

Chemical Analysis Report

SE-DIST-2019-10-17-03

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

Event Description: **SMP-Greasy 2**
Request ID: **RQ-2019-10-14-49**
Customer: **SE-DIST**
Project ID: **SMP**

Send Reports to:
FL Dept. of Environmental Protection
FL Dept. of Environmental Protection
2199 South Rock Road
Fort Pierce, FL 34945
Attn: Drew Liddick

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Certified by: Liang Lin, Environmental Administrator

Date Certified: 08-NOV-2019 15:12

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

Case Narrative

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

Results for the following analytical 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: North New River @ Hiatus

Collection Date/Time: 10/15/2019 11:50

Field ID: G4SE0114

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2129273	EPA 8321B	Aldicarb	0.020	U	ug/L	P372737	
		Aldicarb Sulfone	0.0020	U	ug/L	P372737	
		Aldicarb Sulfoxide	0.0020	U	ug/L	P372737	
		Carbaryl	0.0020	U	ug/L	P372737	
		Carbofuran	0.0020	U	ug/L	P372737	
		3-Hydroxycarbofuran	0.0020	U	ug/L	P372737	
		Methiocarb	0.0020	U	ug/L	P372737	
		Methomyl	0.0020	U	ug/L	P372737	
		Oxamyl	0.0020	U	ug/L	P372737	
		Propoxur	0.0020	U	ug/L	P372737	
2129274		2,4-D	0.033		ug/L	P372737	
		Acesulfame K**	0.10	U	ug/L	P372770	
		AMPA**	0.71		ug/L	P372770	MS
		Sucralose**	0.34		ug/L	P372770	
		Acetaminophen**	0.0080	U	ug/L	P372737	
		Acetamiprid**	0.0020	U	ug/L	P372737	
		Endothall**	0.25	U	ug/L	P372770	
		Glufosinate**	0.10	U	ug/L	P372770	
		Glyphosate**	1.3		ug/L	P372770	
		Afidopyropen**	0.0020	UJ	ug/L	P372737	
		Bentazon	0.015		ug/L	P372737	
		Benzovindiflupyr**	0.0020	UJ	ug/L	P372737	
		Carbamazepine**	8.0E-04	U	ug/L	P372737	
		Clothianidin**	0.0020	U	ug/L	P372737	
		Dinotefuran**	0.0023	I	ug/L	P372737	
		Diuron	0.0028	I	ug/L	P372737	
		Fenuron	0.016	U	ug/L	P372737	
		Fluridone**	0.019		ug/L	P372737	
		Imazapyr**	0.075		ug/L	P372737	
		Hydrocodone**	0.0020	U	ug/L	P372737	
		Ibuprofen**	0.020	U	ug/L	P372737	
		Imidacloprid	0.048		ug/L	P372737	MS
		Linuron	0.0040	U	ug/L	P372737	
		Mandestrobin**	0.0020	UJ	ug/L	P372737	
		MCPP	0.0020	U	ug/L	P372737	
		Naproxen**	0.0080	U	ug/L	P372737	
		Primidone**	0.0040	U	ug/L	P372737	
		Pyraclostrobin**	0.0020	U	ug/L	P372737	
		Thiamethoxam**	0.0020	U	ug/L	P372737	MS
		Tolfenpyrad**	0.0020	U	ug/L	P372737	
		Triclopyr**	0.0040	U	ug/L	P372737	
2129275	EPA 8270E	Aldrin	4.3	U	ng/L	P372719	
		Alpha-BHC	2.1	U	ng/L	P372719	
		Alpha-Chlordane	1.1	U	ng/L	P372719	

Field ID: G4SE0114

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2129275	EPA 8270E	Beta-BHC	11	U	ng/L	P372719	
		Bifenthrin**	4.3	U	ng/L	P372719	
		Delta-BHC	8.5	U	ng/L	P372719	
		Gamma-BHC	8.5	U	ng/L	P372719	
		Carbophenothion	11	U	ng/L	P372719	
		Chlorothalonil	2.1	U	ng/L	P372719	
		Cis-Nonachlor**	1.1	U	ng/L	P372719	
		Cypermethrin	21	U	ng/L	P372719	
		DDD-p,p'	6.4	U	ng/L	P372719	
		DDE-p,p'	6.4	U	ng/L	P372719	
		DDT-p,p'	7.4	U	ng/L	P372719	
		Dicofol	32	U	ng/L	P372719	
		Dieldrin	4.3	U	ng/L	P372719	
		Endosulfan I	4.3	U	ng/L	P372719	
		Endosulfan II	4.3	U	ng/L	P372719	
		Endosulfan Sulfate	2.1	U	ng/L	P372719	
		Endrin	2.1	U	ng/L	P372719	
		Endrin Aldehyde	2.1	U	ng/L	P372719	
		Endrin Ketone	2.1	U	ng/L	P372719	
		Ethalfuralin**	3.2	U	ng/L	P372719	
		Gamma-Chlordane	1.1	U	ng/L	P372719	
		Heptachlor	1.6	U	ng/L	P372719	
		Heptachlor Epoxide	2.1	U	ng/L	P372719	
		Hexachlorobenzene	2.1	U	ng/L	P372719	
		Methoxychlor	4.3	U	ng/L	P372719	
		Mirex	2.1	U	ng/L	P372719	
		Permethrin	11	U	ng/L	P372719	
		Trans-Nonachlor**	1.1	U	ng/L	P372719	
		Trifluralin	2.7	U	ng/L	P372719	
	EPA 8276	Chlordane	5.3	U	ng/L	P372719	RPD
		Toxaphene	32	U	ng/L	P372719	
		Acetochlor	0.27	U	ng/L	P372696	
2129276	EPA 8270E	Alachlor	0.27	U	ng/L	P372696	
		Ametryn	0.64	U	ng/L	P372696	
		Atrazine	41		ng/L	P372696	
		Atrazine Desethyl	1.6	U	ng/L	P372696	
		Azinphos Methyl	5.3	U	ng/L	P372696	
		Bromacil	0.53	U	ng/L	P372696	
		Butylate	0.43	U	ng/L	P372696	
		Chlorpyrifos Ethyl	0.27	U	ng/L	P372696	
		Chlorpyrifos Methyl	0.11	U	ng/L	P372696	
		Cyanazine	3.5	U	ng/L	P372696	
		Demeton	7.5	UJ	ng/L	P372696	LCS, MS
		Diazinon	0.13	U	ng/L	P372696	
		Dimethenamid**	0.11	U	ng/L	P372696	

Field ID: G4SE0114

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2129276	EPA 8270E	Disulfoton	0.53	U	ng/L	P372696	
		Dithiopyr**	0.11	U	ng/L	P372696	
		EPTC	1.3	U	ng/L	P372696	
		Ethion	0.16	U	ng/L	P372696	
		Ethoprop	0.11	U	ng/L	P372696	
		Fenamiphos	0.53	U	ng/L	P372696	
		Fipronil	0.69	I	ng/L	P372696	
		Fipronil Desulfinyl**	0.31	I	ng/L	P372696	
		Fipronil Sulfide	0.16	UJ	ng/L	P372696	CCV
		Fipronil Sulfone	0.58	I	ng/L	P372696	
		Fonofos	0.21	U	ng/L	P372696	
		Hexazinone	2.2		ng/L	P372696	
		Malathion	0.37	U	ng/L	P372696	
		Metalaxyl	0.32	U	ng/L	P372696	
		Metolachlor	0.53	U	ng/L	P372696	
		Metribuzin	0.80	UJ	ng/L	P372696	CCV
		Mevinphos	0.53	U	ng/L	P372696	
		Molinate	0.32	U	ng/L	P372696	
		Norflurazon	0.53	U	ng/L	P372696	
		Oxadiazon**	1.0		ng/L	P372696	
		Parathion Ethyl	0.27	U	ng/L	P372696	MS
		Parathion Methyl	0.59	U	ng/L	P372696	
		Pendimethalin	1.1	U	ng/L	P372696	
		Phorate	0.27	U	ng/L	P372696	
		Prodiamine**	0.19	I	ng/L	P372696	
		Prometon	0.96	U	ng/L	P372696	
		Prometryn	0.21	U	ng/L	P372696	
		Simazine	0.53	U	ng/L	P372696	
		Tebuconazole**	0.53	U	ng/L	P372696	
		Terbufos	0.11	U	ng/L	P372696	
		Terbuthylazine	0.45	U	ng/L	P372696	

Ref. Method and Comment:

EPA 8321B: J - second source check standards for some analytes were not available for analysis. MS accuracy for imazapyr could not be assessed due to high concentration of parameter in the spiked sample. MS accuracy and precision for bentazon could not be assessed due to high concentration of parameter in the spiked sample.

EPA 8270E: MS accuracy for bromacil, metolachlor, fipronil sulfone, atrazine, metalaxyl, and metribuzin 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: P372696

Component	Result	Code	Units
Acetochlor	0.25	U	ng/L
Alachlor	0.25	U	ng/L
Ametryn	0.60	U	ng/L
Atrazine	0.25	U	ng/L
Atrazine Desethyl	1.5	U	ng/L
Azinphos Methyl	5.0	U	ng/L
Bromacil	0.50	U	ng/L
Butylate	0.40	U	ng/L
Chlorpyrifos Ethyl	0.25	U	ng/L
Chlorpyrifos Methyl	0.10	U	ng/L
Cyanazine	3.2	U	ng/L
Demeton	7.0	U	ng/L
Diazinon	0.12	U	ng/L
Dimethenamid	0.10	U	ng/L
Disulfoton	0.50	U	ng/L
Dithiopyr	0.10	U	ng/L
EPTC	1.2	U	ng/L
Ethion	0.15	U	ng/L
Ethoprop	0.10	U	ng/L
Fenamiphos	0.50	U	ng/L
Fipronil	0.25	U	ng/L
Fipronil Desulfinyl	0.12	U	ng/L
Fipronil Sulfide	0.15	U	ng/L
Fipronil Sulfone	0.15	U	ng/L
Fonofos	0.20	U	ng/L
Hexazinone	0.50	U	ng/L
Malathion	0.35	U	ng/L
Metaxyl	0.30	U	ng/L
Metolachlor	0.50	U	ng/L
Metribuzin	0.75	U	ng/L
Mevinphos	0.50	U	ng/L
Molinate	0.30	U	ng/L
Norflurazon	0.50	U	ng/L
Oxadiazon	0.10	U	ng/L
Parathion Ethyl	0.25	U	ng/L
Parathion Methyl	0.55	U	ng/L
Pendimethalin	1.0	U	ng/L
Phorate	0.25	U	ng/L
Prodiamine	0.18	U	ng/L
Prometon	0.90	U	ng/L
Prometryn	0.20	U	ng/L
Simazine	0.50	U	ng/L
Tebuconazole	0.50	U	ng/L
Terbufos	0.10	U	ng/L
Terbutylazine	0.42	U	ng/L

Reference Method: EPA 8270E
Batch ID: P372719

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

Quality Assurance Report

Method Blank Results

Reference Method: EPA 8270E
Batch ID: P372719

Component	Result	Code	Units
Alpha-Chlordane	1.0	U	ng/L
Beta-BHC	10	U	ng/L
Bifenthrin	4.0	U	ng/L
Carbophenothion	10	U	ng/L
Chlorothalonil	2.0	U	ng/L
Cis-Nonachlor	1.0	U	ng/L
Cypermethrin	20	U	ng/L
DDD-p,p'	6.0	U	ng/L
DDE-p,p'	6.0	U	ng/L
DDT-p,p'	7.0	U	ng/L
Delta-BHC	8.0	U	ng/L
Dicofol	30	U	ng/L
Dieldrin	4.0	U	ng/L
Endosulfan I	4.0	U	ng/L
Endosulfan II	4.0	U	ng/L
Endosulfan Sulfate	2.0	U	ng/L
Endrin	2.0	U	ng/L
Endrin Aldehyde	2.0	U	ng/L
Endrin Ketone	2.0	U	ng/L
Ethalfuralin	3.0	U	ng/L
Gamma-BHC	8.0	U	ng/L
Gamma-Chlordane	1.0	U	ng/L
Heptachlor	1.5	U	ng/L
Heptachlor Epoxide	2.0	U	ng/L
Hexachlorobenzene	2.0	U	ng/L
Methoxychlor	4.0	U	ng/L
Mirex	2.0	U	ng/L
Permethrin	10	U	ng/L
Trans-Nonachlor	1.0	U	ng/L
Trifluralin	2.5	U	ng/L

Reference Method: EPA 8276
Batch ID: P372719

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

Reference Method: EPA 8321B
Batch ID: P372737

Component	Result	Code	Units
2,4-D	0.0020	U	ug/L
3-Hydroxycarbofuran	0.0020	U	ug/L
Acetaminophen	0.0080	U	ug/L
Acetamiprid	0.0020	U	ug/L
Afidopyropen	0.0020	U	ug/L
Aldicarb	0.020	U	ug/L
Aldicarb Sulfone	0.0020	U	ug/L
Aldicarb Sulfoxide	0.0020	U	ug/L
Bentazon	8.0E-04	U	ug/L
Benzovindiflupyr	0.0020	U	ug/L

Quality Assurance Report

Method Blank Results

Reference Method: EPA 8321B

Batch ID: P372737

Component	Result	Code	Units
Carbamazepine	8.0E-04	U	ug/L
Carbaryl	0.0020	U	ug/L
Carbofuran	0.0020	U	ug/L
Clothianidin	0.0020	U	ug/L
Dinotefuran	0.0020	U	ug/L
Diuron	0.0020	U	ug/L
Fenuron	0.016	U	ug/L
Fluridone	8.0E-04	U	ug/L
Hydrocodone	0.0020	U	ug/L
Ibuprofen	0.020	U	ug/L
Imazapyr	0.0040	U	ug/L
Imidacloprid	0.0020	U	ug/L
Linuron	0.0040	U	ug/L
Mandestrobin	0.0020	U	ug/L
MCPP	0.0020	U	ug/L
Methiocarb	0.0020	U	ug/L
Methomyl	0.0020	U	ug/L
Naproxen	0.0080	U	ug/L
Oxamyl	0.0020	U	ug/L
Primidone	0.0040	U	ug/L
Propoxur	0.0020	U	ug/L
Pyraclostrobin	0.0020	U	ug/L
Thiamethoxam	0.0020	U	ug/L
Tolfenpyrad	0.0020	U	ug/L
Triclopyr	0.0040	U	ug/L

Reference Method: EPA 8321B

Batch ID: P372770

Component	Result	Code	Units
Acesulfame K	0.10	U	ug/L
AMPA	0.10	U	ug/L
Endothall	0.25	U	ug/L
Glufosinate	0.10	U	ug/L
Glyphosate	0.10	U	ug/L
Sucralose	0.010	U	ug/L

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 8270E
Batch ID: P372696

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acetochlor	103	93.9	P/P	69 - 122
Alachlor	104	99.1	P/P	71 - 120
Ametryn	82.1	80.9	P/P	47 - 138
Atrazine	93.0	95.1	P/P	74 - 124
Atrazine Desethyl	87.0	78.1	P/P	38 - 138
Azinphos Methyl	109	89.1	P/P	69 - 154
Bromacil	87.8	80.2	P/P	39 - 121
Butylate	69.6	62.9	P/P	27 - 87.0
Chlorpyrifos Ethyl	106	97.5	P/P	69 - 118
Chlorpyrifos Methyl	97.1	90.4	P/P	70 - 120
Cyanazine	139	123	P/P	20 - 250
Demeton	174	159	F/F	39 - 118
Diazinon	97.6	84.9	P/P	68 - 127
Dimethenamid	89.4	83.0	P/P	66 - 125
Disulfoton	94.3	85.2	P/P	52 - 126
Dithiopyr	93.0	87.2	P/P	67 - 127
EPTC	63.4	59.7	P/P	24 - 88.0
Ethion	56.5	53.4	P/P	51 - 132
Ethoprop	94.5	87.1	P/P	58 - 117
Fenamiphos	86.5	87.9	P/P	38 - 139
Fipronil	91.5	84.7	P/P	61 - 124
Fipronil Desulfinyl	68.1	60.4	P/P	47 - 120
Fipronil Sulfide	105	85.0	P/P	56 - 119
Fipronil Sulfone	90.1	82.8	P/P	50 - 117
Fonofos	95.7	90.0	P/P	60 - 121
Hexazinone	111	102	P/P	55 - 137
Malathion	92.6	87.1	P/P	66 - 126
Metaxyl	105	96.8	P/P	33 - 140
Metolachlor	107	94.4	P/P	69 - 119
Metribuzin	177	149	P/P	31 - 238
Mevinphos	96.5	90.7	P/P	42 - 113
Molinate	70.8	65.9	P/P	32 - 96.0
Norflurazon	107	103	P/P	54 - 123
Oxadiazon	84.1	76.2	P/P	63 - 128
Parathion Ethyl	106	89.3	P/P	72 - 111
Parathion Methyl	110	90.7	P/P	74 - 126
Pendimethalin	98.3	86.1	P/P	61 - 131
Phorate	67.4	82.7	P/P	51 - 115
Prodiamine	61.4	55.5	P/P	38 - 144
Prometon	92.3	80.5	P/P	54 - 119
Prometryn	93.8	83.5	P/P	63 - 120
Simazine	104	96.7	P/P	75 - 126
Tebuconazole	52.3	52.8	P/P	20 - 119
Terbufos	102	96.3	P/P	64 - 116
Terbutylazine	88.4	80.1	P/P	73 - 117

Reference Method: EPA 8270E
Batch ID: P372719

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Aldrin	65.6	60.7	P/P	20 - 93.0
Alpha-BHC	101	105	P/P	55 - 133

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 8270E
Batch ID: P372719

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Alpha-Chlordane	93.0	93.7	P/P	58 - 112
Beta-BHC	105	109	P/P	54 - 168
Bifenthrin	115	123	P/P	30 - 134
Carbophenothion	107	102	P/P	26 - 147
Chlorothalonil	97.2	84.7	P/P	20 - 155
Cis-Nonachlor	97.3	97.7	P/P	54 - 115
Cypermethrin	104	110	P/P	40 - 137
DDD-p,p'	101	99.1	P/P	65 - 129
DDE-p,p'	92.2	93.7	P/P	57 - 116
DDT-p,p'	91.7	95.9	P/P	53 - 133
Delta-BHC	111	108	P/P	59 - 178
Dicofol	104	114	P/P	24 - 138
Dieldrin	98.1	98.7	P/P	60 - 120
Endosulfan I	99.5	99.7	P/P	64 - 118
Endosulfan II	110	112	P/P	58 - 142
Endosulfan Sulfate	103	103	P/P	60 - 127
Endrin	103	106	P/P	59 - 122
Endrin Aldehyde	96.7	95.6	P/P	49 - 132
Endrin Ketone	105	104	P/P	64 - 121
Ethalfuralin	98.2	99.8	P/P	60 - 126
Gamma-BHC	111	112	P/P	57 - 154
Gamma-Chlordane	90.1	92.4	P/P	56 - 110
Heptachlor	90.5	91.3	P/P	46 - 96.0
Heptachlor Epoxide	96.6	96.5	P/P	61 - 112
Hexachlorobenzene	88.7	93.5	P/P	44 - 98.0
Methoxychlor	108	111	P/P	63 - 134
Mirex	85.0	85.0	P/P	45 - 100
Permethrin	100	106	P/P	53 - 115
Trans-Nonachlor	92.7	94.6	P/P	47 - 110
Trifluralin	97.7	102	P/P	39 - 142

Reference Method: EPA 8276
Batch ID: P372719

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Chlordane	91.1	94.1	P/P	43 - 128
Toxaphene	67.5	61.4	P/P	38 - 140

Reference Method: EPA 8321B
Batch ID: P372737

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	136		P	40 - 160
3-Hydroxycarbofuran	90.9		P	40 - 160
Acetaminophen	89.7		P	30 - 160
Acetamiprid	92.4		P	40 - 160
Afidopyropen	97.2		P	40 - 160
Aldicarb	88.4		P	30 - 160
Aldicarb Sulfone	87.0		P	40 - 160
Aldicarb Sulfoxide	81.6		P	40 - 160
Bentazon	70.9		P	30 - 160
Benzovindiflupyr	95.5		P	40 - 160

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 8321B
Batch ID: P372737

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Carbamazepine	102		P	40 - 160
Carbaryl	65.9		P	40 - 160
Carbofuran	79.6		P	40 - 160
Clothianidin	91.7		P	40 - 160
Dinotefuran	91.6		P	40 - 160
Diuron	83.9		P	40 - 160
Fenuron	92.0		P	40 - 160
Fluridone	90.1		P	40 - 160
Hydrocodone	96.7		P	40 - 160
Ibuprofen	92.4		P	30 - 160
Imazapyr	85.6		P	40 - 160
Imidacloprid	101		P	40 - 160
Linuron	80.2		P	40 - 160
Mandestrobin	86.9		P	40 - 160
MCPP	134		P	40 - 160
Methiocarb	76.5		P	40 - 160
Methomyl	80.3		P	40 - 160
Naproxen	109		P	40 - 160
Oxamyl	84.8		P	40 - 160
Primidone	85.9		P	40 - 160
Propoxur	77.9		P	40 - 160
Pyraclostrobin	89.4		P	30 - 160
Thiamethoxam	111		P	40 - 160
Tolfenpyrad	56.6		P	40 - 160
Triclopyr	130		P	30 - 160

Reference Method: EPA 8321B
Batch ID: P372770

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acesulfame K	104		P	40 - 150
AMPA	111		P	40 - 150
Endothall	108		P	40 - 150
Glufosinate	88.0		P	40 - 150
Glyphosate	111		P	40 - 140
Sucralose	98.0		P	40 - 150

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8270E
Batch ID: P372696

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2129047	Acetochlor	97.1	97.0	P/P	63 - 129
2129047	Alachlor	104	102	P/P	65 - 127
2129047	Ametryn	83.2	86.7	P/P	40 - 164
2129047	Atrazine Desethyl	72.0	98.2	P/P	14 - 157
2129047	Azinphos Methyl	99.6	91.3	P/P	49 - 180
2129047	Butylate	58.3	49.9	P/P	10 - 94.0
2129047	Chlorpyrifos Ethyl	118	117	P/P	58 - 123
2129047	Chlorpyrifos Methyl	98.5	98.0	P/P	58 - 125
2129047	Cyanazine	171	170	P/P	24 - 253
2129047	Demeton	188	180	F/F	25 - 149
2129047	Diazinon	96.0	99.0	P/P	59 - 144
2129047	Dimethenamid	95.2	89.9	P/P	46 - 139
2129047	Disulfoton	97.5	93.7	P/P	54 - 132
2129047	Dithiopyr	91.1	91.0	P/P	64 - 130
2129047	EPTC	53.0	47.9	P/P	10 - 92.0
2129047	Ethion	90.0	73.4	P/P	30 - 148
2129047	Ethoprop	102	96.8	P/P	50 - 130
2129047	Fenamiphos	85.9	89.4	P/P	49 - 142
2129047	Fipronil	101	98.7	P/P	46 - 140
2129047	Fipronil Desulfinyl	70.0	68.4	P/P	30 - 121
2129047	Fipronil Sulfide	101	100	P/P	31 - 136
2129047	Fonofos	105	102	P/P	55 - 129
2129047	Hexazinone	121	121	P/P	56 - 141
2129047	Malathion	103	101	P/P	56 - 135
2129047	Mevinphos	104	93.1	P/P	33 - 131
2129047	Molinate	70.3	63.2	P/P	14 - 98.0
2129047	Norflurazon	111	99.6	P/P	34 - 136
2129047	Oxadiazon	88.7	88.0	P/P	67 - 116
2129047	Parathion Ethyl	131	128	F/F	66 - 118
2129047	Parathion Methyl	121	124	P/P	64 - 136
2129047	Pendimethalin	123	129	P/P	59 - 144
2129047	Phorate	81.8	82.7	P/P	42 - 130
2129047	Prodiamine	62.2	61.6	P/P	42 - 148
2129047	Prometon	106	127	P/P	59 - 134
2129047	Prometryn	92.4	94.9	P/P	54 - 135
2129047	Simazine	129	133	P/P	53 - 156
2129047	Tebuconazole	76.6	61.8	P/P	10 - 131
2129047	Terbufos	104	109	P/P	57 - 131
2129047	Terbuthylazine	91.5	89.9	P/P	68 - 125

Reference Method: EPA 8270E
Batch ID: P372719

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2128694	Aldrin	67.8	54.8	P/P	25 - 92.0
2128694	Alpha-BHC	103	97.9	P/P	48 - 150
2128694	Alpha-Chlordane	90.9	78.6	P/P	50 - 115
2128694	Beta-BHC	117	99.5	P/P	39 - 184
2128694	Bifenthrin	114	101	P/P	46 - 116
2128694	Carbophenothion	113	98.8	P/P	27 - 180
2128694	Chlorothalonil	116	101	P/P	10 - 216
2128694	Cis-Nonachlor	92.1	79.3	P/P	55 - 112

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8270E
Batch ID: P372719

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2128694	Cypermethrin	117	102	P/P	40 - 153
2128694	DDD-p,p'	96.3	85.0	P/P	53 - 128
2128694	DDE-p,p'	93.3	79.0	P/P	48 - 116
2128694	DDT-p,p'	91.3	88.1	P/P	47 - 128
2128694	Delta-BHC	127	110	P/P	48 - 221
2128694	Dicofol	109	93.5	P/P	10 - 147
2128694	Dieldrin	91.7	71.3	P/P	48 - 128
2128694	Endosulfan I	100	86.9	P/P	58 - 126
2128694	Endosulfan II	103	93.0	P/P	50 - 150
2128694	Endosulfan Sulfate	92.8	84.6	P/P	56 - 130
2128694	Endrin	105	90.1	P/P	50 - 126
2128694	Endrin Aldehyde	85.8	76.4	P/P	12 - 145
2128694	Endrin Ketone	95.3	87.0	P/P	59 - 132
2128694	Ethalfuralin	99.2	82.4	P/P	65 - 122
2128694	Gamma-BHC	114	99.3	P/P	40 - 190
2128694	Gamma-Chlordane	89.1	76.6	P/P	50 - 112
2128694	Heptachlor	84.1	73.8	P/P	41 - 98.0
2128694	Heptachlor Epoxide	94.2	82.3	P/P	55 - 117
2128694	Hexachlorobenzene	90.9	79.6	P/P	47 - 91.0
2128694	Methoxychlor	115	101	P/P	55 - 133
2128694	Mirex	85.4	74.6	P/P	44 - 101
2128694	Permethrin	104	92.4	P/P	52 - 124
2128694	Trans-Nonachlor	89.9	77.4	P/P	53 - 99.0
2128694	Trifluralin	99.6	85.4	P/P	10 - 201

Reference Method: EPA 8276
Batch ID: P372719

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2128764	Chlordane	127	73.4	P/P	34 - 136
2128764	Toxaphene	68.0	66.4	P/P	22 - 152

Reference Method: EPA 8321B
Batch ID: P372737

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2127962	3-Hydroxycarbofuran	103	96.4	P/P	40 - 160
2127962	Aldicarb	84.1	86.0	P/P	30 - 160
2127962	Aldicarb Sulfone	120	110	P/P	40 - 160
2127962	Aldicarb Sulfoxide	55.9	52.6	P/P	40 - 160
2127962	Carbaryl	59.9	58.1	P/P	40 - 160
2127962	Carbofuran	72.7	70.1	P/P	40 - 160
2127962	Methiocarb	73.8	66.6	P/P	40 - 160
2127962	Methomyl	76.9	72.4	P/P	40 - 160
2127962	Oxamyl	95.3	89.4	P/P	40 - 160
2127962	Propoxur	74.3	68.5	P/P	40 - 160
2129103	2,4-D	121	114	P/P	40 - 160
2129103	Acetaminophen	67.3	71.5	P/P	30 - 160
2129103	Acetamiprid	103	99.2	P/P	40 - 160
2129103	Afidopyropen	99.7	106	P/P	40 - 160
2129103	Benzovindiflupyr	102	102	P/P	40 - 160
2129103	Carbamazepine	86.0	89.1	P/P	40 - 160

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8321B
Batch ID: P372737

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2129103	Clothianidin	93.1	95.2	P/P	40 - 160
2129103	Dinotefuran	110	113	P/P	40 - 160
2129103	Diuron	69.7	72.4	P/P	40 - 160
2129103	Fenuron	81.9	77.9	P/P	40 - 160
2129103	Fluridone	74.5	91.1	P/P	40 - 160
2129103	Hydrocodone	95.6	105	P/P	40 - 160
2129103	Ibuprofen	79.2	79.0	P/P	30 - 160
2129103	Imidacloprid	178	181	F/F	40 - 160
2129103	Linuron	74.8	79.5	P/P	40 - 160
2129103	Mandestrobin	97.8	99.7	P/P	40 - 160
2129103	MCP	116	121	P/P	40 - 160
2129103	Naproxen	93.4	81.7	P/P	40 - 160
2129103	Primidone	88.4	92.5	P/P	40 - 160
2129103	Pyraclostrobin	97.5	96.4	P/P	30 - 160
2129103	Thiamethoxam	163	162	F/F	40 - 160
2129103	Tolfenpyrad	71.5	71.8	P/P	40 - 160
2129103	Triclopyr	118	114	P/P	30 - 160

Reference Method: EPA 8321B
Batch ID: P372770

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2129142	Acesulfame K	61.8	66.5	P/P	40 - 150
2129142	AMPA	30.2	40.4	F/P	40 - 150
2129142	Endothall	107	115	P/P	40 - 150
2129142	Glufosinate	65.1	65.5	P/P	40 - 150
2129142	Glyphosate	68.0	68.5	P/P	40 - 140
2129142	Sucralose	89.0	106	P/P	40 - 150

Quality Assurance Report Precision

Reference Method: EPA 8270E
Batch ID: P372696

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2129047	Acetochlor	0.0689	Spike	P	0 - 30
2129047	Alachlor	1.27	Spike	P	0 - 30
2129047	Ametryn	4.12	Spike	P	0 - 30
2129047	Atrazine	2.72	Spike	P	0 - 30
2129047	Atrazine Desethyl	16.7	Spike	P	0 - 30
2129047	Azinphos Methyl	8.78	Spike	P	0 - 30
2129047	Bromacil	3.98	Spike	P	0 - 30
2129047	Butylate	15.5	Spike	P	0 - 30
2129047	Chlorpyrifos Ethyl	0.263	Spike	P	0 - 30
2129047	Chlorpyrifos Methyl	0.585	Spike	P	0 - 30
2129047	Cyanazine	0.951	Spike	P	0 - 30
2129047	Demeton	4.68	Spike	P	0 - 30
2129047	Diazinon	3.12	Spike	P	0 - 30
2129047	Dimethenamid	5.64	Spike	P	0 - 30
2129047	Disulfoton	3.99	Spike	P	0 - 30
2129047	Dithiopyr	0.118	Spike	P	0 - 30
2129047	EPTC	10.1	Spike	P	0 - 30
2129047	Ethion	20.3	Spike	P	0 - 30
2129047	Ethoprop	5.62	Spike	P	0 - 30
2129047	Fenamiphos	3.96	Spike	P	0 - 30
2129047	Fipronil	1.87	Spike	P	0 - 30
2129047	Fipronil Desulfinyl	2.36	Spike	P	0 - 30
2129047	Fipronil Sulfide	0.444	Spike	P	0 - 30
2129047	Fipronil Sulfone	4.88	Spike	P	0 - 30
2129047	Fonofos	2.53	Spike	P	0 - 30
2129047	Hexazinone	0.412	Spike	P	0 - 30
2129047	Malathion	2.13	Spike	P	0 - 30
2129047	Metaxyl	1.54	Spike	P	0 - 30
2129047	Metolachlor	2.24	Spike	P	0 - 30
2129047	Metribuzin	20.4	Spike	P	0 - 30
2129047	Mevinphos	11.5	Spike	P	0 - 30
2129047	Molinate	10.7	Spike	P	0 - 30
2129047	Norflurazon	9.03	Spike	P	0 - 30
2129047	Oxadiazon	0.791	Spike	P	0 - 30
2129047	Parathion Ethyl	2.35	Spike	P	0 - 30
2129047	Parathion Methyl	2.24	Spike	P	0 - 30
2129047	Pendimethalin	4.42	Spike	P	0 - 30
2129047	Phorate	1.11	Spike	P	0 - 30
2129047	Prodiamine	0.883	Spike	P	0 - 30
2129047	Prometon	17.7	Spike	P	0 - 30
2129047	Prometryn	2.67	Spike	P	0 - 30
2129047	Simazine	3.49	Spike	P	0 - 30
2129047	Tebuconazole	17.8	Spike	P	0 - 30
2129047	Terbufos	4.13	Spike	P	0 - 30
2129047	Terbutylazine	1.69	Spike	P	0 - 30
LFB	Acetochlor	9.33	LCS	P	0 - 30
LFB	Alachlor	4.76	LCS	P	0 - 30
LFB	Ametryn	1.52	LCS	P	0 - 30
LFB	Atrazine	2.14	LCS	P	0 - 30
LFB	Atrazine Desethyl	10.8	LCS	P	0 - 30
LFB	Azinphos Methyl	19.8	LCS	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8270E
Batch ID: P372696

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
LFB	Bromacil	9.06	LCS	P	0 - 30
LFB	Butylate	10.1	LCS	P	0 - 30
LFB	Chlorpyrifos Ethyl	8.08	LCS	P	0 - 30
LFB	Chlorpyrifos Methyl	7.12	LCS	P	0 - 30
LFB	Cyanazine	12.4	LCS	P	0 - 30
LFB	Demeton	9.41	LCS	P	0 - 30
LFB	Diazinon	13.9	LCS	P	0 - 30
LFB	Dimethenamid	7.45	LCS	P	0 - 30
LFB	Disulfoton	10.2	LCS	P	0 - 30
LFB	Dithiopyr	6.47	LCS	P	0 - 30
LFB	EPTC	5.91	LCS	P	0 - 30
LFB	Ethion	5.73	LCS	P	0 - 30
LFB	Ethoprop	8.11	LCS	P	0 - 30
LFB	Fenamiphos	1.60	LCS	P	0 - 30
LFB	Fipronil	7.80	LCS	P	0 - 30
LFB	Fipronil Desulfinyl	12.0	LCS	P	0 - 30
LFB	Fipronil Sulfide	21.0	LCS	P	0 - 30
LFB	Fipronil Sulfone	8.52	LCS	P	0 - 30
LFB	Fonofos	6.13	LCS	P	0 - 30
LFB	Hexazinone	8.33	LCS	P	0 - 30
LFB	Malathion	6.14	LCS	P	0 - 30
LFB	Metaxyl	7.79	LCS	P	0 - 30
LFB	Metolachlor	12.5	LCS	P	0 - 30
LFB	Metribuzin	17.0	LCS	P	0 - 30
LFB	Mevinphos	6.19	LCS	P	0 - 30
LFB	Molinate	7.20	LCS	P	0 - 30
LFB	Norflurazon	3.98	LCS	P	0 - 30
LFB	Oxadiazon	9.83	LCS	P	0 - 30
LFB	Parathion Ethyl	17.3	LCS	P	0 - 30
LFB	Parathion Methyl	19.0	LCS	P	0 - 30
LFB	Pendimethalin	13.2	LCS	P	0 - 30
LFB	Phorate	20.3	LCS	P	0 - 30
LFB	Prodiamine	10.2	LCS	P	0 - 30
LFB	Prometon	13.7	LCS	P	0 - 30
LFB	Prometryn	11.6	LCS	P	0 - 30
LFB	Simazine	6.87	LCS	P	0 - 30
LFB	Tebuconazole	0.945	LCS	P	0 - 30
LFB	Terbufos	5.58	LCS	P	0 - 30
LFB	Terbutylazine	9.78	LCS	P	0 - 30

Reference Method: EPA 8270E
Batch ID: P372719

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2128694	Aldrin	21.2	Spike	P	0 - 30
2128694	Alpha-BHC	5.24	Spike	P	0 - 30
2128694	Alpha-Chlordane	14.5	Spike	P	0 - 30
2128694	Beta-BHC	16.2	Spike	P	0 - 30
2128694	Bifenthrin	11.8	Spike	P	0 - 30
2128694	Carbophenothion	13.1	Spike	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8270E
Batch ID: P372719

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2128694	Chlorothalonil	14.2	Spike	P	0 - 30
2128694	Cis-Nonachlor	15.0	Spike	P	0 - 30
2128694	Cypermethrin	14.0	Spike	P	0 - 30
2128694	DDD-p,p'	12.4	Spike	P	0 - 30
2128694	DDE-p,p'	16.6	Spike	P	0 - 30
2128694	DDT-p,p'	3.58	Spike	P	0 - 30
2128694	Delta-BHC	14.8	Spike	P	0 - 30
2128694	Dicofol	15.6	Spike	P	0 - 30
2128694	Dieldrin	16.6	Spike	P	0 - 30
2128694	Endosulfan I	14.1	Spike	P	0 - 30
2128694	Endosulfan II	10.6	Spike	P	0 - 30
2128694	Endosulfan Sulfate	9.21	Spike	P	0 - 30
2128694	Endrin	15.0	Spike	P	0 - 30
2128694	Endrin Aldehyde	11.6	Spike	P	0 - 30
2128694	Endrin Ketone	9.04	Spike	P	0 - 30
2128694	Ethalfuralin	18.5	Spike	P	0 - 30
2128694	Gamma-BHC	14.2	Spike	P	0 - 30
2128694	Gamma-Chlordane	15.1	Spike	P	0 - 30
2128694	Heptachlor	13.0	Spike	P	0 - 30
2128694	Heptachlor Epoxide	13.4	Spike	P	0 - 30
2128694	Hexachlorobenzene	13.2	Spike	P	0 - 30
2128694	Methoxychlor	12.9	Spike	P	0 - 30
2128694	Mirex	13.5	Spike	P	0 - 30
2128694	Permethrin	11.5	Spike	P	0 - 30
2128694	Trans-Nonachlor	14.8	Spike	P	0 - 30
2128694	Trifluralin	15.3	Spike	P	0 - 30
LFB	Aldrin	7.74	LCS	P	0 - 30
LFB	Alpha-BHC	3.83	LCS	P	0 - 30
LFB	Alpha-Chlordane	0.701	LCS	P	0 - 30
LFB	Beta-BHC	3.25	LCS	P	0 - 30
LFB	Bifenthrin	6.18	LCS	P	0 - 30
LFB	Carbophenothion	5.04	LCS	P	0 - 30
LFB	Chlorothalonil	13.7	LCS	P	0 - 30
LFB	Cis-Nonachlor	0.367	LCS	P	0 - 30
LFB	Cypermethrin	5.31	LCS	P	0 - 30
LFB	DDD-p,p'	2.07	LCS	P	0 - 30
LFB	DDE-p,p'	1.60	LCS	P	0 - 30
LFB	DDT-p,p'	4.41	LCS	P	0 - 30
LFB	Delta-BHC	1.92	LCS	P	0 - 30
LFB	Dicofol	9.19	LCS	P	0 - 30
LFB	Dieldrin	0.614	LCS	P	0 - 30
LFB	Endosulfan I	0.160	LCS	P	0 - 30
LFB	Endosulfan II	1.55	LCS	P	0 - 30
LFB	Endosulfan Sulfate	0.236	LCS	P	0 - 30
LFB	Endrin	2.61	LCS	P	0 - 30
LFB	Endrin Aldehyde	1.09	LCS	P	0 - 30
LFB	Endrin Ketone	0.286	LCS	P	0 - 30
LFB	Ethalfuralin	1.60	LCS	P	0 - 30
LFB	Gamma-BHC	1.45	LCS	P	0 - 30
LFB	Gamma-Chlordane	2.48	LCS	P	0 - 30
LFB	Heptachlor	0.954	LCS	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8270E
Batch ID: P372719

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
LFB	Heptachlor Epoxide	0.154	LCS	P	0 - 30
LFB	Hexachlorobenzene	5.24	LCS	P	0 - 30
LFB	Methoxychlor	3.34	LCS	P	0 - 30
LFB	Mirex	0.0463	LCS	P	0 - 30
LFB	Permethrin	5.16	LCS	P	0 - 30
LFB	Trans-Nonachlor	1.96	LCS	P	0 - 30
LFB	Trifluralin	3.84	LCS	P	0 - 30

Reference Method: EPA 8276
Batch ID: P372719

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2128764	Chlordane	53.6	Spike	F	0 - 30
2128764	Toxaphene	2.40	Spike	P	0 - 30
LFB	Chlordane	3.15	LCS	P	0 - 30
LFB	Toxaphene	9.53	LCS	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P372737

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2127962	3-Hydroxycarbofuran	6.44	Spike	P	0 - 30
2127962	Aldicarb	2.20	Spike	P	0 - 30
2127962	Aldicarb Sulfone	9.35	Spike	P	0 - 30
2127962	Aldicarb Sulfoxide	6.11	Spike	P	0 - 30
2127962	Carbaryl	3.10	Spike	P	0 - 30
2127962	Carbofuran	3.53	Spike	P	0 - 30
2127962	Methiocarb	10.3	Spike	P	0 - 30
2127962	Methomyl	5.94	Spike	P	0 - 30
2127962	Oxamyl	6.45	Spike	P	0 - 30
2127962	Propoxur	8.09	Spike	P	0 - 30
2129103	2,4-D	5.72	Spike	P	0 - 30
2129103	Acetaminophen	6.08	Spike	P	0 - 30
2129103	Acetamiprid	4.23	Spike	P	0 - 30
2129103	Afidopyropen	5.87	Spike	P	0 - 30
2129103	Benzovindiflupyr	0.307	Spike	P	0 - 30
2129103	Carbamazepine	3.52	Spike	P	0 - 30
2129103	Clothianidin	2.13	Spike	P	0 - 30
2129103	Dinotefuran	3.11	Spike	P	0 - 30
2129103	Diuron	3.75	Spike	P	0 - 30
2129103	Fenuron	4.99	Spike	P	0 - 30
2129103	Fluridone	10.3	Spike	P	0 - 30
2129103	Hydrocodone	9.74	Spike	P	0 - 30
2129103	Ibuprofen	0.322	Spike	P	0 - 30
2129103	Imazapyr	2.55	Spike	P	0 - 30
2129103	Imidacloprid	1.13	Spike	P	0 - 30
2129103	Linuron	6.05	Spike	P	0 - 30
2129103	Mandestrobin	1.92	Spike	P	0 - 30
2129103	MCP	4.47	Spike	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8321B
Batch ID: P372737

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2129103	Naproxen	13.4	Spike	P	0 - 30
2129103	Primidone	4.55	Spike	P	0 - 30
2129103	Pyraclostrobin	1.18	Spike	P	0 - 30
2129103	Thiamethoxam	0.471	Spike	P	0 - 30
2129103	Tolfenpyrad	0.435	Spike	P	0 - 30
2129103	Triclopyr	3.52	Spike	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P372770

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2129142	Acesulfame K	7.28	Spike	P	0 - 30
2129142	AMPA	10.5	Spike	P	0 - 30
2129142	Endothall	7.55	Spike	P	0 - 30
2129142	Glufosinate	0.614	Spike	P	0 - 30
2129142	Glyphosate	0.246	Spike	P	0 - 30
2129142	Sucralose	15.3	Spike	P	0 - 30

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

Quality Assurance Report Surrogates

Lab Sample ID: 2129273
Field Sample ID: G4SE0114

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Carbaryl-d7	72.8	P	30 - 160

Lab Sample ID: 2129274
Field Sample ID: G4SE0114

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	136	P	30 - 160
EPA 8321B	Acetaminophen-d4	64.9	P	30 - 160
EPA 8321B	Bentazon-d7	44.5	P	30 - 160
EPA 8321B	Carbamazepine-d10	84.7	P	30 - 160
EPA 8321B	Diuron-d6	69.2	P	30 - 160
EPA 8321B	Endothall-d6	144	P	30 - 160
EPA 8321B	Endothall-d6	144	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	69.6	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	69.6	P	30 - 160
EPA 8321B	Ibuprofen-d3	85.1	P	30 - 160
EPA 8321B	Primidone-d5	82.5	P	30 - 160
EPA 8321B	Sucralose-d6	101	P	30 - 160
EPA 8321B	Sucralose-d6	101	P	30 - 160

Lab Sample ID: 2129275
Field Sample ID: G4SE0114

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8270E	Decachlorobiphenyl	83.1	P	39 - 109
EPA 8270E	Tetrachloro-m-xylene	57.6	P	28 - 96.0
EPA 8276	Decachlorobiphenyl	59.2	P	30 - 103
EPA 8276	PCNB	102	P	37 - 143

Lab Sample ID: 2129276
Field Sample ID: G4SE0114

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8270E	Simazine-d10	95.4	P	68 - 130
EPA 8270E	Terbufos-d10	94.2	P	61 - 136

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B
 Run ID: A95104
 Included Lab Sample IDs: 2129274

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
AMPA	93.3	102	P/P	60 - 160
Glufosinate	85.7	94.2	P/P	60 - 160
Glyphosate	90.6	98.4	P/P	60 - 160

Reference Method: EPA 8321B
 Run ID: A95108
 Included Lab Sample IDs: 2129274

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acesulfame K	77.3	63.9	P/P	60 - 160
Endothall	90.3	96.7	P/P	60 - 160

Reference Method: EPA 8321B
 Run ID: A95110
 Included Lab Sample IDs: 2129274

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	110	102	P/P	50 - 150
3-Hydroxycarbofuran	101	102	P/P	60 - 150
Acetaminophen	104	95.1	P/P	60 - 160
Acetamiprid	101	107	P/P	50 - 150
Afidopyropen	118	115	P/P	50 - 150
Aldicarb	110	96.8	P/P	60 - 150
Aldicarb Sulfone	106	109	P/P	50 - 150
Aldicarb Sulfoxide	99.8	97.2	P/P	50 - 150
Bentazon	89.3	91.9	P/P	50 - 160
Benzovindiflupyr	116	116	P/P	50 - 150
Carbamazepine	108	105	P/P	60 - 150
Carbaryl	99.9	99.6	P/P	60 - 150
Carbofuran	101	104	P/P	50 - 150
Clothianidin	108	75.5	P/P	60 - 150
Dinotefuran	98.1	96.7	P/P	50 - 150
Diuron	105	104	P/P	60 - 150
Fenuron	105	102	P/P	60 - 150
Fluridone	108	112	P/P	60 - 160
Hydrocodone	107	99.6	P/P	60 - 150
Ibuprofen	96.5	78.6	P/P	50 - 160
Imazapyr	93.1	85.9	P/P	50 - 150
Imidacloprid	102	94.4	P/P	60 - 150
Linuron	93.1	97.6	P/P	60 - 150
Mandestrobin	107	113	P/P	50 - 150
MCPP	97.4	97.4	P/P	50 - 150
Methiocarb	109	108	P/P	50 - 150
Methomyl	104	98.6	P/P	50 - 150
Naproxen	95.4	93.3	P/P	50 - 160
Oxamyl	100	95.6	P/P	50 - 150
Primidone	107	103	P/P	60 - 150
Propoxur	101	99.1	P/P	50 - 150
Pyraclostrobin	110	106	P/P	60 - 150
Thiamethoxam	122	120	P/P	50 - 150
Tolfenpyrad	110	109	P/P	60 - 150

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B
Run ID: A95110
Included Lab Sample IDs: 2129274

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Triclopyr	103	110	P/P	50 - 150

Reference Method: EPA 8270E
Run ID: A95166
Included Lab Sample IDs: 2129275

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Aldrin	106		P	80 - 120
Alpha-BHC	115		P	80 - 120
Alpha-Chlordane	107		P	80 - 120
Beta-BHC	103		P	80 - 120
Bifenthrin	112		P	80 - 120
Carbophenothion	102		P	80 - 120
Chlorothalonil	95.2		P	80 - 120
Cis-Nonachlor	105		P	80 - 120
Cypermethrin	114		P	80 - 120
DDD-p,p'	111		P	80 - 120
DDE-p,p'	109		P	80 - 120
DDT-p,p'	109		P	80 - 120
Delta-BHC	106		P	80 - 120
Dicofol	110		P	80 - 120
Dieldrin	110		P	80 - 120
Endosulfan I	105		P	80 - 120
Endosulfan II	112		P	80 - 120
Endosulfan Sulfate	109		P	80 - 120
Endrin	107		P	80 - 120
Endrin Aldehyde	105		P	80 - 120
Endrin Ketone	113		P	80 - 120
Ethalfuralin	114		P	80 - 120
Gamma-BHC	111		P	80 - 120
Gamma-Chlordane	108		P	80 - 120
Heptachlor	110		P	80 - 120
Heptachlor Epoxide	107		P	80 - 120
Hexachlorobenzene	111		P	80 - 120
Methoxychlor	110		P	80 - 120
Mirex	111		P	80 - 120
Permethrin	107		P	80 - 120
Trans-Nonachlor	106		P	80 - 120
Trifluralin	115		P	80 - 120

Reference Method: EPA 8276
Run ID: A95238
Included Lab Sample IDs: 2129275

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chlordane	101		P	80 - 120
Toxaphene	83.4		P	80 - 120

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B
 Run ID: A95380
 Included Lab Sample IDs: 2129274

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Sucralose	107	97.9	P/P	60 - 160

Reference Method: EPA 8270E
 Run ID: A95396
 Included Lab Sample IDs: 2129276

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acetochlor	104		P	80 - 120
Alachlor	103		P	80 - 120
Ametryn	99.6		P	80 - 120
Atrazine	102		P	80 - 120
Atrazine Desethyl	90.3		P	80 - 120
Azinphos Methyl	96.2		P	80 - 120
Bromacil	106		P	80 - 120
Butylate	96.9		P	80 - 120
Chlorpyrifos Ethyl	103		P	80 - 120
Chlorpyrifos Methyl	97.5		P	80 - 120
Cyanazine	81.9		P	80 - 120
Demeton	101		P	80 - 120
Diazinon	103		P	80 - 120
Dimethenamid	105		P	80 - 120
Disulfoton	99.5		P	80 - 120
Dithiopyr	103		P	80 - 120
EPTC	101		P	80 - 120
Ethion	101		P	80 - 120
Ethoprop	100		P	80 - 120
Fenamiphos	96.8		P	80 - 120
Fipronil	105		P	80 - 120
Fipronil Desulfinyl	103		P	80 - 120
Fipronil Sulfide	122*		F	80 - 120
Fipronil Sulfone	97.9		P	80 - 120
Fonofos	98.7		P	80 - 120
Hexazinone	98.3		P	80 - 120
Malathion	93.9		P	80 - 120
Metaxyl	106		P	80 - 120
Metolachlor	111		P	80 - 120
Metribuzin	72.3*		F	80 - 120
Mevinphos	103		P	80 - 120
Molinate	98.7		P	80 - 120
Norflurazon	105		P	80 - 120
Oxadiazon	106		P	80 - 120
Parathion Ethyl	100		P	80 - 120
Parathion Methyl	96.3		P	80 - 120
Pendimethalin	98.1		P	80 - 120
Phorate	105		P	80 - 120
Prodiamine	97.2		P	80 - 120
Prometon	101		P	80 - 120
Prometryn	95.7		P	80 - 120
Simazine	98.0		P	80 - 120
Tebuconazole	101		P	80 - 120
Terbufos	100		P	80 - 120

Quality Assurance Report Calibration Verification

Reference Method: EPA 8270E

Run ID: A95396

Included Lab Sample IDs: 2129276

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Terbutylazine	104		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		LCS	Precision SMP	MS
EPA 8270E	Acetochlor	103	93.9	97.1	97.0	9.33		0.0689
	Alachlor	104	99.1	104	102	4.76		1.27
	Aldrin	65.6	60.7	67.8	54.8	7.74		21.2
	Alpha-BHC	101	105	103	97.9	3.83		5.24
	Alpha-Chlordane	93.0	93.7	90.9	78.6	0.701		14.5
	Ametryn	82.1	80.9	83.2	86.7	1.52		4.12
	Atrazine	95.1	93.0			2.14		2.72
	Atrazine Desethyl	87.0	78.1	72.0	98.2	10.8		16.7
	Azinphos Methyl	89.1	109	99.6	91.3	19.8		8.78
	Beta-BHC	105	109	117	99.5	3.25		16.2
	Bifenthrin	115	123	114	101	6.18		11.8
	Bromacil	80.2	87.8			9.06		3.98
	Butylate	62.9	69.6	58.3	49.9	10.1		15.5
	Carbophenothion	107	102	113	98.8	5.04		13.1
	Chlorothalonil	97.2	84.7	116	101	13.7		14.2
	Chlorpyrifos Ethyl	97.5	106	118	117	8.08		0.263
	Chlorpyrifos Methyl	97.1	90.4	98.5	98.0	7.12		0.585
	Cis-Nonachlor	97.3	97.7	92.1	79.3	0.367		15.0
	Cyanazine	139	123	171	170	12.4		0.951
	Cypermethrin	104	110	117	102	5.31		14.0
	DDD-p,p'	101	99.1	96.3	85.0	2.07		12.4
	DDE-p,p'	92.2	93.7	93.3	79.0	1.60		16.6
	DDT-p,p'	91.7	95.9	91.3	88.1	4.41		3.58
	Delta-BHC	111	108	127	110	1.92		14.8
	Demeton	174	159	188	180	9.41		4.68
	Diazinon	97.6	84.9	96.0	99.0	13.9		3.12
	Dicofol	104	114	109	93.5	9.19		15.6
	Dieldrin	98.1	98.7	91.7	71.3	0.614		16.6
	Dimethenamid	89.4	83.0	95.2	89.9	7.45		5.64
	Disulfoton	94.3	85.2	97.5	93.7	10.2		3.99
	Dithiopyr	93.0	87.2	91.1	91.0	6.47		0.118
	Endosulfan I	99.5	99.7	100	86.9	0.160		14.1
	Endosulfan II	110	112	103	93.0	1.55		10.6
	Endosulfan Sulfate	103	103	92.8	84.6	0.236		9.21
	Endrin	103	106	105	90.1	2.61		15.0
	Endrin Aldehyde	96.7	95.6	85.8	76.4	1.09		11.6
	Endrin Ketone	105	104	95.3	87.0	0.286		9.04
	EPTC	63.4	59.7	53.0	47.9	5.91		10.1
	Ethalfuralin	98.2	99.8	99.2	82.4	1.60		18.5
	Ethion	56.5	53.4	90.0	73.4	5.73		20.3
	Ethoprop	94.5	87.1	102	96.8	8.11		5.62
	Fenamiphos	86.5	87.9	85.9	89.4	1.60		3.96
	Fipronil	91.5	84.7	101	98.7	7.80		1.87
	Fipronil Desulfinyl	68.1	60.4	70.0	68.4	12.0		2.36
	Fipronil Sulfide	105	85.0	101	100	21.0		0.444
	Fipronil Sulfone	90.1	82.8			8.52		4.88
	Fonofos	95.7	90.0	105	102	6.13		2.53
	Gamma-BHC	111	112	114	99.3	1.45		14.2
	Gamma-Chlordane	90.1	92.4	89.1	76.6	2.48		15.1
	Heptachlor	90.5	91.3	84.1	73.8	0.954		13.0
	Heptachlor Epoxide	96.6	96.5	94.2	82.3	0.154		13.4
	Hexachlorobenzene	88.7	93.5	90.9	79.6	5.24		13.2
	Hexazinone	111	102	121	121	8.33		0.412
	Malathion	92.6	87.1	103	101	6.14		2.13

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery		MS % Recovery		LCS	Precision SMP	MS
EPA 8270E	Metalaxyl	105	96.8			7.79		1.54
	Methoxychlor	108	111	115	101	3.34		12.9
	Metolachlor	107	94.4			12.5		2.24
	Metribuzin	177	149			17.0		20.4
	Mevinphos	90.7	96.5	104	93.1	6.19		11.5
	Mirex	85.0	85.0	85.4	74.6	0.0463		13.5
	Molinate	65.9	70.8	70.3	63.2	7.20		10.7
	Norflurazon	103	107	111	99.6	3.98		9.03
	Oxadiazon	76.2	84.1	88.7	88.0	9.83		0.791
	Parathion Ethyl	89.3	106	131	128	17.3		2.35
	Parathion Methyl	90.7	110	121	124	19.0		2.24
	Pendimethalin	86.1	98.3	123	129	13.2		4.42
	Permethrin	100	106	104	92.4	5.16		11.5
	Phorate	82.7	67.4	81.8	82.7	20.3		1.11
	Prodiamine	55.5	61.4	62.2	61.6	10.2		0.883
	Prometon	80.5	92.3	106	127	13.7		17.7
	Prometryn	83.5	93.8	92.4	94.9	11.6		2.67
	Simazine	96.7	104	129	133	6.87		3.49
	Tebuconazole	52.8	52.3	76.6	61.8	0.945		17.8
	Terbufos	96.3	102	104	109	5.58		4.13
	Terbuthylazine	80.1	88.4	91.5	89.9	9.78		1.69
	Trans-Nonachlor	92.7	94.6	89.9	77.4	1.96		14.8
	Trifluralin	97.7	102	99.6	85.4	3.84		15.3
EPA 8276	Chlordane	91.1	94.1	127	73.4	3.15		53.6
	Toxaphene	67.5	61.4	68.0	66.4	9.53		2.40
EPA 8321B	2,4-D	136		121	114			5.72
	3-Hydroxycarbofuran	90.9		103	96.4			6.44
	Acesulfame K	104		61.8	66.5			7.28
	Acetaminophen	89.7		67.3	71.5			6.08
	Acetamiprid	92.4		103	99.2			4.23
	Afidopyropen	97.2		99.7	106			5.87
	Aldicarb	88.4		84.1	86.0			2.20
	Aldicarb Sulfone	87.0		120	110			9.35
	Aldicarb Sulfoxide	81.6		55.9	52.6			6.11
	AMPA	111		30.2	40.4			10.5
	Bentazon	70.9						
	Benzovindiflupyr	95.5		102	102			0.307
	Carbamazepine	102		86.0	89.1			3.52
	Carbaryl	65.9		59.9	58.1			3.10
	Carbofuran	79.6		72.7	70.1			3.53
	Clothianidin	91.7		93.1	95.2			2.13
	Dinotefuran	91.6		110	113			3.11
	Diuron	83.9		69.7	72.4			3.75
	Endothall	108		107	115			7.55
	Fenuron	92.0		81.9	77.9			4.99
	Fluridone	90.1		74.5	91.1			10.3
	Glufosinate	88.0		65.1	65.5			0.614
	Glyphosate	111		68.0	68.5			0.246
	Hydrocodone	96.7		95.6	105			9.74
	Ibuprofen	92.4		79.2	79.0			0.322
	Imazapyr	85.6						2.55
	Imidacloprid	101		178	181			1.13
	Linuron	80.2		74.8	79.5			6.05
	Mandestrobin	86.9		97.8	99.7			1.92

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery		Precision	
					LCS	MS
EPA 8321B	MCCP	134	116	121		4.47
	Methiocarb	76.5	73.8	66.6		10.3
	Methomyl	80.3	76.9	72.4		5.94
	Naproxen	109	93.4	81.7		13.4
	Oxamyl	84.8	95.3	89.4		6.45
	Primidone	85.9	88.4	92.5		4.55
	Propoxur	77.9	74.3	68.5		8.09
	Pyraclostrobin	89.4	97.5	96.4		1.18
	Sucralose	98.0	89.0	106		15.3
	Thiamethoxam	111	163	162		0.471
	Tolfenpyrad	56.6	71.5	71.8		0.435
	Triclopyr	130	118	114		3.52

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 8270E / E31780	Organochlorine pesticides in water matrices by GC/MS-SIM	2129275
EPA 8270E / E31780	Organonitrogen and phosphorus pesticides in water matrices by GC/MS/MS	2129276
EPA 8276 / E31780	Organochlorine pesticides in water matrices by GC/MS with Negative Chemical Ionization	2129275
EPA 8321B / E31780	Carbamates in water matrices by HPLC/MS/MS	2129273
EPA 8321B / E31780	Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS	2129274
EPA 8321B / E31780	Water soluble organic compounds by HPLC/MS/MS	2129274

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
EPA 8270E	10/17/2019	10/18/2019 09:00	Julie Wi	10/23/2019 05:14	Vandana T. Nagar	2129276
	10/17/2019	10/18/2019 10:00	Fe-Val Siddell	10/23/2019 07:14	Arthur Maknenko	2129275
EPA 8276	10/17/2019	10/18/2019 10:00	Fe-Val Siddell	10/22/2019 17:05	Michael Poppell	2129275
EPA 8321B	10/17/2019	10/21/2019 09:00	Hoor Shaik	10/21/2019 22:42	Juyoung Kim	2129273
	10/17/2019	10/21/2019 09:00	Hoor Shaik	10/22/2019 05:03	Juyoung Kim	2129274
	10/17/2019	10/21/2019 09:00	Mohammad Ghaffari	10/21/2019 12:08	Mohammad Ghaffari	2129274
	10/17/2019	10/21/2019 09:00	Mohammad Ghaffari	10/21/2019 13:58	Mohammad Ghaffari	2129274
	10/17/2019	10/21/2019 09:00	Mohammad Ghaffari	10/31/2019 02:38	Rebecca Ware	2129274