 2540 D-97	TSS	2	U	mg/L	P324862	
	SM 4500 F-C-97	Fluoride	0.61		mg F/L	P324831	
1893547	EPA 350.1 Rev. 2.0	Ammonia-N	0.005	I	mg N/L	P324259	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.58		mg N/L	P324285	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P324388	
	EPA 365.1 Rev. 2.0	Total-P	0.13		mg P/L	P324323	
	SM 5310 B-00	Organic Carbon	9.3		mg C/L	P324282	
1893550	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.090		mg P/L	P324185	

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: RICE CRK

Collection Date/Time: 04/26/2017 14:50

Field ID: G2SW0032

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1893545	EPA 180.1 Rev. 2.0	Turbidity	2.3		NTU	P324192	
	EPA 300.0 Rev. 2.1	Chloride	32		mg Cl/L	P324870	
		Sulfate	38		mg SO4/L	P324874	
	SM 2120 B	Color (true)	79		PCU	P324143	

Field ID: G2SW0032

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1893545	SM 2320 B-97	Total Alkalinity	71	A	mg CaCO3/L	P325141	
	SM 2540 C-97	TDS	221		mg/L	P325072	
	SM 2540 D-97	TSS	3	I	mg/L	P324862	
	SM 4500 F-C-97	Fluoride	0.22		mg F/L	P324831	
1893548	EPA 350.1 Rev. 2.0	Ammonia-N	0.032		mg N/L	P324259	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.68		mg N/L	P324286	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.26		mg N/L	P324388	
	EPA 365.1 Rev. 2.0	Total-P	0.20		mg P/L	P324323	
	SM 5310 B-00	Organic Carbon	14		mg C/L	P324282	
1893551	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.17		mg P/L	P324185	

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: GAP CRK

Collection Date/Time: 04/26/2017 09:30

Field ID: G2SW0030

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1893563	EPA 8321B	Sucralose**	0.53		ug/L	P324034	
	USGS O-2060-01	2,4-D	0.0054		ug/L	P324133	
		Diuron	0.067		ug/L	P324133	
		Fenuron	0.0040	U	ug/L	P324133	
		Imidacloprid	0.0064		ug/L	P324133	MS
		Bentazon	0.022		ug/L	P324133	
		Linuron	0.0040	U	ug/L	P324133	
		Acetaminophen**	0.0080	U	ug/L	P324133	
		MCP	8.0E-04	U	ug/L	P324133	
		Carbamazepine**	8.8E-04	I	ug/L	P324133	
		Triclopyr**	0.0040	U	ug/L	P324133	
		Primidone**	0.0040	U	ug/L	P324133	
		Fluridone**	0.064		ug/L	P324133	

Sample Location: WARES CRK (FRESH)

Collection Date/Time: 04/26/2017 10:00

Field ID: G2SW0031

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1893564	EPA 8321B	Sucralose**	0.14		ug/L	P324034	
	USGS O-2060-01	2,4-D	0.021		ug/L	P324171	
		Diuron	0.0046		ug/L	P324171	
		Fenuron	0.0086	I	ug/L	P324171	
		Imidacloprid	0.017		ug/L	P324171	MS
		Bentazon	0.0072		ug/L	P324171	
		Linuron	0.0040	U	ug/L	P324171	
		Acetaminophen**	0.0080	U	ug/L	P324171	
		MCP	8.0E-04	U	ug/L	P324171	
		Carbamazepine**	8.0E-04	I	ug/L	P324171	
		Triclopyr**	0.0040	U	ug/L	P324171	

Field ID: G2SW0031

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1893564	USGS O-2060-01	Primidone**	0.0040	U	ug/L	P324171	
		Fluridone**	1.5		ug/L	P324171	

Sample Location: LITTLE MANATEE river

Collection Date/Time: 04/26/2017 12:40

Field ID: G2SW0023

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1893565	EPA 8321B	Sucralose**	0.026	I	ug/L	P324034	
	USGS O-2060-01	2,4-D	8.0E-04	U	ug/L	P324133	
		Diuron	0.0042		ug/L	P324133	
		Fenuron	0.0040	U	ug/L	P324133	
		Imidacloprid	0.039		ug/L	P324133	MS
		Bentazon	0.0072		ug/L	P324133	
		Linuron	0.0040	U	ug/L	P324133	
		Acetaminophen**	0.0080	U	ug/L	P324133	
		MCP	8.0E-04	U	ug/L	P324133	
		Carbamazepine**	4.0E-04	U	ug/L	P324133	
		Triclopyr**	0.0040	U	ug/L	P324133	
		Primidone**	0.0040	U	ug/L	P324133	
		Fluridone**	4.0E-04	U	ug/L	P324133	

Sample Location: RICE CRK

Collection Date/Time: 04/26/2017 14:50

Field ID: G2SW0032

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1893566	EPA 8321B	Sucralose**	2.4		ug/L	P324034	
	USGS O-2060-01	2,4-D	0.014		ug/L	P324133	
		Diuron	0.11		ug/L	P324133	
		Fenuron	0.081		ug/L	P324133	
		Imidacloprid	0.013		ug/L	P324133	MS
		Bentazon	0.070		ug/L	P324133	
		Linuron	0.0040	U	ug/L	P324133	
		Acetaminophen**	0.0080	U	ug/L	P324133	
		MCP	8.0E-04	U	ug/L	P324133	
		Carbamazepine**	0.0084		ug/L	P324133	
		Triclopyr**	0.0040	U	ug/L	P324133	
		Primidone**	0.033		ug/L	P324133	
		Fluridone**	0.0015	I	ug/L	P324133	

Quality Assurance Report Method Blank Results

Reference Method: EPA 180.1 Rev. 2.0
 Batch ID: P324192

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Quality Assurance Report Method Blank Results

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P324870

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P324874

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P324254

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P324259

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P324285

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P324286

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P324532

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P324319

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P324388

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

Quality Assurance Report Method Blank Results

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P324323

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P324326

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P324185

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P324186

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

Reference Method: EPA 8321B
Batch ID: P324034

Component	Result	Code	Units
Sucralose	0.010	U	ug/L

Reference Method: SM 2120 B
Batch ID: P324143

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2120 B
Batch ID: P324148

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2320 B-97
Batch ID: P324857

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

Reference Method: SM 2320 B-97
Batch ID: P325141

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

Quality Assurance Report Method Blank Results

Reference Method: SM 2540 C-97
Batch ID: P325036

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 C-97
Batch ID: P325072

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-97
Batch ID: P324593

Component	Result	Code	Units
TSS	3	U	mg/L

Reference Method: SM 2540 D-97
Batch ID: P324862

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500 F-C-97
Batch ID: P324831

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 4500 F-C-97
Batch ID: P325415

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-00
Batch ID: P324235

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

Reference Method: SM 5310 B-00
Batch ID: P324282

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

Reference Method: USGS O-2060-01
Batch ID: P324133

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

Quality Assurance Report Method Blank Results

Reference Method: USGS O-2060-01
Batch ID: P324133

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

Reference Method: USGS O-2060-01
Batch ID: P324171

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

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P324870

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Chloride	99.4		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P324874

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Sulfate	95.1		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P324254

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Ammonia-N	96.0		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P324259

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P324259

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P324285

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P324286

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Kjeldahl Nitrogen	98.2		P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P324532

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P324319

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P324388

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: P324323

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P324326

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total-P	97.4		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P324185

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

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P324186

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

Reference Method: EPA 8321B
Batch ID: P324034

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Sucralose	113		P	40 - 140

Reference Method: SM 2320 B-97
Batch ID: P324857

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

Reference Method: SM 2320 B-97
Batch ID: P325141

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

Reference Method: SM 4500 F-C-97
Batch ID: P324831

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	97.0		P	92 - 103

Reference Method: SM 4500 F-C-97
Batch ID: P325415

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	102		P	92 - 103

Reference Method: SM 5310 B-00
Batch ID: P324235

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

Reference Method: SM 5310 B-00
Batch ID: P324282

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	102		P	85 - 115

Reference Method: USGS O-2060-01
Batch ID: P324133

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	76.3		P	40 - 140
Acetaminophen	105		P	40 - 140
Bentazon	69.5		P	40 - 140
Carbamazepine	121		P	40 - 140

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: USGS O-2060-01
Batch ID: P324133

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Diuron	127		P	40 - 140
Fenuron	127		P	40 - 140
Fluridone	117		P	40 - 140
Imidacloprid	127		P	40 - 160
Linuron	127		P	40 - 140
MCP	73.2		P	40 - 140
Primidone	120		P	40 - 140
Triclopyr	71.7		P	40 - 140

Reference Method: USGS O-2060-01
Batch ID: P324171

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	69.0		P	40 - 140
Acetaminophen	43.4		P	40 - 140
Bentazon	47.0		P	40 - 140
Carbamazepine	114		P	40 - 140
Diuron	119		P	40 - 140
Fenuron	106		P	40 - 140
Fluridone	99.5		P	40 - 140
Imidacloprid	108		P	40 - 160
Linuron	106		P	40 - 140
MCP	74.2		P	40 - 140
Primidone	99.7		P	40 - 140
Triclopyr	74.9		P	40 - 140

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P324870

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1893679	Chloride	97.5		P	90 - 110
1893698	Chloride	98.0		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P324874

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1893679	Sulfate	94.6		P	90 - 110
1893698	Sulfate	93.9		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P324254

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1893480	Ammonia-N	97.1	94.7	P/P	90 - 110

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P324259

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1893289	Ammonia-N	105	104	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P324285

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1893467	Kjeldahl Nitrogen	102	104	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P324286

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1893635	Kjeldahl Nitrogen	99.5	97.0	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P324532

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1893537	Kjeldahl Nitrogen	99.6	97.7	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P324319

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1893540	NO2NO3-N	105	106	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P324388

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1893466	NO2NO3-N	100	100	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P324323

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1893547	Total-P	101	97.0	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P324326

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1893520	Total-P	94.8	90.8	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P324185

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1893582	O-Phosphate-P	99.4	100	P/P	90 - 110

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P324186

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1893599	O-Phosphate-P	94.8	95.7	P/P	90 - 110

Reference Method: EPA 8321B
Batch ID: P324034

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1892902	Sucralose	110	110	P/P	40 - 140

Reference Method: SM 4500 F-C-97
Batch ID: P324831

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1893545	Fluoride	96.8	96.1	P/P	91 - 105

Reference Method: SM 4500 F-C-97
Batch ID: P325415

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1897107	Fluoride	98.7	98.7	P/P	91 - 105

Reference Method: SM 5310 B-00
Batch ID: P324235

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1892395	Organic Carbon	96.8	96.6	P/P	85 - 115

Reference Method: SM 5310 B-00
Batch ID: P324282

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1893288	Organic Carbon	103	103	P/P	85 - 115

Reference Method: USGS O-2060-01
Batch ID: P324133

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1893010	2,4-D	73.2	76.3	P/P	40 - 140
1893010	Acetaminophen	111	96.2	P/P	40 - 140
1893010	Bentazon	75.2	80.4	P/P	40 - 140
1893010	Carbamazepine	101	108	P/P	40 - 140
1893010	Diuron	99.1	103	P/P	40 - 140
1893010	Fenuron	76.0	78.2	P/P	40 - 140
1893010	Fluridone	91.5	92.8	P/P	40 - 140
1893010	Imidacloprid	180	199	F/F	40 - 160
1893010	Linuron	104	111	P/P	40 - 140
1893010	MCP	64.7	70.7	P/P	40 - 140
1893010	Primidone	95.7	109	P/P	40 - 140
1893010	Triclopyr	65.1	69.9	P/P	40 - 140

Quality Assurance Report Matrix Spike Accuracy

Reference Method: USGS O-2060-01
Batch ID: P324171

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1893801	2,4-D	64.9	67.1	P/P	40 - 140
1893801	Acetaminophen	87.4	91.4	P/P	40 - 140
1893801	Bentazon	52.8	56.6	P/P	40 - 140
1893801	Carbamazepine	103	107	P/P	40 - 140
1893801	Diuron	88.9	98.4	P/P	40 - 140
1893801	Fenuron	81.5	83.8	P/P	40 - 140
1893801	Fluridone	81.5	86.4	P/P	40 - 140
1893801	Imidacloprid	183	198	F/F	40 - 160
1893801	Linuron	97.5	95.9	P/P	40 - 140
1893801	MCP	57.6	61.7	P/P	40 - 140
1893801	Primidone	103	107	P/P	40 - 140
1893801	Triclopyr	58.8	63.5	P/P	40 - 140

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P324192

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1893475	Turbidity	2.90	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P324870

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1893679	Chloride	0.217	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P324874

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1893679	Sulfate	0.428	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P324254

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1893480	Ammonia-N	2.13	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P324259

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1893289	Ammonia-N	1.50	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P324285

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1893467	Kjeldahl Nitrogen	1.45	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P324286

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1893635	Kjeldahl Nitrogen	1.70	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P324532

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1893537	Kjeldahl Nitrogen	1.78	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P324319

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1893540	NO2NO3-N	0.948	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P324388

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1893466	NO2NO3-N	0.0	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P324323

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1893547	Total-P	2.89	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P324326

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1893520	Total-P	4.13	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P324185

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1893582	O-Phosphate-P	0.901	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P324186

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1893599	O-Phosphate-P	0.906	Spike	P	0 - 20

Reference Method: EPA 8321B
Batch ID: P324034

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1892902	Sucralose	0.0	Spike	P	0 - 30

Reference Method: SM 2120 B
Batch ID: P324143

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1893670	Color (true)	4.48	Sample	P	0 - 20

Reference Method: SM 2120 B
Batch ID: P324148

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1893544	Color (true)	0.435	Sample	P	0 - 20

Reference Method: SM 2320 B-97
Batch ID: P324857

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1893587	Total Alkalinity	0.618	Sample	P	0 - 4.8

Reference Method: SM 2320 B-97
Batch ID: P325141

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1893545	Total Alkalinity	0.451	Sample	P	0 - 4.8

Reference Method: SM 2540 C-97
Batch ID: P325036

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1893464	TDS	0.864	Sample	P	0 - 10

Reference Method: SM 2540 C-97
Batch ID: P325072

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1893580	TDS	1.94	Sample	P	0 - 10

Quality Assurance Report Precision

Reference Method: SM 2540 D-97
Batch ID: P324593

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1893474	TSS	2.30	Sample	P	0 - 10

Reference Method: SM 4500 F-C-97
Batch ID: P324831

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1893545	Fluoride	0.477	Spike	P	0 - 3.0

Reference Method: SM 4500 F-C-97
Batch ID: P325415

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1897107	Fluoride	0.0	Spike	P	0 - 3.0

Reference Method: SM 5310 B-00
Batch ID: P324235

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1892395	Organic Carbon	0.127	Spike	P	0 - 20

Reference Method: SM 5310 B-00
Batch ID: P324282

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1893288	Organic Carbon	0.146	Spike	P	0 - 20

Reference Method: USGS O-2060-01
Batch ID: P324133

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1893010	2,4-D	4.06	Spike	P	0 - 30
1893010	Acetaminophen	13.8	Spike	P	0 - 30
1893010	Bentazon	6.68	Spike	P	0 - 30
1893010	Carbamazepine	6.76	Spike	P	0 - 30
1893010	Diuron	4.11	Spike	P	0 - 30
1893010	Fenuron	2.85	Spike	P	0 - 30
1893010	Fluridone	1.39	Spike	P	0 - 30
1893010	Imidacloprid	10.1	Spike	P	0 - 30
1893010	Linuron	6.71	Spike	P	0 - 30
1893010	MCP	8.86	Spike	P	0 - 30
1893010	Primidone	12.6	Spike	P	0 - 30
1893010	Triclopyr	7.05	Spike	P	0 - 30

Quality Assurance Report Precision

Reference Method: USGS O-2060-01
Batch ID: P324171

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1893801	2,4-D	3.17	Spike	P	0 - 30
1893801	Acetaminophen	4.09	Spike	P	0 - 30
1893801	Bentazon	6.47	Spike	P	0 - 30
1893801	Carbamazepine	3.95	Spike	P	0 - 30
1893801	Diuron	9.28	Spike	P	0 - 30
1893801	Fenuron	2.61	Spike	P	0 - 30
1893801	Fluridone	5.75	Spike	P	0 - 30
1893801	Imidacloprid	7.60	Spike	P	0 - 30
1893801	Linuron	1.56	Spike	P	0 - 30
1893801	MCP	6.98	Spike	P	0 - 30
1893801	Primidone	4.20	Spike	P	0 - 30
1893801	Triclopyr	7.72	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: 1893563
Field Sample ID: G2SW0030

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Sucralose-d6	103	P	40 - 150
USGS O-2060-01	2,4-D-d3	66.7	P	30 - 150
USGS O-2060-01	Acetaminophen-d4	89.1	P	30 - 150
USGS O-2060-01	Carbamazepine-d10	75.0	P	30 - 160
USGS O-2060-01	Diuron-d6	69.6	P	30 - 150
USGS O-2060-01	Primidone-d5	87.8	P	30 - 150

Lab Sample ID: 1893564
Field Sample ID: G2SW0031

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Sucralose-d6	116	P	40 - 150
USGS O-2060-01	2,4-D-d3	83.1	P	30 - 150
USGS O-2060-01	Acetaminophen-d4	116	P	30 - 150
USGS O-2060-01	Carbamazepine-d10	97.9	P	30 - 160
USGS O-2060-01	Diuron-d6	87.6	P	30 - 150
USGS O-2060-01	Primidone-d5	118	P	30 - 150

Lab Sample ID: 1893565
Field Sample ID: G2SW0023

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Sucralose-d6	101	P	40 - 150
USGS O-2060-01	2,4-D-d3	71.0	P	30 - 150
USGS O-2060-01	Acetaminophen-d4	109	P	30 - 150
USGS O-2060-01	Carbamazepine-d10	98.5	P	30 - 160
USGS O-2060-01	Diuron-d6	92.0	P	30 - 150

Quality Assurance Report Surrogates

Lab Sample ID: 1893565
Field Sample ID: G2SW0023

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
USGS O-2060-01	Primidone-d5	102	P	30 - 150

Lab Sample ID: 1893566
Field Sample ID: G2SW0032

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Sucralose-d6	134	P	40 - 150
USGS O-2060-01	2,4-D-d3	72.6	P	30 - 150
USGS O-2060-01	Acetaminophen-d4	114	P	30 - 150
USGS O-2060-01	Carbamazepine-d10	78.0	P	30 - 160
USGS O-2060-01	Diuron-d6	70.6	P	30 - 150
USGS O-2060-01	Primidone-d5	99.2	P	30 - 150

Quality Assurance Report Calibration Verification

Reference Method: SM 2120 B
Run ID: A76035
Included Lab Sample IDs: 1893545

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	98.2	100	P/P	85 - 115

Reference Method: SM 2120 B
Run ID: A76036
Included Lab Sample IDs: 1893543, 1893544

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	99.5	102	P/P	85 - 115

Reference Method: EPA 8321B
Run ID: A76043
Included Lab Sample IDs: 1893563, 1893564, 1893565, 1893566

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Sucralose	108	131	P/P	60 - 150
Sucralose	109	109	P/P	60 - 150

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Run ID: A76048
Included Lab Sample IDs: 1893549, 1893550, 1893551

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	97.9	97.7	P/P	90 - 110
O-Phosphate-P	98.1	99.0	P/P	90 - 110
O-Phosphate-P	98.2	97.9	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A76055

Included Lab Sample IDs: 1893543, 1893544, 1893545

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: A76068

Included Lab Sample IDs: 1893546

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	102	103	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A76070

Included Lab Sample IDs: 1893546

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	91.0	90.7	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A76071

Included Lab Sample IDs: 1893547, 1893548

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

Reference Method: SM 5310 B-00

Run ID: A76081

Included Lab Sample IDs: 1893547, 1893548

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	99.7	99.6	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A76094

Included Lab Sample IDs: 1893546

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	103	103	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A76107

Included Lab Sample IDs: 1893546, 1893547, 1893548

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

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A76117

Included Lab Sample IDs: 1893547, 1893548

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

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A76117

Included Lab Sample IDs: 1893547, 1893548

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	99.5	100	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A76133

Included Lab Sample IDs: 1893547, 1893548

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	98.6	98.4	P/P	90 - 110

Reference Method: SM 4500 F-C-97

Run ID: A76242

Included Lab Sample IDs: 1893544, 1893545

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

Reference Method: SM 2320 B-97

Run ID: A76258

Included Lab Sample IDs: 1893543

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

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A76269

Included Lab Sample IDs: 1893543, 1893544, 1893545

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	101	99.0	P/P	90 - 110
Chloride	102	101	P/P	90 - 110
Sulfate	96.4	95.7	P/P	90 - 110
Sulfate	98.9	96.4	P/P	90 - 110

Reference Method: SM 2320 B-97

Run ID: A76363

Included Lab Sample IDs: 1893544, 1893545

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	101	103	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A76388

Included Lab Sample IDs: 1893546

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	95.7	93.8	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: SM 4500 F-C-97

Run ID: A76475

Included Lab Sample IDs: 1893543

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	95.9	97.6	P/P	90 - 110

Reference Method: USGS O-2060-01

Run ID: A76477

Included Lab Sample IDs: 1893563, 1893564, 1893565, 1893566

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	85.6	87.6	P/P	50 - 150
2,4-D	92.0	92.4	P/P	50 - 150
2,4-D	95.2	92.0	P/P	50 - 150
Acetaminophen	102	103	P/P	60 - 150
Acetaminophen	106	108	P/P	60 - 150
Acetaminophen	122	106	P/P	60 - 150
Bentazon	80.8	78.4	P/P	50 - 150
Bentazon	84.8	88.8	P/P	50 - 150
Bentazon	88.8	86.8	P/P	50 - 150
Carbamazepine	107	108	P/P	60 - 150
Carbamazepine	108	93.2	P/P	60 - 150
Carbamazepine	90.0	92.0	P/P	60 - 150
Diuron	121	122	P/P	60 - 150
Diuron	122	118	P/P	60 - 150
Diuron	96.4	103	P/P	60 - 150
Fenuron	107	107	P/P	60 - 150
Fenuron	114	107	P/P	60 - 150
Fenuron	93.6	94.4	P/P	60 - 150
Fluridone	115	118	P/P	60 - 150
Fluridone	121	115	P/P	60 - 150
Imidacloprid	104	102	P/P	60 - 150
Imidacloprid	114	104	P/P	60 - 150
Imidacloprid	97.2	95.2	P/P	60 - 150
Linuron	111	103	P/P	60 - 150
Linuron	114	111	P/P	60 - 150
Linuron	85.2	84.4	P/P	60 - 150
MCPP	88.0	86.4	P/P	50 - 150
MCPP	91.2	97.2	P/P	50 - 150
MCPP	97.2	90.8	P/P	50 - 150
Primidone	88.4	96.0	P/P	60 - 150
Primidone	96.8	91.6	P/P	60 - 150
Primidone	99.2	96.8	P/P	60 - 150
Triclopyr	89.6	86.4	P/P	50 - 150
Triclopyr	93.6	94.8	P/P	50 - 150
Triclopyr	94.8	89.6	P/P	50 - 150

Reference Method: USGS O-2060-01

Run ID: A76569

Included Lab Sample IDs: 1893564

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluridone	97.2	104	P/P	60 - 150

Quality Assurance Report Calibration Verification

* 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	MS
						SMP	
EPA 180.1 Rev. 2.0	Turbidity					2.90	
EPA 300.0 Rev. 2.1	Chloride	99.4	97.5	98.0		0.217	
	Sulfate	95.1	94.6	93.9		0.428	
EPA 350.1 Rev. 2.0	Ammonia-N	96.0	97.1	94.7			2.13
	Ammonia-N	101	105	104			1.50
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	98.6	102	104			1.45
	Kjeldahl Nitrogen	98.2	99.5	97.0			1.70
	Kjeldahl Nitrogen	99.0	99.6	97.7			1.78
EPA 353.2 Rev. 2.0	NO2NO3-N	106	105	106			0.948
	NO2NO3-N	102	100	100			0.0
EPA 365.1 Rev. 2.0	Total-P	99.6	101	97.0			2.89
	Total-P	97.4	94.8	90.8			4.13
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	99.5	99.4	100			0.901
	O-Phosphate-P	101	94.8	95.7			0.906
EPA 8321B	Sucralose	113	110	110			0.0
SM 2120 B	Color (true)					4.48	
	Color (true)					0.435	
SM 2320 B-97	Total Alkalinity	103				0.618	
	Total Alkalinity	103				0.451	
SM 2540 C-97	TDS					0.864	
	TDS					1.94	
SM 2540 D-97	TSS					2.30	
SM 4500 F-C-97	Fluoride	97.0	96.8	96.1			0.477
	Fluoride	102	98.7	98.7			0.0
SM 5310 B-00	Organic Carbon	101	96.8	96.6			0.127
	Organic Carbon	102	103	103			0.146
USGS O-2060-01	2,4-D	76.3	73.2	76.3			4.06
	2,4-D	69.0	64.9	67.1			3.17
	Acetaminophen	105	111	96.2			13.8
	Acetaminophen	43.4	87.4	91.4			4.09
	Bentazon	69.5	75.2	80.4			6.68
	Bentazon	47.0	52.8	56.6			6.47
	Carbamazepine	121	101	108			6.76
	Carbamazepine	114	103	107			3.95
	Diuron	127	99.1	103			4.11
	Diuron	119	88.9	98.4			9.28
	Fenuron	127	76.0	78.2			2.85
	Fenuron	106	81.5	83.8			2.61
	Fluridone	117	91.5	92.8			1.39
	Fluridone	99.5	81.5	86.4			5.75
	Imidacloprid	127	180	199			10.1
	Imidacloprid	108	183	198			7.60
	Linuron	127	104	111			6.71
	Linuron	106	97.5	95.9			1.56
	MCP	73.2	64.7	70.7			8.86
	MCP	74.2	57.6	61.7			6.98

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery		Precision	
					LCS	MS
USGS O-2060-01	Primidone	120	95.7	109		12.6
	Primidone	99.7	103	107		4.20
	Triclopyr	71.7	65.1	69.9		7.05
	Triclopyr	74.9	58.8	63.5		7.72

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 180.1 Rev. 2.0 / E31780	Turbidity in aqueous matrices	1893543, 1893544, 1893545
EPA 300.0 Rev. 2.1 / E31780	Chloride in aqueous matrices	1893543, 1893544, 1893545
EPA 300.0 Rev. 2.1 / E31780	Sulfate in aqueous matrices	1893543, 1893544, 1893545
EPA 350.1 Rev. 2.0 / E31780	Ammonia in aqueous matrices as mg N/L	1893546, 1893547, 1893548
EPA 351.2 Rev. 2.0 / E31780	Total Kjeldahl Nitrogen in aqueous matrices	1893546, 1893547, 1893548
EPA 353.2 Rev. 2.0 / E31780	Nitrite/Nitrate in aqueous matrices as mg N/L	1893546, 1893547, 1893548
EPA 365.1 Rev. 2.0 / E31780	Total Phosphorus in aqueous matrices as mg P/L	1893546, 1893547, 1893548
EPA 365.1 Rev. 2.0 dissolved / E31780	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	1893549, 1893550, 1893551
EPA 8321B / E31780	Water soluble organic compounds by HPLC/MS/MS	1893563, 1893564, 1893565, 1893566
SM 2120 B / E31780	True Color measured at 450 nm	1893543, 1893544, 1893545
SM 2320 B-97 / E31780	Alkalinity in aqueous matrices as mg CaCO3/L	1893543, 1893544, 1893545
SM 2540 C-97 / E31780	Total Dissolved Solids in aqueous matrices	1893543, 1893544, 1893545
SM 2540 D-97 / E31780	Total Suspended Solids in aqueous matrices	1893543, 1893544, 1893545
SM 4500 F-C-97 / E31780	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	1893543, 1893544, 1893545
SM 5310 B-00 / E31780	Nonpurgeable Organic Carbon in aqueous matrices	1893546, 1893547, 1893548
USGS O-2060-01 / E31780	Chlorinated (phenoxy acid) herbicides in water matrices by HPLC/MS/MS	1893563, 1893564, 1893565, 1893566
USGS O-2060-01 / E31780	Urea herbicides and other chemicals in water matrices by HPLC/MS/MS	1893563, 1893564, 1893565, 1893566

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	04/27/2017			04/27/2017 16:59	Sima Feizi	1893543, 1893544, 1893545
EPA 300.0 Rev. 2.1	04/27/2017			05/08/2017	Ping Hua	1893543, 1893544, 1893545
EPA 350.1 Rev. 2.0	04/27/2017			04/27/2017	Julie Michelle Frank	1893546
	04/27/2017			04/28/2017	Julie Michelle Frank	1893547, 1893548
EPA 351.2 Rev. 2.0	04/27/2017	05/01/2017	Adrian Shelby	05/02/2017	Joseph Suarez	1893547, 1893548
	04/27/2017	05/04/2017	Adrian Shelby	05/09/2017	Joseph Suarez	1893546
EPA 353.2 Rev. 2.0	04/27/2017			05/01/2017	Beverly Y. Sanders	1893546
	04/27/2017			05/02/2017	Beverly Y. Sanders	1893547, 1893548
EPA 365.1 Rev. 2.0	04/27/2017	05/01/2017	Vijayalakshmi Reddy	05/02/2017	Christopher Armour	1893546, 1893547, 1893548
EPA 365.1 Rev. 2.0 dissolved	04/27/2017			04/27/2017 16:37	Anthony C. Onicha	1893549
	04/27/2017			04/27/2017 17:05	Anthony C. Onicha	1893550
	04/27/2017			04/27/2017 17:16	Anthony C. Onicha	1893551
EPA 8321B	04/27/2017	04/27/2017	Mohammad Ghaffari	04/27/2017	Mohammad Ghaffari	1893563, 1893564, 1893565, 1893566
SM 2120 B	04/27/2017			04/27/2017 15:45	Julia Storbeck	1893545
	04/27/2017			04/27/2017 17:07	Julia Storbeck	1893544
	04/27/2017			04/27/2017 17:14	Julia Storbeck	1893543
SM 2320 B-97	04/27/2017			05/09/2017	Dale L. Simmons	1893543, 1893544, 1893545
SM 2540 C-97	04/27/2017			05/01/2017	Sima Feizi	1893543
	04/27/2017			05/02/2017	Sima Feizi	1893544, 1893545
SM 2540 D-97	04/27/2017			05/01/2017	Sima Feizi	1893543
	04/27/2017			05/02/2017	Sima Feizi	1893544, 1893545
SM 4500 F-C-97	04/27/2017			05/06/2017	Dale L. Simmons	1893544, 1893545
	04/27/2017			05/17/2017	Dale L. Simmons	1893543
SM 5310 B-00	04/27/2017			04/28/2017	Julie Michelle Frank	1893546, 1893547, 1893548
USGS O-2060-01	04/27/2017	04/29/2017	Fe-Val Siddell	05/14/2017	Juyoung Kim	1893563, 1893565, 1893566
	04/27/2017	05/03/2017	Hoor Shaik	05/15/2017	Juyoung Kim	1893564
	04/27/2017	05/03/2017	Hoor Shaik	05/22/2017	Juyoung Kim	1893564