

Chemical Analysis Report

WQAP-2017-06-13-04

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

Event Description: **Big, Stafford, Coon, Stone Mill**

Request ID: **RQ-2017-06-05-46**

Customer: **WQAP**

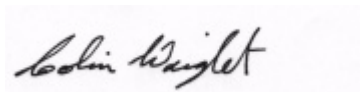
Project ID: **SMP**

Send Reports to:
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2600 Blair Stone Rd
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Attn: Curtis Musson

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

Date Certified: 07-JUL-2017 12:40

A handwritten signature in black ink, appearing to read "Colin Wright", is displayed on a light-colored 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: Big Branch Downstream of Road 5

Collection Date/Time: 06/13/2017 10:25

Field ID: G2WA0010_06132017

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1905856	EPA 180.1 Rev. 2.0	Turbidity	3.0	A	NTU	P326836	
	EPA 300.0 Rev. 2.1	Chloride	3.8		mg Cl/L	P327081	
		Sulfate	0.91		mg SO4/L	P327084	
	SM 2120 B	Color (true)	97		PCU	P326852	
	SM 2320 B-97	Total Alkalinity	0.65	U	mg CaCO3/L	P327057	
	SM 2540 C-97	TDS	40		mg/L	P327131	
	SM 2540 D-97	TSS	3	I	mg/L	P327460	
	SM 4500 F-C-97	Fluoride	0.035	U	mg F/L	P327059	
1905859	EPA 350.1 Rev. 2.0	Ammonia-N	0.007		mg N/L	P326814	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.46		mg N/L	P326914	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P326956	
	EPA 365.1 Rev. 2.0	Total-P	0.007		mg P/L	P326879	
	SM 5310 B-00	Organic Carbon	13		mg C/L	P327416	
1905862	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P326750	

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: Stafford Creek 100 meters upstream of SR 69

Collection Date/Time: 06/13/2017 11:25

Field ID: G2WA0004_06132017

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1905857	EPA 180.1 Rev. 2.0	Turbidity	2.7		NTU	P326836	
	EPA 300.0 Rev. 2.1	Chloride	8.3	A	mg Cl/L	P327081	
		Sulfate	1.2	A	mg SO4/L	P327084	
	SM 2120 B	Color (true)	87	A	PCU	P326852	
	SM 2320 B-97	Total Alkalinity	21		mg CaCO3/L	P327057	
	SM 2540 C-97	TDS	57		mg/L	P327131	
	SM 2540 D-97	TSS	2	I	mg/L	P327460	
	SM 4500 F-C-97	Fluoride	0.041	I	mg F/L	P327059	
1905860	EPA 350.1 Rev. 2.0	Ammonia-N	0.017		mg N/L	P326814	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.45		mg N/L	P326914	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.27		mg N/L	P326956	
	EPA 365.1 Rev. 2.0	Total-P	0.020		mg P/L	P326879	
	SM 5310 B-00	Organic Carbon	8.5		mg C/L	P327416	
1905863	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.007	I	mg P/L	P326750	

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: Stafford Creek 100 meters upstream of SR 69

Collection Date/Time: 06/13/2017 11:25

Field ID: G2WA0004_06132017

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1905872	EPA 8321B	Glyphosate**	10	U	ug/L	P326686	
		Pyraclostrobin**	0.0020	U	ug/L	P326579	
		Sucralose**	0.018	I	ug/L	P326843	

Field ID: G2WA0004_06132017

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1905872	USGS O-2060-01	2,4-D	8.0E-04	U	ug/L	P326755	
		Diuron	8.0E-04	U	ug/L	P326755	
		Fenuron	0.0080	U	ug/L	P326755	
		Imidacloprid	0.0069	J	ug/L	P326755	MS
		Bentazon	8.0E-04	UJ	ug/L	P326755	MS
		Linuron	0.0040	U	ug/L	P326755	
		Acetaminophen**	0.0080	U	ug/L	P326755	
		MCP	0.0020	U	ug/L	P326755	
		Carbamazepine**	4.0E-04	U	ug/L	P326755	
		Triclopyr**	0.0040	U	ug/L	P326755	
		Primidone**	0.0040	U	ug/L	P326755	
		Fluridone**	4.0E-04	U	ug/L	P326755	
1905874	EPA 8270D	Aldrin	4.0	U	ng/L	P326890	
		Alpha-BHC	2.0	U	ng/L	P326890	
		Beta-BHC	4.0	U	ng/L	P326890	
		Delta-BHC	4.0	U	ng/L	P326890	RPD
		Gamma-BHC	4.0	U	ng/L	P326890	
		Carbophenothion	4.0	U	ng/L	P326890	
		Chlorothalonil	2.0	U	ng/L	P326890	
		Cypermethrin	20	U	ng/L	P326890	
		DDD-p,p'	2.0	U	ng/L	P326890	
		DDE-p,p'	3.0	U	ng/L	P326890	
		DDT-p,p'	3.0	U	ng/L	P326890	
		Dieldrin	4.0	U	ng/L	P326890	
		Endosulfan I	4.0	U	ng/L	P326890	
		Endosulfan II	4.0	U	ng/L	P326890	
		Endosulfan Sulfate	2.0	U	ng/L	P326890	
		Endrin	2.0	U	ng/L	P326890	
		Endrin Aldehyde	2.0	U	ng/L	P326890	
		Heptachlor	1.5	U	ng/L	P326890	
		Heptachlor Epoxide	2.0	U	ng/L	P326890	
		Methoxychlor	4.0	U	ng/L	P326890	
		Mirex	2.0	U	ng/L	P326890	
		Permethrin	10	U	ng/L	P326890	
		Trifluralin	1.0	U	ng/L	P326890	
		Alpha-Chlordane	1.0	U	ng/L	P326890	
		Gamma-Chlordane	1.0	U	ng/L	P326890	
		Endrin Ketone	2.0	U	ng/L	P326890	
		Dicofol	30	UJ	ng/L	P326890	CCV
	EPA 8276	Chlordane**	2.5	U	ng/L	P326890	
		Toxaphene**	12	U	ng/L	P326890	
1905875	EPA 8270D	Alachlor	0.24	U	ng/L	P326941	
		Ametryn	0.31	U	ng/L	P326941	
		Atrazine	0.24	U	ng/L	P326941	
		Atrazine Desethyl	1.4	U	ng/L	P326941	

Field ID: G2WA0004_06132017

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1905875	EPA 8270D	Azinphos Methyl	2.2	U	ng/L	P326941	
		Bromacil	0.48	U	ng/L	P326941	
		Butylate	0.39	U	ng/L	P326941	
		Chlorpyrifos Ethyl	0.24	U	ng/L	P326941	
		Chlorpyrifos Methyl	0.096	U	ng/L	P326941	
		Demeton	1.9	U	ng/L	P326941	
		Diazinon	0.12	U	ng/L	P326941	
		Disulfoton	0.31	U	ng/L	P326941	
		EPTC	1.2	U	ng/L	P326941	
		Ethion	0.14	U	ng/L	P326941	
		Ethoprop	0.096	U	ng/L	P326941	
		Fenamiphos	0.24	U	ng/L	P326941	
		Fipronil	0.24	U	ng/L	P326941	
		Fipronil Sulfide	0.14	U	ng/L	P326941	
		Fipronil Sulfone	0.14	U	ng/L	P326941	
		Hexazinone	0.48	U	ng/L	P326941	
		Malathion	0.34	U	ng/L	P326941	
		Metribuzin	0.19	UJ	ng/L	P326941	MS
		Mevinphos	0.48	U	ng/L	P326941	
		Molinate	0.29	UJ	ng/L	P326941	LCS, MS, RPD
		Norflurazon	0.48	U	ng/L	P326941	
		Pendimethalin	1.4	U	ng/L	P326941	
		Phorate	0.24	U	ng/L	P326941	
		Prometon	0.87	U	ng/L	P326941	
		Prometryn	0.19	U	ng/L	P326941	
		Simazine	0.48	U	ng/L	P326941	
		Terbufos	0.096	U	ng/L	P326941	
		Terbutylazine	0.41	U	ng/L	P326941	
		Fonofos	0.19	U	ng/L	P326941	
		Metalaxyl	0.19	U	ng/L	P326941	
		Metolachlor	18		ng/L	P326941	
		Acetochlor	0.24	U	ng/L	P326941	
		Cyanazine	0.48	U	ng/L	P326941	
		Parathion Ethyl	0.24	U	ng/L	P326941	
		Parathion Methyl	0.24	U	ng/L	P326941	

Ref. Method and Comment:

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

EPA 8270D: Refer to the narrative for an explanation of QC Codes.

EPA 8270D: MS accuracy for Metolachlor not assessed due to high content of this parameter in the sample spiked. Refer to the narrative for an explanation of QC Codes.

Sample Location: Stafford Creek 100 meters upstream of SR 69 Collection Date/Time: 06/13/2017 11:25

Field ID: G2WA0004_06132017

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1905876	EPA 200.7 Rev. 4.4	Calcium	7.65		mg/L	P326910	

Field ID: G2WA0004_06132017

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1905876	EPA 200.7 Rev. 4.4	Iron	510		ug/L	P326910	
		Magnesium	2.98		mg/L	P326910	
		Potassium	0.92	I	mg/L	P326910	
		Sodium	2.6		mg/L	P326910	
		Zinc	5.0	U	ug/L	P326910	
	EPA 200.8 Rev. 5.4	Arsenic	0.49		ug/L	P326910	
		Cadmium	0.020	U	ug/L	P326910	
		Chromium	0.40	U	ug/L	P326910	
		Copper	0.20	U	ug/L	P326910	
		Lead	0.17	I	ug/L	P326910	
		Nickel	0.21	I	ug/L	P326910	
		Silver	0.010	U	ug/L	P326910	

Sample Location: Big Branch 50 meters upstream of CR 67

Collection Date/Time: 06/13/2017 12:50

Field ID: G1WA0001_06132017

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1905873	EPA 8321B	Sucralose**	0.010	U	ug/L	P326843	
	USGS O-2060-01	2,4-D	8.0E-04	U	ug/L	P326755	
		Diuron	8.0E-04	U	ug/L	P326755	
		Fenuron	0.0080	U	ug/L	P326755	
		Imidacloprid	8.0E-04	U	ug/L	P326755	MS
		Bentazon	8.0E-04	U	ug/L	P326755	MS
		Linuron	0.0040	U	ug/L	P326755	
		Acetaminophen**	0.0080	U	ug/L	P326755	
		MCP	0.0020	U	ug/L	P326755	
		Carbamazepine**	4.0E-04	U	ug/L	P326755	
		Triclopyr**	0.0040	U	ug/L	P326755	
		Primidone**	0.0040	U	ug/L	P326755	
		Fluridone**	4.0E-04	U	ug/L	P326755	

Sample Location: Soapstone Branch 100 meters upstream of SR 375

Collection Date/Time: 06/13/2017 13:30

Field ID: G1WA0012_06132017

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1905858	EPA 180.1 Rev. 2.0	Turbidity	1.8		NTU	P326836	
	EPA 300.0 Rev. 2.1	Chloride	4.0		mg Cl/L	P327081	
		Sulfate	0.40	I	mg SO4/L	P327084	
		Color (true)	410		PCU	P326852	
	SM 2320 B-97	Total Alkalinity	0.65	U	mg CaCO3/L	P327057	
	SM 2540 C-97	TDS	114		mg/L	P327131	
	SM 2540 D-97	TSS	2	I	mg/L	P327460	
	SM 4500 F-C-97	Fluoride	0.035	U	mg F/L	P327059	
1905861	EPA 350.1 Rev. 2.0	Ammonia-N	0.003	I	mg N/L	P326814	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.73		mg N/L	P326914	

Field ID: G1WA0012_06132017

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1905861	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P326956	
	EPA 365.1 Rev. 2.0	Total-P	0.01		mg P/L	P326879	
	SM 5310 B-00	Organic Carbon	38		mg C/L	P327416	
1905864	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P326750	

Ref. Method and Comment:

SM 2540 D-97: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.

Quality Assurance Report Method Blank Results

Reference Method: EPA 180.1 Rev. 2.0

Batch ID: P326836

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 200.7 Rev. 4.4

Batch ID: P326910

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: P326910

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

Reference Method: EPA 300.0 Rev. 2.1

Batch ID: P327081

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1

Batch ID: P327084

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Quality Assurance Report Method Blank Results

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P326814

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P326914

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P326956

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P326879

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P326750

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

Reference Method: EPA 8270D
Batch ID: P326890

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
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

Quality Assurance Report Method Blank Results

Reference Method: EPA 8270D
Batch ID: P326890

Component	Result	Code	Units
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 8270D
Batch ID: P326941

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
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

Quality Assurance Report Method Blank Results

Reference Method: EPA 8276
Batch ID: P326890

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

Reference Method: EPA 8321B
Batch ID: P326579

Component	Result	Code	Units
Pyraclostrobin	0.0020	U	ug/L

Reference Method: EPA 8321B
Batch ID: P326686

Component	Result	Code	Units
Glyphosate	10	U	ug/L

Reference Method: EPA 8321B
Batch ID: P326843

Component	Result	Code	Units
Sucralose	0.010	U	ug/L

Reference Method: SM 2120 B
Batch ID: P326852

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2320 B-97
Batch ID: P327057

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

Reference Method: SM 2540 C-97
Batch ID: P327131

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-97
Batch ID: P327460

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500 F-C-97
Batch ID: P327059

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Quality Assurance Report Method Blank Results

Reference Method: SM 5310 B-00
Batch ID: P327416

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

Reference Method: USGS O-2060-01
Batch ID: P326755

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
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: P326910

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Calcium	108		P	85 - 115
Iron	107		P	85 - 115
Magnesium	108		P	85 - 115
Potassium	99.7		P	85 - 115
Sodium	99.3		P	85 - 115
Zinc	101		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P326910

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Arsenic	102		P	85 - 115
Cadmium	101		P	85 - 115
Chromium	96.1		P	85 - 115
Copper	103		P	85 - 115
Lead	100		P	85 - 115
Nickel	104		P	85 - 115
Silver	100		P	85 - 115

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P327081

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

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 300.0 Rev. 2.1
 Batch ID: P327084

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

Reference Method: EPA 350.1 Rev. 2.0
 Batch ID: P326814

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

Reference Method: EPA 351.2 Rev. 2.0
 Batch ID: P326914

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

Reference Method: EPA 353.2 Rev. 2.0
 Batch ID: P326956

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

Reference Method: EPA 365.1 Rev. 2.0
 Batch ID: P326879

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
 Batch ID: P326750

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

Reference Method: EPA 8270D
 Batch ID: P326890

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Aldrin	50.1	64.2	P/P	26 - 88.0
Alpha-BHC	74.9	80.5	P/P	63 - 114
Alpha-Chlordane	72.4	78.8	P/P	56 - 117
Beta-BHC	87.1	84.1	P/P	57 - 138
Carbophenothion	93.0	96.3	P/P	36 - 148
Chlorothalonil	79.0	90.3	P/P	26 - 173
Cypermethrin	83.4	107	P/P	42 - 159
DDD-p,p'	95.9	92.3	P/P	62 - 126
DDE-p,p'	80.8	82.3	P/P	53 - 115
DDT-p,p'	86.1	81.0	P/P	54 - 117
Delta-BHC	85.6	75.3	P/P	68 - 158
Dicofol	41.1	48.8	P/P	25 - 114
Dieldrin	84.5	90.9	P/P	59 - 126
Endosulfan I	87.5	92.9	P/P	62 - 138
Endosulfan II	89.4	93.4	P/P	61 - 150
Endosulfan Sulfate	72.7	86.4	P/P	63 - 132

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 8270D
Batch ID: P326890

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Endrin	88.6	97.6	P/P	49 - 148
Endrin Aldehyde	90.4	87.3	P/P	50 - 144
Endrin Ketone	78.7	82.9	P/P	66 - 122
Gamma-BHC	84.9	78.9	P/P	60 - 137
Gamma-Chlordane	75.3	83.3	P/P	54 - 113
Heptachlor	56.9	65.1	P/P	43 - 104
Heptachlor Epoxide	83.8	88.5	P/P	64 - 118
Methoxychlor	101	105	P/P	63 - 129
Mirex	64.3	63.4	P/P	39 - 93.0
Permethrin	87.3	92.5	P/P	51 - 123
Trifluralin	140	151	P/P	35 - 187

Reference Method: EPA 8270D
Batch ID: P326941

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acetochlor	88.9	86.8	P/P	78 - 118
Alachlor	89.6	87.7	P/P	77 - 119
Ametryn	90.2	91.3	P/P	61 - 136
Atrazine	98.7	84.1	P/P	73 - 120
Atrazine Desethyl	96.9	90.9	P/P	16 - 122
Azinphos Methyl	111	110	P/P	69 - 186
Bromacil	80.6	77.9	P/P	40 - 125
Butylate	42.7	36.4	P/P	32 - 87.0
Chlorpyrifos Ethyl	88.3	84.7	P/P	53 - 110
Chlorpyrifos Methyl	92.5	87.0	P/P	31 - 119
Cyanazine	197	178	P/P	36 - 224
Demeton	78.9	79.5	P/P	39 - 122
Diazinon	96.1	90.5	P/P	75 - 119
Disulfoton	87.3	89.1	P/P	42 - 139
EPTC	37.9	33.4	P/P	33 - 96.0
Ethion	98.0	96.4	P/P	63 - 127
Ethoprop	79.7	69.2	P/P	65 - 107
Fenamiphos	102	101	P/P	64 - 137
Fipronil	96.5	98.0	P/P	60 - 126
Fipronil Sulfide	92.6	92.7	P/P	58 - 124
Fipronil Sulfone	82.6	83.0	P/P	57 - 126
Fonofos	91.5	81.4	P/P	65 - 111
Hexazinone	89.2	86.3	P/P	46 - 151
Malathion	97.3	92.8	P/P	68 - 132
Metalaxyl	94.0	92.9	P/P	51 - 132
Metolachlor	89.1	87.3	P/P	78 - 119
Metribuzin	124	126	P/P	64 - 138
Mevinphos	71.7	65.9	P/P	34 - 128
Molinate	44.1	39.9	P/F	44 - 101
Norflurazon	93.3	94.0	P/P	63 - 129
Parathion Ethyl	93.4	91.8	P/P	80 - 109
Parathion Methyl	92.8	93.3	P/P	74 - 125
Pendimethalin	99.1	99.0	P/P	48 - 134
Phorate	87.3	78.5	P/P	52 - 119
Prometon	87.7	85.3	P/P	69 - 124
Prometryn	89.2	91.3	P/P	66 - 124

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 8270D
Batch ID: P326941

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Simazine	107	101	P/P	61 - 134
Terbufos	88.6	80.2	P/P	58 - 115
Terbutylazine	89.8	87.9	P/P	77 - 113

Reference Method: EPA 8276
Batch ID: P326890

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Chlordane	75.7	77.4	P/P	48 - 121
Toxaphene	91.2	98.5	P/P	43 - 135

Reference Method: EPA 8321B
Batch ID: P326579

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Pyraclostrobin	60.3		P	40 - 140

Reference Method: EPA 8321B
Batch ID: P326686

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Glyphosate	95.6		P	40 - 140

Reference Method: EPA 8321B
Batch ID: P326843

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Sucralose	79.0		P	40 - 150

Reference Method: SM 2320 B-97
Batch ID: P327057

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

Reference Method: SM 4500 F-C-97
Batch ID: P327059

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	94.4		P	92 - 103

Reference Method: SM 5310 B-00
Batch ID: P327416

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	93.7		P	85 - 115

Reference Method: USGS O-2060-01
Batch ID: P326755

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	76.2		P	40 - 140

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: USGS O-2060-01
Batch ID: P326755

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acetaminophen	33.1		P	30 - 150
Bentazon	84.8		P	40 - 140
Carbamazepine	121		P	40 - 140
Diuron	112		P	40 - 140
Fenuron	109		P	40 - 140
Fluridone	111		P	40 - 140
Imidacloprid	106		P	40 - 160
Linuron	109		P	40 - 140
MCPP	79.8		P	40 - 140
Primidone	99.8		P	40 - 140
Triclopyr	76.0		P	40 - 140

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P326910

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1905928	Calcium	107		P	80 - 120
1905928	Iron	104		P	80 - 120
1905928	Magnesium	103		P	80 - 120
1905928	Potassium	98.6		P	80 - 120
1905928	Sodium	103		P	80 - 120
1905928	Zinc	97.7		P	80 - 120
1906052	Calcium	108	109	P/P	80 - 120
1906052	Iron	109	110	P/P	80 - 120
1906052	Magnesium	109	110	P/P	80 - 120
1906052	Potassium	104	104	P/P	80 - 120
1906052	Sodium	102	104	P/P	80 - 120
1906052	Zinc	101	103	P/P	80 - 120

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P326910

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1905928	Arsenic	102		P	80 - 120
1905928	Cadmium	104		P	80 - 120
1905928	Chromium	94.3		P	80 - 120
1905928	Copper	97.6		P	80 - 120
1905928	Lead	100		P	80 - 120
1905928	Nickel	99.7		P	80 - 120
1905928	Silver	100		P	80 - 120
1906052	Arsenic	103	100	P/P	80 - 120
1906052	Cadmium	104	102	P/P	80 - 120
1906052	Chromium	100	98.8	P/P	80 - 120
1906052	Copper	104	101	P/P	80 - 120
1906052	Lead	102	101	P/P	80 - 120
1906052	Nickel	104	102	P/P	80 - 120
1906052	Silver	101	99.7	P/P	80 - 120

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P327081

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1905857	Chloride	99.9		P	90 - 110
1905971	Chloride	97.8		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P327084

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1905857	Sulfate	97.8		P	90 - 110
1905971	Sulfate	96.3		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P326814

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1905678	Ammonia-N	98.1	100	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P326914

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1905860	Kjeldahl Nitrogen	98.8	101	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P326956

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1905859	NO2NO3-N	104	104	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P326879

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1905685	Total-P	97.8	95.8	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P326750

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1905862	O-Phosphate-P	96.1	95.0	P/P	90 - 110

Reference Method: EPA 8270D
Batch ID: P326890

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1905496	Aldrin	71.0	68.0	P/P	22 - 97.0
1905496	Alpha-BHC	91.7	89.8	P/P	43 - 132
1905496	Alpha-Chlordane	85.6	69.6	P/P	36 - 126
1905496	Beta-BHC	100	91.4	P/P	41 - 150
1905496	Carbophenothion	119	90.9	P/P	13 - 196
1905496	Chlorothalonil	119	118	P/P	10 - 266
1905496	Cypermethrin	109	92.0	P/P	37 - 161
1905496	DDD-p,p'	105	83.0	P/P	44 - 131

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8270D
Batch ID: P326890

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1905496	DDE-p,p'	88.2	83.8	P/P	32 - 127
1905496	DDT-p,p'	87.2	86.5	P/P	45 - 116
1905496	Delta-BHC	104	75.3	P/P	50 - 201
1905496	Dicofol	57.6	47.9	P/P	10 - 100
1905496	Dieldrin	93.6	77.4	P/P	39 - 142
1905496	Endosulfan I	96.7	94.5	P/P	51 - 139
1905496	Endosulfan II	93.1	88.1	P/P	49 - 155
1905496	Endosulfan Sulfate	90.7	90.1	P/P	54 - 136
1905496	Endrin	82.9	87.3	P/P	38 - 141
1905496	Endrin Aldehyde	89.8	90.3	P/P	14 - 152
1905496	Endrin Ketone	105	92.4	P/P	60 - 128
1905496	Gamma-BHC	90.8	84.6	P/P	48 - 157
1905496	Gamma-Chlordane	92.6	76.8	P/P	35 - 123
1905496	Heptachlor	78.1	73.7	P/P	25 - 112
1905496	Heptachlor Epoxide	97.2	95.5	P/P	48 - 125
1905496	Methoxychlor	111	102	P/P	52 - 127
1905496	Mirex	77.2	75.7	P/P	25 - 108
1905496	Permethrin	105	87.3	P/P	46 - 133
1905496	Trifluralin	200	194	P/P	29 - 254

Reference Method: EPA 8270D
Batch ID: P326941

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1905875	Acetochlor	97.4	92.7	P/P	74 - 123
1905875	Alachlor	96.5	86.9	P/P	73 - 124
1905875	Ametryn	105	92.7	P/P	56 - 149
1905875	Atrazine	101	97.0	P/P	73 - 124
1905875	Atrazine Desethyl	78.9	83.6	P/P	12 - 103
1905875	Azinphos Methyl	93.4	95.3	P/P	60 - 202
1905875	Bromacil	86.4	94.9	P/P	42 - 133
1905875	Butylate	13.5	13.3	P/P	10 - 85.0
1905875	Chlorpyrifos Ethyl	90.4	85.0	P/P	53 - 113
1905875	Chlorpyrifos Methyl	89.1	82.7	P/P	40 - 115
1905875	Cyanazine	168	151	P/P	22 - 210
1905875	Demeton	84.5	71.5	P/P	17 - 149
1905875	Diazinon	95.3	90.4	P/P	72 - 124
1905875	Disulfoton	73.7	61.3	P/P	43 - 139
1905875	EPTC	15.4	13.2	P/P	10 - 86.0
1905875	Ethion	87.7	86.0	P/P	65 - 131
1905875	Ethoprop	77.6	65.0	P/P	59 - 110
1905875	Fenamiphos	103	96.3	P/P	57 - 138
1905875	Fipronil	97.9	96.0	P/P	40 - 130
1905875	Fipronil Sulfide	94.0	91.2	P/P	36 - 128
1905875	Fipronil Sulfone	81.7	77.7	P/P	16 - 145
1905875	Fonofos	97.2	83.2	P/P	60 - 112
1905875	Hexazinone	89.8	89.1	P/P	69 - 142
1905875	Malathion	92.8	87.2	P/P	68 - 132
1905875	Metalaxyl	101	91.9	P/P	66 - 118
1905875	Metribuzin	153	123	F/P	61 - 140
1905875	Mevinphos	62.0	54.3	P/P	38 - 130
1905875	Molinate	35.2	20.6	P/F	23 - 99.0

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8270D
Batch ID: P326941

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1905875	Norflurazon	90.8	88.7	P/P	39 - 139
1905875	Parathion Ethyl	91.2	89.5	P/P	75 - 111
1905875	Parathion Methyl	89.7	92.5	P/P	64 - 130
1905875	Pendimethalin	98.1	94.2	P/P	26 - 173
1905875	Phorate	86.5	70.2	P/P	43 - 127
1905875	Prometon	86.6	89.2	P/P	50 - 144
1905875	Prometryn	95.0	92.8	P/P	69 - 126
1905875	Simazine	103	102	P/P	51 - 152
1905875	Terbufos	96.5	77.8	P/P	54 - 125
1905875	Terbutylazine	93.2	87.0	P/P	76 - 113

Reference Method: EPA 8276
Batch ID: P326890

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1905874	Chlordane	60.3	68.8	P/P	44 - 134
1905874	Toxaphene	78.3	84.1	P/P	36 - 147

Reference Method: EPA 8321B
Batch ID: P326579

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1905091	Pyraclostrobin	59.2	49.3	P/P	40 - 140

Reference Method: EPA 8321B
Batch ID: P326686

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1905730	Glyphosate	101	94.8	P/P	40 - 140

Reference Method: EPA 8321B
Batch ID: P326843

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1905633	Sucralose	83.5	82.5	P/P	40 - 150

Reference Method: SM 4500 F-C-97
Batch ID: P327059

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1905892	Fluoride	95.3	98.2	P/P	91 - 105

Reference Method: SM 5310 B-00
Batch ID: P327416

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1905985	Organic Carbon	92.4	91.4	P/P	85 - 115

Reference Method: USGS O-2060-01
Batch ID: P326755

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

Reference Method: USGS O-2060-01
 Batch ID: P326755

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1905872	2,4-D	99.0	88.6	P/P	40 - 140
1905872	Acetaminophen	79.8	86.6	P/P	40 - 140
1905872	Bentazon	29.6	24.6	F/F	40 - 140
1905872	Carbamazepine	120	107	P/P	40 - 140
1905872	Diuron	85.1	78.4	P/P	40 - 140
1905872	Fenuron	81.4	77.8	P/P	40 - 140
1905872	Fluridone	80.3	76.1	P/P	40 - 140
1905872	Imidacloprid	189	174	F/F	40 - 160
1905872	Linuron	107	94.8	P/P	40 - 140
1905872	MCP	67.2	62.6	P/P	40 - 140
1905872	Primidone	98.0	91.1	P/P	40 - 140
1905872	Triclopyr	77.2	65.8	P/P	40 - 140

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
 Batch ID: P326836

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1905856	Turbidity	0.328	Sample	P	0 - 20

Reference Method: EPA 200.7 Rev. 4.4
 Batch ID: P326910

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1906052	Calcium	0.699	Spike	P	0 - 20
1906052	Iron	1.23	Spike	P	0 - 20
1906052	Magnesium	0.671	Spike	P	0 - 20
1906052	Potassium	0.363	Spike	P	0 - 20
1906052	Sodium	1.19	Spike	P	0 - 20
1906052	Zinc	1.84	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4
 Batch ID: P326910

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1906052	Arsenic	2.40	Spike	P	0 - 20
1906052	Cadmium	2.02	Spike	P	0 - 20
1906052	Chromium	1.27	Spike	P	0 - 20
1906052	Copper	3.10	Spike	P	0 - 20
1906052	Lead	1.25	Spike	P	0 - 20
1906052	Nickel	1.43	Spike	P	0 - 20
1906052	Silver	1.68	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P327081

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1905857	Chloride	1.26	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P327084

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1905857	Sulfate	0.0850	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P326814

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1905678	Ammonia-N	1.12	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P326914

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1905860	Kjeldahl Nitrogen	1.36	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P326956

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1905859	NO2NO3-N	0.480	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P326879

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1905685	Total-P	1.06	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P326750

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1905862	O-Phosphate-P	1.15	Spike	P	0 - 20

Reference Method: EPA 8270D
Batch ID: P326890

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1905496	Aldrin	4.42	Spike	P	0 - 30
1905496	Alpha-BHC	2.16	Spike	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8270D
Batch ID: P326890

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1905496	Alpha-Chlordane	20.6	Spike	P	0 - 30
1905496	Beta-BHC	9.15	Spike	P	0 - 30
1905496	Carbophenothion	26.8	Spike	P	0 - 30
1905496	Chlorothalonil	0.432	Spike	P	0 - 30
1905496	Cypermethrin	16.5	Spike	P	0 - 30
1905496	DDD-p,p'	23.7	Spike	P	0 - 30
1905496	DDE-p,p'	5.09	Spike	P	0 - 30
1905496	DDT-p,p'	0.894	Spike	P	0 - 30
1905496	Delta-BHC	32.4	Spike	F	0 - 30
1905496	Dicofol	18.4	Spike	P	0 - 30
1905496	Dieldrin	18.9	Spike	P	0 - 30
1905496	Endosulfan I	2.35	Spike	P	0 - 30
1905496	Endosulfan II	5.61	Spike	P	0 - 30
1905496	Endosulfan Sulfate	0.718	Spike	P	0 - 30
1905496	Endrin	5.24	Spike	P	0 - 30
1905496	Endrin Aldehyde	0.549	Spike	P	0 - 30
1905496	Endrin Ketone	12.3	Spike	P	0 - 30
1905496	Gamma-BHC	7.06	Spike	P	0 - 30
1905496	Gamma-Chlordane	18.6	Spike	P	0 - 30
1905496	Heptachlor	5.77	Spike	P	0 - 30
1905496	Heptachlor Epoxide	1.79	Spike	P	0 - 30
1905496	Methoxychlor	8.37	Spike	P	0 - 30
1905496	Mirex	1.99	Spike	P	0 - 30
1905496	Permethrin	18.8	Spike	P	0 - 30
1905496	Trifluralin	3.45	Spike	P	0 - 30
LFB	Aldrin	24.8	LCS	P	0 - 30
LFB	Alpha-BHC	7.26	LCS	P	0 - 30
LFB	Alpha-Chlordane	8.48	LCS	P	0 - 30
LFB	Beta-BHC	3.54	LCS	P	0 - 30
LFB	Carbophenothion	3.55	LCS	P	0 - 30
LFB	Chlorothalonil	13.2	LCS	P	0 - 30
LFB	Cypermethrin	24.9	LCS	P	0 - 30
LFB	DDD-p,p'	3.86	LCS	P	0 - 30
LFB	DDE-p,p'	1.90	LCS	P	0 - 30
LFB	DDT-p,p'	6.08	LCS	P	0 - 30
LFB	Delta-BHC	12.8	LCS	P	0 - 30
LFB	Dicofol	17.1	LCS	P	0 - 30
LFB	Dieldrin	7.28	LCS	P	0 - 30
LFB	Endosulfan I	6.01	LCS	P	0 - 30
LFB	Endosulfan II	4.41	LCS	P	0 - 30
LFB	Endosulfan Sulfate	17.2	LCS	P	0 - 30
LFB	Endrin	9.63	LCS	P	0 - 30
LFB	Endrin Aldehyde	3.49	LCS	P	0 - 30
LFB	Endrin Ketone	5.18	LCS	P	0 - 30
LFB	Gamma-BHC	7.27	LCS	P	0 - 30
LFB	Gamma-Chlordane	10.0	LCS	P	0 - 30
LFB	Heptachlor	13.4	LCS	P	0 - 30
LFB	Heptachlor Epoxide	5.41	LCS	P	0 - 30
LFB	Methoxychlor	3.66	LCS	P	0 - 30
LFB	Mirex	1.46	LCS	P	0 - 30
LFB	Permethrin	5.79	LCS	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8270D
Batch ID: P326890

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
LFB	Trifluralin	7.30	LCS	P	0 - 30

Reference Method: EPA 8270D
Batch ID: P326941

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1905875	Acetochlor	5.03	Spike	P	0 - 30
1905875	Alachlor	10.4	Spike	P	0 - 30
1905875	Ametryn	12.9	Spike	P	0 - 30
1905875	Atrazine	4.49	Spike	P	0 - 30
1905875	Atrazine Desethyl	5.80	Spike	P	0 - 30
1905875	Azinphos Methyl	2.01	Spike	P	0 - 30
1905875	Bromacil	9.38	Spike	P	0 - 30
1905875	Butylate	1.29	Spike	P	0 - 30
1905875	Chlorpyrifos Ethyl	6.13	Spike	P	0 - 30
1905875	Chlorpyrifos Methyl	7.47	Spike	P	0 - 30
1905875	Cyanazine	10.8	Spike	P	0 - 30
1905875	Demeton	16.7	Spike	P	0 - 30
1905875	Diazinon	5.20	Spike	P	0 - 30
1905875	Disulfoton	14.6	Spike	P	0 - 30
1905875	EPTC	15.3	Spike	P	0 - 30
1905875	Ethion	1.91	Spike	P	0 - 30
1905875	Ethoprop	17.6	Spike	P	0 - 30
1905875	Fenamiphos	6.35	Spike	P	0 - 30
1905875	Fipronil	1.97	Spike	P	0 - 30
1905875	Fipronil Sulfide	3.11	Spike	P	0 - 30
1905875	Fipronil Sulfone	4.93	Spike	P	0 - 30
1905875	Fonofos	15.6	Spike	P	0 - 30
1905875	Hexazinone	0.747	Spike	P	0 - 30
1905875	Malathion	6.24	Spike	P	0 - 30
1905875	Metalaxyl	9.24	Spike	P	0 - 30
1905875	Metolachlor	8.20	Spike	P	0 - 30
1905875	Metribuzin	21.8	Spike	P	0 - 30
1905875	Mevinphos	13.3	Spike	P	0 - 30
1905875	Molinate	52.5	Spike	F	0 - 30
1905875	Norflurazon	2.29	Spike	P	0 - 30
1905875	Parathion Ethyl	1.85	Spike	P	0 - 30
1905875	Parathion Methyl	3.04	Spike	P	0 - 30
1905875	Pendimethalin	4.09	Spike	P	0 - 30
1905875	Phorate	20.7	Spike	P	0 - 30
1905875	Prometon	2.94	Spike	P	0 - 30
1905875	Prometryn	2.29	Spike	P	0 - 30
1905875	Simazine	1.02	Spike	P	0 - 30
1905875	Terbufos	21.5	Spike	P	0 - 30
1905875	Terbutylazine	6.93	Spike	P	0 - 30
LFB	Acetochlor	2.43	LCS	P	0 - 30
LFB	Alachlor	2.11	LCS	P	0 - 30
LFB	Ametryn	1.13	LCS	P	0 - 30
LFB	Atrazine	16.0	LCS	P	0 - 30
LFB	Atrazine Desethyl	6.40	LCS	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8270D
Batch ID: P326941

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
LFB	Azinphos Methyl	0.456	LCS	P	0 - 30
LFB	Bromacil	3.45	LCS	P	0 - 30
LFB	Butylate	16.0	LCS	P	0 - 30
LFB	Chlorpyrifos Ethyl	4.16	LCS	P	0 - 30
LFB	Chlorpyrifos Methyl	6.06	LCS	P	0 - 30
LFB	Cyanazine	9.90	LCS	P	0 - 30
LFB	Demeton	0.833	LCS	P	0 - 30
LFB	Diazinon	5.95	LCS	P	0 - 30
LFB	Disulfoton	2.11	LCS	P	0 - 30
LFB	EPTC	12.7	LCS	P	0 - 30
LFB	Ethion	1.58	LCS	P	0 - 30
LFB	Ethoprop	14.0	LCS	P	0 - 30
LFB	Fenamiphos	0.986	LCS	P	0 - 30
LFB	Fipronil	1.53	LCS	P	0 - 30
LFB	Fipronil Sulfide	0.0715	LCS	P	0 - 30
LFB	Fipronil Sulfone	0.551	LCS	P	0 - 30
LFB	Fonofos	11.6	LCS	P	0 - 30
LFB	Hexazinone	3.33	LCS	P	0 - 30
LFB	Malathion	4.77	LCS	P	0 - 30
LFB	Metalaxyl	1.13	LCS	P	0 - 30
LFB	Metolachlor	1.99	LCS	P	0 - 30
LFB	Metribuzin	1.47	LCS	P	0 - 30
LFB	Mevinphos	8.41	LCS	P	0 - 30
LFB	Molinate	9.88	LCS	P	0 - 30
LFB	Norflurazon	0.827	LCS	P	0 - 30
LFB	Parathion Ethyl	1.72	LCS	P	0 - 30
LFB	Parathion Methyl	0.602	LCS	P	0 - 30
LFB	Pendimethalin	0.110	LCS	P	0 - 30
LFB	Phorate	10.6	LCS	P	0 - 30
LFB	Prometon	2.77	LCS	P	0 - 30
LFB	Prometryn	2.39	LCS	P	0 - 30
LFB	Simazine	5.31	LCS	P	0 - 30
LFB	Terbufos	9.95	LCS	P	0 - 30
LFB	Terbuthylazine	2.07	LCS	P	0 - 30

Reference Method: EPA 8276
Batch ID: P326890

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1905874	Chlordane	13.1	Spike	P	0 - 30
1905874	Toxaphene	7.13	Spike	P	0 - 30
LFB	Chlordane	2.20	LCS	P	0 - 30
LFB	Toxaphene	7.74	LCS	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P326579

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1905091	Pyraclostrobin	18.2	Spike	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8321B
Batch ID: P326686

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1905730	Glyphosate	6.13	Spike	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P326843

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1905633	Sucralose	1.14	Spike	P	0 - 30

Reference Method: SM 2120 B
Batch ID: P326852

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1905857	Color (true)	0.154	Sample	P	0 - 20

Reference Method: SM 2320 B-97
Batch ID: P327057

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1905892	Total Alkalinity	0.0547	Sample	P	0 - 4.8

Reference Method: SM 2540 C-97
Batch ID: P327131

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1905887	TDS	5.05	Sample	P	0 - 10

Reference Method: SM 4500 F-C-97
Batch ID: P327059

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1905892	Fluoride	2.54	Spike	P	0 - 3.0

Reference Method: SM 5310 B-00
Batch ID: P327416

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1905985	Organic Carbon	0.550	Spike	P	0 - 20

Reference Method: USGS O-2060-01
Batch ID: P326755

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1905872	2,4-D	11.1	Spike	P	0 - 30
1905872	Acetaminophen	8.10	Spike	P	0 - 30

Quality Assurance Report Precision

Reference Method: USGS O-2060-01
Batch ID: P326755

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1905872	Bentazon	18.5	Spike	P	0 - 30
1905872	Carbamazepine	11.7	Spike	P	0 - 30
1905872	Diuron	8.12	Spike	P	0 - 30
1905872	Fenuron	4.57	Spike	P	0 - 30
1905872	Fluridone	5.35	Spike	P	0 - 30
1905872	Imidacloprid	7.79	Spike	P	0 - 30
1905872	Linuron	11.6	Spike	P	0 - 30
1905872	MCP	7.09	Spike	P	0 - 30
1905872	Primidone	7.30	Spike	P	0 - 30
1905872	Triclopyr	15.9	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: 1905872
Field Sample ID: G2WA0004_06132017

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Acetaminophen-d4	96.3	P	30 - 150
EPA 8321B	Carbamazepine-d10	113	P	30 - 160
EPA 8321B	Diuron-d6	101	P	30 - 160
EPA 8321B	Diuron-d6	84.9	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	94.2	P	40 - 150
EPA 8321B	Primidone-d5	94.9	P	30 - 150
EPA 8321B	Sucralose-d6	87.5	P	40 - 160
USGS O-2060-01	2,4-D-d3	101	P	40 - 150
USGS O-2060-01	Acetaminophen-d4	96.3	P	30 - 150
USGS O-2060-01	Carbamazepine-d10	113	P	30 - 160
USGS O-2060-01	Diuron-d6	101	P	30 - 160
USGS O-2060-01	Diuron-d6	84.9	P	30 - 160
USGS O-2060-01	Primidone-d5	94.9	P	30 - 150

Lab Sample ID: 1905873
Field Sample ID: G1WA0001_06132017

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Sucralose-d6	84.5	P	40 - 160
USGS O-2060-01	2,4-D-d3	79.2	P	40 - 150
USGS O-2060-01	Acetaminophen-d4	146	P	30 - 150
USGS O-2060-01	Carbamazepine-d10	80.4	P	30 - 160
USGS O-2060-01	Diuron-d6	60.7	P	30 - 160
USGS O-2060-01	Primidone-d5	64.2	P	30 - 150

Lab Sample ID: 1905874
Field Sample ID: G2WA0004_06132017

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
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Quality Assurance Report Surrogates

Lab Sample ID: 1905874

Field Sample ID: G2WA0004_06132017

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8270D	Decachlorobiphenyl	63.8	P	39 - 118
EPA 8270D	Tetrachloro-m-xylene	38.9	P	32 - 103
EPA 8276	Decachlorobiphenyl	54.9	P	31 - 100

Lab Sample ID: 1905875

Field Sample ID: G2WA0004_06132017

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8270D	Malathion-d7	62.6	P	62 - 132
EPA 8270D	Simazine-d10	91.6	P	72 - 127

Quality Assurance Report Calibration Verification

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Run ID: A77060

Included Lab Sample IDs: 1905862, 1905863, 1905864

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

Reference Method: EPA 8321B

Run ID: A77065

Included Lab Sample IDs: 1905872

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

Reference Method: EPA 8321B

Run ID: A77071

Included Lab Sample IDs: 1905872

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Glyphosate	95.8	92.6	P/P	70 - 160

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A77085

Included Lab Sample IDs: 1905859, 1905860, 1905861

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

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A77089

Included Lab Sample IDs: 1905856, 1905857, 1905858

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

Quality Assurance Report Calibration Verification

Reference Method: SM 2120 B

Run ID: A77095

Included Lab Sample IDs: 1905856, 1905857, 1905858

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	95.3	98.6	P/P	85 - 115
Color (true)	99.5	98.8	P/P	85 - 115

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A77132

Included Lab Sample IDs: 1905859, 1905860, 1905861

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: EPA 200.7 Rev. 4.4

Run ID: A77155

Included Lab Sample IDs: 1905876

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Calcium	106	103	P/P	90 - 110
Iron	104	103	P/P	90 - 110
Magnesium	104	103	P/P	90 - 110
Potassium	100	99.8	P/P	90 - 110
Sodium	100	98.4	P/P	90 - 110
Zinc	99.2	97.7	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A77169

Included Lab Sample IDs: 1905859, 1905860, 1905861

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	99.8	99.2	P/P	90 - 110

Reference Method: SM 2320 B-97

Run ID: A77172

Included Lab Sample IDs: 1905856, 1905857, 1905858

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

Reference Method: SM 4500 F-C-97

Run ID: A77172

Included Lab Sample IDs: 1905856, 1905857, 1905858

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	96.0	96.2	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A77177

Included Lab Sample IDs: 1905859, 1905860, 1905861

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	101	104	P/P	90 - 110
Kjeldahl Nitrogen	104	103	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A77183

Included Lab Sample IDs: 1905856, 1905857, 1905858

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	98.7	100	P/P	90 - 110
Sulfate	98.7	100	P/P	90 - 110

Reference Method: USGS O-2060-01

Run ID: A77208

Included Lab Sample IDs: 1905872, 1905873

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	78.0	79.6	P/P	50 - 150
2,4-D	80.8	78.0	P/P	50 - 150
Acetaminophen	101	93.8	P/P	60 - 150
Acetaminophen	93.8	95.7	P/P	60 - 150
Bentazon	100	99.6	P/P	50 - 150
Bentazon	99.6	97.6	P/P	50 - 150
Carbamazepine	107	103	P/P	60 - 150
Carbamazepine	109	107	P/P	60 - 150
Diuron	97.1	94.8	P/P	60 - 150
Diuron	99.8	97.1	P/P	60 - 150
Fenuron	102	96.2	P/P	60 - 150
Fenuron	96.2	99.1	P/P	60 - 150
Fluridone	103	99.0	P/P	60 - 160
Fluridone	99.0	96.7	P/P	60 - 160
Imidacloprid	101	90.0	P/P	60 - 150
Imidacloprid	90.0	97.3	P/P	60 - 150
Linuron	102	95.3	P/P	60 - 150
Linuron	96.2	102	P/P	60 - 150
MCPP	74.0	73.6	P/P	50 - 150
MCPP	76.0	74.0	P/P	50 - 150
Primidone	100	93.3	P/P	60 - 150
Primidone	93.3	96.2	P/P	60 - 150
Triclopyr	72.8	76.0	P/P	50 - 150
Triclopyr	76.0	72.0	P/P	50 - 150

Reference Method: EPA 8276

Run ID: A77239

Included Lab Sample IDs: 1905874

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chlordane	98.3		P	80 - 120
Toxaphene	104		P	80 - 120

Reference Method: EPA 8270D

Run ID: A77268

Included Lab Sample IDs: 1905874

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Aldrin	94.0		P	80 - 120
Alpha-BHC	103		P	80 - 120
Alpha-Chlordane	96.5		P	80 - 120
Beta-BHC	95.6		P	80 - 120
Carbophenothion	92.3		P	80 - 120

Quality Assurance Report Calibration Verification

Reference Method: EPA 8270D

Run ID: A77268

Included Lab Sample IDs: 1905874

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chlorothalonil	88.1		P	80 - 120
Cypermethrin	92.8		P	80 - 120
DDD-p,p'	105		P	80 - 120
DDE-p,p'	103		P	80 - 120
DDT-p,p'	110		P	80 - 120
Delta-BHC	95.2		P	80 - 120
Dicofol	129*		F	80 - 120
Dieldrin	103		P	80 - 120
Endosulfan I	100		P	80 - 120
Endosulfan II	102		P	80 - 120
Endosulfan Sulfate	90.6		P	80 - 120
Endrin	109		P	80 - 120
Endrin Aldehyde	101		P	80 - 120
Endrin Ketone	85.4		P	80 - 120
Gamma-BHC	103		P	80 - 120
Gamma-Chlordane	104		P	80 - 120
Heptachlor	98.4		P	80 - 120
Heptachlor Epoxide	107		P	80 - 120
Methoxychlor	104		P	80 - 120
Mirex	102		P	80 - 120
Permethrin	94.3		P	80 - 120
Trifluralin	105		P	80 - 120

Reference Method: EPA 8321B

Run ID: A77273

Included Lab Sample IDs: 1905872, 1905873

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Sucralose	107	83.4	P/P	60 - 160

Reference Method: SM 5310 B-00

Run ID: A77311

Included Lab Sample IDs: 1905859, 1905860, 1905861

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	94.4	93.6	P/P	90 - 110
Organic Carbon	95.8	94.4	P/P	90 - 110

Reference Method: EPA 8270D

Run ID: A77314

Included Lab Sample IDs: 1905875

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acetochlor	99.3		P	80 - 120
Alachlor	102		P	80 - 120
Ametryn	100		P	80 - 120
Atrazine	99.3		P	80 - 120
Atrazine Desethyl	94.6		P	80 - 120
Azinphos Methyl	92.0		P	80 - 120
Bromacil	101		P	80 - 120
Butylate	105		P	80 - 120

Quality Assurance Report Calibration Verification

Reference Method: EPA 8270D

Run ID: A77314

Included Lab Sample IDs: 1905875

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chlorpyrifos Ethyl	101		P	80 - 120
Chlorpyrifos Methyl	101		P	80 - 120
Cyanazine	85.1		P	80 - 120
Demeton	95.2		P	80 - 120
Diazinon	101		P	80 - 120
Disulfoton	95.1		P	80 - 120
EPTC	100		P	80 - 120
Ethion	96.9		P	80 - 120
Ethoprop	99.8		P	80 - 120
Fenamiphos	96.3		P	80 - 120
Fipronil	99.6		P	80 - 120
Fipronil Sulfide	101		P	80 - 120
Fipronil Sulfone	101		P	80 - 120
Fonofos	98.7		P	80 - 120
Hexazinone	102		P	80 - 120
Malathion	97.7		P	80 - 120
Metalaxyl	103		P	80 - 120
Metolachlor	105		P	80 - 120
Metribuzin	92.3		P	80 - 120
Mevinphos	102		P	80 - 120
Molinate	113		P	80 - 120
Norflurazon	101		P	80 - 120
Parathion Ethyl	95.7		P	80 - 120
Parathion Methyl	95.2		P	80 - 120
Pendimethalin	88.9		P	80 - 120
Phorate	99.0		P	80 - 120
Prometon	101		P	80 - 120
Prometryn	101		P	80 - 120
Simazine	102		P	80 - 120
Terbufos	97.9		P	80 - 120
Terbutylazine	98.7		P	80 - 120

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A77326

Included Lab Sample IDs: 1905876

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Arsenic	101	98.4	P/P	90 - 110
Cadmium	97.6	98.6	P/P	90 - 110
Chromium	94.8	96.0	P/P	90 - 110
Copper	103	101	P/P	90 - 110
Lead	97.4	97.8	P/P	90 - 110
Nickel	103	102	P/P	90 - 110
Silver	92.0	92.5	P/P	90 - 110

* 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						0.328	
EPA 200.7 Rev. 4.4	Calcium	108		107	108	109		0.699
	Iron	107		104	109	110		1.23
	Magnesium	108		103	109	110		0.671
	Potassium	99.7		98.6	104	104		0.363
	Sodium	99.3		103	102	104		1.19
	Zinc	101		97.7	101	103		1.84
EPA 200.8 Rev. 5.4	Arsenic	102		102	103	100		2.40
	Cadmium	101		104	104	102		2.02
	Chromium	96.1		94.3	100	98.8		1.27
	Copper	103		97.6	104	101		3.10
	Lead	100		100	102	101		1.25
	Nickel	104		99.7	104	102		1.43
	Silver	100		100	101	99.7		1.68
EPA 300.0 Rev. 2.1	Chloride	105		99.9	97.8		1.26	
	Sulfate	102		97.8	96.3		0.0850	
EPA 350.1 Rev. 2.0	Ammonia-N	100		98.1	100			1.12
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	110		98.8	101			1.36
EPA 353.2 Rev. 2.0	NO2NO3-N	103		104	104			0.480
EPA 365.1 Rev. 2.0	Total-P	104		97.8	95.8			1.06
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	97.5		96.1	95.0			1.15
EPA 8270D	Acetochlor	88.9	86.8	97.4	92.7	2.43		5.03
	Alachlor	89.6	87.7	86.9	96.5	2.11		10.4
	Aldrin	50.1	64.2	71.0	68.0	24.8		4.42
	Alpha-BHC	74.9	80.5	91.7	89.8	7.26		2.16
	Alpha-Chlordane	72.4	78.8	85.6	69.6	8.48		20.6
	Ametryn	90.2	91.3	92.7	105	1.13		12.9
	Atrazine	98.7	84.1	97.0	101	16.0		4.49
	Atrazine Desethyl	96.9	90.9	83.6	78.9	6.40		5.80
	Azinphos Methyl	111	110	93.4	95.3	0.456		2.01
	Beta-BHC	87.1	84.1	100	91.4	3.54		9.15
	Bromacil	80.6	77.9	94.9	86.4	3.45		9.38
	Butylate	42.7	36.4	13.3	13.5	16.0		1.29
	Carbophenothion	93.0	96.3	119	90.9	3.55		26.8
	Chlorothalonil	79.0	90.3	119	118	13.2		0.432
	Chlorpyrifos Ethyl	88.3	84.7	85.0	90.4	4.16		6.13
	Chlorpyrifos Methyl	92.5	87.0	82.7	89.1	6.06		7.47
	Cyanazine	197	178	151	168	9.90		10.8
	Cypermethrin	83.4	107	109	92.0	24.9		16.5
	DDD-p,p'	95.9	92.3	105	83.0	3.86		23.7
	DDE-p,p'	80.8	82.3	88.2	83.8	1.90		5.09
	DDT-p,p'	86.1	81.0	87.2	86.5	6.08		0.894
	Delta-BHC	85.6	75.3	104	75.3	12.8		32.4
	Demeton	78.9	79.5	71.5	84.5	0.833		16.7
	Diazinon	96.1	90.5	90.4	95.3	5.95		5.20
	Dicofol	41.1	48.8	57.6	47.9	17.1		18.4
	Dieldrin	84.5	90.9	93.6	77.4	7.28		18.9
	Disulfoton	87.3	89.1	61.3	73.7	2.11		14.6
	Endosulfan I	87.5	92.9	96.7	94.5	6.01		2.35
	Endosulfan II	89.4	93.4	93.1	88.1	4.41		5.61
	Endosulfan Sulfate	72.7	86.4	90.7	90.1	17.2		0.718
	Endrin	88.6	97.6	82.9	87.3	9.63		5.24
	Endrin Aldehyde	90.4	87.3	89.8	90.3	3.49		0.549
	Endrin Ketone	78.7	82.9	105	92.4	5.18		12.3

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery		MS % Recovery		Precision	
						LCS	MS
						SMP	
EPA 8270D	EPTC	37.9	33.4	13.2	15.4	12.7	15.3
	Ethion	98.0	96.4	86.0	87.7	1.58	1.91
	Ethoprop	79.7	69.2	77.6	65.0	14.0	17.6
	Fenamiphos	102	101	103	96.3	0.986	6.35
	Fipronil	96.5	98.0	97.9	96.0	1.53	1.97
	Fipronil Sulfide	92.6	92.7	94.0	91.2	0.0715	3.11
	Fipronil Sulfone	82.6	83.0	81.7	77.7	0.551	4.93
	Fonofos	91.5	81.4	97.2	83.2	11.6	15.6
	Gamma-BHC	84.9	78.9	90.8	84.6	7.27	7.06
	Gamma-Chlordane	75.3	83.3	92.6	76.8	10.0	18.6
	Heptachlor	56.9	65.1	78.1	73.7	13.4	5.77
	Heptachlor Epoxide	83.8	88.5	97.2	95.5	5.41	1.79
	Hexazinone	89.2	86.3	89.8	89.1	3.33	0.747
	Malathion	97.3	92.8	92.8	87.2	4.77	6.24
	Metalaxyl	94.0	92.9	101	91.9	1.13	9.24
	Methoxychlor	101	105	111	102	3.66	8.37
	Metolachlor	89.1	87.3			1.99	8.20
	Metribuzin	124	126	153	123	1.47	21.8
	Mevinphos	71.7	65.9	62.0	54.3	8.41	13.3
	Mirex	64.3	63.4	77.2	75.7	1.46	1.99
	Molinate	44.1	39.9	35.2	20.6	9.88	52.5
	Norflurazon	93.3	94.0	90.8	88.7	0.827	2.29
	Parathion Ethyl	93.4	91.8	91.2	89.5	1.72	1.85
	Parathion Methyl	92.8	93.3	89.7	92.5	0.602	3.04
	Pendimethalin	99.1	99.0	98.1	94.2	0.110	4.09
	Permethrin	87.3	92.5	105	87.3	5.79	18.8
	Phorate	87.3	78.5	86.5	70.2	10.6	20.7
	Prometon	87.7	85.3	86.6	89.2	2.77	2.94
	Prometryn	89.2	91.3	95.0	92.8	2.39	2.29
	Simazine	107	101	103	102	5.31	1.02
	Terbufos	88.6	80.2	96.5	77.8	9.95	21.5
	Terbutylazine	89.8	87.9	93.2	87.0	2.07	6.93
	Trifluralin	140	151	200	194	7.30	3.45
EPA 8276	Chlordane	77.4	75.7	60.3	68.8	2.20	13.1
	Toxaphene	91.2	98.5	78.3	84.1	7.74	7.13
EPA 8321B	Glyphosate	95.6		101	94.8		6.13
	Pyraclostrobin	60.3		49.3	59.2		18.2
	Sucralose	79.0		83.5	82.5		1.14
SM 2120 B	Color (true)					0.154	
SM 2320 B-97	Total Alkalinity	103				0.0547	
SM 2540 C-97	TDS					5.05	
SM 4500 F-C-97	Fluoride	94.4		95.3	98.2		2.54
SM 5310 B-00	Organic Carbon	93.7		92.4	91.4		0.550
USGS O-2060-01	2,4-D	76.2		99.0	88.6		11.1
	Acetaminophen	33.1		79.8	86.6		8.10
	Bentazon	84.8		29.6	24.6		18.5
	Carbamazepine	121		120	107		11.7
	Diuron	112		85.1	78.4		8.12
	Fenuron	109		81.4	77.8		4.57
	Fluridone	111		80.3	76.1		5.35
	Imidacloprid	106		189	174		7.79
	Linuron	109		107	94.8		11.6
	MCPP	79.8		67.2	62.6		7.09
	Primidone	99.8		98.0	91.1		7.30

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery	Precision
			LCS	SMP
USGS O-2060-01	Triclopyr	76.0	77.2 65.8	MS 15.9

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 180.1 Rev. 2.0 / E31780	Turbidity in aqueous matrices	1905856, 1905857, 1905858
EPA 200.7 Rev. 4.4 / E31780	Total Recoverable Metals analysis using ICP emission spectroscopy for aqueous samples supporting Clean Water Act Projects	1905876
EPA 200.8 Rev. 5.4 / E31780	Total Recoverable Metals analysis using ICP-MS for aqueous samples supporting Clean Water Act Projects	1905876
EPA 300.0 Rev. 2.1 / E31780	Chloride in aqueous matrices	1905856, 1905857, 1905858
EPA 300.0 Rev. 2.1 / E31780	Sulfate in aqueous matrices	1905856, 1905857, 1905858
EPA 350.1 Rev. 2.0 / E31780	Ammonia in aqueous matrices as mg N/L	1905859, 1905860, 1905861
EPA 351.2 Rev. 2.0 / E31780	Total Kjeldahl Nitrogen in aqueous matrices	1905859, 1905860, 1905861
EPA 353.2 Rev. 2.0 / E31780	Nitrite/Nitrate in aqueous matrices as mg N/L	1905859, 1905860, 1905861
EPA 365.1 Rev. 2.0 / E31780	Total Phosphorus in aqueous matrices as mg P/L	1905859, 1905860, 1905861
EPA 365.1 Rev. 2.0 dissolved / E31780	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	1905862, 1905863, 1905864
EPA 8270D / E31780	Organochlorine pesticides in water matrices by GC/MS-SIM	1905874
EPA 8270D / E31780	Organonitrogen and phosphorus pesticides (ultra trace level) in water matrices by GC/MS/MS	1905875
EPA 8276 / E31780	Organochlorine pesticides in water matrices by GC/MS with Negative Chemical Ionization	1905874
EPA 8321B / E31780	Glyphosate in water matrices by HPLC/MS/MS	1905872
EPA 8321B / E31780	Pyraclostrobin in water matrices by HPLC/MS/MS	1905872
EPA 8321B / E31780	Water soluble organic compounds by HPLC/MS/MS	1905872, 1905873
SM 2120 B / E31780	True Color measured at 450 nm	1905856, 1905857, 1905858
SM 2320 B-97 / E31780	Alkalinity in aqueous matrices as mg CaCO ₃ /L	1905856, 1905857, 1905858
SM 2540 C-97 / E31780	Total Dissolved Solids in aqueous matrices	1905856, 1905857, 1905858
SM 2540 D-97 / E31780	Total Suspended Solids in aqueous matrices	1905856, 1905857, 1905858
SM 4500 F-C-97 / E31780	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	1905856, 1905857, 1905858
SM 5310 B-00 / E31780	Nonpurgeable Organic Carbon in aqueous matrices	1905859, 1905860, 1905861
USGS O-2060-01 / E31780	Chlorinated (phenoxy acid) herbicides in water matrices by HPLC/MS/MS	1905872, 1905873
USGS O-2060-01 / E31780	Urea herbicides and other chemicals in water matrices by HPLC/MS/MS	1905872, 1905873

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	06/13/2017			06/14/2017 16:01	Sima Feizi	1905856, 1905857, 1905858
EPA 200.7 Rev. 4.4	06/13/2017	06/15/2017	Elliott D. Healy	06/16/2017	Betina Topolski	1905876
EPA 200.8 Rev. 5.4	06/13/2017	06/15/2017	Elliott D. Healy	06/25/2017	Robert K Palmer	1905876
EPA 300.0 Rev. 2.1	06/13/2017			06/20/2017	Julia Storbeck	1905856, 1905857, 1905858
EPA 350.1 Rev. 2.0	06/13/2017			06/14/2017	Sofia Elnemr	1905859, 1905860, 1905861
EPA 351.2 Rev. 2.0	06/13/2017	06/15/2017	Adrian Shelby	06/19/2017	Tanya Welborn	1905859, 1905860, 1905861
EPA 353.2 Rev. 2.0	06/13/2017			06/16/2017	Beverly Y. Sanders	1905859, 1905860, 1905861
EPA 365.1 Rev. 2.0	06/13/2017	06/15/2017	Adrian Shelby	06/16/2017	Lipi Saha	1905859, 1905860, 1905861
EPA 365.1 Rev. 2.0 dissolved	06/13/2017			06/13/2017 16:35	Anthony C. Onicha	1905862
	06/13/2017			06/13/2017 16:46	Anthony C. Onicha	1905863
	06/13/2017			06/13/2017 16:47	Anthony C. Onicha	1905864
EPA 8270D	06/13/2017	06/15/2017	Rasheda Ghaffari	06/19/2017	Vandana T. Nagar	1905874
	06/13/2017	06/16/2017	John Kaba	06/21/2017	Irina Carbone	1905875
EPA 8276	06/13/2017	06/15/2017	Rasheda Ghaffari	06/17/2017	Marek Topolski	1905874
EPA 8321B	06/13/2017	06/13/2017	Hoor Shaik	06/13/2017	Juyoung Kim	1905872
	06/13/2017	06/14/2017	Mohammad Ghaffari	06/14/2017	Mohammad Ghaffari	1905872
	06/13/2017	06/21/2017	Mohammad Ghaffari	06/22/2017	Mohammad Ghaffari	1905872, 1905873
SM 2120 B	06/13/2017			06/14/2017 16:26	Tanya Welborn	1905856
	06/13/2017			06/14/2017 16:28	Tanya Welborn	1905857
	06/13/2017			06/14/2017 17:11	Tanya Welborn	1905858
SM 2320 B-97	06/13/2017			06/16/2017	Elisa J Lutz	1905856, 1905857, 1905858
SM 2540 C-97	06/13/2017			06/16/2017	Yijie Li	1905856, 1905857, 1905858
SM 2540 D-97	06/13/2017			06/16/2017	Yijie Li	1905856, 1905857, 1905858
SM 4500 F-C-97	06/13/2017			06/16/2017	Elisa J Lutz	1905856, 1905857, 1905858
SM 5310 B-00	06/13/2017			06/22/2017	Ping Hua	1905859, 1905860, 1905861
USGS O-2060-01	06/13/2017	06/16/2017	Hoor Shaik	06/18/2017	Juyoung Kim	1905872, 1905873