

Chemical Analysis Report

SO-DIST-2019-07-17-01

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

Event Description: **2019 SMP : COLLIER (IMKFSHCK)**

Request ID: **RQ-2019-07-22-26**

Customer: **SO-DIST**

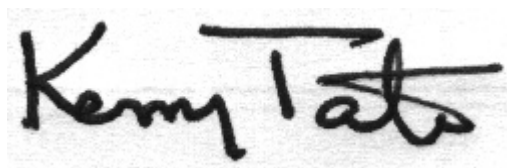
Project ID: **SMP**

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Certified by: Kerry Tate, Ph.D., Environmental Administrator

Date Certified: 06-AUG-2019 15:13

A handwritten signature in black ink that reads "Kerry Tate". The signature is written in a cursive, flowing style with a horizontal line above the first name.

Case Narrative

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

Results for the following analytical groups are included in this report: Metals and Pesticides.

Scientific notation may be used in reporting very large or small values. Values reported using scientific notation will take the form of the following example: 1.3E+03, which is equivalent to 1.3×10^3 or 1300.

Unless otherwise noted, analytical values for soil and sediment samples are reported on a dry weight basis, and analytical values for waste and tissue samples are reported on a wet weight basis.

Results for TNI accredited tests met requirements established by The NELAC Institute. A double asterisk (**) is used to indicate an analyte/matrix/method for which the laboratory is not TNI accredited 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: IMKFSHCK

Collection Date/Time: 07/16/2019 10:51

Field ID: IMKFSHCK

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2103985	EPA 8321B	Aldicarb	0.020	U	ug/L	P367283	
		Aldicarb Sulfone	0.0020	U	ug/L	P367283	
		Aldicarb Sulfoxide	0.0020	U	ug/L	P367283	
		Carbaryl	0.0020	U	ug/L	P367283	
		Carbofuran	0.0020	U	ug/L	P367283	
		3-Hydroxycarbofuran	0.0020	U	ug/L	P367283	
		Methiocarb	0.0020	U	ug/L	P367283	
		Methomyl	0.0020	U	ug/L	P367283	
		Oxamyl	0.0020	U	ug/L	P367283	
		Propoxur	0.0020	U	ug/L	P367283	
2103986		Acesulfame K**	0.10	U	ug/L	P367428	
		2,4-D	0.24		ug/L	P367331	MS
		AMPA**	9.4		ug/L	P367428	
		Sucralose**	0.010	U	ug/L	P367428	
		Acetaminophen**	0.0080	U	ug/L	P367331	
		Endothall**	0.25	U	ug/L	P367428	
		Acetamiprid**	0.0020	UJ	ug/L	P367331	
		Glufosinate**	0.10	U	ug/L	P367428	
		Glyphosate**	4.8		ug/L	P367428	
		Afidopyropen**	0.0020	UJ	ug/L	P367331	
		Bentazon	9.0E-04	I	ug/L	P367331	
		Benzovindiflupyr**	0.0020	UJ	ug/L	P367331	
		Carbamazepine**	8.0E-04	U	ug/L	P367331	
		Clothianidin**	0.0020	IJ	ug/L	P367331	
		Dinotefuran**	0.0020	UJ	ug/L	P367331	
		Diuron	0.042		ug/L	P367331	
		Fenuron	0.016	U	ug/L	P367331	
		Fluridone**	0.0025	I	ug/L	P367331	
		Imazapyr**	0.14		ug/L	P367331	
		Hydrocodone**	0.0020	U	ug/L	P367331	
		Ibuprofen**	0.020	U	ug/L	P367331	
		Imidacloprid	0.10		ug/L	P367331	
		Linuron	0.0040	U	ug/L	P367331	
		Mandestrobin**	0.0020	UJ	ug/L	P367331	
		MCPP	0.0020	U	ug/L	P367331	MS
		Naproxen**	0.0080	U	ug/L	P367331	
		Primidone**	0.0040	U	ug/L	P367331	
		Pyraclostrobin**	0.0020	U	ug/L	P367331	
		Thiamethoxam**	0.0025	IJ	ug/L	P367331	MS
		Tolfenpyrad**	0.0020	UJ	ug/L	P367331	
		Triclopyr**	0.0040	U	ug/L	P367331	MS
2103987	EPA 8270E	Aldrin	4.6	U	ng/L	P367484	
		Alpha-BHC	2.3	UJ	ng/L	P367484	LCS, MS
		Alpha-Chlordane	1.1	U	ng/L	P367484	

Field ID: IMKFSHCK

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2103987	EPA 8270E	Beta-BHC	11	U	ng/L	P367484	
		Bifenthrin**	4.6	U	ng/L	P367484	
		Delta-BHC	9.1	U	ng/L	P367484	MS
		Gamma-BHC	9.1	U	ng/L	P367484	MS
		Carbophenothion	11	U	ng/L	P367484	
		Chlorothalonil	2.3	UJ	ng/L	P367484	LCS, MS
		Cis-Nonachlor**	1.1	U	ng/L	P367484	
		Cypermethrin	23	U	ng/L	P367484	
		DDD-p,p'	6.8	U	ng/L	P367484	
		DDE-p,p'	6.8	U	ng/L	P367484	
		DDT-p,p'	8.0	U	ng/L	P367484	
		Dicofol	34	U	ng/L	P367484	
		Dieldrin	4.6	U	ng/L	P367484	
		Endosulfan I	4.6	U	ng/L	P367484	
		Endosulfan II	4.6	U	ng/L	P367484	
		Endosulfan Sulfate	2.3	U	ng/L	P367484	
		Endrin	2.3	U	ng/L	P367484	
		Endrin Aldehyde	2.3	U	ng/L	P367484	
		Endrin Ketone	2.3	U	ng/L	P367484	
		Ethalfuralin**	3.4	U	ng/L	P367484	
		Gamma-Chlordane	1.1	U	ng/L	P367484	
		Heptachlor	1.7	U	ng/L	P367484	
		Heptachlor Epoxide	2.3	U	ng/L	P367484	
		Hexachlorobenzene**	2.3	U	ng/L	P367484	
		Methoxychlor	4.6	UJ	ng/L	P367484	LCS, MS
		Mirex	2.3	U	ng/L	P367484	
		Permethrin	11	U	ng/L	P367484	
		Trans-Nonachlor**	1.1	U	ng/L	P367484	
		Trifluralin	2.9	U	ng/L	P367484	
	EPA 8276	Chlordane	5.7	U	ng/L	P367484	
		Toxaphene	34	U	ng/L	P367484	
		Acetochlor	0.27	U	ng/L	P367660	
2103988	EPA 8270E	Alachlor	0.27	U	ng/L	P367660	
		Ametryn	0.65	U	ng/L	P367660	
		Atrazine	0.46	I	ng/L	P367660	
		Atrazine Desethyl	1.6	U	ng/L	P367660	
		Azinphos Methyl	5.4	U	ng/L	P367660	
		Bromacil	13		ng/L	P367660	
		Butylate	0.43	U	ng/L	P367660	
		Chlorpyrifos Ethyl	0.27	U	ng/L	P367660	
		Chlorpyrifos Methyl	0.11	U	ng/L	P367660	
		Cyanazine	3.5	U	ng/L	P367660	
		Demeton	7.6	UJ	ng/L	P367660	RPD
		Diazinon	0.14	U	ng/L	P367660	
		Dimethenamid**	0.11	U	ng/L	P367660	

Field ID: IMKFSHCK

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2103988	EPA 8270E	Disulfoton	0.54	UJ	ng/L	P367660	LCS, RPD
		Dithiopyr**	0.11	U	ng/L	P367660	
		EPTC	1.4	U	ng/L	P367660	
		Ethion	0.16	UJ	ng/L	P367660	RPD
		Ethoprop	0.11	U	ng/L	P367660	
		Fenamiphos	0.54	U	ng/L	P367660	
		Fipronil	0.27	U	ng/L	P367660	
		Fipronil Desulfinyl**	0.14	U	ng/L	P367660	
		Fipronil Sulfide	0.16	U	ng/L	P367660	
		Fipronil Sulfone	0.16	U	ng/L	P367660	
		Fonofos	0.22	U	ng/L	P367660	
		Hexazinone	22		ng/L	P367660	
		Malathion	0.38	U	ng/L	P367660	
		Metaxyl	0.33	U	ng/L	P367660	
		Metolachlor	1.2	I	ng/L	P367660	
		Metribuzin	0.81	UJ	ng/L	P367660	LCS
		Mevinphos	0.54	U	ng/L	P367660	
		Molinate	0.33	U	ng/L	P367660	
		Norflurazon	760		ng/L	P367660	
		Oxadiazon**	0.36	I	ng/L	P367660	
		Parathion Ethyl	0.27	U	ng/L	P367660	
		Parathion Methyl	0.60	U	ng/L	P367660	
		Pendimethalin	1.1	U	ng/L	P367660	
		Phorate	0.27	U	ng/L	P367660	
		Prodiamine**	0.19	U	ng/L	P367660	
		Prometon	0.98	U	ng/L	P367660	
		Prometryn	0.22	U	ng/L	P367660	
		Simazine	0.54	U	ng/L	P367660	
		Tebuconazole**	0.54	U	ng/L	P367660	
		Terbufos	0.11	U	ng/L	P367660	
		Terbuthylazine	0.46	U	ng/L	P367660	
2103989	EPA 200.7 Rev. 4.4	Barium	13.5		ug/L	P367530	
		Calcium	32.9		mg/L	P367530	
		Iron	650		ug/L	P367530	
		Magnesium	8.31		mg/L	P367530	
		Potassium	6.4		mg/L	P367530	
		Sodium	13.5		mg/L	P367530	
		Zinc	5.0	U	ug/L	P367530	
	EPA 200.8 Rev. 5.4	Aluminum	160		ug/L	P367530	
		Antimony	0.12	I	ug/L	P367530	
		Arsenic	1.46		ug/L	P367530	
		Boron**	49.6		ug/L	P367530	
		Cadmium	0.020	U	ug/L	P367530	
		Chromium	1.8		ug/L	P367530	
		Copper	2.15		ug/L	P367530	

Field ID: IMKFSHCK

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2103989	EPA 200.8 Rev. 5.4	Lead	0.20	U	ug/L	P367530	
		Nickel	0.69	I	ug/L	P367530	
		Selenium	0.22	I	ug/L	P367530	
		Silver	0.010	U	ug/L	P367530	
		Thallium	0.10	U	ug/L	P367530	

Ref. Method and Comment:
EPA 8321B: J - second source check standards for some analytes were not available for analysis. MS accuracy for some analytes is not available due to high concentration of parameter in the spiked sample.
EPA 8270E: Refer to the narrative for an explanation of QC Codes.
EPA 8270E: MS accuracy for atrazine not assessed due to high content of this parameter in the sample spiked. Refer to the narrative for an explanation of QC Codes.

Quality Assurance Report Method Blank Results

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P367530

Component	Result	Code	Units
Barium	1.0	U	ug/L
Calcium	0.075	U	mg/L
Iron	30	U	ug/L
Magnesium	0.040	U	mg/L
Potassium	0.30	U	mg/L
Sodium	0.50	U	mg/L
Zinc	5.0	U	ug/L

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P367530

Component	Result	Code	Units
Aluminum	5.0	U	ug/L
Antimony	0.050	U	ug/L
Arsenic	0.050	U	ug/L
Boron	2.0	U	ug/L
Cadmium	0.020	U	ug/L
Chromium	0.40	U	ug/L
Copper	0.40	U	ug/L
Lead	0.20	U	ug/L
Nickel	0.50	U	ug/L
Selenium	0.20	U	ug/L
Silver	0.010	U	ug/L
Thallium	0.10	U	ug/L

Reference Method: EPA 8270E
Batch ID: P367484

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

Quality Assurance Report

Method Blank Results

Reference Method: EPA 8270E

Batch ID: P367484

Component	Result	Code	Units
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 8270E

Batch ID: P367660

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
Metalaxyl	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

Quality Assurance Report

Method Blank Results

Reference Method: EPA 8270E
Batch ID: P367660

Component	Result	Code	Units
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 8276
Batch ID: P367484

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

Reference Method: EPA 8321B
Batch ID: P367283

Component	Result	Code	Units
3-Hydroxycarbofuran	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
Carbaryl	0.0020	U	ug/L
Carbofuran	0.0020	U	ug/L
Methiocarb	0.0020	U	ug/L
Methomyl	0.0020	U	ug/L
Oxamyl	0.0020	U	ug/L
Propoxur	0.0020	U	ug/L

Reference Method: EPA 8321B
Batch ID: P367331

Component	Result	Code	Units
2,4-D	0.0020	U	ug/L
Acetaminophen	0.0080	U	ug/L
Acetamiprid	0.0020	U	ug/L
Afidopyropen	0.0020	U	ug/L
Bentazon	8.0E-04	U	ug/L
Benzovindiflupyr	0.0020	U	ug/L
Carbamazepine	8.0E-04	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

Quality Assurance Report

Method Blank Results

Reference Method: EPA 8321B
Batch ID: P367331

Component	Result	Code	Units
MCP	0.0020	U	ug/L
Naproxen	0.0080	U	ug/L
Primidone	0.0040	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: P367428

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 200.7 Rev. 4.4
 Batch ID: P367530

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Barium	98.9		P	85 - 115
Calcium	104		P	85 - 115
Iron	101		P	85 - 115
Magnesium	107		P	85 - 115
Potassium	101		P	85 - 115
Sodium	100		P	85 - 115
Zinc	96.0		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4
 Batch ID: P367530

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Aluminum	101		P	85 - 115
Antimony	100		P	85 - 115
Arsenic	104		P	85 - 115
Boron	100		P	85 - 115
Cadmium	101		P	85 - 115
Chromium	102		P	85 - 115
Copper	101		P	85 - 115
Lead	91.0		P	85 - 115
Nickel	102		P	85 - 115
Selenium	104		P	85 - 115
Silver	105		P	85 - 115
Thallium	102		P	85 - 115

Reference Method: EPA 8270E
 Batch ID: P367484

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Aldrin	61.1	60.3	P/P	20 - 93.0
Alpha-BHC	126	128	F/F	57 - 119
Alpha-Chlordane	93.4	92.0	P/P	58 - 112
Beta-BHC	130	147	P/P	56 - 149
Bifenthrin	82.0	90.7	P/P	30 - 134
Carbophenothion	90.4	111	P/P	26 - 147
Chlorothalonil	167	214	F/F	20 - 155
Cis-Nonachlor	91.7	94.0	P/P	54 - 115
Cypermethrin	72.9	87.8	P/P	40 - 137
DDD-p,p'	102	106	P/P	65 - 129
DDE-p,p'	93.3	92.7	P/P	57 - 116
DDT-p,p'	122	124	P/P	53 - 133
Delta-BHC	147	160	P/P	59 - 163
Dicofol	98.0	99.0	P/P	24 - 138
Dieldrin	100	100	P/P	60 - 120
Endosulfan I	108	102	P/P	64 - 118
Endosulfan II	112	122	P/P	58 - 142
Endosulfan Sulfate	96.0	109	P/P	60 - 127
Endrin	103	110	P/P	59 - 122
Endrin Aldehyde	91.5	101	P/P	49 - 132
Endrin Ketone	93.2	100	P/P	64 - 121
Ethalfuralin	109	110	P/P	60 - 126
Gamma-BHC	134	129	P/P	56 - 141

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: EPA 8270E
Batch ID: P367484

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Gamma-Chlordane	88.7	89.3	P/P	56 - 110
Heptachlor	76.8	77.5	P/P	46 - 96.0
Heptachlor Epoxide	98.0	94.9	P/P	61 - 112
Hexachlorobenzene	78.3	85.1	P/P	44 - 98.0
Methoxychlor	126	138	P/F	63 - 134
Mirex	66.3	69.5	P/P	45 - 100
Permethrin	70.4	77.7	P/P	53 - 115
Trans-Nonachlor	85.4	79.7	P/P	47 - 110
Trifluralin	104	108	P/P	39 - 142

Reference Method: EPA 8270E
Batch ID: P367660

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acetochlor	98.1	102	P/P	69 - 122
Alachlor	93.4	96.4	P/P	71 - 120
Ametryn	86.5	93.0	P/P	47 - 138
Atrazine	102	105	P/P	74 - 124
Atrazine Desethyl	128	124	P/P	38 - 138
Azinphos Methyl	98.9	92.7	P/P	69 - 154
Bromacil	74.4	72.2	P/P	39 - 121
Butylate	65.6	57.4	P/P	27 - 87.0
Chlorpyrifos Ethyl	90.2	101	P/P	69 - 118
Chlorpyrifos Methyl	98.7	106	P/P	70 - 120
Cyanazine	178	185	P/P	20 - 250
Demeton	41.4	61.3	P/P	39 - 118
Diazinon	112	108	P/P	68 - 127
Dimethenamid	86.2	93.3	P/P	66 - 125
Disulfoton	46.6	71.3	F/P	52 - 126
Dithiopyr	101	102	P/P	67 - 127
EPTC	67.6	52.5	P/P	24 - 88.0
Ethion	55.0	79.3	P/P	51 - 132
Ethoprop	96.3	96.3	P/P	58 - 117
Fenamiphos	76.5	90.0	P/P	38 - 139
Fipronil	93.0	94.9	P/P	61 - 124
Fipronil Desulfinyl	85.9	87.0	P/P	47 - 120
Fipronil Sulfide	82.4	87.2	P/P	56 - 119
Fipronil Sulfone	69.6	82.3	P/P	50 - 117
Fonofos	99.9	98.4	P/P	60 - 121
Hexazinone	98.8	108	P/P	55 - 137
Malathion	87.2	94.9	P/P	66 - 126
Metaxyl	94.5	96.5	P/P	33 - 140
Metolachlor	86.7	89.7	P/P	69 - 119
Metribuzin	235	239	P/F	31 - 238
Mevinphos	79.9	88.6	P/P	42 - 113
Molinate	77.1	69.2	P/P	32 - 96.0
Norflurazon	92.0	93.9	P/P	54 - 123
Oxadiazon	87.6	89.5	P/P	63 - 128
Parathion Ethyl	92.3	95.4	P/P	72 - 111
Parathion Methyl	99.7	107	P/P	74 - 126
Pendimethalin	97.4	99.5	P/P	61 - 131
Phorate	74.3	82.4	P/P	51 - 115

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 8270E
Batch ID: P367660

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Prodiamine	46.1	43.3	P/P	38 - 144
Prometon	72.0	82.0	P/P	54 - 119
Prometryn	81.1	87.8	P/P	63 - 120
Simazine	106	114	P/P	75 - 126
Tebuconazole	57.0	67.4	P/P	20 - 119
Terbufos	90.0	92.2	P/P	64 - 116
Terbutylazine	93.7	97.4	P/P	73 - 117

Reference Method: EPA 8276
Batch ID: P367484

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Chlordane	92.5	91.6	P/P	43 - 128
Toxaphene	67.5	67.5	P/P	38 - 140

Reference Method: EPA 8321B
Batch ID: P367283

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
3-Hydroxycarbofuran	121		P	40 - 150
Aldicarb	119		P	30 - 150
Aldicarb Sulfone	118		P	40 - 150
Aldicarb Sulfoxide	118		P	40 - 150
Carbaryl	104		P	40 - 150
Carbofuran	85.2		P	40 - 150
Methiocarb	105		P	40 - 150
Methomyl	108		P	40 - 150
Oxamyl	122		P	40 - 150
Propoxur	96.8		P	40 - 150

Reference Method: EPA 8321B
Batch ID: P367331

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	149		P	40 - 150
Acetaminophen	92.8		P	30 - 150
Acetamiprid	105		P	40 - 150
Afidopyropen	97.4		P	40 - 150
Bentazon	102		P	30 - 150
Benzovindiflupyr	95.9		P	40 - 150
Carbamazepine	111		P	40 - 150
Clothianidin	110		P	40 - 150
Dinotefuran	114		P	40 - 150
Diuron	101		P	40 - 150
Fenuron	116		P	40 - 150
Fluridone	105		P	40 - 150
Hydrocodone	107		P	40 - 150
Ibuprofen	90.5		P	30 - 150
Imazapyr	107		P	40 - 150
Imidacloprid	106		P	40 - 150
Linuron	93.7		P	40 - 150
Mandestrobin	109		P	40 - 150

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: EPA 8321B
Batch ID: P367331

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
MCPP	148		P	40 - 150
Naproxen	115		P	40 - 150
Primidone	105		P	40 - 150
Pyraclostrobin	100		P	30 - 150
Thiamethoxam	114		P	40 - 150
Tolfenpyrad	64.1		P	40 - 150
Triclopyr	139		P	30 - 150

Reference Method: EPA 8321B
Batch ID: P367428

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acesulfame K	103		P	40 - 150
AMPA	97.1		P	40 - 150
Endothall	88.6		P	40 - 150
Glufosinate	82.3		P	40 - 150
Glyphosate	90.4		P	40 - 140
Sucralose	91.7		P	40 - 150

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P367530

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2103738	Barium	98.6	98.0	P/P	80 - 120
2103738	Calcium	103	102	P/P	80 - 120
2103738	Iron	101	100	P/P	80 - 120
2103738	Magnesium	107	104	P/P	80 - 120
2103738	Potassium	98.1	98.2	P/P	80 - 120
2103738	Sodium	98.3		P	80 - 120
2103738	Zinc	97.3	96.0	P/P	80 - 120
2103882	Barium	99.9		P	80 - 120
2103882	Calcium	103		P	80 - 120
2103882	Iron	102		P	80 - 120
2103882	Magnesium	107		P	80 - 120
2103882	Potassium	98.0		P	80 - 120
2103882	Sodium	99.3		P	80 - 120
2103882	Zinc	100		P	80 - 120

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P367530

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2103738	Aluminum	99.6	98.3	P/P	80 - 120
2103738	Antimony	99.9	99.0	P/P	80 - 120
2103738	Arsenic	102	103	P/P	80 - 120
2103738	Boron	99.7	100	P/P	80 - 120
2103738	Cadmium	99.1	100	P/P	80 - 120
2103738	Chromium	98.4	99.5	P/P	80 - 120
2103738	Copper	100	101	P/P	80 - 120
2103738	Lead	90.7	90.2	P/P	80 - 120
2103738	Nickel	100	101	P/P	80 - 120
2103738	Selenium	102	103	P/P	80 - 120
2103738	Silver	102	103	P/P	80 - 120
2103738	Thallium	104	104	P/P	80 - 120
2103882	Aluminum	98.1		P	80 - 120
2103882	Antimony	97.8		P	80 - 120
2103882	Arsenic	102		P	80 - 120
2103882	Boron	99.5		P	80 - 120
2103882	Cadmium	99.7		P	80 - 120
2103882	Chromium	99.3		P	80 - 120
2103882	Copper	101		P	80 - 120
2103882	Lead	89.4		P	80 - 120
2103882	Nickel	101		P	80 - 120
2103882	Selenium	104		P	80 - 120
2103882	Silver	101		P	80 - 120
2103882	Thallium	104		P	80 - 120

Reference Method: EPA 8270E
Batch ID: P367484

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2103852	Aldrin	58.1	58.7	P/P	25 - 92.0
2103852	Alpha-BHC	144	152	F/F	49 - 130
2103852	Alpha-Chlordane	84.4	94.7	P/P	50 - 115
2103852	Beta-BHC	104	99.7	P/P	43 - 157

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8270E
 Batch ID: P367484

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2103852	Bifenthrin	86.6	99.0	P/P	46 - 116
2103852	Carbophenothion	106	112	P/P	27 - 180
2103852	Chlorothalonil	235	259	F/F	10 - 216
2103852	Cis-Nonachlor	83.3	93.2	P/P	55 - 112
2103852	Cypermethrin	77.0	88.8	P/P	40 - 153
2103852	DDD-p,p'	98.9	107	P/P	53 - 128
2103852	DDE-p,p'	83.1	92.8	P/P	48 - 116
2103852	DDT-p,p'	112	125	P/P	47 - 128
2103852	Delta-BHC	212	191	F/P	51 - 196
2103852	Dicofol	86.7	90.6	P/P	10 - 147
2103852	Dieldrin	97.7	108	P/P	48 - 128
2103852	Endosulfan I	104	111	P/P	58 - 126
2103852	Endosulfan II	148	146	P/P	50 - 150
2103852	Endosulfan Sulfate	106	113	P/P	56 - 130
2103852	Endrin	111	118	P/P	50 - 126
2103852	Endrin Aldehyde	89.3	96.0	P/P	12 - 145
2103852	Endrin Ketone	95.6	103	P/P	59 - 132
2103852	Ethalfuralin	110	112	P/P	65 - 122
2103852	Gamma-BHC	252	272	F/F	50 - 155
2103852	Gamma-Chlordane	79.9	91.0	P/P	50 - 112
2103852	Heptachlor	65.9	76.3	P/P	41 - 98.0
2103852	Heptachlor Epoxide	93.7	102	P/P	55 - 117
2103852	Hexachlorobenzene	74.1	78.2	P/P	47 - 91.0
2103852	Methoxychlor	131	140	P/F	55 - 133
2103852	Mirex	64.7	70.7	P/P	44 - 101
2103852	Permethrin	70.8	82.2	P/P	52 - 124
2103852	Trans-Nonachlor	71.2	76.6	P/P	53 - 99.0
2103852	Trifluralin	102	108	P/P	10 - 201

Reference Method: EPA 8270E
 Batch ID: P367660

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2103355	Acetochlor	87.4	89.2	P/P	63 - 129
2103355	Alachlor	83.9	85.9	P/P	65 - 127
2103355	Ametryn	93.9	105	P/P	40 - 164
2103355	Atrazine Desethyl	93.6	116	P/P	14 - 157
2103355	Azinphos Methyl	86.2	85.9	P/P	49 - 180
2103355	Bromacil	71.7	71.4	P/P	48 - 130
2103355	Butylate	51.8	63.5	P/P	10 - 94.0
2103355	Chlorpyrifos Ethyl	86.7	88.4	P/P	58 - 123
2103355	Chlorpyrifos Methyl	89.6	96.7	P/P	58 - 125
2103355	Cyanazine	142	170	P/P	24 - 253
2103355	Demeton	67.6	71.1	P/P	25 - 149
2103355	Diazinon	95.3	105	P/P	59 - 144
2103355	Dimethenamid	75.5	76.7	P/P	46 - 139
2103355	Disulfoton	78.1	83.3	P/P	54 - 132
2103355	Dithiopyr	87.9	90.8	P/P	64 - 130
2103355	EPTC	54.5	61.7	P/P	10 - 92.0
2103355	Ethion	52.0	50.2	P/P	30 - 148
2103355	Ethoprop	90.5	94.8	P/P	50 - 130
2103355	Fenamiphos	74.0	80.8	P/P	49 - 142

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8270E
Batch ID: P367660

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2103355	Fipronil	92.2	91.3	P/P	46 - 140
2103355	Fipronil Desulfinyl	79.1	78.5	P/P	30 - 121
2103355	Fipronil Sulfide	81.0	93.3	P/P	31 - 136
2103355	Fipronil Sulfone	75.7	70.6	P/P	16 - 136
2103355	Fonofos	93.0	101	P/P	55 - 129
2103355	Hexazinone	89.2	97.4	P/P	56 - 141
2103355	Malathion	82.5	89.7	P/P	56 - 135
2103355	Metalaxyl	83.9	87.6	P/P	54 - 135
2103355	Metolachlor	78.0	80.7	P/P	51 - 140
2103355	Metribuzin	219	233	P/P	45 - 254
2103355	Mevinphos	83.2	86.4	P/P	33 - 131
2103355	Molinate	66.1	78.8	P/P	14 - 98.0
2103355	Norflurazon	79.5	79.3	P/P	34 - 136
2103355	Oxadiazon	72.7	80.8	P/P	67 - 116
2103355	Parathion Ethyl	84.2	85.3	P/P	66 - 118
2103355	Parathion Methyl	92.2	102	P/P	64 - 136
2103355	Pendimethalin	85.7	94.6	P/P	59 - 144
2103355	Phorate	69.2	74.9	P/P	42 - 130
2103355	Prodiamine	53.3	48.1	P/P	42 - 148
2103355	Prometon	86.4	88.8	P/P	59 - 134
2103355	Prometryn	75.8	80.5	P/P	54 - 135
2103355	Simazine	99.3	107	P/P	53 - 156
2103355	Tebuconazole	54.7	49.6	P/P	10 - 131
2103355	Terbufos	87.1	95.6	P/P	57 - 131
2103355	Terbutylazine	87.4	91.0	P/P	68 - 125

Reference Method: EPA 8276
Batch ID: P367484

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2104011	Chlordane	104	104	P/P	43 - 128
2104011	Toxaphene	74.1	73.6	P/P	38 - 140

Reference Method: EPA 8321B
Batch ID: P367283

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2103985	3-Hydroxycarbofuran	92.2	94.0	P/P	40 - 150
2103985	Aldicarb	68.7	70.4	P/P	30 - 150
2103985	Aldicarb Sulfone	103	106	P/P	40 - 150
2103985	Aldicarb Sulfoxide	41.1	44.8	P/P	40 - 150
2103985	Carbaryl	66.8	65.5	P/P	40 - 150
2103985	Carbofuran	52.2	59.4	P/P	40 - 150
2103985	Methiocarb	78.7	78.9	P/P	40 - 150
2103985	Methomyl	67.4	77.7	P/P	40 - 150
2103985	Oxamyl	87.7	93.8	P/P	40 - 150
2103985	Propoxur	60.1	59.8	P/P	40 - 150

Reference Method: EPA 8321B
Batch ID: P367331

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

Reference Method: EPA 8321B
 Batch ID: P367331

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2103044	2,4-D	171	151	F/F	40 - 150
2103044	Acetaminophen	104	94.4	P/P	30 - 150
2103044	Acetamiprid	116	100	P/P	40 - 150
2103044	Afidopyropen	111	93.7	P/P	40 - 150
2103044	Benzovindiflupyr	105	92.8	P/P	40 - 150
2103044	Carbamazepine	94.3	85.5	P/P	40 - 150
2103044	Clothianidin	112	98.2	P/P	40 - 150
2103044	Dinotefuran	136	123	P/P	40 - 150
2103044	Diuron	91.9	80.9	P/P	40 - 150
2103044	Fenuron	92.9	77.6	P/P	40 - 150
2103044	Fluridone	96.9	59.0	P/P	40 - 150
2103044	Hydrocodone	111	95.9	P/P	40 - 150
2103044	Ibuprofen	102	93.8	P/P	30 - 150
2103044	Linuron	88.8	84.2	P/P	40 - 150
2103044	Mandestrobin	112	102	P/P	40 - 150
2103044	MCCP	184	165	F/F	40 - 150
2103044	Naproxen	102	109	P/P	40 - 150
2103044	Primidone	110	100	P/P	40 - 150
2103044	Pyraclostrobin	112	96.8	P/P	30 - 150
2103044	Thiamethoxam	159	137	F/P	40 - 150
2103044	Tolfenpyrad	78.1	75.3	P/P	40 - 150
2103044	Triclopyr	155	162	F/F	30 - 150

Reference Method: EPA 8321B
 Batch ID: P367428

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2103043	Acesulfame K	112	143	P/P	40 - 150
2103043	AMPA	95.3	96.6	P/P	40 - 150
2103043	Endothall	96.2	109	P/P	40 - 150
2103043	Glufosinate	90.9	95.6	P/P	40 - 150
2103043	Glyphosate	95.7	92.8	P/P	40 - 140
2103043	Sucralose	88.3	88.2	P/P	40 - 150

Quality Assurance Report Precision

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P367530

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2103738	Barium	0.591	Spike	P	0 - 20
2103738	Calcium	0.145	Spike	P	0 - 20
2103738	Iron	1.07	Spike	P	0 - 20
2103738	Magnesium	2.10	Spike	P	0 - 20
2103738	Potassium	0.130	Spike	P	0 - 20
2103738	Sodium	1.19	Spike	P	0 - 20
2103738	Zinc	1.33	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P367530

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2103738	Aluminum	1.18	Spike	P	0 - 20
2103738	Antimony	0.857	Spike	P	0 - 20
2103738	Arsenic	0.791	Spike	P	0 - 20
2103738	Boron	0.482	Spike	P	0 - 20
2103738	Cadmium	1.12	Spike	P	0 - 20
2103738	Chromium	1.13	Spike	P	0 - 20
2103738	Copper	1.15	Spike	P	0 - 20
2103738	Lead	0.532	Spike	P	0 - 20
2103738	Nickel	1.01	Spike	P	0 - 20
2103738	Selenium	0.161	Spike	P	0 - 20
2103738	Silver	1.50	Spike	P	0 - 20
2103738	Thallium	0.603	Spike	P	0 - 20

Reference Method: EPA 8270E
Batch ID: P367484

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2103852	Aldrin	1.03	Spike	P	0 - 30
2103852	Alpha-BHC	5.51	Spike	P	0 - 30
2103852	Alpha-Chlordane	11.5	Spike	P	0 - 30
2103852	Beta-BHC	4.18	Spike	P	0 - 30
2103852	Bifenthrin	13.4	Spike	P	0 - 30
2103852	Carbophenothion	5.55	Spike	P	0 - 30
2103852	Chlorothalonil	9.49	Spike	P	0 - 30
2103852	Cis-Nonachlor	11.2	Spike	P	0 - 30
2103852	Cypermethrin	14.2	Spike	P	0 - 30
2103852	DDD-p,p'	8.31	Spike	P	0 - 30
2103852	DDE-p,p'	11.0	Spike	P	0 - 30
2103852	DDT-p,p'	11.7	Spike	P	0 - 30
2103852	Delta-BHC	10.2	Spike	P	0 - 30
2103852	Dicofol	4.43	Spike	P	0 - 30
2103852	Dieldrin	9.81	Spike	P	0 - 30
2103852	Endosulfan I	6.80	Spike	P	0 - 30
2103852	Endosulfan II	1.05	Spike	P	0 - 30
2103852	Endosulfan Sulfate	6.77	Spike	P	0 - 30
2103852	Endrin	6.34	Spike	P	0 - 30
2103852	Endrin Aldehyde	7.20	Spike	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8270E
Batch ID: P367484

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2103852	Endrin Ketone	7.71	Spike	P	0 - 30
2103852	Ethalfuralin	2.49	Spike	P	0 - 30
2103852	Gamma-BHC	7.41	Spike	P	0 - 30
2103852	Gamma-Chlordane	12.9	Spike	P	0 - 30
2103852	Heptachlor	14.7	Spike	P	0 - 30
2103852	Heptachlor Epoxide	8.59	Spike	P	0 - 30
2103852	Hexachlorobenzene	5.42	Spike	P	0 - 30
2103852	Methoxychlor	6.48	Spike	P	0 - 30
2103852	Mirex	8.84	Spike	P	0 - 30
2103852	Permethrin	14.8	Spike	P	0 - 30
2103852	Trans-Nonachlor	7.26	Spike	P	0 - 30
2103852	Trifluralin	6.05	Spike	P	0 - 30
LFB	Aldrin	1.37	LCS	P	0 - 30
LFB	Alpha-BHC	1.53	LCS	P	0 - 30
LFB	Alpha-Chlordane	1.45	LCS	P	0 - 30
LFB	Beta-BHC	12.2	LCS	P	0 - 30
LFB	Bifenthrin	10.1	LCS	P	0 - 30
LFB	Carbophenothion	20.1	LCS	P	0 - 30
LFB	Chlorothalonil	24.2	LCS	P	0 - 30
LFB	Cis-Nonachlor	2.39	LCS	P	0 - 30
LFB	Cypermethrin	18.6	LCS	P	0 - 30
LFB	DDD-p,p'	4.23	LCS	P	0 - 30
LFB	DDE-p,p'	0.735	LCS	P	0 - 30
LFB	DDT-p,p'	1.50	LCS	P	0 - 30
LFB	Delta-BHC	8.56	LCS	P	0 - 30
LFB	Dicofol	1.03	LCS	P	0 - 30
LFB	Dieldrin	0.327	LCS	P	0 - 30
LFB	Endosulfan I	5.05	LCS	P	0 - 30
LFB	Endosulfan II	8.63	LCS	P	0 - 30
LFB	Endosulfan Sulfate	12.5	LCS	P	0 - 30
LFB	Endrin	6.70	LCS	P	0 - 30
LFB	Endrin Aldehyde	9.84	LCS	P	0 - 30
LFB	Endrin Ketone	7.56	LCS	P	0 - 30
LFB	Ethalfuralin	0.738	LCS	P	0 - 30
LFB	Gamma-BHC	3.78	LCS	P	0 - 30
LFB	Gamma-Chlordane	0.620	LCS	P	0 - 30
LFB	Heptachlor	0.920	LCS	P	0 - 30
LFB	Heptachlor Epoxide	3.21	LCS	P	0 - 30
LFB	Hexachlorobenzene	8.41	LCS	P	0 - 30
LFB	Methoxychlor	8.42	LCS	P	0 - 30
LFB	Mirex	4.60	LCS	P	0 - 30
LFB	Permethrin	9.87	LCS	P	0 - 30
LFB	Trans-Nonachlor	6.95	LCS	P	0 - 30
LFB	Trifluralin	3.25	LCS	P	0 - 30

Reference Method: EPA 8270E
Batch ID: P367660

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2103355	Acetochlor	2.06	Spike	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8270E
Batch ID: P367660

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2103355	Alachlor	2.36	Spike	P	0 - 30
2103355	Ametryn	11.2	Spike	P	0 - 30
2103355	Atrazine	5.41	Spike	P	0 - 30
2103355	Atrazine Desethyl	15.1	Spike	P	0 - 30
2103355	Azinphos Methyl	0.312	Spike	P	0 - 30
2103355	Bromacil	0.420	Spike	P	0 - 30
2103355	Butylate	20.3	Spike	P	0 - 30
2103355	Chlorpyrifos Ethyl	1.90	Spike	P	0 - 30
2103355	Chlorpyrifos Methyl	7.58	Spike	P	0 - 30
2103355	Cyanazine	18.0	Spike	P	0 - 30
2103355	Demeton	4.99	Spike	P	0 - 30
2103355	Diazinon	9.42	Spike	P	0 - 30
2103355	Dimethenamid	1.60	Spike	P	0 - 30
2103355	Disulfoton	6.41	Spike	P	0 - 30
2103355	Dithiopyr	3.12	Spike	P	0 - 30
2103355	EPTC	12.4	Spike	P	0 - 30
2103355	Ethion	3.65	Spike	P	0 - 30
2103355	Ethoprop	4.60	Spike	P	0 - 30
2103355	Fenamiphos	8.68	Spike	P	0 - 30
2103355	Fipronil	0.967	Spike	P	0 - 30
2103355	Fipronil Desulfinyl	0.756	Spike	P	0 - 30
2103355	Fipronil Sulfide	11.0	Spike	P	0 - 30
2103355	Fipronil Sulfone	2.92	Spike	P	0 - 30
2103355	Fonofos	7.83	Spike	P	0 - 30
2103355	Hexazinone	8.73	Spike	P	0 - 30
2103355	Malathion	8.42	Spike	P	0 - 30
2103355	Metalaxyl	4.43	Spike	P	0 - 30
2103355	Metolachlor	3.40	Spike	P	0 - 30
2103355	Metribuzin	6.45	Spike	P	0 - 30
2103355	Mevinphos	3.78	Spike	P	0 - 30
2103355	Molinate	17.6	Spike	P	0 - 30
2103355	Norflurazon	0.308	Spike	P	0 - 30
2103355	Oxadiazon	10.5	Spike	P	0 - 30
2103355	Parathion Ethyl	1.30	Spike	P	0 - 30
2103355	Parathion Methyl	10.1	Spike	P	0 - 30
2103355	Pendimethalin	9.91	Spike	P	0 - 30
2103355	Phorate	7.93	Spike	P	0 - 30
2103355	Prodiamine	10.2	Spike	P	0 - 30
2103355	Prometon	2.74	Spike	P	0 - 30
2103355	Prometryn	6.08	Spike	P	0 - 30
2103355	Simazine	5.63	Spike	P	0 - 30
2103355	Tebuconazole	9.64	Spike	P	0 - 30
2103355	Terbufos	9.28	Spike	P	0 - 30
2103355	Terbutylazine	4.02	Spike	P	0 - 30
LFB	Acetochlor	4.30	LCS	P	0 - 30
LFB	Alachlor	3.26	LCS	P	0 - 30
LFB	Ametryn	7.27	LCS	P	0 - 30
LFB	Atrazine	2.60	LCS	P	0 - 30
LFB	Atrazine Desethyl	2.58	LCS	P	0 - 30
LFB	Azinphos Methyl	6.51	LCS	P	0 - 30
LFB	Bromacil	2.99	LCS	P	0 - 30

Quality Assurance Report

Precision

Reference Method: EPA 8270E
Batch ID: P367660

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
LFB	Butylate	13.3	LCS	P	0 - 30
LFB	Chlorpyrifos Ethyl	11.3	LCS	P	0 - 30
LFB	Chlorpyrifos Methyl	6.95	LCS	P	0 - 30
LFB	Cyanazine	4.19	LCS	P	0 - 30
LFB	Demeton	38.7	LCS	F	0 - 30
LFB	Diazinon	3.11	LCS	P	0 - 30
LFB	Dimethenamid	7.95	LCS	P	0 - 30
LFB	Disulfoton	41.9	LCS	F	0 - 30
LFB	Dithiopyr	0.965	LCS	P	0 - 30
LFB	EPTC	25.2	LCS	P	0 - 30
LFB	Ethion	36.1	LCS	F	0 - 30
LFB	Ethoprop	0.0493	LCS	P	0 - 30
LFB	Fenamiphos	16.1	LCS	P	0 - 30
LFB	Fipronil	1.99	LCS	P	0 - 30
LFB	Fipronil Desulfinyl	1.32	LCS	P	0 - 30
LFB	Fipronil Sulfide	5.76	LCS	P	0 - 30
LFB	Fipronil Sulfone	16.8	LCS	P	0 - 30
LFB	Fonofos	1.48	LCS	P	0 - 30
LFB	Hexazinone	8.67	LCS	P	0 - 30
LFB	Malathion	8.52	LCS	P	0 - 30
LFB	Metaxyl	2.05	LCS	P	0 - 30
LFB	Metolachlor	3.34	LCS	P	0 - 30
LFB	Metribuzin	1.66	LCS	P	0 - 30
LFB	Mevinphos	10.3	LCS	P	0 - 30
LFB	Molinate	10.7	LCS	P	0 - 30
LFB	Norflurazon	2.00	LCS	P	0 - 30
LFB	Oxadiazon	2.22	LCS	P	0 - 30
LFB	Parathion Ethyl	3.29	LCS	P	0 - 30
LFB	Parathion Methyl	6.87	LCS	P	0 - 30
LFB	Pendimethalin	2.15	LCS	P	0 - 30
LFB	Phorate	10.3	LCS	P	0 - 30
LFB	Prodiamine	6.33	LCS	P	0 - 30
LFB	Prometon	13.0	LCS	P	0 - 30
LFB	Prometryn	7.98	LCS	P	0 - 30
LFB	Simazine	7.29	LCS	P	0 - 30
LFB	Tebuconazole	16.8	LCS	P	0 - 30
LFB	Terbufos	2.47	LCS	P	0 - 30
LFB	Terbutylazine	3.78	LCS	P	0 - 30

Reference Method: EPA 8276
Batch ID: P367484

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2104011	Chlordane	0.0314	Spike	P	0 - 30
2104011	Toxaphene	0.707	Spike	P	0 - 30
LFB	Chlordane	0.942	LCS	P	0 - 30
LFB	Toxaphene	0.100	LCS	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8321B
Batch ID: P367283

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2103985	3-Hydroxycarbofuran	1.93	Spike	P	0 - 30
2103985	Aldicarb	2.32	Spike	P	0 - 30
2103985	Aldicarb Sulfone	2.51	Spike	P	0 - 30
2103985	Aldicarb Sulfoxide	8.45	Spike	P	0 - 30
2103985	Carbaryl	1.84	Spike	P	0 - 30
2103985	Carbofuran	12.9	Spike	P	0 - 30
2103985	Methiocarb	0.320	Spike	P	0 - 30
2103985	Methomyl	14.2	Spike	P	0 - 30
2103985	Oxamyl	6.68	Spike	P	0 - 30
2103985	Propoxur	0.635	Spike	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P367331

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2103044	2,4-D	11.8	Spike	P	0 - 30
2103044	Acetaminophen	9.75	Spike	P	0 - 30
2103044	Acetamiprid	14.6	Spike	P	0 - 30
2103044	Afidopyropen	17.0	Spike	P	0 - 30
2103044	Bentazon	17.8	Spike	P	0 - 30
2103044	Benzovindiflupyr	12.6	Spike	P	0 - 30
2103044	Carbamazepine	8.07	Spike	P	0 - 30
2103044	Clothianidin	10.1	Spike	P	0 - 30
2103044	Dinotefuran	10.4	Spike	P	0 - 30
2103044	Diuron	12.8	Spike	P	0 - 30
2103044	Fenuron	18.0	Spike	P	0 - 30
2103044	Fluridone	10.8	Spike	P	0 - 30
2103044	Hydrocodone	14.2	Spike	P	0 - 30
2103044	Ibuprofen	8.33	Spike	P	0 - 30
2103044	Imazapyr	12.7	Spike	P	0 - 30
2103044	Imidacloprid	4.60	Spike	P	0 - 30
2103044	Linuron	5.33	Spike	P	0 - 30
2103044	Mandestrobin	9.07	Spike	P	0 - 30
2103044	MCP	9.78	Spike	P	0 - 30
2103044	Naproxen	7.17	Spike	P	0 - 30
2103044	Primidone	8.02	Spike	P	0 - 30
2103044	Pyraclostrobin	14.3	Spike	P	0 - 30
2103044	Thiamethoxam	12.7	Spike	P	0 - 30
2103044	Tolfenpyrad	3.66	Spike	P	0 - 30
2103044	Triclopyr	4.60	Spike	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P367428

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2103043	Acesulfame K	24.9	Spike	P	0 - 30
2103043	AMPA	1.34	Spike	P	0 - 30
2103043	Endothall	12.8	Spike	P	0 - 30
2103043	Glufosinate	4.97	Spike	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8321B
Batch ID: P367428

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2103043	Glyphosate	3.09	Spike	P	0 - 30
2103043	Sucralose	0.211	Spike	P	0 - 30

* Sample, spike and/or laboratory control sample precision (LCS) is reported.
Replicate spike precision may be reported when sample results are below quantifiable levels.

Quality Assurance Report Surrogates

Lab Sample ID: 2103985
Field Sample ID: IMKFHCK

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Carbaryl-d7	67.1	P	30 - 160

Lab Sample ID: 2103986
Field Sample ID: IMKFHCK

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	118	P	30 - 160
EPA 8321B	Acetaminophen-d4	101	P	30 - 160
EPA 8321B	Carbamazepine-d10	66.3	P	30 - 160
EPA 8321B	Diuron-d6	76.3	P	30 - 160
EPA 8321B	Endothall-d6	80.1	P	30 - 160
EPA 8321B	Endothall-d6	80.1	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	72.7	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	72.7	P	30 - 160
EPA 8321B	Ibuprofen-d3	122	P	30 - 160
EPA 8321B	Primidone-d5	83.3	P	30 - 160
EPA 8321B	Sucralose-d6	94.5	P	30 - 160
EPA 8321B	Sucralose-d6	94.5	P	30 - 160

Lab Sample ID: 2103987
Field Sample ID: IMKFHCK

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8270E	Decachlorobiphenyl	81.7	P	39 - 109
EPA 8270E	Tetrachloro-m-xylene	85.7	P	28 - 96.0
EPA 8276	Decachlorobiphenyl	56.1	P	30 - 103
EPA 8276	PCNB	98.1	P	37 - 143

Lab Sample ID: 2103988
Field Sample ID: IMKFHCK

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8270E	Simazine-d10	90.3	P	68 - 130
EPA 8270E	Terbufos-d10	114	P	61 - 136

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B
 Run ID: A92848
 Included Lab Sample IDs: 2103986

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	97.3	99.2	P/P	50 - 150
3-Hydroxycarbofuran	133	129	P/P	60 - 150
Acetaminophen	113	112	P/P	60 - 160
Acetamiprid	120	121	P/P	50 - 150
Afidopyropen	124	99.9	P/P	50 - 150
Aldicarb	142	124	P/P	60 - 150
Aldicarb Sulfone	133	133	P/P	50 - 150
Aldicarb Sulfoxide	123	124	P/P	50 - 150
Bentazon	94.2	86.4	P/P	50 - 160
Benzovindiflupyr	128	125	P/P	50 - 150
Carbamazepine	126	123	P/P	60 - 150
Carbaryl	130	127	P/P	60 - 150
Carbofuran	118	115	P/P	50 - 150
Clothianidin	127	131	P/P	60 - 150
Dinotefuran	128	116	P/P	50 - 150
Diuron	129	123	P/P	60 - 150
Fenuron	128	125	P/P	60 - 150
Fluridone	127	119	P/P	60 - 160
Hydrocodone	113	110	P/P	60 - 150
Ibuprofen	107	91.4	P/P	50 - 160
Imazapyr	103	94.2	P/P	50 - 150
Imidacloprid	106	109	P/P	60 - 150
Linuron	125	126	P/P	60 - 150
Mandestrobin	131	132	P/P	50 - 150
MCPP	113	104	P/P	50 - 150
Methiocarb	129	131	P/P	50 - 150
Methomyl	139	144	P/P	50 - 150
Naproxen	120	123	P/P	50 - 160
Oxamyl	129	143	P/P	50 - 150
Primidone	121	114	P/P	60 - 150
Propoxur	121	129	P/P	50 - 150
Pyraclostrobin	129	119	P/P	60 - 150
Thiamethoxam	119	122	P/P	50 - 150
Tolfenpyrad	109	115	P/P	60 - 150
Triclopyr	96.8	101	P/P	50 - 150

Reference Method: EPA 200.7 Rev. 4.4
 Run ID: A92916
 Included Lab Sample IDs: 2103989

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Barium	101	102	P/P	90 - 110
Calcium	99.8	99.4	P/P	90 - 110
Iron	99.1	98.9	P/P	90 - 110
Magnesium	99.5	99.1	P/P	90 - 110
Potassium	99.0	97.8	P/P	90 - 110
Sodium	99.2	97.6	P/P	90 - 110
Zinc	100	101	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B
 Run ID: A92932
 Included Lab Sample IDs: 2103986

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acesulfame K	79.2	123	P/P	60 - 160
Endothall	112	116	P/P	60 - 160

Reference Method: EPA 8321B
 Run ID: A92936
 Included Lab Sample IDs: 2103986

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
AMPA	90.5	96.8	P/P	60 - 160
Glufosinate	81.5	83.2	P/P	60 - 160
Glyphosate	89.7	99.2	P/P	60 - 160

Reference Method: EPA 8276
 Run ID: A92995
 Included Lab Sample IDs: 2103987

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chlordane	91.9		P	80 - 120
Toxaphene	106		P	80 - 120

Reference Method: EPA 200.8 Rev. 5.4
 Run ID: A93072
 Included Lab Sample IDs: 2103989

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Aluminum	98.9	96.7	P/P	90 - 110
Antimony	96.3	95.5	P/P	90 - 110
Arsenic	101	98.0	P/P	90 - 110
Boron	98.2	94.4	P/P	90 - 110
Cadmium	99.1	98.5	P/P	90 - 110
Chromium	98.4	97.6	P/P	90 - 110
Copper	100	98.1	P/P	90 - 110
Lead	93.4	92.3	P/P	90 - 110
Nickel	98.9	97.2	P/P	90 - 110

Reference Method: EPA 8270E
 Run ID: A93092
 Included Lab Sample IDs: 2103988

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acetochlor	104		P	80 - 120
Alachlor	103		P	80 - 120
Ametryn	97.2		P	80 - 120
Atrazine	96.7		P	80 - 120
Atrazine Desethyl	93.4		P	80 - 120
Azinphos Methyl	94.8		P	80 - 120
Bromacil	99.1		P	80 - 120
Butylate	96.1		P	80 - 120
Chlorpyrifos Ethyl	100		P	80 - 120
Chlorpyrifos Methyl	102		P	80 - 120
Cyanazine	101		P	80 - 120

Quality Assurance Report Calibration Verification

Reference Method: EPA 8270E
Run ID: A93092
Included Lab Sample IDs: 2103988

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Demeton	91.9		P	80 - 120
Diazinon	99.4		P	80 - 120
Dimethenamid	103		P	80 - 120
Disulfoton	99.3		P	80 - 120
Dithiopyr	102		P	80 - 120
EPTC	99.2		P	80 - 120
Ethion	99.6		P	80 - 120
Ethoprop	99.4		P	80 - 120
Fenamiphos	95.7		P	80 - 120
Fipronil	98.0		P	80 - 120
Fipronil Desulfinyl	101		P	80 - 120
Fipronil Sulfide	98.7		P	80 - 120
Fipronil Sulfone	98.9		P	80 - 120
Fonofos	95.5		P	80 - 120
Hexazinone	99.8		P	80 - 120
Malathion	98.5		P	80 - 120
Metalaxyl	99.2		P	80 - 120
Metolachlor	105		P	80 - 120
Metribuzin	102		P	80 - 120
Mevinphos	104		P	80 - 120
Molinate	99.7		P	80 - 120
Oxadiazon	81.9		P	80 - 120
Parathion Ethyl	94.3		P	80 - 120
Parathion Methyl	97.2		P	80 - 120
Pendimethalin	94.6		P	80 - 120
Phorate	95.0		P	80 - 120
Prodiamine	95.8		P	80 - 120
Prometon	98.1		P	80 - 120
Prometryn	97.2		P	80 - 120
Simazine	100		P	80 - 120
Tebuconazole	98.6		P	80 - 120
Terbufos	98.4		P	80 - 120
Terbutylazine	98.3		P	80 - 120

Reference Method: EPA 8270E
Run ID: A93095
Included Lab Sample IDs: 2103988

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

Reference Method: EPA 8270E
Run ID: A93111
Included Lab Sample IDs: 2103987

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Aldrin	93.6		P	80 - 120
Alpha-BHC	95.0		P	80 - 120
Alpha-Chlordane	93.1		P	80 - 120
Beta-BHC	91.7		P	80 - 120
Bifenthrin	84.1		P	80 - 120

Quality Assurance Report Calibration Verification

Reference Method: EPA 8270E
 Run ID: A93111
 Included Lab Sample IDs: 2103987

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Carbophenothion	82.1		P	80 - 120
Chlorothalonil	93.1		P	80 - 120
Cis-Nonachlor	90.9		P	80 - 120
Cypermethrin	82.5		P	80 - 120
DDD-p,p'	91.1		P	80 - 120
DDE-p,p'	92.2		P	80 - 120
DDT-p,p'	98.6		P	80 - 120
Delta-BHC	93.1		P	80 - 120
Dicofol	99.7		P	80 - 120
Dieldrin	96.1		P	80 - 120
Endosulfan I	94.2		P	80 - 120
Endosulfan II	109		P	80 - 120
Endosulfan Sulfate	95.9		P	80 - 120
Endrin	94.3		P	80 - 120
Endrin Aldehyde	88.8		P	80 - 120
Endrin Ketone	92.6		P	80 - 120
Ethalfuralin	93.7		P	80 - 120
Gamma-BHC	95.8		P	80 - 120
Gamma-Chlordane	92.8		P	80 - 120
Heptachlor	92.1		P	80 - 120
Heptachlor Epoxide	93.4		P	80 - 120
Hexachlorobenzene	96.3		P	80 - 120
Methoxychlor	99.8		P	80 - 120
Mirex	94.3		P	80 - 120
Permethrin	84.7		P	80 - 120
Trans-Nonachlor	92.2		P	80 - 120
Trifluralin	93.4		P	80 - 120

Reference Method: EPA 200.8 Rev. 5.4
 Run ID: A93121
 Included Lab Sample IDs: 2103989

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Selenium	98.2	101	P/P	90 - 110
Silver	94.6	95.0	P/P	90 - 110
Thallium	90.8	93.5	P/P	90 - 110

Reference Method: EPA 8321B
 Run ID: A93230
 Included Lab Sample IDs: 2103986

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Sucralose	90.0	89.1	P/P	60 - 160

* 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 200.7 Rev. 4.4	Barium	98.9		98.6	98.0	99.9			0.591
	Calcium	104		103	102	103			0.145
	Iron	101		101	100	102			1.07
	Magnesium	107		107	104	107			2.10
	Potassium	101		98.1	98.2	98.0			0.130
	Sodium	100		98.3	99.3				1.19
	Zinc	96.0		97.3	96.0	100			1.33
EPA 200.8 Rev. 5.4	Aluminum	101		99.6	98.3	98.1			1.18
	Antimony	100		99.9	99.0	97.8			0.857
	Arsenic	104		102	103	102			0.791
	Boron	100		99.7	100	99.5			0.482
	Cadmium	101		99.1	100	99.7			1.12
	Chromium	102		98.4	99.5	99.3			1.13
	Copper	101		100	101	101			1.15
	Lead	91.0		90.7	90.2	89.4			0.532
	Nickel	102		100	101	101			1.01
	Selenium	104		102	103	104			0.161
	Silver	105		102	103	101			1.50
	Thallium	102		104	104	104			0.603
EPA 8270E	Acetochlor	102	98.1	87.4	89.2		4.30		2.06
	Alachlor	93.4	96.4	83.9	85.9		3.26		2.36
	Aldrin	61.1	60.3	58.1	58.7		1.37		1.03
	Alpha-BHC	126	128	144	152		1.53		5.51
	Alpha-Chlordane	93.4	92.0	84.4	94.7		1.45		11.5
	Ametryn	93.0	86.5	93.9	105		7.27		11.2
	Atrazine	105	102				2.60		5.41
	Atrazine Desethyl	124	128	93.6	116		2.58		15.1
	Azinphos Methyl	92.7	98.9	86.2	85.9		6.51		0.312
	Beta-BHC	130	147	104	99.7		12.2		4.18
	Bifenthrin	82.0	90.7	86.6	99.0		10.1		13.4
	Bromacil	72.2	74.4	71.7	71.4		2.99		0.420
	Butylate	57.4	65.6	51.8	63.5		13.3		20.3
	Carbophenothion	90.4	111	106	112		20.1		5.55
	Chlorothalonil	167	214	235	259		24.2		9.49
	Chlorpyrifos Ethyl	101	90.2	86.7	88.4		11.3		1.90
	Chlorpyrifos Methyl	98.7	106	89.6	96.7		6.95		7.58
	Cis-Nonachlor	91.7	94.0	83.3	93.2		2.39		11.2
	Cyanazine	178	185	142	170		4.19		18.0
	Cypermethrin	72.9	87.8	77.0	88.8		18.6		14.2
	DDD-p,p'	102	106	98.9	107		4.23		8.31
	DDE-p,p'	93.3	92.7	83.1	92.8		0.735		11.0
	DDT-p,p'	122	124	112	125		1.50		11.7
	Delta-BHC	147	160	212	191		8.56		10.2
	Demeton	41.4	61.3	67.6	71.1		38.7		4.99
	Diazinon	112	108	95.3	105		3.11		9.42
	Dicofol	98.0	99.0	86.7	90.6		1.03		4.43
	Dieldrin	100	100	97.7	108		0.327		9.81
	Dimethenamid	86.2	93.3	75.5	76.7		7.95		1.60
	Disulfoton	71.3	46.6	78.1	83.3		41.9		6.41
	Dithiopyr	101	102	87.9	90.8		0.965		3.12
	Endosulfan I	108	102	104	111		5.05		6.80
	Endosulfan II	112	122	148	146		8.63		1.05
	Endosulfan Sulfate	96.0	109	106	113		12.5		6.77
	Endrin	103	110	111	118		6.70		6.34

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery		MS % Recovery		Precision	
						LCS	MS
						SMP	
EPA 8270E	Endrin Aldehyde	91.5	101	89.3	96.0	9.84	7.20
	Endrin Ketone	93.2	100	95.6	103	7.56	7.71
	EPTC	67.6	52.5	54.5	61.7	25.2	12.4
	Ethalfuralin	109	110	110	112	0.738	2.49
	Ethion	55.0	79.3	52.0	50.2	36.1	3.65
	Ethoprop	96.3	96.3	90.5	94.8	0.0493	4.60
	Fenamiphos	76.5	90.0	74.0	80.8	16.1	8.68
	Fipronil	93.0	94.9	92.2	91.3	1.99	0.967
	Fipronil Desulfinyl	85.9	87.0	79.1	78.5	1.32	0.756
	Fipronil Sulfide	82.4	87.2	81.0	93.3	5.76	11.0
	Fipronil Sulfone	82.3	69.6	75.7	70.6	16.8	2.92
	Fonofos	98.4	99.9	93.0	101	1.48	7.83
	Gamma-BHC	134	129	252	272	3.78	7.41
	Gamma-Chlordane	88.7	89.3	79.9	91.0	0.620	12.9
	Heptachlor	76.8	77.5	65.9	76.3	0.920	14.7
	Heptachlor Epoxide	98.0	94.9	93.7	102	3.21	8.59
	Hexachlorobenzene	78.3	85.1	74.1	78.2	8.41	5.42
	Hexazinone	108	98.8	89.2	97.4	8.67	8.73
	Malathion	94.9	87.2	82.5	89.7	8.52	8.42
	Metalaxyl	96.5	94.5	83.9	87.6	2.05	4.43
	Methoxychlor	126	138	131	140	8.42	6.48
	Metolachlor	89.7	86.7	78.0	80.7	3.34	3.40
	Metribuzin	239	235	219	233	1.66	6.45
	Mevinphos	88.6	79.9	83.2	86.4	10.3	3.78
	Mirex	66.3	69.5	64.7	70.7	4.60	8.84
	Molinate	69.2	77.1	66.1	78.8	10.7	17.6
	Norflurazon	93.9	92.0	79.5	79.3	2.00	0.308
	Oxadiazon	89.5	87.6	72.7	80.8	2.22	10.5
	Parathion Ethyl	95.4	92.3	84.2	85.3	3.29	1.30
	Parathion Methyl	107	99.7	92.2	102	6.87	10.1
	Pendimethalin	99.5	97.4	85.7	94.6	2.15	9.91
	Permethrin	70.4	77.7	70.8	82.2	9.87	14.8
	Phorate	82.4	74.3	69.2	74.9	10.3	7.93
	Prodiamine	43.3	46.1	53.3	48.1	6.33	10.2
	Prometon	82.0	72.0	86.4	88.8	13.0	2.74
	Prometryn	87.8	81.1	75.8	80.5	7.98	6.08
	Simazine	114	106	99.3	107	7.29	5.63
	Tebuconazole	67.4	57.0	54.7	49.6	16.8	9.64
	Terbufos	92.2	90.0	87.1	95.6	2.47	9.28
	Terbuthylazine	97.4	93.7	87.4	91.0	3.78	4.02
	Trans-Nonachlor	85.4	79.7	71.2	76.6	6.95	7.26
	Trifluralin	104	108	102	108	3.25	6.05
EPA 8276	Chlordane	92.5	91.6	104	104	0.942	0.0314
	Toxaphene	67.5	67.5	74.1	73.6	0.100	0.707
EPA 8321B	2,4-D	149		171	151		11.8
	3-Hydroxycarbofuran	121		92.2	94.0		1.93
	Acesulfame K	103		112	143		24.9
	Acetaminophen	92.8		104	94.4		9.75
	Acetamiprid	105		116	100		14.6
	Afidopyropen	97.4		111	93.7		17.0
	Aldicarb	119		68.7	70.4		2.32
	Aldicarb Sulfone	118		103	106		2.51
	Aldicarb Sulfoxide	118		41.1	44.8		8.45
	AMPA	97.1		95.3	96.6		1.34

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery		Precision SMP	MS
			LCS			
EPA 8321B	Bentazon	102				17.8
	Benzovindiflupyr	95.9	105	92.8		12.6
	Carbamazepine	111	94.3	85.5		8.07
	Carbaryl	104	66.8	65.5		1.84
	Carbofuran	85.2	52.2	59.4		12.9
	Clothianidin	110	112	98.2		10.1
	Dinotefuran	114	136	123		10.4
	Diuron	101	91.9	80.9		12.8
	Endothall	88.6	96.2	109		12.8
	Fenuron	116	92.9	77.6		18.0
	Fluridone	105	96.9	59.0		10.8
	Glufosinate	82.3	90.9	95.6		4.97
	Glyphosate	90.4	95.7	92.8		3.09
	Hydrocodone	107	111	95.9		14.2
	Ibuprofen	90.5	102	93.8		8.33
	Imazapyr	107				12.7
	Imidacloprid	106				4.60
	Linuron	93.7	88.8	84.2		5.33
	Mandestrobin	109	112	102		9.07
	MCPP	148	184	165		9.78
	Methiocarb	105	78.7	78.9		0.320
	Methomyl	108	67.4	77.7		14.2
	Naproxen	115	102	109		7.17
	Oxamyl	122	87.7	93.8		6.68
	Primidone	105	110	100		8.02
	Propoxur	96.8	60.1	59.8		0.635
	Pyraclostrobin	100	112	96.8		14.3
	Sucralose	91.7	88.3	88.2		0.211
	Thiamethoxam	114	159	137		12.7
	Tolfenpyrad	64.1	78.1	75.3		3.66
	Triclopyr	139	155	162		4.60

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 200.7 Rev. 4.4 / E31780	Total Recoverable Metals analysis using ICP emission spectroscopy for aqueous samples supporting Clean Water Act Projects	2103989
EPA 200.8 Rev. 5.4 / E31780	Total Recoverable Metals analysis using ICP-MS for aqueous samples supporting Clean Water Act Projects	2103989
EPA 8270E / E31780	Organochlorine pesticides in water matrices by GC/MS-SIM	2103987
EPA 8270E / E31780	Organonitrogen and phosphorus pesticides in water matrices by GC/MS/MS	2103988
EPA 8276 / E31780	Organochlorine pesticides in water matrices by GC/MS with Negative Chemical Ionization	2103987
EPA 8321B / E31780	Carbamates in water matrices by HPLC/MS/MS	2103985
EPA 8321B / E31780	Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS	2103986
EPA 8321B / E31780	Water soluble organic compounds by HPLC/MS/MS	2103986

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
EPA 200.7 Rev. 4.4	07/17/2019	07/18/2019 18:10	Elliott D. Healy	07/19/2019 21:40	Betina Topolski	2103989
EPA 200.8 Rev. 5.4	07/17/2019	07/18/2019 18:10	Elliott D. Healy	07/27/2019 14:32	Robert K Palmer	2103989
	07/17/2019	07/18/2019 18:10	Elliott D. Healy	07/30/2019 00:24	Robert K Palmer	2103989
	07/17/2019	07/19/2019 08:30	Rasheda Ghaffari	07/23/2019 18:36	Vandana T. Nagar	2103988
EPA 8270E	07/17/2019	07/19/2019 08:30	Rasheda Ghaffari	07/24/2019 10:57	Vandana T. Nagar	2103988
	07/17/2019	07/19/2019 09:00	Fe-Val Siddell	07/29/2019 20:26	Arthur Maknenko	2103987
	07/17/2019	07/19/2019 09:00	Fe-Val Siddell	07/24/2019 02:23	Luis Flores	2103987
EPA 8276	07/17/2019	07/18/2019 10:00	Hoor Shaik	07/19/2019 08:17	Juyoung Kim	2103986
EPA 8321B	07/17/2019	07/18/2019 10:15	Rebecca Ware	07/18/2019 15:58	Rebecca Ware	2103986
	07/17/2019	07/18/2019 10:15	Rebecca Ware	07/19/2019 15:42	Rebecca Ware	2103986
	07/17/2019	07/18/2019 10:15	Rebecca Ware	08/01/2019 23:06	Rebecca Ware	2103986
	07/17/2019	07/19/2019 13:00	Hoor Shaik	07/19/2019 22:30	Juyoung Kim	2103985