

Chemical Analysis Report

WQAP-2017-06-28-01

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

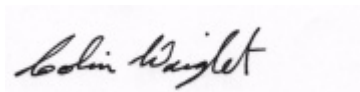
Event Description: **pesticide template kit: C**
Request ID: **RQ-2017-04-24-38**
Customer: **WQAP**
Project ID: **SMP**

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

For additional information please contact
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Certified by: Colin Wright, Program Administrator

Date Certified: 21-JUL-2017 11:51

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

Case Narrative

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

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

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

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

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

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

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

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

Precision is reported as relative percent difference unless otherwise noted.

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

QC Codes used in this report may include:

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

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

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

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

Sample Location: Allen Mill Pond Spring

Collection Date/Time: 06/27/2017 10:40

Field ID: G1TLHR0006-2017-02

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1909369	EPA 180.1 Rev. 2.0	Turbidity	0.20		NTU	P327667	
	EPA 300.0 Rev. 2.1	Chloride	5.3		mg Cl/L	P327935	
		Sulfate	6.7		mg SO4/L	P327938	
	SM 2120 B	Color (true)	6.2		PCU	P327649	
	SM 2320 B-97	Total Alkalinity	204		mg CaCO3/L	P327907	
	SM 2540 C-97	TDS	220		mg/L	P328010	
	SM 2540 D-97	TSS	2	I	mg/L	P328280	
	SM 4500 F-C-97	Fluoride	0.13		mg F/L	P327912	
1909371	EPA 350.1 Rev. 2.0	Ammonia-N	0.002	U	mg N/L	P327681	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.23		mg N/L	P327757	
	EPA 353.2 Rev. 2.0	NO2NO3-N	2.1		mg N/L	P327700	
	EPA 365.1 Rev. 2.0	Total-P	0.046		mg P/L	P327792	
	SM 5310 B-00	Organic Carbon	1.6		mg C/L	P327761	
1909373	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.041		mg P/L	P327641	
1909385	EPA 200.7 Rev. 4.4	Calcium	60.6		mg/L	P327754	
		Iron	30	U	ug/L	P327754	
		Magnesium	15.3		mg/L	P327754	
		Potassium	1.0	I	mg/L	P327754	
		Sodium	3.4		mg/L	P327754	
	EPA 200.8 Rev. 5.4	Zinc	5.0	U	ug/L	P327754	
		Arsenic	0.87		ug/L	P327754	
		Cadmium	0.021	I	ug/L	P327754	
		Chromium	0.40	U	ug/L	P327754	
		Copper	0.20	U	ug/L	P327754	
		Lead	0.050	U	ug/L	P327754	
		Nickel	0.20	U	ug/L	P327754	
		Silver	0.010	U	ug/L	P327754	

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: Allen Mill Pond Spring

Collection Date/Time: 06/27/2017 10:40

Field ID: G1TLHR0006-2017-02

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1909377	EPA 8321B	Glyphosate**	10	U	ug/L	P327603	
		Sucralose**	0.010	U	ug/L	P327614	
	USGS O-2060-01	2,4-D	8.0E-04	U	ug/L	P327607	
		Diuron	8.0E-04	U	ug/L	P327607	
		Fenuron	0.0080	U	ug/L	P327607	
		Imidacloprid	8.0E-04	U	ug/L	P327607	MS
		Bentazon	8.0E-04	U	ug/L	P327607	
		Linuron	0.0040	U	ug/L	P327607	
		Acetaminophen**	0.0080	U	ug/L	P327607	
		MCP	0.0020	U	ug/L	P327607	

Field ID: G1TLHR0006-2017-02

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1909377	USGS O-2060-01	Carbamazepine**	4.0E-04	U	ug/L	P327607	
		Triclopyr**	0.0040	U	ug/L	P327607	
		Primidone**	0.0040	U	ug/L	P327607	
		Fluridone**	4.0E-04	U	ug/L	P327607	
1909379	EPA 8321B	Pyraclostrobin**	0.0020	U	ug/L	P327601	
1909381	EPA 8270D	Aldrin	4.2	U	ng/L	P327687	
		Alpha-BHC	2.1	U	ng/L	P327687	
		Beta-BHC	4.2	U	ng/L	P327687	
		Delta-BHC	4.2	U	ng/L	P327687	
		Gamma-BHC	4.2	U	ng/L	P327687	
		Carbophenothion	4.2	U	ng/L	P327687	
		Chlorothalonil	2.1	UJ	ng/L	P327687	RPD
		Cypermethrin	21	U	ng/L	P327687	
		DDD-p,p'	2.1	U	ng/L	P327687	
		DDE-p,p'	3.1	U	ng/L	P327687	
		DDT-p,p'	3.1	U	ng/L	P327687	
		Dieldrin	4.2	U	ng/L	P327687	
		Endosulfan I	4.2	U	ng/L	P327687	
		Endosulfan II	4.2	U	ng/L	P327687	
		Endosulfan Sulfate	2.1	U	ng/L	P327687	
		Endrin	2.1	U	ng/L	P327687	
		Endrin Aldehyde	2.1	U	ng/L	P327687	
		Heptachlor	1.6	U	ng/L	P327687	
		Heptachlor Epoxide	2.1	U	ng/L	P327687	
		Methoxychlor	4.2	U	ng/L	P327687	
		Mirex	2.1	U	ng/L	P327687	
		Permethrin	10	U	ng/L	P327687	
		Trifluralin	1.0	U	ng/L	P327687	
		Alpha-Chlordane	1.0	U	ng/L	P327687	
		Gamma-Chlordane	1.0	U	ng/L	P327687	
		Endrin Ketone	2.1	U	ng/L	P327687	
		Dicofol	31	UJ	ng/L	P327687	RPD
	EPA 8276	Chlordane**	2.6	U	ng/L	P327687	
		Toxaphene**	13	U	ng/L	P327687	
1909383	EPA 8270D	Alachlor	0.24	U	ng/L	P327600	
		Ametryn	0.31	U	ng/L	P327600	
		Atrazine	0.24	U	ng/L	P327600	
		Atrazine Desethyl	1.4	U	ng/L	P327600	
		Azinphos Methyl	2.2	U	ng/L	P327600	
		Bromacil	9.9		ng/L	P327600	
		Butylate	0.38	U	ng/L	P327600	
		Chlorpyrifos Ethyl	0.24	U	ng/L	P327600	
		Chlorpyrifos Methyl	0.096	U	ng/L	P327600	
		Demeton	1.9	U	ng/L	P327600	
		Diazinon	0.12	U	ng/L	P327600	

Field ID: G1TLHR0006-2017-02

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1909383	EPA 8270D	Disulfoton	0.31	U	ng/L	P327600	
		EPTC	1.2	U	ng/L	P327600	
		Ethion	0.14	U	ng/L	P327600	
		Ethoprop	0.096	U	ng/L	P327600	
		Fenamiphos	0.24	U	ng/L	P327600	
		Fipronil	0.24	U	ng/L	P327600	
		Fipronil Sulfide	0.14	U	ng/L	P327600	
		Fipronil Sulfone	0.14	U	ng/L	P327600	
		Hexazinone	1.0	I	ng/L	P327600	
		Malathion	0.34	U	ng/L	P327600	
		Metribuzin	0.19	U	ng/L	P327600	
		Mevinphos	0.48	U	ng/L	P327600	
		Molinate	0.29	U	ng/L	P327600	
		Norflurazon	0.48	U	ng/L	P327600	
		Pendimethalin	1.4	U	ng/L	P327600	
		Phorate	0.24	U	ng/L	P327600	
		Prometon	0.86	U	ng/L	P327600	
		Prometryn	0.19	U	ng/L	P327600	
		Simazine	0.48	U	ng/L	P327600	
		Terbufos	0.096	U	ng/L	P327600	
		Terbutylazine	0.41	U	ng/L	P327600	
		Fonofos	0.19	U	ng/L	P327600	
		Metalaxyl	0.19	U	ng/L	P327600	
		Metolachlor	0.51	I	ng/L	P327600	
		Acetochlor	0.24	U	ng/L	P327600	
		Cyanazine	0.48	U	ng/L	P327600	
		Parathion Ethyl	0.24	U	ng/L	P327600	
		Parathion Methyl	0.24	U	ng/L	P327600	

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

Sample Location: Mearson Spring

Collection Date/Time: 06/27/2017 11:40

Field ID: G1TLHR0025-2017-01

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1909370	EPA 180.1 Rev. 2.0	Turbidity	0.40		NTU	P327667	
	EPA 300.0 Rev. 2.1	Chloride	6.7		mg Cl/L	P327935	
		Sulfate	18		mg SO4/L	P327938	
	SM 2120 B	Color (true)	2.5	U	PCU	P327649	
	SM 2320 B-97	Total Alkalinity	175		mg CaCO3/L	P327908	
	SM 2540 C-97	TDS	230		mg/L	P328010	
	SM 2540 D-97	TSS	3	I	mg/L	P328280	
	SM 4500 F-C-97	Fluoride	0.12		mg F/L	P327913	
	EPA 350.1 Rev. 2.0	Ammonia-N	0.002	U	mg N/L	P327681	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.18	I	mg N/L	P327757	

Field ID: G1TLHR0025-2017-01

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1909372	EPA 353.2 Rev. 2.0	NO2NO3-N	4.1		mg N/L	P327700	
	EPA 365.1 Rev. 2.0	Total-P	0.025		mg P/L	P327792	
	SM 5310 B-00	Organic Carbon	0.50	U	mg C/L	P327801	
1909374	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.020		mg P/L	P327641	
1909386	EPA 200.7 Rev. 4.4	Calcium	65.3		mg/L	P327754	
		Iron	31	I	ug/L	P327754	
		Magnesium	10.8		mg/L	P327754	
		Potassium	1.6		mg/L	P327754	
		Sodium	3.2		mg/L	P327754	
		Zinc	5.0	U	ug/L	P327754	
	EPA 200.8 Rev. 5.4	Arsenic	0.54		ug/L	P327754	
		Cadmium	0.038	I	ug/L	P327754	
		Chromium	0.67	I	ug/L	P327754	
		Copper	0.20	U	ug/L	P327754	
		Lead	0.051	I	ug/L	P327754	
		Nickel	0.20	U	ug/L	P327754	
		Silver	0.010	U	ug/L	P327754	

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: Mearson Spring

Collection Date/Time: 06/27/2017 11:40

Field ID: G1TLHR0025-2017-01

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1909378	EPA 8321B	Glyphosate**	10	U	ug/L	P327603	
		Sucralose**	0.022	I	ug/L	P327614	
	USGS O-2060-01	2,4-D	8.0E-04	U	ug/L	P327607	
		Diuron	8.0E-04	U	ug/L	P327607	
		Fenuron	0.0080	U	ug/L	P327607	
		Imidacloprid	8.0E-04	U	ug/L	P327607	MS
		Bentazon	8.0E-04	U	ug/L	P327607	
		Linuron	0.0040	U	ug/L	P327607	
		Acetaminophen**	0.0080	U	ug/L	P327607	
		MCP	0.0020	U	ug/L	P327607	
		Carbamazepine**	4.0E-04	U	ug/L	P327607	
		Triclopyr**	0.0040	U	ug/L	P327607	
		Primidone**	0.0040	U	ug/L	P327607	
		Fluridone**	4.0E-04	U	ug/L	P327607	
1909380	EPA 8321B	Pyraclostrobin**	0.0020	U	ug/L	P327601	
1909382	EPA 8270D	Aldrin	4.5	U	ng/L	P327687	
		Alpha-BHC	2.3	U	ng/L	P327687	
		Beta-BHC	4.5	U	ng/L	P327687	
		Delta-BHC	4.5	U	ng/L	P327687	
		Gamma-BHC	4.5	U	ng/L	P327687	
		Carbophenothion	4.5	U	ng/L	P327687	

Field ID: G1TLHR0025-2017-01

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1909382	EPA 8270D	Chlorothalonil	2.3	UJ	ng/L	P327687	RPD
		Cypermethrin	23	U	ng/L	P327687	
		DDD-p,p'	2.3	U	ng/L	P327687	
		DDE-p,p'	3.4	U	ng/L	P327687	
		DDT-p,p'	3.4	U	ng/L	P327687	
		Dieldrin	4.5	U	ng/L	P327687	
		Endosulfan I	4.5	U	ng/L	P327687	
		Endosulfan II	4.5	U	ng/L	P327687	
		Endosulfan Sulfate	2.3	U	ng/L	P327687	
		Endrin	2.3	U	ng/L	P327687	
		Endrin Aldehyde	2.3	U	ng/L	P327687	
		Heptachlor	1.7	U	ng/L	P327687	
		Heptachlor Epoxide	2.3	U	ng/L	P327687	
		Methoxychlor	4.5	U	ng/L	P327687	
		Mirex	2.3	U	ng/L	P327687	
		Permethrin	11	U	ng/L	P327687	
		Trifluralin	1.1	U	ng/L	P327687	
		Alpha-Chlordane	1.1	U	ng/L	P327687	
		Gamma-Chlordane	1.1	U	ng/L	P327687	
		Endrin Ketone	2.3	U	ng/L	P327687	
		Dicofol	34	UJ	ng/L	P327687	
		Chlordane**	2.8	U	ng/L	P327687	
		Toxaphene**	14	U	ng/L	P327687	
1909384	EPA 8270D	Alachlor	0.24	U	ng/L	P327600	
		Ametryn	0.31	U	ng/L	P327600	
		Atrazine	0.34	I	ng/L	P327600	
		Atrazine Desethyl	1.4	U	ng/L	P327600	
		Azinphos Methyl	2.2	U	ng/L	P327600	
		Bromacil	0.48	U	ng/L	P327600	
		Butylate	0.38	U	ng/L	P327600	
		Chlorpyrifos Ethyl	0.24	U	ng/L	P327600	
		Chlorpyrifos Methyl	0.096	U	ng/L	P327600	
		Demeton	1.9	U	ng/L	P327600	
		Diazinon	0.12	U	ng/L	P327600	
		Disulfoton	0.31	U	ng/L	P327600	
		EPTC	1.2	U	ng/L	P327600	
		Ethion	0.14	U	ng/L	P327600	
		Ethoprop	0.096	U	ng/L	P327600	
		Fenamiphos	0.24	U	ng/L	P327600	
		Fipronil	0.24	U	ng/L	P327600	
		Fipronil Sulfide	0.14	U	ng/L	P327600	
		Fipronil Sulfone	0.14	U	ng/L	P327600	
		Hexazinone	0.48	U	ng/L	P327600	
		Malathion	0.34	U	ng/L	P327600	
		Metribuzin	0.19	U	ng/L	P327600	

Field ID: G1TLHR0025-2017-01

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1909384	EPA 8270D	Mevinphos	0.48	U	ng/L	P327600	
		Molinate	0.29	U	ng/L	P327600	
		Norflurazon	0.48	U	ng/L	P327600	
		Pendimethalin	1.4	U	ng/L	P327600	
		Phorate	0.24	U	ng/L	P327600	
		Prometon	0.86	U	ng/L	P327600	
		Prometryn	0.19	U	ng/L	P327600	
		Simazine	0.48	U	ng/L	P327600	
		Terbufos	0.096	U	ng/L	P327600	
		Terbuthylazine	0.41	U	ng/L	P327600	
		Fonofos	0.19	U	ng/L	P327600	
		Metalaxyl	0.19	I	ng/L	P327600	
		Metolachlor	2.3		ng/L	P327600	
		Acetochlor	0.24	U	ng/L	P327600	
		Cyanazine	0.48	U	ng/L	P327600	
		Parathion Ethyl	0.24	U	ng/L	P327600	
		Parathion Methyl	0.24	U	ng/L	P327600	

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: 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: P327667

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 200.7 Rev. 4.4
 Batch ID: P327754

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: P327754

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

Quality Assurance Report Method Blank Results

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P327935

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P327938

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P327681

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P327757

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P327700

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P327792

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P327641

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

Reference Method: EPA 8270D
Batch ID: P327600

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

Quality Assurance Report Method Blank Results

Reference Method: EPA 8270D

Batch ID: P327600

Component	Result	Code	Units
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
Metaxyl	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: P327687

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'	2.0	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
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

Quality Assurance Report Method Blank Results

Reference Method: EPA 8270D
Batch ID: P327687

Component	Result	Code	Units
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: P327687

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

Reference Method: EPA 8321B
Batch ID: P327601

Component	Result	Code	Units
Pyraclostrobin	0.0020	U	ug/L

Reference Method: EPA 8321B
Batch ID: P327603

Component	Result	Code	Units
Glyphosate	10	U	ug/L

Reference Method: EPA 8321B
Batch ID: P327614

Component	Result	Code	Units
Sucralose	0.010	U	ug/L

Reference Method: SM 2120 B
Batch ID: P327649

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2320 B-97
Batch ID: P327907

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

Reference Method: SM 2320 B-97
Batch ID: P327908

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: P328010

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-97
Batch ID: P328280

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500 F-C-97
Batch ID: P327912

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 4500 F-C-97
Batch ID: P327913

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-00
Batch ID: P327761

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

Reference Method: SM 5310 B-00
Batch ID: P327801

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

Reference Method: USGS O-2060-01
Batch ID: P327607

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	0.0080	U	ug/L
Fluridone	4.0E-04	U	ug/L
Imidacloprid	8.0E-04	U	ug/L
Linuron	0.0040	U	ug/L
MCPP	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: P327754

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Calcium	100		P	85 - 115
Iron	102		P	85 - 115
Magnesium	103		P	85 - 115
Potassium	99.0		P	85 - 115
Sodium	102		P	85 - 115
Zinc	95.5		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P327754

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Arsenic	99.0		P	85 - 115
Cadmium	98.5		P	85 - 115
Chromium	95.9		P	85 - 115
Copper	95.8		P	85 - 115
Lead	95.1		P	85 - 115
Nickel	98.6		P	85 - 115
Silver	96.2		P	85 - 115

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P327935

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P327938

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P327681

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P327757

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P327700

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

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 365.1 Rev. 2.0
 Batch ID: P327792

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total-P	93.1		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
 Batch ID: P327641

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
O-Phosphate-P	99.9		P	90 - 110

Reference Method: EPA 8270D
 Batch ID: P327600

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acetochlor	86.8	88.6	P/P	78 - 118
Alachlor	86.4	87.8	P/P	77 - 119
Ametryn	92.4	91.9	P/P	61 - 136
Atrazine	93.4	93.8	P/P	73 - 120
Atrazine Desethyl	91.0	87.4	P/P	16 - 122
Azinphos Methyl	95.9	95.5	P/P	69 - 186
Bromacil	85.0	92.5	P/P	40 - 125
Butylate	47.1	53.6	P/P	32 - 87.0
Chlorpyrifos Ethyl	88.2	88.6	P/P	53 - 110
Chlorpyrifos Methyl	91.3	87.6	P/P	31 - 119
Cyanazine	174	175	P/P	36 - 224
Demeton	88.9	82.5	P/P	39 - 122
Diazinon	91.6	92.9	P/P	75 - 119
Disulfoton	98.3	82.1	P/P	42 - 139
EPTC	43.6	49.9	P/P	33 - 96.0
Ethion	94.4	92.6	P/P	63 - 127
Ethoprop	81.0	94.0	P/P	65 - 107
Fenamiphos	102	99.0	P/P	64 - 137
Fipronil	88.4	88.9	P/P	60 - 126
Fipronil Sulfide	91.0	80.2	P/P	58 - 124
Fipronil Sulfone	79.9	77.8	P/P	57 - 126
Fonofos	90.3	86.0	P/P	65 - 111
Hexazinone	81.6	80.9	P/P	46 - 151
Malathion	94.7	90.1	P/P	68 - 132
Metaxyl	91.2	89.7	P/P	51 - 132
Metolachlor	89.8	89.9	P/P	78 - 119
Metribuzin	84.8	88.3	P/P	64 - 138
Mevinphos	76.2	76.9	P/P	34 - 128
Molinate	50.2	61.4	P/P	44 - 101
Norflurazon	87.2	86.7	P/P	63 - 129
Parathion Ethyl	91.0	90.6	P/P	80 - 109
Parathion Methyl	89.5	88.4	P/P	74 - 125
Pendimethalin	84.4	87.4	P/P	48 - 134
Phorate	83.3	85.7	P/P	52 - 119
Prometon	81.7	84.8	P/P	69 - 124
Prometryn	91.6	90.7	P/P	66 - 124
Simazine	93.7	97.7	P/P	61 - 134
Terbufos	89.1	87.1	P/P	58 - 115
Terbutylazine	90.3	88.5	P/P	77 - 113

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 8270D
Batch ID: P327687

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Aldrin	54.9	46.7	P/P	26 - 88.0
Alpha-BHC	95.1	90.6	P/P	63 - 114
Alpha-Chlordane	90.0	83.4	P/P	56 - 117
Beta-BHC	101	99.3	P/P	57 - 138
Carbophenothion	100	87.6	P/P	36 - 148
Chlorothalonil	144	95.8	P/P	26 - 173
Cypermethrin	121	93.7	P/P	42 - 159
DDD-p,p'	99.3	92.5	P/P	62 - 126
DDE-p,p'	90.8	83.5	P/P	53 - 115
DDT-p,p'	96.5	85.7	P/P	54 - 117
Delta-BHC	118	110	P/P	68 - 158
Dicofol	28.0	41.8	P/P	25 - 114
Dieldrin	93.1	82.4	P/P	59 - 126
Endosulfan I	97.0	91.6	P/P	62 - 138
Endosulfan II	106	94.6	P/P	61 - 150
Endosulfan Sulfate	99.4	90.0	P/P	63 - 132
Endrin	99.2	101	P/P	49 - 148
Endrin Aldehyde	92.1	88.7	P/P	50 - 144
Endrin Ketone	97.0	90.5	P/P	66 - 122
Gamma-BHC	103	98.5	P/P	60 - 137
Gamma-Chlordane	90.1	82.6	P/P	54 - 113
Heptachlor	76.8	70.9	P/P	43 - 104
Heptachlor Epoxide	91.5	86.3	P/P	64 - 118
Methoxychlor	101	99.7	P/P	63 - 129
Mirex	83.2	71.0	P/P	39 - 93.0
Permethrin	104	86.2	P/P	51 - 123
Trifluralin	119	111	P/P	35 - 187

Reference Method: EPA 8276
Batch ID: P327687

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Chlordane	112	112	P/P	48 - 121
Toxaphene	130	126	P/P	43 - 135

Reference Method: EPA 8321B
Batch ID: P327601

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Pyraclostrobin	140		P	40 - 150

Reference Method: EPA 8321B
Batch ID: P327603

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Glyphosate	95.3		P	40 - 150

Reference Method: EPA 8321B
Batch ID: P327614

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Sucralose	90.5		P	40 - 150

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: SM 2320 B-97
Batch ID: P327907

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

Reference Method: SM 2320 B-97
Batch ID: P327908

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

Reference Method: SM 4500 F-C-97
Batch ID: P327912

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	96.3		P	92 - 103

Reference Method: SM 4500 F-C-97
Batch ID: P327913

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	96.3		P	92 - 103

Reference Method: SM 5310 B-00
Batch ID: P327761

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

Reference Method: SM 5310 B-00
Batch ID: P327801

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	94.7		P	85 - 115

Reference Method: USGS O-2060-01
Batch ID: P327607

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	88.1		P	40 - 150
Acetaminophen	71.2		P	30 - 150
Bentazon	88.8		P	40 - 150
Carbamazepine	92.9		P	40 - 150
Diuron	88.3		P	40 - 150
Fenuron	104		P	40 - 150
Fluridone	85.4		P	40 - 150
Imidacloprid	82.2		P	40 - 160
Linuron	70.5		P	40 - 150
MCPP	85.4		P	40 - 150
Primidone	108		P	40 - 150
Triclopyr	75.8		P	40 - 150

Quality Assurance Report Matrix Spike Accuracy

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P327754

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1909385	Calcium	97.9		P	80 - 120
1909385	Iron	98.8		P	80 - 120
1909385	Magnesium	96.3		P	80 - 120
1909385	Potassium	96.1		P	80 - 120
1909385	Sodium	102		P	80 - 120
1909385	Zinc	93.0		P	80 - 120
1909850	Calcium	97.9		P	80 - 120
1909850	Iron	103	102	P/P	80 - 120
1909850	Magnesium	104	101	P/P	80 - 120
1909850	Potassium	98.1	97.5	P/P	80 - 120
1909850	Sodium	103	99.8	P/P	80 - 120
1909850	Zinc	95.0	92.1	P/P	80 - 120

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P327754

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1909385	Arsenic	101		P	80 - 120
1909385	Cadmium	100		P	80 - 120
1909385	Chromium	97.3		P	80 - 120
1909385	Copper	92.7		P	80 - 120
1909385	Lead	96.5		P	80 - 120
1909385	Nickel	96.2		P	80 - 120
1909385	Silver	96.1		P	80 - 120
1909850	Arsenic	99.7	98.5	P/P	80 - 120
1909850	Cadmium	100	101	P/P	80 - 120
1909850	Chromium	98.0	97.3	P/P	80 - 120
1909850	Copper	93.3	92.7	P/P	80 - 120
1909850	Lead	96.7	96.2	P/P	80 - 120
1909850	Nickel	97.2	96.0	P/P	80 - 120
1909850	Silver	96.4	96.9	P/P	80 - 120

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P327935

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1909244	Chloride	102		P	90 - 110
1909265	Chloride	103		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P327938

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1909244	Sulfate	102		P	90 - 110
1909265	Sulfate	101		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P327681

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1909359	Ammonia-N	99.1	96.5	P/P	90 - 110

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P327757

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1909371	Kjeldahl Nitrogen	96.3	90.7	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P327700

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1909272	NO2NO3-N	100	102	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P327792

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1909272	Total-P	102	98.0	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P327641

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1909373	O-Phosphate-P	93.4	95.1	P/P	90 - 110

Reference Method: EPA 8270D
Batch ID: P327600

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1909384	Acetochlor	83.9	87.4	P/P	74 - 123
1909384	Alachlor	85.1	87.6	P/P	73 - 124
1909384	Ametryn	94.1	99.2	P/P	56 - 149
1909384	Atrazine	85.9	88.5	P/P	73 - 124
1909384	Atrazine Desethyl	65.9	67.8	P/P	12 - 103
1909384	Azinphos Methyl	76.2	79.6	P/P	60 - 202
1909384	Bromacil	85.8	85.0	P/P	42 - 133
1909384	Butylate	65.4	51.0	P/P	10 - 85.0
1909384	Chlorpyrifos Ethyl	75.3	78.2	P/P	53 - 113
1909384	Chlorpyrifos Methyl	69.0	70.9	P/P	40 - 115
1909384	Cyanazine	109	110	P/P	22 - 210
1909384	Demeton	74.9	72.5	P/P	17 - 149
1909384	Diazinon	83.5	85.9	P/P	72 - 124
1909384	Disulfoton	74.1	68.7	P/P	43 - 139
1909384	EPTC	64.4	54.8	P/P	10 - 86.0
1909384	Ethion	85.8	88.9	P/P	65 - 131
1909384	Ethoprop	61.3	69.0	P/P	59 - 110
1909384	Fenamiphos	89.3	94.4	P/P	57 - 138
1909384	Fipronil	92.9	93.9	P/P	40 - 130
1909384	Fipronil Sulfide	88.3	93.5	P/P	36 - 128
1909384	Fipronil Sulfone	84.8	85.0	P/P	16 - 145
1909384	Fonofos	68.1	67.3	P/P	60 - 112
1909384	Hexazinone	89.2	93.3	P/P	69 - 142
1909384	Malathion	80.3	84.3	P/P	68 - 132
1909384	Metalaxyl	84.5	90.2	P/P	66 - 118
1909384	Metolachlor	88.1	92.3	P/P	71 - 124
1909384	Metribuzin	88.0	98.8	P/P	61 - 140
1909384	Mevinphos	67.0	68.2	P/P	38 - 130

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8270D
Batch ID: P327600

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1909384	Molinate	67.1	57.3	P/P	23 - 99.0
1909384	Norflurazon	90.8	93.6	P/P	39 - 139
1909384	Parathion Ethyl	82.5	83.7	P/P	75 - 111
1909384	Parathion Methyl	73.6	75.7	P/P	64 - 130
1909384	Pendimethalin	79.1	79.9	P/P	26 - 173
1909384	Phorate	68.9	66.3	P/P	43 - 127
1909384	Prometon	90.2	92.8	P/P	50 - 144
1909384	Prometryn	93.2	98.0	P/P	69 - 126
1909384	Simazine	88.9	96.9	P/P	51 - 152
1909384	Terbufos	70.4	69.1	P/P	54 - 125
1909384	Terbuthylazine	87.0	88.8	P/P	76 - 113

Reference Method: EPA 8270D
Batch ID: P327687

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1909811	Aldrin	58.6	55.4	P/P	22 - 97.0
1909811	Alpha-BHC	89.4	87.6	P/P	43 - 132
1909811	Alpha-Chlordane	90.3	83.0	P/P	36 - 126
1909811	Beta-BHC	117	123	P/P	41 - 150
1909811	Carbophenothion	108	120	P/P	13 - 196
1909811	Chlorothalonil	130	139	P/P	10 - 266
1909811	Cypermethrin	108	109	P/P	37 - 161
1909811	DDD-p,p'	104	96.5	P/P	44 - 131
1909811	DDE-p,p'	91.6	82.8	P/P	32 - 127
1909811	DDT-p,p'	87.6	84.6	P/P	45 - 116
1909811	Delta-BHC	119	141	P/P	50 - 201
1909811	Dicofol	37.5	18.5	P/P	10 - 100
1909811	Dieldrin	97.8	89.8	P/P	39 - 142
1909811	Endosulfan I	96.4	92.0	P/P	51 - 139
1909811	Endosulfan II	106	98.1	P/P	49 - 155
1909811	Endosulfan Sulfate	100	97.2	P/P	54 - 136
1909811	Endrin	81.0	93.8	P/P	38 - 141
1909811	Endrin Aldehyde	72.7	74.6	P/P	14 - 152
1909811	Endrin Ketone	107	95.5	P/P	60 - 128
1909811	Gamma-BHC	107	100	P/P	48 - 157
1909811	Gamma-Chlordane	91.5	83.4	P/P	35 - 123
1909811	Heptachlor	72.6	64.2	P/P	25 - 112
1909811	Heptachlor Epoxide	94.6	88.7	P/P	48 - 125
1909811	Methoxychlor	99.7	93.1	P/P	52 - 127
1909811	Mirex	78.5	73.2	P/P	25 - 108
1909811	Permethrin	97.9	93.7	P/P	46 - 133
1909811	Trifluralin	156	161	P/P	29 - 254

Reference Method: EPA 8276
Batch ID: P327687

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1909382	Chlordane	105	120	P/P	44 - 134
1909382	Toxaphene	116	137	P/P	36 - 147

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8321B
Batch ID: P327601

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1908898	Pyraclostrobin	130	130	P/P	40 - 150

Reference Method: EPA 8321B
Batch ID: P327603

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1908898	Glyphosate	98.4	112	P/P	40 - 150

Reference Method: EPA 8321B
Batch ID: P327614

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1909302	Sucralose	108	92.0	P/P	40 - 150

Reference Method: SM 4500 F-C-97
Batch ID: P327912

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1909653	Fluoride	97.8	101	P/P	91 - 105

Reference Method: SM 4500 F-C-97
Batch ID: P327913

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1909394	Fluoride	100	100	P/P	91 - 105

Reference Method: SM 5310 B-00
Batch ID: P327761

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1909072	Organic Carbon	98.6	100	P/P	85 - 115

Reference Method: SM 5310 B-00
Batch ID: P327801

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1909372	Organic Carbon	98.4	98.0	P/P	85 - 115

Reference Method: USGS O-2060-01
Batch ID: P327607

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1909014	2,4-D	95.2	122	P/P	40 - 150
1909014	Acetaminophen	76.7	104	P/P	30 - 150
1909014	Carbamazepine	84.5	103	P/P	40 - 150
1909014	Diuron	66.5	71.7	P/P	40 - 150
1909014	Fenuron	70.3	83.0	P/P	40 - 150
1909014	Fluridone	41.7	61.3	P/P	40 - 150
1909014	Imidacloprid	160	184	F/F	40 - 160
1909014	Linuron	74.1	87.1	P/P	40 - 150
1909014	MCPP	108	121	P/P	40 - 150
1909014	Primidone	85.1	98.2	P/P	40 - 150

Quality Assurance Report Matrix Spike Accuracy

Reference Method: USGS O-2060-01
 Batch ID: P327607

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1909014	Triclopyr	97.5	116	P/P	40 - 150

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
 Batch ID: P327667

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1909413	Turbidity	5.04	Sample	P	0 - 20

Reference Method: EPA 200.7 Rev. 4.4
 Batch ID: P327754

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1909850	Calcium	2.13	Spike	P	0 - 20
1909850	Iron	1.76	Spike	P	0 - 20
1909850	Magnesium	1.65	Spike	P	0 - 20
1909850	Potassium	0.503	Spike	P	0 - 20
1909850	Sodium	1.85	Spike	P	0 - 20
1909850	Zinc	3.05	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4
 Batch ID: P327754

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1909850	Arsenic	1.23	Spike	P	0 - 20
1909850	Cadmium	0.826	Spike	P	0 - 20
1909850	Chromium	0.751	Spike	P	0 - 20
1909850	Copper	0.670	Spike	P	0 - 20
1909850	Lead	0.497	Spike	P	0 - 20
1909850	Nickel	1.19	Spike	P	0 - 20
1909850	Silver	0.461	Spike	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
 Batch ID: P327935

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1909244	Chloride	3.56	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
 Batch ID: P327938

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1909244	Sulfate	5.01	Sample	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 350.1 Rev. 2.0
 Batch ID: P327681

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1909359	Ammonia-N	1.90	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
 Batch ID: P327757

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1909371	Kjeldahl Nitrogen	5.01	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
 Batch ID: P327700

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1909272	NO2NO3-N	1.48	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
 Batch ID: P327792

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1909272	Total-P	3.47	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
 Batch ID: P327641

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1909373	O-Phosphate-P	1.25	Spike	P	0 - 20

Reference Method: EPA 8270D
 Batch ID: P327600

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1909384	Acetochlor	4.07	Spike	P	0 - 30
1909384	Alachlor	2.83	Spike	P	0 - 30
1909384	Ametryn	5.30	Spike	P	0 - 30
1909384	Atrazine	2.68	Spike	P	0 - 30
1909384	Atrazine Desethyl	2.85	Spike	P	0 - 30
1909384	Azinphos Methyl	4.30	Spike	P	0 - 30
1909384	Bromacil	0.962	Spike	P	0 - 30
1909384	Butylate	24.6	Spike	P	0 - 30
1909384	Chlorpyrifos Ethyl	3.80	Spike	P	0 - 30
1909384	Chlorpyrifos Methyl	2.64	Spike	P	0 - 30
1909384	Cyanazine	0.886	Spike	P	0 - 30
1909384	Demeton	3.23	Spike	P	0 - 30
1909384	Diazinon	2.85	Spike	P	0 - 30
1909384	Disulfoton	7.54	Spike	P	0 - 30
1909384	EPTC	16.1	Spike	P	0 - 30
1909384	Ethion	3.59	Spike	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8270D
Batch ID: P327600

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1909384	Ethoprop	11.9	Spike	P	0 - 30
1909384	Fenamiphos	5.54	Spike	P	0 - 30
1909384	Fipronil	1.08	Spike	P	0 - 30
1909384	Fipronil Sulfide	5.75	Spike	P	0 - 30
1909384	Fipronil Sulfone	0.234	Spike	P	0 - 30
1909384	Fonofos	1.18	Spike	P	0 - 30
1909384	Hexazinone	4.49	Spike	P	0 - 30
1909384	Malathion	4.93	Spike	P	0 - 30
1909384	Metalaxyl	6.34	Spike	P	0 - 30
1909384	Metolachlor	3.78	Spike	P	0 - 30
1909384	Metribuzin	11.5	Spike	P	0 - 30
1909384	Mevinphos	1.76	Spike	P	0 - 30
1909384	Molinate	15.8	Spike	P	0 - 30
1909384	Norflurazon	3.03	Spike	P	0 - 30
1909384	Parathion Ethyl	1.53	Spike	P	0 - 30
1909384	Parathion Methyl	2.74	Spike	P	0 - 30
1909384	Pendimethalin	0.975	Spike	P	0 - 30
1909384	Phorate	3.86	Spike	P	0 - 30
1909384	Prometon	2.84	Spike	P	0 - 30
1909384	Prometryn	4.97	Spike	P	0 - 30
1909384	Simazine	8.52	Spike	P	0 - 30
1909384	Terbufos	1.95	Spike	P	0 - 30
1909384	Terbutylazine	2.10	Spike	P	0 - 30
LFB	Acetochlor	2.01	LCS	P	0 - 30
LFB	Alachlor	1.68	LCS	P	0 - 30
LFB	Ametryn	0.556	LCS	P	0 - 30
LFB	Atrazine	0.429	LCS	P	0 - 30
LFB	Atrazine Desethyl	4.08	LCS	P	0 - 30
LFB	Azinphos Methyl	0.408	LCS	P	0 - 30
LFB	Bromacil	8.47	LCS	P	0 - 30
LFB	Butylate	13.0	LCS	P	0 - 30
LFB	Chlorpyrifos Ethyl	0.541	LCS	P	0 - 30
LFB	Chlorpyrifos Methyl	4.11	LCS	P	0 - 30
LFB	Cyanazine	1.02	LCS	P	0 - 30
LFB	Demeton	7.44	LCS	P	0 - 30
LFB	Diazinon	1.39	LCS	P	0 - 30
LFB	Disulfoton	17.9	LCS	P	0 - 30
LFB	EPTC	13.5	LCS	P	0 - 30
LFB	Ethion	1.98	LCS	P	0 - 30
LFB	Ethoprop	14.9	LCS	P	0 - 30
LFB	Fenamiphos	3.34	LCS	P	0 - 30
LFB	Fipronil	0.614	LCS	P	0 - 30
LFB	Fipronil Sulfide	12.6	LCS	P	0 - 30
LFB	Fipronil Sulfone	2.68	LCS	P	0 - 30
LFB	Fonofos	4.88	LCS	P	0 - 30
LFB	Hexazinone	0.898	LCS	P	0 - 30
LFB	Malathion	4.94	LCS	P	0 - 30
LFB	Metalaxyl	1.69	LCS	P	0 - 30
LFB	Metolachlor	0.0394	LCS	P	0 - 30
LFB	Metribuzin	4.10	LCS	P	0 - 30
LFB	Mevinphos	1.03	LCS	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8270D
Batch ID: P327600

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
LFB	Molinate	20.1	LCS	P	0 - 30
LFB	Norflurazon	0.593	LCS	P	0 - 30
LFB	Parathion Ethyl	0.432	LCS	P	0 - 30
LFB	Parathion Methyl	1.16	LCS	P	0 - 30
LFB	Pendimethalin	3.54	LCS	P	0 - 30
LFB	Phorate	2.89	LCS	P	0 - 30
LFB	Prometon	3.80	LCS	P	0 - 30
LFB	Prometryn	1.02	LCS	P	0 - 30
LFB	Simazine	4.09	LCS	P	0 - 30
LFB	Terbufos	2.24	LCS	P	0 - 30
LFB	Terbutylazine	2.11	LCS	P	0 - 30

Reference Method: EPA 8270D
Batch ID: P327687

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1909811	Aldrin	5.54	Spike	P	0 - 30
1909811	Alpha-BHC	2.09	Spike	P	0 - 30
1909811	Alpha-Chlordane	8.47	Spike	P	0 - 30
1909811	Beta-BHC	4.80	Spike	P	0 - 30
1909811	Carbophenothion	10.1	Spike	P	0 - 30
1909811	Chlorothalonil	6.76	Spike	P	0 - 30
1909811	Cypermethrin	1.32	Spike	P	0 - 30
1909811	DDD-p,p'	7.19	Spike	P	0 - 30
1909811	DDE-p,p'	10.1	Spike	P	0 - 30
1909811	DDT-p,p'	3.49	Spike	P	0 - 30
1909811	Delta-BHC	16.8	Spike	P	0 - 30
1909811	Dicofol	67.9	Spike	F	0 - 30
1909811	Dieldrin	8.55	Spike	P	0 - 30
1909811	Endosulfan I	4.75	Spike	P	0 - 30
1909811	Endosulfan II	7.81	Spike	P	0 - 30
1909811	Endosulfan Sulfate	2.94	Spike	P	0 - 30
1909811	Endrin	14.7	Spike	P	0 - 30
1909811	Endrin Aldehyde	2.49	Spike	P	0 - 30
1909811	Endrin Ketone	11.5	Spike	P	0 - 30
1909811	Gamma-BHC	6.71	Spike	P	0 - 30
1909811	Gamma-Chlordane	9.27	Spike	P	0 - 30
1909811	Heptachlor	12.3	Spike	P	0 - 30
1909811	Heptachlor Epoxide	6.38	Spike	P	0 - 30
1909811	Methoxychlor	6.87	Spike	P	0 - 30
1909811	Mirex	6.96	Spike	P	0 - 30
1909811	Permethrin	4.34	Spike	P	0 - 30
1909811	Trifluralin	3.05	Spike	P	0 - 30
LFB	Aldrin	16.2	LCS	P	0 - 30
LFB	Alpha-BHC	4.90	LCS	P	0 - 30
LFB	Alpha-Chlordane	7.57	LCS	P	0 - 30
LFB	Beta-BHC	1.41	LCS	P	0 - 30
LFB	Carbophenothion	13.7	LCS	P	0 - 30
LFB	Chlorothalonil	40.5	LCS	F	0 - 30
LFB	Cypermethrin	25.2	LCS	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8270D
Batch ID: P327687

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
LFB	DDD-p,p'	7.10	LCS	P	0 - 30
LFB	DDE-p,p'	8.46	LCS	P	0 - 30
LFB	DDT-p,p'	11.9	LCS	P	0 - 30
LFB	Delta-BHC	7.06	LCS	P	0 - 30
LFB	Dicofol	39.5	LCS	F	0 - 30
LFB	Dieldrin	12.2	LCS	P	0 - 30
LFB	Endosulfan I	5.71	LCS	P	0 - 30
LFB	Endosulfan II	11.8	LCS	P	0 - 30
LFB	Endosulfan Sulfate	9.96	LCS	P	0 - 30
LFB	Endrin	2.06	LCS	P	0 - 30
LFB	Endrin Aldehyde	3.78	LCS	P	0 - 30
LFB	Endrin Ketone	7.01	LCS	P	0 - 30
LFB	Gamma-BHC	4.37	LCS	P	0 - 30
LFB	Gamma-Chlordane	8.64	LCS	P	0 - 30
LFB	Heptachlor	7.89	LCS	P	0 - 30
LFB	Heptachlor Epoxide	5.86	LCS	P	0 - 30
LFB	Methoxychlor	1.38	LCS	P	0 - 30
LFB	Mirex	15.8	LCS	P	0 - 30
LFB	Permethrin	18.4	LCS	P	0 - 30
LFB	Trifluralin	6.53	LCS	P	0 - 30

Reference Method: EPA 8276
Batch ID: P327687

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1909382	Chlordane	14.0	Spike	P	0 - 30
1909382	Toxaphene	16.8	Spike	P	0 - 30
LFB	Chlordane	0.523	LCS	P	0 - 30
LFB	Toxaphene	3.69	LCS	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P327601

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1908898	Pyraclostrobin	0.0	Spike	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P327603

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1908898	Glyphosate	13.2	Spike	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P327614

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1909302	Sucralose	14.7	Spike	P	0 - 30

Quality Assurance Report Precision

Reference Method: SM 2120 B
Batch ID: P327649

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1909352	Color (true)	1.30	Sample	P	0 - 20

Reference Method: SM 2320 B-97
Batch ID: P327907

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1909653	Total Alkalinity	0.0527	Sample	P	0 - 4.8

Reference Method: SM 2320 B-97
Batch ID: P327908

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1909394	Total Alkalinity	0.0689	Sample	P	0 - 4.8

Reference Method: SM 2540 C-97
Batch ID: P328010

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1909352	TDS	2.79	Sample	P	0 - 10

Reference Method: SM 4500 F-C-97
Batch ID: P327912

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1909653	Fluoride	2.39	Spike	P	0 - 3.0

Reference Method: SM 4500 F-C-97
Batch ID: P327913

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1909394	Fluoride	0.0	Spike	P	0 - 3.0

Reference Method: SM 5310 B-00
Batch ID: P327761

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1909072	Organic Carbon	1.12	Spike	P	0 - 20

Reference Method: SM 5310 B-00
Batch ID: P327801

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1909372	Organic Carbon	0.356	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: USGS O-2060-01
Batch ID: P327607

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1909014	2,4-D	8.23	Spike	P	0 - 30
1909014	Acetaminophen	30.0	Spike	P	0 - 30
1909014	Bentazon	6.20	Spike	P	0 - 30
1909014	Carbamazepine	17.7	Spike	P	0 - 30
1909014	Diuron	6.33	Spike	P	0 - 30
1909014	Fenuron	16.5	Spike	P	0 - 30
1909014	Fluridone	13.5	Spike	P	0 - 30
1909014	Imidacloprid	11.1	Spike	P	0 - 30
1909014	Linuron	16.1	Spike	P	0 - 30
1909014	MCP	10.2	Spike	P	0 - 30
1909014	Primidone	11.1	Spike	P	0 - 30
1909014	Triclopyr	17.3	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: 1909377
Field Sample ID: G1TLHR0006-2017-02

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Glyphosate 13C 15N	96.8	P	40 - 150
EPA 8321B	Sucralose-d6	108	P	40 - 160
USGS O-2060-01	2,4-D-d3	93.2	P	40 - 150
USGS O-2060-01	Acetaminophen-d4	115	P	30 - 150
USGS O-2060-01	Carbamazepine-d10	111	P	30 - 165
USGS O-2060-01	Diuron-d6	102	P	30 - 160
USGS O-2060-01	Primidone-d5	80.1	P	30 - 150

Lab Sample ID: 1909378
Field Sample ID: G1TLHR0025-2017-01

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Glyphosate 13C 15N	123	P	40 - 150
EPA 8321B	Sucralose-d6	122	P	40 - 160
USGS O-2060-01	2,4-D-d3	85.2	P	40 - 150
USGS O-2060-01	Acetaminophen-d4	85.1	P	30 - 150
USGS O-2060-01	Carbamazepine-d10	98.6	P	30 - 165
USGS O-2060-01	Diuron-d6	111	P	30 - 160
USGS O-2060-01	Primidone-d5	81.9	P	30 - 150

Lab Sample ID: 1909379
Field Sample ID: G1TLHR0006-2017-02

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Diuron-d6	120	P	30 - 160

Quality Assurance Report Surrogates

Lab Sample ID: 1909380

Field Sample ID: G1TLHR0025-2017-01

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Diuron-d6	110	P	30 - 160

Lab Sample ID: 1909381

Field Sample ID: G1TLHR0006-2017-02

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8270D	Decachlorobiphenyl	85.9	P	39 - 118
EPA 8270D	Tetrachloro-m-xylene	59.8	P	32 - 103
EPA 8276	Decachlorobiphenyl	81.1	P	31 - 100

Lab Sample ID: 1909382

Field Sample ID: G1TLHR0025-2017-01

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8270D	Decachlorobiphenyl	76.6	P	39 - 118
EPA 8270D	Tetrachloro-m-xylene	68.3	P	32 - 103
EPA 8276	Decachlorobiphenyl	87.0	P	31 - 100

Lab Sample ID: 1909383

Field Sample ID: G1TLHR0006-2017-02

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8270D	Malathion-d7	88.1	P	62 - 132
EPA 8270D	Simazine-d10	86.5	P	72 - 127

Lab Sample ID: 1909384

Field Sample ID: G1TLHR0025-2017-01

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8270D	Malathion-d7	103	P	62 - 132
EPA 8270D	Simazine-d10	90.1	P	72 - 127

Quality Assurance Report Calibration Verification

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Run ID: A77396

Included Lab Sample IDs: 1909373, 1909374

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	100	99.3	P/P	90 - 110
O-Phosphate-P	99.3	99.4	P/P	90 - 110

Reference Method: SM 2120 B

Run ID: A77400

Included Lab Sample IDs: 1909369, 1909370

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	99.9	103	P/P	85 - 115

Quality Assurance Report Calibration Verification

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A77410

Included Lab Sample IDs: 1909371, 1909372

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	95.5	96.1	P/P	90 - 110

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A77411

Included Lab Sample IDs: 1909369, 1909370

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Turbidity	98.5	99.0	P/P	95 - 105

Reference Method: EPA 8321B

Run ID: A77414

Included Lab Sample IDs: 1909377, 1909378

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Sucralose	106	104	P/P	60 - 160

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A77418

Included Lab Sample IDs: 1909371, 1909372

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

Reference Method: SM 5310 B-00

Run ID: A77437

Included Lab Sample IDs: 1909371

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	94.9	95.0	P/P	90 - 110

Reference Method: SM 5310 B-00

Run ID: A77463

Included Lab Sample IDs: 1909372

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	96.2	94.8	P/P	90 - 110

Reference Method: EPA 200.7 Rev. 4.4

Run ID: A77476

Included Lab Sample IDs: 1909385, 1909386

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Calcium	97.9	96.2	P/P	90 - 110
Iron	98.4	97.1	P/P	90 - 110
Magnesium	98.0	97.0	P/P	90 - 110
Potassium	97.1	96.7	P/P	90 - 110
Sodium	98.4	97.6	P/P	90 - 110
Zinc	97.2	95.3	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B

Run ID: A77479

Included Lab Sample IDs: 1909379, 1909380

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Pyraclostrobin	90.0	100	P/P	60 - 150

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A77490

Included Lab Sample IDs: 1909371, 1909372

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	103	109	P/P	90 - 110

Reference Method: EPA 8321B

Run ID: A77505

Included Lab Sample IDs: 1909377, 1909378

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Glyphosate	121	118	P/P	70 - 160

Reference Method: SM 2320 B-97

Run ID: A77508

Included Lab Sample IDs: 1909369, 1909370

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	101	104	P/P	90 - 110
Total Alkalinity	104	100	P/P	90 - 110

Reference Method: SM 4500 F-C-97

Run ID: A77508

Included Lab Sample IDs: 1909369, 1909370

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	100	97.2	P/P	90 - 110
Fluoride	97.2	100	P/P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A77522

Included Lab Sample IDs: 1909369, 1909370

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	95.4	94.7	P/P	90 - 110
Sulfate	99.3	98.3	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A77523

Included Lab Sample IDs: 1909371, 1909372

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	99.0	99.2	P/P	90 - 110
Total-P	99.2	98.8	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A77564

Included Lab Sample IDs: 1909385, 1909386

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Arsenic	102	100	P/P	90 - 110
Arsenic	100	99.1	P/P	90 - 110
Cadmium	100	98.7	P/P	90 - 110
Cadmium	98.7	99.5	P/P	90 - 110
Chromium	98.1	98.5	P/P	90 - 110
Chromium	99.1	98.1	P/P	90 - 110
Copper	98.9	98.0	P/P	90 - 110
Copper	99.8	98.9	P/P	90 - 110
Lead	96.5	97.0	P/P	90 - 110
Lead	96.7	96.5	P/P	90 - 110
Nickel	101	99.1	P/P	90 - 110
Nickel	99.1	98.5	P/P	90 - 110
Silver	94.8	95.3	P/P	90 - 110
Silver	96.6	94.8	P/P	90 - 110

Reference Method: EPA 8276

Run ID: A77602

Included Lab Sample IDs: 1909381, 1909382

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chlordane	91.0		P	80 - 120
Toxaphene	97.4		P	80 - 120

Reference Method: EPA 8270D

Run ID: A77613

Included Lab Sample IDs: 1909381, 1909382

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Aldrin	98.4		P	80 - 120
Alpha-BHC	100		P	80 - 120
Alpha-Chlordane	98.6		P	80 - 120
Beta-BHC	101		P	80 - 120
Carbophenothion	92.9		P	80 - 120
Chlorothalonil	114		P	80 - 120
Cypermethrin	93.0		P	80 - 120
DDD-p,p'	96.3		P	80 - 120
DDE-p,p'	101		P	80 - 120
DDT-p,p'	106		P	80 - 120
Delta-BHC	100		P	80 - 120
Dicofol	97.9		P	80 - 120
Dieldrin	102		P	80 - 120
Endosulfan I	97.7		P	80 - 120
Endosulfan II	95.1		P	80 - 120
Endosulfan Sulfate	93.0		P	80 - 120
Endrin	112		P	80 - 120
Endrin Aldehyde	92.5		P	80 - 120
Endrin Ketone	93.2		P	80 - 120
Gamma-BHC	100		P	80 - 120
Gamma-Chlordane	100		P	80 - 120
Heptachlor	97.0		P	80 - 120
Heptachlor Epoxide	98.6		P	80 - 120

Quality Assurance Report Calibration Verification

Reference Method: EPA 8270D

Run ID: A77613

Included Lab Sample IDs: 1909381, 1909382

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Methoxychlor	104		P	80 - 120
Mirex	101		P	80 - 120
Permethrin	95.9		P	80 - 120
Trifluralin	92.0		P	80 - 120

Reference Method: EPA 8270D

Run ID: A77699

Included Lab Sample IDs: 1909383, 1909384

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acetochlor	101		P	80 - 120
Alachlor	101		P	80 - 120
Ametryn	103		P	80 - 120
Atrazine	98.3		P	80 - 120
Atrazine Desethyl	86.7		P	80 - 120
Azinphos Methyl	99.8		P	80 - 120
Bromacil	99.3		P	80 - 120
Butylate	97.9		P	80 - 120
Chlorpyrifos Ethyl	99.5		P	80 - 120
Chlorpyrifos Methyl	97.9		P	80 - 120
Cyanazine	89.1		P	80 - 120
Demeton	100		P	80 - 120
Diazinon	101		P	80 - 120
Disulfoton	94.8		P	80 - 120
EPTC	102		P	80 - 120
Ethion	96.6		P	80 - 120
Ethoprop	92.0		P	80 - 120
Fenamiphos	98.4		P	80 - 120
Fipronil	99.4		P	80 - 120
Fipronil Sulfide	95.3		P	80 - 120
Fipronil Sulfone	100		P	80 - 120
Fonofos	98.9		P	80 - 120
Hexazinone	103		P	80 - 120
Malathion	95.9		P	80 - 120
Metaxyl	100		P	80 - 120
Metolachlor	105		P	80 - 120
Metribuzin	86.6		P	80 - 120
Mevinphos	102		P	80 - 120
Molinate	103		P	80 - 120
Norflurazon	99.4		P	80 - 120
Parathion Ethyl	95.0		P	80 - 120
Parathion Methyl	95.6		P	80 - 120
Pendimethalin	90.0		P	80 - 120
Phorate	96.9		P	80 - 120
Prometon	102		P	80 - 120
Prometryn	103		P	80 - 120
Simazine	100		P	80 - 120
Terbufos	97.3		P	80 - 120
Terbutylazine	100		P	80 - 120

Quality Assurance Report Calibration Verification

Reference Method: USGS O-2060-01

Run ID: A77714

Included Lab Sample IDs: 1909377, 1909378

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	94.8	92.9	P/P	50 - 150
Bentazon	90.8	94.6	P/P	50 - 150
MCPP	79.7	83.8	P/P	50 - 150
Triclopyr	86.8	72.2	P/P	50 - 150

Reference Method: USGS O-2060-01

Run ID: A77717

Included Lab Sample IDs: 1909377, 1909378

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acetaminophen	93.3	101	P/P	60 - 150
Carbamazepine	98.4	101	P/P	60 - 150
Diuron	90.8	86.3	P/P	60 - 150
Fenuron	111	102	P/P	60 - 150
Fluridone	96.2	111	P/P	60 - 160
Imidacloprid	106	98.9	P/P	60 - 150
Linuron	89.4	94.7	P/P	60 - 150
Primidone	98.4	94.1	P/P	60 - 150

* Pass/Fail determinations are made for each bracketing calibration verification check.

Control limits for initial calibration checks may be different from those for continuing checks, depending on method requirements.

Where they are different, both control limits are provided.

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery		MS % Recovery			Precision	
				LCS			SMP	MS
EPA 180.1 Rev. 2.0	Turbidity						5.04	
EPA 200.7 Rev. 4.4	Calcium	100		97.9	97.9			2.13
	Iron	102		98.8	103	102		1.76
	Magnesium	103		96.3	104	101		1.65
	Potassium	99.0		96.1	98.1	97.5		0.503
	Sodium	102		102	103	99.8		1.85
	Zinc	95.5		93.0	95.0	92.1		3.05
EPA 200.8 Rev. 5.4	Arsenic	99.0		101	99.7	98.5		1.23
	Cadmium	98.5		100	100	101		0.826
	Chromium	95.9		97.3	98.0	97.3		0.751
	Copper	95.8		92.7	93.3	92.7		0.670
	Lead	95.1		96.5	96.7	96.2		0.497
	Nickel	98.6		96.2	97.2	96.0		1.19
	Silver	96.2		96.1	96.4	96.9		0.461
EPA 300.0 Rev. 2.1	Chloride	99.2		102	103		3.56	
	Sulfate	101		102	101		5.01	
EPA 350.1 Rev. 2.0	Ammonia-N	109		99.1	96.5			1.90
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	102		96.3	90.7			5.01
EPA 353.2 Rev. 2.0	NO2NO3-N	104		100	102			1.48
EPA 365.1 Rev. 2.0	Total-P	93.1		102	98.0			3.47
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	99.9		93.4	95.1			1.25
EPA 8270D	Acetochlor	86.8	88.6	83.9	87.4	2.01		4.07

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery		MS % Recovery		Precision	
						LCS	MS
						SMP	
EPA 8270D	Alachlor	86.4	87.8	85.1	87.6	1.68	2.83
	Aldrin	54.9	46.7	58.6	55.4	16.2	5.54
	Alpha-BHC	95.1	90.6	89.4	87.6	4.90	2.09
	Alpha-Chlordane	90.0	83.4	90.3	83.0	7.57	8.47
	Ametryn	92.4	91.9	94.1	99.2	0.556	5.30
	Atrazine	93.4	93.8	85.9	88.5	0.429	2.68
	Atrazine Desethyl	91.0	87.4	65.9	67.8	4.08	2.85
	Azinphos Methyl	95.9	95.5	76.2	79.6	0.408	4.30
	Beta-BHC	101	99.3	117	123	1.41	4.80
	Bromacil	85.0	92.5	85.8	85.0	8.47	0.962
	Butylate	47.1	53.6	65.4	51.0	13.0	24.6
	Carbophenothion	100	87.6	108	120	13.7	10.1
	Chlorothalonil	144	95.8	130	139	40.5	6.76
	Chlorpyrifos Ethyl	88.2	88.6	75.3	78.2	0.541	3.80
	Chlorpyrifos Methyl	91.3	87.6	69.0	70.9	4.11	2.64
	Cyanazine	174	175	109	110	1.02	0.886
	Cypermethrin	121	93.7	108	109	25.2	1.32
	DDD-p,p'	99.3	92.5	104	96.5	7.10	7.19
	DDE-p,p'	90.8	83.5	91.6	82.8	8.46	10.1
	DDT-p,p'	96.5	85.7	87.6	84.6	11.9	3.49
	Delta-BHC	118	110	119	141	7.06	16.8
	Demeton	88.9	82.5	74.9	72.5	7.44	3.23
	Diazinon	91.6	92.9	83.5	85.9	1.39	2.85
	Dicofol	28.0	41.8	37.5	18.5	39.5	67.9
	Dieldrin	93.1	82.4	97.8	89.8	12.2	8.55
	Disulfoton	98.3	82.1	74.1	68.7	17.9	7.54
	Endosulfan I	97.0	91.6	96.4	92.0	5.71	4.75
	Endosulfan II	106	94.6	106	98.1	11.8	7.81
	Endosulfan Sulfate	99.4	90.0	100	97.2	9.96	2.94
	Endrin	99.2	101	81.0	93.8	2.06	14.7
	Endrin Aldehyde	92.1	88.7	72.7	74.6	3.78	2.49
	Endrin Ketone	97.0	90.5	107	95.5	7.01	11.5
	EPTC	43.6	49.9	64.4	54.8	13.5	16.1
	Ethion	94.4	92.6	85.8	88.9	1.98	3.59
	Ethoprop	81.0	94.0	61.3	69.0	14.9	11.9
	Fenamiphos	102	99.0	89.3	94.4	3.34	5.54
	Fipronil	88.4	88.9	92.9	93.9	0.614	1.08
	Fipronil Sulfide	91.0	80.2	88.3	93.5	12.6	5.75
	Fipronil Sulfone	79.9	77.8	84.8	85.0	2.68	0.234
	Fonofos	90.3	86.0	68.1	67.3	4.88	1.18
	Gamma-BHC	103	98.5	107	100	4.37	6.71
	Gamma-Chlordane	90.1	82.6	91.5	83.4	8.64	9.27
	Heptachlor	76.8	70.9	72.6	64.2	7.89	12.3
	Heptachlor Epoxide	91.5	86.3	94.6	88.7	5.86	6.38
	Hexazinone	81.6	80.9	89.2	93.3	0.898	4.49
	Malathion	94.7	90.1	80.3	84.3	4.94	4.93
	Metalaxyl	91.2	89.7	84.5	90.2	1.69	6.34
	Methoxychlor	101	99.7	99.7	93.1	1.38	6.87
	Metolachlor	89.8	89.9	88.1	92.3	0.0394	3.78
	Metribuzin	84.8	88.3	88.0	98.8	4.10	11.5
	Mevinphos	76.2	76.9	67.0	68.2	1.03	1.76
	Mirex	83.2	71.0	78.5	73.2	15.8	6.96
	Molinate	50.2	61.4	67.1	57.3	20.1	15.8
	Norflurazon	87.2	86.7	90.8	93.6	0.593	3.03

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery		MS % Recovery		Precision	
						LCS	MS
EPA 8270D	Parathion Ethyl	91.0	90.6	82.5	83.7	0.432	1.53
	Parathion Methyl	89.5	88.4	73.6	75.7	1.16	2.74
	Pendimethalin	84.4	87.4	79.1	79.9	3.54	0.975
	Permethrin	104	86.2	97.9	93.7	18.4	4.34
	Phorate	83.3	85.7	68.9	66.3	2.89	3.86
	Prometon	81.7	84.8	90.2	92.8	3.80	2.84
	Prometryn	91.6	90.7	93.2	98.0	1.02	4.97
	Simazine	93.7	97.7	88.9	96.9	4.09	8.52
	Terbufos	89.1	87.1	70.4	69.1	2.24	1.95
	Terbutylazine	90.3	88.5	87.0	88.8	2.11	2.10
	Trifluralin	119	111	156	161	6.53	3.05
	Chlordane	112	112	105	120	0.523	14.0
EPA 8276	Toxaphene	130	126	116	137	3.69	16.8
EPA 8321B	Glyphosate	95.3		98.4	112		13.2
	Pyraclostrobin	140		130	130		0.0
	Sucralose	90.5		108	92.0		14.7
SM 2120 B	Color (true)					1.30	
SM 2320 B-97	Total Alkalinity	103				0.0527	
	Total Alkalinity	103				0.0689	
SM 2540 C-97	TDS					2.79	
SM 4500 F-C-97	Fluoride	96.3		97.8	101		2.39
	Fluoride	96.3		100	100		0.0
SM 5310 B-00	Organic Carbon	97.8		98.6	100		1.12
	Organic Carbon	94.7		98.4	98.0		0.356
USGS O-2060-01	2,4-D	88.1		95.2	122		8.23
	Acetaminophen	71.2		76.7	104		30.0
	Bentazon	88.8					6.20
	Carbamazepine	92.9		84.5	103		17.7
	Diuron	88.3		66.5	71.7		6.33
	Fenuron	104		70.3	83.0		16.5
	Fluridone	85.4		41.7	61.3		13.5
	Imidacloprid	82.2		160	184		11.1
	Linuron	70.5		74.1	87.1		16.1
	MCPP	85.4		108	121		10.2
	Primidone	108		85.1	98.2		11.1
	Triclopyr	75.8		97.5	116		17.3

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 180.1 Rev. 2.0 / E31780	Turbidity in aqueous matrices	1909369, 1909370
EPA 200.7 Rev. 4.4 / E31780	Total Recoverable Metals analysis using ICP emission spectroscopy for aqueous samples supporting Clean Water Act Projects	1909385, 1909386
EPA 200.8 Rev. 5.4 / E31780	Total Recoverable Metals analysis using ICP-MS for aqueous samples supporting Clean Water Act Projects	1909385, 1909386
EPA 300.0 Rev. 2.1 / E31780	Chloride in aqueous matrices	1909369, 1909370
EPA 300.0 Rev. 2.1 / E31780	Sulfate in aqueous matrices	1909369, 1909370
EPA 350.1 Rev. 2.0 / E31780	Ammonia in aqueous matrices as mg N/L	1909371, 1909372
EPA 351.2 Rev. 2.0 / E31780	Total Kjeldahl Nitrogen in aqueous matrices	1909371, 1909372

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 353.2 Rev. 2.0 / E31780	Nitrite/Nitrate in aqueous matrices as mg N/L	1909371, 1909372
EPA 365.1 Rev. 2.0 / E31780	Total Phosphorus in aqueous matrices as mg P/L	1909371, 1909372
EPA 365.1 Rev. 2.0 dissolved / E31780	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	1909373, 1909374
EPA 8270D / E31780	Organochlorine pesticides in water matrices by GC/MS-SIM	1909381, 1909382
EPA 8270D / E31780	Organonitrogen and phosphorus pesticides (ultra trace level) in water matrices by GC/MS/MS	1909383, 1909384
EPA 8276 / E31780	Organochlorine pesticides in water matrices by GC/MS with Negative Chemical Ionization	1909381, 1909382
EPA 8321B / E31780	Glyphosate in water matrices by HPLC/MS/MS	1909377, 1909378
EPA 8321B / E31780	Pyraclostrobin in water matrices by HPLC/MS/MS	1909379, 1909380
EPA 8321B / E31780	Water soluble organic compounds by HPLC/MS/MS	1909377, 1909378
SM 2120 B / E31780	True Color measured at 450 nm	1909369, 1909370
SM 2320 B-97 / E31780	Alkalinity in aqueous matrices as mg CaCO ₃ /L	1909369, 1909370
SM 2540 C-97 / E31780	Total Dissolved Solids in aqueous matrices	1909369, 1909370
SM 2540 D-97 / E31780	Total Suspended Solids in aqueous matrices	1909369, 1909370
SM 4500 F-C-97 / E31780	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	1909369, 1909370
SM 5310 B-00 / E31780	Nonpurgeable Organic Carbon in aqueous matrices	1909371, 1909372
USGS O-2060-01 / E31780	Chlorinated (phenoxy acid) herbicides in water matrices by HPLC/MS/MS	1909377, 1909378
USGS O-2060-01 / E31780	Urea herbicides and other chemicals in water matrices by HPLC/MS/MS	1909377, 1909378

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	06/28/2017			06/28/2017 12:06	DeAsia Armster	1909369, 1909370
EPA 200.7 Rev. 4.4	06/28/2017	06/29/2017	Elliott D. Healy	06/30/2017	Betina Topolski	1909385, 1909386
EPA 200.8 Rev. 5.4	06/28/2017	06/29/2017	Elliott D. Healy	07/06/2017	Nadine Brooks	1909385, 1909386
EPA 300.0 Rev. 2.1	06/28/2017			06/30/2017	Julia Storbeck	1909369, 1909370
EPA 350.1 Rev. 2.0	06/28/2017			06/28/2017	Sofia Elnemr	1909371, 1909372
EPA 351.2 Rev. 2.0	06/28/2017	06/30/2017	Adrian Shelby	07/03/2017	Joseph Suarez	1909371, 1909372
EPA 353.2 Rev. 2.0	06/28/2017			06/29/2017	Beverly Y. Sanders	1909371, 1909372
EPA 365.1 Rev. 2.0	06/28/2017	06/30/2017	Vijayalakshmi Reddy	07/05/2017	Lipi Saha	1909371, 1909372
EPA 365.1 Rev. 2.0 dissolved	06/28/2017			06/28/2017 12:10	Lipi Saha	1909373
	06/28/2017			06/28/2017 12:19	Lipi Saha	1909374
	06/28/2017	06/28/2017	John Kaba	07/07/2017	Irina Carbone	1909383, 1909384
	06/28/2017	06/29/2017	Fe-Val Siddell	07/05/2017	Marek Topolski	1909381, 1909382
EPA 8276	06/28/2017	06/29/2017	Fe-Val Siddell	07/03/2017	John P. Burgos	1909381, 1909382
EPA 8321B	06/28/2017	06/28/2017	Mohammad Ghaffari	06/28/2017	Mohammad Ghaffari	1909377, 1909378
	06/28/2017	06/30/2017	Julie Michelle Frank	06/30/2017	Julie Michelle Frank	1909377, 1909378
	06/28/2017	06/30/2017	Julie Michelle Frank	07/01/2017	Julie Michelle Frank	1909379, 1909380
SM 2120 B	06/28/2017			06/28/2017 15:37	Tanya Welborn	1909369
	06/28/2017			06/28/2017 15:38	Tanya Welborn	1909370
SM 2320 B-97	06/28/2017			07/01/2017	Dale L. Simmons	1909369, 1909370
SM 2540 C-97	06/28/2017			06/30/2017	Yijie Li	1909369, 1909370
SM 2540 D-97	06/28/2017			06/30/2017	Yijie Li	1909369, 1909370
SM 4500 F-C-97	06/28/2017			07/01/2017	Dale L. Simmons	1909369, 1909370
SM 5310 B-00	06/28/2017			06/29/2017	Sofia Elnemr	1909371, 1909372
USGS O-2060-01	06/28/2017	06/29/2017	Hoor Shaik	07/11/2017	Juyoung Kim	1909377, 1909378