Chemical Analysis Report

SO-DIST-2019-09-17-02

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-2019-08-26-20**
Customer: **SO-DIST**
Project ID: **SMP**

Send Reports to:
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FDEP South District Office
2295 Victoria Ave. Suite 364
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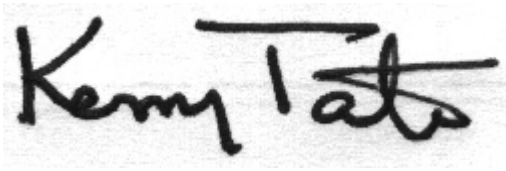
Certified by: Kerry Tate, Ph.D., Environmental Administrator

Date Certified: 09-OCT-2019 11:01



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: 09/16/2019 11:03**

Field ID: AF56638 Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2119873	EPA 8321B	Aldicarb	0.020	U	ug/L	P370852	
		Aldicarb Sulfone	0.0020	U	ug/L	P370852	
		Aldicarb Sulfoxide	0.0020	U	ug/L	P370852	
		Carbaryl	0.0020	U	ug/L	P370852	
		Carbofuran	0.0020	U	ug/L	P370852	
		3-Hydroxycarbofuran	0.0020	U	ug/L	P370852	
		Methiocarb	0.0020	U	ug/L	P370852	
		Methomyl	0.0020	U	ug/L	P370852	
		Oxamyl	0.0020	U	ug/L	P370852	
		Propoxur	0.0020	U	ug/L	P370852	
2119874		2,4-D	0.021		ug/L	P370771	
		Acesulfame K**	0.10	U	ug/L	P370917	
		AMPA**	1.9		ug/L	P370917	
		Sucralose**	0.013	I	ug/L	P370917	
		Acetaminophen**	0.0080	U	ug/L	P370771	
		Acetamiprid**	0.0020	U	ug/L	P370771	
		Endothall**	0.25	U	ug/L	P370917	
		Glufosinate**	0.10	U	ug/L	P370917	
		Glyphosate**	1.2		ug/L	P370917	
		Afidopyropen**	0.0020	UJ	ug/L	P370771	
		Bentazon	0.011		ug/L	P370771	
		Benzovindiflupyr**	0.0020	UJ	ug/L	P370771	
		Carbamazepine**	8.0E-04	U	ug/L	P370771	
		Clothianidin**	0.0020	U	ug/L	P370771	
		Dinotefuran**	0.0020	U	ug/L	P370771	
		Diuron	0.013		ug/L	P370771	
		Fenuron	0.016	U	ug/L	P370771	
		Fluridone**	0.0022	I	ug/L	P370771	
		Imazapyr**	0.13		ug/L	P370771	
		Hydrocodone**	0.0020	U	ug/L	P370771	
		Ibuprofen**	0.020	U	ug/L	P370771	
		Imidacloprid	0.028		ug/L	P370771	
		Linuron	0.0040	U	ug/L	P370771	
		Mandestrobin**	0.0020	UJ	ug/L	P370771	
		MCPP	0.0020	U	ug/L	P370771	
		Naproxen**	0.0080	U	ug/L	P370771	
		Primidone**	0.0040	U	ug/L	P370771	
		Pyraclostrobin**	0.0020	U	ug/L	P370771	
		Thiamethoxam**	0.0020	U	ug/L	P370771	
		Tolfenpyrad**	0.0020	U	ug/L	P370771	
		Triclopyr**	0.0040	U	ug/L	P370771	
2119875	EPA 8270E	Aldrin	4.6	U	ng/L	P371340	
		Alpha-BHC	2.3	U	ng/L	P371340	
		Alpha-Chlordane	1.1	U	ng/L	P371340	

Field ID: AF56638 Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2119875	EPA 8270E	Beta-BHC	11	U	ng/L	P371340	
		Bifenthrin**	4.6	U	ng/L	P371340	
		Delta-BHC	9.1	U	ng/L	P371340	
		Gamma-BHC	9.1	U	ng/L	P371340	
		Carbophenothion	11	U	ng/L	P371340	
		Chlorothalonil	2.3	U	ng/L	P371340	
		Cis-Nonachlor**	1.1	U	ng/L	P371340	
		Cypermethrin	23	U	ng/L	P371340	
		DDD-p,p'	6.8	U	ng/L	P371340	
		DDE-p,p'	6.8	U	ng/L	P371340	
		DDT-p,p'	8.0	U	ng/L	P371340	
		Dicofol	34	U	ng/L	P371340	
		Dieldrin	4.6	U	ng/L	P371340	
		Endosulfan I	4.6	U	ng/L	P371340	
		Endosulfan II	4.6	U	ng/L	P371340	
		Endosulfan Sulfate	2.3	U	ng/L	P371340	
		Endrin	2.3	U	ng/L	P371340	
		Endrin Aldehyde	2.3	U	ng/L	P371340	
		Endrin Ketone	2.3	U	ng/L	P371340	
		Ethalfluralin**	3.4	U	ng/L	P371340	
		Gamma-Chlordane	1.1	U	ng/L	P371340	
		Heptachlor	1.7	U	ng/L	P371340	
		Heptachlor Epoxide	2.3	U	ng/L	P371340	
		Hexachlorobenzene	2.3	U	ng/L	P371340	
		Methoxychlor	4.6	U	ng/L	P371340	
		Mirex	2.3	U	ng/L	P371340	
		Permethrin	11	U	ng/L	P371340	
		Trans-Nonachlor**	1.1	U	ng/L	P371340	
		Trifluralin	2.8	U	ng/L	P371340	
	EPA 8276	Chlordane	5.7	U	ng/L	P371340	
		Toxaphene	34	U	ng/L	P371340	
2119876	EPA 8270E	Acetochlor	0.27	U	ng/L	P370888	
		Alachlor	0.27	U	ng/L	P370888	
		Ametryn	0.64	U	ng/L	P370888	
		Atrazine	5.7		ng/L	P370888	
		Atrazine Desethyl	1.6	U	ng/L	P370888	
		Azinphos Methyl	5.3	U	ng/L	P370888	
		Bromacil	3.2		ng/L	P370888	
		Butylate	0.43	U	ng/L	P370888	
		Chlorpyrifos Ethyl	0.79	I	ng/L	P370888	
		Chlorpyrifos Methyl	0.11	U	ng/L	P370888	
		Cyanazine	3.5	U	ng/L	P370888	
		Demeton	7.4	U	ng/L	P370888	
		Diazinon	0.13	U	ng/L	P370888	
		Dimethenamid**	0.11	U	ng/L	P370888	

Field ID: AF56638 Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2119876	EPA 8270E	Disulfoton	0.53	U	ng/L	P370888	
		Dithiopyr**	0.11	U	ng/L	P370888	
		EPTC	1.3	U	ng/L	P370888	
		Ethion	0.16	U	ng/L	P370888	
		Ethoprop	0.11	U	ng/L	P370888	
		Fenamiphos	0.53	U	ng/L	P370888	
		Fipronil	0.27	U	ng/L	P370888	
		Fipronil Desulfinyl**	0.13	U	ng/L	P370888	
		Fipronil Sulfide	0.16	U	ng/L	P370888	
		Fipronil Sulfone	0.16	U	ng/L	P370888	
		Fonofos	0.21	U	ng/L	P370888	
		Hexazinone	5.0		ng/L	P370888	
		Malathion	0.37	U	ng/L	P370888	
		Metalaxyl	7.3		ng/L	P370888	
		Metolachlor	1.2	I	ng/L	P370888	
		Metribuzin	1.4	I	ng/L	P370888	
		Mevinphos	0.53	U	ng/L	P370888	
		Molinate	0.32	U	ng/L	P370888	
		Norflurazon	66		ng/L	P370888	
		Oxadiazon**	0.47		ng/L	P370888	
		Parathion Ethyl	0.27	U	ng/L	P370888	
		Parathion Methyl	0.58	U	ng/L	P370888	
		Pendimethalin	1.1	U	ng/L	P370888	
		Phorate	0.27	U	ng/L	P370888	
		Prodiamine**	0.19	U	ng/L	P370888	
		Prometon	0.96	U	ng/L	P370888	
		Prometryn	0.21	U	ng/L	P370888	
		Simazine	2.7		ng/L	P370888	
		Tebuconazole**	0.53	U	ng/L	P370888	
		Terbufos	0.11	U	ng/L	P370888	
		Terbuthylazine	0.45	U	ng/L	P370888	
2119877	EPA 200.7 Rev. 4.4	Barium	10.0		ug/L	P371002	
		Calcium	27.4		mg/L	P371002	
		Iron	1.0E+03		ug/L	P371002	
		Magnesium	4.31		mg/L	P371002	
		Potassium	3.4		mg/L	P371002	
		Sodium	7.2		mg/L	P371002	
		Zinc	5.0	U	ug/L	P371002	
	EPA 200.8 Rev. 5.4	Aluminum	178		ug/L	P371002	
		Antimony	0.090	I	ug/L	P371002	
		Arsenic	1.27		ug/L	P371002	
		Boron**	31.8		ug/L	P371002	
		Cadmium	0.020	U	ug/L	P371002	
		Chromium	1.2	I	ug/L	P371002	
		Copper	1.32		ug/L	P371002	

Field ID: AF56638 Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2119877	EPA 200.8 Rev. 5.4	Lead	0.24	I	ug/L	P371002	
		Nickel	0.50	U	ug/L	P371002	
		Selenium	0.20	U	ug/L	P371002	
		Silver	0.010	U	ug/L	P371002	
		Thallium	0.10	U	ug/L	P371002	

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

Quality Assurance Report
Method Blank Results

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P371002

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: P371002

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: P370888

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

Quality Assurance Report
Method Blank Results

Reference Method: EPA 8270E
Batch ID: P370888

Component	Result	Code	Units
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
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
Terbuthylazine	0.42	U	ng/L

Reference Method: EPA 8270E
Batch ID: P371340

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
Ethalfluralin	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

Quality Assurance Report
Method Blank Results

Reference Method: EPA 8270E
Batch ID: P371340

Component	Result	Code	Units
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: P371340

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

Reference Method: EPA 8321B
Batch ID: P370771

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
MCPP	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: P370852

Component	Result	Code	Units
3-Hydroxycarbofuran	0.0020	U	ug/L
Aldicarb	0.020	U	ug/L
Aldicarb Sulfone	0.0020	U	ug/L

Quality Assurance Report
Method Blank Results

Reference Method: EPA 8321B
Batch ID: P370852

Component	Result	Code	Units
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: P370917

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: P371002

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Barium	100		P	85 - 115
Calcium	108		P	85 - 115
Iron	107		P	85 - 115
Magnesium	110		P	85 - 115
Potassium	104		P	85 - 115
Sodium	107		P	85 - 115
Zinc	97.4		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P371002

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Aluminum	97.3		P	85 - 115
Antimony	99.7		P	85 - 115
Arsenic	102		P	85 - 115
Boron	101		P	85 - 115
Cadmium	96.3		P	85 - 115
Chromium	95.2		P	85 - 115
Copper	101		P	85 - 115
Lead	98.7		P	85 - 115
Nickel	100		P	85 - 115
Selenium	100		P	85 - 115
Silver	101		P	85 - 115
Thallium	99.6		P	85 - 115

Reference Method: EPA 8270E
Batch ID: P370888

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acetochlor	97.8	105	P/P	69 - 122
Alachlor	97.0	103	P/P	71 - 120
Ametryn	99.1	102	P/P	47 - 138
Atrazine	102	101	P/P	74 - 124
Atrazine Desethyl	67.4	74.1	P/P	38 - 138
Azinphos Methyl	98.9	100	P/P	69 - 154
Bromacil	92.4	86.4	P/P	39 - 121
Butylate	57.2	60.2	P/P	27 - 87.0
Chlorpyrifos Ethyl	92.2	95.5	P/P	69 - 118
Chlorpyrifos Methyl	75.0	79.1	P/P	70 - 120
Cyanazine	72.6	91.9	P/P	20 - 250
Demeton	64.9	62.5	P/P	39 - 118
Diazinon	90.5	97.8	P/P	68 - 127
Dimethenamid	101	105	P/P	66 - 125
Disulfoton	68.0	68.3	P/P	52 - 126
Dithiopyr	94.7	100	P/P	67 - 127
EPTC	63.7	66.4	P/P	24 - 88.0
Ethion	96.9	94.9	P/P	51 - 132
Ethoprop	82.9	93.1	P/P	58 - 117
Fenamiphos	96.1	83.5	P/P	38 - 139
Fipronil	111	107	P/P	61 - 124
Fipronil Desulfinyl	97.0	96.5	P/P	47 - 120
Fipronil Sulfide	91.5	85.9	P/P	56 - 119

Quality Assurance Report
Laboratory Control Sample Accuracy

Reference Method: EPA 8270E
Batch ID: P370888

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fipronil Sulfone	97.6	95.6	P/P	50 - 117
Fonofos	65.9	70.2	P/P	60 - 121
Hexazinone	111	119	P/P	55 - 137
Malathion	98.1	100	P/P	66 - 126
Metalaxyl	78.6	83.2	P/P	33 - 140
Metolachlor	99.9	102	P/P	69 - 119
Metribuzin	77.3	85.5	P/P	31 - 238
Mevinphos	80.6	90.1	P/P	42 - 113
Molinate	69.7	77.8	P/P	32 - 96.0
Norflurazon	110	108	P/P	54 - 123
Oxadiazon	98.8	96.6	P/P	63 - 128
Parathion Ethyl	85.5	88.3	P/P	72 - 111
Parathion Methyl	81.3	84.6	P/P	74 - 126
Pendimethalin	84.8	84.9	P/P	61 - 131
Phorate	74.4	75.3	P/P	51 - 115
Prodiamine	104	93.4	P/P	38 - 144
Prometon	100	98.0	P/P	54 - 119
Prometryn	96.1	98.2	P/P	63 - 120
Simazine	100	96.5	P/P	75 - 126
Tebuconazole	97.4	97.5	P/P	20 - 119
Terbufos	69.4	73.9	P/P	64 - 116
Terbuthylazine	97.5	98.5	P/P	73 - 117

Reference Method: EPA 8270E
Batch ID: P371340

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Aldrin	54.4	52.8	P/P	20 - 93.0
Alpha-BHC	90.9	86.4	P/P	55 - 133
Alpha-Chlordane	81.9	83.5	P/P	58 - 112
Beta-BHC	108	107	P/P	54 - 168
Bifenthrin	91.5	91.8	P/P	30 - 134
Carbophenothion	101	99.3	P/P	26 - 147
Chlorothalonil	73.7	76.4	P/P	20 - 155
Cis-Nonachlor	87.6	88.2	P/P	54 - 115
Cypermethrin	97.3	99.3	P/P	40 - 137
DDD-p,p'	94.2	96.6	P/P	65 - 129
DDE-p,p'	82.8	83.7	P/P	57 - 116
DDT-p,p'	79.6	82.6	P/P	53 - 133
Delta-BHC	92.4	90.6	P/P	59 - 178
Dicofol	100	94.6	P/P	24 - 138
Dieldrin	87.8	88.3	P/P	60 - 120
Endosulfan I	82.1	82.5	P/P	64 - 118
Endosulfan II	90.8	93.0	P/P	58 - 142
Endosulfan Sulfate	94.7	95.2	P/P	60 - 127
Endrin	86.6	85.6	P/P	59 - 122
Endrin Aldehyde	94.1	95.4	P/P	49 - 132
Endrin Ketone	97.9	102	P/P	64 - 121
Ethalfluralin	90.7	91.4	P/P	60 - 126
Gamma-BHC	106	100	P/P	57 - 154
Gamma-Chlordane	79.5	81.5	P/P	56 - 110
Heptachlor	69.2	68.4	P/P	46 - 96.0

Quality Assurance Report
Laboratory Control Sample Accuracy

Reference Method: EPA 8270E
Batch ID: P371340

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Heptachlor Epoxide	84.0	85.1	P/P	61 - 112
Hexachlorobenzene	81.8	80.2	P/P	44 - 98.0
Methoxychlor	98.4	98.4	P/P	63 - 134
Mirex	74.7	73.1	P/P	45 - 100
Permethrin	77.4	80.4	P/P	53 - 115
Trans-Nonachlor	83.4	83.7	P/P	47 - 110
Trifluralin	89.1	93.6	P/P	39 - 142

Reference Method: EPA 8276
Batch ID: P371340

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Chlordane	85.5	83.7	P/P	43 - 128
Toxaphene	79.7	79.5	P/P	38 - 140

Reference Method: EPA 8321B
Batch ID: P370771

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	148		P	40 - 160
Acetaminophen	76.0		P	30 - 160
Acetamiprid	95.9		P	40 - 160
Afidopyropen	101		P	40 - 160
Bentazon	125		P	30 - 160
Benzovindiflupyr	94.1		P	40 - 160
Carbamazepine	103		P	40 - 160
Clothianidin	90.9		P	40 - 160
Dinotefuran	88.3		P	40 - 160
Diuron	107		P	40 - 160
Fenuron	101		P	40 - 160
Fluridone	97.3		P	40 - 160
Hydrocodone	93.1		P	40 - 160
Ibuprofen	96.4		P	30 - 160
Imazapyr	93.2		P	40 - 160
Imidacloprid	99.5		P	40 - 160
Linuron	84.6		P	40 - 160
Mandestrobin	92.2		P	40 - 160
MCPP	146		P	40 - 160
Naproxen	96.9		P	40 - 160
Primidone	93.5		P	40 - 160
Pyraclostrobin	91.9		P	30 - 160
Thiamethoxam	90.7		P	40 - 160
Tolfenpyrad	73.2		P	40 - 160
Triclopyr	120		P	30 - 160

Reference Method: EPA 8321B
Batch ID: P370852

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
3-Hydroxycarbofuran	90.9		P	40 - 160
Aldicarb	82.6		P	30 - 160
Aldicarb Sulfone	94.5		P	40 - 160

Quality Assurance Report
Laboratory Control Sample Accuracy

Reference Method: EPA 8321B
Batch ID: P370852

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Aldicarb Sulfoxide	83.6		P	40 - 160
Carbaryl	78.5		P	40 - 160
Carbofuran	85.4		P	40 - 160
Methiocarb	71.9		P	40 - 160
Methomyl	83.7		P	40 - 160
Oxamyl	93.2		P	40 - 160
Propoxur	86.7		P	40 - 160

Reference Method: EPA 8321B
Batch ID: P370917

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acesulfame K	74.5		P	40 - 150
AMPA	126		P	40 - 150
Endothall	145		P	40 - 150
Glufosinate	128		P	40 - 150
Glyphosate	126		P	40 - 140
Sucralose	138		P	40 - 150

Quality Assurance Report
Matrix Spike Accuracy

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P371002

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2119832	Barium	103	99.8	P/P	80 - 120
2119832	Calcium	101		P	80 - 120
2119832	Iron	110	109	P/P	80 - 120
2119832	Magnesium	113	110	P/P	80 - 120
2119832	Potassium	109	108	P/P	80 - 120
2119832	Sodium	105	105	P/P	80 - 120
2119832	Zinc	101	97.6	P/P	80 - 120
2120147	Barium	95.2		P	80 - 120
2120147	Calcium	105		P	80 - 120
2120147	Iron	103		P	80 - 120
2120147	Magnesium	99.1		P	80 - 120
2120147	Potassium	97.1		P	80 - 120
2120147	Sodium	97.6		P	80 - 120
2120147	Zinc	95.5		P	80 - 120

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P371002

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2119832	Aluminum	98.1	97.4	P/P	80 - 120
2119832	Antimony	101	100	P/P	80 - 120
2119832	Arsenic	102	102	P/P	80 - 120
2119832	Boron	104	105	P/P	80 - 120
2119832	Cadmium	99.2	97.6	P/P	80 - 120
2119832	Chromium	95.3	94.9	P/P	80 - 120
2119832	Copper	107	102	P/P	80 - 120
2119832	Lead	99.9	100	P/P	80 - 120
2119832	Nickel	102	101	P/P	80 - 120
2119832	Selenium	99.6	99.4	P/P	80 - 120
2119832	Silver	105	102	P/P	80 - 120
2119832	Thallium	103	103	P/P	80 - 120
2120147	Aluminum	96.0		P	80 - 120
2120147	Antimony	101		P	80 - 120
2120147	Arsenic	103		P	80 - 120
2120147	Boron	101		P	80 - 120
2120147	Cadmium	95.4		P	80 - 120
2120147	Chromium	95.4		P	80 - 120
2120147	Copper	101		P	80 - 120
2120147	Lead	99.5		P	80 - 120
2120147	Nickel	99.6		P	80 - 120
2120147	Selenium	98.6		P	80 - 120
2120147	Silver	99.8		P	80 - 120
2120147	Thallium	101		P	80 - 120

Reference Method: EPA 8270E
Batch ID: P370888

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2119146	Acetochlor	108	113	P/P	63 - 129
2119146	Alachlor	101	108	P/P	65 - 127
2119146	Ametryn	139	144	P/P	40 - 164
2119146	Atrazine Desethyl	116	112	P/P	14 - 157

Quality Assurance Report
Matrix Spike Accuracy

Reference Method: EPA 8270E
Batch ID: P370888

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2119146	Azinphos Methyl	99.0	126	P/P	49 - 180
2119146	Bromacil	92.9	113	P/P	48 - 130
2119146	Butylate	61.9	65.3	P/P	10 - 94.0
2119146	Chlorpyrifos Ethyl	88.1	87.4	P/P	58 - 123
2119146	Chlorpyrifos Methyl	99.7	100	P/P	58 - 125
2119146	Cyanazine	128	139	P/P	24 - 253
2119146	Demeton	97.5	102	P/P	25 - 149
2119146	Diazinon	115	123	P/P	59 - 144
2119146	Dimethenamid	106	110	P/P	46 - 139
2119146	Disulfoton	103	101	P/P	54 - 132
2119146	Dithiopyr	105	108	P/P	64 - 130
2119146	EPTC	66.1	70.9	P/P	10 - 92.0
2119146	Ethion	60.3	55.3	P/P	30 - 148
2119146	Ethoprop	104	107	P/P	50 - 130
2119146	Fenamiphos	103	95.9	P/P	49 - 142
2119146	Fipronil	113	114	P/P	46 - 140
2119146	Fipronil Desulfinyl	97.1	99.7	P/P	30 - 121
2119146	Fipronil Sulfide	108	92.6	P/P	31 - 136
2119146	Fipronil Sulfone	81.8	84.0	P/P	16 - 136
2119146	Fonofos	104	109	P/P	55 - 129
2119146	Hexazinone	126	123	P/P	56 - 141
2119146	Malathion	102	95.4	P/P	56 - 135
2119146	Metalaxyl	98.7	102	P/P	54 - 135
2119146	Metolachlor	100	104	P/P	51 - 140
2119146	Metribuzin	206	203	P/P	45 - 254
2119146	Mevinphos	99.5	105	P/P	33 - 131
2119146	Molinate	86.6	95.0	P/P	14 - 98.0
2119146	Norflurazon	103	105	P/P	34 - 136
2119146	Oxadiazon	96.1	97.0	P/P	67 - 116
2119146	Parathion Ethyl	97.5	101	P/P	66 - 118
2119146	Parathion Methyl	109	114	P/P	64 - 136
2119146	Pendimethalin	98.3	102	P/P	59 - 144
2119146	Phorate	108	114	P/P	42 - 130
2119146	Prodiamine	53.1	53.2	P/P	42 - 148
2119146	Prometon	108	108	P/P	59 - 134
2119146	Prometryn	111	119	P/P	54 - 135
2119146	Simazine	111	109	P/P	53 - 156
2119146	Tebuconazole	57.4	50.1	P/P	10 - 131
2119146	Terbufos	114	118	P/P	57 - 131
2119146	Terbuthylazine	101	102	P/P	68 - 125

Reference Method: EPA 8270E
Batch ID: P371340

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2121078	Aldrin	58.8	57.1	P/P	25 - 92.0
2121078	Alpha-BHC	93.5	90.9	P/P	48 - 150
2121078	Alpha-Chlordane	77.3	76.1	P/P	50 - 115
2121078	Beta-BHC	95.2	77.0	P/P	39 - 184
2121078	Bifenthrin	86.8	86.4	P/P	46 - 116
2121078	Carbophenothion	72.5	69.9	P/P	27 - 180
2121078	Chlorothalonil	76.9	71.1	P/P	10 - 216

Quality Assurance Report
Matrix Spike Accuracy

Reference Method: EPA 8270E
Batch ID: P371340

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2121078	Cis-Nonachlor	81.0	80.1	P/P	55 - 112
2121078	Cypermethrin	94.0	93.4	P/P	40 - 153
2121078	DDD-p,p'	84.7	86.9	P/P	53 - 128
2121078	DDE-p,p'	74.6	73.1	P/P	48 - 116
2121078	DDT-p,p'	74.8	74.9	P/P	47 - 128
2121078	Delta-BHC	81.5	78.5	P/P	48 - 221
2121078	Dicofol	84.5	82.3	P/P	10 - 147
2121078	Dieldrin	72.4	67.4	P/P	48 - 128
2121078	Endosulfan I	79.6	74.9	P/P	58 - 126
2121078	Endosulfan II	83.7	84.2	P/P	50 - 150
2121078	Endosulfan Sulfate	90.0	88.5	P/P	56 - 130
2121078	Endrin	76.1	78.7	P/P	50 - 126
2121078	Endrin Aldehyde	81.2	82.4	P/P	12 - 145
2121078	Endrin Ketone	93.2	93.6	P/P	59 - 132
2121078	Ethalfluralin	84.1	83.2	P/P	65 - 122
2121078	Gamma-BHC	102	78.1	P/P	40 - 190
2121078	Gamma-Chlordane	75.8	74.5	P/P	50 - 112
2121078	Heptachlor	68.8	64.0	P/P	41 - 98.0
2121078	Heptachlor Epoxide	86.0	84.1	P/P	55 - 117
2121078	Hexachlorobenzene	76.9	75.7	P/P	47 - 91.0
2121078	Methoxychlor	89.9	88.0	P/P	55 - 133
2121078	Mirex	73.5	72.1	P/P	44 - 101
2121078	Permethrin	62.8	63.4	P/P	52 - 124
2121078	Trans-Nonachlor	78.9	77.8	P/P	53 - 99.0
2121078	Trifluralin	84.2	83.9	P/P	10 - 201

Reference Method: EPA 8276
Batch ID: P371340

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2120434	Chlordane	81.6	84.4	P/P	34 - 136
2120434	Toxaphene	82.0	84.3	P/P	22 - 152

Reference Method: EPA 8321B
Batch ID: P370771

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2119072	2,4-D	141	141	P/P	40 - 160
2119072	Acetaminophen	88.5	86.5	P/P	30 - 160
2119072	Acetamiprid	110	100	P/P	40 - 160
2119072	Afidopyropen	109	93.4	P/P	40 - 160
2119072	Bentazon	109	101	P/P	30 - 160
2119072	Benzovindiflupyr	96.0	93.5	P/P	40 - 160
2119072	Carbamazepine	108	102	P/P	40 - 160
2119072	Clothianidin	102	97.1	P/P	40 - 160
2119072	Dinotefuran	103	101	P/P	40 - 160
2119072	Diuron	106	103	P/P	40 - 160
2119072	Fenuron	100	98.4	P/P	40 - 160
2119072	Fluridone	94.4	92.7	P/P	40 - 160
2119072	Hydrocodone	103	95.6	P/P	40 - 160
2119072	Ibuprofen	92.9	93.2	P/P	30 - 160
2119072	Imazapyr	112	103	P/P	40 - 160

Quality Assurance Report
Matrix Spike Accuracy

Reference Method: EPA 8321B
Batch ID: P370771

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2119072	Imidacloprid	124	136	P/P	40 - 160
2119072	Linuron	82.3	81.0	P/P	40 - 160
2119072	Mandestrobin	95.2	95.3	P/P	40 - 160
2119072	MCPP	151	147	P/P	40 - 160
2119072	Naproxen	97.8	95.8	P/P	40 - 160
2119072	Primidone	86.4	88.8	P/P	40 - 160
2119072	Pyraclostrobin	91.3	92.0	P/P	30 - 160
2119072	Thiamethoxam	118	115	P/P	40 - 160
2119072	Tolfenpyrad	71.1	73.6	P/P	40 - 160
2119072	Triclopyr	111	122	P/P	30 - 160

Reference Method: EPA 8321B
Batch ID: P370852

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2119069	3-Hydroxycarbofuran	94.4	95.0	P/P	40 - 160
2119069	Aldicarb	96.9	84.5	P/P	30 - 160
2119069	Aldicarb Sulfone	102	98.4	P/P	40 - 160
2119069	Aldicarb Sulfoxide	45.8	47.6	P/P	40 - 160
2119069	Carbaryl	77.9	76.0	P/P	40 - 160
2119069	Carbofuran	83.3	81.4	P/P	40 - 160
2119069	Methiocarb	72.6	73.8	P/P	40 - 160
2119069	Methomyl	85.5	87.6	P/P	40 - 160
2119069	Oxamyl	98.5	93.0	P/P	40 - 160
2119069	Propoxur	86.8	83.5	P/P	40 - 160

Reference Method: EPA 8321B
Batch ID: P370917

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2119620	Acesulfame K	60.3	55.1	P/P	40 - 150
2119620	AMPA	115	108	P/P	40 - 150
2119620	Endothall	115	105	P/P	40 - 150
2119620	Glufosinate	115	116	P/P	40 - 150
2119620	Glyphosate	111	110	P/P	40 - 140
2119620	Sucralose	147	133	P/P	40 - 150

Quality Assurance Report
Precision

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P371002

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2119832	Barium	3.34	Spike	P	0 - 20
2119832	Calcium	1.90	Spike	P	0 - 20
2119832	Iron	1.40	Spike	P	0 - 20
2119832	Magnesium	2.14	Spike	P	0 - 20
2119832	Potassium	0.782	Spike	P	0 - 20
2119832	Sodium	0.428	Spike	P	0 - 20
2119832	Zinc	3.27	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P371002

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2119832	Aluminum	0.769	Spike	P	0 - 20
2119832	Antimony	0.464	Spike	P	0 - 20
2119832	Arsenic	0.280	Spike	P	0 - 20
2119832	Boron	0.307	Spike	P	0 - 20
2119832	Cadmium	1.63	Spike	P	0 - 20
2119832	Chromium	0.511	Spike	P	0 - 20
2119832	Copper	4.58	Spike	P	0 - 20
2119832	Lead	0.121	Spike	P	0 - 20
2119832	Nickel	1.21	Spike	P	0 - 20
2119832	Selenium	0.197	Spike	P	0 - 20
2119832	Silver	2.80	Spike	P	0 - 20
2119832	Thallium	0.0415	Spike	P	0 - 20

Reference Method: EPA 8270E
Batch ID: P370888

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2119146	Acetochlor	4.58	Spike	P	0 - 30
2119146	Alachlor	6.72	Spike	P	0 - 30
2119146	Ametryn	3.53	Spike	P	0 - 30
2119146	Atrazine	9.33	Spike	P	0 - 30
2119146	Atrazine Desethyl	2.48	Spike	P	0 - 30
2119146	Azinphos Methyl	23.7	Spike	P	0 - 30
2119146	Bromacil	19.1	Spike	P	0 - 30
2119146	Butylate	5.29	Spike	P	0 - 30
2119146	Chlorpyrifos Ethyl	0.761	Spike	P	0 - 30
2119146	Chlorpyrifos Methyl	0.506	Spike	P	0 - 30
2119146	Cyanazine	8.33	Spike	P	0 - 30
2119146	Demeton	4.98	Spike	P	0 - 30
2119146	Diazinon	6.68	Spike	P	0 - 30
2119146	Dimethenamid	3.88	Spike	P	0 - 30
2119146	Disulfoton	1.58	Spike	P	0 - 30
2119146	Dithiopyr	2.51	Spike	P	0 - 30
2119146	EPTC	6.98	Spike	P	0 - 30
2119146	Ethion	8.68	Spike	P	0 - 30
2119146	Ethoprop	2.49	Spike	P	0 - 30
2119146	Fenamiphos	6.83	Spike	P	0 - 30

Quality Assurance Report
Precision

Reference Method: EPA 8270E
Batch ID: P370888

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2119146	Fipronil	0.693	Spike	P	0 - 30
2119146	Fipronil Desulfinyl	2.66	Spike	P	0 - 30
2119146	Fipronil Sulfide	15.2	Spike	P	0 - 30
2119146	Fipronil Sulfone	2.36	Spike	P	0 - 30
2119146	Fonofos	5.10	Spike	P	0 - 30
2119146	Hexazinone	2.19	Spike	P	0 - 30
2119146	Malathion	6.94	Spike	P	0 - 30
2119146	Metalaxyl	3.26	Spike	P	0 - 30
2119146	Metolachlor	3.92	Spike	P	0 - 30
2119146	Metribuzin	1.27	Spike	P	0 - 30
2119146	Mevinphos	5.30	Spike	P	0 - 30
2119146	Molinate	9.31	Spike	P	0 - 30
2119146	Norflurazon	1.68	Spike	P	0 - 30
2119146	Oxadiazon	0.928	Spike	P	0 - 30
2119146	Parathion Ethyl	3.78	Spike	P	0 - 30
2119146	Parathion Methyl	4.15	Spike	P	0 - 30
2119146	Pendimethalin	4.03	Spike	P	0 - 30
2119146	Phorate	5.17	Spike	P	0 - 30
2119146	Prodiamine	0.241	Spike	P	0 - 30
2119146	Prometon	0.00866	Spike	P	0 - 30
2119146	Prometryn	7.14	Spike	P	0 - 30
2119146	Simazine	1.47	Spike	P	0 - 30
2119146	Tebuconazole	12.1	Spike	P	0 - 30
2119146	Terbufos	3.35	Spike	P	0 - 30
2119146	Terbuthylazine	1.00	Spike	P	0 - 30
LFB	Acetochlor	6.99	LCS	P	0 - 30
LFB	Alachlor	5.74	LCS	P	0 - 30
LFB	Ametryn	3.41	LCS	P	0 - 30
LFB	Atrazine	1.30	LCS	P	0 - 30
LFB	Atrazine Desethyl	9.49	LCS	P	0 - 30
LFB	Azinphos Methyl	1.57	LCS	P	0 - 30
LFB	Bromacil	6.71	LCS	P	0 - 30
LFB	Butylate	5.08	LCS	P	0 - 30
LFB	Chlorpyrifos Ethyl	3.46	LCS	P	0 - 30
LFB	Chlorpyrifos Methyl	5.34	LCS	P	0 - 30
LFB	Cyanazine	23.4	LCS	P	0 - 30
LFB	Demeton	3.80	LCS	P	0 - 30
LFB	Diazinon	7.79	LCS	P	0 - 30
LFB	Dimethenamid	3.54	LCS	P	0 - 30
LFB	Disulfoton	0.356	LCS	P	0 - 30
LFB	Dithiopyr	5.66	LCS	P	0 - 30
LFB	EPTC	4.23	LCS	P	0 - 30
LFB	Ethion	2.11	LCS	P	0 - 30
LFB	Ethoprop	11.6	LCS	P	0 - 30
LFB	Fenamiphos	14.0	LCS	P	0 - 30
LFB	Fipronil	2.98	LCS	P	0 - 30
LFB	Fipronil Desulfinyl	0.565	LCS	P	0 - 30
LFB	Fipronil Sulfide	6.33	LCS	P	0 - 30
LFB	Fipronil Sulfone	2.05	LCS	P	0 - 30
LFB	Fonofos	6.33	LCS	P	0 - 30
LFB	Hexazinone	7.24	LCS	P	0 - 30

Quality Assurance Report
Precision

Reference Method: EPA 8270E
Batch ID: P370888

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
LFB	Malathion	2.06	LCS	P	0 - 30
LFB	Metalaxyl	5.65	LCS	P	0 - 30
LFB	Metolachlor	1.92	LCS	P	0 - 30
LFB	Metribuzin	10.1	LCS	P	0 - 30
LFB	Mevinphos	11.2	LCS	P	0 - 30
LFB	Molinate	11.1	LCS	P	0 - 30
LFB	Norflurazon	1.72	LCS	P	0 - 30
LFB	Oxadiazon	2.30	LCS	P	0 - 30
LFB	Parathion Ethyl	3.23	LCS	P	0 - 30
LFB	Parathion Methyl	3.97	LCS	P	0 - 30
LFB	Pendimethalin	0.115	LCS	P	0 - 30
LFB	Phorate	1.33	LCS	P	0 - 30
LFB	Prodiamine	10.9	LCS	P	0 - 30
LFB	Prometon	2.19	LCS	P	0 - 30
LFB	Prometryn	2.22	LCS	P	0 - 30
LFB	Simazine	3.89	LCS	P	0 - 30
LFB	Tebuconazole	0.184	LCS	P	0 - 30
LFB	Terbufos	6.27	LCS	P	0 - 30
LFB	Terbuthylazine	1.06	LCS	P	0 - 30

Reference Method: EPA 8270E
Batch ID: P371340

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2121078	Aldrin	2.90	Spike	P	0 - 30
2121078	Alpha-BHC	2.85	Spike	P	0 - 30
2121078	Alpha-Chlordane	1.56	Spike	P	0 - 30
2121078	Beta-BHC	21.1	Spike	P	0 - 30
2121078	Bifenthrin	0.489	Spike	P	0 - 30
2121078	Carbophenothion	2.44	Spike	P	0 - 30
2121078	Chlorothalonil	7.82	Spike	P	0 - 30
2121078	Cis-Nonachlor	1.12	Spike	P	0 - 30
2121078	Cypermethrin	0.722	Spike	P	0 - 30
2121078	DDD-p,p'	2.55	Spike	P	0 - 30
2121078	DDE-p,p'	2.02	Spike	P	0 - 30
2121078	DDT-p,p'	0.0957	Spike	P	0 - 30
2121078	Delta-BHC	3.67	Spike	P	0 - 30
2121078	Dicofol	2.66	Spike	P	0 - 30
2121078	Dieldrin	3.83	Spike	P	0 - 30
2121078	Endosulfan I	6.18	Spike	P	0 - 30
2121078	Endosulfan II	0.545	Spike	P	0 - 30
2121078	Endosulfan Sulfate	1.66	Spike	P	0 - 30
2121078	Endrin	3.27	Spike	P	0 - 30
2121078	Endrin Aldehyde	1.54	Spike	P	0 - 30
2121078	Endrin Ketone	0.411	Spike	P	0 - 30
2121078	Ethalfluralin	1.16	Spike	P	0 - 30
2121078	Gamma-BHC	26.5	Spike	P	0 - 30
2121078	Gamma-Chlordane	1.64	Spike	P	0 - 30
2121078	Heptachlor	7.24	Spike	P	0 - 30
2121078	Heptachlor Epoxide	2.24	Spike	P	0 - 30

Quality Assurance Report
Precision

Reference Method: EPA 8270E
Batch ID: P371340

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2121078	Hexachlorobenzene	1.59	Spike	P	0 - 30
2121078	Methoxychlor	2.08	Spike	P	0 - 30
2121078	Mirex	2.00	Spike	P	0 - 30
2121078	Permethrin	0.884	Spike	P	0 - 30
2121078	Trans-Nonachlor	1.41	Spike	P	0 - 30
2121078	Trifluralin	0.291	Spike	P	0 - 30
LFB	Aldrin	2.89	LCS	P	0 - 30
LFB	Alpha-BHC	5.14	LCS	P	0 - 30
LFB	Alpha-Chlordane	1.92	LCS	P	0 - 30
LFB	Beta-BHC	1.18	LCS	P	0 - 30
LFB	Bifenthrin	0.304	LCS	P	0 - 30
LFB	Carbophenothion	2.14	LCS	P	0 - 30
LFB	Chlorothalonil	3.61	LCS	P	0 - 30
LFB	Cis-Nonachlor	0.657	LCS	P	0 - 30
LFB	Cypermethrin	1.98	LCS	P	0 - 30
LFB	DDD-p,p'	2.53	LCS	P	0 - 30
LFB	DDE-p,p'	0.995	LCS	P	0 - 30
LFB	DDT-p,p'	3.77	LCS	P	0 - 30
LFB	Delta-BHC	1.93	LCS	P	0 - 30
LFB	Dicofol	5.48	LCS	P	0 - 30
LFB	Dieldrin	0.552	LCS	P	0 - 30
LFB	Endosulfan I	0.432	LCS	P	0 - 30
LFB	Endosulfan II	2.46	LCS	P	0 - 30
LFB	Endosulfan Sulfate	0.450	LCS	P	0 - 30
LFB	Endrin	1.17	LCS	P	0 - 30
LFB	Endrin Aldehyde	1.36	LCS	P	0 - 30
LFB	Endrin Ketone	3.78	LCS	P	0 - 30
LFB	Ethalfluralin	0.763	LCS	P	0 - 30
LFB	Gamma-BHC	5.82	LCS	P	0 - 30
LFB	Gamma-Chlordane	2.49	LCS	P	0 - 30
LFB	Heptachlor	1.15	LCS	P	0 - 30
LFB	Heptachlor Epoxide	1.40	LCS	P	0 - 30
LFB	Hexachlorobenzene	1.98	LCS	P	0 - 30
LFB	Methoxychlor	0.0498	LCS	P	0 - 30
LFB	Mirex	2.20	LCS	P	0 - 30
LFB	Permethrin	3.81	LCS	P	0 - 30
LFB	Trans-Nonachlor	0.281	LCS	P	0 - 30
LFB	Trifluralin	4.92	LCS	P	0 - 30

Reference Method: EPA 8276
Batch ID: P371340

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2120434	Chlordane	3.41	Spike	P	0 - 30
2120434	Toxaphene	2.79	Spike	P	0 - 30
LFB	Chlordane	2.16	LCS	P	0 - 30
LFB	Toxaphene	0.335	LCS	P	0 - 30

Quality Assurance Report
Precision

Reference Method: EPA 8321B
Batch ID: P370771

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2119072	2,4-D	0.219	Spike	P	0 - 30
2119072	Acetaminophen	2.37	Spike	P	0 - 30
2119072	Acetamiprid	8.84	Spike	P	0 - 30
2119072	Afidopyropen	15.0	Spike	P	0 - 30
2119072	Bentazon	7.30	Spike	P	0 - 30
2119072	Benzovindiflupyr	2.61	Spike	P	0 - 30
2119072	Carbamazepine	5.56	Spike	P	0 - 30
2119072	Clothianidin	5.27	Spike	P	0 - 30
2119072	Dinotefuran	2.02	Spike	P	0 - 30
2119072	Diuron	2.37	Spike	P	0 - 30
2119072	Fenuron	1.65	Spike	P	0 - 30
2119072	Fluridone	1.79	Spike	P	0 - 30
2119072	Hydrocodone	7.85	Spike	P	0 - 30
2119072	Ibuprofen	0.280	Spike	P	0 - 30
2119072	Imazapyr	8.42	Spike	P	0 - 30
2119072	Imidacloprid	6.52	Spike	P	0 - 30
2119072	Linuron	1.66	Spike	P	0 - 30
2119072	Mandestrobin	0.115	Spike	P	0 - 30
2119072	MCPP	2.13	Spike	P	0 - 30
2119072	Naproxen	2.00	Spike	P	0 - 30
2119072	Primidone	2.79	Spike	P	0 - 30
2119072	Pyraclostrobin	0.692	Spike	P	0 - 30
2119072	Thiamethoxam	2.87	Spike	P	0 - 30
2119072	Tolfenpyrad	3.55	Spike	P	0 - 30
2119072	Triclopyr	9.27	Spike	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P370852

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2119069	3-Hydroxycarbofuran	0.708	Spike	P	0 - 30
2119069	Aldicarb	13.6	Spike	P	0 - 30
2119069	Aldicarb Sulfone	4.04	Spike	P	0 - 30
2119069	Aldicarb Sulfoxide	3.91	Spike	P	0 - 30
2119069	Carbaryl	2.47	Spike	P	0 - 30
2119069	Carbofuran	2.25	Spike	P	0 - 30
2119069	Methiocarb	1.58	Spike	P	0 - 30
2119069	Methomyl	2.47	Spike	P	0 - 30
2119069	Oxamyl	5.75	Spike	P	0 - 30
2119069	Propoxur	3.86	Spike	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P370917

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2119620	Acesulfame K	9.13	Spike	P	0 - 30
2119620	AMPA	6.30	Spike	P	0 - 30
2119620	Endothall	9.18	Spike	P	0 - 30
2119620	Glufosinate	0.610	Spike	P	0 - 30

Quality Assurance Report
Precision

Reference Method: EPA 8321B
Batch ID: P370917

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2119620	Glyphosate	0.974	Spike	P	0 - 30
2119620	Sucralose	9.12	Spike	P	0 - 30

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

Quality Assurance Report
Surrogates

Lab Sample ID: 2119873
Field Sample ID: AF56638

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Carbaryl-d7	64.2	P	30 - 160

Lab Sample ID: 2119874
Field Sample ID: AF56638

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	148	P	30 - 160
EPA 8321B	Acetaminophen-d4	68.5	P	30 - 160
EPA 8321B	Carbamazepine-d10	71.8	P	30 - 160
EPA 8321B	Diuron-d6	72.2	P	30 - 160
EPA 8321B	Endothall-d6	111	P	30 - 160
EPA 8321B	Endothall-d6	111	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	101	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	101	P	30 - 160
EPA 8321B	Ibuprofen-d3	91.6	P	30 - 160
EPA 8321B	Primidone-d5	81.6	P	30 - 160
EPA 8321B	Sucralose-d6	127	P	30 - 160
EPA 8321B	Sucralose-d6	127	P	30 - 160

Lab Sample ID: 2119875
Field Sample ID: AF56638

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8270E	Decachlorobiphenyl	98.2	P	39 - 109
EPA 8270E	Tetrachloro-m-xylene	76.1	P	28 - 96.0
EPA 8276	Decachlorobiphenyl	58.9	P	30 - 103
EPA 8276	PCNB	108	P	37 - 143

Lab Sample ID: 2119876
Field Sample ID: AF56638

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8270E	Simazine-d10	112	P	68 - 130
EPA 8270E	Terbufos-d10	110	P	61 - 136

Quality Assurance Report
Calibration Verification

Reference Method: EPA 200.8 Rev. 5.4
Run ID: A94386
Included Lab Sample IDs: 2119877

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Aluminum	98.4	98.3	P/P	90 - 110
Boron	101	103	P/P	90 - 110
Thallium	93.6	93.0	P/P	90 - 110

Reference Method: EPA 200.7 Rev. 4.4
Run ID: A94387
Included Lab Sample IDs: 2119877

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Barium	101	103	P/P	90 - 110
Calcium	108	105	P/P	90 - 110
Iron	110	107	P/P	90 - 110
Magnesium	109	106	P/P	90 - 110
Potassium	109	107	P/P	90 - 110
Zinc	98.4	100	P/P	90 - 110

Reference Method: EPA 8321B
Run ID: A94410
Included Lab Sample IDs: 2119874

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	114	87.9	P/P	50 - 150
3-Hydroxycarbofuran	94.3	106	P/P	60 - 150
Acetaminophen	115	106	P/P	60 - 160
Acetamiprid	115	114	P/P	50 - 150
Afidopyropen	101	102	P/P	50 - 150
Aldicarb	91.2	106	P/P	60 - 150
Aldicarb Sulfone	90.4	106	P/P	50 - 150
Aldicarb Sulfoxide	107	105	P/P	50 - 150
Bentazon	109	117	P/P	50 - 160
Benzovindiflupyr	112	116	P/P	50 - 150
Carbamazepine	104	108	P/P	60 - 150
Carbaryl	107	99.6	P/P	60 - 150
Carbofuran	112	114	P/P	50 - 150
Clothianidin	102	103	P/P	60 - 150
Dinotefuran	103	101	P/P	50 - 150
Diuron	112	113	P/P	60 - 150
Fenuron	110	112	P/P	60 - 150
Fluridone	112	110	P/P	60 - 160
Hydrocodone	112	114	P/P	60 - 150
Ibuprofen	121	117	P/P	50 - 160
Imazapyr	106	98.2	P/P	50 - 150
Imidacloprid	96.0	101	P/P	60 - 150
Linuron	105	107	P/P	60 - 150
Mandestrobin	113	115	P/P	50 - 150
MCPP	104	104	P/P	50 - 150
Methiocarb	112	109	P/P	50 - 150
Methomyl	112	106	P/P	50 - 150
Naproxen	87.7	141	P/P	50 - 160
Oxamyl	106	105	P/P	50 - 150
Primidone	102	107	P/P	60 - 150

Quality Assurance Report
Calibration Verification

Reference Method: EPA 8321B
Run ID: A94410
Included Lab Sample IDs: 2119873

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Propoxur	112	107	P/P	50 - 150
Pyraclostrobin	122	119	P/P	60 - 150
Thiamethoxam	98.6	105	P/P	50 - 150
Tolfenpyrad	127	128	P/P	60 - 150
Triclopyr	108	113	P/P	50 - 150

Reference Method: EPA 200.7 Rev. 4.4
Run ID: A94416
Included Lab Sample IDs: 2119877

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Sodium	96.8	97.5	P/P	90 - 110

Reference Method: EPA 8321B
Run ID: A94421
Included Lab Sample IDs: 2119874

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
AMPA	120	123	P/P	60 - 160
Glufosinate	124	126	P/P	60 - 160
Glyphosate	135	131	P/P	60 - 160

Reference Method: EPA 8321B
Run ID: A94423
Included Lab Sample IDs: 2119874

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acesulfame K	60.0	60.6	P/P	60 - 160
Endothall	134	147	P/P	60 - 160

Reference Method: EPA 8270E
Run ID: A94523
Included Lab Sample IDs: 2119876

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acetochlor	105		P	80 - 120
Alachlor	106		P	80 - 120
Ametryn	113		P	80 - 120
Atrazine	101		P	80 - 120
Atrazine Desethyl	95.5		P	80 - 120
Azinphos Methyl	94.7		P	80 - 120
Bromacil	106		P	80 - 120
Butylate	92.6		P	80 - 120
Chlorpyrifos Ethyl	96.0		P	80 - 120
Chlorpyrifos Methyl	97.8		P	80 - 120
Cyanazine	85.7		P	80 - 120
Demeton	93.3		P	80 - 120
Diazinon	102		P	80 - 120
Dimethenamid	106		P	80 - 120
Disulfoton	96.3		P	80 - 120
Dithiopyr	105		P	80 - 120

Quality Assurance Report
Calibration Verification

Reference Method: EPA 8270E
Run ID: A94523
Included Lab Sample IDs: 2119876

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
EPTC	100		P	80 - 120
Ethion	94.1		P	80 - 120
Ethoprop	99.0		P	80 - 120
Fenamiphos	99.5		P	80 - 120
Fipronil	103		P	80 - 120
Fipronil Desulfinyl	107		P	80 - 120
Fipronil Sulfide	98.8		P	80 - 120
Fipronil Sulfone	98.5		P	80 - 120
Fonofos	95.8		P	80 - 120
Hexazinone	99.7		P	80 - 120
Malathion	97.3		P	80 - 120
Metalaxyl	107		P	80 - 120
Metolachlor	109		P	80 - 120
Metribuzin	84.1		P	80 - 120
Mevinphos	104		P	80 - 120
Molinate	94.4		P	80 - 120
Norflurazon	104		P	80 - 120
Oxadiazon	110		P	80 - 120
Parathion Ethyl	98.6		P	80 - 120
Parathion Methyl	98.3		P	80 - 120
Pendimethalin	98.3		P	80 - 120
Phorate	93.3		P	80 - 120
Prodiamine	97.2		P	80 - 120
Prometon	102		P	80 - 120
Prometryn	104		P	80 - 120
Simazine	102		P	80 - 120
Tebuconazole	106		P	80 - 120
Terbufos	93.1		P	80 - 120
Terbuthylazine	97.8		P	80 - 120

Reference Method: EPA 8321B
Run ID: A94533
Included Lab Sample IDs: 2119874

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Sucralose	131	137	P/P	60 - 160

Reference Method: EPA 8270E
Run ID: A94574
Included Lab Sample IDs: 2119875

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Aldrin	106		P	80 - 120
Alpha-BHC	112		P	80 - 120
Alpha-Chlordane	105		P	80 - 120
Beta-BHC	101		P	80 - 120
Bifenthrin	107		P	80 - 120
Carbophenothion	119		P	80 - 120
Chlorothalonil	102		P	80 - 120
Cis-Nonachlor	103		P	80 - 120
Cypermethrin	111		P	80 - 120

Quality Assurance Report
Calibration Verification

Reference Method: EPA 8270E
Run ID: A94574
Included Lab Sample IDs: 2119875

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
DDD-p,p'	107		P	80 - 120
DDE-p,p'	105		P	80 - 120
DDT-p,p'	107		P	80 - 120
Delta-BHC	86.0		P	80 - 120
Dicofol	104		P	80 - 120
Dieldrin	106		P	80 - 120
Endosulfan I	101		P	80 - 120
Endosulfan II	98.5		P	80 - 120
Endosulfan Sulfate	109		P	80 - 120
Endrin	107		P	80 - 120
Endrin Aldehyde	104		P	80 - 120
Endrin Ketone	108		P	80 - 120
Ethalfluralin	113		P	80 - 120
Gamma-BHC	110		P	80 - 120
Gamma-Chlordane	106		P	80 - 120
Heptachlor	105		P	80 - 120
Heptachlor Epoxide	105		P	80 - 120
Hexachlorobenzene	111		P	80 - 120
Methoxychlor	106		P	80 - 120
Mirex	110		P	80 - 120
Permethrin	100		P	80 - 120
Trans-Nonachlor	104		P	80 - 120
Trifluralin	112		P	80 - 120

Reference Method: EPA 200.8 Rev. 5.4
Run ID: A9471
Included Lab Sample IDs: 2119877

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Antimony	95.7	95.8	P/P	90 - 110
Selenium	99.4	99.4	P/P	90 - 110

Reference Method: EPA 200.8 Rev. 5.4
Run ID: A94722
Included Lab Sample IDs: 2119877

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Arsenic	101	101	P/P	90 - 110
Cadmium	95.4	96.3	P/P	90 - 110
Chromium	93.7	96.0	P/P	90 - 110
Copper	101	101	P/P	90 - 110
Lead	99.6	101	P/P	90 - 110
Silver	98.0	98.3	P/P	90 - 110

Reference Method: EPA 200.8 Rev. 5.4
Run ID: A94803
Included Lab Sample IDs: 2119877

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Nickel	99.9	98.9	P/P	90 - 110

Quality Assurance Report
Calibration Verification

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

Quality Assurance Report
Summary

Ref. Method	Analyte	LCS % Recovery		MS % Recovery			Precision		
							LCS	SMP	MS
EPA 200.7 Rev. 4.4	Barium	100		103	99.8	95.2			3.34
	Calcium	108		101	105				1.90
	Iron	107		110	109	103			1.40
	Magnesium	110		113	110	99.1			2.14
	Potassium	104		109	108	97.1			0.782
	Sodium	107		105	105	97.6			0.428
	Zinc	97.4		101	97.6	95.5			3.27
EPA 200.8 Rev. 5.4	Aluminum	97.3		98.1	97.4	96.0			0.769
	Antimony	99.7		101	100	101			0.464
	Arsenic	102		102	102	103			0.280
	Boron	101		104	105	101			0.307
	Cadmium	96.3		99.2	97.6	95.4			1.63
	Chromium	95.2		95.3	94.9	95.4			0.511
	Copper	101		107	102	101			4.58
	Lead	98.7		99.9	100	99.5			0.121
	Nickel	100		102	101	99.6			1.21
	Selenium	100		99.6	99.4	98.6			0.197
	Silver	101		105	102	99.8			2.80
	Thallium	99.6		103	103	101			0.0415
EPA 8270E	Acetochlor	97.8	105	108	113		6.99		4.58
	Alachlor	97.0	103	101	108		5.74		6.72
	Aldrin	54.4	52.8	58.8	57.1		2.89		2.90
	Alpha-BHC	90.9	86.4	93.5	90.9		5.14		2.85
	Alpha-Chlordane	81.9	83.5	77.3	76.1		1.92		1.56
	Ametryn	99.1	102	139	144		3.41		3.53
	Atrazine	102	101				1.30		9.33
	Atrazine Desethyl	67.4	74.1	116	112		9.49		2.48
	Azinphos Methyl	98.9	100	99.0	126		1.57		23.7
	Beta-BHC	108	107	95.2	77.0		1.18		21.1
	Bifenthrin	91.5	91.8	86.8	86.4		0.304		0.489
	Bromacil	92.4	86.4	92.9	113		6.71		19.1
	Butylate	57.2	60.2	61.9	65.3		5.08		5.29
	Carbophenothion	101	99.3	72.5	69.9		2.14		2.44
	Chlorothalonil	73.7	76.4	76.9	71.1		3.61		7.82
	Chlorpyrifos Ethyl	92.2	95.5	88.1	87.4		3.46		0.761
	Chlorpyrifos Methyl	75.0	79.1	99.7	100		5.34		0.506
	Cis-Nonachlor	87.6	88.2	81.0	80.1		0.657		1.12
	Cyanazine	72.6	91.9	128	139		23.4		8.33
	Cypermethrin	97.3	99.3	94.0	93.4		1.98		0.722
	DDD-p,p'	94.2	96.6	84.7	86.9		2.53		2.55
	DDE-p,p'	82.8	83.7	74.6	73.1		0.995		2.02
	DDT-p,p'	79.6	82.6	74.8	74.9		3.77		0.0957
	Delta-BHC	92.4	90.6	81.5	78.5		1.93		3.67
	Demeton	64.9	62.5	97.5	102		3.80		4.98
	Diazinon	90.5	97.8	115	123		7.79		6.68
	Dicofol	100	94.6	84.5	82.3		5.48		2.66
	Dieldrin	87.8	88.3	72.4	67.4		0.552		3.83
	Dimethenamid	101	105	106	110		3.54		3.88
	Disulfoton	68.0	68.3	103	101		0.356		1.58
	Dithiopyr	94.7	100	105	108		5.66		2.51
	Endosulfan I	82.1	82.5	79.6	74.9		0.432		6.18
	Endosulfan II	90.8	93.0	83.7	84.2		2.46		0.545
	Endosulfan Sulfate	94.7	95.2	90.0	88.5		0.450		1.66
	Endrin	86.6	85.6	76.1	78.7		1.17		3.27

Quality Assurance Report
Summary

Ref. Method	Analyte	LCS % Recovery		MS % Recovery		Precision		
						LCS	SMP	MS
EPA 8270E	Endrin Aldehyde	94.1	95.4	81.2	82.4	1.36		1.54
	Endrin Ketone	97.9	102	93.2	93.6	3.78		0.411
	EPTC	63.7	66.4	66.1	70.9	4.23		6.98
	Ethalfluralin	90.7	91.4	84.1	83.2	0.763		1.16
	Ethion	96.9	94.9	60.3	55.3	2.11		8.68
	Ethoprop	82.9	93.1	104	107	11.6		2.49
	Fenamiphos	96.1	83.5	103	95.9	14.0		6.83
	Fipronil	111	107	113	114	2.98		0.693
	Fipronil Desulfinyl	97.0	96.5	97.1	99.7	0.565		2.66
	Fipronil Sulfide	91.5	85.9	108	92.6	6.33		15.2
	Fipronil Sulfone	97.6	95.6	81.8	84.0	2.05		2.36
	Fonofos	65.9	70.2	104	109	6.33		5.10
	Gamma-BHC	106	100	102	78.1	5.82		26.5
	Gamma-Chlordane	79.5	81.5	75.8	74.5	2.49		1.64
	Heptachlor	69.2	68.4	68.8	64.0	1.15		7.24
	Heptachlor Epoxide	84.0	85.1	86.0	84.1	1.40		2.24
	Hexachlorobenzene	81.8	80.2	76.9	75.7	1.98		1.59
	Hexazinone	111	119	126	123	7.24		2.19
	Malathion	98.1	100	102	95.4	2.06		6.94
	Metalaxyl	78.6	83.2	98.7	102	5.65		3.26
	Methoxychlor	98.4	98.4	89.9	88.0	0.0498		2.08
	Metolachlor	99.9	102	100	104	1.92		3.92
	Metribuzin	77.3	85.5	206	203	10.1		1.27
	Mevinphos	80.6	90.1	99.5	105	11.2		5.30
	Mirex	74.7	73.1	73.5	72.1	2.20		2.00
	Molinate	69.7	77.8	86.6	95.0	11.1		9.31
	Norflurazon	110	108	103	105	1.72		1.68
	Oxadiazon	98.8	96.6	96.1	97.0	2.30		0.928
	Parathion Ethyl	85.5	88.3	97.5	101	3.23		3.78
	Parathion Methyl	81.3	84.6	109	114	3.97		4.15
	Pendimethalin	84.8	84.9	98.3	102	0.115		4.03
	Permethrin	77.4	80.4	62.8	63.4	3.81		0.884
	Phorate	74.4	75.3	108	114	1.33		5.17
	Prodiamine	104	93.4	53.1	53.2	10.9		0.241
	Prometon	100	98.0	108	108	2.19		0.0086
	Prometryn	96.1	98.2	111	119	2.22		7.14
	Simazine	100	96.5	111	109	3.89		1.47
	Tebuconazole	97.4	97.5	57.4	50.1	0.184		12.1
	Terbufos	69.4	73.9	114	118	6.27		3.35
	Terbuthylazine	97.5	98.5	101	102	1.06		1.00
	Trans-Nonachlor	83.4	83.7	78.9	77.8	0.281		1.41
	Trifluralin	89.1	93.6	84.2	83.9	4.92		0.291
EPA 8276	Chlordane	85.5	83.7	81.6	84.4	2.16		3.41
	Toxaphene	79.7	79.5	82.0	84.3	0.335		2.79
EPA 8321B	2,4-D	148		141	141			0.219
	3-Hydroxycarbofuran	90.9		94.4	95.0			0.708
	Acesulfame K	74.5		60.3	55.1			9.13
	Acetaminophen	76.0		88.5	86.5			2.37
	Acetamiprid	95.9		110	100			8.84
	Afidopyropen	101		109	93.4			15.0
	Aldicarb	82.6		96.9	84.5			13.6
	Aldicarb Sulfone	94.5		102	98.4			4.04
	Aldicarb Sulfoxide	83.6		45.8	47.6			3.91
	AMPA	126		115	108			6.30

Quality Assurance Report
Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery		Precision		
					LCS	SMP	MS
EPA 8321B	Bentazon	125	109	101			7.30
	Benzovindiflupyr	94.1	96.0	93.5			2.61
	Carbamazepine	103	108	102			5.56
	Carbaryl	78.5	77.9	76.0			2.47
	Carbofuran	85.4	83.3	81.4			2.25
	Clothianidin	90.9	102	97.1			5.27
	Dinotefuran	88.3	103	101			2.02
	Diuron	107	106	103			2.37
	Endothall	145	115	105			9.18
	Fenuron	101	100	98.4			1.65
	Fluridone	97.3	94.4	92.7			1.79
	Glufosinate	128	115	116			0.610
	Glyphosate	126	111	110			0.974
	Hydrocodone	93.1	103	95.6			7.85
	Ibuprofen	96.4	92.9	93.2			0.280
	Imazapyr	93.2	112	103			8.42
	Imidacloprid	99.5	124	136			6.52
	Linuron	84.6	82.3	81.0			1.66
	Mandestrobin	92.2	95.2	95.3			0.115
	MCPP	146	151	147			2.13
	Methiocarb	71.9	72.6	73.8			1.58
	Methomyl	83.7	85.5	87.6			2.47
	Naproxen	96.9	97.8	95.8			2.00
	Oxamyl	93.2	98.5	93.0			5.75
	Primidone	93.5	86.4	88.8			2.79
	Propoxur	86.7	86.8	83.5			3.86
	Pyraclostrobin	91.9	91.3	92.0			0.692
	Sucralose	138	147	133			9.12
	Thiamethoxam	90.7	118	115			2.87
	Tolfenpyrad	73.2	71.1	73.6			3.55
	Triclopyr	120	111	122			9.27

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	2119877
EPA 200.8 Rev. 5.4 / E31780	Total Recoverable Metals analysis using ICP-MS for aqueous samples supporting Clean Water Act Projects	2119877
EPA 8270E / E31780	Organochlorine pesticides in water matrices by GC/MS-SIM	2119875
EPA 8270E / E31780	Organonitrogen and phosphorus pesticides in water matrices by GC/MS/MS	2119876
EPA 8276 / E31780	Organochlorine pesticides in water matrices by GC/MS with Negative Chemical Ionization	2119875
EPA 8321B / E31780	Carbamates in water matrices by HPLC/MS/MS	2119873
EPA 8321B / E31780	Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS	2119874
EPA 8321B / E31780	Water soluble organic compounds by HPLC/MS/MS	2119874

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	09/17/2019	09/19/2019 16:45	Elliott D. Healy	09/20/2019 16:44	Alexander Thompson	2119877
	09/17/2019	09/19/2019 16:45	Elliott D. Healy	09/23/2019 12:27	Alexander Thompson	2119877
EPA 200.8 Rev. 5.4	09/17/2019	09/19/2019 16:45	Elliott D. Healy	09/21/2019 05:43	Justin Cutchin	2119877
	09/17/2019	09/19/2019 16:45	Elliott D. Healy	10/04/2019 04:05	Justin Cutchin	2119877
	09/17/2019	09/19/2019 16:45	Elliott D. Healy	10/05/2019 06:44	Justin Cutchin	2119877
	09/17/2019	09/19/2019 16:45	Elliott D. Healy	10/07/2019 17:30	Justin Cutchin	2119877
EPA 8270E	09/17/2019	09/18/2019 08:15	Rasheda Ghaffari	09/24/2019 17:58	Vandana T. Nagar	2119876
	09/17/2019	09/23/2019 10:00	Rasheda Ghaffari	09/27/2019 05:39	Arthur Maknenko	2119875
EPA 8276	09/17/2019	09/23/2019 10:00	Rasheda Ghaffari	09/28/2019 03:55	Julie Wi	2119875
EPA 8321B	09/17/2019	09/18/2019 12:00	Hoor Shaik	09/19/2019 09:04	Juyoung Kim	2119874
	09/17/2019	09/19/2019 08:30	Hoor Shaik	09/20/2019 00:56	Juyoung Kim	2119873
	09/17/2019	09/19/2019 10:30	Rebecca Ware	09/19/2019 13:34	Rebecca Ware	2119874
	09/17/2019	09/19/2019 10:30	Rebecca Ware	09/20/2019 12:22	Rebecca Ware	2119874
	09/17/2019	09/19/2019 10:30	Rebecca Ware	09/25/2019 18:09	Rebecca Ware	2119874