

Chemical Analysis Report

TLH-ROC-2017-11-27-03

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

Event Description: **kit C_pesticides**
Request ID: **RQ-2017-11-06-40**
Customer: **TLH-ROC**
Project ID: **SMP**

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

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Certified by: Liang Lin, Environmental Administrator

Date Certified: 22-DEC-2017 10:02

A handwritten signature in black ink, appearing to read "Liang Lin", is shown on a light-colored 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: Mearson Spring

Collection Date/Time: 11/27/2017 12:15

Field ID: G1TLHR0025-2017-05

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1948467	EPA 180.1 Rev. 2.0	Turbidity	0.80		NTU	P335983	
	EPA 300.0 Rev. 2.1	Chloride	6.9		mg Cl/L	P336265	
		Sulfate	17		mg SO4/L	P336269	
	SM 2120 B	Color (true)	3.3	I	PCU	P335989	
	SM 2320 B-97	Total Alkalinity	177		mg CaCO3/L	P336463	
	SM 2540 C-97	TDS	224		mg/L	P336389	
	SM 2540 D-97	TSS	3	I	mg/L	P336362	
	SM 4500 F-C-97	Fluoride	0.12		mg F/L	P336467	
1948469	EPA 350.1 Rev. 2.0	Ammonia-N	0.002	U	mg N/L	P336343	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.21		mg N/L	P336287	
	EPA 353.2 Rev. 2.0	NO2NO3-N	3.5		mg N/L	P336061	
	EPA 365.1 Rev. 2.0	Total-P	0.028		mg P/L	P336204	
	SM 5310 B-00	Organic Carbon	0.80	I	mg C/L	P336198	
1948471	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.024		mg P/L	P336023	
1948481	EPA 200.7 Rev. 4.4	Calcium	68.4		mg/L	P335972	
		Iron	47	I	ug/L	P335972	
		Magnesium	11.0		mg/L	P335972	
		Potassium	1.6		mg/L	P335972	
		Sodium	3.4		mg/L	P335972	
	EPA 200.8 Rev. 5.4	Zinc	5.0	U	ug/L	P335972	
		Arsenic	0.63		ug/L	P335972	
		Cadmium	0.036	I	ug/L	P335972	
		Chromium	0.63	I	ug/L	P335972	
		Copper	0.20	U	ug/L	P335972	
		Lead	0.050	U	ug/L	P335972	
		Nickel	0.20	U	ug/L	P335972	
		Silver	0.010	U	ug/L	P335972	

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: 11/27/2017 12:15

Field ID: G1TLHR0025-2017-05

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1948475	EPA 8321B	Glyphosate**	0.10	U	ug/L	P335934	
		Pyraclostrobin**	0.0020	U	ug/L	P335933	
		Sucralose**	0.010	U	ug/L	P335915	
	USGS O-2060-01	2,4-D	0.0020	U	ug/L	P335916	
		Diuron	8.0E-04	U	ug/L	P335916	
		Fenuron	0.0080	U	ug/L	P335916	
		Imidacloprid	8.0E-04	U	ug/L	P335916	
		Bentazon	8.0E-04	U	ug/L	P335916	
		Linuron	0.0040	U	ug/L	P335916	
		Acetaminophen**	0.0080	U	ug/L	P335916	

Field ID: G1TLHR0025-2017-05

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1948475	USGS O-2060-01	MCP	0.0020	U	ug/L	P335916	
		Carbamazepine**	4.0E-04	U	ug/L	P335916	
		Triclopyr**	0.0040	U	ug/L	P335916	
		Primidone**	0.0040	U	ug/L	P335916	
		Fluridone**	4.0E-04	U	ug/L	P335916	
1948477	EPA 8270D	Aldrin	4.3	UJ	ng/L	P336154	RPD
		Alpha-BHC	2.1	U	ng/L	P336154	
		Beta-BHC	4.3	UJ	ng/L	P336154	LCS
		Delta-BHC	4.3	U	ng/L	P336154	
		Gamma-BHC	4.3	U	ng/L	P336154	
		Carbophenothion	4.3	U	ng/L	P336154	
		Chlorothalonil	2.1	U	ng/L	P336154	MS
		Cypermethrin	21	U	ng/L	P336154	
		DDD-p,p'	3.2	U	ng/L	P336154	
		DDE-p,p'	3.2	U	ng/L	P336154	
		DDT-p,p'	3.2	UJ	ng/L	P336154	LCS
		Dieldrin	4.3	U	ng/L	P336154	
		Endosulfan I	4.3	U	ng/L	P336154	
		Endosulfan II	4.3	U	ng/L	P336154	
		Endosulfan Sulfate	2.1	U	ng/L	P336154	
		Endrin	2.1	U	ng/L	P336154	
		Endrin Aldehyde	2.1	U	ng/L	P336154	
		Heptachlor	1.6	U	ng/L	P336154	
		Heptachlor Epoxide	2.1	U	ng/L	P336154	
		Methoxychlor	4.3	U	ng/L	P336154	
		Mirex	2.1	U	ng/L	P336154	
		Permethrin	11	U	ng/L	P336154	
		Trifluralin	1.1	U	ng/L	P336154	
		Alpha-Chlordane	1.1	U	ng/L	P336154	
		Gamma-Chlordane	1.1	U	ng/L	P336154	
		Endrin Ketone	2.1	UJ	ng/L	P336154	LCS
		Dicofol	32	U	ng/L	P336154	
	EPA 8276	Chlordane**	3.9	I	ng/L	P336154	
		Toxaphene**	13	U	ng/L	P336154	
1948479	EPA 8270D	Alachlor	0.24	U	ng/L	P336157	
		Ametryn	0.31	U	ng/L	P336157	
		Atrazine	0.25	I	ng/L	P336157	
		Atrazine Desethyl	1.4	U	ng/L	P336157	
		Azinphos Methyl	2.2	U	ng/L	P336157	
		Bromacil	0.48	U	ng/L	P336157	
		Butylate	0.39	U	ng/L	P336157	
		Chlorpyrifos Ethyl	0.24	U	ng/L	P336157	
		Chlorpyrifos Methyl	0.096	U	ng/L	P336157	
		Demeton	1.9	UJ	ng/L	P336157	RPD
		Diazinon	0.12	U	ng/L	P336157	

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes	
1948479	EPA 8270D	Disulfoton	0.48	U	ng/L	P336157	MS, RPD	
		EPTC	1.2	U	ng/L	P336157		
		Ethion	0.14	U	ng/L	P336157		
		Ethoprop	0.096	U	ng/L	P336157		
		Fenamiphos	0.24	U	ng/L	P336157		
		Fipronil	0.24	U	ng/L	P336157		
		Fipronil Sulfide	0.14	U	ng/L	P336157		
		Fipronil Sulfone	0.14	U	ng/L	P336157		
		Hexazinone	0.48	U	ng/L	P336157		
		Malathion	0.34	U	ng/L	P336157		
		Metribuzin	0.19	U	ng/L	P336157		MS
		Mevinphos	0.48	U	ng/L	P336157		
		Molinate	0.29	U	ng/L	P336157		
		Norflurazon	0.48	U	ng/L	P336157		
		Pendimethalin	0.96	U	ng/L	P336157		
		Phorate	0.24	U	ng/L	P336157		
		Prometon	0.87	U	ng/L	P336157		
		Prometryn	0.19	U	ng/L	P336157		
		Simazine	0.48	U	ng/L	P336157		
		Terbufos	0.096	U	ng/L	P336157		
		Terbuthylazine	0.41	U	ng/L	P336157		
		Fonofos	0.19	U	ng/L	P336157		
		Metalaxyl	0.24	U	ng/L	P336157		
		Metolachlor	1.2		ng/L	P336157		
		Acetochlor	0.24	U	ng/L	P336157		
		Cyanazine	0.48	UJ	ng/L	P336157	CCV	
		Parathion Ethyl	0.24	U	ng/L	P336157		
		Parathion Methyl	0.24	U	ng/L	P336157		

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

Collection Date/Time: 11/27/2017 13:50

Field ID: G1TLHR0006-2017-04

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1948468	EPA 180.1 Rev. 2.0	Turbidity	0.40		NTU	P335983	
	EPA 300.0 Rev. 2.1	Chloride	5.5		mg Cl/L	P336265	
		Sulfate	7.0		mg SO4/L	P336269	
		Color (true)	5.0	I	PCU	P335989	
	SM 2320 B-97	Total Alkalinity	206		mg CaCO3/L	P336463	
	SM 2540 C-97	TDS	248		mg/L	P336389	
	SM 2540 D-97	TSS	2	I	mg/L	P336362	
	SM 4500 F-C-97	Fluoride	0.14		mg F/L	P336467	
1948470	EPA 350.1 Rev. 2.0	Ammonia-N	0.002	U	mg N/L	P336343	

Field ID: G1TLHR0006-2017-04

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1948470	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.23		mg N/L	P336287	
	EPA 353.2 Rev. 2.0	NO2NO3-N	2.0		mg N/L	P336061	
	EPA 365.1 Rev. 2.0	Total-P	0.045		mg P/L	P336204	
	SM 5310 B-00	Organic Carbon	1.6		mg C/L	P336198	
1948472	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.044		mg P/L	P336023	
1948482	EPA 200.7 Rev. 4.4	Calcium	63.8		mg/L	P335972	
		Iron	43	I	ug/L	P335972	
		Magnesium	16.2		mg/L	P335972	
		Potassium	1.2	I	mg/L	P335972	
		Sodium	3.6		mg/L	P335972	
	EPA 200.8 Rev. 5.4	Zinc	5.0	U	ug/L	P335972	
		Arsenic	0.98		ug/L	P335972	
		Cadmium	0.026	I	ug/L	P335972	
		Chromium	0.40	U	ug/L	P335972	
		Copper	0.20	U	ug/L	P335972	
		Lead	0.050	U	ug/L	P335972	
		Nickel	0.20	U	ug/L	P335972	
		Silver	0.010	U	ug/L	P335972	

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: 11/27/2017 13:50

Field ID: G1TLHR0006-2017-04

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1948476	EPA 8321B	Glyphosate**	0.10	U	ug/L	P335934	
		Pyraclostrobin**	0.0020	U	ug/L	P335933	
		Sucralose**	0.010	U	ug/L	P335915	
	USGS O-2060-01	2,4-D	0.0020	U	ug/L	P335916	
		Diuron	8.0E-04	U	ug/L	P335916	
		Fenuron	0.0080	U	ug/L	P335916	
		Imidacloprid	8.0E-04	U	ug/L	P335916	
		Bentazon	8.0E-04	U	ug/L	P335916	
		Linuron	0.0040	U	ug/L	P335916	
		Acetaminophen**	0.0080	U	ug/L	P335916	
		MCP	0.0020	U	ug/L	P335916	
		Carbamazepine**	4.0E-04	U	ug/L	P335916	
		Triclopyr**	0.0040	U	ug/L	P335916	
		Primidone**	0.0040	U	ug/L	P335916	
		Fluridone**	4.0E-04	U	ug/L	P335916	
	EPA 8270D	Aldrin	4.1	UJ	ng/L	P336154	RPD
		Alpha-BHC	2.1	U	ng/L	P336154	
		Beta-BHC	4.1	UJ	ng/L	P336154	LCS
		Delta-BHC	4.1	U	ng/L	P336154	
		Gamma-BHC	4.1	U	ng/L	P336154	

Field ID: G1TLHR0006-2017-04

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1948478	EPA 8270D	Carbophenothion	4.1	U	ng/L	P336154	
		Chlorothalonil	2.1	U	ng/L	P336154	MS
		Cypermethrin	21	U	ng/L	P336154	
		DDD-p,p'	3.1	U	ng/L	P336154	
		DDE-p,p'	3.1	U	ng/L	P336154	
		DDT-p,p'	3.1	UJ	ng/L	P336154	LCS
		Dieldrin	4.1	U	ng/L	P336154	
		Endosulfan I	4.1	U	ng/L	P336154	
		Endosulfan II	4.1	U	ng/L	P336154	
		Endosulfan Sulfate	2.1	U	ng/L	P336154	
		Endrin	2.1	U	ng/L	P336154	
		Endrin Aldehyde	2.1	U	ng/L	P336154	
		Heptachlor	1.6	U	ng/L	P336154	
		Heptachlor Epoxide	2.1	U	ng/L	P336154	
		Methoxychlor	4.1	U	ng/L	P336154	
		Mirex	2.1	U	ng/L	P336154	
		Permethrin	10	U	ng/L	P336154	
		Trifluralin	1.0	U	ng/L	P336154	
		Alpha-Chlordane	1.0	U	ng/L	P336154	
		Gamma-Chlordane	1.0	U	ng/L	P336154	
		Endrin Ketone	2.1	UJ	ng/L	P336154	LCS
		Dicofol	31	U	ng/L	P336154	
	EPA 8276	Chlordane**	2.6	U	ng/L	P336154	
		Toxaphene**	13	U	ng/L	P336154	
1948480	EPA 8270D	Alachlor	0.25	U	ng/L	P336157	
		Ametryn	0.32	U	ng/L	P336157	
		Atrazine	0.25	U	ng/L	P336157	
		Atrazine Desethyl	1.5	U	ng/L	P336157	
		Azinphos Methyl	2.2	U	ng/L	P336157	
		Bromacil	9.8		ng/L	P336157	
		Butylate	0.39	U	ng/L	P336157	
		Chlorpyrifos Ethyl	0.25	U	ng/L	P336157	
		Chlorpyrifos Methyl	0.099	U	ng/L	P336157	
		Demeton	2.0	UJ	ng/L	P336157	RPD
		Diazinon	0.12	U	ng/L	P336157	
		Disulfoton	0.49	U	ng/L	P336157	
		EPTC	1.2	U	ng/L	P336157	
		Ethion	0.15	U	ng/L	P336157	MS, RPD
		Ethoprop	0.099	U	ng/L	P336157	
		Fenamiphos	0.25	U	ng/L	P336157	
		Fipronil	0.25	U	ng/L	P336157	
		Fipronil Sulfide	0.15	U	ng/L	P336157	
		Fipronil Sulfone	0.15	U	ng/L	P336157	
		Hexazinone	0.49	U	ng/L	P336157	
		Malathion	0.35	U	ng/L	P336157	

Field ID: G1TLHR0006-2017-04

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1948480	EPA 8270D	Metribuzin	0.20	U	ng/L	P336157	MS
		Mevinphos	0.49	U	ng/L	P336157	
		Molinate	0.30	U	ng/L	P336157	
		Norflurazon	0.49	U	ng/L	P336157	
		Pendimethalin	0.99	U	ng/L	P336157	
		Phorate	0.25	U	ng/L	P336157	
		Prometon	0.89	U	ng/L	P336157	
		Prometryn	0.20	U	ng/L	P336157	
		Simazine	0.49	U	ng/L	P336157	
		Terbufos	0.099	U	ng/L	P336157	
		Terbuthylazine	0.42	U	ng/L	P336157	
		Fonofos	0.20	U	ng/L	P336157	
		Metalaxyl	0.25	U	ng/L	P336157	
		Metolachlor	0.56	I	ng/L	P336157	
		Acetochlor	0.25	U	ng/L	P336157	
		Cyanazine	0.49	UJ	ng/L	P336157	CCV
		Parathion Ethyl	0.25	U	ng/L	P336157	
		Parathion Methyl	0.25	U	ng/L	P336157	

Ref. Method and Comment:

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

EPA 8270D: Insufficient sample available to perform duplicate matrix spikes. Refer to the narrative for an explanation of QC Codes.

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: P335983

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 200.7 Rev. 4.4

Batch ID: P335972

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: P335972

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

Quality Assurance Report Method Blank Results

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P335972

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P336265

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P336269

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P336343

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P336287

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P336061

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P336204

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P336023

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

Reference Method: EPA 8270D
Batch ID: P336154

Component	Result	Code	Units
Aldrin	4.0	U	ng/L
Alpha-BHC	2.0	U	ng/L
Alpha-Chlordane	1.0	U	ng/L

Quality Assurance Report

Method Blank Results

Reference Method: EPA 8270D

Batch ID: P336154

Component	Result	Code	Units
Beta-BHC	4.0	U	ng/L
Carbophenothion	4.0	U	ng/L
Chlorothalonil	2.0	U	ng/L
Cypermethrin	20	U	ng/L
DDD-p,p'	3.0	U	ng/L
DDE-p,p'	3.0	U	ng/L
DDT-p,p'	3.0	U	ng/L
Delta-BHC	4.0	U	ng/L
Dicofol	30	U	ng/L
Dieldrin	4.0	U	ng/L
Endosulfan I	4.0	U	ng/L
Endosulfan II	4.0	U	ng/L
Endosulfan Sulfate	2.0	U	ng/L
Endrin	2.0	U	ng/L
Endrin Aldehyde	2.0	U	ng/L
Endrin Ketone	2.0	U	ng/L
Gamma-BHC	4.0	U	ng/L
Gamma-Chlordane	1.0	U	ng/L
Heptachlor	1.5	U	ng/L
Heptachlor Epoxide	2.0	U	ng/L
Methoxychlor	4.0	U	ng/L
Mirex	2.0	U	ng/L
Permethrin	10	U	ng/L
Trifluralin	1.0	U	ng/L

Reference Method: EPA 8270D

Batch ID: P336157

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	0.50	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

Quality Assurance Report Method Blank Results

Reference Method: EPA 8270D
Batch ID: P336157

Component	Result	Code	Units
Malathion	0.35	U	ng/L
Metalaxyl	0.25	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	1.0	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
Terbuthylazine	0.42	U	ng/L

Reference Method: EPA 8276
Batch ID: P336154

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

Reference Method: EPA 8321B
Batch ID: P335915

Component	Result	Code	Units
Sucralose	0.010	U	ug/L

Reference Method: EPA 8321B
Batch ID: P335933

Component	Result	Code	Units
Pyraclostrobin	0.0020	U	ug/L

Reference Method: EPA 8321B
Batch ID: P335934

Component	Result	Code	Units
Glyphosate	0.10	U	ug/L

Reference Method: SM 2120 B
Batch ID: P335989

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2320 B-97
Batch ID: P336463

Component	Result	Code	Units
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Quality Assurance Report Method Blank Results

Reference Method: SM 2320 B-97
 Batch ID: P336463

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

Reference Method: SM 2540 C-97
 Batch ID: P336389

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-97
 Batch ID: P336362

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500 F-C-97
 Batch ID: P336467

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-00
 Batch ID: P336198

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

Reference Method: USGS O-2060-01
 Batch ID: P335916

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

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 200.7 Rev. 4.4
 Batch ID: P335972

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Calcium	104		P	85 - 115

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 200.7 Rev. 4.4
 Batch ID: P335972

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Iron	101		P	85 - 115
Magnesium	110		P	85 - 115
Potassium	105		P	85 - 115
Sodium	102		P	85 - 115
Zinc	101		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4
 Batch ID: P335972

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Arsenic	103		P	85 - 115
Cadmium	103		P	85 - 115
Chromium	96.1		P	85 - 115
Copper	99.6		P	85 - 115
Lead	100		P	85 - 115
Nickel	101		P	85 - 115
Silver	103		P	85 - 115

Reference Method: EPA 300.0 Rev. 2.1
 Batch ID: P336265

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Chloride	95.0		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
 Batch ID: P336269

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Sulfate	95.4		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
 Batch ID: P336343

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Ammonia-N	93.4		P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
 Batch ID: P336287

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

Reference Method: EPA 353.2 Rev. 2.0
 Batch ID: P336061

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

Reference Method: EPA 365.1 Rev. 2.0
 Batch ID: P336204

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

Reference Method: EPA 365.1 Rev. 2.0

Batch ID: P336204

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Batch ID: P336023

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
O-Phosphate-P	98.1		P	90 - 110

Reference Method: EPA 8270D

Batch ID: P336154

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Aldrin	50.1	84.6	P/P	26 - 88.0
Alpha-BHC	110	108	P/P	63 - 114
Alpha-Chlordane	107	99.2	P/P	56 - 117
Beta-BHC	138	123	F/P	57 - 138
Carbophenothion	91.9	84.6	P/P	36 - 148
Chlorothalonil	111	91.0	P/P	26 - 173
Cypermethrin	125	107	P/P	42 - 159
DDD-p,p'	124	107	P/P	62 - 126
DDE-p,p'	110	104	P/P	53 - 115
DDT-p,p'	122	107	F/P	54 - 117
Delta-BHC	142	147	P/P	68 - 158
Dicofol	110	87.5	P/P	25 - 114
Dieldrin	112	103	P/P	59 - 126
Endosulfan I	115	109	P/P	62 - 138
Endosulfan II	145	120	P/P	61 - 150
Endosulfan Sulfate	125	95.7	P/P	63 - 132
Endrin	115	104	P/P	49 - 148
Endrin Aldehyde	126	98.9	P/P	50 - 144
Endrin Ketone	123	101	F/P	66 - 122
Gamma-BHC	113	124	P/P	60 - 137
Gamma-Chlordane	104	94.6	P/P	54 - 113
Heptachlor	95.4	88.2	P/P	43 - 104
Heptachlor Epoxide	110	100	P/P	64 - 118
Methoxychlor	129	127	P/P	63 - 129
Mirex	86.5	86.1	P/P	40 - 96.0
Permethrin	108	97.9	P/P	51 - 123
Trifluralin	97.1	94.5	P/P	35 - 187

Reference Method: EPA 8270D

Batch ID: P336157

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acetochlor	99.2	98.8	P/P	78 - 118
Alachlor	100	96.6	P/P	77 - 119
Ametryn	84.1	90.0	P/P	61 - 136
Atrazine	103	104	P/P	73 - 120
Atrazine Desethyl	82.5	83.2	P/P	16 - 122
Azinphos Methyl	113	109	P/P	69 - 186
Bromacil	100	99.2	P/P	40 - 125
Butylate	59.7	50.6	P/P	32 - 87.0

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: EPA 8270D

Batch ID: P336157

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Chlorpyrifos Ethyl	93.7	91.6	P/P	53 - 110
Chlorpyrifos Methyl	100	99.0	P/P	31 - 119
Cyanazine	161	171	P/P	36 - 224
Demeton	45.3	78.5	P/P	39 - 122
Diazinon	95.9	91.8	P/P	75 - 119
Disulfoton	109	99.7	P/P	42 - 139
EPTC	35.9	42.9	P/P	33 - 96.0
Ethion	92.2	81.8	P/P	63 - 127
Ethoprop	102	96.8	P/P	65 - 107
Fenamiphos	109	103	P/P	64 - 137
Fipronil	102	98.4	P/P	60 - 126
Fipronil Sulfide	93.2	90.9	P/P	58 - 124
Fipronil Sulfone	89.5	85.6	P/P	57 - 126
Fonofos	93.8	96.9	P/P	65 - 111
Hexazinone	90.3	93.8	P/P	46 - 151
Malathion	99.9	98.8	P/P	68 - 132
Metaxyl	102	99.8	P/P	51 - 132
Metolachlor	98.2	98.0	P/P	78 - 119
Metribuzin	104	110	P/P	58 - 148
Mevinphos	56.9	69.7	P/P	34 - 128
Molinate	50.4	48.2	P/P	44 - 101
Norflurazon	93.3	91.9	P/P	63 - 129
Parathion Ethyl	94.2	96.2	P/P	80 - 109
Parathion Methyl	104	105	P/P	74 - 125
Pendimethalin	105	107	P/P	48 - 134
Phorate	87.8	84.0	P/P	52 - 119
Prometon	94.7	97.3	P/P	69 - 124
Prometryn	96.8	92.3	P/P	66 - 124
Simazine	97.9	104	P/P	61 - 134
Terbufos	97.1	95.8	P/P	58 - 115
Terbutylazine	98.6	99.4	P/P	77 - 113

Reference Method: EPA 8276

Batch ID: P336154

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Chlordane	87.0	93.3	P/P	48 - 121
Toxaphene	113	111	P/P	43 - 135

Reference Method: EPA 8321B

Batch ID: P335915

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Sucralose	123		P	40 - 150

Reference Method: EPA 8321B

Batch ID: P335933

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Pyraclostrobin	132		P	40 - 150

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 8321B
Batch ID: P335934

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Glyphosate	87.6		P	40 - 150

Reference Method: SM 2320 B-97
Batch ID: P336463

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

Reference Method: SM 4500 F-C-97
Batch ID: P336467

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	95.4		P	92 - 103

Reference Method: SM 5310 B-00
Batch ID: P336198

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

Reference Method: USGS O-2060-01
Batch ID: P335916

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	94.5		P	40 - 150
Acetaminophen	107		P	30 - 150
Bentazon	66.5		P	30 - 150
Carbamazepine	114		P	40 - 150
Diuron	105		P	40 - 150
Fenuron	112		P	40 - 150
Fluridone	106		P	40 - 150
Imidacloprid	98.6		P	40 - 160
Linuron	108		P	40 - 150
MCPP	95.3		P	40 - 150
Primidone	99.3		P	40 - 150
Triclopyr	93.5		P	40 - 150

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P335972

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1947938	Calcium	102		P	80 - 120
1947938	Iron	104		P	80 - 120
1947938	Magnesium	103		P	80 - 120
1947938	Potassium	108		P	80 - 120
1947938	Sodium	103		P	80 - 120
1947938	Zinc	102		P	80 - 120
1948255	Calcium	101		P	80 - 120

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P335972

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1948255	Iron	99.2		P	80 - 120
1948255	Magnesium	109	105	P/P	80 - 120
1948255	Potassium	112	109	P/P	80 - 120
1948255	Sodium	104		P	80 - 120
1948255	Zinc	99.2	97.8	P/P	80 - 120

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P335972

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1947938	Arsenic	107		P	80 - 120
1947938	Cadmium	104		P	80 - 120
1947938	Chromium	94.9		P	80 - 120
1947938	Copper	99.9		P	80 - 120
1947938	Lead	103		P	80 - 120
1947938	Nickel	101		P	80 - 120
1947938	Silver	103		P	80 - 120
1948255	Arsenic	104	103	P/P	80 - 120
1948255	Cadmium	102	101	P/P	80 - 120
1948255	Chromium	95.5	96.1	P/P	80 - 120
1948255	Copper	99.4	99.6	P/P	80 - 120
1948255	Lead	99.7	99.5	P/P	80 - 120
1948255	Nickel	102	102	P/P	80 - 120
1948255	Silver	103	103	P/P	80 - 120

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P336265

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1948312	Chloride	93.7		P	90 - 110
1948318	Chloride	94.8		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P336269

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1948312	Sulfate	94.8		P	90 - 110
1948318	Sulfate	95.7		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P336343

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1947745	Ammonia-N	97.1	98.2	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P336287

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1948470	Kjeldahl Nitrogen	91.7	97.1	P/P	90 - 110

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P336061

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1948343	NO2NO3-N	101	104	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P336204

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1948452	Total-P	101	100	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P336023

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1948446	O-Phosphate-P	100	100	P/P	90 - 110

Reference Method: EPA 8270D
Batch ID: P336154

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1949273	Aldrin	57.8		P	22 - 97.0
1949273	Alpha-BHC	107		P	43 - 132
1949273	Alpha-Chlordane	91.5		P	36 - 126
1949273	Beta-BHC	88.8		P	41 - 150
1949273	Carbophenothion	126		P	13 - 196
1949273	Chlorothalonil	4.12		F	10 - 266
1949273	Cypermethrin	127		P	37 - 161
1949273	DDD-p,p'	78.4		P	44 - 131
1949273	DDE-p,p'	80.6		P	32 - 127
1949273	DDT-p,p'	74.9		P	45 - 116
1949273	Delta-BHC	110		P	50 - 201
1949273	Dicofol	83.6		P	10 - 100
1949273	Dieldrin	92.0		P	39 - 142
1949273	Endosulfan I	109		P	51 - 139
1949273	Endosulfan II	112		P	49 - 155
1949273	Endosulfan Sulfate	96.5		P	54 - 136
1949273	Endrin	93.5		P	38 - 141
1949273	Endrin Aldehyde	65.2		P	14 - 152
1949273	Endrin Ketone	100		P	60 - 128
1949273	Gamma-BHC	109		P	48 - 157
1949273	Gamma-Chlordane	90.4		P	35 - 123
1949273	Heptachlor	96.0		P	25 - 112
1949273	Heptachlor Epoxide	96.3		P	48 - 125
1949273	Methoxychlor	113		P	52 - 127
1949273	Mirex	94.3		P	25 - 108
1949273	Permethrin	108		P	46 - 133
1949273	Trifluralin	97.0		P	29 - 254

Reference Method: EPA 8270D
Batch ID: P336157

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1948578	Acetochlor	85.0	85.8	P/P	74 - 123
1948578	Alachlor	90.2	91.6	P/P	73 - 124

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8270D
 Batch ID: P336157

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1948578	Ametryn	68.5	77.9	P/P	56 - 149
1948578	Atrazine	95.4	92.4	P/P	73 - 124
1948578	Atrazine Desethyl	98.4	83.9	P/P	12 - 103
1948578	Azinphos Methyl	104	79.5	P/P	60 - 202
1948578	Bromacil	76.0	86.7	P/P	42 - 133
1948578	Butylate	26.3	27.7	P/P	10 - 85.0
1948578	Chlorpyrifos Ethyl	74.1	78.0	P/P	53 - 113
1948578	Chlorpyrifos Methyl	80.4	79.5	P/P	40 - 115
1948578	Cyanazine	152	126	P/P	22 - 210
1948578	Demeton	80.1	70.6	P/P	17 - 149
1948578	Diazinon	80.7	80.1	P/P	72 - 124
1948578	Disulfoton	105	96.5	P/P	43 - 139
1948578	EPTC	22.6	26.3	P/P	10 - 86.0
1948578	Ethion	41.0	83.1	F/P	65 - 131
1948578	Ethoprop	93.3	90.6	P/P	59 - 110
1948578	Fenamiphos	107	98.9	P/P	57 - 138
1948578	Fipronil	76.9	85.3	P/P	40 - 130
1948578	Fipronil Sulfide	71.5	75.1	P/P	36 - 128
1948578	Fipronil Sulfone	67.0	68.4	P/P	16 - 145
1948578	Fonofos	88.1	81.2	P/P	60 - 112
1948578	Hexazinone	84.5	90.2	P/P	69 - 142
1948578	Malathion	80.2	75.4	P/P	68 - 132
1948578	Metalaxyl	79.6	78.7	P/P	66 - 118
1948578	Metolachlor	85.5	83.7	P/P	71 - 124
1948578	Metribuzin	172	133	F/P	61 - 140
1948578	Mevinphos	51.7	49.4	P/P	38 - 130
1948578	Molinate	32.8	31.2	P/P	23 - 99.0
1948578	Norflurazon	76.2	82.8	P/P	39 - 139
1948578	Parathion Ethyl	85.7	83.8	P/P	75 - 111
1948578	Parathion Methyl	97.7	94.1	P/P	64 - 130
1948578	Pendimethalin	99.3	95.6	P/P	26 - 173
1948578	Phorate	71.9	73.6	P/P	43 - 127
1948578	Prometon	98.3	95.5	P/P	50 - 144
1948578	Prometryn	74.0	80.6	P/P	69 - 126
1948578	Simazine	100	96.6	P/P	51 - 152
1948578	Terbufos	92.2	82.9	P/P	54 - 125
1948578	Terbutylazine	93.2	92.9	P/P	76 - 113

Reference Method: EPA 8276
 Batch ID: P336154

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1948659	Chlordane	72.5	77.6	P/P	44 - 134
1948659	Toxaphene	93.5	95.5	P/P	36 - 147

Reference Method: EPA 8321B
 Batch ID: P335915

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1948302	Sucralose	120	133	P/P	40 - 150

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8321B
 Batch ID: P335933

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1948475	Pyraclostrobin	123	139	P/P	40 - 150

Reference Method: EPA 8321B
 Batch ID: P335934

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1948475	Glyphosate	91.0	91.7	P/P	40 - 150

Reference Method: SM 4500 F-C-97
 Batch ID: P336467

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1948507	Fluoride	96.6	97.6	P/P	91 - 105

Reference Method: SM 5310 B-00
 Batch ID: P336198

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1948469	Organic Carbon	94.8	96.2	P/P	85 - 115

Reference Method: USGS O-2060-01
 Batch ID: P335916

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1948303	Acetaminophen	95.4	97.8	P/P	30 - 150
1948303	Carbamazepine	106	111	P/P	40 - 150
1948303	Diuron	103	100	P/P	40 - 150
1948303	Fenuron	106	104	P/P	40 - 150
1948303	Fluridone	87.0	98.9	P/P	40 - 150
1948303	Linuron	106	108	P/P	40 - 150
1948303	Primidone	84.9	108	P/P	40 - 150
1948576	2,4-D	62.5	70.2	P/P	40 - 150
1948576	Bentazon	46.2	48.0	P/P	30 - 150
1948576	MCP	86.5	92.5	P/P	40 - 150
1948576	Triclopyr	81.4	91.6	P/P	40 - 150

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
 Batch ID: P335983

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1948444	Turbidity	6.87	Sample	P	0 - 20

Reference Method: EPA 200.7 Rev. 4.4
 Batch ID: P335972

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
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Quality Assurance Report Precision

Reference Method: EPA 200.7 Rev. 4.4
 Batch ID: P335972

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1948255	Calcium	0.735	Spike	P	0 - 20
1948255	Iron	2.23	Spike	P	0 - 20
1948255	Magnesium	2.16	Spike	P	0 - 20
1948255	Potassium	2.09	Spike	P	0 - 20
1948255	Sodium	0.565	Spike	P	0 - 20
1948255	Zinc	1.29	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4
 Batch ID: P335972

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1948255	Arsenic	0.299	Spike	P	0 - 20
1948255	Cadmium	1.37	Spike	P	0 - 20
1948255	Chromium	0.640	Spike	P	0 - 20
1948255	Copper	0.102	Spike	P	0 - 20
1948255	Lead	0.223	Spike	P	0 - 20
1948255	Nickel	0.434	Spike	P	0 - 20
1948255	Silver	0.821	Spike	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
 Batch ID: P336265

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1948318	Chloride	0.844	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
 Batch ID: P336269

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1948318	Sulfate	0.820	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
 Batch ID: P336343

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1947745	Ammonia-N	0.993	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
 Batch ID: P336287

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1948470	Kjeldahl Nitrogen	4.75	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 353.2 Rev. 2.0
 Batch ID: P336061

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1948343	NO2NO3-N	1.54	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
 Batch ID: P336204

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1948452	Total-P	0.569	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
 Batch ID: P336023

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1948446	O-Phosphate-P	0.0	Spike	P	0 - 20

Reference Method: EPA 8270D
 Batch ID: P336154

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
LFB	Aldrin	51.2	LCS	F	0 - 30
LFB	Alpha-BHC	2.57	LCS	P	0 - 30
LFB	Alpha-Chlordane	7.72	LCS	P	0 - 30
LFB	Beta-BHC	12.0	LCS	P	0 - 30
LFB	Carbophenothion	8.22	LCS	P	0 - 30
LFB	Chlorothalonil	20.1	LCS	P	0 - 30
LFB	Cypermethrin	15.7	LCS	P	0 - 30
LFB	DDD-p,p'	15.1	LCS	P	0 - 30
LFB	DDE-p,p'	5.92	LCS	P	0 - 30
LFB	DDT-p,p'	12.7	LCS	P	0 - 30
LFB	Delta-BHC	4.09	LCS	P	0 - 30
LFB	Dicofol	22.6	LCS	P	0 - 30
LFB	Dieldrin	8.34	LCS	P	0 - 30
LFB	Endosulfan I	5.88	LCS	P	0 - 30
LFB	Endosulfan II	18.9	LCS	P	0 - 30
LFB	Endosulfan Sulfate	26.7	LCS	P	0 - 30
LFB	Endrin	10.1	LCS	P	0 - 30
LFB	Endrin Aldehyde	23.9	LCS	P	0 - 30
LFB	Endrin Ketone	19.9	LCS	P	0 - 30
LFB	Gamma-BHC	9.60	LCS	P	0 - 30
LFB	Gamma-Chlordane	9.54	LCS	P	0 - 30
LFB	Heptachlor	7.86	LCS	P	0 - 30
LFB	Heptachlor Epoxide	9.01	LCS	P	0 - 30
LFB	Methoxychlor	1.66	LCS	P	0 - 30
LFB	Mirex	0.491	LCS	P	0 - 30
LFB	Permethrin	10.1	LCS	P	0 - 30
LFB	Trifluralin	2.69	LCS	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8270D

Batch ID: P336157

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1948578	Acetochlor	0.995	Spike	P	0 - 30
1948578	Alachlor	1.43	Spike	P	0 - 30
1948578	Ametryn	12.8	Spike	P	0 - 30
1948578	Atrazine	2.80	Spike	P	0 - 30
1948578	Atrazine Desethyl	15.9	Spike	P	0 - 30
1948578	Azinphos Methyl	26.3	Spike	P	0 - 30
1948578	Bromacil	6.39	Spike	P	0 - 30
1948578	Butylate	5.16	Spike	P	0 - 30
1948578	Chlorpyrifos Ethyl	5.21	Spike	P	0 - 30
1948578	Chlorpyrifos Methyl	1.18	Spike	P	0 - 30
1948578	Cyanazine	18.9	Spike	P	0 - 30
1948578	Demeton	12.5	Spike	P	0 - 30
1948578	Diazinon	0.721	Spike	P	0 - 30
1948578	Disulfoton	7.99	Spike	P	0 - 30
1948578	EPTC	15.3	Spike	P	0 - 30
1948578	Ethion	67.9	Spike	F	0 - 30
1948578	Ethoprop	3.00	Spike	P	0 - 30
1948578	Fenamiphos	7.86	Spike	P	0 - 30
1948578	Fipronil	9.43	Spike	P	0 - 30
1948578	Fipronil Sulfide	4.07	Spike	P	0 - 30
1948578	Fipronil Sulfone	1.56	Spike	P	0 - 30
1948578	Fonofos	8.22	Spike	P	0 - 30
1948578	Hexazinone	6.53	Spike	P	0 - 30
1948578	Malathion	2.85	Spike	P	0 - 30
1948578	Metalaxyl	1.08	Spike	P	0 - 30
1948578	Metolachlor	2.03	Spike	P	0 - 30
1948578	Metribuzin	25.4	Spike	P	0 - 30
1948578	Mevinphos	4.66	Spike	P	0 - 30
1948578	Molinate	4.98	Spike	P	0 - 30
1948578	Norflurazon	8.24	Spike	P	0 - 30
1948578	Parathion Ethyl	2.23	Spike	P	0 - 30
1948578	Parathion Methyl	3.75	Spike	P	0 - 30
1948578	Pendimethalin	3.77	Spike	P	0 - 30
1948578	Phorate	2.35	Spike	P	0 - 30
1948578	Prometon	2.91	Spike	P	0 - 30
1948578	Prometryn	8.50	Spike	P	0 - 30
1948578	Simazine	3.80	Spike	P	0 - 30
1948578	Terbufos	10.7	Spike	P	0 - 30
1948578	Terbutylazine	0.366	Spike	P	0 - 30
LFB	Acetochlor	0.474	LCS	P	0 - 30
LFB	Alachlor	3.52	LCS	P	0 - 30
LFB	Ametryn	6.79	LCS	P	0 - 30
LFB	Atrazine	1.40	LCS	P	0 - 30
LFB	Atrazine Desethyl	0.848	LCS	P	0 - 30
LFB	Azinphos Methyl	3.83	LCS	P	0 - 30
LFB	Bromacil	0.981	LCS	P	0 - 30
LFB	Butylate	16.5	LCS	P	0 - 30
LFB	Chlorpyrifos Ethyl	2.32	LCS	P	0 - 30
LFB	Chlorpyrifos Methyl	1.36	LCS	P	0 - 30
LFB	Cyanazine	6.06	LCS	P	0 - 30
LFB	Demeton	53.6	LCS	F	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8270D
Batch ID: P336157

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
LFB	Diazinon	4.36	LCS	P	0 - 30
LFB	Disulfoton	8.55	LCS	P	0 - 30
LFB	EPTC	17.6	LCS	P	0 - 30
LFB	Ethion	11.9	LCS	P	0 - 30
LFB	Ethoprop	4.84	LCS	P	0 - 30
LFB	Fenamiphos	5.57	LCS	P	0 - 30
LFB	Fipronil	3.07	LCS	P	0 - 30
LFB	Fipronil Sulfide	2.53	LCS	P	0 - 30
LFB	Fipronil Sulfone	4.46	LCS	P	0 - 30
LFB	Fonofos	3.21	LCS	P	0 - 30
LFB	Hexazinone	3.81	LCS	P	0 - 30
LFB	Malathion	1.16	LCS	P	0 - 30
LFB	Metalaxyl	2.60	LCS	P	0 - 30
LFB	Metolachlor	0.233	LCS	P	0 - 30
LFB	Metribuzin	6.03	LCS	P	0 - 30
LFB	Mevinphos	20.2	LCS	P	0 - 30
LFB	Molinate	4.62	LCS	P	0 - 30
LFB	Norflurazon	1.58	LCS	P	0 - 30
LFB	Parathion Ethyl	2.11	LCS	P	0 - 30
LFB	Parathion Methyl	1.67	LCS	P	0 - 30
LFB	Pendimethalin	1.72	LCS	P	0 - 30
LFB	Phorate	4.51	LCS	P	0 - 30
LFB	Prometon	2.69	LCS	P	0 - 30
LFB	Prometryn	4.81	LCS	P	0 - 30
LFB	Simazine	5.55	LCS	P	0 - 30
LFB	Terbufos	1.35	LCS	P	0 - 30
LFB	Terbutylazine	0.794	LCS	P	0 - 30

Reference Method: EPA 8276
Batch ID: P336154

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1948659	Chlordane	6.83	Spike	P	0 - 30
1948659	Toxaphene	2.10	Spike	P	0 - 30
LFB	Chlordane	6.93	LCS	P	0 - 30
LFB	Toxaphene	2.36	LCS	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P335915

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1948302	Sucralose	10.0	Spike	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P335933

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1948475	Pyraclostrobin	12.2	Spike	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8321B
 Batch ID: P335934

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1948475	Glyphosate	0.711	Spike	P	0 - 30

Reference Method: SM 2120 B
 Batch ID: P335989

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1948487	Color (true)	1.75	Sample	P	0 - 20

Reference Method: SM 2320 B-97
 Batch ID: P336463

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1948507	Total Alkalinity	0.353	Sample	P	0 - 4.8

Reference Method: SM 2540 C-97
 Batch ID: P336389

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1948451	TDS	2.61	Sample	P	0 - 10

Reference Method: SM 4500 F-C-97
 Batch ID: P336467

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1948507	Fluoride	0.948	Spike	P	0 - 3.0

Reference Method: SM 5310 B-00
 Batch ID: P336198

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1948469	Organic Carbon	1.41	Spike	P	0 - 20

Reference Method: USGS O-2060-01
 Batch ID: P335916

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1948303	Acetaminophen	2.39	Spike	P	0 - 30
1948303	Carbamazepine	5.17	Spike	P	0 - 30
1948303	Diuron	1.85	Spike	P	0 - 30
1948303	Fenuron	2.31	Spike	P	0 - 30
1948303	Fluridone	12.6	Spike	P	0 - 30
1948303	Imidacloprid	4.75	Spike	P	0 - 30
1948303	Linuron	2.44	Spike	P	0 - 30
1948303	Primidone	23.8	Spike	P	0 - 30
1948576	2,4-D	8.67	Spike	P	0 - 30

Quality Assurance Report Precision

Reference Method: USGS O-2060-01
Batch ID: P335916

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1948576	Bentazon	2.91	Spike	P	0 - 30
1948576	MCP	6.64	Spike	P	0 - 30
1948576	Triclopyr	11.7	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: 1948475
Field Sample ID: G1TLHR0025-2017-05

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Acetaminophen-d4	109	P	30 - 160
EPA 8321B	Acetaminophen-d4	109	P	30 - 160
EPA 8321B	Carbamazepine-d10	130	P	30 - 160
EPA 8321B	Carbamazepine-d10	130	P	30 - 160
EPA 8321B	Diuron-d6	114	P	30 - 160
EPA 8321B	Diuron-d6	90.7	P	30 - 160
EPA 8321B	Diuron-d6	114	P	30 - 160
EPA 8321B	Diuron-d6	90.7	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	98.2	P	40 - 160
EPA 8321B	Primidone-d5	114	P	30 - 160
EPA 8321B	Primidone-d5	114	P	30 - 160
EPA 8321B	Sucralose-d6	111	P	40 - 160
EPA 8321B	Sucralose-d6	111	P	40 - 160
USGS O-2060-01	2,4-D-d3	83.9	P	30 - 160
USGS O-2060-01	Acetaminophen-d4	109	P	30 - 160
USGS O-2060-01	Carbamazepine-d10	130	P	30 - 160
USGS O-2060-01	Diuron-d6	114	P	30 - 160
USGS O-2060-01	Diuron-d6	90.7	P	30 - 160
USGS O-2060-01	Primidone-d5	114	P	30 - 160
USGS O-2060-01	Sucralose-d6	111	P	40 - 160

Lab Sample ID: 1948476
Field Sample ID: G1TLHR0006-2017-04

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Acetaminophen-d4	98.0	P	30 - 160
EPA 8321B	Acetaminophen-d4	98.0	P	30 - 160
EPA 8321B	Carbamazepine-d10	131	P	30 - 160
EPA 8321B	Carbamazepine-d10	131	P	30 - 160
EPA 8321B	Diuron-d6	108	P	30 - 160
EPA 8321B	Diuron-d6	92.8	P	30 - 160
EPA 8321B	Diuron-d6	108	P	30 - 160
EPA 8321B	Diuron-d6	92.8	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	100	P	40 - 160
EPA 8321B	Primidone-d5	106	P	30 - 160
EPA 8321B	Primidone-d5	106	P	30 - 160

Quality Assurance Report Surrogates

Lab Sample ID: 1948476

Field Sample ID: G1TLHR0006-2017-04

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Sucralose-d6	106	P	40 - 160
EPA 8321B	Sucralose-d6	106	P	40 - 160
USGS O-2060-01	2,4-D-d3	94.9	P	30 - 160
USGS O-2060-01	Acetaminophen-d4	98.0	P	30 - 160
USGS O-2060-01	Carbamazepine-d10	131	P	30 - 160
USGS O-2060-01	Diuron-d6	108	P	30 - 160
USGS O-2060-01	Diuron-d6	92.8	P	30 - 160
USGS O-2060-01	Primidone-d5	106	P	30 - 160
USGS O-2060-01	Sucralose-d6	106	P	40 - 160

Lab Sample ID: 1948477

Field Sample ID: G1TLHR0025-2017-05

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8270D	Decachlorobiphenyl	93.5	P	39 - 118
EPA 8270D	Tetrachloro-m-xylene	70.0	P	32 - 103
EPA 8276	Decachlorobiphenyl	82.8	P	31 - 100

Lab Sample ID: 1948478

Field Sample ID: G1TLHR0006-2017-04

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8270D	Decachlorobiphenyl	102	P	39 - 118
EPA 8270D	Tetrachloro-m-xylene	84.5	P	32 - 103
EPA 8276	Decachlorobiphenyl	96.3	P	31 - 100

Lab Sample ID: 1948479

Field Sample ID: G1TLHR0025-2017-05

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8270D	Malathion-d7	87.5	P	53 - 135
EPA 8270D	Simazine-d10	94.2	P	71 - 126

Lab Sample ID: 1948480

Field Sample ID: G1TLHR0006-2017-04

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8270D	Malathion-d7	94.2	P	53 - 135
EPA 8270D	Simazine-d10	102	P	71 - 126

Quality Assurance Report Calibration Verification

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A80557

Included Lab Sample IDs: 1948467, 1948468

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

Quality Assurance Report Calibration Verification

Reference Method: SM 2120 B

Run ID: A80558

Included Lab Sample IDs: 1948467, 1948468

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	99.0	101	P/P	85 - 115

Reference Method: EPA 8321B

Run ID: A80568

Included Lab Sample IDs: 1948475, 1948476

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Sucralose	132	127	P/P	60 - 150

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Run ID: A80571

Included Lab Sample IDs: 1948471, 1948472

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	98.6	98.2	P/P	90 - 110
O-Phosphate-P	99.3	99.5	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A80582

Included Lab Sample IDs: 1948469, 1948470

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

Reference Method: EPA 200.7 Rev. 4.4

Run ID: A80600

Included Lab Sample IDs: 1948481, 1948482

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Calcium	100	100	P/P	90 - 110
Iron	98.2	98.9	P/P	90 - 110
Magnesium	99.5	99.7	P/P	90 - 110
Potassium	102	103	P/P	90 - 110
Sodium	101	103	P/P	90 - 110
Zinc	101	102	P/P	90 - 110

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A80618

Included Lab Sample IDs: 1948481, 1948482

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Arsenic	103	102	P/P	90 - 110
Cadmium	102	102	P/P	90 - 110
Chromium	96.7	98.3	P/P	90 - 110
Copper	102	103	P/P	90 - 110
Lead	101	101	P/P	90 - 110
Nickel	103	103	P/P	90 - 110
Silver	102	102	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A80632

Included Lab Sample IDs: 1948467, 1948468

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	99.9	101	P/P	90 - 110
Sulfate	99.6	99.2	P/P	90 - 110

Reference Method: SM 5310 B-00

Run ID: A80635

Included Lab Sample IDs: 1948469, 1948470

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	97.3	96.4	P/P	90 - 110

Reference Method: USGS O-2060-01

Run ID: A80657

Included Lab Sample IDs: 1948475, 1948476

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	94.9	89.9	P/P	50 - 150
Acetaminophen	111	107	P/P	60 - 150
Bentazon	93.0	97.9	P/P	50 - 150
Carbamazepine	118	115	P/P	60 - 150
Diuron	111	113	P/P	60 - 150
Fenuron	108	109	P/P	60 - 150
Fluridone	118	116	P/P	60 - 160
Imidacloprid	100	106	P/P	60 - 150
Linuron	115	110	P/P	60 - 150
MCPP	97.2	94.6	P/P	50 - 150
Primidone	103	110	P/P	60 - 150
Triclopyr	93.7	89.5	P/P	50 - 150

Reference Method: EPA 8321B

Run ID: A80660

Included Lab Sample IDs: 1948475, 1948476

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Glyphosate	84.6	95.0	P/P	60 - 150
Pyraclostrobin	80.4	79.4	P/P	60 - 150

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A80677

Included Lab Sample IDs: 1948469, 1948470

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	101	99.8	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A80695

Included Lab Sample IDs: 1948469, 1948470

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	99.2	98.4	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A80724

Included Lab Sample IDs: 1948469, 1948470

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	97.8	101	P/P	90 - 110

Reference Method: SM 2320 B-97

Run ID: A80732

Included Lab Sample IDs: 1948467, 1948468

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	102	99.7	P/P	90 - 110

Reference Method: SM 4500 F-C-97

Run ID: A80732

Included Lab Sample IDs: 1948467, 1948468

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	99.5	98.6	P/P	90 - 110

Reference Method: EPA 8270D

Run ID: A80861

Included Lab Sample IDs: 1948479, 1948480

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acetochlor	98.5		P	80 - 120
Alachlor	97.6		P	80 - 120
Ametryn	101		P	80 - 120
Atrazine	98.2		P	80 - 120
Atrazine Desethyl	90.0		P	80 - 120
Azinphos Methyl	91.0		P	80 - 120
Bromacil	105		P	80 - 120
Butylate	97.6		P	80 - 120
Chlorpyrifos Ethyl	97.4		P	80 - 120
Chlorpyrifos Methyl	98.2		P	80 - 120
Cyanazine	72.7*		F	80 - 120
Demeton	91.7		P	80 - 120
Diazinon	94.1		P	80 - 120
Disulfoton	95.6		P	80 - 120
EPTC	100		P	80 - 120
Ethion	90.9		P	80 - 120
Ethoprop	95.5		P	80 - 120
Fenamiphos	99.0		P	80 - 120
Fipronil	98.8		P	80 - 120
Fipronil Sulfide	99.3		P	80 - 120
Fipronil Sulfone	100		P	80 - 120
Fonofos	97.2		P	80 - 120
Hexazinone	94.0		P	80 - 120
Malathion	95.6		P	80 - 120
Metalaxyl	101		P	80 - 120
Metolachlor	105		P	80 - 120
Metribuzin	92.2		P	80 - 120
Mevinphos	99.1		P	80 - 120
Molinate	92.6		P	80 - 120
Norflurazon	96.0		P	80 - 120

Quality Assurance Report Calibration Verification

Reference Method: EPA 8270D

Run ID: A80861

Included Lab Sample IDs: 1948479, 1948480

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Parathion Ethyl	92.0		P	80 - 120
Parathion Methyl	93.8		P	80 - 120
Pendimethalin	97.3		P	80 - 120
Phorate	98.0		P	80 - 120
Prometon	101		P	80 - 120
Prometryn	101		P	80 - 120
Simazine	96.0		P	80 - 120
Terbufos	96.4		P	80 - 120
Terbuthylazine	96.7		P	80 - 120

Reference Method: EPA 8276

Run ID: A80885

Included Lab Sample IDs: 1948477, 1948478

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chlordane	117		P	80 - 120
Toxaphene	117		P	80 - 120

Reference Method: EPA 8270D

Run ID: A81070

Included Lab Sample IDs: 1948477, 1948478

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Aldrin	105		P	80 - 120
Alpha-BHC	101		P	80 - 120
Alpha-Chlordane	97.9		P	80 - 120
Beta-BHC	87.3		P	80 - 120
Carbophenothion	88.8		P	80 - 120
Chlorothalonil	94.0		P	80 - 120
Cypermethrin	88.1		P	80 - 120
DDD-p,p'	89.4		P	80 - 120
DDE-p,p'	103		P	80 - 120
DDT-p,p'	105		P	80 - 120
Delta-BHC	95.7		P	80 - 120
Dicofol	93.7		P	80 - 120
Dieldrin	99.7		P	80 - 120
Endosulfan I	101		P	80 - 120
Endosulfan II	104		P	80 - 120
Endosulfan Sulfate	87.7		P	80 - 120
Endrin	96.2		P	80 - 120
Endrin Aldehyde	88.8		P	80 - 120
Endrin Ketone	93.3		P	80 - 120
Gamma-BHC	99.6		P	80 - 120
Gamma-Chlordane	97.4		P	80 - 120
Heptachlor	102		P	80 - 120
Heptachlor Epoxide	98.0		P	80 - 120
Methoxychlor	105		P	80 - 120
Mirex	99.9		P	80 - 120
Permethrin	91.6		P	80 - 120
Trifluralin	99.4		P	80 - 120

Quality Assurance Report Calibration Verification

* Pass/Fail determinations are made for each bracketing calibration verification check.
Control limits for initial calibration checks may be different from those for continuing checks, depending on method requirements.
Where they are different, both control limits are provided.

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery		MS % Recovery			LCS	Precision	MS
								SMP	
EPA 180.1 Rev. 2.0	Turbidity							6.87	
EPA 200.7 Rev. 4.4	Calcium	104		102	101				0.735
	Iron	101		104	99.2				2.23
	Magnesium	110		103	109	105			2.16
	Potassium	105		108	112	109			2.09
	Sodium	102		103	104				0.565
	Zinc	101		102	99.2	97.8			1.29
EPA 200.8 Rev. 5.4	Arsenic	103		107	104	103			0.299
	Cadmium	103		104	102	101			1.37
	Chromium	96.1		94.9	95.5	96.1			0.640
	Copper	99.6		99.9	99.4	99.6			0.102
	Lead	100		103	99.7	99.5			0.223
	Nickel	101		101	102	102			0.434
	Silver	103		103	103	103			0.821
EPA 300.0 Rev. 2.1	Chloride	95.0		94.8	93.7			0.844	
	Sulfate	95.4		95.7	94.8			0.820	
EPA 350.1 Rev. 2.0	Ammonia-N	93.4		97.1	98.2				0.993
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	101		91.7	97.1				4.75
EPA 353.2 Rev. 2.0	NO ₂ NO ₃ -N	104		101	104				1.54
EPA 365.1 Rev. 2.0	Total-P	99.5		101	100				0.569
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	98.1		100	100				0.0
EPA 8270D	Acetochlor	99.2	98.8	85.0	85.8		0.474		0.995
	Alachlor	100	96.6	90.2	91.6		3.52		1.43
	Aldrin	50.1	84.6	57.8			51.2		
	Alpha-BHC	110	108	107			2.57		
	Alpha-Chlordane	107	99.2	91.5			7.72		
	Ametryn	84.1	90.0	68.5	77.9		6.79		12.8
	Atrazine	103	104	95.4	92.4		1.40		2.80
	Atrazine Desethyl	82.5	83.2	98.4	83.9		0.848		15.9
	Azinphos Methyl	113	109	104	79.5		3.83		26.3
	Beta-BHC	138	123	88.8			12.0		
	Bromacil	100	99.2	76.0	86.7		0.981		6.39
	Butylate	59.7	50.6	26.3	27.7		16.5		5.16
	Carbophenothion	91.9	84.6	126			8.22		
	Chlorothalonil	111	91.0	4.12			20.1		
	Chlorpyrifos Ethyl	93.7	91.6	74.1	78.0		2.32		5.21
	Chlorpyrifos Methyl	100	99.0	80.4	79.5		1.36		1.18
	Cyanazine	161	171	152	126		6.06		18.9
	Cypermethrin	125	107	127			15.7		
	DDD-p,p'	124	107	78.4			15.1		
	DDE-p,p'	110	104	80.6			5.92		
	DDT-p,p'	122	107	74.9			12.7		
	Delta-BHC	142	147	110			4.09		
	Demeton	45.3	78.5	80.1	70.6		53.6		12.5
	Diazinon	95.9	91.8	80.7	80.1		4.36		0.721
	Dicofol	110	87.5	83.6			22.6		

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery		MS % Recovery		LCS	Precision	MS
							SMP	
EPA 8270D	Dieldrin	112	103	92.0		8.34		
	Disulfoton	109	99.7	105	96.5	8.55		7.99
	Endosulfan I	115	109	109		5.88		
	Endosulfan II	145	120	112		18.9		
	Endosulfan Sulfate	125	95.7	96.5		26.7		
	Endrin	115	104	93.5		10.1		
	Endrin Aldehyde	126	98.9	65.2		23.9		
	Endrin Ketone	123	101	100		19.9		
	EPTC	35.9	42.9	22.6	26.3	17.6		15.3
	Ethion	92.2	81.8	41.0	83.1	11.9		67.9
	Ethoprop	102	96.8	93.3	90.6	4.84		3.00
	Fenamiphos	109	103	107	98.9	5.57		7.86
	Fipronil	102	98.4	76.9	85.3	3.07		9.43
	Fipronil Sulfide	93.2	90.9	71.5	75.1	2.53		4.07
	Fipronil Sulfone	89.5	85.6	67.0	68.4	4.46		1.56
	Fonofos	93.8	96.9	88.1	81.2	3.21		8.22
	Gamma-BHC	113	124	109		9.60		
	Gamma-Chlordane	104	94.6	90.4		9.54		
	Heptachlor	95.4	88.2	96.0		7.86		
	Heptachlor Epoxide	110	100	96.3		9.01		
	Hexazinone	90.3	93.8	84.5	90.2	3.81		6.53
	Malathion	99.9	98.8	80.2	75.4	1.16		2.85
	Metalaxyl	102	99.8	79.6	78.7	2.60		1.08
	Methoxychlor	129	127	113		1.66		
	Metolachlor	98.2	98.0	85.5	83.7	0.233		2.03
	Metribuzin	104	110	172	133	6.03		25.4
	Mevinphos	56.9	69.7	51.7	49.4	20.2		4.66
	Mirex	86.5	86.1	94.3		0.491		
	Molinate	50.4	48.2	32.8	31.2	4.62		4.98
	Norflurazon	93.3	91.9	76.2	82.8	1.58		8.24
	Parathion Ethyl	94.2	96.2	85.7	83.8	2.11		2.23
	Parathion Methyl	104	105	97.7	94.1	1.67		3.75
	Pendimethalin	105	107	99.3	95.6	1.72		3.77
	Permethrin	108	97.9	108		10.1		
	Phorate	87.8	84.0	71.9	73.6	4.51		2.35
	Prometon	94.7	97.3	98.3	95.5	2.69		2.91
	Prometryn	96.8	92.3	74.0	80.6	4.81		8.50
	Simazine	97.9	104	100	96.6	5.55		3.80
	Terbufos	97.1	95.8	92.2	82.9	1.35		10.7
	Terbutylazine	98.6	99.4	93.2	92.9	0.794		0.366
	Trifluralin	97.1	94.5	97.0		2.69		
EPA 8276	Chlordane	87.0	93.3	72.5	77.6	6.93		6.83
	Toxaphene	113	111	93.5	95.5	2.36		2.10
EPA 8321B	Glyphosate	87.6		91.0	91.7			0.711
	Pyraclostrobin	132		123	139			12.2
	Sucralose	123		120	133			10.0
SM 2120 B	Color (true)						1.75	
SM 2320 B-97	Total Alkalinity	102					0.353	
SM 2540 C-97	TDS						2.61	
SM 4500 F-C-97	Fluoride	95.4		96.6	97.6			0.948
SM 5310 B-00	Organic Carbon	100		94.8	96.2			1.41
USGS O-2060-01	2,4-D	94.5		62.5	70.2			8.67
	Acetaminophen	107		95.4	97.8			2.39
	Bentazon	66.5		46.2	48.0			2.91

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery		Precision LCS	SMP	MS
USGS O-2060-01	Carbamazepine	114	106	111			5.17
	Diuron	105	103	100			1.85
	Fenuron	112	106	104			2.31
	Fluridone	106	87.0	98.9			12.6
	Imidacloprid	98.6					4.75
	Linuron	108	106	108			2.44
	MCPP	95.3	86.5	92.5			6.64
	Primidone	99.3	84.9	108			23.8
	Triclopyr	93.5	81.4	91.6			11.7

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 180.1 Rev. 2.0 / E31780	Turbidity in aqueous matrices	1948467, 1948468
EPA 200.7 Rev. 4.4 / E31780	Total Recoverable Metals analysis using ICP emission spectroscopy for aqueous samples supporting Clean Water Act Projects	1948481, 1948482
EPA 200.8 Rev. 5.4 / E31780	Total Recoverable Metals analysis using ICP-MS for aqueous samples supporting Clean Water Act Projects	1948481, 1948482
EPA 300.0 Rev. 2.1 / E31780	Chloride in aqueous matrices	1948467, 1948468
EPA 300.0 Rev. 2.1 / E31780	Sulfate in aqueous matrices	1948467, 1948468
EPA 350.1 Rev. 2.0 / E31780	Ammonia in aqueous matrices as mg N/L	1948469, 1948470
EPA 351.2 Rev. 2.0 / E31780	Total Kjeldahl Nitrogen in aqueous matrices	1948469, 1948470
EPA 353.2 Rev. 2.0 / E31780	Nitrite/Nitrate in aqueous matrices as mg N/L	1948469, 1948470
EPA 365.1 Rev. 2.0 / E31780	Total Phosphorus in aqueous matrices as mg P/L	1948469, 1948470
EPA 365.1 Rev. 2.0 dissolved / E31780	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	1948471, 1948472
EPA 8270D / E31780	Organochlorine pesticides in water matrices by GC/MS-SIM	1948477, 1948478
EPA 8270D / E31780	Organonitrogen and phosphorus pesticides (ultra trace level) in water matrices by GC/MS/MS	1948479, 1948480
EPA 8276 / E31780	Organochlorine pesticides in water matrices by GC/MS with Negative Chemical Ionization	1948477, 1948478
EPA 8321B / E31780	Analysis of sucralose in water matrices by HPLC/MS/MS	1948475, 1948476
EPA 8321B / E31780	Glyphosate in water matrices by HPLC/MS/MS	1948475, 1948476
EPA 8321B / E31780	Pyraclostrobin in water matrices by HPLC/MS/MS	1948475, 1948476
SM 2120 B / E31780	True Color measured at 450 nm	1948467, 1948468
SM 2320 B-97 / E31780	Alkalinity in aqueous matrices as mg CaCO ₃ /L	1948467, 1948468
SM 2540 C-97 / E31780	Total Dissolved Solids in aqueous matrices	1948467, 1948468
SM 2540 D-97 / E31780	Total Suspended Solids in aqueous matrices	1948467, 1948468
SM 4500 F-C-97 / E31780	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	1948467, 1948468
SM 5310 B-00 / E31780	Nonpurgeable Organic Carbon in aqueous matrices	1948469, 1948470
USGS O-2060-01 / E31780	Chlorinated (phenoxy acid) herbicides in water matrices by HPLC/MS/MS	1948475, 1948476
USGS O-2060-01 / E31780	Urea herbicides and other chemicals in water matrices by HPLC/MS/MS	1948475, 1948476

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	11/27/2017			11/28/2017 15:59	DeAsia Armster	1948467, 1948468
EPA 200.7 Rev. 4.4	11/27/2017	11/28/2017	Elliott D. Healy	11/29/2017	Martin Acosta	1948481, 1948482
EPA 200.8 Rev. 5.4	11/27/2017	11/28/2017	Elliott D. Healy	12/01/2017	Nadine Brooks	1948481, 1948482
EPA 300.0 Rev. 2.1	11/27/2017			12/02/2017	Julia Storbeck	1948467, 1948468
EPA 350.1 Rev. 2.0	11/27/2017			12/04/2017	Sofia Elnemr	1948469, 1948470
EPA 351.2 Rev. 2.0	11/27/2017	12/04/2017	Adrian Shelby	12/06/2017	Joseph Suarez	1948469, 1948470
EPA 353.2 Rev. 2.0	11/27/2017			11/29/2017	Lauren Bottorf	1948469, 1948470
EPA 365.1 Rev. 2.0	11/27/2017	12/01/2017	Sima Feizi	12/04/2017	Lipi Saha	1948469, 1948470
EPA 365.1 Rev. 2.0 dissolved	11/27/2017			11/28/2017 15:00	Megan Treadwell	1948472
	11/27/2017			11/28/2017 15:18	Megan Treadwell	1948471
EPA 8270D	11/27/2017	12/01/2017	John Kaba	12/05/2017	Vandana T. Nagar	1948479, 1948480
	11/27/2017	12/01/2017	Rasheda Ghaffari	12/05/2017	Goutam Palui	1948477, 1948478
EPA 8276	11/27/2017	12/01/2017	Rasheda Ghaffari	12/12/2017	John P. Burgos	1948477, 1948478
EPA 8321B	11/27/2017	11/29/2017	Juyoung Kim	11/30/2017	Juyoung Kim	1948475, 1948476
	11/27/2017	12/01/2017	Juyoung Kim	12/01/2017	Juyoung Kim	1948475, 1948476
SM 2120 B	11/27/2017			11/28/2017 15:26	Tanya Welborn	1948467
	11/27/2017			11/28/2017 15:27	Tanya Welborn	1948468
SM 2320 B-97	11/27/2017			12/05/2017	Dale L. Simmons	1948467, 1948468
SM 2540 C-97	11/27/2017			12/01/2017	Yijie Li	1948467, 1948468
SM 2540 D-97	11/27/2017			12/01/2017	Yijie Li	1948467, 1948468
SM 4500 F-C-97	11/27/2017			12/05/2017	Dale L. Simmons	1948467, 1948468
SM 5310 B-00	11/27/2017			11/30/2017	Ping Hua	1948469, 1948470
USGS O-2060-01	11/27/2017	11/28/2017	Hoor Shaik	12/01/2017	Julie Michelle Frank	1948475, 1948476
	11/27/2017	11/28/2017	Hoor Shaik	12/02/2017	Julie Michelle Frank	1948475, 1948476