

Chemical Analysis Report

WQAP-2017-07-27-03

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

Event Description: **pesticide template kit: C**
Request ID: **RQ-2017-06-19-34**
Customer: **WQAP**
Project ID: **SMP**

Send Reports to:
FL Dept. of Environmental Protection
2600 Blair Stone Rd
MS #3560
Tallahassee, FL 32399-2400
Attn: Michael Eckles

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Certified by: Thekkekalathil Chandrasekhar, Chemist Administrator Date Certified: 21-AUG-2017 11:12



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: LAKE SEMINOLE 200M FROM BOAT RAMP @ RIVER RD. Collection Date/Time: 07/27/2017 10:30

Field ID: G2TLHR0002-2017-02

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1917133	EPA 180.1 Rev. 2.0	Turbidity	5.7	A	NTU	P329275	
	EPA 300.0 Rev. 2.1	Chloride	6.9		mg Cl/L	P329309	
		Sulfate	11		mg SO4/L	P329306	
	SM 2120 B	Color (true)	23		PCU	P329266	
	SM 2320 B-97	Total Alkalinity	33		mg CaCO3/L	P329457	
	SM 2540 C-97	TDS	67		mg/L	P329910	
	SM 2540 D-97	TSS	4	I	mg/L	P329593	
	SM 4500 F-C-97	Fluoride	0.099	I	mg F/L	P329461	
1917135	EPA 350.1 Rev. 2.0	Ammonia-N	0.004	I	mg N/L	P329493	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.42		mg N/L	P329409	MS
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.26		mg N/L	P329437	
	EPA 365.1 Rev. 2.0	Total-P	0.029		mg P/L	P329414	
	SM 5310 B-00	Organic Carbon	3.7		mg C/L	P329792	
1917137	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P329250	
1917162	EPA 200.7 Rev. 4.4	Calcium	9.87		mg/L	P329503	
		Iron	320		ug/L	P329503	
		Magnesium	1.81		mg/L	P329503	
		Potassium	2.3		mg/L	P329503	
		Sodium	9.8		mg/L	P329503	
		Zinc	5.0	U	ug/L	P329503	
	EPA 200.8 Rev. 5.4	Arsenic	0.65		ug/L	P329503	
		Cadmium	0.020	U	ug/L	P329503	
		Chromium	0.40	U	ug/L	P329503	
		Copper	0.84		ug/L	P329503	
		Lead	0.11	I	ug/L	P329503	
		Nickel	0.41	I	ug/L	P329503	
		Silver	0.010	U	ug/L	P329503	

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: LAKE SEMINOLE 200M FROM BOAT RAMP @ RIVER RD. Collection Date/Time: 07/27/2017 10:30

Field ID: G2TLHR0002-2017-02

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1917159	EPA 8321B	Glyphosate**	0.50	U	ug/L	P329109	
		Pyraclostrobin**	0.0020	U	ug/L	P329108	MS, RPD
		Sucralose**	0.80		ug/L	P329343	
	USGS O-2060-01	2,4-D	0.033		ug/L	P329234	
		Diuron	0.017		ug/L	P329234	
		Fenuron	0.0080	U	ug/L	P329234	
		Imidacloprid	0.020		ug/L	P329234	MS
		Bentazon	0.0011	I	ug/L	P329234	
		Linuron	0.0040	U	ug/L	P329234	

Field ID: G2TLHR0002-2017-02

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1917159	USGS O-2060-01	Acetaminophen**	0.0080	U	ug/L	P329234	
		MCP	0.0072	I	ug/L	P329234	
		Carbamazepine**	0.0042		ug/L	P329234	
		Triclopyr**	0.0040	U	ug/L	P329234	
		Primidone**	0.0040	U	ug/L	P329234	
		Fluridone**	0.030		ug/L	P329234	
1917160	EPA 8270D	Aldrin	4.3	UJ	ng/L	P329380	LCS, MS
		Alpha-BHC	2.1	U	ng/L	P329380	
		Beta-BHC	4.3	U	ng/L	P329380	
		Delta-BHC	4.3	U	ng/L	P329380	
		Gamma-BHC	4.3	U	ng/L	P329380	
		Carbophenothion	4.3	U	ng/L	P329380	
		Chlorothalonil	2.1	UJ	ng/L	P329380	CCV
		Cypermethrin	21	U	ng/L	P329380	
		DDD-p,p'	3.2	U	ng/L	P329380	
		DDE-p,p'	3.2	U	ng/L	P329380	
		DDT-p,p'	3.2	U	ng/L	P329380	
		Dieldrin	4.3	U	ng/L	P329380	
		Endosulfan I	4.3	U	ng/L	P329380	
		Endosulfan II	4.3	U	ng/L	P329380	
		Endosulfan Sulfate	2.1	U	ng/L	P329380	
		Endrin	2.1	U	ng/L	P329380	
		Endrin Aldehyde	2.1	U	ng/L	P329380	
		Heptachlor	1.6	U	ng/L	P329380	
		Heptachlor Epoxide	2.1	U	ng/L	P329380	
		Methoxychlor	4.3	U	ng/L	P329380	
		Mirex	2.1	U	ng/L	P329380	
		Permethrin	11	U	ng/L	P329380	
		Trifluralin	1.1	U	ng/L	P329380	
		Alpha-Chlordane	1.1	U	ng/L	P329380	
		Gamma-Chlordane	1.1	U	ng/L	P329380	
		Endrin Ketone	2.1	U	ng/L	P329380	
		Dicofol	32	U	ng/L	P329380	
	EPA 8276	Chlordane**	2.7	UJ	ng/L	P329380	RPD
		Toxaphene**	13	UJ	ng/L	P329380	LCS, RPD
1917161	EPA 8270D	Alachlor	0.25	U	ng/L	P329167	
		Ametryn	0.33	U	ng/L	P329167	
		Atrazine	13		ng/L	P329167	
		Atrazine Desethyl	4.9	IJ	ng/L	P329167	RPD
		Azinphos Methyl	2.3	U	ng/L	P329167	
		Bromacil	2.0		ng/L	P329167	
		Butylate	0.40	UJ	ng/L	P329167	RPD
		Chlorpyrifos Ethyl	0.38	I	ng/L	P329167	
		Chlorpyrifos Methyl	0.10	UJ	ng/L	P329167	CCV
		Demeton	2.0	U	ng/L	P329167	

Field ID: G2TLHR0002-2017-02

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1917161	EPA 8270D	Diazinon	0.13	U	ng/L	P329167	
		Disulfoton	0.33	U	ng/L	P329167	
		EPTC	1.3	UJ	ng/L	P329167	RPD
		Ethion	0.15	U	ng/L	P329167	
		Ethoprop	0.10	U	ng/L	P329167	
		Fenamiphos	0.25	U	ng/L	P329167	
		Fipronil	0.25	U	ng/L	P329167	
		Fipronil Sulfide	0.15	U	ng/L	P329167	
		Fipronil Sulfone	0.29	I	ng/L	P329167	
		Hexazinone	1.8	I	ng/L	P329167	
		Malathion	0.35	U	ng/L	P329167	
		Metribuzin	0.20	UJ	ng/L	P329167	LCS, MS, RPD
		Mevinphos	0.50	U	ng/L	P329167	
		Molinate	0.30	U	ng/L	P329167	
		Norflurazon	0.50	U	ng/L	P329167	
		Pendimethalin	1.5	U	ng/L	P329167	
		Phorate	0.25	U	ng/L	P329167	
		Prometon	0.91	U	ng/L	P329167	
		Prometryn	0.20	U	ng/L	P329167	
		Simazine	27		ng/L	P329167	
		Terbufos	0.10	U	ng/L	P329167	
		Terbuthylazine	0.43	U	ng/L	P329167	
		Fonofos	0.20	U	ng/L	P329167	
		Metalaxyl	0.56	I	ng/L	P329167	
		Metolachlor	13		ng/L	P329167	
		Acetochlor	3.7		ng/L	P329167	
		Cyanazine	0.50	UJ	ng/L	P329167	RPD
		Parathion Ethyl	0.25	U	ng/L	P329167	
		Parathion Methyl	0.25	U	ng/L	P329167	

Ref. Method and Comment:

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

EPA 8270D: Duplicate matrix spike not available due to spiking error. Refer to the narrative for an explanation of QC Codes.

EPA 8276: Refer to the narrative for an explanation of QC Codes.

EPA 8270D: MS accuracy for Atrazine and Ametryn not assessed due to high content of these parameters in the sample spiked. Refer to the narrative for an explanation of QC Codes.

Sample Location: CHIPLOA RIVER @ MAGNOLIA RD.

Collection Date/Time: 07/27/2017 12:30

Field ID: G2TLHR0016-2017-01

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1917134	EPA 180.1 Rev. 2.0	Turbidity	5.5		NTU	P329275	
	EPA 300.0 Rev. 2.1	Chloride	5.3		mg Cl/L	P329309	
		Sulfate	1.4		mg SO4/L	P329306	
	SM 2120 B	Color (true)	11		PCU	P329266	
	SM 2320 B-97	Total Alkalinity	119		mg CaCO3/L	P329457	
	SM 2540 C-97	TDS	136		mg/L	P329910	
	SM 2540 D-97	TSS	6	I	mg/L	P329593	

Field ID: G2TLHR0016-2017-01

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1917134	SM 4500 F-C-97	Fluoride	0.050	I	mg F/L	P329461	
1917136	EPA 350.1 Rev. 2.0	Ammonia-N	0.010		mg N/L	P329493	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.30		mg N/L	P329409	MS
	EPA 353.2 Rev. 2.0	NO2NO3-N	1.9		mg N/L	P329437	
	EPA 365.1 Rev. 2.0	Total-P	0.027		mg P/L	P329414	
	SM 5310 B-00	Organic Carbon	1.9		mg C/L	P329792	
1917138	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.010		mg P/L	P329250	
1917163	EPA 200.7 Rev. 4.4	Calcium	48.5		mg/L	P329503	
		Iron	250		ug/L	P329503	
		Magnesium	2.35		mg/L	P329503	
		Potassium	0.61	I	mg/L	P329503	
		Sodium	2.4		mg/L	P329503	
		Zinc	5.0	U	ug/L	P329503	
	EPA 200.8 Rev. 5.4	Arsenic	0.49		ug/L	P329503	
		Cadmium	0.020	U	ug/L	P329503	
		Chromium	1.1	I	ug/L	P329503	
		Copper	0.20	U	ug/L	P329503	
		Lead	0.22		ug/L	P329503	
		Nickel	2.70		ug/L	P329503	
		Silver	0.010	U	ug/L	P329503	
1917168	EPA 8321B	Glyphosate**	0.50	U	ug/L	P329109	
		Pyraclostrobin**	0.0020	UJ	ug/L	P329108	MS, RPD
		Sucralose**	0.13		ug/L	P329343	
	USGS O-2060-01	2,4-D	0.0047	I	ug/L	P329234	
		Diuron	9.0E-04	I	ug/L	P329234	
		Fenuron	0.0080	U	ug/L	P329234	
		Imidacloprid	0.023		ug/L	P329234	MS
		Bentazon	0.0012	I	ug/L	P329234	
		Linuron	0.0040	U	ug/L	P329234	
		Acetaminophen**	0.0080	U	ug/L	P329234	
		MCPD	0.0020	U	ug/L	P329234	
		Carbamazepine**	4.0E-04	U	ug/L	P329234	
		Triclopyr**	0.0040	U	ug/L	P329234	
		Primidone**	0.0040	U	ug/L	P329234	
		Fluridone**	4.0E-04	U	ug/L	P329234	
1917169	EPA 8270D	Aldrin	4.6	UJ	ng/L	P329380	LCS, MS
		Alpha-BHC	2.3	U	ng/L	P329380	
		Beta-BHC	4.6	U	ng/L	P329380	
		Delta-BHC	4.6	U	ng/L	P329380	
		Gamma-BHC	4.6	U	ng/L	P329380	
		Carbophenothion	4.6	U	ng/L	P329380	
		Chlorothalonil	2.3	UJ	ng/L	P329380	CCV
		Cypermethrin	23	U	ng/L	P329380	
		DDD-p,p'	3.5	U	ng/L	P329380	

Field ID: G2TLHR0016-2017-01

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1917169	EPA 8270D	DDE-p,p'	3.5	U	ng/L	P329380	
		DDT-p,p'	3.5	U	ng/L	P329380	
		Dieldrin	4.6	U	ng/L	P329380	
		Endosulfan I	4.6	U	ng/L	P329380	
		Endosulfan II	4.6	U	ng/L	P329380	
		Endosulfan Sulfate	2.3	U	ng/L	P329380	
		Endrin	2.3	U	ng/L	P329380	
		Endrin Aldehyde	2.3	U	ng/L	P329380	
		Heptachlor	1.7	U	ng/L	P329380	
		Heptachlor Epoxide	2.3	U	ng/L	P329380	
		Methoxychlor	4.6	U	ng/L	P329380	
		Mirex	2.3	U	ng/L	P329380	
		Permethrin	12	U	ng/L	P329380	
		Trifluralin	1.2	U	ng/L	P329380	
		Alpha-Chlordane	1.2	U	ng/L	P329380	
		Gamma-Chlordane	1.2	U	ng/L	P329380	
		Endrin Ketone	2.3	U	ng/L	P329380	
		Dicofol	35	U	ng/L	P329380	
	EPA 8276	Chlordane**	2.9	UJ	ng/L	P329380	RPD
		Toxaphene**	14	UJ	ng/L	P329380	LCS, RPD
1917170	EPA 8270D	Alachlor	0.24	U	ng/L	P329167	
		Ametryn	0.31	U	ng/L	P329167	
		Atrazine	2.3		ng/L	P329167	
		Atrazine Desethyl	3.8	IJ	ng/L	P329167	RPD
		Azinphos Methyl	2.2	U	ng/L	P329167	
		Bromacil	0.48	U	ng/L	P329167	
		Butylate	0.38	UJ	ng/L	P329167	RPD
		Chlorpyrifos Ethyl	0.24	U	ng/L	P329167	
		Chlorpyrifos Methyl	0.096	UJ	ng/L	P329167	CCV
		Demeton	1.9	U	ng/L	P329167	
		Diazinon	0.12	U	ng/L	P329167	
		Disulfoton	0.31	U	ng/L	P329167	
		EPTC	1.2	UJ	ng/L	P329167	RPD
		Ethion	0.14	U	ng/L	P329167	
		Ethoprop	0.096	U	ng/L	P329167	
		Fenamiphos	0.24	U	ng/L	P329167	
		Fipronil	0.24	U	ng/L	P329167	
		Fipronil Sulfide	0.14	U	ng/L	P329167	
		Fipronil Sulfone	0.14	U	ng/L	P329167	
		Hexazinone	2.2		ng/L	P329167	
		Malathion	0.34	U	ng/L	P329167	
		Metribuzin	0.19	UJ	ng/L	P329167	LCS, MS, RPD
		Mevinphos	0.48	U	ng/L	P329167	
		Molinate	0.29	U	ng/L	P329167	

Field ID: G2TLHR0016-2017-01

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1917170	EPA 8270D	Norflurazon	0.48	U	ng/L	P329167	
		Pendimethalin	1.4	U	ng/L	P329167	
		Phorate	0.24	U	ng/L	P329167	
		Prometon	0.86	U	ng/L	P329167	
		Prometryn	0.19	U	ng/L	P329167	
		Simazine	0.48	U	ng/L	P329167	
		Terbufos	0.096	U	ng/L	P329167	
		Terbuthylazine	0.41	U	ng/L	P329167	
		Fonofos	0.19	U	ng/L	P329167	
		Metalaxyl	0.19	U	ng/L	P329167	
		Metolachlor	4.7		ng/L	P329167	
		Acetochlor	0.27	I	ng/L	P329167	
		Cyanazine	0.48	UJ	ng/L	P329167	RPD
		Parathion Ethyl	0.24	U	ng/L	P329167	
		Parathion Methyl	0.24	U	ng/L	P329167	

Ref. Method and Comment:
 SM 2540 D-97: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.
 EPA 8321B: Refer to the narrative for an explanation of QC Codes.
 USGS O-2060-01: MS accuracy for bentazon could not be assessed due to high concentration of parameter in the spiked sample.
 EPA 8270D: Duplicate matrix spike not available due to spiking error. Refer to the narrative for an explanation of QC Codes.
 EPA 8276: Refer to the narrative for an explanation of QC Codes.
 EPA 8270D: MS accuracy for Atrazine and Ametryn not assessed due to high content of these parameters in the sample spiked. Refer to the narrative for an explanation of QC Codes.

Quality Assurance Report

Method Blank Results

Reference Method: EPA 180.1 Rev. 2.0
 Batch ID: P329275

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 200.7 Rev. 4.4
 Batch ID: P329503

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: P329503

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

Quality Assurance Report Method Blank Results

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P329503

Component	Result	Code	Units
Nickel	0.20	U	ug/L
Silver	0.010	U	ug/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P329306

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P329309

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P329493

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P329409

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P329437

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P329414

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P329250

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

Reference Method: EPA 8270D
Batch ID: P329167

Component	Result	Code	Units
Acetochlor	0.25	U	ng/L
Alachlor	0.25	U	ng/L
Ametryn	0.32	U	ng/L

Quality Assurance Report Method Blank Results

Reference Method: EPA 8270D
Batch ID: P329167

Component	Result	Code	Units
Atrazine	0.25	U	ng/L
Atrazine Desethyl	1.5	U	ng/L
Azinphos Methyl	2.2	U	ng/L
Bromacil	0.50	U	ng/L
Butylate	0.40	U	ng/L
Chlorpyrifos Ethyl	0.25	U	ng/L
Chlorpyrifos Methyl	0.10	U	ng/L
Cyanazine	0.50	U	ng/L
Demeton	2.0	U	ng/L
Diazinon	0.12	U	ng/L
Disulfoton	0.32	U	ng/L
EPTC	1.2	U	ng/L
Ethion	0.15	U	ng/L
Ethoprop	0.10	U	ng/L
Fenamiphos	0.25	U	ng/L
Fipronil	0.25	U	ng/L
Fipronil Sulfide	0.15	U	ng/L
Fipronil Sulfone	0.15	U	ng/L
Fonofos	0.20	U	ng/L
Hexazinone	0.50	U	ng/L
Malathion	0.35	U	ng/L
Metalaxyl	0.20	U	ng/L
Metolachlor	0.25	U	ng/L
Metribuzin	0.20	U	ng/L
Mevinphos	0.50	U	ng/L
Molinate	0.30	U	ng/L
Norflurazon	0.50	U	ng/L
Parathion Ethyl	0.25	U	ng/L
Parathion Methyl	0.25	U	ng/L
Pendimethalin	1.5	U	ng/L
Phorate	0.25	U	ng/L
Prometon	0.90	U	ng/L
Prometryn	0.20	U	ng/L
Simazine	0.50	U	ng/L
Terbufos	0.10	U	ng/L
Terbutylazine	0.42	U	ng/L

Reference Method: EPA 8270D
Batch ID: P329380

Component	Result	Code	Units
Aldrin	4.0	U	ng/L
Alpha-BHC	2.0	U	ng/L
Alpha-Chlordane	1.0	U	ng/L
Beta-BHC	4.0	U	ng/L
Carbophenothion	4.0	U	ng/L
Chlorothalonil	2.0	U	ng/L
Cypermethrin	20	U	ng/L
DDD-p,p'	3.0	U	ng/L
DDE-p,p'	3.0	U	ng/L
DDT-p,p'	3.0	U	ng/L
Delta-BHC	4.0	U	ng/L

Quality Assurance Report Method Blank Results

Reference Method: EPA 8270D
Batch ID: P329380

Component	Result	Code	Units
Dicofol	30	U	ng/L
Dieldrin	4.0	U	ng/L
Endosulfan I	4.0	U	ng/L
Endosulfan II	4.0	U	ng/L
Endosulfan Sulfate	2.0	U	ng/L
Endrin	2.0	U	ng/L
Endrin Aldehyde	2.0	U	ng/L
Endrin Ketone	2.0	U	ng/L
Gamma-BHC	4.0	U	ng/L
Gamma-Chlordane	1.0	U	ng/L
Heptachlor	1.5	U	ng/L
Heptachlor Epoxide	2.0	U	ng/L
Methoxychlor	4.0	U	ng/L
Mirex	2.0	U	ng/L
Permethrin	10	U	ng/L
Trifluralin	1.0	U	ng/L

Reference Method: EPA 8276
Batch ID: P329380

Component	Result	Code	Units
Chlordane	2.5	U	ng/L
Toxaphene	12	U	ng/L

Reference Method: EPA 8321B
Batch ID: P329108

Component	Result	Code	Units
Pyraclostrobin	0.0020	U	ug/L

Reference Method: EPA 8321B
Batch ID: P329109

Component	Result	Code	Units
Glyphosate	0.50	U	ug/L

Reference Method: EPA 8321B
Batch ID: P329343

Component	Result	Code	Units
Sucralose	0.010	U	ug/L

Reference Method: SM 2120 B
Batch ID: P329266

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2320 B-97
Batch ID: P329457

Component	Result	Code	Units
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Quality Assurance Report Method Blank Results

Reference Method: SM 2320 B-97
 Batch ID: P329457

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

Reference Method: SM 2540 C-97
 Batch ID: P329910

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-97
 Batch ID: P329593

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500 F-C-97
 Batch ID: P329461

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-00
 Batch ID: P329792

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

Reference Method: USGS O-2060-01
 Batch ID: P329234

Component	Result	Code	Units
2,4-D	0.0020	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	0.0080	U	ug/L
Fluridone	4.0E-04	U	ug/L
Imidacloprid	8.0E-04	U	ug/L
Linuron	0.0040	U	ug/L
MCP	0.0020	U	ug/L
Primidone	0.0040	U	ug/L
Triclopyr	0.0040	U	ug/L

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 200.7 Rev. 4.4
 Batch ID: P329503

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

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P329503

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Iron	108		P	85 - 115
Magnesium	103		P	85 - 115
Potassium	98.4		P	85 - 115
Sodium	101		P	85 - 115
Zinc	103		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P329503

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Arsenic	107		P	85 - 115
Cadmium	102		P	85 - 115
Chromium	102		P	85 - 115
Copper	101		P	85 - 115
Lead	99.4		P	85 - 115
Nickel	104		P	85 - 115
Silver	101		P	85 - 115

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P329306

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P329309

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P329493

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P329409

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P329437

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P329414

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

Reference Method: EPA 365.1 Rev. 2.0
 Batch ID: P329414

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total-P	96.8		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
 Batch ID: P329250

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

Reference Method: EPA 8270D
 Batch ID: P329167

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acetochlor	89.6	89.0	P/P	78 - 118
Alachlor	88.5	86.0	P/P	77 - 119
Ametryn	92.9	88.2	P/P	61 - 136
Atrazine	92.1	87.3	P/P	73 - 120
Atrazine Desethyl	93.2	64.6	P/P	16 - 122
Azinphos Methyl	105	83.9	P/P	69 - 186
Bromacil	87.9	82.2	P/P	40 - 125
Butylate	41.7	65.0	P/P	32 - 87.0
Chlorpyrifos Ethyl	83.3	70.1	P/P	53 - 110
Chlorpyrifos Methyl	84.9	66.5	P/P	31 - 119
Cyanazine	166	63.3	P/P	36 - 224
Demeton	77.2	75.5	P/P	39 - 122
Diazinon	88.1	82.8	P/P	75 - 119
Disulfoton	87.3	79.4	P/P	42 - 139
EPTC	41.3	62.7	P/P	33 - 96.0
Ethion	81.9	74.8	P/P	63 - 127
Ethoprop	76.7	67.8	P/P	65 - 107
Fenamiphos	85.3	78.9	P/P	64 - 137
Fipronil	88.3	88.4	P/P	60 - 126
Fipronil Sulfide	81.3	74.0	P/P	58 - 124
Fipronil Sulfone	74.0	68.7	P/P	57 - 126
Fonofos	82.1	74.1	P/P	65 - 111
Hexazinone	86.7	86.4	P/P	46 - 151
Malathion	82.7	73.3	P/P	68 - 132
Metaxyl	93.9	80.4	P/P	51 - 132
Metolachlor	81.1	87.7	P/P	78 - 119
Metribuzin	155	94.0	F/P	64 - 138
Mevinphos	69.4	60.9	P/P	34 - 128
Molinate	52.5	64.9	P/P	44 - 101
Norflurazon	86.1	87.0	P/P	63 - 129
Parathion Ethyl	85.1	83.0	P/P	80 - 109
Parathion Methyl	97.4	82.5	P/P	74 - 125
Pendimethalin	80.9	73.9	P/P	48 - 134
Phorate	86.8	70.5	P/P	52 - 119
Prometon	84.0	92.0	P/P	69 - 124
Prometryn	93.4	94.6	P/P	66 - 124
Simazine	89.9	88.3	P/P	61 - 134
Terbufos	82.7	73.8	P/P	58 - 115
Terbutylazine	81.4	91.4	P/P	77 - 113

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 8270D
Batch ID: P329380

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Aldrin	19.2	17.1	F/F	26 - 88.0
Alpha-BHC	89.9	83.0	P/P	63 - 114
Alpha-Chlordane	83.5	77.7	P/P	56 - 117
Beta-BHC	101	88.6	P/P	57 - 138
Carbophenothion	75.0	78.5	P/P	36 - 148
Chlorothalonil	54.4	72.4	P/P	26 - 173
Cypermethrin	133	130	P/P	42 - 159
DDD-p,p'	99.8	91.7	P/P	62 - 126
DDE-p,p'	76.3	72.7	P/P	53 - 115
DDT-p,p'	82.0	83.6	P/P	54 - 117
Delta-BHC	145	135	P/P	68 - 158
Dicofol	26.8	35.6	P/P	25 - 114
Dieldrin	92.1	86.9	P/P	59 - 126
Endosulfan I	110	101	P/P	62 - 138
Endosulfan II	123	107	P/P	61 - 150
Endosulfan Sulfate	112	97.3	P/P	63 - 132
Endrin	93.0	93.9	P/P	49 - 148
Endrin Aldehyde	112	95.1	P/P	50 - 144
Endrin Ketone	104	93.7	P/P	66 - 122
Gamma-BHC	95.9	93.3	P/P	60 - 137
Gamma-Chlordane	82.7	75.6	P/P	54 - 113
Heptachlor	70.4	59.8	P/P	43 - 104
Heptachlor Epoxide	86.2	78.2	P/P	64 - 118
Methoxychlor	115	111	P/P	63 - 129
Mirex	68.4	69.8	P/P	39 - 93.0
Permethrin	91.6	89.4	P/P	51 - 123
Trifluralin	101	103	P/P	35 - 187

Reference Method: EPA 8276
Batch ID: P329380

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Chlordane	78.1	49.0	P/P	48 - 121
Toxaphene	77.2	28.7	P/F	43 - 135

Reference Method: EPA 8321B
Batch ID: P329108

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Pyraclostrobin	42.5		P	40 - 150

Reference Method: EPA 8321B
Batch ID: P329109

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Glyphosate	109		P	40 - 150

Reference Method: EPA 8321B
Batch ID: P329343

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Sucralose	85.0		P	40 - 150

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: SM 2320 B-97
 Batch ID: P329457

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

Reference Method: SM 4500 F-C-97
 Batch ID: P329461

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	96.1		P	92 - 103

Reference Method: SM 5310 B-00
 Batch ID: P329792

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

Reference Method: USGS O-2060-01
 Batch ID: P329234

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	69.0		P	40 - 150
Acetaminophen	58.6		P	30 - 150
Bentazon	88.1		P	40 - 150
Carbamazepine	130		P	40 - 150
Diuron	99.8		P	40 - 150
Fenuron	113		P	40 - 150
Fluridone	89.3		P	40 - 150
Imidacloprid	112		P	40 - 160
Linuron	92.3		P	40 - 150
MCP	72.8		P	40 - 150
Primidone	80.7		P	40 - 150
Triclopyr	64.7		P	40 - 150

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.7 Rev. 4.4
 Batch ID: P329503

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1917275	Calcium	101		P	80 - 120
1917275	Iron	108	108	P/P	80 - 120
1917275	Magnesium	100		P	80 - 120
1917275	Potassium	95.7		P	80 - 120
1917275	Sodium	101		P	80 - 120
1917275	Zinc	100	101	P/P	80 - 120

Reference Method: EPA 200.8 Rev. 5.4
 Batch ID: P329503

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1917275	Arsenic	110	103	P/P	80 - 120
1917275	Cadmium	104	99.0	P/P	80 - 120

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P329503

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1917275	Chromium	101	96.5	P/P	80 - 120
1917275	Copper	96.5	89.5	P/P	80 - 120
1917275	Lead	101	94.1	P/P	80 - 120
1917275	Nickel	102	95.3	P/P	80 - 120
1917275	Silver	102	97.1	P/P	80 - 120

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P329306

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1917103	Sulfate	96.0		P	90 - 110
1917117	Sulfate	94.9		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P329309

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1917103	Chloride	99.7		P	90 - 110
1917117	Chloride	99.8		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P329493

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1917135	Ammonia-N	98.8	99.1	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P329409

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1917124	Kjeldahl Nitrogen	104	113	P/F	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P329437

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1917121	NO2NO3-N	104	106	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P329414

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1917106	Total-P	98.4	99.6	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P329250

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1917137	O-Phosphate-P	97.1	99.4	P/P	90 - 110

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8270D
Batch ID: P329167

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1916017	Acetochlor	83.3	91.3	P/P	74 - 123
1916017	Alachlor	80.3	93.8	P/P	73 - 124
1916017	Atrazine Desethyl	60.5	81.7	P/P	12 - 103
1916017	Azinphos Methyl	86.0	106	P/P	60 - 202
1916017	Bromacil	86.2	101	P/P	42 - 133
1916017	Butylate	31.1	43.0	P/P	10 - 85.0
1916017	Chlorpyrifos Ethyl	73.6	86.6	P/P	53 - 113
1916017	Chlorpyrifos Methyl	74.9	87.0	P/P	40 - 115
1916017	Cyanazine	149	185	P/P	22 - 210
1916017	Demeton	67.9	86.7	P/P	17 - 149
1916017	Diazinon	89.5	104	P/P	72 - 124
1916017	Disulfoton	77.7	96.0	P/P	43 - 139
1916017	EPTC	30.4	47.1	P/P	10 - 86.0
1916017	Ethion	71.4	83.0	P/P	65 - 131
1916017	Ethoprop	63.0	76.0	P/P	59 - 110
1916017	Fenamiphos	80.9	85.5	P/P	57 - 138
1916017	Fipronil	95.1	101	P/P	40 - 130
1916017	Fipronil Sulfide	73.3	80.7	P/P	36 - 128
1916017	Fipronil Sulfone	71.7	88.4	P/P	16 - 145
1916017	Fonofos	80.1	98.0	P/P	60 - 112
1916017	Hexazinone	79.3	96.4	P/P	69 - 142
1916017	Malathion	74.0	80.2	P/P	68 - 132
1916017	Metalaxyl	87.3	98.1	P/P	66 - 118
1916017	Metolachlor	88.0	93.8	P/P	71 - 124
1916017	Metribuzin	249	283	F/F	61 - 140
1916017	Mevinphos	68.1	82.5	P/P	38 - 130
1916017	Molinate	48.3	58.9	P/P	23 - 99.0
1916017	Norflurazon	83.5	88.8	P/P	39 - 139
1916017	Parathion Ethyl	77.9	89.6	P/P	75 - 111
1916017	Parathion Methyl	89.8	96.7	P/P	64 - 130
1916017	Pendimethalin	75.4	87.9	P/P	26 - 173
1916017	Phorate	89.5	94.8	P/P	43 - 127
1916017	Prometon	87.5	98.6	P/P	50 - 144
1916017	Prometryn	91.7	98.1	P/P	69 - 126
1916017	Simazine	103	122	P/P	51 - 152
1916017	Terbufos	76.7	96.2	P/P	54 - 125
1916017	Terbuthylazine	78.3	92.2	P/P	76 - 113

Reference Method: EPA 8270D
Batch ID: P329380

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1916678	Aldrin	17.4		F	22 - 97.0
1916678	Alpha-BHC	86.7		P	43 - 132
1916678	Alpha-Chlordane	83.0		P	36 - 126
1916678	Beta-BHC	96.5		P	41 - 150
1916678	Carbophenothion	56.5		P	13 - 196
1916678	Chlorothalonil	123		P	10 - 266
1916678	Cypermethrin	97.6		P	37 - 161
1916678	DDD-p,p'	93.3		P	44 - 131
1916678	DDE-p,p'	85.2		P	32 - 127
1916678	DDT-p,p'	86.3		P	45 - 116

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8270D
Batch ID: P329380

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1916678	Delta-BHC	125		P	50 - 201
1916678	Dicofol	30.2		P	10 - 100
1916678	Dieldrin	92.8		P	39 - 142
1916678	Endosulfan I	94.4		P	51 - 139
1916678	Endosulfan II	109		P	49 - 155
1916678	Endosulfan Sulfate	82.3		P	54 - 136
1916678	Endrin	82.7		P	38 - 141
1916678	Endrin Aldehyde	96.1		P	14 - 152
1916678	Endrin Ketone	87.2		P	60 - 128
1916678	Gamma-BHC	96.2		P	48 - 157
1916678	Gamma-Chlordane	84.5		P	35 - 123
1916678	Heptachlor	71.9		P	25 - 112
1916678	Heptachlor Epoxide	83.0		P	48 - 125
1916678	Methoxychlor	106		P	52 - 127
1916678	Mirex	75.1		P	25 - 108
1916678	Permethrin	85.1		P	46 - 133
1916678	Trifluralin	125		P	29 - 254

Reference Method: EPA 8276
Batch ID: P329380

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1917505	Chlordane	72.2	83.7	P/P	44 - 134
1917505	Toxaphene	91.9	104	P/P	36 - 147

Reference Method: EPA 8321B
Batch ID: P329108

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1917168	Pyraclostrobin	43.9	27.8	P/F	40 - 150

Reference Method: EPA 8321B
Batch ID: P329109

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1916003	Glyphosate	110	118	P/P	40 - 150

Reference Method: EPA 8321B
Batch ID: P329343

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1917030	Sucralose	103	92.6	P/P	40 - 150

Reference Method: SM 4500 F-C-97
Batch ID: P329461

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1917171	Fluoride	96.2	95.6	P/P	91 - 105

Quality Assurance Report Matrix Spike Accuracy

Reference Method: SM 5310 B-00
Batch ID: P329792

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1917416	Organic Carbon	95.5	94.4	P/P	85 - 115

Reference Method: USGS O-2060-01
Batch ID: P329234

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1917511	2,4-D	105	90.3	P/P	40 - 150
1917511	Acetaminophen	126	108	P/P	30 - 150
1917511	Carbamazepine	107	80.9	P/P	40 - 150
1917511	Diuron	64.9	59.2	P/P	40 - 150
1917511	Fenuron	60.9	48.1	P/P	40 - 150
1917511	Fluridone	47.3	41.3	P/P	40 - 150
1917511	Imidacloprid	162	169	F/F	40 - 160
1917511	Linuron	75.2	78.6	P/P	40 - 150
1917511	MCP	107	102	P/P	40 - 150
1917511	Primidone	56.6	47.4	P/P	40 - 150
1917511	Triclopyr	92.7	95.2	P/P	40 - 150

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P329275

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1917133	Turbidity	4.00	Sample	P	0 - 20

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P329503

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1917275	Calcium	1.33	Spike	P	0 - 20
1917275	Iron	0.0796	Spike	P	0 - 20
1917275	Magnesium	1.30	Spike	P	0 - 20
1917275	Potassium	0.867	Spike	P	0 - 20
1917275	Sodium	1.32	Spike	P	0 - 20
1917275	Zinc	0.509	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P329503

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1917275	Arsenic	5.98	Spike	P	0 - 20
1917275	Cadmium	5.30	Spike	P	0 - 20
1917275	Chromium	4.82	Spike	P	0 - 20
1917275	Copper	7.03	Spike	P	0 - 20
1917275	Lead	6.72	Spike	P	0 - 20
1917275	Nickel	6.16	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P329503

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1917275	Silver	5.46	Spike	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P329306

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1917117	Sulfate	1.68	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P329309

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1917117	Chloride	1.29	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P329493

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1917135	Ammonia-N	0.316	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P329409

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1917124	Kjeldahl Nitrogen	8.35	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P329437

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1917121	NO2NO3-N	0.952	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P329414

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1917106	Total-P	1.21	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P329250

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1917137	O-Phosphate-P	2.34	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 8270D
Batch ID: P329167

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1916017	Acetochlor	9.16	Spike	P	0 - 30
1916017	Alachlor	15.5	Spike	P	0 - 30
1916017	Ametryn	4.08	Spike	P	0 - 30
1916017	Atrazine	9.32	Spike	P	0 - 30
1916017	Atrazine Desethyl	17.6	Spike	P	0 - 30
1916017	Azinphos Methyl	20.7	Spike	P	0 - 30
1916017	Bromacil	16.2	Spike	P	0 - 30
1916017	Butylate	31.9	Spike	F	0 - 30
1916017	Chlorpyrifos Ethyl	16.2	Spike	P	0 - 30
1916017	Chlorpyrifos Methyl	14.9	Spike	P	0 - 30
1916017	Cyanazine	21.4	Spike	P	0 - 30
1916017	Demeton	24.3	Spike	P	0 - 30
1916017	Diazinon	14.7	Spike	P	0 - 30
1916017	Disulfoton	21.1	Spike	P	0 - 30
1916017	EPTC	43.1	Spike	F	0 - 30
1916017	Ethion	15.0	Spike	P	0 - 30
1916017	Ethoprop	18.8	Spike	P	0 - 30
1916017	Fenamiphos	5.57	Spike	P	0 - 30
1916017	Fipronil	5.92	Spike	P	0 - 30
1916017	Fipronil Sulfide	7.62	Spike	P	0 - 30
1916017	Fipronil Sulfone	12.7	Spike	P	0 - 30
1916017	Fonofos	20.1	Spike	P	0 - 30
1916017	Hexazinone	13.1	Spike	P	0 - 30
1916017	Malathion	8.08	Spike	P	0 - 30
1916017	Metalaxyl	11.6	Spike	P	0 - 30
1916017	Metolachlor	6.40	Spike	P	0 - 30
1916017	Metribuzin	12.6	Spike	P	0 - 30
1916017	Mevinphos	19.2	Spike	P	0 - 30
1916017	Molinate	19.8	Spike	P	0 - 30
1916017	Norflurazon	6.22	Spike	P	0 - 30
1916017	Parathion Ethyl	14.0	Spike	P	0 - 30
1916017	Parathion Methyl	7.42	Spike	P	0 - 30
1916017	Pendimethalin	15.3	Spike	P	0 - 30
1916017	Phorate	5.80	Spike	P	0 - 30
1916017	Prometon	11.9	Spike	P	0 - 30
1916017	Prometryn	6.77	Spike	P	0 - 30
1916017	Simazine	16.9	Spike	P	0 - 30
1916017	Terbufos	22.5	Spike	P	0 - 30
1916017	Terbuthylazine	16.4	Spike	P	0 - 30
LFB	Acetochlor	0.744	LCS	P	0 - 30
LFB	Alachlor	2.87	LCS	P	0 - 30
LFB	Ametryn	5.22	LCS	P	0 - 30
LFB	Atrazine	5.28	LCS	P	0 - 30
LFB	Atrazine Desethyl	36.3	LCS	F	0 - 30
LFB	Azinphos Methyl	22.7	LCS	P	0 - 30
LFB	Bromacil	6.63	LCS	P	0 - 30
LFB	Butylate	43.7	LCS	F	0 - 30
LFB	Chlorpyrifos Ethyl	17.3	LCS	P	0 - 30
LFB	Chlorpyrifos Methyl	24.3	LCS	P	0 - 30
LFB	Cyanazine	89.8	LCS	F	0 - 30
LFB	Demeton	2.18	LCS	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8270D
Batch ID: P329167

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
LFB	Diazinon	6.27	LCS	P	0 - 30
LFB	Disulfoton	9.52	LCS	P	0 - 30
LFB	EPTC	41.1	LCS	F	0 - 30
LFB	Ethion	9.09	LCS	P	0 - 30
LFB	Ethoprop	12.3	LCS	P	0 - 30
LFB	Fenamiphos	7.70	LCS	P	0 - 30
LFB	Fipronil	0.137	LCS	P	0 - 30
LFB	Fipronil Sulfide	9.46	LCS	P	0 - 30
LFB	Fipronil Sulfone	7.37	LCS	P	0 - 30
LFB	Fonofos	10.2	LCS	P	0 - 30
LFB	Hexazinone	0.291	LCS	P	0 - 30
LFB	Malathion	12.0	LCS	P	0 - 30
LFB	Metaxyl	15.5	LCS	P	0 - 30
LFB	Metolachlor	7.80	LCS	P	0 - 30
LFB	Metribuzin	48.9	LCS	F	0 - 30
LFB	Mevinphos	13.1	LCS	P	0 - 30
LFB	Molinate	21.1	LCS	P	0 - 30
LFB	Norflurazon	0.983	LCS	P	0 - 30
LFB	Parathion Ethyl	2.54	LCS	P	0 - 30
LFB	Parathion Methyl	16.6	LCS	P	0 - 30
LFB	Pendimethalin	9.07	LCS	P	0 - 30
LFB	Phorate	20.7	LCS	P	0 - 30
LFB	Prometon	9.14	LCS	P	0 - 30
LFB	Prometryn	1.30	LCS	P	0 - 30
LFB	Simazine	1.79	LCS	P	0 - 30
LFB	Terbufos	11.4	LCS	P	0 - 30
LFB	Terbutylazine	11.6	LCS	P	0 - 30

Reference Method: EPA 8270D
Batch ID: P329380

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
LFB	Aldrin	11.6	LCS	P	0 - 30
LFB	Alpha-BHC	7.90	LCS	P	0 - 30
LFB	Alpha-Chlordane	7.21	LCS	P	0 - 30
LFB	Beta-BHC	13.4	LCS	P	0 - 30
LFB	Carbophenothion	4.52	LCS	P	0 - 30
LFB	Chlorothalonil	28.5	LCS	P	0 - 30
LFB	Cypermethrin	1.95	LCS	P	0 - 30
LFB	DDD-p,p'	8.37	LCS	P	0 - 30
LFB	DDE-p,p'	4.90	LCS	P	0 - 30
LFB	DDT-p,p'	1.94	LCS	P	0 - 30
LFB	Delta-BHC	7.10	LCS	P	0 - 30
LFB	Dicofol	28.2	LCS	P	0 - 30
LFB	Dieldrin	5.78	LCS	P	0 - 30
LFB	Endosulfan I	9.10	LCS	P	0 - 30
LFB	Endosulfan II	14.4	LCS	P	0 - 30
LFB	Endosulfan Sulfate	14.0	LCS	P	0 - 30
LFB	Endrin	0.982	LCS	P	0 - 30
LFB	Endrin Aldehyde	16.1	LCS	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8270D
Batch ID: P329380

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
LFB	Endrin Ketone	10.2	LCS	P	0 - 30
LFB	Gamma-BHC	2.74	LCS	P	0 - 30
LFB	Gamma-Chlordane	8.85	LCS	P	0 - 30
LFB	Heptachlor	16.2	LCS	P	0 - 30
LFB	Heptachlor Epoxide	9.80	LCS	P	0 - 30
LFB	Methoxychlor	3.49	LCS	P	0 - 30
LFB	Mirex	2.05	LCS	P	0 - 30
LFB	Permethrin	2.48	LCS	P	0 - 30
LFB	Trifluralin	1.19	LCS	P	0 - 30

Reference Method: EPA 8276
Batch ID: P329380

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1917505	Chlordane	14.8	Spike	P	0 - 30
1917505	Toxaphene	12.3	Spike	P	0 - 30
LFB	Chlordane	45.8	LCS	F	0 - 30
LFB	Toxaphene	91.7	LCS	F	0 - 30

Reference Method: EPA 8321B
Batch ID: P329108

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1917168	Pyraclostrobin	44.9	Spike	F	0 - 30

Reference Method: EPA 8321B
Batch ID: P329109

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1916003	Glyphosate	6.86	Spike	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P329343

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1917030	Sucralose	5.37	Spike	P	0 - 30

Reference Method: SM 2120 B
Batch ID: P329266

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1917178	Color (true)	1.38	Sample	P	0 - 20

Quality Assurance Report Precision

Reference Method: SM 2320 B-97
Batch ID: P329457

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1917171	Total Alkalinity	0.199	Sample	P	0 - 4.8

Reference Method: SM 2540 C-97
Batch ID: P329910

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1917171	TDS	1.75	Sample	P	0 - 10

Reference Method: SM 4500 F-C-97
Batch ID: P329461

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1917171	Fluoride	0.498	Spike	P	0 - 3.0

Reference Method: SM 5310 B-00
Batch ID: P329792

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1917416	Organic Carbon	0.565	Spike	P	0 - 20

Reference Method: USGS O-2060-01
Batch ID: P329234

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1917511	2,4-D	12.9	Spike	P	0 - 30
1917511	Acetaminophen	15.8	Spike	P	0 - 30
1917511	Bentazon	2.20	Spike	P	0 - 30
1917511	Carbamazepine	27.9	Spike	P	0 - 30
1917511	Diuron	8.16	Spike	P	0 - 30
1917511	Fenuron	23.4	Spike	P	0 - 30
1917511	Fluridone	11.6	Spike	P	0 - 30
1917511	Imidacloprid	3.46	Spike	P	0 - 30
1917511	Linuron	4.42	Spike	P	0 - 30
1917511	MCPP	5.06	Spike	P	0 - 30
1917511	Primidone	17.7	Spike	P	0 - 30
1917511	Triclopyr	2.62	Spike	P	0 - 30

* Sample, spike and/or laboratory control sample precision (LCS) is reported.
Replicate spike precision may be reported when sample results are below quantifiable levels.

Quality Assurance Report Surrogates

Quality Assurance Report Surrogates

Lab Sample ID: 1917159

Field Sample ID: G2TLHR0002-2017-02

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Acetaminophen-d4	144	P	30 - 160
EPA 8321B	Carbamazepine-d10	124	P	30 - 160
EPA 8321B	Diuron-d6	118	P	30 - 160
EPA 8321B	Diuron-d6	121	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	111	P	40 - 150
EPA 8321B	Primidone-d5	106	P	30 - 160
EPA 8321B	Sucralose-d6	62.1	P	40 - 160
USGS O-2060-01	2,4-D-d3	106	P	40 - 160
USGS O-2060-01	Acetaminophen-d4	144	P	30 - 160
USGS O-2060-01	Carbamazepine-d10	124	P	30 - 160
USGS O-2060-01	Diuron-d6	118	P	30 - 160
USGS O-2060-01	Diuron-d6	121	P	30 - 160
USGS O-2060-01	Primidone-d5	106	P	30 - 160

Lab Sample ID: 1917160

Field Sample ID: G2TLHR0002-2017-02

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8270D	Decachlorobiphenyl	57.0	P	39 - 118
EPA 8270D	Tetrachloro-m-xylene	34.8	P	32 - 103
EPA 8276	Decachlorobiphenyl	43.2	P	31 - 100

Lab Sample ID: 1917161

Field Sample ID: G2TLHR0002-2017-02

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8270D	Malathion-d7	81.9	P	53 - 135
EPA 8270D	Simazine-d10	93.2	P	71 - 126

Lab Sample ID: 1917168

Field Sample ID: G2TLHR0016-2017-01

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Acetaminophen-d4	154	P	30 - 160
EPA 8321B	Carbamazepine-d10	155	P	30 - 160
EPA 8321B	Diuron-d6	102	P	30 - 160
EPA 8321B	Diuron-d6	131	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	107	P	40 - 150
EPA 8321B	Primidone-d5	144	P	30 - 160
EPA 8321B	Sucralose-d6	59.5	P	40 - 160
USGS O-2060-01	2,4-D-d3	79.8	P	40 - 160
USGS O-2060-01	Acetaminophen-d4	154	P	30 - 160
USGS O-2060-01	Carbamazepine-d10	155	P	30 - 160
USGS O-2060-01	Diuron-d6	102	P	30 - 160
USGS O-2060-01	Diuron-d6	131	P	30 - 160
USGS O-2060-01	Primidone-d5	144	P	30 - 160

Lab Sample ID: 1917169

Field Sample ID: G2TLHR0016-2017-01

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8270D	Decachlorobiphenyl	66.0	P	39 - 118

Quality Assurance Report Surrogates

Lab Sample ID: 1917169

Field Sample ID: G2TLHR0016-2017-01

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8270D	Tetrachloro-m-xylene	50.2	P	32 - 103
EPA 8276	Decachlorobiphenyl	54.5	P	31 - 100

Lab Sample ID: 1917170

Field Sample ID: G2TLHR0016-2017-01

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8270D	Malathion-d7	83.1	P	53 - 135
EPA 8270D	Simazine-d10	102	P	71 - 126

Quality Assurance Report Calibration Verification

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A77948

Included Lab Sample IDs: 1917133, 1917134

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Run ID: A77996

Included Lab Sample IDs: 1917137, 1917138

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	96.6	97.6	P/P	90 - 110
O-Phosphate-P	98.5	96.6	P/P	90 - 110

Reference Method: SM 2120 B

Run ID: A78002

Included Lab Sample IDs: 1917133, 1917134

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

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A78004

Included Lab Sample IDs: 1917133, 1917134

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

Reference Method: EPA 8321B

Run ID: A78025

Included Lab Sample IDs: 1917159, 1917168

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Glyphosate	112	111	P/P	70 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A78075

Included Lab Sample IDs: 1917135, 1917136

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

Reference Method: SM 2320 B-97

Run ID: A78079

Included Lab Sample IDs: 1917133, 1917134

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

Reference Method: SM 4500 F-C-97

Run ID: A78079

Included Lab Sample IDs: 1917133, 1917134

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	100	97.0	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A78080

Included Lab Sample IDs: 1917135, 1917136

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	97.5	97.0	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A78091

Included Lab Sample IDs: 1917135, 1917136

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

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A78102

Included Lab Sample IDs: 1917135, 1917136

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	101	105	P/P	90 - 110

Reference Method: EPA 200.7 Rev. 4.4

Run ID: A78135

Included Lab Sample IDs: 1917162, 1917163

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Calcium	99.4	98.6	P/P	90 - 110
Iron	101	99.9	P/P	90 - 110
Magnesium	99.9	98.9	P/P	90 - 110
Potassium	96.2	95.8	P/P	90 - 110
Sodium	98.3	97.7	P/P	90 - 110
Zinc	99.9	101	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 8270D

Run ID: A78147

Included Lab Sample IDs: 1917161, 1917170

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acetochlor	100		P	80 - 120
Alachlor	98.4		P	80 - 120
Ametryn	97.9		P	80 - 120
Atrazine	103		P	80 - 120
Atrazine Desethyl	105		P	80 - 120
Azinphos Methyl	93.5		P	80 - 120
Bromacil	95.0		P	80 - 120
Butylate	88.8		P	80 - 120
Chlorpyrifos Ethyl	85.8		P	80 - 120
Chlorpyrifos Methyl	77.6*		F	80 - 120
Cyanazine	112		P	80 - 120
Demeton	88.4		P	80 - 120
Diazinon	102		P	80 - 120
Disulfoton	85.7		P	80 - 120
EPTC	92.4		P	80 - 120
Ethion	82.6		P	80 - 120
Ethoprop	98.2		P	80 - 120
Fenamiphos	86.5		P	80 - 120
Fipronil	88.7		P	80 - 120
Fipronil Sulfide	84.3		P	80 - 120
Fipronil Sulfone	84.5		P	80 - 120
Fonofos	94.2		P	80 - 120
Hexazinone	106		P	80 - 120
Malathion	83.7		P	80 - 120
Metalaxyl	97.1		P	80 - 120
Metolachlor	97.5		P	80 - 120
Metribuzin	113		P	80 - 120
Mevinphos	92.4		P	80 - 120
Molinate	106		P	80 - 120
Norflurazon	96.3		P	80 - 120
Parathion Ethyl	94.0		P	80 - 120
Parathion Methyl	100		P	80 - 120
Pendimethalin	88.6		P	80 - 120
Phorate	101		P	80 - 120
Prometon	94.1		P	80 - 120
Prometryn	99.8		P	80 - 120
Simazine	99.6		P	80 - 120
Terbufos	95.3		P	80 - 120
Terbutylazine	101		P	80 - 120

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A78175

Included Lab Sample IDs: 1917162, 1917163

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Arsenic	105	106	P/P	90 - 110
Cadmium	103	103	P/P	90 - 110
Chromium	102	101	P/P	90 - 110
Lead	99.1	99.0	P/P	90 - 110
Nickel	104	105	P/P	90 - 110
Silver	99.6	99.5	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A78215

Included Lab Sample IDs: 1917162, 1917163

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Copper	102	104	P/P	90 - 110

Reference Method: SM 5310 B-00

Run ID: A78233

Included Lab Sample IDs: 1917135, 1917136

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	97.3	97.0	P/P	90 - 110

Reference Method: EPA 8321B

Run ID: A78239

Included Lab Sample IDs: 1917159

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Pyraclostrobin	81.4	83.6	P/P	60 - 150

Reference Method: USGS O-2060-01

Run ID: A78239

Included Lab Sample IDs: 1917159, 1917168

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	82.2	63.0	P/P	50 - 150
Acetaminophen	132	138	P/P	60 - 150
Bentazon	111	98.9	P/P	50 - 150
Carbamazepine	130	136	P/P	60 - 150
Diuron	112	131	P/P	60 - 150
Fenuron	141	129	P/P	60 - 150
Fluridone	117	97.4	P/P	60 - 160
Imidacloprid	121	118	P/P	60 - 150
Linuron	122	118	P/P	60 - 150
MCP	93.8	92.5	P/P	50 - 150
Primidone	101	105	P/P	60 - 150
Triclopyr	91.3	94.3	P/P	50 - 150

Reference Method: EPA 8321B

Run ID: A78247

Included Lab Sample IDs: 1917159, 1917168

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Sucralose	115	76.8	P/P	60 - 160

Reference Method: EPA 8321B

Run ID: A78250

Included Lab Sample IDs: 1917168

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Pyraclostrobin	85.7		P	60 - 150

Quality Assurance Report Calibration Verification

Reference Method: EPA 8270D

Run ID: A78286

Included Lab Sample IDs: 1917160, 1917169

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Aldrin	95.1		P	80 - 120
Alpha-BHC	101		P	80 - 120
Alpha-Chlordane	95.7		P	80 - 120
Beta-BHC	114		P	80 - 120
Carbophenothion	112		P	80 - 120
Chlorothalonil	129*		F	80 - 120
Cypermethrin	101		P	80 - 120
DDD-p,p'	99.4		P	80 - 120
DDE-p,p'	96.7		P	80 - 120
DDT-p,p'	105		P	80 - 120
Delta-BHC	114		P	80 - 120
Dicofol	84.1		P	80 - 120
Dieldrin	101		P	80 - 120
Endosulfan I	101		P	80 - 120
Endosulfan II	100		P	80 - 120
Endosulfan Sulfate	103		P	80 - 120
Endrin	102		P	80 - 120
Endrin Aldehyde	93.9		P	80 - 120
Endrin Ketone	99.5		P	80 - 120
Gamma-BHC	109		P	80 - 120
Gamma-Chlordane	97.8		P	80 - 120
Heptachlor	93.2		P	80 - 120
Heptachlor Epoxide	95.6		P	80 - 120
Methoxychlor	106		P	80 - 120
Mirex	100		P	80 - 120
Permethrin	96.8		P	80 - 120
Trifluralin	93.8		P	80 - 120

Reference Method: EPA 8276

Run ID: A78296

Included Lab Sample IDs: 1917160, 1917169

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chlordane	102		P	80 - 120
Toxaphene	113		P	80 - 120

Reference Method: EPA 8270D

Run ID: A78367

Included Lab Sample IDs: 1917161

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Simazine	98.5		P	80 - 120

* 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						4.00	
EPA 200.7 Rev. 4.4	Calcium	103		101				1.33
	Iron	108		108	108			0.0796
	Magnesium	103		100				1.30
	Potassium	98.4		95.7				0.867
	Sodium	101		101				1.32
	Zinc	103		100	101			0.509
EPA 200.8 Rev. 5.4	Arsenic	107		110	103			5.98
	Cadmium	102		104	99.0			5.30
	Chromium	102		101	96.5			4.82
	Copper	101		96.5	89.5			7.03
	Lead	99.4		101	94.1			6.72
	Nickel	104		102	95.3			6.16
	Silver	101		102	97.1			5.46
EPA 300.0 Rev. 2.1	Chloride	101		99.8	99.7		1.29	
	Sulfate	97.4		94.9	96.0		1.68	
EPA 350.1 Rev. 2.0	Ammonia-N	99.2		98.8	99.1			0.316
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	103		104	113			8.35
EPA 353.2 Rev. 2.0	NO2NO3-N	105		104	106			0.952
EPA 365.1 Rev. 2.0	Total-P	96.8		98.4	99.6			1.21
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	100		97.1	99.4			2.34
EPA 8270D	Acetochlor	89.6	89.0	83.3	91.3	0.744		9.16
	Alachlor	88.5	86.0	80.3	93.8	2.87		15.5
	Aldrin	19.2	17.1	17.4		11.6		
	Alpha-BHC	89.9	83.0	86.7		7.90		
	Alpha-Chlordane	83.5	77.7	83.0		7.21		
	Ametryn	92.9	88.2			5.22		4.08
	Atrazine	92.1	87.3			5.28		9.32
	Atrazine Desethyl	93.2	64.6	60.5	81.7	36.3		17.6
	Azinphos Methyl	105	83.9	86.0	106	22.7		20.7
	Beta-BHC	101	88.6	96.5		13.4		
	Bromacil	87.9	82.2	86.2	101	6.63		16.2
	Butylate	41.7	65.0	31.1	43.0	43.7		31.9
	Carbophenothion	75.0	78.5	56.5		4.52		
	Chlorothalonil	54.4	72.4	123		28.5		
	Chlorpyrifos Ethyl	83.3	70.1	73.6	86.6	17.3		16.2
	Chlorpyrifos Methyl	84.9	66.5	74.9	87.0	24.3		14.9
	Cyanazine	166	63.3	149	185	89.8		21.4
	Cypermethrin	133	130	97.6		1.95		
	DDD-p,p'	99.8	91.7	93.3		8.37		
	DDE-p,p'	76.3	72.7	85.2		4.90		
	DDT-p,p'	82.0	83.6	86.3		1.94		
	Delta-BHC	145	135	125		7.10		
	Demeton	77.2	75.5	67.9	86.7	2.18		24.3
	Diazinon	88.1	82.8	89.5	104	6.27		14.7
	Dicofol	26.8	35.6	30.2		28.2		
	Dieldrin	92.1	86.9	92.8		5.78		
	Disulfoton	87.3	79.4	77.7	96.0	9.52		21.1
	Endosulfan I	110	101	94.4		9.10		
	Endosulfan II	123	107	109		14.4		
	Endosulfan Sulfate	112	97.3	82.3		14.0		
	Endrin	93.0	93.9	82.7		0.982		
	Endrin Aldehyde	112	95.1	96.1		16.1		
	Endrin Ketone	104	93.7	87.2		10.2		

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery		MS % Recovery		Precision	
						LCS	MS
						SMP	
EPA 8270D	EPTC	41.3	62.7	30.4	47.1	41.1	43.1
	Ethion	81.9	74.8	71.4	83.0	9.09	15.0
	Ethoprop	76.7	67.8	63.0	76.0	12.3	18.8
	Fenamiphos	85.3	78.9	80.9	85.5	7.70	5.57
	Fipronil	88.3	88.4	95.1	101	0.137	5.92
	Fipronil Sulfide	81.3	74.0	73.3	80.7	9.46	7.62
	Fipronil Sulfone	74.0	68.7	71.7	88.4	7.37	12.7
	Fonofos	82.1	74.1	80.1	98.0	10.2	20.1
	Gamma-BHC	95.9	93.3	96.2		2.74	
	Gamma-Chlordane	82.7	75.6	84.5		8.85	
	Heptachlor	70.4	59.8	71.9		16.2	
	Heptachlor Epoxide	86.2	78.2	83.0		9.80	
	Hexazinone	86.7	86.4	79.3	96.4	0.291	13.1
	Malathion	82.7	73.3	74.0	80.2	12.0	8.08
	Metalaxyl	93.9	80.4	87.3	98.1	15.5	11.6
	Methoxychlor	115	111	106		3.49	
	Metolachlor	81.1	87.7	88.0	93.8	7.80	6.40
	Metribuzin	155	94.0	249	283	48.9	12.6
	Mevinphos	69.4	60.9	68.1	82.5	13.1	19.2
	Mirex	68.4	69.8	75.1		2.05	
	Molinate	52.5	64.9	48.3	58.9	21.1	19.8
	Norflurazon	86.1	87.0	83.5	88.8	0.983	6.22
	Parathion Ethyl	85.1	83.0	77.9	89.6	2.54	14.0
	Parathion Methyl	97.4	82.5	89.8	96.7	16.6	7.42
	Pendimethalin	80.9	73.9	75.4	87.9	9.07	15.3
	Permethrin	91.6	89.4	85.1		2.48	
	Phorate	86.8	70.5	89.5	94.8	20.7	5.80
	Prometon	84.0	92.0	87.5	98.6	9.14	11.9
	Prometryn	93.4	94.6	91.7	98.1	1.30	6.77
	Simazine	89.9	88.3	103	122	1.79	16.9
	Terbufos	82.7	73.8	76.7	96.2	11.4	22.5
	Terbutylazine	81.4	91.4	78.3	92.2	11.6	16.4
	Trifluralin	101	103	125		1.19	
EPA 8276	Chlordane	78.1	49.0	72.2	83.7	45.8	14.8
	Toxaphene	77.2	28.7	91.9	104	91.7	12.3
EPA 8321B	Glyphosate	109		110	118		6.86
	Pyraclostrobin	42.5		43.9	27.8		44.9
	Sucralose	85.0		103	92.6		5.37
SM 2120 B	Color (true)					1.38	
SM 2320 B-97	Total Alkalinity	102				0.199	
SM 2540 C-97	TDS					1.75	
SM 4500 F-C-97	Fluoride	96.1		96.2	95.6		0.498
SM 5310 B-00	Organic Carbon	96.0		95.5	94.4		0.565
USGS O-2060-01	2,4-D	69.0		105	90.3		12.9
	Acetaminophen	58.6		126	108		15.8
	Bentazon	88.1					2.20
	Carbamazepine	130		107	80.9		27.9
	Diuron	99.8		64.9	59.2		8.16
	Fenuron	113		60.9	48.1		23.4
	Fluridone	89.3		47.3	41.3		11.6
	Imidacloprid	112		162	169		3.46
	Linuron	92.3		75.2	78.6		4.42
	MCPP	72.8		107	102		5.06
	Primidone	80.7		56.6	47.4		17.7

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery	LCS	Precision SMP	MS
USGS O-2060-01	Triclopyr	64.7	92.7 95.2			2.62

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 180.1 Rev. 2.0 / E31780	Turbidity in aqueous matrices	1917133, 1917134
EPA 200.7 Rev. 4.4 / E31780	Total Recoverable Metals analysis using ICP emission spectroscopy for aqueous samples supporting Clean Water Act Projects	1917162, 1917163
EPA 200.8 Rev. 5.4 / E31780	Total Recoverable Metals analysis using ICP-MS for aqueous samples supporting Clean Water Act Projects	1917162, 1917163
EPA 300.0 Rev. 2.1 / E31780	Chloride in aqueous matrices	1917133, 1917134
EPA 300.0 Rev. 2.1 / E31780	Sulfate in aqueous matrices	1917133, 1917134
EPA 350.1 Rev. 2.0 / E31780	Ammonia in aqueous matrices as mg N/L	1917135, 1917136
EPA 351.2 Rev. 2.0 / E31780	Total Kjeldahl Nitrogen in aqueous matrices	1917135, 1917136
EPA 353.2 Rev. 2.0 / E31780	Nitrite/Nitrate in aqueous matrices as mg N/L	1917135, 1917136
EPA 365.1 Rev. 2.0 / E31780	Total Phosphorus in aqueous matrices as mg P/L	1917135, 1917136
EPA 365.1 Rev. 2.0 dissolved / E31780	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	1917137, 1917138
EPA 8270D / E31780	Organochlorine pesticides in water matrices by GC/MS-SIM	1917160, 1917169
EPA 8270D / E31780	Organonitrogen and phosphorus pesticides (ultra trace level) in water matrices by GC/MS/MS	1917161, 1917170
EPA 8276 / E31780	Organochlorine pesticides in water matrices by GC/MS with Negative Chemical Ionization	1917160, 1917169
EPA 8321B / E31780	Glyphosate in water matrices by HPLC/MS/MS	1917159, 1917168
EPA 8321B / E31780	Pyraclostrobin in water matrices by HPLC/MS/MS	1917159, 1917168
EPA 8321B / E31780	Water soluble organic compounds by HPLC/MS/MS	1917159, 1917168
SM 2120 B / E31780	True Color measured at 450 nm	1917133, 1917134
SM 2320 B-97 / E31780	Alkalinity in aqueous matrices as mg CaCO ₃ /L	1917133, 1917134
SM 2540 C-97 / E31780	Total Dissolved Solids in aqueous matrices	1917133, 1917134
SM 2540 D-97 / E31780	Total Suspended Solids in aqueous matrices	1917133, 1917134
SM 4500 F-C-97 / E31780	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	1917133, 1917134
SM 5310 B-00 / E31780	Nonpurgeable Organic Carbon in aqueous matrices	1917135, 1917136
USGS O-2060-01 / E31780	Chlorinated (phenoxy acid) herbicides in water matrices by HPLC/MS/MS	1917159, 1917168
USGS O-2060-01 / E31780	Urea herbicides and other chemicals in water matrices by HPLC/MS/MS	1917159, 1917168

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	07/27/2017			07/27/2017 17:18	DeAsia Armster	1917133, 1917134
EPA 200.7 Rev. 4.4	07/27/2017	08/01/2017	Elliott D. Healy	08/02/2017	Betina Topolski	1917162, 1917163
EPA 200.8 Rev. 5.4	07/27/2017	08/01/2017	Elliott D. Healy	08/03/2017	Nadine Brooks	1917162, 1917163
	07/27/2017	08/01/2017	Elliott D. Healy	08/04/2017	Nadine Brooks	1917162, 1917163
EPA 300.0 Rev. 2.1	07/27/2017			07/28/2017	Julia Storbeck	1917133, 1917134
EPA 350.1 Rev. 2.0	07/27/2017			08/01/2017	Sofia Elnemr	1917135, 1917136
EPA 351.2 Rev. 2.0	07/27/2017	07/31/2017	Adrian Shelby	08/02/2017	Joseph Suarez	1917135, 1917136
EPA 353.2 Rev. 2.0	07/27/2017			08/01/2017	Beverly Y. Sanders	1917135, 1917136
EPA 365.1 Rev. 2.0	07/27/2017	07/31/2017	Adrian Shelby	08/01/2017	Lipi Saha	1917135, 1917136
EPA 365.1 Rev. 2.0 dissolved	07/27/2017			07/27/2017 15:39	Ping Hua	1917137
	07/27/2017			07/27/2017 15:51	Ping Hua	1917138
EPA 8270D	07/27/2017	07/28/2017	Fe-Val Siddell	08/03/2017	Irina Carbone	1917161, 1917170
	07/27/2017	07/28/2017	Fe-Val Siddell	08/04/2017	Irina Carbone	1917161
	07/27/2017	07/31/2017	John Kaba	08/03/2017	Marek Topolski	1917160, 1917169
EPA 8276	07/27/2017	07/31/2017	John Kaba	08/04/2017	John P. Burgos	1917160, 1917169
EPA 8321B	07/27/2017	07/28/2017	Julie Michelle Frank	07/28/2017	Julie Michelle Frank	1917159, 1917168
	07/27/2017	07/31/2017	Fe-Val Siddell	08/03/2017	Juyoung Kim	1917168
	07/27/2017	07/31/2017	Fe-Val Siddell	08/06/2017	Juyoung Kim	1917159
	07/27/2017	08/04/2017	Julie Michelle Frank	08/04/2017	Mohammad Ghaffari	1917159, 1917168
SM 2120 B	07/27/2017			07/27/2017 16:58	Tanya Welborn	1917133
	07/27/2017			07/27/2017 16:59	Tanya Welborn	1917134
SM 2320 B-97	07/27/2017			08/01/2017	Dale L. Simmons	1917133, 1917134
SM 2540 C-97	07/27/2017			08/01/2017	DeAsia Armster	1917133, 1917134
SM 2540 D-97	07/27/2017			08/01/2017	DeAsia Armster	1917133, 1917134
SM 4500 F-C-97	07/27/2017			08/01/2017	Dale L. Simmons	1917133, 1917134
SM 5310 B-00	07/27/2017			08/04/2017	Sofia Elnemr	1917135, 1917136
USGS O-2060-01	07/27/2017	08/02/2017	Fe-Val Siddell	08/05/2017	Juyoung Kim	1917159, 1917168