

Chemical Analysis Report

CEN-DIST-2021-05-27-01

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-2021-05-17-31**

Customer: **CEN-DIST**

Project ID: **SMP**

Send Reports to:

FL Dept. of Environmental Protection
FL Dept. of Environmental Protection
3319 Maguire Blvd., Suite 232
Orlando, FL 32803-3767
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Certified by: Colin Wright, Program Administrator

Date Certified: 18-JUN-2021 09:25

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

Case Narrative

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

Results for the following analytical 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: 05/26/2021 11:17

Field ID: G2CE0242

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2250683	EPA 8270E	Aldrin	0.75	U	ng/L	P398912	RPD
		Alpha-BHC	0.11	U	ng/L	P398912	
		Alpha-Chlordane	0.23	U	ng/L	P398912	
		Beta-BHC	0.11	U	ng/L	P398912	
		Beta-Cyfluthrin**	1.4	U	ng/L	P398912	RPD
		Bifenthrin**	0.57	U	ng/L	P398912	
		Chlorothalonil	0.57	U	ng/L	P398912	
		Cis-Nonachlor**	0.23	U	ng/L	P398912	
		Cypermethrin	1.7	U	ng/L	P398912	RPD
		Dacthal**	0.17	U	ng/L	P398912	
		DDD-p,p'	0.29	U	ng/L	P398912	
		DDE-p,p'	0.23	U	ng/L	P398912	
		DDT-p,p'	0.29	U	ng/L	P398912	
		Delta-BHC	0.46	U	ng/L	P398912	
		Deltamethrin**	1.4	UJ	ng/L	P398912	LCS, RPD
		Dichlobenil**	0.11	U	ng/L	P398912	
		Dicofol	1.4	U	ng/L	P398912	
		Dieldrin	1.4	I	ng/L	P398912	
		Endosulfan I	0.46	U	ng/L	P398912	
		Endosulfan II	0.46	U	ng/L	P398912	
		Endosulfan Sulfate	0.34	U	ng/L	P398912	
		Endrin	0.46	U	ng/L	P398912	
		Endrin Aldehyde	0.86	U	ng/L	P398912	
		Endrin Ketone	0.46	U	ng/L	P398912	
		Esfenvalerate**	0.86	U	ng/L	P398912	RPD
		Ethalfuralin**	0.17	U	ng/L	P398912	
		Fenpropathrin**	0.29	U	ng/L	P398912	
		Gamma-BHC	0.14	U	ng/L	P398912	
		Gamma-Chlordane	0.23	U	ng/L	P398912	
		Heptachlor	0.23	U	ng/L	P398912	
		Heptachlor Epoxide	0.29	U	ng/L	P398912	
		Hexachlorobenzene	1.1	U	ng/L	P398912	
		Kepone**	30		ng/L	P398912	
		Lambda-Cyhalothrin**	0.86	U	ng/L	P398912	RPD
		Methoxychlor	0.34	U	ng/L	P398912	
		MGK-264**	0.23	U	ng/L	P398912	RPD
		Mirex	0.34	U	ng/L	P398912	
		Permethrin	1.8	U	ng/L	P398912	
		Phenothrin**	1.0	U	ng/L	P398912	RPD
		Piperonyl Butoxide**	0.17	U	ng/L	P398912	
		Prallethrin**	2.3	U	ng/L	P398912	
		Tau-Fluvalinate**	0.29	U	ng/L	P398912	RPD
		Tetramethrin**	0.86	U	ng/L	P398912	
		Trans-Nonachlor**	0.23	U	ng/L	P398912	

Field ID: G2CE0242

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2250683	EPA 8270E	Triclosan Methyl**	0.17	U	ng/L	P398912	
		Trifluralin	0.23	U	ng/L	P398912	
	EPA 8276	Chlordane	5.7	U	ng/L	P398912	
		Toxaphene	34	U	ng/L	P398912	
2250684	EPA 8270E	Acetochlor	0.26	U	ng/L	P398911	
		Alachlor	0.26	U	ng/L	P398911	
		Ametryn	0.62	U	ng/L	P398911	
		Atrazine	0.85	I	ng/L	P398911	
		Atrazine Desethyl	2.3	I	ng/L	P398911	RPD
		Azinphos Methyl	2.1	U	ng/L	P398911	MS, RPD
		Azoxystrobin**	0.52	U	ng/L	P398911	
		Bromacil	0.52	U	ng/L	P398911	
		Butylate	0.41	U	ng/L	P398911	
		Caffeine**	7.7	U	ng/L	P398911	
		Carbophenothion	0.52	U	ng/L	P398911	
		Carfentrazone Ethyl**	0.10	U	ng/L	P398911	
		Chlorpyrifos Ethyl	0.26	U	ng/L	P398911	
		Chlorpyrifos Methyl	0.052	U	ng/L	P398911	
		Cyanazine	3.4	U	ng/L	P398911	
		Demeton	1.5	U	ng/L	P398911	
		Diazinon	0.13	U	ng/L	P398911	
		Difenoconazole**	0.62	U	ng/L	P398911	
		Dimethenamid**	0.10	U	ng/L	P398911	
		Disulfoton	0.52	U	ng/L	P398911	
		Dithiopyr**	0.18	U	ng/L	P398911	
		EPTC	1.3	U	ng/L	P398911	
		Ethion	0.15	U	ng/L	P398911	
		Ethoprop	0.10	U	ng/L	P398911	
		Fenamiphos	0.52	U	ng/L	P398911	
		Fenbuconazole**	0.13	U	ng/L	P398911	
		Fipronil	0.26	U	ng/L	P398911	
		Fipronil Desulfinyl**	0.13	U	ng/L	P398911	
		Fipronil Sulfide	0.15	U	ng/L	P398911	
		Fipronil Sulfone	0.56	I	ng/L	P398911	
		Fluazifop-P-butyl**	0.10	U	ng/L	P398911	
		Fludioxonil**	0.13	U	ng/L	P398911	
		Flumioxazin**	1.8	U	ng/L	P398911	
		Flutolanil**	0.10	U	ng/L	P398911	
		Fluxapyroxad**	0.10	U	ng/L	P398911	
		Fonofos	0.21	U	ng/L	P398911	
		Hexazinone	0.52	U	ng/L	P398911	
		Imazalil**	0.77	U	ng/L	P398911	
		Iprodione**	0.62	U	ng/L	P398911	
		Malathion	0.36	U	ng/L	P398911	
		Metalaxyl	0.77	U	ng/L	P398911	

Field ID: G2CE0242

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2250684	EPA 8270E	Metolachlor	0.36	U	ng/L	P398911	LCS
		Metribuzin	3.4	U	ng/L	P398911	
		Mevinphos	1.1	U	ng/L	P398911	
		Molinate	0.31	U	ng/L	P398911	
		Myclobutanil**	0.26	U	ng/L	P398911	
		Naled**	1.5	UJ	ng/L	P398911	
		Norflurazon	0.52	U	ng/L	P398911	
		Oxadiazon	0.31	U	ng/L	P398911	
		Oxyfluorfen**	0.15	U	ng/L	P398911	
		Parathion Ethyl	0.26	U	ng/L	P398911	
		Parathion Methyl	0.57	U	ng/L	P398911	
		Pendimethalin	1.0	U	ng/L	P398911	
		Phorate	0.54	U	ng/L	P398911	
		Prodiamine**	0.18	U	ng/L	P398911	
		Prometon	0.93	U	ng/L	P398911	
		Prometryn	0.21	U	ng/L	P398911	
		Pronamide**	0.15	U	ng/L	P398911	
		Propiconazole**	0.52	U	ng/L	P398911	RPD
		Pyriproxyfen**	0.13	U	ng/L	P398911	
		Simazine	0.52	U	ng/L	P398911	
		Sulfentrazone**	29		ng/L	P398911	
		Tebuconazole**	0.52	U	ng/L	P398911	
		Terbufos	0.10	U	ng/L	P398911	
		Terbuthylazine	0.44	U	ng/L	P398911	

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: P398911

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: P398911

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
Metalaxyl	0.75	U	ng/L
Metalaxyl	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: P398911

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: P398912

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: P398912**

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: P398912**

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: P398911

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acetochlor	74.6	77.1	P/P	70 - 121
Alachlor	71.4	73.0	P/P	70 - 119
Ametryn	98.4	89.2	P/P	61 - 135
Atrazine	80.7	86.5	P/P	76 - 123
Atrazine Desethyl	78.6	84.4	P/P	35 - 140
Azinphos Methyl	99.7	89.8	P/P	57 - 163
Azoxystrobin	118	118	P/P	43 - 231
Bromacil	66.6	67.4	P/P	42 - 123
Butylate	45.4	52.0	P/P	34 - 92.0
Caffeine	101	113	P/P	70 - 130
Carbophenothion	70.3	65.8	P/P	61 - 121
Carfentrazone Ethyl	84.6	76.3	P/P	62 - 139
Chlorpyrifos Ethyl	69.3	67.4	P/P	67 - 121
Chlorpyrifos Methyl	72.1	73.1	P/P	67 - 120
Cyanazine	151	154	P/P	20 - 226
Demeton	62.2	80.3	P/P	35 - 125
Diazinon	82.7	85.5	P/P	70 - 122
Difenoconazole	110	100	P/P	56 - 186
Dimethenamid	76.1	78.1	P/P	67 - 119
Disulfoton	61.0	77.9	P/P	47 - 120
Dithiopyr	71.7	72.9	P/P	67 - 118
EPTC	44.3	53.5	P/P	33 - 90.0
Ethion	51.8	58.4	P/P	40 - 133
Ethoprop	83.4	101	P/P	61 - 121
Fenamiphos	86.6	81.3	P/P	31 - 139
Fenbuconazole	90.1	76.9	P/P	66 - 141
Fipronil	83.3	77.3	P/P	62 - 129
Fipronil Desulfinyl	76.9	76.1	P/P	59 - 126
Fipronil Sulfide	80.1	76.6	P/P	63 - 117
Fipronil Sulfone	68.8	68.5	P/P	57 - 117
Fluazifop-P-butyl	81.8	73.5	P/P	63 - 124
Fludioxonil	86.1	77.4	P/P	63 - 123
Flumioxazin	107	106	P/P	34 - 245
Flutolanil	85.8	80.4	P/P	56 - 131
Fluxapyroxad	77.1	68.9	P/P	57 - 117
Fonofos	76.7	90.9	P/P	61 - 116
Hexazinone	80.9	90.1	P/P	55 - 138
Imazalil	84.2	78.0	P/P	33 - 143
Iprodione	78.6	70.5	P/P	59 - 118
Malathion	75.0	77.9	P/P	62 - 138
Metalaxyl	80.6	81.9	P/P	24 - 147
Metolachlor	75.7	74.2	P/P	68 - 118
Metribuzin	88.6	91.0	P/P	20 - 239
Mevinphos	74.1	78.0	P/P	46 - 124
Molinate	57.6	76.7	P/P	46 - 100
Myclobutanil	83.0	74.7	P/P	32 - 149
Naled	30.4	30.7	F/F	32 - 95.0
Norflurazon	77.4	68.9	P/P	57 - 127
Oxadiazon	78.7	75.8	P/P	63 - 118
Oxyfluorfen	77.2	73.5	P/P	69 - 137
Parathion Ethyl	77.7	85.5	P/P	70 - 113
Parathion Methyl	91.6	102	P/P	71 - 130

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: EPA 8270E
Batch ID: P398911

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Pendimethalin	71.0	79.9	P/P	55 - 118
Phorate	74.8	78.3	P/P	46 - 125
Prodiamine	33.6	34.7	P/P	20 - 141
Prometon	80.1	87.5	P/P	54 - 122
Prometryn	85.3	85.5	P/P	66 - 124
Pronamide	84.2	88.5	P/P	79 - 122
Propiconazole	82.5	72.3	P/P	61 - 126
Pyriproxyfen	69.0	65.7	P/P	52 - 131
Simazine	80.4	89.6	P/P	75 - 128
Sulfentrazone	63.8	57.2	P/P	20 - 132
Tebuconazole	57.1	58.6	P/P	20 - 116
Terbufos	72.5	80.9	P/P	61 - 117
Terbuthylazine	79.7	83.1	P/P	74 - 116

Reference Method: EPA 8270E
Batch ID: P398912

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Aldrin	34.2	34.9	P/P	20 - 150
Alpha-BHC	78.8	86.5	P/P	50 - 150
Alpha-Chlordane	72.2	80.8	P/P	50 - 150
Beta-BHC	88.0	95.6	P/P	50 - 150
Beta-Cyfluthrin	120	146	P/P	50 - 150
Bifenthrin	76.5	98.3	P/P	40 - 150
Chlorothalonil	93.1	101	P/P	20 - 150
Cis-Nonachlor	75.7	78.3	P/P	50 - 150
Cypermethrin	109	131	P/P	50 - 150
Dacthal	79.0	85.8	P/P	50 - 150
DDD-p,p'	71.6	73.6	P/P	50 - 150
DDE-p,p'	71.1	79.4	P/P	50 - 150
DDT-p,p'	75.3	85.6	P/P	50 - 150
Delta-BHC	101	107	P/P	50 - 150
Deltamethrin	137	189	P/F	50 - 150
Dichlobenil	55.2	61.1	P/P	40 - 150
Dicofol	76.0	89.3	P/P	50 - 150
Dieldrin	76.6	82.9	P/P	50 - 150
Endosulfan I	74.3	80.2	P/P	50 - 150
Endosulfan II	82.7	89.1	P/P	50 - 150
Endosulfan Sulfate	69.3	72.1	P/P	50 - 150
Endrin	73.0	73.9	P/P	50 - 150
Endrin Aldehyde	73.8	77.4	P/P	50 - 150
Endrin Ketone	78.0	78.2	P/P	50 - 150
Esfenvalerate	128	168	P/P	50 - 180
Ethalfuralin	68.3	76.2	P/P	50 - 150
Fenpropathrin	88.0	97.6	P/P	50 - 150
Gamma-BHC	82.2	87.4	P/P	50 - 150
Gamma-Chlordane	71.6	78.9	P/P	50 - 150
Heptachlor	62.5	73.6	P/P	50 - 150
Heptachlor Epoxide	73.6	80.2	P/P	50 - 150
Hexachlorobenzene	62.9	72.0	P/P	50 - 150
Kepone	104	95.6	P/P	30 - 180
Lambda-Cyhalothrin	127	148	P/P	50 - 200

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: EPA 8270E
Batch ID: P398912

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Methoxychlor	83.0	101	P/P	50 - 150
MGK-264	57.9	48.3	P/P	30 - 150
Mirex	132	147	P/P	50 - 180
Permethrin	105	133	P/P	50 - 150
Phenothrin	47.0	45.9	P/P	20 - 150
Piperonyl Butoxide	84.5	86.1	P/P	50 - 150
Prallethrin	60.2	48.8	P/P	30 - 150
Tau-Fluvalinate	93.4	119	P/P	40 - 150
Tetramethrin	65.7	66.4	P/P	30 - 150
Trans-Nonachlor	73.9	81.0	P/P	50 - 150
Triclosan Methyl	78.6	84.5	P/P	50 - 150
Trifluralin	67.5	73.8	P/P	50 - 150

Reference Method: EPA 8276
Batch ID: P398912

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Chlordane	83.0	78.5	P/P	56 - 117
Toxaphene	90.8	88.7	P/P	45 - 116

Quality Assurance Report

Matrix Spike Accuracy

Reference Method: EPA 8270E

Batch ID: P398911

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2250788	Acetochlor	77.6	90.1	P/P	66 - 122
2250788	Alachlor	74.8	82.8	P/P	65 - 122
2250788	Azinphos Methyl	105	200	P/F	44 - 174
2250788	Azoxystrobin	125	138	P/P	10 - 268
2250788	Bromacil	68.0	90.3	P/P	31 - 145
2250788	Butylate	43.1	42.4	P/P	15 - 97.0
2250788	Caffeine	102	115	P/P	70 - 130
2250788	Carbophenothion	70.2	68.9	P/P	42 - 129
2250788	Carfentrazone Ethyl	83.8	88.7	P/P	62 - 145
2250788	Chlorpyrifos Ethyl	80.4	77.7	P/P	60 - 124
2250788	Chlorpyrifos Methyl	71.7	75.4	P/P	66 - 119
2250788	Cyanazine	146	175	P/P	17 - 225
2250788	Demeton	83.9	89.4	P/P	36 - 142
2250788	Diazinon	88.2	97.3	P/P	70 - 128
2250788	Difenoconazole	120	130	P/P	33 - 222
2250788	Dimethenamid	80.3	87.5	P/P	54 - 125
2250788	Disulfoton	75.1	72.7	P/P	49 - 133
2250788	Dithiopyr	78.2	83.3	P/P	55 - 123
2250788	EPTC	43.0	37.4	P/P	19 - 91.0
2250788	Ethion	58.7	66.2	P/P	13 - 143
2250788	Ethoprop	100	104	P/P	49 - 144
2250788	Fenamiphos	81.6	74.7	P/P	32 - 136
2250788	Fenbuconazole	96.3	104	P/P	73 - 148
2250788	Fipronil	85.4	92.2	P/P	57 - 129
2250788	Fipronil Desulfinyl	79.1	84.7	P/P	49 - 127
2250788	Fipronil Sulfide	79.0	78.5	P/P	44 - 127
2250788	Fipronil Sulfone	66.5	67.4	P/P	35 - 126
2250788	Fluazifop-P-butyl	86.2	87.7	P/P	67 - 129
2250788	Fludioxonil	81.1	90.6	P/P	61 - 126
2250788	Flumioxazin	144	164	P/P	38 - 279
2250788	Flutolanil	86.5	88.3	P/P	55 - 136
2250788	Fluxapyroxad	35.3	44.6	P/P	33 - 140
2250788	Fonofos	86.0	90.5	P/P	58 - 125
2250788	Imazalil	162	165	P/P	10 - 221
2250788	Iprodione	79.7	82.7	P/P	32 - 140
2250788	Malathion	81.7	82.8	P/P	52 - 138
2250788	Metalaxyl	83.4	88.1	P/P	46 - 134
2250788	Metolachlor	73.2	83.5	P/P	58 - 122
2250788	Metribuzin	102	109	P/P	16 - 272
2250788	Mevinphos	77.6	89.2	P/P	45 - 140
2250788	Molinate	68.1	67.9	P/P	41 - 103
2250788	Myclobutanil	83.0	90.0	P/P	60 - 134
2250788	Naled	30.1	28.6	P/P	20 - 113
2250788	Norflurazon	75.0	74.3	P/P	51 - 123
2250788	Oxadiazon	69.2	74.6	P/P	44 - 125
2250788	Oxyfluorfen	84.9	101	P/P	66 - 176
2250788	Parathion Ethyl	82.6	91.7	P/P	57 - 132
2250788	Parathion Methyl	94.3	99.5	P/P	59 - 156
2250788	Pendimethalin	85.2	93.3	P/P	59 - 129
2250788	Phorate	99.5	106	P/P	47 - 136
2250788	Prodiamine	46.9	50.2	P/P	10 - 159
2250788	Prometon	88.1	91.7	P/P	59 - 127

Quality Assurance Report

Matrix Spike Accuracy

Reference Method: EPA 8270E

Batch ID: P398911

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2250788	Prometryn	113	126	P/P	59 - 129
2250788	Pronamide	97.6	109	P/P	65 - 145
2250788	Propiconazole	77.2	65.7	P/P	28 - 165
2250788	Pyriproxyfen	70.3	162	P/P	21 - 180
2250788	Simazine	135	138	P/P	63 - 147
2250788	Sulfentrazone	65.3	73.8	P/P	32 - 136
2250788	Tebuconazole	60.6	68.2	P/P	10 - 117
2250788	Terbufos	84.6	91.2	P/P	61 - 131
2250788	Terbutylazine	87.6	96.2	P/P	62 - 126

Reference Method: EPA 8270E

Batch ID: P398912

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2250757	Aldrin	26.3	38.3	P/P	20 - 170
2250757	Alpha-BHC	73.5	81.9	P/P	50 - 170
2250757	Alpha-Chlordane	67.0	77.9	P/P	50 - 170
2250757	Beta-BHC	90.9	101	P/P	50 - 170
2250757	Beta-Cyfluthrin	94.4	138	P/P	50 - 170
2250757	Bifenthrin	64.9	79.9	P/P	40 - 170
2250757	Chlorothalonil	101	129	P/P	20 - 170
2250757	Cis-Nonachlor	65.9	82.4	P/P	50 - 170
2250757	Cypermethrin	86.7	118	P/P	50 - 170
2250757	Dacthal	71.1	85.3	P/P	50 - 170
2250757	DDD-p,p'	63.5	72.8	P/P	50 - 170
2250757	DDE-p,p'	64.1	75.3	P/P	50 - 170
2250757	DDT-p,p'	67.0	79.0	P/P	50 - 170
2250757	Delta-BHC	99.0	115	P/P	50 - 170
2250757	Deltamethrin	118	158	P/P	50 - 170
2250757	Dichlobenil	46.0	48.1	P/P	40 - 170
2250757	Dicofol	70.7	79.4	P/P	50 - 170
2250757	Dieldrin	70.4	82.1	P/P	50 - 170
2250757	Endosulfan I	66.5	79.0	P/P	50 - 170
2250757	Endosulfan II	70.3	92.3	P/P	50 - 170
2250757	Endosulfan Sulfate	66.5	81.4	P/P	50 - 170
2250757	Endrin	65.5	74.0	P/P	50 - 170
2250757	Endrin Aldehyde	64.9	74.6	P/P	50 - 170
2250757	Endrin Ketone	67.9	80.6	P/P	50 - 170
2250757	Esfenvalerate	99.6	148	P/P	50 - 180
2250757	Ethalfuralin	63.5	70.9	P/P	50 - 170
2250757	Fenpropathrin	71.2	90.4	P/P	50 - 170
2250757	Gamma-BHC	81.7	85.8	P/P	50 - 170
2250757	Gamma-Chlordane	63.8	75.3	P/P	50 - 170
2250757	Heptachlor	53.9	64.3	P/P	50 - 170
2250757	Heptachlor Epoxide	66.0	77.0	P/P	50 - 170
2250757	Hexachlorobenzene	58.0	65.7	P/P	50 - 170
2250757	Kepone	118	106	P/P	30 - 180
2250757	Lambda-Cyhalothrin	100	156	P/P	50 - 200
2250757	Methoxychlor	75.7	84.8	P/P	50 - 170
2250757	MGK-264	44.5	66.6	P/P	30 - 170
2250757	Mirex	121	144	P/P	50 - 180
2250757	Permethrin	86.1	107	P/P	50 - 170

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8270E

Batch ID: P398912

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2250757	Phenothrin	40.5	59.9	P/P	20 - 170
2250757	Piperonyl Butoxide	75.6	86.3	P/P	50 - 170
2250757	Prallethrin	54.2	64.1	P/P	30 - 170
2250757	Tau-Fluvalinate	75.9	104	P/P	40 - 170
2250757	Tetramethrin	53.6	70.0	P/P	30 - 170
2250757	Trans-Nonachlor	67.1	75.4	P/P	50 - 170
2250757	Triclosan Methyl	70.8	81.0	P/P	50 - 170
2250757	Trifluralin	65.0	72.0	P/P	50 - 170

Reference Method: EPA 8276

Batch ID: P398912

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2250763	Chlordane	103	83.9	P/P	47 - 128
2250763	Toxaphene	100	96.6	P/P	11 - 163

Quality Assurance Report

Precision

Reference Method: EPA 8270E

Batch ID: P398911

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2250788	Acetochlor	14.9	Spike	P	0 - 30
2250788	Alachlor	10.1	Spike	P	0 - 30
2250788	Ametryn	1.95	Spike	P	0 - 30
2250788	Atrazine	3.24	Spike	P	0 - 30
2250788	Atrazine Desethyl	34.8	Spike	F	0 - 30
2250788	Azinphos Methyl	61.9	Spike	F	0 - 30
2250788	Azoxystrobin	8.18	Spike	P	0 - 30
2250788	Bromacil	28.2	Spike	P	0 - 30
2250788	Butylate	1.75	Spike	P	0 - 30
2250788	Caffeine	12.1	Spike	P	0 - 30
2250788	Carbophenothion	1.91	Spike	P	0 - 30
2250788	Carfentrazone Ethyl	5.60	Spike	P	0 - 30
2250788	Chlorpyrifos Ethyl	3.39	Spike	P	0 - 30
2250788	Chlorpyrifos Methyl	5.14	Spike	P	0 - 30
2250788	Cyanazine	18.0	Spike	P	0 - 30
2250788	Demeton	6.33	Spike	P	0 - 30
2250788	Diazinon	9.83	Spike	P	0 - 30
2250788	Difenoconazole	7.56	Spike	P	0 - 30
2250788	Dimethenamid	8.54	Spike	P	0 - 30
2250788	Disulfoton	3.24	Spike	P	0 - 30
2250788	Dithiopyr	6.31	Spike	P	0 - 30
2250788	EPTC	14.0	Spike	P	0 - 30
2250788	Ethion	11.9	Spike	P	0 - 30
2250788	Ethoprop	4.10	Spike	P	0 - 30
2250788	Fenamiphos	8.82	Spike	P	0 - 30
2250788	Fenbuconazole	7.30	Spike	P	0 - 30
2250788	Fipronil	7.62	Spike	P	0 - 30
2250788	Fipronil Desulfinyl	6.81	Spike	P	0 - 30
2250788	Fipronil Sulfide	0.609	Spike	P	0 - 30
2250788	Fipronil Sulfone	1.28	Spike	P	0 - 30
2250788	Fluazifop-P-butyl	1.67	Spike	P	0 - 30
2250788	Fludioxonil	11.1	Spike	P	0 - 30
2250788	Flumioxazin	12.4	Spike	P	0 - 30
2250788	Flutolanil	2.06	Spike	P	0 - 30
2250788	Fluxapyroxad	4.85	Spike	P	0 - 30
2250788	Fonofos	5.13	Spike	P	0 - 30
2250788	Hexazinone	2.14	Spike	P	0 - 30
2250788	Imazalil	2.17	Spike	P	0 - 30
2250788	Iprodione	3.61	Spike	P	0 - 30
2250788	Malathion	1.31	Spike	P	0 - 30
2250788	Metalaxyl	5.50	Spike	P	0 - 30
2250788	Metolachlor	10.9	Spike	P	0 - 30
2250788	Metribuzin	2.66	Spike	P	0 - 30
2250788	Mevinphos	13.9	Spike	P	0 - 30
2250788	Molinate	0.230	Spike	P	0 - 30
2250788	Myclobutanil	8.08	Spike	P	0 - 30
2250788	Naled	5.20	Spike	P	0 - 30
2250788	Norflurazon	1.01	Spike	P	0 - 30
2250788	Oxadiazon	6.64	Spike	P	0 - 30
2250788	Oxyfluorfen	17.4	Spike	P	0 - 30
2250788	Parathion Ethyl	10.4	Spike	P	0 - 30

Quality Assurance Report

Precision

Reference Method: EPA 8270E

Batch ID: P398911

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2250788	Parathion Methyl	5.35	Spike	P	0 - 30
2250788	Pendimethalin	9.07	Spike	P	0 - 30
2250788	Phorate	6.65	Spike	P	0 - 30
2250788	Prodiamine	6.70	Spike	P	0 - 30
2250788	Prometon	3.99	Spike	P	0 - 30
2250788	Prometryn	10.5	Spike	P	0 - 30
2250788	Pronamide	11.4	Spike	P	0 - 30
2250788	Propiconazole	8.82	Spike	P	0 - 30
2250788	Pyriproxyfen	78.8	Spike	F	0 - 30
2250788	Simazine	2.32	Spike	P	0 - 30
2250788	Sulfentrazone	12.3	Spike	P	0 - 30
2250788	Tebuconazole	11.7	Spike	P	0 - 30
2250788	Terbufos	7.47	Spike	P	0 - 30
2250788	Terbuthylazine	9.30	Spike	P	0 - 30
LFB	Acetochlor	3.39	LCS	P	0 - 30
LFB	Alachlor	2.22	LCS	P	0 - 30
LFB	Ametryn	9.80	LCS	P	0 - 30
LFB	Atrazine	7.01	LCS	P	0 - 30
LFB	Atrazine Desethyl	7.13	LCS	P	0 - 30
LFB	Azinphos Methyl	10.4	LCS	P	0 - 30
LFB	Azoxystrobin	0.182	LCS	P	0 - 30
LFB	Bromacil	1.20	LCS	P	0 - 30
LFB	Butylate	13.6	LCS	P	0 - 30
LFB	Caffeine	10.7	LCS	P	0 - 30
LFB	Carbophenothion	6.59	LCS	P	0 - 30
LFB	Carfentrazone Ethyl	10.4	LCS	P	0 - 30
LFB	Chlorpyrifos Ethyl	2.83	LCS	P	0 - 30
LFB	Chlorpyrifos Methyl	1.41	LCS	P	0 - 30
LFB	Cyanazine	1.93	LCS	P	0 - 30
LFB	Demeton	25.4	LCS	P	0 - 30
LFB	Diazinon	3.33	LCS	P	0 - 30
LFB	Difenoconazole	8.88	LCS	P	0 - 30
LFB	Dimethenamid	2.69	LCS	P	0 - 30
LFB	Disulfoton	24.3	LCS	P	0 - 30
LFB	Dithiopyr	1.66	LCS	P	0 - 30
LFB	EPTC	18.8	LCS	P	0 - 30
LFB	Ethion	11.9	LCS	P	0 - 30
LFB	Ethoprop	19.4	LCS	P	0 - 30
LFB	Fenamiphos	6.35	LCS	P	0 - 30
LFB	Fenbuconazole	15.8	LCS	P	0 - 30
LFB	Fipronil	7.57	LCS	P	0 - 30
LFB	Fipronil Desulfinyl	1.05	LCS	P	0 - 30
LFB	Fipronil Sulfide	4.38	LCS	P	0 - 30
LFB	Fipronil Sulfone	0.426	LCS	P	0 - 30
LFB	Fluazifop-P-butyl	10.6	LCS	P	0 - 30
LFB	Fludioxonil	10.6	LCS	P	0 - 30
LFB	Flumioxazin	0.325	LCS	P	0 - 30
LFB	Flutolanil	6.44	LCS	P	0 - 30
LFB	Fluxapyroxad	11.2	LCS	P	0 - 30
LFB	Fonofos	17.0	LCS	P	0 - 30
LFB	Hexazinone	10.8	LCS	P	0 - 30

Quality Assurance Report

Precision

Reference Method: EPA 8270E

Batch ID: P398911

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
LFB	Imazalil	7.62	LCS	P	0 - 30
LFB	Iprodione	10.8	LCS	P	0 - 30
LFB	Malathion	3.69	LCS	P	0 - 30
LFB	Metalaxyl	1.60	LCS	P	0 - 30
LFB	Metolachlor	1.99	LCS	P	0 - 30
LFB	Metribuzin	2.66	LCS	P	0 - 30
LFB	Mevinphos	5.08	LCS	P	0 - 30
LFB	Molinate	28.5	LCS	P	0 - 30
LFB	Myclobutanil	10.5	LCS	P	0 - 30
LFB	Naled	0.825	LCS	P	0 - 30
LFB	Norflurazon	11.6	LCS	P	0 - 30
LFB	Oxadiazon	3.69	LCS	P	0 - 30
LFB	Oxyfluorfen	4.86	LCS	P	0 - 30
LFB	Parathion Ethyl	9.58	LCS	P	0 - 30
LFB	Parathion Methyl	10.5	LCS	P	0 - 30
LFB	Pendimethalin	11.8	LCS	P	0 - 30
LFB	Phorate	4.58	LCS	P	0 - 30
LFB	Prodiamine	3.43	LCS	P	0 - 30
LFB	Prometon	8.86	LCS	P	0 - 30
LFB	Prometryn	0.288	LCS	P	0 - 30
LFB	Pronamide	5.05	LCS	P	0 - 30
LFB	Propiconazole	13.2	LCS	P	0 - 30
LFB	Pyriproxyfen	4.87	LCS	P	0 - 30
LFB	Simazine	10.8	LCS	P	0 - 30
LFB	Sulfentrazone	11.0	LCS	P	0 - 30
LFB	Tebuconazole	2.64	LCS	P	0 - 30
LFB	Terbufos	11.0	LCS	P	0 - 30
LFB	Terbutylazine	4.18	LCS	P	0 - 30

Reference Method: EPA 8270E

Batch ID: P398912

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2250757	Aldrin	37.3	Spike	F	0 - 30
2250757	Alpha-BHC	10.8	Spike	P	0 - 30
2250757	Alpha-Chlordane	15.1	Spike	P	0 - 30
2250757	Beta-BHC	10.4	Spike	P	0 - 30
2250757	Beta-Cyfluthrin	37.3	Spike	F	0 - 30
2250757	Bifenthrin	20.8	Spike	P	0 - 30
2250757	Chlorothalonil	24.6	Spike	P	0 - 50
2250757	Cis-Nonachlor	22.2	Spike	P	0 - 30
2250757	Cypermethrin	30.9	Spike	F	0 - 30
2250757	Dacthal	18.1	Spike	P	0 - 30
2250757	DDD-p,p'	13.6	Spike	P	0 - 30
2250757	DDE-p,p'	16.2	Spike	P	0 - 30
2250757	DDT-p,p'	16.4	Spike	P	0 - 30
2250757	Delta-BHC	15.4	Spike	P	0 - 30
2250757	Deltamethrin	29.1	Spike	P	0 - 30
2250757	Dichlobenil	4.32	Spike	P	0 - 30
2250757	Dicofol	11.6	Spike	P	0 - 30

Quality Assurance Report

Precision

Reference Method: EPA 8270E

Batch ID: P398912

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2250757	Dieldrin	15.4	Spike	P	0 - 30
2250757	Endosulfan I	17.1	Spike	P	0 - 30
2250757	Endosulfan II	27.0	Spike	P	0 - 30
2250757	Endosulfan Sulfate	20.0	Spike	P	0 - 30
2250757	Endrin	12.1	Spike	P	0 - 30
2250757	Endrin Aldehyde	13.9	Spike	P	0 - 30
2250757	Endrin Ketone	17.1	Spike	P	0 - 30
2250757	Esfenvalerate	39.1	Spike	F	0 - 30
2250757	Ethalfuralin	10.9	Spike	P	0 - 30
2250757	Fenpropathrin	23.7	Spike	P	0 - 30
2250757	Gamma-BHC	4.97	Spike	P	0 - 30
2250757	Gamma-Chlordane	16.5	Spike	P	0 - 30
2250757	Heptachlor	17.5	Spike	P	0 - 30
2250757	Heptachlor Epoxide	15.4	Spike	P	0 - 30
2250757	Hexachlorobenzene	12.4	Spike	P	0 - 30
2250757	Kepone	10.7	Spike	P	0 - 30
2250757	Lambda-Cyhalothrin	43.2	Spike	F	0 - 30
2250757	Methoxychlor	11.2	Spike	P	0 - 30
2250757	MGK-264	39.7	Spike	F	0 - 30
2250757	Mirex	16.9	Spike	P	0 - 30
2250757	Permethrin	21.5	Spike	P	0 - 30
2250757	Phenothrin	38.7	Spike	F	0 - 30
2250757	Piperonyl Butoxide	13.2	Spike	P	0 - 30
2250757	Prallethrin	16.9	Spike	P	0 - 30
2250757	Tau-Fluvalinate	31.2	Spike	F	0 - 30
2250757	Tetramethrin	26.6	Spike	P	0 - 30
2250757	Trans-Nonachlor	11.7	Spike	P	0 - 30
2250757	Triclosan Methyl	13.4	Spike	P	0 - 30
2250757	Trifluralin	10.2	Spike	P	0 - 30
LFB	Aldrin	1.95	LCS	P	0 - 30
LFB	Alpha-BHC	9.38	LCS	P	0 - 30
LFB	Alpha-Chlordane	11.3	LCS	P	0 - 30
LFB	Beta-BHC	8.30	LCS	P	0 - 30
LFB	Beta-Cyfluthrin	19.3	LCS	P	0 - 30
LFB	Bifenthrin	24.9	LCS	P	0 - 30
LFB	Chlorothalonil	8.45	LCS	P	0 - 50
LFB	Cis-Nonachlor	3.38	LCS	P	0 - 30
LFB	Cypermethrin	18.2	LCS	P	0 - 30
LFB	Dacthal	8.31	LCS	P	0 - 30
LFB	DDD-p,p'	2.77	LCS	P	0 - 30
LFB	DDE-p,p'	11.1	LCS	P	0 - 30
LFB	DDT-p,p'	12.9	LCS	P	0 - 30
LFB	Delta-BHC	6.32	LCS	P	0 - 30
LFB	Deltamethrin	31.7	LCS	F	0 - 30
LFB	Dichlobenil	10.0	LCS	P	0 - 30
LFB	Dicofol	16.1	LCS	P	0 - 30
LFB	Dieldrin	7.84	LCS	P	0 - 30
LFB	Endosulfan I	7.68	LCS	P	0 - 30
LFB	Endosulfan II	7.48	LCS	P	0 - 30
LFB	Endosulfan Sulfate	3.93	LCS	P	0 - 30
LFB	Endrin	1.19	LCS	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8270E

Batch ID: P398912

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
LFB	Endrin Aldehyde	4.83	LCS	P	0 - 30
LFB	Endrin Ketone	0.299	LCS	P	0 - 30
LFB	Esfenvalerate	26.7	LCS	P	0 - 30
LFB	Ethalfuralin	10.9	LCS	P	0 - 30
LFB	Fenpropathrin	10.3	LCS	P	0 - 30
LFB	Gamma-BHC	6.10	LCS	P	0 - 30
LFB	Gamma-Chlordane	9.73	LCS	P	0 - 30
LFB	Heptachlor	16.4	LCS	P	0 - 30
LFB	Heptachlor Epoxide	8.52	LCS	P	0 - 30
LFB	Hexachlorobenzene	13.5	LCS	P	0 - 30
LFB	Kepone	8.85	LCS	P	0 - 30
LFB	Lambda-Cyhalothrin	15.7	LCS	P	0 - 30
LFB	Methoxychlor	19.7	LCS	P	0 - 30
LFB	MGK-264	18.1	LCS	P	0 - 30
LFB	Mirex	10.4	LCS	P	0 - 30
LFB	Permethrin	23.2	LCS	P	0 - 30
LFB	Phenothrin	2.42	LCS	P	0 - 30
LFB	Piperonyl Butoxide	1.92	LCS	P	0 - 30
LFB	Prallethrin	20.9	LCS	P	0 - 30
LFB	Tau-Fluvalinate	24.5	LCS	P	0 - 30
LFB	Tetramethrin	1.09	LCS	P	0 - 30
LFB	Trans-Nonachlor	9.06	LCS	P	0 - 30
LFB	Triclosan Methyl	7.17	LCS	P	0 - 30
LFB	Trifluralin	8.85	LCS	P	0 - 30

Reference Method: EPA 8276

Batch ID: P398912

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2250763	Chlordane	20.3	Spike	P	0 - 30
2250763	Toxaphene	3.82	Spike	P	0 - 30
LFB	Chlordane	5.54	LCS	P	0 - 30
LFB	Toxaphene	2.31	LCS	P	0 - 30

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

Quality Assurance Report Surrogates

Lab Sample ID: 2250683
Field Sample ID: G2CE0242

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8270E	Decachlorobiphenyl	74.2	P	35 - 120
EPA 8270E	Tetrachloro-m-xylene	52.6	P	30 - 110
EPA 8276	Decachlorobiphenyl	68.0	P	29 - 92.0
EPA 8276	PCNB	74.8	P	43 - 134

Lab Sample ID: 2250684
Field Sample ID: G2CE0242

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8270E	Caffeine-d9	57.1	P	20 - 200
EPA 8270E	Simazine-d10	97.1	P	73 - 135
EPA 8270E	Terbufos-d10	91.0	P	58 - 130

Quality Assurance Report Calibration Verification

Reference Method: EPA 8276
Run ID: A105941
Included Lab Sample IDs: 2250683

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chlordane	95.5		P	80 - 120
Toxaphene	105		P	80 - 120

Reference Method: EPA 8270E
Run ID: A105978
Included Lab Sample IDs: 2250683

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Aldrin	95.2		P	80 - 120
Alpha-BHC	97.6		P	80 - 120
Alpha-Chlordane	100		P	80 - 120
Beta-BHC	98.4		P	80 - 120
Beta-Cyfluthrin	95.4		P	80 - 120
Bifenthrin	100		P	80 - 120
Chlorothalonil	102		P	80 - 120
Cis-Nonachlor	91.8		P	80 - 120
Cypermethrin	92.0		P	80 - 120
Dacthal	99.2		P	80 - 120
DDD-p,p'	88.5		P	80 - 120
DDE-p,p'	96.9		P	80 - 120
DDT-p,p'	99.5		P	80 - 120
Delta-BHC	106		P	80 - 120
Deltamethrin	97.1		P	80 - 120
Dichlobenil	97.7		P	80 - 120
Dicofol	98.1		P	80 - 120
Dieldrin	103		P	80 - 120
Endosulfan I	98.8		P	80 - 120
Endosulfan II	94.8		P	80 - 120
Endosulfan Sulfate	89.8		P	80 - 120
Endrin	91.9		P	80 - 120
Endrin Aldehyde	90.2		P	80 - 120
Endrin Ketone	91.5		P	80 - 120
Esfenvalerate	93.8		P	80 - 120
Ethalfuralin	98.2		P	80 - 120
Fenpropathrin	97.5		P	80 - 120
Gamma-BHC	98.1		P	80 - 120
Gamma-Chlordane	97.1		P	80 - 120
Heptachlor	101		P	80 - 120
Heptachlor Epoxide	97.5		P	80 - 120
Hexachlorobenzene	99.9		P	80 - 120
Kepone	87.0		P	80 - 120
Lambda-Cyhalothrin	94.9		P	80 - 120
Methoxychlor	102		P	80 - 120
MGK-264	101		P	80 - 120
Mirex	94.0		P	80 - 120
Permethrin	93.6		P	80 - 120
Phenothrin	96.9		P	80 - 120
Piperonyl Butoxide	91.1		P	80 - 120
Prallethrin	89.5		P	80 - 120
Tau-Fluvalinate	92.5		P	80 - 120
Tetramethrin	100		P	80 - 120

Quality Assurance Report Calibration Verification

Reference Method: EPA 8270E
 Run ID: A105978
 Included Lab Sample IDs: 2250683

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Trans-Nonachlor	98.1		P	80 - 120
Triclosan Methyl	99.7		P	80 - 120
Trifluralin	95.7		P	80 - 120

Reference Method: EPA 8270E
 Run ID: A106055
 Included Lab Sample IDs: 2250684

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acetochlor	100		P	80 - 120
Alachlor	100		P	80 - 120
Ametryn	103		P	80 - 120
Atrazine	94.5		P	80 - 120
Atrazine Desethyl	113		P	80 - 120
Azinphos Methyl	97.6		P	80 - 120
Azoxystrobin	102		P	80 - 120
Bromacil	101		P	80 - 120
Butylate	96.3		P	80 - 120
Caffeine	107		P	80 - 120
Carbophenothion	99.2		P	80 - 120
Carfentrazone Ethyl	99.6		P	80 - 120
Chlorpyrifos Ethyl	95.1		P	80 - 120
Chlorpyrifos Methyl	99.6		P	80 - 120
Cyanazine	107		P	80 - 120
Demeton	91.6		P	80 - 120
Diazinon	98.8		P	80 - 120
Difenoconazole	106		P	80 - 120
Dimethenamid	102		P	80 - 120
Disulfoton	94.6		P	80 - 120
Dithiopyr	100		P	80 - 120
EPTC	98.5		P	80 - 120
Ethion	101		P	80 - 120
Ethoprop	101		P	80 - 120
Fenamiphos	98.6		P	80 - 120
Fenbuconazole	102		P	80 - 120
Fipronil	99.9		P	80 - 120
Fipronil Desulfinyl	98.6		P	80 - 120
Fipronil Sulfide	102		P	80 - 120
Fipronil Sulfone	104		P	80 - 120
Fluazifop-P-butyl	105		P	80 - 120
Fludioxonil	98.2		P	80 - 120
Flumioxazin	104		P	80 - 120
Flutolanil	97.4		P	80 - 120
Fluxapyroxad	98.8		P	80 - 120
Fonofos	94.2		P	80 - 120
Hexazinone	105		P	80 - 120
Imazalil	102		P	80 - 120
Iprodione	101		P	80 - 120
Malathion	98.6		P	80 - 120
Metalaxyl	102		P	80 - 120
Metolachlor	101		P	80 - 120

Quality Assurance Report Calibration Verification

Reference Method: EPA 8270E
Run ID: A106055
Included Lab Sample IDs: 2250684

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Metribuzin	97.8		P	80 - 120
Mevinphos	95.3		P	80 - 120
Molinate	101		P	80 - 120
Myclobutanil	97.0		P	80 - 120
Naled	98.7		P	80 - 120
Norflurazon	101		P	80 - 120
Oxadiazon	103		P	80 - 120
Oxyfluorfen	100		P	80 - 120
Parathion Ethyl	98.4		P	80 - 120
Parathion Methyl	97.1		P	80 - 120
Pendimethalin	96.9		P	80 - 120
Phorate	98.5		P	80 - 120
Prodiamine	102		P	80 - 120
Prometon	103		P	80 - 120
Prometryn	102		P	80 - 120
Pronamide	98.5		P	80 - 120
Propiconazole	101		P	80 - 120
Pyriproxyfen	102		P	80 - 120
Simazine	105		P	80 - 120
Sulfentrazone	98.9		P	80 - 120
Tebuconazole	101		P	80 - 120
Terbufos	95.5		P	80 - 120
Terbuthylazine	97.4		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	74.6	77.1	77.6	90.1	3.39	14.9
	Alachlor	71.4	73.0	74.8	82.8	2.22	10.1
	Aldrin	34.2	34.9	26.3	38.3	1.95	37.3
	Alpha-BHC	78.8	86.5	73.5	81.9	9.38	10.8
	Alpha-Chlordane	72.2	80.8	67.0	77.9	11.3	15.1
	Ametryn	98.4	89.2			9.80	1.95
	Atrazine	80.7	86.5			7.01	3.24
	Atrazine Desethyl	78.6	84.4			7.13	34.8
	Azinphos Methyl	99.7	89.8	105	200	10.4	61.9
	Azoxystrobin	118	118	125	138	0.182	8.18
	Beta-BHC	88.0	95.6	90.9	101	8.30	10.4
	Beta-Cyfluthrin	120	146	94.4	138	19.3	37.3
	Bifenthrin	76.5	98.3	64.9	79.9	24.9	20.8
	Bromacil	66.6	67.4	68.0	90.3	1.20	28.2
	Butylate	45.4	52.0	43.1	42.4	13.6	1.75
	Caffeine	101	113	102	115	10.7	12.1
	Carbophenothion	70.3	65.8	70.2	68.9	6.59	1.91
	Carfentrazone Ethyl	84.6	76.3	83.8	88.7	10.4	5.60
	Chlorothalonil	93.1	101	101	129	8.45	24.6
	Chlorpyrifos Ethyl	69.3	67.4	80.4	77.7	2.83	3.39
	Chlorpyrifos Methyl	72.1	73.1	71.7	75.4	1.41	5.14
	Cis-Nonachlor	75.7	78.3	65.9	82.4	3.38	22.2
	Cyanazine	151	154	146	175	1.93	18.0
	Cypermethrin	109	131	86.7	118	18.2	30.9
	Dacthal	79.0	85.8	71.1	85.3	8.31	18.1
	DDD-p,p'	71.6	73.6	63.5	72.8	2.77	13.6
	DDE-p,p'	71.1	79.4	64.1	75.3	11.1	16.2
	DDT-p,p'	75.3	85.6	67.0	79.0	12.9	16.4
	Delta-BHC	101	107	99.0	115	6.32	15.4
	Deltamethrin	137	189	118	158	31.7	29.1
	Demeton	62.2	80.3	83.9	89.4	25.4	6.33
	Diazinon	82.7	85.5	88.2	97.3	3.33	9.83
	Dichlobenil	55.2	61.1	46.0	48.1	10.0	4.32
	Dicofol	76.0	89.3	70.7	79.4	16.1	11.6
	Dieldrin	76.6	82.9	70.4	82.1	7.84	15.4
	Difenoconazole	110	100	120	130	8.88	7.56
	Dimethenamid	76.1	78.1	80.3	87.5	2.69	8.54
	Disulfoton	61.0	77.9	75.1	72.7	24.3	3.24
	Dithiopyr	71.7	72.9	78.2	83.3	1.66	6.31
	Endosulfan I	74.3	80.2	66.5	79.0	7.68	17.1
	Endosulfan II	82.7	89.1	70.3	92.3	7.48	27.0
	Endosulfan Sulfate	69.3	72.1	66.5	81.4	3.93	20.0
	Endrin	73.0	73.9	65.5	74.0	1.19	12.1
	Endrin Aldehyde	73.8	77.4	64.9	74.6	4.83	13.9
	Endrin Ketone	78.0	78.2	67.9	80.6	0.299	17.1
	EPTC	44.3	53.5	43.0	37.4	18.8	14.0
	Esfenvalerate	128	168	99.6	148	26.7	39.1
	Ethalfuralin	68.3	76.2	63.5	70.9	10.9	10.9
	Ethion	51.8	58.4	58.7	66.2	11.9	11.9
	Ethoprop	83.4	101	100	104	19.4	4.10
	Fenamiphos	86.6	81.3	81.6	74.7	6.35	8.82
	Fenbuconazole	90.1	76.9	96.3	104	15.8	7.30
	Fenpropathrin	88.0	97.6	71.2	90.4	10.3	23.7
	Fipronil	83.3	77.3	85.4	92.2	7.57	7.62

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery		MS % Recovery		LCS	Precision SMP	MS
EPA 8270E	Fipronil Desulfinyl	76.9	76.1	79.1	84.7	1.05		6.81
	Fipronil Sulfide	80.1	76.6	79.0	78.5	4.38		0.609
	Fipronil Sulfone	68.8	68.5	66.5	67.4	0.426		1.28
	Fluazifop-P-butyl	81.8	73.5	86.2	87.7	10.6		1.67
	Fludioxonil	86.1	77.4	81.1	90.6	10.6		11.1
	Flumioxazin	107	106	144	164	0.325		12.4
	Flutolanil	85.8	80.4	86.5	88.3	6.44		2.06
	Fluxapyroxad	77.1	68.9	35.3	44.6	11.2		4.85
	Fonofos	76.7	90.9	86.0	90.5	17.0		5.13
	Gamma-BHC	82.2	87.4	81.7	85.8	6.10		4.97
	Gamma-Chlordane	71.6	78.9	63.8	75.3	9.73		16.5
	Heptachlor	62.5	73.6	53.9	64.3	16.4		17.5
	Heptachlor Epoxide	73.6	80.2	66.0	77.0	8.52		15.4
	Hexachlorobenzene	62.9	72.0	58.0	65.7	13.5		12.4
	Hexazinone	80.9	90.1			10.8		2.14
	Imazalil	84.2	78.0	162	165	7.62		2.17
	Iprodione	78.6	70.5	79.7	82.7	10.8		3.61
	Kepone	104	95.6	118	106	8.85		10.7
	Lambda-Cyhalothrin	127	148	100	156	15.7		43.2
	Malathion	75.0	77.9	81.7	82.8	3.69		1.31
	Metalaxyl	80.6	81.9	83.4	88.1	1.60		5.50
	Methoxychlor	83.0	101	75.7	84.8	19.7		11.2
	Metolachlor	75.7	74.2	73.2	83.5	1.99		10.9
	Metribuzin	88.6	91.0	102	109	2.66		2.66
	Mevinphos	74.1	78.0	77.6	89.2	5.08		13.9
	MGK-264	57.9	48.3	44.5	66.6	18.1		39.7
	Mirex	132	147	121	144	10.4		16.9
	Molinate	57.6	76.7	68.1	67.9	28.5		0.230
	Myclobutanil	83.0	74.7	83.0	90.0	10.5		8.08
	Naled	30.4	30.7	30.1	28.6	0.825		5.20
	Norflurazon	77.4	68.9	75.0	74.3	11.6		1.01
	Oxadiazon	78.7	75.8	69.2	74.6	3.69		6.64
	Oxyfluorfen	77.2	73.5	84.9	101	4.86		17.4
	Parathion Ethyl	77.7	85.5	82.6	91.7	9.58		10.4
	Parathion Methyl	91.6	102	94.3	99.5	10.5		5.35
	Pendimethalin	71.0	79.9	85.2	93.3	11.8		9.07
	Permethrin	105	133	86.1	107	23.2		21.5
	Phenothrin	47.0	45.9	40.5	59.9	2.42		38.7
	Phorate	74.8	78.3	99.5	106	4.58		6.65
	Piperonyl Butoxide	84.5	86.1	75.6	86.3	1.92		13.2
	Prallethrin	60.2	48.8	54.2	64.1	20.9		16.9
	Prodiamine	33.6	34.7	46.9	50.2	3.43		6.70
	Prometon	80.1	87.5	88.1	91.7	8.86		3.99
	Prometryn	85.3	85.5	113	126	0.288		10.5
	Pronamide	84.2	88.5	97.6	109	5.05		11.4
	Propiconazole	82.5	72.3	77.2	65.7	13.2		8.82
	Pyriproxyfen	69.0	65.7	70.3	162	4.87		78.8
	Simazine	80.4	89.6	135	138	10.8		2.32
	Sulfentrazone	63.8	57.2	65.3	73.8	11.0		12.3
	Tau-Fluvalinate	93.4	119	75.9	104	24.5		31.2
	Tebuconazole	57.1	58.6	60.6	68.2	2.64		11.7
	Terbufos	72.5	80.9	84.6	91.2	11.0		7.47
	Terbuthylazine	79.7	83.1	87.6	96.2	4.18		9.30
	Tetramethrin	65.7	66.4	53.6	70.0	1.09		26.6

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery		MS % Recovery		Precision	
						LCS	MS
EPA 8270E	Trans-Nonachlor	73.9	81.0	67.1	75.4	9.06	11.7
	Triclosan Methyl	78.6	84.5	70.8	81.0	7.17	13.4
	Trifluralin	67.5	73.8	65.0	72.0	8.85	10.2
EPA 8276	Chlordane	83.0	78.5	103	83.9	5.54	20.3
	Toxaphene	90.8	88.7	100	96.6	2.31	3.82

Reference Method Descriptions

Method	Description	<u>Associated Samples</u>
EPA 8270E	Organochlorine pesticides, pyrethroids and tracers in water matrices by GC/MS/MS	2250683
EPA 8270E	Organonitrogen and phosphorus pesticides in water matrices by GC/MS/MS	2250684
EPA 8276	Organochlorine pesticides in water matrices by GC/MS with Negative Chemical Ionization	2250683

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
EPA 8270E	05/27/2021	05/28/2021 08:00	Fe-Val Siddell	06/09/2021 22:35	Arthur Maknenko	2250683
	05/27/2021	06/01/2021 08:00	Fe-Val Siddell	06/09/2021 17:29	Vandana T. Nagar	2250684
EPA 8276	05/27/2021	05/28/2021 08:00	Fe-Val Siddell	06/08/2021 05:01	Chiran X. Ghimire	2250683