

Chemical Analysis Report

CEN-DIST-2021-04-28-02

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

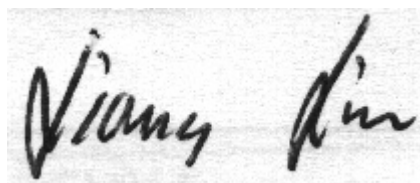
Event Description: **Volusia Blue Spring**
Request ID: **RQ-2021-04-26-58**
Customer: **CEN-DIST**
Project ID: **SMP**

Send Reports to:
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Certified by: Liang Lin, Environmental Administrator

Date Certified: 20-MAY-2021 09:53

A handwritten signature in black ink, appearing to read "Liang Lin", 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 group are included in this report: 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 by the Florida Department of Health Environmental Laboratory Certification Program 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: Volusia Blue Spring Near Vent

Collection Date/Time: 04/27/2021 10:45

Field ID: G2CE0242

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2243390	EPA 8270E	Aldrin	0.70	U	ng/L	P397459	
		Alpha-BHC	0.11	U	ng/L	P397459	
		Alpha-Chlordane	0.22	U	ng/L	P397459	
		Beta-BHC	0.11	U	ng/L	P397459	
		Beta-Cyfluthrin**	1.3	U	ng/L	P397459	
		Bifenthrin**	0.54	U	ng/L	P397459	
		Chlorothalonil	0.54	U	ng/L	P397459	RPD
		Cis-Nonachlor**	0.22	U	ng/L	P397459	
		Cypermethrin	1.6	U	ng/L	P397459	
		Dacthal**	0.16	U	ng/L	P397459	
		DDD-p,p'	0.27	U	ng/L	P397459	
		DDE-p,p'	0.22	U	ng/L	P397459	
		DDT-p,p'	0.27	U	ng/L	P397459	
		Delta-BHC	0.43	U	ng/L	P397459	
		Deltamethrin**	1.3	U	ng/L	P397459	MS
		Dichlobenil**	0.11	U	ng/L	P397459	
		Dicofol	1.3	U	ng/L	P397459	
		Dieldrin	1.3	I	ng/L	P397459	
		Endosulfan I	0.43	U	ng/L	P397459	
		Endosulfan II	0.43	U	ng/L	P397459	
		Endosulfan Sulfate	0.32	U	ng/L	P397459	
		Endrin	0.43	U	ng/L	P397459	
		Endrin Aldehyde	0.81	U	ng/L	P397459	
		Endrin Ketone	0.43	U	ng/L	P397459	
		Esfenvalerate**	0.81	UJ	ng/L	P397459	LCS
		Ethalfuralin**	0.16	U	ng/L	P397459	
		Fenpropathrin**	0.27	U	ng/L	P397459	
		Gamma-BHC	0.13	U	ng/L	P397459	
		Gamma-Chlordane	0.22	U	ng/L	P397459	
		Heptachlor	0.22	U	ng/L	P397459	
		Heptachlor Epoxide	0.27	U	ng/L	P397459	
		Hexachlorobenzene	1.1	U	ng/L	P397459	
		Kepone**	20	IJ	ng/L	P397459	LCS, RPD
		Lambda-Cyhalothrin**	0.81	UJ	ng/L	P397459	LCS
		Methoxychlor	0.32	U	ng/L	P397459	
		MGK-264**	0.22	U	ng/L	P397459	
		Mirex	0.32	UJ	ng/L	P397459	LCS
		Permethrin	1.7	U	ng/L	P397459	
		Phenothrin**	0.97	U	ng/L	P397459	
		Piperonyl Butoxide**	0.16	U	ng/L	P397459	
		Prallethrin**	2.2	U	ng/L	P397459	
		Tau-Fluvalinate**	0.27	U	ng/L	P397459	
		Tetramethrin**	0.81	U	ng/L	P397459	
		Trans-Nonachlor**	0.22	U	ng/L	P397459	

Field ID: G2CE0242

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2243390	EPA 8270E	Triclosan Methyl**	0.16	U	ng/L	P397459	
		Trifluralin	0.22	U	ng/L	P397459	
	EPA 8276	Chlordane	5.4	U	ng/L	P397459	
		Toxaphene	32	U	ng/L	P397459	
2243391	EPA 8270E	Acetochlor	0.24	U	ng/L	P397411	
		Alachlor	0.24	U	ng/L	P397411	
		Ametryn	0.59	U	ng/L	P397411	MS
		Atrazine	0.94	I	ng/L	P397411	
		Atrazine Desethyl	2.0	I	ng/L	P397411	
		Azinphos Methyl	2.0	U	ng/L	P397411	
		Azoxystrobin**	0.49	U	ng/L	P397411	
		Bromacil	0.49	U	ng/L	P397411	
		Butylate	0.39	U	ng/L	P397411	
		Caffeine**	7.3	U	ng/L	P397411	
		Carbophenothion	0.49	U	ng/L	P397411	
		Carfentrazone Ethyl**	0.098	U	ng/L	P397411	
		Chlorpyrifos Ethyl	0.24	U	ng/L	P397411	
		Chlorpyrifos Methyl	0.049	U	ng/L	P397411	
		Cyanazine	3.2	U	ng/L	P397411	
		Demeton	1.5	U	ng/L	P397411	
		Diazinon	0.12	U	ng/L	P397411	
		Difenoconazole**	0.59	U	ng/L	P397411	
		Dimethenamid**	0.098	U	ng/L	P397411	
		Disulfoton	0.49	U	ng/L	P397411	
		Dithiopyr**	0.17	U	ng/L	P397411	
		EPTC	1.2	U	ng/L	P397411	
		Ethion	0.15	U	ng/L	P397411	
		Ethoprop	0.098	U	ng/L	P397411	
		Fenamiphos	0.49	U	ng/L	P397411	
		Fenbuconazole**	0.12	U	ng/L	P397411	
		Fipronil	0.24	U	ng/L	P397411	
		Fipronil Desulfinyl**	0.12	U	ng/L	P397411	
		Fipronil Sulfide	0.15	U	ng/L	P397411	
		Fipronil Sulfone	0.60		ng/L	P397411	
		Fluazifop-P-butyl**	0.098	U	ng/L	P397411	
		Fludioxonil**	0.12	U	ng/L	P397411	
		Flumioxazin**	1.7	UJ	ng/L	P397411	RPD
		Flutolanil**	0.098	U	ng/L	P397411	
		Fluxapyroxad**	0.098	U	ng/L	P397411	
		Fonofos	0.20	U	ng/L	P397411	
		Hexazinone	0.49	U	ng/L	P397411	
		Imazalil**	0.73	U	ng/L	P397411	
		Iprodione**	0.59	U	ng/L	P397411	
		Malathion	0.34	U	ng/L	P397411	
		Metalaxyl	0.73	U	ng/L	P397411	

Field ID: G2CE0242

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2243391	EPA 8270E	Metolachlor	0.34	U	ng/L	P397411	RPD
		Metribuzin	3.2	U	ng/L	P397411	
		Mevinphos	1.0	U	ng/L	P397411	
		Molinate	0.29	U	ng/L	P397411	
		Myclobutanil**	0.24	U	ng/L	P397411	
		Naled**	1.5	U	ng/L	P397411	
		Norflurazon	0.49	U	ng/L	P397411	
		Oxadiazon	0.29	U	ng/L	P397411	
		Oxyfluorfen**	0.15	U	ng/L	P397411	
		Parathion Ethyl	0.24	U	ng/L	P397411	
		Parathion Methyl	0.54	U	ng/L	P397411	
		Pendimethalin	0.98	U	ng/L	P397411	
		Phorate	0.51	U	ng/L	P397411	
		Prodiamine**	0.17	UJ	ng/L	P397411	
		Prometon	0.88	U	ng/L	P397411	
		Prometryn	0.20	U	ng/L	P397411	
		Pronamide**	0.15	U	ng/L	P397411	
		Propiconazole**	0.49	U	ng/L	P397411	
		Pyriproxyfen**	0.12	U	ng/L	P397411	
		Simazine	0.49	U	ng/L	P397411	
		Sulfentrazone**	22		ng/L	P397411	
		Tebuconazole**	0.49	U	ng/L	P397411	
		Terbufos	0.098	U	ng/L	P397411	
		Terbuthylazine	0.42	U	ng/L	P397411	

Ref. Method and Comment:

EPA 8270E: Refer to the Lab Analysis Report for an explanation of QC Codes.

EPA 8270E: MS accuracy for some parameters not assessed due to high content of these parameters in the sample spiked. Refer to the Lab Analysis Report for an explanation of QC Codes.

Quality Assurance Report

Method Blank Results

Reference Method: EPA 8270E

Batch ID: P397411

Component	Result	Code	Units
Acetochlor	0.25	U	ng/L
Acetochlor	0.25	U	ng/L
Alachlor	0.25	U	ng/L
Alachlor	0.25	U	ng/L
Ametryn	0.60	U	ng/L
Ametryn	0.60	U	ng/L
Atrazine	0.25	U	ng/L
Atrazine	0.25	U	ng/L
Atrazine Desethyl	1.5	U	ng/L
Atrazine Desethyl	1.5	U	ng/L
Azinphos Methyl	2.0	U	ng/L
Azinphos Methyl	2.0	U	ng/L
Azoxystrobin	0.50	U	ng/L
Azoxystrobin	0.50	U	ng/L
Bromacil	0.50	U	ng/L
Bromacil	0.50	U	ng/L
Butylate	0.40	U	ng/L
Butylate	0.40	U	ng/L
Caffeine	7.5	U	ng/L
Caffeine	7.5	U	ng/L
Carbophenothion	0.50	U	ng/L
Carbophenothion	0.50	U	ng/L
Carfentrazone Ethyl	0.10	U	ng/L
Carfentrazone Ethyl	0.10	U	ng/L
Chlorpyrifos Ethyl	0.25	U	ng/L
Chlorpyrifos Ethyl	0.25	U	ng/L
Chlorpyrifos Methyl	0.050	U	ng/L
Chlorpyrifos Methyl	0.050	U	ng/L
Cyanazine	3.2	U	ng/L
Cyanazine	3.2	U	ng/L
Demeton	1.5	U	ng/L
Demeton	1.5	U	ng/L
Diazinon	0.12	U	ng/L
Diazinon	0.12	U	ng/L
Difenoconazole	0.60	U	ng/L
Difenoconazole	0.60	U	ng/L
Dimethenamid	0.10	U	ng/L
Dimethenamid	0.10	U	ng/L
Disulfoton	0.50	U	ng/L
Disulfoton	0.50	U	ng/L
Dithiopyr	0.18	U	ng/L
Dithiopyr	0.18	U	ng/L
EPTC	1.2	U	ng/L
EPTC	1.2	U	ng/L
Ethion	0.15	U	ng/L
Ethion	0.15	U	ng/L
Ethoprop	0.10	U	ng/L
Ethoprop	0.10	U	ng/L
Fenamiphos	0.50	U	ng/L
Fenamiphos	0.50	U	ng/L
Fenbuconazole	0.12	U	ng/L
Fenbuconazole	0.12	U	ng/L

Quality Assurance Report

Method Blank Results

Reference Method: EPA 8270E

Batch ID: P397411

Component	Result	Code	Units
Fipronil	0.25	U	ng/L
Fipronil	0.25	U	ng/L
Fipronil Desulfinyl	0.12	U	ng/L
Fipronil Desulfinyl	0.12	U	ng/L
Fipronil Sulfide	0.15	U	ng/L
Fipronil Sulfide	0.15	U	ng/L
Fipronil Sulfone	0.15	U	ng/L
Fipronil Sulfone	0.15	U	ng/L
Fluazifop-P-butyl	0.10	U	ng/L
Fluazifop-P-butyl	0.10	U	ng/L
Fludioxonil	0.12	U	ng/L
Fludioxonil	0.12	U	ng/L
Flumioxazin	1.8	U	ng/L
Flumioxazin	1.8	U	ng/L
Flutolanil	0.10	U	ng/L
Flutolanil	0.10	U	ng/L
Fluxapyroxad	0.10	U	ng/L
Fluxapyroxad	0.10	U	ng/L
Fonofos	0.20	U	ng/L
Fonofos	0.20	U	ng/L
Hexazinone	0.50	U	ng/L
Hexazinone	0.50	U	ng/L
Imazalil	0.75	U	ng/L
Imazalil	0.75	U	ng/L
Iprodione	0.60	U	ng/L
Iprodione	0.60	U	ng/L
Malathion	0.35	U	ng/L
Malathion	0.35	U	ng/L
Metaxyl	0.75	U	ng/L
Metaxyl	0.75	U	ng/L
Metolachlor	0.35	U	ng/L
Metolachlor	0.35	U	ng/L
Metribuzin	3.2	U	ng/L
Metribuzin	3.2	U	ng/L
Mevinphos	1.0	U	ng/L
Mevinphos	1.0	U	ng/L
Molinate	0.30	U	ng/L
Molinate	0.30	U	ng/L
Myclobutanil	0.25	U	ng/L
Myclobutanil	0.25	U	ng/L
Naled	1.5	U	ng/L
Naled	1.5	U	ng/L
Norflurazon	0.50	U	ng/L
Norflurazon	0.50	U	ng/L
Oxadiazon	0.30	U	ng/L
Oxadiazon	0.30	U	ng/L
Oxyfluorfen	0.15	U	ng/L
Oxyfluorfen	0.15	U	ng/L
Parathion Ethyl	0.25	U	ng/L
Parathion Ethyl	0.25	U	ng/L
Parathion Methyl	0.55	U	ng/L
Parathion Methyl	0.55	U	ng/L

Quality Assurance Report

Method Blank Results

Reference Method: EPA 8270E

Batch ID: P397411

Component	Result	Code	Units
Pendimethalin	1.0	U	ng/L
Pendimethalin	1.0	U	ng/L
Phorate	0.52	U	ng/L
Phorate	0.52	U	ng/L
Prodiamine	0.18	U	ng/L
Prodiamine	0.18	U	ng/L
Prometon	0.90	U	ng/L
Prometon	0.90	U	ng/L
Prometryn	0.20	U	ng/L
Prometryn	0.20	U	ng/L
Pronamide	0.15	U	ng/L
Pronamide	0.15	U	ng/L
Propiconazole	0.50	U	ng/L
Propiconazole	0.50	U	ng/L
Pyriproxyfen	0.12	U	ng/L
Pyriproxyfen	0.12	U	ng/L
Simazine	0.50	U	ng/L
Simazine	0.50	U	ng/L
Sulfentrazone	0.50	U	ng/L
Sulfentrazone	0.50	U	ng/L
Tebuconazole	0.50	U	ng/L
Tebuconazole	0.50	U	ng/L
Terbufos	0.10	U	ng/L
Terbufos	0.10	U	ng/L
Terbuthylazine	0.42	U	ng/L
Terbuthylazine	0.42	U	ng/L

Reference Method: EPA 8270E

Batch ID: P397459

Component	Result	Code	Units
Aldrin	0.65	U	ng/L
Alpha-BHC	0.10	U	ng/L
Alpha-Chlordane	0.20	U	ng/L
Beta-BHC	0.10	U	ng/L
Beta-Cyfluthrin	1.2	U	ng/L
Bifenthrin	0.50	U	ng/L
Chlorothalonil	0.50	U	ng/L
Cis-Nonachlor	0.20	U	ng/L
Cypermethrin	1.5	U	ng/L
Dacthal	0.15	U	ng/L
DDD-p,p'	0.25	U	ng/L
DDE-p,p'	0.20	U	ng/L
DDT-p,p'	0.25	U	ng/L
Delta-BHC	0.40	U	ng/L
Deltamethrin	1.2	U	ng/L
Dichlobenil	0.10	U	ng/L
Dicofol	1.2	U	ng/L
Dieldrin	0.40	U	ng/L
Endosulfan I	0.40	U	ng/L
Endosulfan II	0.40	U	ng/L
Endosulfan Sulfate	0.30	U	ng/L

Quality Assurance Report

Method Blank Results

Reference Method: EPA 8270E

Batch ID: P397459

Component	Result	Code	Units
Endrin	0.40	U	ng/L
Endrin Aldehyde	0.75	U	ng/L
Endrin Ketone	0.40	U	ng/L
Esfenvalerate	0.75	U	ng/L
Ethalfuralin	0.15	U	ng/L
Fenpropathrin	0.25	U	ng/L
Gamma-BHC	0.12	U	ng/L
Gamma-Chlordane	0.20	U	ng/L
Heptachlor	0.20	U	ng/L
Heptachlor Epoxide	0.25	U	ng/L
Hexachlorobenzene	1.0	U	ng/L
Kepone	5.0	U	ng/L
Lambda-Cyhalothrin	0.75	U	ng/L
Methoxychlor	0.30	U	ng/L
MGK-264	0.20	U	ng/L
Mirex	0.30	U	ng/L
Permethrin	1.6	U	ng/L
Phenothrin	0.90	U	ng/L
Piperonyl Butoxide	0.15	U	ng/L
Prallethrin	2.0	U	ng/L
Tau-Fluvalinate	0.25	U	ng/L
Tetramethrin	0.75	U	ng/L
Trans-Nonachlor	0.20	U	ng/L
Triclosan Methyl	0.15	U	ng/L
Trifluralin	0.20	U	ng/L

Reference Method: EPA 8276

Batch ID: P397459

Component	Result	Code	Units
Chlordane	5.0	U	ng/L
Toxaphene	30	U	ng/L

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: EPA 8270E

Batch ID: P397411

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acetochlor	92.7	87.8	P/P	70 - 121
Alachlor	94.5	92.4	P/P	70 - 119
Ametryn	99.9	89.9	P/P	61 - 135
Atrazine	97.8	97.1	P/P	76 - 123
Atrazine Desethyl	77.5	75.7	P/P	35 - 140
Azinphos Methyl	104	109	P/P	57 - 163
Azoxystrobin	133	153	P/P	43 - 231
Bromacil	74.7	79.7	P/P	42 - 123
Butylate	55.3	49.3	P/P	34 - 92.0
Caffeine	108	105	P/P	70 - 130
Carbophenothion	98.8	106	P/P	61 - 121
Carfentrazone Ethyl	87.9	92.9	P/P	62 - 139
Chlorpyrifos Ethyl	94.7	92.1	P/P	67 - 121
Chlorpyrifos Methyl	92.7	93.7	P/P	67 - 120
Cyanazine	96.9	98.6	P/P	20 - 226
Demeton	81.1	75.9	P/P	35 - 125
Diazinon	94.2	90.2	P/P	70 - 122
Difenoconazole	125	131	P/P	56 - 186
Dimethenamid	92.5	87.6	P/P	67 - 119
Disulfoton	81.6	81.8	P/P	47 - 120
Dithiopyr	83.5	89.2	P/P	67 - 118
EPTC	51.9	49.8	P/P	33 - 90.0
Ethion	78.2	74.8	P/P	40 - 133
Ethoprop	83.6	80.4	P/P	61 - 121
Fenamiphos	91.7	95.7	P/P	31 - 139
Fenbuconazole	97.9	98.8	P/P	66 - 141
Fipronil	91.2	90.4	P/P	62 - 129
Fipronil Desulfinyl	89.9	88.3	P/P	59 - 126
Fipronil Sulfide	82.6	83.5	P/P	63 - 117
Fipronil Sulfone	82.3	85.0	P/P	57 - 117
Fluazifop-P-butyl	90.6	97.7	P/P	63 - 124
Fludioxonil	87.6	93.2	P/P	63 - 123
Flumioxazin	112	77.2	P/P	34 - 245
Flutolanil	87.2	85.0	P/P	56 - 131
Fluxapyroxad	86.1	89.0	P/P	57 - 117
Fonofos	88.2	84.0	P/P	61 - 116
Hexazinone	92.3	89.8	P/P	55 - 138
Imazalil	101	116	P/P	33 - 143
Iprodione	72.7	62.5	P/P	59 - 118
Malathion	97.0	97.3	P/P	62 - 138
Metaxyl	93.3	90.6	P/P	24 - 147
Metolachlor	90.4	84.6	P/P	68 - 118
Metribuzin	88.4	97.8	P/P	20 - 239
Mevinphos	81.4	78.4	P/P	46 - 124
Molinate	64.6	60.0	P/P	46 - 100
Myclobutanil	87.4	88.7	P/P	32 - 149
Naled	40.7	37.6	P/P	32 - 95.0
Norflurazon	96.6	97.1	P/P	57 - 127
Oxadiazon	94.6	95.7	P/P	63 - 118
Oxyfluorfen	106	104	P/P	69 - 137
Parathion Ethyl	83.8	91.5	P/P	70 - 113
Parathion Methyl	94.9	99.2	P/P	71 - 130

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: EPA 8270E
Batch ID: P397411

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Pendimethalin	94.7	97.8	P/P	55 - 118
Phorate	79.2	79.7	P/P	46 - 125
Prodiamine	55.2	94.7	P/P	20 - 141
Prometon	91.3	88.1	P/P	54 - 122
Prometryn	90.5	93.4	P/P	66 - 124
Pronamide	92.9	95.0	P/P	79 - 122
Propiconazole	88.9	93.8	P/P	61 - 126
Pyriproxyfen	83.9	85.2	P/P	52 - 131
Simazine	92.6	94.8	P/P	75 - 128
Sulfentrazone	44.9	34.9	P/P	20 - 132
Tebuconazole	68.1	63.8	P/P	20 - 116
Terbufos	87.3	84.4	P/P	61 - 117
Terbuthylazine	98.0	93.9	P/P	74 - 116

Reference Method: EPA 8270E
Batch ID: P397459

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Aldrin	72.1	65.4	P/P	20 - 150
Alpha-BHC	89.7	86.1	P/P	50 - 150
Alpha-Chlordane	78.9	92.3	P/P	50 - 150
Beta-BHC	88.0	96.1	P/P	50 - 150
Beta-Cyfluthrin	122	143	P/P	50 - 150
Bifenthrin	81.0	80.4	P/P	40 - 150
Chlorothalonil	97.9	98.4	P/P	20 - 150
Cis-Nonachlor	82.0	95.1	P/P	50 - 150
Cypermethrin	119	141	P/P	50 - 150
Dacthal	89.8	91.2	P/P	50 - 150
DDD-p,p'	79.6	88.1	P/P	50 - 150
DDE-p,p'	72.3	82.9	P/P	50 - 150
DDT-p,p'	80.3	77.0	P/P	50 - 150
Delta-BHC	95.4	99.4	P/P	50 - 150
Deltamethrin	127	145	P/P	50 - 150
Dichlobenil	50.2	44.4	P/P	40 - 150
Dicofol	101	99.0	P/P	50 - 150
Dieldrin	76.7	83.6	P/P	50 - 150
Endosulfan I	80.5	82.8	P/P	50 - 150
Endosulfan II	78.4	83.7	P/P	50 - 150
Endosulfan Sulfate	87.5	102	P/P	50 - 150
Endrin	79.5	85.1	P/P	50 - 150
Endrin Aldehyde	91.3	96.8	P/P	50 - 150
Endrin Ketone	86.2	93.9	P/P	50 - 150
Esfenvalerate	145	181	P/F	50 - 150
Ethalfuralin	83.4	83.1	P/P	50 - 150
Fenpropathrin	91.6	96.5	P/P	50 - 150
Gamma-BHC	95.8	88.6	P/P	50 - 150
Gamma-Chlordane	82.3	89.7	P/P	50 - 150
Heptachlor	69.3	73.0	P/P	50 - 150
Heptachlor Epoxide	87.6	88.8	P/P	50 - 150
Hexachlorobenzene	74.9	71.6	P/P	50 - 150
Kepone	31.6	106	F/P	50 - 150
Lambda-Cyhalothrin	161	206	F/F	50 - 150

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: EPA 8270E

Batch ID: P397459

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Methoxychlor	105	91.9	P/P	50 - 150
MGK-264	90.9	107	P/P	50 - 150
Mirex	140	155	P/F	50 - 150
Permethrin	120	135	P/P	50 - 150
Phenothrin	69.9	71.9	P/P	30 - 150
Piperonyl Butoxide	94.2	96.5	P/P	50 - 150
Prallethrin	59.1	66.8	P/P	40 - 150
Tau-Fluvalinate	88.0	98.2	P/P	40 - 150
Tetramethrin	80.9	67.3	P/P	40 - 150
Trans-Nonachlor	80.9	90.3	P/P	50 - 150
Triclosan Methyl	80.9	89.3	P/P	50 - 150
Trifluralin	82.1	79.2	P/P	50 - 150

Reference Method: EPA 8276

Batch ID: P397459

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Chlordane	96.4	94.9	P/P	56 - 117
Toxaphene	79.3	81.1	P/P	45 - 116

Quality Assurance Report

Matrix Spike Accuracy

Reference Method: EPA 8270E

Batch ID: P397411

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2242785	Acetochlor	99.0	87.4	P/P	66 - 122
2242785	Alachlor	100	80.7	P/P	65 - 122
2242785	Ametryn	210	222	F/F	45 - 173
2242785	Atrazine Desethyl	59.9	50.2	P/P	25 - 150
2242785	Azinphos Methyl	113	98.9	P/P	44 - 174
2242785	Bromacil	90.9	87.5	P/P	31 - 145
2242785	Butylate	41.4	40.0	P/P	15 - 97.0
2242785	Caffeine	105	112	P/P	70 - 130
2242785	Carbophenothion	77.5	81.5	P/P	42 - 129
2242785	Carfentrazone Ethyl	68.9	76.8	P/P	62 - 145
2242785	Chlorpyrifos Ethyl	98.1	75.3	P/P	60 - 124
2242785	Chlorpyrifos Methyl	96.1	82.0	P/P	66 - 119
2242785	Cyanazine	99.9	92.9	P/P	17 - 225
2242785	Demeton	86.4	82.8	P/P	36 - 142
2242785	Diazinon	93.7	80.1	P/P	70 - 128
2242785	Difenoconazole	132	107	P/P	33 - 222
2242785	Dimethenamid	82.7	76.7	P/P	54 - 125
2242785	Disulfoton	85.1	69.6	P/P	49 - 133
2242785	Dithiopyr	84.3	75.3	P/P	55 - 123
2242785	EPTC	53.3	48.9	P/P	19 - 91.0
2242785	Ethion	64.8	73.0	P/P	13 - 143
2242785	Ethoprop	102	88.7	P/P	49 - 144
2242785	Fenamiphos	90.1	80.1	P/P	32 - 136
2242785	Fenbuconazole	105	82.2	P/P	73 - 148
2242785	Fipronil	91.7	84.0	P/P	57 - 129
2242785	Fipronil Desulfinyl	78.5	73.3	P/P	49 - 127
2242785	Fipronil Sulfide	81.9	72.5	P/P	44 - 127
2242785	Fipronil Sulfone	81.0	69.7	P/P	35 - 126
2242785	Fluazifop-P-butyl	83.2	74.9	P/P	67 - 129
2242785	Fludioxonil	101	81.7	P/P	61 - 126
2242785	Flumioxazin	152	119	P/P	38 - 279
2242785	Flutolanil	63.5	61.9	P/P	55 - 136
2242785	Fluxapyroxad	81.6	81.7	P/P	33 - 140
2242785	Fonofos	88.3	84.2	P/P	58 - 125
2242785	Hexazinone	93.2	88.9	P/P	57 - 148
2242785	Imazalil	67.2	67.2	P/P	10 - 221
2242785	Iprodione	80.0	75.9	P/P	32 - 140
2242785	Malathion	97.7	90.0	P/P	52 - 138
2242785	Metalaxyl	91.4	77.8	P/P	46 - 134
2242785	Metolachlor	82.2	74.4	P/P	58 - 122
2242785	Metribuzin	126	97.6	P/P	16 - 272
2242785	Mevinphos	100	87.4	P/P	45 - 140
2242785	Molinate	71.3	63.9	P/P	41 - 103
2242785	Naled	48.6	45.1	P/P	20 - 113
2242785	Norflurazon	93.7	75.6	P/P	51 - 123
2242785	Oxadiazon	64.2	52.3	P/P	44 - 125
2242785	Oxyfluorfen	67.2	81.0	P/P	66 - 176
2242785	Parathion Ethyl	107	96.7	P/P	57 - 132
2242785	Parathion Methyl	128	109	P/P	59 - 156
2242785	Pendimethalin	117	99.6	P/P	59 - 129
2242785	Phorate	108	80.4	P/P	47 - 136
2242785	Prodiamine	55.3	49.7	P/P	10 - 159

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8270E

Batch ID: P397411

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2242785	Prometon	93.7	82.5	P/P	59 - 127
2242785	Prometryn	81.5	70.7	P/P	59 - 129
2242785	Pronamide	89.2	82.8	P/P	65 - 145
2242785	Propiconazole	78.1	58.6	P/P	28 - 165
2242785	Pyriproxyfen	69.9	68.1	P/P	21 - 180
2242785	Simazine	130	106	P/P	63 - 147
2242785	Sulfentrazone	84.3	73.1	P/P	32 - 136
2242785	Tebuconazole	39.9	58.5	P/P	10 - 117
2242785	Terbufos	91.5	80.6	P/P	61 - 131
2242785	Terbuthylazine	91.9	86.6	P/P	62 - 126

Reference Method: EPA 8270E

Batch ID: P397459

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2243931	Aldrin	62.8	63.5	P/P	20 - 170
2243931	Alpha-BHC	89.6	84.8	P/P	50 - 170
2243931	Alpha-Chlordane	81.6	67.6	P/P	50 - 170
2243931	Beta-BHC	108	98.8	P/P	50 - 170
2243931	Beta-Cyfluthrin	99.9	90.9	P/P	50 - 170
2243931	Bifenthrin	56.7	59.2	P/P	40 - 170
2243931	Chlorothalonil	68.3	40.3	P/P	20 - 170
2243931	Cis-Nonachlor	86.5	64.9	P/P	50 - 170
2243931	Cypermethrin	95.3	86.7	P/P	50 - 170
2243931	Dacthal	101	89.2	P/P	50 - 170
2243931	DDD-p,p'	80.7	64.4	P/P	50 - 170
2243931	DDE-p,p'	77.0	61.4	P/P	50 - 170
2243931	DDT-p,p'	72.7	63.1	P/P	50 - 170
2243931	Delta-BHC	112	98.0	P/P	50 - 170
2243931	Deltamethrin	40.2	49.7	F/F	50 - 170
2243931	Dichlobenil	47.5	49.2	P/P	40 - 170
2243931	Dicofol	93.7	83.4	P/P	50 - 170
2243931	Dieldrin	84.5	71.4	P/P	50 - 170
2243931	Endosulfan I	85.0	71.8	P/P	50 - 170
2243931	Endosulfan II	87.9	75.0	P/P	50 - 170
2243931	Endosulfan Sulfate	97.0	86.9	P/P	50 - 170
2243931	Endrin	85.0	69.8	P/P	50 - 170
2243931	Endrin Aldehyde	97.0	91.8	P/P	50 - 170
2243931	Endrin Ketone	97.0	90.6	P/P	50 - 170
2243931	Esfenvalerate	103	98.6	P/P	50 - 170
2243931	Ethalfuralin	76.3	71.9	P/P	50 - 170
2243931	Fenpropathrin	80.6	69.8	P/P	50 - 170
2243931	Gamma-BHC	94.7	88.9	P/P	50 - 170
2243931	Gamma-Chlordane	83.9	69.5	P/P	50 - 170
2243931	Heptachlor	62.8	57.1	P/P	50 - 170
2243931	Heptachlor Epoxide	92.1	78.2	P/P	50 - 170
2243931	Hexachlorobenzene	61.7	56.7	P/P	50 - 170
2243931	Kepone	107	90.3	P/P	50 - 170
2243931	Lambda-Cyhalothrin	111	110	P/P	50 - 170
2243931	Methoxychlor	88.9	92.6	P/P	50 - 170
2243931	MGK-264	114	107	P/P	50 - 170
2243931	Mirex	137	106	P/P	50 - 170

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8270E

Batch ID: P397459

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2243931	Permethrin	88.4	80.4	P/P	50 - 170
2243931	Phenothrin	70.3	59.7	P/P	30 - 170
2243931	Piperonyl Butoxide	96.4	90.3	P/P	50 - 170
2243931	Prallethrin	76.0	66.5	P/P	40 - 170
2243931	Tau-Fluvalinate	71.9	66.7	P/P	40 - 170
2243931	Tetramethrin	78.3	92.7	P/P	40 - 170
2243931	Trans-Nonachlor	82.4	66.6	P/P	50 - 170
2243931	Triclosan Methyl	88.0	73.6	P/P	50 - 170
2243931	Trifluralin	76.0	69.8	P/P	50 - 170

Reference Method: EPA 8276

Batch ID: P397459

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2243496	Chlordane	86.5	84.8	P/P	47 - 128
2243496	Toxaphene	77.2	72.9	P/P	11 - 163

Quality Assurance Report

Precision

Reference Method: EPA 8270E

Batch ID: P397411

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2242785	Acetochlor	12.5	Spike	P	0 - 30
2242785	Alachlor	21.8	Spike	P	0 - 30
2242785	Ametryn	5.28	Spike	P	0 - 30
2242785	Atrazine	3.54	Spike	P	0 - 30
2242785	Atrazine Desethyl	12.1	Spike	P	0 - 30
2242785	Azinphos Methyl	13.3	Spike	P	0 - 30
2242785	Azoxystrobin	4.94	Spike	P	0 - 30
2242785	Bromacil	3.80	Spike	P	0 - 30
2242785	Butylate	3.59	Spike	P	0 - 30
2242785	Caffeine	6.36	Spike	P	0 - 30
2242785	Carbophenothion	5.04	Spike	P	0 - 30
2242785	Carfentrazone Ethyl	10.8	Spike	P	0 - 30
2242785	Chlorpyrifos Ethyl	26.3	Spike	P	0 - 30
2242785	Chlorpyrifos Methyl	15.9	Spike	P	0 - 30
2242785	Cyanazine	7.28	Spike	P	0 - 30
2242785	Demeton	4.30	Spike	P	0 - 30
2242785	Diazinon	15.7	Spike	P	0 - 30
2242785	Difenoconazole	21.2	Spike	P	0 - 30
2242785	Dimethenamid	7.50	Spike	P	0 - 30
2242785	Disulfoton	20.0	Spike	P	0 - 30
2242785	Dithiopyr	11.3	Spike	P	0 - 30
2242785	EPTC	8.51	Spike	P	0 - 30
2242785	Ethion	11.9	Spike	P	0 - 30
2242785	Ethoprop	13.9	Spike	P	0 - 30
2242785	Fenamiphos	11.7	Spike	P	0 - 30
2242785	Fenbuconazole	24.7	Spike	P	0 - 30
2242785	Fipronil	8.76	Spike	P	0 - 30
2242785	Fipronil Desulfinyl	6.42	Spike	P	0 - 30
2242785	Fipronil Sulfide	8.54	Spike	P	0 - 30
2242785	Fipronil Sulfone	12.8	Spike	P	0 - 30
2242785	Fluazifop-P-butyl	10.5	Spike	P	0 - 30
2242785	Fludioxonil	21.1	Spike	P	0 - 30
2242785	Flumioxazin	24.6	Spike	P	0 - 30
2242785	Flutolanil	2.16	Spike	P	0 - 30
2242785	Fluxapyroxad	0.158	Spike	P	0 - 30
2242785	Fonofos	4.80	Spike	P	0 - 30
2242785	Hexazinone	4.80	Spike	P	0 - 30
2242785	Imazalil	0.0335	Spike	P	0 - 30
2242785	Iprodione	5.28	Spike	P	0 - 30
2242785	Malathion	8.16	Spike	P	0 - 30
2242785	Metalaxyl	16.1	Spike	P	0 - 30
2242785	Metolachlor	10.0	Spike	P	0 - 30
2242785	Metribuzin	25.4	Spike	P	0 - 30
2242785	Mevinphos	13.7	Spike	P	0 - 30
2242785	Molinate	10.9	Spike	P	0 - 30
2242785	Myclobutanil	1.77	Spike	P	0 - 30
2242785	Naled	7.44	Spike	P	0 - 30
2242785	Norflurazon	21.4	Spike	P	0 - 30
2242785	Oxadiazon	17.4	Spike	P	0 - 30
2242785	Oxyfluorfen	18.6	Spike	P	0 - 30
2242785	Parathion Ethyl	10.6	Spike	P	0 - 30

Quality Assurance Report

Precision

Reference Method: EPA 8270E

Batch ID: P397411

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2242785	Parathion Methyl	15.5	Spike	P	0 - 30
2242785	Pendimethalin	16.2	Spike	P	0 - 30
2242785	Phorate	28.9	Spike	P	0 - 30
2242785	Prodiamine	10.7	Spike	P	0 - 30
2242785	Prometon	11.2	Spike	P	0 - 30
2242785	Prometryn	14.2	Spike	P	0 - 30
2242785	Pronamide	7.34	Spike	P	0 - 30
2242785	Propiconazole	21.7	Spike	P	0 - 30
2242785	Pyriproxyfen	2.53	Spike	P	0 - 30
2242785	Simazine	20.1	Spike	P	0 - 30
2242785	Sulfentrazone	8.57	Spike	P	0 - 30
2242785	Tebuconazole	13.5	Spike	P	0 - 30
2242785	Terbufos	12.7	Spike	P	0 - 30
2242785	Terbuthylazine	6.00	Spike	P	0 - 30
LFB	Acetochlor	5.45	LCS	P	0 - 30
LFB	Alachlor	2.24	LCS	P	0 - 30
LFB	Ametryn	10.5	LCS	P	0 - 30
LFB	Atrazine	0.777	LCS	P	0 - 30
LFB	Atrazine Desethyl	2.35	LCS	P	0 - 30
LFB	Azinphos Methyl	4.83	LCS	P	0 - 30
LFB	Azoxystrobin	14.2	LCS	P	0 - 30
LFB	Bromacil	6.52	LCS	P	0 - 30
LFB	Butylate	11.6	LCS	P	0 - 30
LFB	Caffeine	3.45	LCS	P	0 - 30
LFB	Carbophenothion	6.62	LCS	P	0 - 30
LFB	Carfentrazone Ethyl	5.57	LCS	P	0 - 30
LFB	Chlorpyrifos Ethyl	2.86	LCS	P	0 - 30
LFB	Chlorpyrifos Methyl	1.13	LCS	P	0 - 30
LFB	Cyanazine	1.79	LCS	P	0 - 30
LFB	Demeton	6.62	LCS	P	0 - 30
LFB	Diazinon	4.31	LCS	P	0 - 30
LFB	Difenoconazole	5.20	LCS	P	0 - 30
LFB	Dimethenamid	5.43	LCS	P	0 - 30
LFB	Disulfoton	0.226	LCS	P	0 - 30
LFB	Dithiopyr	6.66	LCS	P	0 - 30
LFB	EPTC	4.11	LCS	P	0 - 30
LFB	Ethion	4.38	LCS	P	0 - 30
LFB	Ethoprop	3.95	LCS	P	0 - 30
LFB	Fenamiphos	4.25	LCS	P	0 - 30
LFB	Fenbuconazole	0.886	LCS	P	0 - 30
LFB	Fipronil	0.886	LCS	P	0 - 30
LFB	Fipronil Desulfinyl	1.85	LCS	P	0 - 30
LFB	Fipronil Sulfide	1.00	LCS	P	0 - 30
LFB	Fipronil Sulfone	3.23	LCS	P	0 - 30
LFB	Fluazifop-P-butyl	7.59	LCS	P	0 - 30
LFB	Fludioxonil	6.22	LCS	P	0 - 30
LFB	Flumioxazin	36.7	LCS	F	0 - 30
LFB	Flutolanil	2.55	LCS	P	0 - 30
LFB	Fluxapyroxad	3.42	LCS	P	0 - 30
LFB	Fonofos	4.91	LCS	P	0 - 30
LFB	Hexazinone	2.78	LCS	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8270E

Batch ID: P397411

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
LFB	Imazalil	13.3	LCS	P	0 - 30
LFB	Iprodione	15.0	LCS	P	0 - 30
LFB	Malathion	0.293	LCS	P	0 - 30
LFB	Metalaxyl	2.90	LCS	P	0 - 30
LFB	Metolachlor	6.60	LCS	P	0 - 30
LFB	Metribuzin	10.0	LCS	P	0 - 30
LFB	Mevinphos	3.73	LCS	P	0 - 30
LFB	Molinate	7.46	LCS	P	0 - 30
LFB	Myclobutanil	1.41	LCS	P	0 - 30
LFB	Naled	7.91	LCS	P	0 - 30
LFB	Norflurazon	0.512	LCS	P	0 - 30
LFB	Oxadiazon	1.08	LCS	P	0 - 30
LFB	Oxyfluorfen	1.90	LCS	P	0 - 30
LFB	Parathion Ethyl	8.73	LCS	P	0 - 30
LFB	Parathion Methyl	4.42	LCS	P	0 - 30
LFB	Pendimethalin	3.18	LCS	P	0 - 30
LFB	Phorate	0.601	LCS	P	0 - 30
LFB	Prodiamine	52.7	LCS	F	0 - 30
LFB	Prometon	3.50	LCS	P	0 - 30
LFB	Prometryn	3.15	LCS	P	0 - 30
LFB	Pronamide	2.21	LCS	P	0 - 30
LFB	Propiconazole	5.44	LCS	P	0 - 30
LFB	Pyriproxyfen	1.53	LCS	P	0 - 30
LFB	Simazine	2.33	LCS	P	0 - 30
LFB	Sulfentrazone	25.1	LCS	P	0 - 30
LFB	Tebuconazole	6.47	LCS	P	0 - 30
LFB	Terbufos	3.43	LCS	P	0 - 30
LFB	Terbutylazine	4.27	LCS	P	0 - 30

Reference Method: EPA 8270E

Batch ID: P397459

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2243931	Aldrin	1.19	Spike	P	0 - 30
2243931	Alpha-BHC	5.42	Spike	P	0 - 30
2243931	Alpha-Chlordane	18.7	Spike	P	0 - 30
2243931	Beta-BHC	8.66	Spike	P	0 - 30
2243931	Beta-Cyfluthrin	9.44	Spike	P	0 - 30
2243931	Bifenthrin	4.32	Spike	P	0 - 30
2243931	Chlorothalonil	51.6	Spike	F	0 - 50
2243931	Cis-Nonachlor	28.6	Spike	P	0 - 30
2243931	Cypermethrin	9.36	Spike	P	0 - 30
2243931	Dacthal	12.2	Spike	P	0 - 30
2243931	DDD-p,p'	22.4	Spike	P	0 - 30
2243931	DDE-p,p'	22.5	Spike	P	0 - 30
2243931	DDT-p,p'	14.1	Spike	P	0 - 30
2243931	Delta-BHC	13.6	Spike	P	0 - 30
2243931	Deltamethrin	21.3	Spike	P	0 - 30
2243931	Dichlobenil	3.48	Spike	P	0 - 30
2243931	Dicofol	11.7	Spike	P	0 - 30

Quality Assurance Report

Precision

Reference Method: EPA 8270E

Batch ID: P397459

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2243931	Dieldrin	16.8	Spike	P	0 - 30
2243931	Endosulfan I	16.9	Spike	P	0 - 30
2243931	Endosulfan II	15.8	Spike	P	0 - 30
2243931	Endosulfan Sulfate	11.0	Spike	P	0 - 30
2243931	Endrin	19.6	Spike	P	0 - 30
2243931	Endrin Aldehyde	5.50	Spike	P	0 - 30
2243931	Endrin Ketone	6.89	Spike	P	0 - 30
2243931	Esfenvalerate	4.71	Spike	P	0 - 30
2243931	Ethalfuralin	6.00	Spike	P	0 - 30
2243931	Fenpropathrin	14.3	Spike	P	0 - 30
2243931	Gamma-BHC	6.30	Spike	P	0 - 30
2243931	Gamma-Chlordane	18.7	Spike	P	0 - 30
2243931	Heptachlor	9.45	Spike	P	0 - 30
2243931	Heptachlor Epoxide	16.2	Spike	P	0 - 30
2243931	Hexachlorobenzene	8.44	Spike	P	0 - 30
2243931	Kepone	17.0	Spike	P	0 - 30
2243931	Lambda-Cyhalothrin	0.149	Spike	P	0 - 30
2243931	Methoxychlor	4.11	Spike	P	0 - 30
2243931	MGK-264	6.43	Spike	P	0 - 30
2243931	Mirex	25.8	Spike	P	0 - 30
2243931	Permethrin	9.56	Spike	P	0 - 30
2243931	Phenothrin	16.3	Spike	P	0 - 30
2243931	Piperonyl Butoxide	6.50	Spike	P	0 - 30
2243931	Prallethrin	13.3	Spike	P	0 - 30
2243931	Tau-Fluvalinate	7.51	Spike	P	0 - 30
2243931	Tetramethrin	16.8	Spike	P	0 - 30
2243931	Trans-Nonachlor	21.2	Spike	P	0 - 30
2243931	Triclosan Methyl	17.9	Spike	P	0 - 30
2243931	Trifluralin	8.46	Spike	P	0 - 30
LFB	Aldrin	9.68	LCS	P	0 - 30
LFB	Alpha-BHC	4.05	LCS	P	0 - 30
LFB	Alpha-Chlordane	15.7	LCS	P	0 - 30
LFB	Beta-BHC	8.88	LCS	P	0 - 30
LFB	Beta-Cyfluthrin	16.2	LCS	P	0 - 30
LFB	Bifenthrin	0.780	LCS	P	0 - 30
LFB	Chlorothalonil	0.492	LCS	P	0 - 50
LFB	Cis-Nonachlor	14.7	LCS	P	0 - 30
LFB	Cypermethrin	16.7	LCS	P	0 - 30
LFB	Dacthal	1.54	LCS	P	0 - 30
LFB	DDD-p,p'	10.1	LCS	P	0 - 30
LFB	DDE-p,p'	13.7	LCS	P	0 - 30
LFB	DDT-p,p'	4.25	LCS	P	0 - 30
LFB	Delta-BHC	4.11	LCS	P	0 - 30
LFB	Deltamethrin	13.3	LCS	P	0 - 30
LFB	Dichlobenil	12.3	LCS	P	0 - 30
LFB	Dicofol	1.86	LCS	P	0 - 30
LFB	Dieldrin	8.57	LCS	P	0 - 30
LFB	Endosulfan I	2.83	LCS	P	0 - 30
LFB	Endosulfan II	6.52	LCS	P	0 - 30
LFB	Endosulfan Sulfate	15.5	LCS	P	0 - 30
LFB	Endrin	6.80	LCS	P	0 - 30

Quality Assurance Report

Precision

Reference Method: EPA 8270E

Batch ID: P397459

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
LFB	Endrin Aldehyde	5.88	LCS	P	0 - 30
LFB	Endrin Ketone	8.47	LCS	P	0 - 30
LFB	Esfenvalerate	22.4	LCS	P	0 - 30
LFB	Ethalfuralin	0.412	LCS	P	0 - 30
LFB	Fenpropathrin	5.15	LCS	P	0 - 30
LFB	Gamma-BHC	7.86	LCS	P	0 - 30
LFB	Gamma-Chlordane	8.58	LCS	P	0 - 30
LFB	Heptachlor	5.23	LCS	P	0 - 30
LFB	Heptachlor Epoxide	1.36	LCS	P	0 - 30
LFB	Hexachlorobenzene	4.47	LCS	P	0 - 30
LFB	Kepone	108	LCS	F	0 - 30
LFB	Lambda-Cyhalothrin	24.6	LCS	P	0 - 30
LFB	Methoxychlor	13.7	LCS	P	0 - 30
LFB	MGK-264	16.6	LCS	P	0 - 30
LFB	Mirex	10.3	LCS	P	0 - 30
LFB	Permethrin	12.1	LCS	P	0 - 30
LFB	Phenothrin	2.80	LCS	P	0 - 30
LFB	Piperonyl Butoxide	2.38	LCS	P	0 - 30
LFB	Prallethrin	12.3	LCS	P	0 - 30
LFB	Tau-Fluvalinate	10.9	LCS	P	0 - 30
LFB	Tetramethrin	18.4	LCS	P	0 - 30
LFB	Trans-Nonachlor	11.0	LCS	P	0 - 30
LFB	Triclosan Methyl	9.93	LCS	P	0 - 30
LFB	Trifluralin	3.60	LCS	P	0 - 30

Reference Method: EPA 8276

Batch ID: P397459

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2243496	Chlordane	1.88	Spike	P	0 - 30
2243496	Toxaphene	5.67	Spike	P	0 - 30
LFB	Chlordane	1.57	LCS	P	0 - 30
LFB	Toxaphene	2.35	LCS	P	0 - 30

* Sample, spike and/or laboratory control sample precision (LCS) is reported.

Quality Assurance Report Surrogates

Lab Sample ID: 2243390
Field Sample ID: G2CE0242

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8270E	Decachlorobiphenyl	89.3	P	35 - 120
EPA 8270E	Tetrachloro-m-xylene	66.5	P	30 - 110
EPA 8276	Decachlorobiphenyl	69.1	P	29 - 92.0
EPA 8276	PCNB	91.4	P	43 - 134

Lab Sample ID: 2243391
Field Sample ID: G2CE0242

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8270E	Caffeine-d9	59.3	P	20 - 200
EPA 8270E	Simazine-d10	101	P	73 - 135
EPA 8270E	Terbufos-d10	89.6	P	58 - 130

Quality Assurance Report Calibration Verification

Reference Method: EPA 8270E
Run ID: A105254
Included Lab Sample IDs: 2243391

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acetochlor	94.8		P	80 - 120
Alachlor	100		P	80 - 120
Ametryn	102		P	80 - 120
Atrazine	96.4		P	80 - 120
Atrazine Desethyl	101		P	80 - 120
Azinphos Methyl	95.5		P	80 - 120
Azoxystrobin	96.0		P	80 - 120
Bromacil	98.7		P	80 - 120
Butylate	97.3		P	80 - 120
Caffeine	102		P	80 - 120
Carbophenothion	100		P	80 - 120
Carfentrazone Ethyl	87.1		P	80 - 120
Chlorpyrifos Ethyl	98.5		P	80 - 120
Chlorpyrifos Methyl	95.1		P	80 - 120
Cyanazine	97.0		P	80 - 120
Demeton	91.5		P	80 - 120
Diazinon	98.9		P	80 - 120
Difenoconazole	92.7		P	80 - 120
Dimethenamid	93.7		P	80 - 120
Disulfoton	91.4		P	80 - 120
Dithiopyr	97.1		P	80 - 120
EPTC	97.3		P	80 - 120
Ethion	88.5		P	80 - 120
Ethoprop	98.2		P	80 - 120
Fenamiphos	85.2		P	80 - 120
Fenbuconazole	95.2		P	80 - 120
Fipronil	92.1		P	80 - 120
Fipronil Desulfinyl	95.8		P	80 - 120
Fipronil Sulfide	93.2		P	80 - 120
Fipronil Sulfone	90.4		P	80 - 120
Fluazifop-P-butyl	89.7		P	80 - 120
Fludioxonil	93.0		P	80 - 120
Flumioxazin	92.0		P	80 - 120
Flutolanil	93.1		P	80 - 120
Fluxapyroxad	91.7		P	80 - 120
Fonofos	95.9		P	80 - 120
Hexazinone	96.8		P	80 - 120
Imazalil	102		P	80 - 120
Iprodione	94.3		P	80 - 120
Malathion	89.4		P	80 - 120
Metaxyl	104		P	80 - 120
Metolachlor	94.3		P	80 - 120
Metribuzin	90.7		P	80 - 120
Mevinphos	97.5		P	80 - 120
Molinate	101		P	80 - 120
Myclobutanil	93.2		P	80 - 120
Naled	101		P	80 - 120
Norflurazon	96.7		P	80 - 120
Oxadiazon	97.2		P	80 - 120
Oxyfluorfen	94.0		P	80 - 120
Parathion Ethyl	91.6		P	80 - 120

Quality Assurance Report Calibration Verification

Reference Method: EPA 8270E
Run ID: A105254
Included Lab Sample IDs: 2243391

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Parathion Methyl	100		P	80 - 120
Pendimethalin	97.6		P	80 - 120
Phorate	99.2		P	80 - 120
Prodiamine	95.4		P	80 - 120
Prometon	98.9		P	80 - 120
Prometryn	101		P	80 - 120
Pronamide	99.7		P	80 - 120
Propiconazole	96.5		P	80 - 120
Pyriproxyfen	89.4		P	80 - 120
Simazine	88.8		P	80 - 120
Sulfentrazone	82.7		P	80 - 120
Tebuconazole	93.3		P	80 - 120
Terbufos	92.8		P	80 - 120
Terbutylazine	100		P	80 - 120

Reference Method: EPA 8276
Run ID: A105262
Included Lab Sample IDs: 2243390

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

Reference Method: EPA 8270E
Run ID: A105305
Included Lab Sample IDs: 2243390

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Aldrin	97.5		P	80 - 120
Alpha-BHC	96.8		P	80 - 120
Alpha-Chlordane	99.2		P	80 - 120
Beta-BHC	101		P	80 - 120
Beta-Cyfluthrin	95.1		P	80 - 120
Bifenthrin	95.0		P	80 - 120
Chlorothalonil	92.7		P	80 - 120
Cis-Nonachlor	104		P	80 - 120
Cypermethrin	91.1		P	80 - 120
Dacthal	99.5		P	80 - 120
DDD-p,p'	101		P	80 - 120
DDE-p,p'	101		P	80 - 120
DDT-p,p'	99.9		P	80 - 120
Delta-BHC	96.8		P	80 - 120
Deltamethrin	91.0		P	80 - 120
Dichlobenil	107		P	80 - 120
Dicofol	104		P	80 - 120
Dieldrin	98.8		P	80 - 120
Endosulfan I	95.9		P	80 - 120
Endosulfan II	95.3		P	80 - 120
Endosulfan Sulfate	105		P	80 - 120
Endrin	98.4		P	80 - 120
Endrin Aldehyde	106		P	80 - 120

Quality Assurance Report Calibration Verification

Reference Method: EPA 8270E
Run ID: A105305
Included Lab Sample IDs: 2243390

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Endrin Ketone	101		P	80 - 120
Esfenvalerate	94.6		P	80 - 120
Ethalfuralin	96.6		P	80 - 120
Fenpropathrin	103		P	80 - 120
Gamma-BHC	97.6		P	80 - 120
Gamma-Chlordane	102		P	80 - 120
Heptachlor	98.1		P	80 - 120
Heptachlor Epoxide	99.6		P	80 - 120
Hexachlorobenzene	100		P	80 - 120
Kepone	102		P	80 - 120
Lambda-Cyhalothrin	95.6		P	80 - 120
Methoxychlor	95.9		P	80 - 120
MGK-264	99.5		P	80 - 120
Mirex	98.2		P	80 - 120
Permethrin	98.3		P	80 - 120
Phenothrin	98.3		P	80 - 120
Piperonyl Butoxide	95.6		P	80 - 120
Prallethrin	97.2		P	80 - 120
Tau-Fluvalinate	96.1		P	80 - 120
Tetramethrin	91.4		P	80 - 120
Trans-Nonachlor	105		P	80 - 120
Triclosan Methyl	102		P	80 - 120
Trifluralin	98.7		P	80 - 120

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

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery		MS % Recovery		Precision	
						LCS	MS
						SMP	
EPA 8270E	Acetochlor	92.7	87.8	99.0	87.4	5.45	12.5
	Alachlor	94.5	92.4	100	80.7	2.24	21.8
	Aldrin	65.4	72.1	62.8	63.5	9.68	1.19
	Alpha-BHC	86.1	89.7	89.6	84.8	4.05	5.42
	Alpha-Chlordane	92.3	78.9	81.6	67.6	15.7	18.7
	Ametryn	99.9	89.9	210	222	10.5	5.28
	Atrazine	97.8	97.1			0.777	3.54
	Atrazine Desethyl	77.5	75.7	50.2	59.9	2.35	12.1
	Azinphos Methyl	104	109	98.9	113	4.83	13.3
	Azoxystrobin	133	153			14.2	4.94
	Beta-BHC	88.0	96.1	108	98.8	8.88	8.66
	Beta-Cyfluthrin	122	143	99.9	90.9	16.2	9.44
	Bifenthrin	81.0	80.4	56.7	59.2	0.780	4.32
	Bromacil	74.7	79.7	87.5	90.9	6.52	3.80
	Butylate	55.3	49.3	40.0	41.4	11.6	3.59
	Caffeine	108	105	105	112	3.45	6.36
	Carbophenothion	98.8	106	77.5	81.5	6.62	5.04
	Carfentrazone Ethyl	87.9	92.9	68.9	76.8	5.57	10.8
	Chlorothalonil	97.9	98.4	68.3	40.3	0.492	51.6
	Chlorpyrifos Ethyl	94.7	92.1	98.1	75.3	2.86	26.3
	Chlorpyrifos Methyl	92.7	93.7	96.1	82.0	1.13	15.9
	Cis-Nonachlor	82.0	95.1	86.5	64.9	14.7	28.6
	Cyanazine	96.9	98.6	99.9	92.9	1.79	7.28
	Cypermethrin	141	119	95.3	86.7	16.7	9.36
	Dacthal	91.2	89.8	101	89.2	1.54	12.2
	DDD-p,p'	88.1	79.6	80.7	64.4	10.1	22.4
	DDE-p,p'	82.9	72.3	77.0	61.4	13.7	22.5
	DDT-p,p'	77.0	80.3	72.7	63.1	4.25	14.1
	Delta-BHC	99.4	95.4	112	98.0	4.11	13.6
	Deltamethrin	145	127	40.2	49.7	13.3	21.3
	Demeton	81.1	75.9	86.4	82.8	6.62	4.30
	Diazinon	94.2	90.2	93.7	80.1	4.31	15.7
	Dichlobenil	44.4	50.2	47.5	49.2	12.3	3.48
	Dicofol	99.0	101	93.7	83.4	1.86	11.7
	Dieldrin	83.6	76.7	84.5	71.4	8.57	16.8
	Difenoconazole	125	131	132	107	5.20	21.2
	Dimethenamid	92.5	87.6	82.7	76.7	5.43	7.50
	Disulfoton	81.6	81.8	85.1	69.6	0.226	20.0
	Dithiopyr	83.5	89.2	84.3	75.3	6.66	11.3
	Endosulfan I	82.8	80.5	85.0	71.8	2.83	16.9
	Endosulfan II	78.4	83.7	87.9	75.0	6.52	15.8
	Endosulfan Sulfate	102	87.5	97.0	86.9	15.5	11.0
	Endrin	85.1	79.5	85.0	69.8	6.80	19.6
	Endrin Aldehyde	96.8	91.3	97.0	91.8	5.88	5.50
	Endrin Ketone	93.9	86.2	97.0	90.6	8.47	6.89
	EPTC	51.9	49.8	53.3	48.9	4.11	8.51
	Esfenvalerate	181	145	103	98.6	22.4	4.71
	Ethalfuralin	83.1	83.4	76.3	71.9	0.412	6.00
	Ethion	78.2	74.8	64.8	73.0	4.38	11.9
	Ethoprop	83.6	80.4	102	88.7	3.95	13.9
	Fenamiphos	91.7	95.7	90.1	80.1	4.25	11.7
	Fenbuconazole	97.9	98.8	105	82.2	0.886	24.7
	Fenpropathrin	96.5	91.6	80.6	69.8	5.15	14.3
	Fipronil	91.2	90.4	91.7	84.0	0.886	8.76

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery		MS % Recovery		Precision	
						LCS	MS
						SMP	
EPA 8270E	Fipronil Desulfinyl	89.9	88.3	78.5	73.3	1.85	6.42
	Fipronil Sulfide	82.6	83.5	81.9	72.5	1.00	8.54
	Fipronil Sulfone	82.3	85.0	81.0	69.7	3.23	12.8
	Fluazifop-P-butyl	90.6	97.7	83.2	74.9	7.59	10.5
	Fludioxonil	87.6	93.2	101	81.7	6.22	21.1
	Flumioxazin	112	77.2	152	119	36.7	24.6
	Flutolanil	87.2	85.0	63.5	61.9	2.55	2.16
	Fluxapyroxad	86.1	89.0	81.6	81.7	3.42	0.158
	Fonofos	88.2	84.0	88.3	84.2	4.91	4.80
	Gamma-BHC	88.6	95.8	94.7	88.9	7.86	6.30
	Gamma-Chlordane	89.7	82.3	83.9	69.5	8.58	18.7
	Heptachlor	73.0	69.3	62.8	57.1	5.23	9.45
	Heptachlor Epoxide	88.8	87.6	92.1	78.2	1.36	16.2
	Hexachlorobenzene	71.6	74.9	61.7	56.7	4.47	8.44
	Hexazinone	92.3	89.8	93.2	88.9	2.78	4.80
	Imazalil	101	116	67.2	67.2	13.3	0.0335
	Iprodione	72.7	62.5	80.0	75.9	15.0	5.28
	Kepone	106	31.6	107	90.3	108	17.0
	Lambda-Cyhalothrin	206	161	111	110	24.6	0.149
	Malathion	97.0	97.3	97.7	90.0	0.293	8.16
	Metalaxyl	93.3	90.6	91.4	77.8	2.90	16.1
	Methoxychlor	105	91.9	88.9	92.6	13.7	4.11
	Metolachlor	90.4	84.6	82.2	74.4	6.60	10.0
	Metribuzin	88.4	97.8	126	97.6	10.0	25.4
	Mevinphos	81.4	78.4	100	87.4	3.73	13.7
	MGK-264	90.9	107	114	107	16.6	6.43
	Mirex	140	155	137	106	10.3	25.8
	Molinate	64.6	60.0	71.3	63.9	7.46	10.9
	Myclobutanil	87.4	88.7			1.41	1.77
	Naled	40.7	37.6	48.6	45.1	7.91	7.44
	Norflurazon	96.6	97.1	75.6	93.7	0.512	21.4
	Oxadiazon	94.6	95.7	52.3	64.2	1.08	17.4
	Oxyfluorfen	106	104	81.0	67.2	1.90	18.6
	Parathion Ethyl	83.8	91.5	96.7	107	8.73	10.6
	Parathion Methyl	94.9	99.2	109	128	4.42	15.5
	Pendimethalin	94.7	97.8	99.6	117	3.18	16.2
	Permethrin	120	135	88.4	80.4	12.1	9.56
	Phenothrin	69.9	71.9	70.3	59.7	2.80	16.3
	Phorate	79.2	79.7	80.4	108	0.601	28.9
	Piperonyl Butoxide	94.2	96.5	96.4	90.3	2.38	6.50
	Prallethrin	59.1	66.8	76.0	66.5	12.3	13.3
	Prodiamine	55.2	94.7	49.7	55.3	52.7	10.7
	Prometon	91.3	88.1	82.5	93.7	3.50	11.2
	Prometryn	90.5	93.4	70.7	81.5	3.15	14.2
	Pronamide	92.9	95.0	82.8	89.2	2.21	7.34
	Propiconazole	88.9	93.8	58.6	78.1	5.44	21.7
	Pyriproxyfen	83.9	85.2	68.1	69.9	1.53	2.53
	Simazine	92.6	94.8	106	130	2.33	20.1
	Sulfentrazone	44.9	34.9	73.1	84.3	25.1	8.57
	Tau-Fluvalinate	88.0	98.2	71.9	66.7	10.9	7.51
	Tebuconazole	68.1	63.8	58.5	39.9	6.47	13.5
	Terbufos	87.3	84.4	80.6	91.5	3.43	12.7
	Terbutylazine	98.0	93.9	86.6	91.9	4.27	6.00
	Tetramethrin	80.9	67.3	78.3	92.7	18.4	16.8

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery		MS % Recovery		Precision	
						LCS	MS
EPA 8270E	Trans-Nonachlor	80.9	90.3	82.4	66.6	11.0	21.2
	Triclosan Methyl	80.9	89.3	88.0	73.6	9.93	17.9
	Trifluralin	82.1	79.2	76.0	69.8	3.60	8.46
EPA 8276	Chlordane	96.4	94.9	86.5	84.8	1.57	1.88
	Toxaphene	79.3	81.1	77.2	72.9	2.35	5.67

Reference Method Descriptions

Method	Description	Associated Samples
EPA 8270E	Organochlorine pesticides, pyrethroids and tracers in water matrices by GC/MS/MS	2243390
EPA 8270E	Organonitrogen and phosphorus pesticides in water matrices by GC/MS/MS	2243391
EPA 8276	Organochlorine pesticides in water matrices by GC/MS with Negative Chemical Ionization	2243390

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
EPA 8270E	04/28/2021	04/30/2021 08:25	Chiran X. Ghimire	05/03/2021 21:43	Michael Poppell	2243391
	04/28/2021	05/03/2021 08:00	Fe-Val Siddell	05/08/2021 21:48	Vandana T. Nagar	2243390
EPA 8276	04/28/2021	05/03/2021 08:00	Fe-Val Siddell	05/08/2021 04:45	Arthur Maknenko	2243390