

Chemical Analysis Report

SO-DIST-2020-06-09-02

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

Event Description: **Collier County - Pesticides & Metals**
Request ID: **RQ-2019-09-09-42**
Customer: **SO-DIST**
Project ID: **SMP**

Send Reports to:
FL Dept. of Environmental Protection
FLDEP South District Office
2295 Victoria Ave. Suite 364
Fort Myers, FL 33901-3381
Attn: Nicole Reistad

For additional information please contact
Colin Wright, Ph.D.
Liang-Tsair Lin, Ph.D.
Kerry Tate, Ph.D.
Dr. rer. nat. Bettina Steinbock
Thekkekalathil Chandrasekhar, Ph.D, QA Officer
Phone (850) 245-8085

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

Date Certified: 26-JUN-2020 12:10

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 few letters of 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: TAMTOM

Collection Date/Time: 06/08/2020 10:20

Field ID: AF60698

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2175208	EPA 8321B	Aldicarb	0.020	UJ	ug/L	P383083	MS
		Aldicarb Sulfone	0.0020	U	ug/L	P383083	
		Aldicarb Sulfoxide	0.0020	U	ug/L	P383083	
		Carbaryl	0.0020	U	ug/L	P383083	
		Carbofuran	0.0020	UJ	ug/L	P383083	MS
		3-Hydroxycarbofuran	0.0020	U	ug/L	P383083	
		Methiocarb	0.0020	U	ug/L	P383083	
		Methomyl	0.0020	U	ug/L	P383083	
		Oxamyl	0.0020	U	ug/L	P383083	
		Propoxur	0.0020	U	ug/L	P383083	
2175209		2,4-D	0.0020	U	ug/L	P383047	
		Acesulfame K**	0.10	U	ug/L	P383003	
		AMPA**	3.3		ug/L	P383003	
		Sucralose**	0.010	U	ug/L	P383003	
		Acetaminophen**	0.0080	U	ug/L	P383047	
		Acetamiprid**	0.0020	U	ug/L	P383047	
		Endothall**	0.25	U	ug/L	P383003	
		Glufosinate**	0.10	U	ug/L	P383003	
		Glyphosate**	5.8		ug/L	P383003	
		Afidopyropen**	0.0020	U	ug/L	P383047	
		Bentazon	0.015		ug/L	P383047	
		Benzovindiflupyr**	0.0020	U	ug/L	P383047	
		Carbamazepine**	8.0E-04	U	ug/L	P383047	
		Clothianidin**	0.0034	I	ug/L	P383047	
		Dinotefuran**	0.11		ug/L	P383047	
		Diuron	0.0020	U	ug/L	P383047	
		Fenuron	0.016	U	ug/L	P383047	
		Fluridone**	8.0E-04	U	ug/L	P383047	
		Imazapyr**	0.057		ug/L	P383047	
		Hydrocodone**	0.0020	U	ug/L	P383047	
		Ibuprofen**	0.020	U	ug/L	P383047	
		Imidacloprid	0.0053	I	ug/L	P383047	
		Linuron	0.0040	U	ug/L	P383047	
		Mandestrobin**	0.0020	U	ug/L	P383047	
		MCPP	0.0020	U	ug/L	P383047	
		Naproxen**	0.0080	U	ug/L	P383047	
		Primidone**	0.0040	U	ug/L	P383047	
		Pyraclostrobin**	0.0020	U	ug/L	P383047	
		Thiamethoxam**	0.014		ug/L	P383047	
		Tolfenpyrad**	0.0020	U	ug/L	P383047	
		Triclopyr**	0.0040	U	ug/L	P383047	
2175210	EPA 8270E	Aldrin	4.1	U	ng/L	P382956	
		Alpha-BHC	2.0	U	ng/L	P382956	
		Alpha-Chlordane	1.0	U	ng/L	P382956	

Field ID: AF60698

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes	
2175210	EPA 8270E	Beta-BHC	10	U	ng/L	P382956		
		Beta-Cyfluthrin**	15	U	ng/L	P382956		
		Bifenthrin**	4.1	U	ng/L	P382956		
		Delta-BHC	8.2	U	ng/L	P382956	MS	
		Gamma-BHC	8.2	U	ng/L	P382956		
		Chlorothalonil	2.0	UJ	ng/L	P382956	CCV	
		Cis-Nonachlor**	1.0	U	ng/L	P382956		
		Cypermethrin	20	U	ng/L	P382956		
		Dacthal**	1.0	U	ng/L	P382956		
		DDD-p,p'	6.1	U	ng/L	P382956		
		DDE-p,p'	6.1	U	ng/L	P382956		
		DDT-p,p'	7.1	U	ng/L	P382956		
		Dicofol	31	UJ	ng/L	P382956	CCV, MS	
		Dieldrin	4.1	U	ng/L	P382956		
		Endosulfan I	4.1	U	ng/L	P382956		
		Endosulfan II	4.1	U	ng/L	P382956		
		Endosulfan Sulfate	2.0	U	ng/L	P382956		
		Endrin	2.0	U	ng/L	P382956		
		Endrin Aldehyde	2.0	U	ng/L	P382956		
		Endrin Ketone	2.0	U	ng/L	P382956		
		Ethalfuralin**	3.1	U	ng/L	P382956		
		Gamma-Chlordane	1.0	U	ng/L	P382956		
		Heptachlor	1.5	U	ng/L	P382956		
		Heptachlor Epoxide	2.0	U	ng/L	P382956		
		Hexachlorobenzene	2.0	U	ng/L	P382956		
		Lambda-Cyhalothrin**	15	U	ng/L	P382956		
		Methoxychlor	4.1	U	ng/L	P382956		
		Mirex	2.0	U	ng/L	P382956		
		Permethrin	10	U	ng/L	P382956		
		Phenothrin**	31	U	ng/L	P382956		
		Prallethrin**	31	U	ng/L	P382956		
		Trans-Nonachlor**	1.0	U	ng/L	P382956		
		Trifluralin	2.6	U	ng/L	P382956		
	EPA 8276		Chlordane	12	I	ng/L	P382956	
			Toxaphene	31	U	ng/L	P382956	
2175211	EPA 8270E	Acetochlor	0.24	U	ng/L	P382903		
		Alachlor	0.24	U	ng/L	P382903		
		Ametryn	0.58	U	ng/L	P382903		
		Atrazine	0.44	I	ng/L	P382903		
		Atrazine Desethyl	3.8	I	ng/L	P382903		
		Azinphos Methyl	1.9	UJ	ng/L	P382903	RPD	
		Bromacil	0.48	U	ng/L	P382903		
		Butylate	0.38	U	ng/L	P382903		
		Carbophenothion	0.48	U	ng/L	P382903		
		Chlorpyrifos Ethyl	0.24	U	ng/L	P382903		

Field ID: AF60698

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2175211	EPA 8270E	Chlorpyrifos Methyl	0.048	U	ng/L	P382903	
		Cyanazine	3.1	U	ng/L	P382903	
		Demeton	1.4	U	ng/L	P382903	
		Diazinon	0.12	U	ng/L	P382903	
		Dimethenamid**	0.096	U	ng/L	P382903	
		Disulfoton	0.48	U	ng/L	P382903	
		Dithiopyr**	0.11	I	ng/L	P382903	
		EPTC	1.2	UJ	ng/L	P382903	RPD
		Ethion	0.14	U	ng/L	P382903	
		Ethoprop	0.096	UJ	ng/L	P382903	RPD
		Fenamiphos	0.48	U	ng/L	P382903	
		Fipronil	0.24	U	ng/L	P382903	
		Fipronil Desulfinyl**	0.12	U	ng/L	P382903	
		Fipronil Sulfide	0.14	U	ng/L	P382903	
		Fipronil Sulfone	0.14	U	ng/L	P382903	
		Flumioxazin**	1.7	U	ng/L	P382903	
		Fonofos	0.19	UJ	ng/L	P382903	LCS, RPD
		Hexazinone	12		ng/L	P382903	
		Imazalil**	0.72	U	ng/L	P382903	
		Malathion	0.34	U	ng/L	P382903	
		Metalaxyl	1.1	I	ng/L	P382903	
		Metolachlor	50		ng/L	P382903	
		Metribuzin	27		ng/L	P382903	
		Mevinphos	0.48	UJ	ng/L	P382903	RPD
		Molinate	0.29	UJ	ng/L	P382903	RPD
		Naled**	1.4	U	ng/L	P382903	
		Norflurazon	0.48	U	ng/L	P382903	
		Oxadiazon**	0.53		ng/L	P382903	
		Parathion Ethyl	0.24	U	ng/L	P382903	MS
		Parathion Methyl	0.53	U	ng/L	P382903	MS
		Pendimethalin	0.96	U	ng/L	P382903	
		Phorate	0.24	UJ	ng/L	P382903	RPD
		Prodiamine**	0.17	UJ	ng/L	P382903	RPD
		Prometon	0.86	U	ng/L	P382903	
		Prometryn	0.19	U	ng/L	P382903	
		Pronamide**	0.14	U	ng/L	P382903	
		Propiconazole**	0.48	U	ng/L	P382903	
		Simazine	0.48	U	ng/L	P382903	
		Sulfentrazone**	1.3	I	ng/L	P382903	
		Tebuconazole**	1.8	I	ng/L	P382903	
		Terbufos	0.096	UJ	ng/L	P382903	RPD
		Terbuthylazine	0.41	U	ng/L	P382903	
2175212	EPA 200.7 Rev. 4.4	Barium	50.5		ug/L	P383046	
		Calcium	140		mg/L	P383046	
		Iron	1.01E+03		ug/L	P383046	

Field ID: AF60698

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2175212	EPA 200.7 Rev. 4.4	Magnesium	17.8		mg/L	P383046	
		Potassium	17.0		mg/L	P383046	
		Sodium	123		mg/L	P383046	
		Zinc	11	I	ug/L	P383046	
	EPA 200.8 Rev. 5.4	Aluminum	85		ug/L	P383046	
		Antimony	0.087	I	ug/L	P383046	
		Arsenic	2.97		ug/L	P383046	
		Boron**	125		ug/L	P383046	
		Cadmium	0.056	I	ug/L	P383046	
		Chromium	2.2		ug/L	P383046	
		Copper	26.0		ug/L	P383046	
		Lead	0.53		ug/L	P383046	
		Nickel	1.5	I	ug/L	P383046	
		Selenium	0.20	U	ug/L	P383046	
		Silver	0.017	I	ug/L	P383399	
		Thallium	0.10	U	ug/L	P383046	

Ref. Method and Comment:

EPA 8321B: Refer to the Lab Analysis Report for an explanation of QC Codes.

EPA 8321B: MS accuracy for bentazon and dinotefuran could not be assessed due to high concentration of parameter in the spiked sample.

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

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

Quality Assurance Report Method Blank Results

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P383046

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: P383046

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
Thallium	0.10	U	ug/L

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P383399

Component	Result	Code	Units
Silver	0.010	U	ug/L

Reference Method: EPA 8270E
Batch ID: P382903

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	2.0	U	ng/L
Bromacil	0.50	U	ng/L
Butylate	0.40	U	ng/L
Carbophenothion	0.50	U	ng/L
Chlorpyrifos Ethyl	0.25	U	ng/L
Chlorpyrifos Methyl	0.050	U	ng/L
Cyanazine	3.2	U	ng/L
Demeton	1.5	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

Quality Assurance Report Method Blank Results

Reference Method: EPA 8270E
Batch ID: P382903

Component	Result	Code	Units
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
Flumioxazin	1.8	U	ng/L
Fonofos	0.20	U	ng/L
Hexazinone	0.50	U	ng/L
Imazalil	0.75	U	ng/L
Malathion	0.35	U	ng/L
Metaxyl	0.75	U	ng/L
Metolachlor	0.50	U	ng/L
Metribuzin	3.2	U	ng/L
Mevinphos	0.50	U	ng/L
Molinate	0.30	U	ng/L
Naled	1.5	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
Pronamide	0.15	U	ng/L
Propiconazole	0.50	U	ng/L
Simazine	0.50	U	ng/L
Sulfentrazone	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: P382956

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
Beta-Cyfluthrin	15	U	ng/L
Bifenthrin	4.0	U	ng/L
Chlorothalonil	2.0	U	ng/L
Cis-Nonachlor	1.0	U	ng/L
Cypermethrin	20	U	ng/L
Dacthal	1.0	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

Quality Assurance Report Method Blank Results

Reference Method: EPA 8270E
Batch ID: P382956

Component	Result	Code	Units
Delta-BHC	8.0	U	ng/L
Dicofol	30	U	ng/L
Dieldrin	4.0	U	ng/L
Endosulfan I	4.0	U	ng/L
Endosulfan II	4.0	U	ng/L
Endosulfan Sulfate	2.0	U	ng/L
Endrin	2.0	U	ng/L
Endrin Aldehyde	2.0	U	ng/L
Endrin Ketone	2.0	U	ng/L
Ethalfuralin	3.0	U	ng/L
Gamma-BHC	8.0	U	ng/L
Gamma-Chlordane	1.0	U	ng/L
Heptachlor	1.5	U	ng/L
Heptachlor Epoxide	2.0	U	ng/L
Hexachlorobenzene	2.0	U	ng/L
Lambda-Cyhalothrin	15	U	ng/L
Methoxychlor	4.0	U	ng/L
Mirex	2.0	U	ng/L
Permethrin	10	U	ng/L
Phenothrin	30	U	ng/L
Prallethrin	30	U	ng/L
Trans-Nonachlor	1.0	U	ng/L
Trifluralin	2.5	U	ng/L

Reference Method: EPA 8276
Batch ID: P382956

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

Reference Method: EPA 8321B
Batch ID: P383003

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

Reference Method: EPA 8321B
Batch ID: P383047

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

Quality Assurance Report

Method Blank Results

Reference Method: EPA 8321B

Batch ID: P383047

Component	Result	Code	Units
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: P383083

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

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 200.7 Rev. 4.4
 Batch ID: P383046

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Barium	101		P	85 - 115
Calcium	98.1		P	85 - 115
Iron	101		P	85 - 115
Magnesium	103		P	85 - 115
Potassium	96.8		P	85 - 115
Sodium	96.7		P	85 - 115
Zinc	102		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4
 Batch ID: P383046

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Aluminum	98.8		P	85 - 115
Antimony	104		P	85 - 115
Arsenic	105		P	85 - 115
Boron	101		P	85 - 115
Cadmium	103		P	85 - 115
Chromium	103		P	85 - 115
Copper	102		P	85 - 115
Lead	102		P	85 - 115
Nickel	101		P	85 - 115
Selenium	102		P	85 - 115
Thallium	101		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4
 Batch ID: P383399

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Silver	98.7		P	85 - 115

Reference Method: EPA 8270E
 Batch ID: P382903

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acetochlor	102	82.8	P/P	71 - 122
Alachlor	102	82.8	P/P	70 - 121
Ametryn	127	99.9	P/P	49 - 137
Atrazine	97.7	85.9	P/P	76 - 125
Atrazine Desethyl	83.7	67.6	P/P	31 - 144
Azinphos Methyl	123	87.4	P/P	67 - 150
Bromacil	96.9	89.6	P/P	36 - 121
Butylate	63.3	50.2	P/P	33 - 88.0
Carbophenothion	90.9	81.4	P/P	50 - 150
Chlorpyrifos Ethyl	98.9	83.9	P/P	73 - 117
Chlorpyrifos Methyl	92.1	69.8	P/P	68 - 121
Cyanazine	119	96.8	P/P	20 - 250
Demeton	69.9	57.2	P/P	30 - 123
Diazinon	99.8	78.4	P/P	70 - 128
Dimethenamid	98.5	80.8	P/P	66 - 122
Disulfoton	79.9	62.5	P/P	46 - 124
Dithiopyr	95.4	81.0	P/P	69 - 122
EPTC	64.0	46.9	P/P	31 - 90.0

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 8270E
Batch ID: P382903

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Ethion	97.6	91.0	P/P	45 - 135
Ethoprop	91.5	67.1	P/P	59 - 118
Fenamiphos	104	95.3	P/P	30 - 136
Fipronil	111	93.7	P/P	57 - 127
Fipronil Desulfinyl	102	96.0	P/P	51 - 122
Fipronil Sulfide	97.1	87.7	P/P	57 - 119
Fipronil Sulfone	93.9	87.1	P/P	51 - 119
Flumioxazin	121	101	P/P	70 - 200
Fonofos	91.6	59.6	P/F	60 - 120
Hexazinone	107	105	P/P	57 - 142
Imazalil	128	95.1	P/P	50 - 150
Malathion	105	89.7	P/P	67 - 128
Metalaxyl	110	88.9	P/P	21 - 148
Metolachlor	102	88.5	P/P	70 - 120
Metribuzin	106	89.1	P/P	20 - 253
Mevinphos	87.7	62.9	P/P	47 - 116
Molinate	77.0	52.3	P/P	41 - 99.0
Naled	63.2	51.5	P/P	40 - 130
Norflurazon	106	96.5	P/P	54 - 127
Oxadiazon	91.2	88.0	P/P	65 - 122
Parathion Ethyl	89.6	82.7	P/P	71 - 113
Parathion Methyl	107	87.8	P/P	73 - 129
Pendimethalin	103	77.5	P/P	63 - 130
Phorate	102	64.9	P/P	48 - 118
Prodiamine	53.9	81.0	P/P	20 - 144
Prometon	105	90.4	P/P	53 - 120
Prometryn	114	99.6	P/P	63 - 119
Pronamide	106	90.7	P/P	50 - 150
Propiconazole	109	99.7	P/P	50 - 150
Simazine	106	92.5	P/P	77 - 129
Sulfentrazone	91.8	85.3	P/P	50 - 150
Tebuconazole	79.4	89.8	P/P	20 - 118
Terbufos	90.3	65.1	P/P	61 - 119
Terbuthylazine	100	88.4	P/P	75 - 119

Reference Method: EPA 8270E
Batch ID: P382956

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Aldrin	65.6	66.1	P/P	20 - 87.0
Alpha-BHC	101	102	P/P	65 - 142
Alpha-Chlordane	92.0	94.1	P/P	58 - 106
Beta-BHC	124	123	P/P	65 - 179
Beta-Cyfluthrin	112	108	P/P	50 - 150
Bifenthrin	86.1	87.6	P/P	38 - 128
Chlorothalonil	201	188	P/P	20 - 214
Cis-Nonachlor	96.8	99.0	P/P	56 - 113
Cypermethrin	104	107	P/P	37 - 130
Dacthal	104	106	P/P	50 - 150
DDD-p,p'	105	107	P/P	66 - 119
DDE-p,p'	86.5	86.9	P/P	53 - 108
DDT-p,p'	82.6	84.1	P/P	57 - 133

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 8270E
Batch ID: P382956

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Delta-BHC	160	155	P/P	68 - 187
Dicofol	82.2	79.7	P/P	66 - 123
Dieldrin	101	105	P/P	65 - 111
Endosulfan I	107	108	P/P	65 - 115
Endosulfan II	128	130	P/P	68 - 133
Endosulfan Sulfate	118	120	P/P	62 - 127
Endrin	105	105	P/P	64 - 122
Endrin Aldehyde	126	124	P/P	61 - 132
Endrin Ketone	109	111	P/P	66 - 120
Ethalfuralin	81.6	80.1	P/P	57 - 127
Gamma-BHC	125	125	P/P	71 - 158
Gamma-Chlordane	87.2	89.2	P/P	53 - 106
Heptachlor	76.9	80.1	P/P	45 - 96.0
Heptachlor Epoxide	99.3	101	P/P	64 - 109
Hexachlorobenzene	75.4	73.4	P/P	46 - 103
Lambda-Cyhalothrin	102	106	P/P	50 - 150
Methoxychlor	106	107	P/P	69 - 149
Mirex	66.1	67.2	P/P	31 - 90.0
Permethrin	81.9	84.0	P/P	41 - 108
Phenothrin	69.5	71.0	P/P	50 - 150
Prallethrin	96.3	103	P/P	40 - 140
Trans-Nonachlor	87.5	89.4	P/P	50 - 107
Trifluralin	79.9	80.6	P/P	58 - 119

Reference Method: EPA 8276
Batch ID: P382956

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Chlordane	91.6	89.0	P/P	47 - 119
Toxaphene	88.6	92.0	P/P	41 - 112

Reference Method: EPA 8321B
Batch ID: P383003

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acesulfame K	70.4		P	40 - 150
AMPA	96.4		P	40 - 150
Endothall	140		P	40 - 150
Glufosinate	96.3		P	40 - 150
Glyphosate	94.5		P	40 - 140
Sucralose	102		P	40 - 150

Reference Method: EPA 8321B
Batch ID: P383047

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	121		P	30 - 160
Acetaminophen	83.8		P	30 - 160
Acetamiprid	93.8		P	30 - 160
Afidopyropen	77.3		P	30 - 160
Bentazon	54.0		P	30 - 160
Benzovindiflupyr	65.6		P	30 - 160

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: EPA 8321B
 Batch ID: P383047

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Carbamazepine	77.7		P	30 - 160
Clothianidin	78.0		P	30 - 160
Dinotefuran	86.7		P	30 - 160
Diuron	58.5		P	30 - 160
Fenuron	111		P	30 - 160
Fluridone	74.9		P	30 - 160
Hydrocodone	80.0		P	30 - 160
Ibuprofen	73.4		P	30 - 160
Imazapyr	78.5		P	30 - 160
Imidacloprid	102		P	30 - 160
Linuron	59.9		P	30 - 160
Mandestrobin	76.3		P	30 - 160
MCPP	143		P	30 - 160
Naproxen	71.5		P	30 - 160
Primidone	83.5		P	30 - 160
Pyraclostrobin	70.3		P	30 - 160
Thiamethoxam	66.2		P	30 - 160
Tolfenpyrad	51.9		P	30 - 160
Triclopyr	112		P	30 - 160

Reference Method: EPA 8321B
 Batch ID: P383083

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
3-Hydroxycarbofuran	69.3		P	30 - 160
Aldicarb	58.2		P	30 - 160
Aldicarb Sulfone	82.8		P	30 - 160
Aldicarb Sulfoxide	87.8		P	30 - 160
Carbaryl	43.0		P	30 - 160
Carbofuran	42.1		P	30 - 160
Methiocarb	47.5		P	30 - 160
Methomyl	72.1		P	30 - 160
Oxamyl	81.6		P	30 - 160
Propoxur	44.7		P	30 - 160

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P383046

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2175102	Barium	105		P	80 - 120
2175102	Calcium	99.1		P	80 - 120
2175102	Iron	106		P	80 - 120
2175102	Magnesium	107		P	80 - 120
2175102	Potassium	101		P	80 - 120
2175102	Sodium	99.0		P	80 - 120
2175102	Zinc	108		P	80 - 120
2175261	Barium	104	102	P/P	80 - 120
2175261	Calcium	102		P	80 - 120
2175261	Iron	109	104	P/P	80 - 120
2175261	Magnesium	112	103	P/P	80 - 120
2175261	Potassium	104	99.6	P/P	80 - 120
2175261	Sodium	103		P	80 - 120
2175261	Zinc	110	107	P/P	80 - 120

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P383046

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2175102	Aluminum	103		P	80 - 120
2175102	Antimony	101		P	80 - 120
2175102	Arsenic	105		P	80 - 120
2175102	Boron	99.8		P	80 - 120
2175102	Cadmium	102		P	80 - 120
2175102	Chromium	100		P	80 - 120
2175102	Copper	103		P	80 - 120
2175102	Lead	100		P	80 - 120
2175102	Nickel	102		P	80 - 120
2175102	Selenium	101		P	80 - 120
2175102	Thallium	99.7		P	80 - 120
2175261	Aluminum	98.7	99.7	P/P	80 - 120
2175261	Antimony	103	106	P/P	80 - 120
2175261	Arsenic	107	107	P/P	80 - 120
2175261	Boron	102	98.5	P/P	80 - 120
2175261	Cadmium	105	104	P/P	80 - 120
2175261	Chromium	104	104	P/P	80 - 120
2175261	Copper	103	104	P/P	80 - 120
2175261	Lead	102	103	P/P	80 - 120
2175261	Nickel	104	104	P/P	80 - 120
2175261	Selenium	103	107	P/P	80 - 120
2175261	Thallium	101	105	P/P	80 - 120

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P383399

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2175033	Silver	102	101	P/P	80 - 120
2175100	Silver	103		P	80 - 120

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8270E
Batch ID: P382903

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2174881	Acetochlor	82.9	94.4	P/P	68 - 126
2174881	Alachlor	87.9	99.2	P/P	66 - 125
2174881	Azinphos Methyl	93.8	106	P/P	54 - 162
2174881	Butylate	46.9	58.9	P/P	16 - 92.0
2174881	Carbophenothion	69.5	75.7	P/P	50 - 150
2174881	Chlorpyrifos Ethyl	64.5	81.8	P/P	63 - 124
2174881	Chlorpyrifos Methyl	74.8	84.4	P/P	64 - 125
2174881	Cyanazine	115	130	P/P	13 - 245
2174881	Demeton	94.5	106	P/P	20 - 154
2174881	Diazinon	87.7	103	P/P	66 - 141
2174881	Disulfoton	82.6	92.5	P/P	55 - 130
2174881	Dithiopyr	81.2	88.3	P/P	66 - 122
2174881	EPTC	43.0	54.1	P/P	15 - 93.0
2174881	Ethion	76.4	77.2	P/P	15 - 148
2174881	Ethoprop	105	107	P/P	59 - 126
2174881	Fenamiphos	64.5	82.3	P/P	39 - 137
2174881	Fipronil	92.7	95.1	P/P	47 - 131
2174881	Fipronil Desulfinyl	87.9	94.9	P/P	43 - 121
2174881	Fipronil Sulfide	76.6	84.7	P/P	29 - 134
2174881	Fipronil Sulfone	72.6	75.0	P/P	19 - 131
2174881	Flumioxazin	113	121	P/P	70 - 200
2174881	Fonofos	78.8	92.2	P/P	62 - 128
2174881	Hexazinone	92.7	99.7	P/P	58 - 154
2174881	Imazalil	130	141	P/P	50 - 150
2174881	Malathion	82.6	89.6	P/P	54 - 135
2174881	Metalaxyl	79.5	93.2	P/P	46 - 136
2174881	Metribuzin	99.9	111	P/P	44 - 277
2174881	Mevinphos	93.6	99.7	P/P	44 - 135
2174881	Molinate	65.3	73.2	P/P	31 - 104
2174881	Naled	71.7	68.7	P/P	40 - 130
2174881	Oxadiazon	68.1	74.6	P/P	55 - 123
2174881	Parathion Ethyl	200	223	F/F	67 - 120
2174881	Parathion Methyl	232	266	F/F	70 - 140
2174881	Phorate	96.6	114	P/P	52 - 127
2174881	Prodiamine	78.4	94.4	P/P	11 - 157
2174881	Prometon	92.2	112	P/P	55 - 130
2174881	Prometryn	96.1	106	P/P	55 - 127
2174881	Pronamide	98.6	114	P/P	50 - 150
2174881	Propiconazole	114	108	P/P	50 - 150
2174881	Sulfentrazone	79.7	77.5	P/P	50 - 150
2174881	Tebuconazole	60.2	65.2	P/P	10 - 122
2174881	Terbufos	87.3	101	P/P	65 - 131
2174881	Terbutylazine	80.4	75.0	P/P	63 - 131

Reference Method: EPA 8270E
Batch ID: P382956

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2174916	Aldrin	59.7	60.2	P/P	32 - 82.0
2174916	Alpha-BHC	102	109	P/P	68 - 157
2174916	Alpha-Chlordane	85.9	86.4	P/P	54 - 108
2174916	Beta-BHC	130	128	P/P	54 - 200

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8270E
Batch ID: P382956

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2174916	Beta-Cyfluthrin	111	109	P/P	50 - 150
2174916	Bifenthrin	89.0	89.4	P/P	49 - 124
2174916	Chlorothalonil	280	269	P/P	10 - 289
2174916	Cis-Nonachlor	97.2	96.8	P/P	53 - 112
2174916	Cypermethrin	110	110	P/P	43 - 141
2174916	Dacthal	110	109	P/P	50 - 150
2174916	DDD-p,p'	107	109	P/P	58 - 125
2174916	DDE-p,p'	82.4	82.3	P/P	50 - 108
2174916	DDT-p,p'	79.4	80.7	P/P	52 - 140
2174916	Delta-BHC	255	257	F/F	61 - 228
2174916	Dicofol	175	173	F/F	59 - 130
2174916	Dieldrin	104	104	P/P	57 - 121
2174916	Endosulfan I	117	116	P/P	62 - 123
2174916	Endosulfan II	131	130	P/P	48 - 163
2174916	Endosulfan Sulfate	131	129	P/P	63 - 132
2174916	Endrin	110	111	P/P	58 - 128
2174916	Endrin Aldehyde	109	112	P/P	44 - 126
2174916	Endrin Ketone	121	121	P/P	68 - 127
2174916	Ethalfuralin	79.3	81.0	P/P	55 - 131
2174916	Gamma-BHC	128	127	P/P	54 - 206
2174916	Gamma-Chlordane	85.8	85.4	P/P	52 - 105
2174916	Heptachlor	75.0	74.0	P/P	47 - 94.0
2174916	Heptachlor Epoxide	103	102	P/P	61 - 113
2174916	Hexachlorobenzene	68.6	67.9	P/P	45 - 100
2174916	Lambda-Cyhalothrin	110	111	P/P	50 - 150
2174916	Methoxychlor	108	108	P/P	63 - 153
2174916	Mirex	62.9	62.8	P/P	38 - 90.0
2174916	Permethrin	80.7	82.5	P/P	45 - 112
2174916	Phenothrin	69.2	71.0	P/P	50 - 150
2174916	Prallethrin	101	103	P/P	40 - 140
2174916	Trans-Nonachlor	85.7	85.2	P/P	50 - 103
2174916	Trifluralin	78.3	78.2	P/P	57 - 122

Reference Method: EPA 8276
Batch ID: P382956

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2174936	Chlordane	83.8	84.8	P/P	34 - 129
2174936	Toxaphene	78.5	82.6	P/P	26 - 123

Reference Method: EPA 8321B
Batch ID: P383003

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2175191	Acesulfame K	49.0	55.2	P/P	40 - 150
2175191	AMPA	89.4	93.5	P/P	40 - 150
2175191	Endothall	133	138	P/P	40 - 150
2175191	Glufosinate	89.3	94.0	P/P	40 - 150
2175191	Glyphosate	87.0	79.7	P/P	40 - 140
2175191	Sucralose	87.9	93.2	P/P	40 - 150

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8321B
 Batch ID: P383047

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2175209	2,4-D	106	118	P/P	30 - 160
2175209	Acetaminophen	91.7	101	P/P	30 - 160
2175209	Acetamiprid	62.8	67.3	P/P	30 - 160
2175209	Afidopyropen	66.9	69.2	P/P	30 - 160
2175209	Benzovindiflupyr	50.5	54.1	P/P	30 - 160
2175209	Carbamazepine	46.7	49.0	P/P	30 - 160
2175209	Clothianidin	58.8	60.7	P/P	30 - 160
2175209	Diuron	34.5	37.1	P/P	30 - 160
2175209	Fenuron	71.2	72.9	P/P	30 - 160
2175209	Fluridone	60.5	65.4	P/P	30 - 160
2175209	Hydrocodone	59.6	62.8	P/P	30 - 160
2175209	Ibuprofen	58.7	55.9	P/P	30 - 160
2175209	Imazapyr	77.0	71.8	P/P	30 - 160
2175209	Imidacloprid	118	96.1	P/P	30 - 160
2175209	Linuron	38.8	45.2	P/P	30 - 160
2175209	Mandestrobin	58.1	60.9	P/P	30 - 160
2175209	MCCP	117	129	P/P	30 - 160
2175209	Naproxen	62.0	67.2	P/P	30 - 160
2175209	Primidone	89.7	78.9	P/P	30 - 160
2175209	Pyraclostrobin	58.3	62.9	P/P	30 - 160
2175209	Thiamethoxam	63.5	63.1	P/P	30 - 160
2175209	Tolfenpyrad	40.5	50.3	P/P	30 - 160
2175209	Triclopyr	113	112	P/P	30 - 160

Reference Method: EPA 8321B
 Batch ID: P383083

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2175208	3-Hydroxycarbofuran	47.2	48.3	P/P	30 - 160
2175208	Aldicarb	27.3	32.8	F/P	30 - 160
2175208	Aldicarb Sulfone	61.3	65.8	P/P	30 - 160
2175208	Aldicarb Sulfoxide	42.9	49.7	P/P	30 - 160
2175208	Carbaryl	31.5	31.7	P/P	30 - 160
2175208	Carbofuran	29.1	30.3	F/P	30 - 160
2175208	Methiocarb	37.8	39.9	P/P	30 - 160
2175208	Methomyl	55.4	58.7	P/P	30 - 160
2175208	Oxamyl	58.9	65.0	P/P	30 - 160
2175208	Propoxur	31.4	32.7	P/P	30 - 160

Quality Assurance Report Precision

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P383046

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2175261	Barium	2.22	Spike	P	0 - 20
2175261	Calcium	4.50	Spike	P	0 - 20
2175261	Iron	5.04	Spike	P	0 - 20
2175261	Magnesium	5.22	Spike	P	0 - 20
2175261	Potassium	2.96	Spike	P	0 - 20
2175261	Sodium	2.72	Spike	P	0 - 20
2175261	Zinc	3.00	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P383046

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2175261	Aluminum	0.726	Spike	P	0 - 20
2175261	Antimony	2.60	Spike	P	0 - 20
2175261	Arsenic	0.199	Spike	P	0 - 20
2175261	Boron	2.27	Spike	P	0 - 20
2175261	Cadmium	1.07	Spike	P	0 - 20
2175261	Chromium	0.240	Spike	P	0 - 20
2175261	Copper	0.537	Spike	P	0 - 20
2175261	Lead	1.05	Spike	P	0 - 20
2175261	Nickel	0.0317	Spike	P	0 - 20
2175261	Selenium	3.11	Spike	P	0 - 20
2175261	Thallium	3.19	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P383399

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2175033	Silver	1.49	Spike	P	0 - 20

Reference Method: EPA 8270E
Batch ID: P382903

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2174881	Acetochlor	13.0	Spike	P	0 - 30
2174881	Alachlor	12.0	Spike	P	0 - 30
2174881	Ametryn	7.43	Spike	P	0 - 30
2174881	Atrazine	3.83	Spike	P	0 - 30
2174881	Atrazine Desethyl	7.43	Spike	P	0 - 30
2174881	Azinphos Methyl	12.6	Spike	P	0 - 30
2174881	Bromacil	1.28	Spike	P	0 - 30
2174881	Butylate	22.6	Spike	P	0 - 30
2174881	Carbophenothion	8.54	Spike	P	0 - 30
2174881	Chlorpyrifos Ethyl	19.0	Spike	P	0 - 30
2174881	Chlorpyrifos Methyl	12.0	Spike	P	0 - 30
2174881	Cyanazine	12.3	Spike	P	0 - 30
2174881	Demeton	11.0	Spike	P	0 - 30
2174881	Diazinon	16.4	Spike	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8270E
Batch ID: P382903

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2174881	Dimethenamid	13.9	Spike	P	0 - 30
2174881	Disulfoton	11.3	Spike	P	0 - 30
2174881	Dithiopyr	5.02	Spike	P	0 - 30
2174881	EPTC	22.9	Spike	P	0 - 30
2174881	Ethion	1.05	Spike	P	0 - 30
2174881	Ethoprop	1.87	Spike	P	0 - 30
2174881	Fenamiphos	24.3	Spike	P	0 - 30
2174881	Fipronil	2.56	Spike	P	0 - 30
2174881	Fipronil Desulfinyl	7.74	Spike	P	0 - 30
2174881	Fipronil Sulfide	10.1	Spike	P	0 - 30
2174881	Fipronil Sulfone	3.35	Spike	P	0 - 30
2174881	Flumioxazin	7.27	Spike	P	0 - 30
2174881	Fonofos	15.7	Spike	P	0 - 30
2174881	Hexazinone	6.00	Spike	P	0 - 30
2174881	Imazalil	8.43	Spike	P	0 - 30
2174881	Malathion	8.14	Spike	P	0 - 30
2174881	Metalaxyl	9.40	Spike	P	0 - 30
2174881	Metolachlor	1.10	Spike	P	0 - 30
2174881	Metribuzin	10.9	Spike	P	0 - 30
2174881	Mevinphos	6.32	Spike	P	0 - 30
2174881	Molinate	11.3	Spike	P	0 - 30
2174881	Naled	4.22	Spike	P	0 - 30
2174881	Norflurazon	1.42	Spike	P	0 - 30
2174881	Oxadiazon	6.25	Spike	P	0 - 30
2174881	Parathion Ethyl	11.1	Spike	P	0 - 30
2174881	Parathion Methyl	13.7	Spike	P	0 - 30
2174881	Pendimethalin	14.4	Spike	P	0 - 30
2174881	Phorate	16.5	Spike	P	0 - 30
2174881	Prodiamine	18.6	Spike	P	0 - 30
2174881	Prometon	19.0	Spike	P	0 - 30
2174881	Prometryn	6.68	Spike	P	0 - 30
2174881	Pronamide	14.6	Spike	P	0 - 30
2174881	Propiconazole	2.22	Spike	P	0 - 30
2174881	Simazine	0.691	Spike	P	0 - 30
2174881	Sulfentrazone	1.98	Spike	P	0 - 30
2174881	Tebuconazole	5.77	Spike	P	0 - 30
2174881	Terbufos	14.7	Spike	P	0 - 30
2174881	Terbutylazine	6.90	Spike	P	0 - 30
LFB	Acetochlor	20.9	LCS	P	0 - 30
LFB	Alachlor	20.7	LCS	P	0 - 30
LFB	Ametryn	24.2	LCS	P	0 - 30
LFB	Atrazine	12.9	LCS	P	0 - 30
LFB	Atrazine Desethyl	21.3	LCS	P	0 - 30
LFB	Azinphos Methyl	33.8	LCS	F	0 - 30
LFB	Bromacil	7.90	LCS	P	0 - 30
LFB	Butylate	23.0	LCS	P	0 - 30
LFB	Carbophenothion	11.1	LCS	P	0 - 30
LFB	Chlorpyrifos Ethyl	16.5	LCS	P	0 - 30
LFB	Chlorpyrifos Methyl	27.5	LCS	P	0 - 30
LFB	Cyanazine	20.6	LCS	P	0 - 30
LFB	Demeton	19.9	LCS	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8270E
Batch ID: P382903

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
LFB	Diazinon	24.0	LCS	P	0 - 30
LFB	Dimethenamid	19.7	LCS	P	0 - 30
LFB	Disulfoton	24.4	LCS	P	0 - 30
LFB	Dithiopyr	16.3	LCS	P	0 - 30
LFB	EPTC	30.8	LCS	F	0 - 30
LFB	Ethion	6.93	LCS	P	0 - 30
LFB	Ethoprop	30.8	LCS	F	0 - 30
LFB	Fenamiphos	9.00	LCS	P	0 - 30
LFB	Fipronil	17.3	LCS	P	0 - 30
LFB	Fipronil Desulfinyl	5.78	LCS	P	0 - 30
LFB	Fipronil Sulfide	10.2	LCS	P	0 - 30
LFB	Fipronil Sulfone	7.42	LCS	P	0 - 30
LFB	Flumioxazin	18.2	LCS	P	0 - 30
LFB	Fonofos	42.4	LCS	F	0 - 30
LFB	Hexazinone	2.50	LCS	P	0 - 30
LFB	Imazalil	29.7	LCS	P	0 - 30
LFB	Malathion	16.1	LCS	P	0 - 30
LFB	Metalaxyl	20.9	LCS	P	0 - 30
LFB	Metolachlor	13.7	LCS	P	0 - 30
LFB	Metribuzin	17.1	LCS	P	0 - 30
LFB	Mevinphos	32.8	LCS	F	0 - 30
LFB	Molinate	38.3	LCS	F	0 - 30
LFB	Naled	20.4	LCS	P	0 - 30
LFB	Norflurazon	9.43	LCS	P	0 - 30
LFB	Oxadiazon	3.62	LCS	P	0 - 30
LFB	Parathion Ethyl	8.04	LCS	P	0 - 30
LFB	Parathion Methyl	19.3	LCS	P	0 - 30
LFB	Pendimethalin	28.5	LCS	P	0 - 30
LFB	Phorate	44.3	LCS	F	0 - 30
LFB	Prodiamine	40.2	LCS	F	0 - 30
LFB	Prometon	14.6	LCS	P	0 - 30
LFB	Prometryn	13.1	LCS	P	0 - 30
LFB	Pronamide	15.2	LCS	P	0 - 30
LFB	Propiconazole	8.62	LCS	P	0 - 30
LFB	Simazine	13.4	LCS	P	0 - 30
LFB	Sulfentrazone	7.42	LCS	P	0 - 30
LFB	Tebuconazole	12.3	LCS	P	0 - 30
LFB	Terbufos	32.4	LCS	F	0 - 30
LFB	Terbutylazine	12.3	LCS	P	0 - 30

Reference Method: EPA 8270E
Batch ID: P382956

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2174916	Aldrin	0.885	Spike	P	0 - 30
2174916	Alpha-BHC	6.48	Spike	P	0 - 30
2174916	Alpha-Chlordane	0.524	Spike	P	0 - 30
2174916	Beta-BHC	1.54	Spike	P	0 - 30
2174916	Beta-Cyfluthrin	2.17	Spike	P	0 - 30
2174916	Bifenthrin	0.367	Spike	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8270E
Batch ID: P382956

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2174916	Chlorothalonil	4.24	Spike	P	0 - 30
2174916	Cis-Nonachlor	0.409	Spike	P	0 - 30
2174916	Cypermethrin	0.0581	Spike	P	0 - 30
2174916	Dacthal	0.971	Spike	P	0 - 30
2174916	DDD-p,p'	2.31	Spike	P	0 - 30
2174916	DDE-p,p'	0.0980	Spike	P	0 - 30
2174916	DDT-p,p'	1.64	Spike	P	0 - 30
2174916	Delta-BHC	0.818	Spike	P	0 - 30
2174916	Dicofol	1.21	Spike	P	0 - 30
2174916	Dieldrin	0.691	Spike	P	0 - 30
2174916	Endosulfan I	1.07	Spike	P	0 - 30
2174916	Endosulfan II	0.566	Spike	P	0 - 30
2174916	Endosulfan Sulfate	1.92	Spike	P	0 - 30
2174916	Endrin	1.06	Spike	P	0 - 30
2174916	Endrin Aldehyde	3.15	Spike	P	0 - 30
2174916	Endrin Ketone	0.148	Spike	P	0 - 30
2174916	Ethalfuralin	2.15	Spike	P	0 - 30
2174916	Gamma-BHC	0.455	Spike	P	0 - 30
2174916	Gamma-Chlordane	0.512	Spike	P	0 - 30
2174916	Heptachlor	1.39	Spike	P	0 - 30
2174916	Heptachlor Epoxide	0.492	Spike	P	0 - 30
2174916	Hexachlorobenzene	0.979	Spike	P	0 - 30
2174916	Lambda-Cyhalothrin	1.26	Spike	P	0 - 30
2174916	Methoxychlor	0.585	Spike	P	0 - 30
2174916	Mirex	0.0767	Spike	P	0 - 30
2174916	Permethrin	2.19	Spike	P	0 - 30
2174916	Phenothrin	2.49	Spike	P	0 - 30
2174916	Prallethrin	1.85	Spike	P	0 - 30
2174916	Trans-Nonachlor	0.603	Spike	P	0 - 30
2174916	Trifluralin	0.109	Spike	P	0 - 30
LFB	Aldrin	0.834	LCS	P	0 - 30
LFB	Alpha-BHC	0.152	LCS	P	0 - 30
LFB	Alpha-Chlordane	2.27	LCS	P	0 - 30
LFB	Beta-BHC	0.201	LCS	P	0 - 30
LFB	Beta-Cyfluthrin	3.41	LCS	P	0 - 30
LFB	Bifenthrin	1.74	LCS	P	0 - 30
LFB	Chlorothalonil	6.61	LCS	P	0 - 30
LFB	Cis-Nonachlor	2.21	LCS	P	0 - 30
LFB	Cypermethrin	3.18	LCS	P	0 - 30
LFB	Dacthal	1.80	LCS	P	0 - 30
LFB	DDD-p,p'	1.23	LCS	P	0 - 30
LFB	DDE-p,p'	0.474	LCS	P	0 - 30
LFB	DDT-p,p'	1.89	LCS	P	0 - 30
LFB	Delta-BHC	3.30	LCS	P	0 - 30
LFB	Dicofol	3.10	LCS	P	0 - 30
LFB	Dieldrin	3.93	LCS	P	0 - 30
LFB	Endosulfan I	0.651	LCS	P	0 - 30
LFB	Endosulfan II	1.29	LCS	P	0 - 30
LFB	Endosulfan Sulfate	1.41	LCS	P	0 - 30
LFB	Endrin	0.636	LCS	P	0 - 30
LFB	Endrin Aldehyde	1.45	LCS	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8270E
Batch ID: P382956

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
LFB	Endrin Ketone	1.37	LCS	P	0 - 30
LFB	Ethalfuralin	1.94	LCS	P	0 - 30
LFB	Gamma-BHC	0.315	LCS	P	0 - 30
LFB	Gamma-Chlordane	2.21	LCS	P	0 - 30
LFB	Heptachlor	4.12	LCS	P	0 - 30
LFB	Heptachlor Epoxide	2.20	LCS	P	0 - 30
LFB	Hexachlorobenzene	2.65	LCS	P	0 - 30
LFB	Lambda-Cyhalothrin	3.06	LCS	P	0 - 30
LFB	Methoxychlor	0.956	LCS	P	0 - 30
LFB	Mirex	1.73	LCS	P	0 - 30
LFB	Permethrin	2.53	LCS	P	0 - 30
LFB	Phenothrin	2.24	LCS	P	0 - 30
LFB	Prallethrin	6.70	LCS	P	0 - 30
LFB	Trans-Nonachlor	2.11	LCS	P	0 - 30
LFB	Trifluralin	0.904	LCS	P	0 - 30

Reference Method: EPA 8276
Batch ID: P382956

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2174936	Chlordane	1.19	Spike	P	0 - 30
2174936	Toxaphene	5.14	Spike	P	0 - 30
LFB	Chlordane	2.81	LCS	P	0 - 30
LFB	Toxaphene	3.76	LCS	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P383003

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2175191	Acesulfame K	12.0	Spike	P	0 - 30
2175191	AMPA	2.85	Spike	P	0 - 30
2175191	Endothall	3.33	Spike	P	0 - 30
2175191	Glufosinate	5.23	Spike	P	0 - 30
2175191	Glyphosate	5.25	Spike	P	0 - 30
2175191	Sucralose	5.54	Spike	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P383047

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2175209	2,4-D	11.0	Spike	P	0 - 30
2175209	Acetaminophen	9.98	Spike	P	0 - 30
2175209	Acetamiprid	6.85	Spike	P	0 - 30
2175209	Afidopyropen	3.38	Spike	P	0 - 30
2175209	Bentazon	0.290	Spike	P	0 - 30
2175209	Benzovindiflupyr	6.82	Spike	P	0 - 30
2175209	Carbamazepine	4.92	Spike	P	0 - 30
2175209	Clothianidin	2.98	Spike	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8321B
Batch ID: P383047

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2175209	Dinotefuran	2.30	Spike	P	0 - 30
2175209	Diuron	7.20	Spike	P	0 - 30
2175209	Fenuron	2.44	Spike	P	0 - 30
2175209	Fluridone	7.79	Spike	P	0 - 30
2175209	Hydrocodone	5.23	Spike	P	0 - 30
2175209	Ibuprofen	4.88	Spike	P	0 - 30
2175209	Imazapyr	3.56	Spike	P	0 - 30
2175209	Imidacloprid	19.1	Spike	P	0 - 30
2175209	Linuron	15.1	Spike	P	0 - 30
2175209	Mandestrobin	4.69	Spike	P	0 - 30
2175209	MCPD	9.64	Spike	P	0 - 30
2175209	Naproxen	8.10	Spike	P	0 - 30
2175209	Primidone	12.8	Spike	P	0 - 30
2175209	Pyraclostrobin	7.55	Spike	P	0 - 30
2175209	Thiamethoxam	0.467	Spike	P	0 - 30
2175209	Tolfenpyrad	21.6	Spike	P	0 - 30
2175209	Triclopyr	1.13	Spike	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P383083

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2175208	3-Hydroxycarbofuran	2.37	Spike	P	0 - 30
2175208	Aldicarb	18.4	Spike	P	0 - 30
2175208	Aldicarb Sulfone	7.17	Spike	P	0 - 30
2175208	Aldicarb Sulfoxide	14.9	Spike	P	0 - 30
2175208	Carbaryl	0.622	Spike	P	0 - 30
2175208	Carbofuran	4.14	Spike	P	0 - 30
2175208	Methiocarb	5.54	Spike	P	0 - 30
2175208	Methomyl	5.78	Spike	P	0 - 30
2175208	Oxamyl	9.81	Spike	P	0 - 30
2175208	Propoxur	4.29	Spike	P	0 - 30

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

Quality Assurance Report Surrogates

Lab Sample ID: 2175208

Field Sample ID: AF60698

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Carbaryl-d7	35.5	P	30 - 160

Lab Sample ID: 2175209

Field Sample ID: AF60698

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	120	P	30 - 160
EPA 8321B	Acetaminophen-d4	88.4	P	30 - 160
EPA 8321B	Carbamazepine-d10	50.7	P	30 - 160
EPA 8321B	Diuron-d6	43.9	P	30 - 160
EPA 8321B	Endothall-d6	103	P	30 - 160
EPA 8321B	Endothall-d6	103	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	50.4	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	50.4	P	30 - 160
EPA 8321B	Ibuprofen-d3	67.3	P	30 - 160
EPA 8321B	Primidone-d5	63.9	P	30 - 160
EPA 8321B	Sucralose-d6	88.5	P	30 - 160
EPA 8321B	Sucralose-d6	88.5	P	30 - 160

Lab Sample ID: 2175210

Field Sample ID: AF60698

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8270E	Decachlorobiphenyl	101	P	44 - 112
EPA 8270E	Tetrachloro-m-xylene	70.0	P	34 - 106
EPA 8276	Decachlorobiphenyl	84.4	P	26 - 97.0
EPA 8276	PCNB	87.9	P	38 - 141

Lab Sample ID: 2175211

Field Sample ID: AF60698

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8270E	Simazine-d10	110	P	72 - 135
EPA 8270E	Terbufos-d10	106	P	57 - 134

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B
Run ID: A99270
Included Lab Sample IDs: 2175209

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
AMPA	92.6	91.0	P/P	30 - 200
Glufosinate	91.6	95.1	P/P	30 - 200
Glyphosate	94.4	88.0	P/P	30 - 200

Reference Method: EPA 8321B
Run ID: A99272
Included Lab Sample IDs: 2175209

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acesulfame K	71.4	69.9	P/P	30 - 200
Endothall	133	135	P/P	30 - 200

Reference Method: EPA 200.7 Rev. 4.4
Run ID: A99278
Included Lab Sample IDs: 2175212

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Barium	103	103	P/P	90 - 110
Calcium	101	100	P/P	90 - 110
Iron	102	102	P/P	90 - 110
Magnesium	102	101	P/P	90 - 110
Potassium	101	100	P/P	90 - 110
Sodium	100	101	P/P	90 - 110
Zinc	103	103	P/P	90 - 110

Reference Method: EPA 200.8 Rev. 5.4
Run ID: A99289
Included Lab Sample IDs: 2175212

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Aluminum	98.8	97.6	P/P	90 - 110
Antimony	103	101	P/P	90 - 110
Arsenic	103	101	P/P	90 - 110
Boron	102	101	P/P	90 - 110
Cadmium	102	99.1	P/P	90 - 110
Chromium	102	100	P/P	90 - 110
Copper	102	100	P/P	90 - 110
Lead	98.6	96.5	P/P	90 - 110
Nickel	102	98.7	P/P	90 - 110
Selenium	102	99.1	P/P	90 - 110
Thallium	91.9	90.3	P/P	90 - 110

Reference Method: EPA 8321B
Run ID: A99294
Included Lab Sample IDs: 2175209

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Sucralose	83.9	90.1	P/P	30 - 200

Quality Assurance Report Calibration Verification

Reference Method: EPA 8276

Run ID: A99315

Included Lab Sample IDs: 2175210

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chlordane	96.6		P	80 - 120
Toxaphene	95.2		P	80 - 120

Reference Method: EPA 8270E

Run ID: A99326

Included Lab Sample IDs: 2175210

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Aldrin	99.5		P	80 - 120
Alpha-BHC	108		P	80 - 120
Alpha-Chlordane	100		P	80 - 120
Beta-BHC	95.5		P	80 - 120
Beta-Cyfluthrin	96.0		P	80 - 120
Bifenthrin	94.7		P	80 - 120
Chlorothalonil	138*		F	80 - 120
Cis-Nonachlor	100		P	80 - 120
Cypermethrin	94.5		P	80 - 120
Dacthal	102		P	80 - 120
DDD-p,p'	101		P	80 - 120
DDE-p,p'	100		P	80 - 120
DDT-p,p'	99.5		P	80 - 120
Delta-BHC	112		P	80 - 120
Dicofol	172*		F	80 - 120
Dieldrin	101		P	80 - 120
Endosulfan I	104		P	80 - 120
Endosulfan II	97.1		P	80 - 120
Endosulfan Sulfate	89.8		P	80 - 120
Endrin	99.5		P	80 - 120
Endrin Aldehyde	95.8		P	80 - 120
Endrin Ketone	88.9		P	80 - 120
Ethalfuralin	98.7		P	80 - 120
Gamma-BHC	107		P	80 - 120
Gamma-Chlordane	101		P	80 - 120
Heptachlor	95.1		P	80 - 120
Heptachlor Epoxide	103		P	80 - 120
Hexachlorobenzene	98.6		P	80 - 120
Lambda-Cyhalothrin	94.4		P	80 - 120
Methoxychlor	100		P	80 - 120
Mirex	97.4		P	80 - 120
Permethrin	89.6		P	80 - 120
Phenothrin	88.3		P	80 - 120
Prallethrin	88.3		P	80 - 120
Trans-Nonachlor	99.6		P	80 - 120
Trifluralin	97.7		P	80 - 120

Reference Method: EPA 8321B

Run ID: A99327

Included Lab Sample IDs: 2175209

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	96.7	81.3	P/P	50 - 150

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B
Run ID: A99327
Included Lab Sample IDs: 2175209

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acetaminophen	103	111	P/P	60 - 160
Acetamiprid	129	127	P/P	50 - 150
Afidopyropen	111	104	P/P	50 - 150
Bentazon	103	109	P/P	50 - 160
Benzovindiflupyr	106	102	P/P	50 - 150
Carbamazepine	105	105	P/P	60 - 150
Clothianidin	98.4	105	P/P	60 - 150
Dinotefuran	103	103	P/P	50 - 150
Diuron	104	103	P/P	60 - 160
Fenuron	128	131	P/P	60 - 150
Fluridone	102	97.5	P/P	60 - 160
Hydrocodone	107	106	P/P	60 - 150
Ibuprofen	80.6	101	P/P	50 - 160
Imazapyr	104	132	P/P	50 - 150
Imidacloprid	102	105	P/P	60 - 150
Linuron	102	94.8	P/P	60 - 150
Mandestrobin	103	99.7	P/P	50 - 150
MCPP	108	137	P/P	50 - 150
Naproxen	86.6	69.3	P/P	50 - 160
Primidone	102	106	P/P	60 - 150
Pyraclostrobin	108	107	P/P	60 - 150
Thiamethoxam	101	104	P/P	50 - 150
Tolfenpyrad	109	98.9	P/P	60 - 150
Triclopyr	117	102	P/P	50 - 150

Reference Method: EPA 8270E
Run ID: A99328
Included Lab Sample IDs: 2175211

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acetochlor	102		P	80 - 120
Alachlor	101		P	80 - 120
Ametryn	101		P	80 - 120
Atrazine	99.4		P	80 - 120
Atrazine Desethyl	98.3		P	80 - 120
Azinphos Methyl	98.5		P	80 - 120
Bromacil	96.9		P	80 - 120
Butylate	95.5		P	80 - 120
Carbophenothion	96.1		P	80 - 120
Chlorpyrifos Ethyl	97.7		P	80 - 120
Chlorpyrifos Methyl	97.9		P	80 - 120
Cyanazine	97.6		P	80 - 120
Demeton	119		P	80 - 120
Diazinon	101		P	80 - 120
Dimethenamid	104		P	80 - 120
Disulfoton	101		P	80 - 120
Dithiopyr	99.3		P	80 - 120
EPTC	101		P	80 - 120
Ethion	98.1		P	80 - 120
Ethoprop	101		P	80 - 120
Fenamiphos	102		P	80 - 120

Quality Assurance Report Calibration Verification

Reference Method: EPA 8270E

Run ID: A99328

Included Lab Sample IDs: 2175211

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fipronil	100		P	80 - 120
Fipronil Desulfinyl	104		P	80 - 120
Fipronil Sulfide	98.5		P	80 - 120
Fipronil Sulfone	96.4		P	80 - 120
Flumioxazin	88.2		P	80 - 120
Fonofos	94.9		P	80 - 120
Hexazinone	97.7		P	80 - 120
Imazalil	98.7		P	80 - 120
Malathion	97.9		P	80 - 120
Metalaxyl	102		P	80 - 120
Metolachlor	104		P	80 - 120
Mevinphos	95.9		P	80 - 120
Molinate	101		P	80 - 120
Naled	101		P	80 - 120
Norflurazon	100		P	80 - 120
Oxadiazon	100		P	80 - 120
Parathion Ethyl	99.5		P	80 - 120
Parathion Methyl	100		P	80 - 120
Pendimethalin	101		P	80 - 120
Phorate	99.3		P	80 - 120
Prodiamine	95.0		P	80 - 120
Prometon	99.4		P	80 - 120
Prometryn	100		P	80 - 120
Pronamide	99.5		P	80 - 120
Propiconazole	103		P	80 - 120
Simazine	94.8		P	80 - 120
Sulfentrazone	96.0		P	80 - 120
Tebuconazole	99.2		P	80 - 120
Terbufos	96.9		P	80 - 120
Terbutylazine	100		P	80 - 120

Reference Method: EPA 8321B

Run ID: A99367

Included Lab Sample IDs: 2175208

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
3-Hydroxycarbofuran	111	106	P/P	60 - 150
Aldicarb	94.7	80.5	P/P	60 - 150
Aldicarb Sulfone	107	111	P/P	50 - 150
Aldicarb Sulfoxide	101	104	P/P	50 - 150
Carbaryl	117	112	P/P	60 - 150
Carbofuran	103	100	P/P	50 - 150
Methiocarb	117	110	P/P	50 - 150
Methomyl	99.5	103	P/P	50 - 150
Oxamyl	104	112	P/P	50 - 150
Propoxur	116	114	P/P	50 - 150

Quality Assurance Report Calibration Verification

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A99411

Included Lab Sample IDs: 2175212

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Silver	105	109	P/P	90 - 110

Reference Method: EPA 8270E

Run ID: A99425

Included Lab Sample IDs: 2175211

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Metribuzin	93.1		P	80 - 120

* Pass/Fail determinations are made for each bracketing calibration verification check.

Control limits for initial calibration checks may be different from those for continuing checks, depending on method requirements.

Where they are different, both control limits are provided.

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery		MS % Recovery			Precision SMP	MS
EPA 200.7 Rev. 4.4	Barium	101		105	104	102		2.22
	Calcium	98.1		99.1	102			4.50
	Iron	101		106	109	104		5.04
	Magnesium	103		107	112	103		5.22
	Potassium	96.8		101	104	99.6		2.96
	Sodium	96.7		99.0	103			2.72
	Zinc	102		108	110	107		3.00
EPA 200.8 Rev. 5.4	Aluminum	98.8		98.7	99.7	103		0.726
	Antimony	104		103	106	101		2.60
	Arsenic	105		107	107	105		0.199
	Boron	101		102	98.5	99.8		2.27
	Cadmium	103		105	104	102		1.07
	Chromium	103		104	104	100		0.240
	Copper	102		103	104	103		0.537
	Lead	102		102	103	100		1.05
	Nickel	101		104	104	102		0.0317
	Selenium	102		103	107	101		3.11
	Silver	98.7		102	101	103		1.49
	Thallium	101		101	105	99.7		3.19
EPA 8270E	Acetochlor	102	82.8	82.9	94.4	20.9		13.0
	Alachlor	102	82.8	87.9	99.2	20.7		12.0
	Aldrin	65.6	66.1	60.2	59.7	0.834		0.885
	Alpha-BHC	101	102	102	109	0.152		6.48
	Alpha-Chlordane	92.0	94.1	85.9	86.4	2.27		0.524
	Ametryn	127	99.9			24.2		7.43
	Atrazine	97.7	85.9			12.9		3.83
	Atrazine Desethyl	83.7	67.6			21.3		7.43
	Azinphos Methyl	123	87.4	93.8	106	33.8		12.6
	Beta-BHC	124	123	130	128	0.201		1.54
	Beta-Cyfluthrin	112	108	111	109	3.41		2.17
	Bifenthrin	86.1	87.6	89.0	89.4	1.74		0.367
	Bromacil	96.9	89.6			7.90		1.28
	Butylate	63.3	50.2	46.9	58.9	23.0		22.6
	Carbophenothion	90.9	81.4	69.5	75.7	11.1		8.54
	Chlorothalonil	201	188	280	269	6.61		4.24
	Chlorpyrifos Ethyl	98.9	83.9	64.5	81.8	16.5		19.0
	Chlorpyrifos Methyl	92.1	69.8	74.8	84.4	27.5		12.0
	Cis-Nonachlor	96.8	99.0	97.2	96.8	2.21		0.409
	Cyanazine	119	96.8	115	130	20.6		12.3
	Cypermethrin	104	107	110	110	3.18		0.0581
	Dacthal	104	106	110	109	1.80		0.971
	DDD-p,p'	105	107	107	109	1.23		2.31
	DDE-p,p'	86.5	86.9	82.4	82.3	0.474		0.0980
	DDT-p,p'	82.6	84.1	79.4	80.7	1.89		1.64
	Delta-BHC	160	155	255	257	3.30		0.818
	Demeton	69.9	57.2	94.5	106	19.9		11.0
	Diazinon	99.8	78.4	87.7	103	24.0		16.4
	Dicofol	82.2	79.7	175	173	3.10		1.21
	Dieldrin	101	105	104	104	3.93		0.691
	Dimethenamid	98.5	80.8			19.7		13.9
	Disulfoton	79.9	62.5	82.6	92.5	24.4		11.3
	Dithiopyr	95.4	81.0	81.2	88.3	16.3		5.02
	Endosulfan I	107	108	117	116	0.651		1.07
	Endosulfan II	128	130	131	130	1.29		0.566

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery		MS % Recovery		Precision	
						LCS	MS
						SMP	
EPA 8270E	Endosulfan Sulfate	118	120	131	129	1.41	1.92
	Endrin	105	105	110	111	0.636	1.06
	Endrin Aldehyde	126	124	109	112	1.45	3.15
	Endrin Ketone	109	111	121	121	1.37	0.148
	EPTC	64.0	46.9	43.0	54.1	30.8	22.9
	Ethalfuralin	81.6	80.1	79.3	81.0	1.94	2.15
	Ethion	97.6	91.0	76.4	77.2	6.93	1.05
	Ethoprop	91.5	67.1	105	107	30.8	1.87
	Fenamiphos	104	95.3	64.5	82.3	9.00	24.3
	Fipronil	111	93.7	92.7	95.1	17.3	2.56
	Fipronil Desulfinyl	102	96.0	87.9	94.9	5.78	7.74
	Fipronil Sulfide	97.1	87.7	76.6	84.7	10.2	10.1
	Fipronil Sulfone	93.9	87.1	72.6	75.0	7.42	3.35
	Flumioxazin	121	101	113	121	18.2	7.27
	Fonofos	91.6	59.6	78.8	92.2	42.4	15.7
	Gamma-BHC	125	125	128	127	0.315	0.455
	Gamma-Chlordane	87.2	89.2	85.8	85.4	2.21	0.512
	Heptachlor	76.9	80.1	75.0	74.0	4.12	1.39
	Heptachlor Epoxide	99.3	101	103	102	2.20	0.492
	Hexachlorobenzene	75.4	73.4	68.6	67.9	2.65	0.979
	Hexazinone	107	105	92.7	99.7	2.50	6.00
	Imazalil	128	95.1	130	141	29.7	8.43
	Lambda-Cyhalothrin	102	106	110	111	3.06	1.26
	Malathion	105	89.7	82.6	89.6	16.1	8.14
	Metalaxyl	110	88.9	79.5	93.2	20.9	9.40
	Methoxychlor	106	107	108	108	0.956	0.585
	Metolachlor	102	88.5			13.7	1.10
	Metribuzin	106	89.1	99.9	111	17.1	10.9
	Mevinphos	87.7	62.9	93.6	99.7	32.8	6.32
	Mirex	66.1	67.2	62.9	62.8	1.73	0.0767
	Molinate	77.0	52.3	65.3	73.2	38.3	11.3
	Naled	63.2	51.5	71.7	68.7	20.4	4.22
	Norflurazon	106	96.5			9.43	1.42
	Oxadiazon	91.2	88.0	68.1	74.6	3.62	6.25
	Parathion Ethyl	89.6	82.7	200	223	8.04	11.1
	Parathion Methyl	107	87.8	232	266	19.3	13.7
	Pendimethalin	103	77.5			28.5	14.4
	Permethrin	81.9	84.0	80.7	82.5	2.53	2.19
	Phenothrin	69.5	71.0	69.2	71.0	2.24	2.49
	Phorate	102	64.9	96.6	114	44.3	16.5
	Prallethrin	96.3	103	101	103	6.70	1.85
	Prodiamine	53.9	81.0	78.4	94.4	40.2	18.6
	Prometon	105	90.4	92.2	112	14.6	19.0
	Prometryn	114	99.6	96.1	106	13.1	6.68
	Pronamide	106	90.7	98.6	114	15.2	14.6
	Propiconazole	109	99.7	114	108	8.62	2.22
	Simazine	106	92.5			13.4	0.691
	Sulfentrazon	91.8	85.3	79.7	77.5	7.42	1.98
	Tebuconazole	79.4	89.8	60.2	65.2	12.3	5.77
	Terbufos	90.3	65.1	87.3	101	32.4	14.7
	Terbuthylazine	100	88.4	80.4	75.0	12.3	6.90
	Trans-Nonachlor	87.5	89.4	85.7	85.2	2.11	0.603
	Trifluralin	79.9	80.6	78.3	78.2	0.904	0.109
EPA 8276	Chlordane	91.6	89.0	83.8	84.8	2.81	1.19

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery		MS % Recovery		LCS	Precision	MS
							SMP	
EPA 8276	Toxaphene	88.6	92.0	78.5	82.6	3.76		5.14
EPA 8321B	2,4-D	121		106	118			11.0
	3-Hydroxycarbofuran	69.3		47.2	48.3			2.37
	Acesulfame K	70.4		49.0	55.2			12.0
	Acetaminophen	83.8		91.7	101			9.98
	Acetamiprid	93.8		62.8	67.3			6.85
	Afidopyropen	77.3		66.9	69.2			3.38
	Aldicarb	58.2		27.3	32.8			18.4
	Aldicarb Sulfone	82.8		61.3	65.8			7.17
	Aldicarb Sulfoxide	87.8		42.9	49.7			14.9
	AMPA	96.4		89.4	93.5			2.85
	Bentazon	54.0						0.290
	Benzovindiflupyr	65.6		50.5	54.1			6.82
	Carbamazepine	77.7		46.7	49.0			4.92
	Carbaryl	43.0		31.5	31.7			0.622
	Carbofuran	42.1		29.1	30.3			4.14
	Clothianidin	78.0		58.8	60.7			2.98
	Dinotefuran	86.7						2.30
	Diuron	58.5		34.5	37.1			7.20
	Endothall	140		133	138			3.33
	Fenuron	111		71.2	72.9			2.44
	Fluridone	74.9		60.5	65.4			7.79
	Glufosinate	96.3		89.3	94.0			5.23
	Glyphosate	94.5		87.0	79.7			5.25
	Hydrocodone	80.0		59.6	62.8			5.23
	Ibuprofen	73.4		58.7	55.9			4.88
	Imazapyr	78.5		77.0	71.8			3.56
	Imidacloprid	102		118	96.1			19.1
	Linuron	59.9		38.8	45.2			15.1
	Mandestrobin	76.3		58.1	60.9			4.69
	MCPP	143		117	129			9.64
	Methiocarb	47.5		37.8	39.9			5.54
	Methomyl	72.1		55.4	58.7			5.78
	Naproxen	71.5		62.0	67.2			8.10
	Oxamyl	81.6		58.9	65.0			9.81
	Primidone	83.5		89.7	78.9			12.8
	Propoxur	44.7		31.4	32.7			4.29
	Pyraclostrobin	70.3		58.3	62.9			7.55
	Sucralose	102		87.9	93.2			5.54
	Thiamethoxam	66.2		63.5	63.1			0.467
	Tolfenpyrad	51.9		40.5	50.3			21.6
	Triclopyr	112		113	112			1.13

Reference Method Descriptions

Method	Description	Associated Samples
EPA 200.7 Rev. 4.4	Total Recoverable Metals analysis using ICP emission spectroscopy for aqueous samples supporting Clean Water Act Projects	2175212
EPA 200.8 Rev. 5.4	Total Recoverable Metals analysis using ICP-MS for aqueous samples supporting Clean Water Act Projects	2175212
EPA 8270E	Organochlorine pesticides in water matrices by GC/MS-SIM	2175210
EPA 8270E	Organonitrogen and phosphorus pesticides in water matrices by GC/MS/MS	2175211

Reference Method Descriptions

Method	Description	<u>Associated Samples</u>
EPA 8276	Organochlorine pesticides in water matrices by GC/MS with Negative Chemical Ionization	2175210
EPA 8321B	Carbamates in water matrices by HPLC/MS/MS	2175208
EPA 8321B	Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS	2175209
EPA 8321B	Water soluble organic compounds by HPLC/MS/MS	2175209

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	06/09/2020	06/10/2020 15:40	Elliott D. Healy	06/11/2020 17:05	Betina Topolski	2175212
EPA 200.8 Rev. 5.4	06/09/2020	06/10/2020 15:40	Elliott D. Healy	06/11/2020 18:09	Justin Cutchin	2175212
EPA 8270E	06/09/2020	06/15/2020 11:25	Justin Cutchin	06/18/2020 16:00	Justin Cutchin	2175212
	06/09/2020	06/09/2020 13:30	Fe-Val Siddell	06/11/2020 22:55	Vandana T. Nagar	2175211
	06/09/2020	06/09/2020 13:30	Fe-Val Siddell	06/16/2020 16:17	Vandana T. Nagar	2175211
	06/09/2020	06/10/2020 09:00	Rasheda Ghaffari	06/12/2020 23:25	Michael Poppell	2175210
EPA 8276	06/09/2020	06/10/2020 09:00	Rasheda Ghaffari	06/12/2020 12:53	Arthur Maknenko	2175210
EPA 8321B	06/09/2020	06/10/2020 12:00	Rebecca Ware	06/10/2020 16:17	Rebecca Ware	2175209
	06/09/2020	06/10/2020 12:00	Rebecca Ware	06/11/2020 13:21	Rebecca Ware	2175209
	06/09/2020	06/10/2020 12:00	Rebecca Ware	06/12/2020 11:17	Rebecca Ware	2175209
	06/09/2020	06/11/2020 10:00	Hoor Shaik	06/14/2020 11:13	Juyoung Kim	2175209
	06/09/2020	06/15/2020 10:10	Hoor Shaik	06/15/2020 18:12	Juyoung Kim	2175208