

Chemical Analysis Report

SO-DIST-2019-05-08-01

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

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

Request ID: **RQ-2019-03-18-29**

Customer: **SO-DIST**

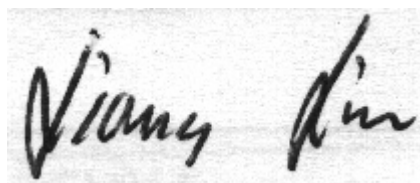
Project ID: **SMP**

Send Reports to:
FL Dept. of Environmental Protection
FDEP 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: Liang Lin, Environmental Administrator

Date Certified: 31-MAY-2019 14:56

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

NON-CONFORMANCE REPORT INCLUDED

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: 05/07/2019 10:19

Field ID: IMKFSHCK

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2084405	EPA 8321B	Aldicarb	0.020	U	ug/L	P363505	
		Aldicarb Sulfone	0.0020	U	ug/L	P363505	
		Aldicarb Sulfoxide	0.0020	UJ	ug/L	P363505	MS
		Carbaryl	0.0020	U	ug/L	P363505	
		Carbofuran	0.0020	U	ug/L	P363505	
		3-Hydroxycarbofuran	0.0020	U	ug/L	P363505	
		Methiocarb	0.0020	U	ug/L	P363505	
		Methomyl	0.0020	U	ug/L	P363505	
		Oxamyl	0.0020	U	ug/L	P363505	
		Propoxur	0.0020	U	ug/L	P363505	
2084406		2,4-D	0.30		ug/L	P363505	
		Acesulfame K**	0.10	U	ug/L	P363636	
		AMPA**	6.7		ug/L	P363636	
		Sucralose**	0.010	U	ug/L	P363636	
		Acetaminophen**	0.0080	U	ug/L	P363505	
		Endothall**	0.25	U	ug/L	P363636	
		Glufosinate**	0.10	U	ug/L	P363636	
		Bentazon	8.0E-04	U	ug/L	P363505	
		Glyphosate**	2.7		ug/L	P363636	
		Carbamazepine**	8.0E-04	U	ug/L	P363505	
		Diuron	0.0027	I	ug/L	P363505	
		Fenuron	0.016	U	ug/L	P363505	
		Fluridone**	0.0025	I	ug/L	P363505	
		Imazapyr**	0.11		ug/L	P363505	
		Hydrocodone**	0.0020	U	ug/L	P363505	
		Ibuprofen**	0.020	U	ug/L	P363505	
		Imidacloprid	0.019		ug/L	P363505	
		Linuron	0.0040	U	ug/L	P363505	
		MCPP	0.0020	U	ug/L	P363505	
		Naproxen**	0.0080	U	ug/L	P363505	
		Primidone**	0.0040	U	ug/L	P363505	
		Pyraclostrobin**	0.0020	U	ug/L	P363505	
		Triclopyr**	0.0040	U	ug/L	P363505	
2084407	EPA 8270D	Aldrin	4.1	U	ng/L	P363864	
		Alpha-BHC	2.0	U	ng/L	P363864	
		Alpha-Chlordane	1.0	U	ng/L	P363864	
		Beta-BHC	10	UJ	ng/L	P363864	LCS
		Bifenthrin**	4.1	U	ng/L	P363864	
		Delta-BHC	10	U	ng/L	P363864	
		Gamma-BHC	10	U	ng/L	P363864	MS
		Carbophenothion	12	UJ	ng/L	P363864	CCV, MS
		Chlorothalonil	2.0	UJ	ng/L	P363864	CCV, MS, RPD
		Cis-Nonachlor**	1.0	U	ng/L	P363864	

Field ID: IMKFSHCK

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2084407	EPA 8270D	Cypermethrin	20	U	ng/L	P363864	
		DDD-p,p'	8.2	U	ng/L	P363864	
		DDE-p,p'	8.2	U	ng/L	P363864	
		DDT-p,p'	10	U	ng/L	P363864	
		Dicofol	31	U	ng/L	P363864	
		Dieldrin	4.1	U	ng/L	P363864	
		Endosulfan I	4.1	U	ng/L	P363864	
		Endosulfan II	4.1	U	ng/L	P363864	MS
		Endosulfan Sulfate	2.0	U	ng/L	P363864	
		Endrin	2.0	U	ng/L	P363864	
		Endrin Aldehyde	2.0	U	ng/L	P363864	
		Endrin Ketone	2.0	U	ng/L	P363864	
		Ethalfuralin**	3.1	U	ng/L	P363864	
		Gamma-Chlordane	1.0	U	ng/L	P363864	
		Heptachlor	1.5	U	ng/L	P363864	
		Heptachlor Epoxide	2.0	U	ng/L	P363864	
		Hexachlorobenzene**	2.0	U	ng/L	P363864	
		Methoxychlor	4.1	U	ng/L	P363864	MS
		Mirex	2.0	U	ng/L	P363864	
		Permethrin	10	U	ng/L	P363864	
		Trans-Nonachlor**	1.0	U	ng/L	P363864	
		Trifluralin	2.6	U	ng/L	P363864	
		Chlordane	7.9	I	ng/L	P363864	
		Toxaphene	31	U	ng/L	P363864	
2084408	EPA 8276	Acetochlor	0.26	U	ng/L	P363660	
	EPA 8270E	Alachlor	0.26	U	ng/L	P363660	
		Ametryn	0.62	U	ng/L	P363660	
		Atrazine	26		ng/L	P363660	
		Atrazine Desethyl	8.9		ng/L	P363660	
		Azinphos Methyl	5.2	U	ng/L	P363660	
		Bromacil	32		ng/L	P363660	
		Butylate	0.42	U	ng/L	P363660	
		Chlorpyrifos Ethyl	0.49	I	ng/L	P363660	
		Chlorpyrifos Methyl	0.10	U	ng/L	P363660	
		Cyanazine	3.4	U	ng/L	P363660	
		Demeton	7.3	U	ng/L	P363660	
		Diazinon	0.13	U	ng/L	P363660	
		Dimethenamid**	0.51	VQ	ng/L	P364350	
		Disulfoton	0.52	U	ng/L	P363660	
		Dithiopyr**	0.10	U	ng/L	P363660	
		EPTC	1.3	U	ng/L	P363660	
		Ethion	0.16	U	ng/L	P363660	
		Ethoprop	0.10	U	ng/L	P363660	
		Fenamiphos	0.52	U	ng/L	P363660	
		Fipronil	0.26	U	ng/L	P363660	

Field ID: IMKFSHCK

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2084408	EPA 8270E	Fipronil Desulfinyl**	0.13	U	ng/L	P363660	
		Fipronil Sulfide	0.16	U	ng/L	P363660	
		Fipronil Sulfone	0.42	I	ng/L	P363660	
		Fonofos	0.21	U	ng/L	P363660	
		Hexazinone	3.6		ng/L	P363660	
		Malathion	0.36	U	ng/L	P363660	
		Metalaxyl	0.31	U	ng/L	P363660	
		Metolachlor	1.8	I	ng/L	P363660	
		Metribuzin	0.78	U	ng/L	P363660	
		Mevinphos	0.52	U	ng/L	P363660	
		Molinate	0.31	U	ng/L	P363660	
		Norflurazon	320		ng/L	P363660	
		Oxadiazon**	0.39	I	ng/L	P363660	
		Parathion Ethyl	0.26	U	ng/L	P363660	
		Parathion Methyl	0.57	U	ng/L	P363660	
		Pendimethalin	1.0	U	ng/L	P363660	
		Phorate	0.26	U	ng/L	P363660	
		Prodiamine**	0.18	U	ng/L	P363660	
		Prometon	0.93	UJ	ng/L	P363660	LCS, MS, RPD
		Prometryn	0.21	U	ng/L	P363660	
		Simazine	4.6		ng/L	P363660	
		Tebuconazole**	0.52	UJ	ng/L	P363660	LCS, RPD
		Terbufos	0.10	U	ng/L	P363660	
		Terbuthylazine	0.44	U	ng/L	P363660	
2084409	EPA 200.7 Rev. 4.4	Barium	16.6		ug/L	P363686	
		Calcium	42.7		mg/L	P363686	
		Iron	240		ug/L	P363686	
		Magnesium	12.3		mg/L	P363686	
		Potassium	10.2		mg/L	P363686	
		Sodium	24.9		mg/L	P363686	
		Zinc	9.0	I	ug/L	P363686	
	EPA 200.8 Rev. 5.4	Aluminum	66		ug/L	P363686	
		Antimony	0.16	I	ug/L	P363686	
		Arsenic	2.12		ug/L	P363686	
		Boron**	58.7	Y	ug/L	P363686	
		Cadmium	0.020	U	ug/L	P363686	
		Chromium	0.94	I	ug/L	P363686	
		Copper	1.88		ug/L	P363686	
		Lead	0.20	U	ug/L	P363686	
		Nickel	0.83	I	ug/L	P363686	
		Selenium	0.20	U	ug/L	P363686	
		Silver	0.010	U	ug/L	P363686	
		Thallium	0.10	U	ug/L	P363686	

Field ID: IMKFSHCK

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
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Ref. Method and Comment:
EPA 8321B: Refer to the narrative for an explanation of QC Codes.
EPA 8270D: Refer to the narrative for an explanation of QC Codes.
EPA 8270E: Sample expired for preparation for dimethenamid due to re-extraction. Insufficient sample available to perform duplicate matrix spikes in the re-extraction. V - Due to the presence of dimethenamid in both the Method Blank and the sample. Refer to the narrative for an explanation of QC Codes.
EPA 200.8 Rev. 5.4: The sample was preserved improperly for boron.

Non-Conformance Report

NCR ID: 7663

Event(s)

SO-DIST-2019-05-08-01

Job(s)

TLH-2019-05-08-21

Sample(s)

2084409

Test(s)

NCR Type: SHIPPING/RECEIVING

NCR Category: Preservation Not Intact

Observation: Sample not preserved to pH < 2. (for metals analysis)

Resolution: HNO3 Lot# 8197080 | Expiration Date: 07/16/2019
Sample preserved in the laboratory with nitric acid 05/08/2019 at 11:30.
Data will be qualified as appropriate.

Authorized by/Date: Joshua Ayres 5/13/2019

The Non-Conformance Report details exceptions or problems encountered with the events/jobs/samples/test.
Please address questions to:

Chemistry	Colin Wright	(850) 245-8085
Biology	Cheryl Swanson	(850) 245-8177

Quality Assurance Report Method Blank Results

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P363686

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: P363686

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 8270D
Batch ID: P363864

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	12	U	ng/L
Chlorothalonil	2.0	U	ng/L
Cis-Nonachlor	1.0	U	ng/L
Cypermethrin	20	U	ng/L
DDD-p,p'	8.0	U	ng/L
DDE-p,p'	8.0	U	ng/L
DDT-p,p'	10	U	ng/L
Delta-BHC	10	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	10	U	ng/L

Quality Assurance Report

Method Blank Results

Reference Method: EPA 8270D

Batch ID: P363864

Component	Result	Code	Units
Gamma-Chlordane	1.0	U	ng/L
Heptachlor	1.5	U	ng/L
Heptachlor Epoxide	2.0	U	ng/L
Hexachlorobenzene	2.0	U	ng/L
Methoxychlor	4.0	U	ng/L
Mirex	2.0	U	ng/L
Permethrin	10	U	ng/L
Trans-Nonachlor	1.0	U	ng/L
Trifluralin	2.5	U	ng/L

Reference Method: EPA 8270E

Batch ID: P363660

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
Disulfoton	0.50	U	ng/L
Dithiopyr	0.10	U	ng/L
EPTC	1.2	U	ng/L
Ethion	0.15	U	ng/L
Ethoprop	0.10	U	ng/L
Fenamiphos	0.50	U	ng/L
Fipronil	0.25	U	ng/L
Fipronil Desulfinyl	0.12	U	ng/L
Fipronil Sulfide	0.15	U	ng/L
Fipronil Sulfone	0.15	U	ng/L
Fonofos	0.20	U	ng/L
Hexazinone	0.50	U	ng/L
Malathion	0.35	U	ng/L
Metaxyl	0.30	U	ng/L
Metolachlor	0.50	U	ng/L
Metribuzin	0.75	U	ng/L
Mevinphos	0.50	U	ng/L
Molinate	0.30	U	ng/L
Norflurazon	0.50	U	ng/L
Oxadiazon	0.10	U	ng/L
Parathion Ethyl	0.25	U	ng/L
Parathion Methyl	0.55	U	ng/L
Pendimethalin	1.0	U	ng/L
Phorate	0.25	U	ng/L
Prodiamine	0.18	U	ng/L

Quality Assurance Report Method Blank Results

Reference Method: EPA 8270E
Batch ID: P363660

Component	Result	Code	Units
Prometon	0.90	U	ng/L
Prometryn	0.20	U	ng/L
Simazine	0.50	U	ng/L
Tebuconazole	0.50	U	ng/L
Terbufos	0.10	U	ng/L
Terbutylazine	0.42	U	ng/L

Reference Method: EPA 8270E
Batch ID: P364350

Component	Result	Code	Units
Dimethenamid	0.30	I	ng/L

Reference Method: EPA 8276
Batch ID: P363864

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

Reference Method: EPA 8321B
Batch ID: P363505

Component	Result	Code	Units
2,4-D	0.0020	U	ug/L
3-Hydroxycarbofuran	0.0020	U	ug/L
Acetaminophen	0.0080	U	ug/L
Aldicarb	0.020	U	ug/L
Aldicarb Sulfone	0.0020	U	ug/L
Aldicarb Sulfoxide	0.0020	U	ug/L
Bentazon	8.0E-04	U	ug/L
Carbamazepine	8.0E-04	U	ug/L
Carbaryl	0.0020	U	ug/L
Carbofuran	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
MCPP	0.0020	U	ug/L
Methiocarb	0.0020	U	ug/L
Methomyl	0.0020	U	ug/L
Naproxen	0.0080	U	ug/L
Oxamyl	0.0020	U	ug/L
Primidone	0.0040	U	ug/L
Propoxur	0.0020	U	ug/L
Pyraclostrobin	0.0020	U	ug/L
Triclopyr	0.0040	U	ug/L

Quality Assurance Report

Method Blank Results

Reference Method: EPA 8321B
Batch ID: P363636

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: P363686

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Barium	99.5		P	85 - 115
Calcium	99.3		P	85 - 115
Iron	100		P	85 - 115
Magnesium	107		P	85 - 115
Potassium	99.4		P	85 - 115
Sodium	101		P	85 - 115
Zinc	98.2		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4
 Batch ID: P363686

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Aluminum	96.0		P	85 - 115
Antimony	98.2		P	85 - 115
Arsenic	102		P	85 - 115
Boron	97.5		P	85 - 115
Cadmium	100		P	85 - 115
Chromium	99.3		P	85 - 115
Copper	99.6		P	85 - 115
Lead	100		P	85 - 115
Nickel	99.9		P	85 - 115
Selenium	101		P	85 - 115
Silver	98.4		P	85 - 115
Thallium	103		P	85 - 115

Reference Method: EPA 8270D
 Batch ID: P363864

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Aldrin	43.0	37.6	P/P	20 - 93.0
Alpha-BHC	109	107	P/P	57 - 119
Alpha-Chlordane	80.6	71.9	P/P	58 - 112
Beta-BHC	152	168	F/F	56 - 149
Bifenthrin	62.9	63.0	P/P	50 - 130
Carbophenothion	70.0	69.1	P/P	26 - 147
Chlorothalonil	84.5	103	P/P	20 - 155
Cis-Nonachlor	78.8	79.7	P/P	50 - 130
Cypermethrin	67.4	69.3	P/P	40 - 137
DDD-p,p'	87.9	92.8	P/P	65 - 129
DDE-p,p'	79.0	68.1	P/P	57 - 116
DDT-p,p'	91.0	87.4	P/P	53 - 133
Delta-BHC	136	148	P/P	59 - 163
Dicofol	93.6	94.1	P/P	24 - 138
Diieldrin	89.6	80.4	P/P	60 - 120
Endosulfan I	88.9	78.2	P/P	64 - 118
Endosulfan II	97.4	107	P/P	58 - 142
Endosulfan Sulfate	96.6	107	P/P	60 - 127
Endrin	96.8	87.0	P/P	59 - 122
Endrin Aldehyde	94.5	92.7	P/P	49 - 132
Endrin Ketone	98.2	103	P/P	64 - 121
Ethalfuralin	83.3	75.0	P/P	50 - 130
Gamma-BHC	124	127	P/P	56 - 141

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: EPA 8270D
Batch ID: P363864

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Gamma-Chlordane	72.0	67.8	P/P	56 - 110
Heptachlor	64.9	58.0	P/P	46 - 96.0
Heptachlor Epoxide	84.0	79.8	P/P	61 - 112
Hexachlorobenzene	66.4	60.0	P/P	50 - 130
Methoxychlor	108	109	P/P	63 - 134
Mirex	52.1	49.4	P/P	45 - 100
Permethrin	62.2	61.0	P/P	53 - 115
Trans-Nonachlor	74.4	66.5	P/P	50 - 130
Trifluralin	81.7	79.1	P/P	39 - 142

Reference Method: EPA 8270E
Batch ID: P363660

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acetochlor	103	111	P/P	71 - 121
Alachlor	96.2	112	P/P	72 - 119
Ametryn	102	112	P/P	47 - 144
Atrazine	105	114	P/P	75 - 123
Atrazine Desethyl	45.7	47.3	P/P	45 - 133
Azinphos Methyl	98.5	109	P/P	66 - 165
Bromacil	83.8	102	P/P	43 - 123
Butylate	78.6	82.0	P/P	27 - 83.0
Chlorpyrifos Ethyl	101	101	P/P	70 - 117
Chlorpyrifos Methyl	96.1	95.3	P/P	71 - 120
Cyanazine	60.9	50.9	P/P	34 - 264
Demeton	80.6	71.3	P/P	41 - 122
Diazinon	99.1	106	P/P	70 - 127
Disulfoton	86.2	77.7	P/P	56 - 127
Dithiopyr	103	110	P/P	67 - 125
EPTC	78.8	79.0	P/P	24 - 84.0
Ethion	111	113	P/P	53 - 132
Ethoprop	102	103	P/P	57 - 117
Fenamiphos	73.3	58.9	P/P	55 - 136
Fipronil	97.5	113	P/P	64 - 126
Fipronil Desulfinyl	94.5	107	P/P	47 - 114
Fipronil Sulfide	106	105	P/P	57 - 120
Fipronil Sulfone	97.3	105	P/P	52 - 115
Fonofos	91.1	91.9	P/P	61 - 121
Hexazinone	86.5	116	P/P	62 - 131
Malathion	108	106	P/P	67 - 126
Metaxyl	75.9	71.3	P/P	54 - 128
Metolachlor	107	117	P/P	71 - 118
Metribuzin	88.8	87.5	P/P	42 - 221
Mevinphos	96.0	98.0	P/P	45 - 114
Molinate	89.4	90.3	P/P	33 - 91.0
Norflurazon	78.5	102	P/P	60 - 123
Oxadiazon	111	114	P/P	66 - 121
Parathion Ethyl	95.3	102	P/P	73 - 111
Parathion Methyl	96.0	101	P/P	74 - 126
Pendimethalin	94.5	97.2	P/P	63 - 131
Phorate	86.2	77.5	P/P	54 - 115
Prodiamine	110	117	P/P	38 - 140

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 8270E
Batch ID: P363660

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Prometon	54.1	87.6	F/P	61 - 120
Prometryn	91.5	106	P/P	62 - 126
Simazine	97.4	106	P/P	75 - 126
Tebuconazole	16.3	64.0	F/P	21 - 115
Terbufos	89.4	86.2	P/P	65 - 116
Terbutylazine	103	111	P/P	73 - 117

Reference Method: EPA 8270E
Batch ID: P364350

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Dimethenamid	134	135	P/P	46 - 139

Reference Method: EPA 8276
Batch ID: P363864

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Chlordane	76.4	73.9	P/P	43 - 128
Toxaphene	63.6	65.6	P/P	38 - 140

Reference Method: EPA 8321B
Batch ID: P363505

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	89.6		P	40 - 150
3-Hydroxycarbofuran	85.9		P	40 - 150
Acetaminophen	92.9		P	30 - 150
Aldicarb	84.7		P	30 - 150
Aldicarb Sulfone	94.8		P	40 - 150
Aldicarb Sulfoxide	98.4		P	40 - 150
Bentazon	106		P	30 - 150
Carbamazepine	92.2		P	40 - 150
Carbaryl	80.1		P	40 - 150
Carbofuran	79.4		P	40 - 150
Diuron	90.4		P	40 - 150
Fenuron	102		P	40 - 150
Fluridone	95.3		P	40 - 150
Hydrocodone	96.5		P	40 - 150
Ibuprofen	82.0		P	40 - 150
Imazapyr	93.1		P	40 - 150
Imidacloprid	96.7		P	40 - 150
Linuron	73.3		P	40 - 150
MCPP	94.5		P	40 - 150
Methiocarb	76.3		P	40 - 150
Methomyl	82.8		P	40 - 150
Naproxen	81.0		P	40 - 150
Oxamyl	97.1		P	40 - 150
Primidone	90.8		P	40 - 150
Propoxur	77.4		P	40 - 150
Pyraclostrobin	74.1		P	40 - 150
Triclopyr	58.2		P	40 - 150

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: EPA 8321B
Batch ID: P363636

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acesulfame K	114		P	40 - 150
AMPA	94.2		P	40 - 150
Endothall	105		P	40 - 150
Glufosinate	110		P	40 - 150
Glyphosate	116		P	40 - 140
Sucralose	101		P	40 - 150

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P363686

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2083973	Barium	99.0		P	80 - 120
2083973	Calcium	100		P	80 - 120
2083973	Iron	99.5		P	80 - 120
2083973	Magnesium	105		P	80 - 120
2083973	Potassium	97.1		P	80 - 120
2083973	Sodium	102		P	80 - 120
2083973	Zinc	99.6		P	80 - 120
2084515	Barium	98.1	99.9	P/P	80 - 120
2084515	Calcium	100		P	80 - 120
2084515	Iron	101	103	P/P	80 - 120
2084515	Magnesium	101	105	P/P	80 - 120
2084515	Potassium	96.7		P	80 - 120
2084515	Sodium	101		P	80 - 120
2084515	Zinc	102	105	P/P	80 - 120

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P363686

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2083973	Aluminum	94.1		P	80 - 120
2083973	Antimony	97.4		P	80 - 120
2083973	Arsenic	99.9		P	80 - 120
2083973	Boron	95.7		P	80 - 120
2083973	Cadmium	98.2		P	80 - 120
2083973	Chromium	99.4		P	80 - 120
2083973	Copper	97.6		P	80 - 120
2083973	Lead	100		P	80 - 120
2083973	Nickel	98.6		P	80 - 120
2083973	Selenium	99.6		P	80 - 120
2083973	Silver	96.8		P	80 - 120
2083973	Thallium	103		P	80 - 120
2084515	Aluminum	93.9	93.5	P/P	80 - 120
2084515	Antimony	98.3	97.1	P/P	80 - 120
2084515	Arsenic	102	99.6	P/P	80 - 120
2084515	Boron	93.8	92.4	P/P	80 - 120
2084515	Cadmium	98.9	98.9	P/P	80 - 120
2084515	Chromium	97.1	96.7	P/P	80 - 120
2084515	Copper	98.2	96.3	P/P	80 - 120
2084515	Lead	99.7	99.1	P/P	80 - 120
2084515	Nickel	98.7	98.1	P/P	80 - 120
2084515	Selenium	99.6	97.1	P/P	80 - 120
2084515	Silver	96.5	94.0	P/P	80 - 120
2084515	Thallium	103	102	P/P	80 - 120

Reference Method: EPA 8270D
Batch ID: P363864

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2084129	Aldrin	56.2	53.4	P/P	25 - 92.0
2084129	Alpha-BHC	125	120	P/P	49 - 130
2084129	Alpha-Chlordane	82.1	85.4	P/P	50 - 115
2084129	Beta-BHC	151	155	P/P	43 - 157

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8270D
Batch ID: P363864

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2084129	Bifenthrin	82.9	76.5	P/P	50 - 130
2084129	Carbophenothion	199	203	F/F	27 - 180
2084129	Chlorothalonil	243	167	F/P	10 - 216
2084129	Cis-Nonachlor	84.5	83.6	P/P	50 - 130
2084129	Cypermethrin	89.3	84.7	P/P	40 - 153
2084129	DDD-p,p'	94.3	95.4	P/P	53 - 128
2084129	DDE-p,p'	77.4	81.9	P/P	48 - 116
2084129	DDT-p,p'	111	102	P/P	47 - 128
2084129	Delta-BHC	161	150	P/P	51 - 196
2084129	Dicofol	103	102	P/P	10 - 147
2084129	Dieldrin	94.4	97.7	P/P	48 - 128
2084129	Endosulfan I	96.3	98.1	P/P	58 - 126
2084129	Endosulfan II	338	371	F/F	50 - 150
2084129	Endosulfan Sulfate	97.5	95.9	P/P	56 - 130
2084129	Endrin	89.4	94.8	P/P	50 - 126
2084129	Endrin Aldehyde	52.9	63.9	P/P	12 - 145
2084129	Endrin Ketone	113	112	P/P	59 - 132
2084129	Ethalfuralin	93.5	92.0	P/P	50 - 130
2084129	Gamma-BHC	200	197	F/F	50 - 155
2084129	Gamma-Chlordane	79.1	81.6	P/P	50 - 112
2084129	Heptachlor	68.4	68.4	P/P	41 - 98.0
2084129	Heptachlor Epoxide	98.7	94.5	P/P	55 - 117
2084129	Hexachlorobenzene	72.0	68.2	P/P	50 - 130
2084129	Methoxychlor	134	114	F/P	55 - 133
2084129	Mirex	67.2	66.4	P/P	44 - 101
2084129	Permethrin	75.2	72.9	P/P	52 - 124
2084129	Trans-Nonachlor	78.5	79.1	P/P	50 - 130
2084129	Trifluralin	92.2	91.1	P/P	10 - 201

Reference Method: EPA 8270E
Batch ID: P363660

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2084294	Acetochlor	90.2	90.5	P/P	63 - 129
2084294	Alachlor	88.1	91.6	P/P	65 - 127
2084294	Ametryn	114	112	P/P	40 - 164
2084294	Atrazine	99.5	103	P/P	66 - 135
2084294	Atrazine Desethyl	69.1	66.6	P/P	14 - 157
2084294	Azinphos Methyl	81.0	89.9	P/P	49 - 180
2084294	Bromacil	123	125	P/P	48 - 130
2084294	Butylate	47.8	50.0	P/P	10 - 94.0
2084294	Chlorpyrifos Ethyl	89.9	87.8	P/P	58 - 123
2084294	Chlorpyrifos Methyl	84.7	83.7	P/P	58 - 125
2084294	Cyanazine	76.4	81.0	P/P	24 - 253
2084294	Demeton	70.0	72.6	P/P	25 - 149
2084294	Diazinon	87.8	86.3	P/P	59 - 144
2084294	Disulfoton	79.9	77.2	P/P	54 - 132
2084294	Dithiopyr	88.4	88.0	P/P	64 - 130
2084294	EPTC	45.0	53.3	P/P	10 - 92.0
2084294	Ethion	93.9	93.3	P/P	30 - 148
2084294	Ethoprop	90.5	88.7	P/P	50 - 130
2084294	Fenamiphos	85.6	85.1	P/P	49 - 142

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8270E
Batch ID: P363660

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2084294	Fipronil	90.8	95.5	P/P	46 - 140
2084294	Fipronil Desulfinyl	83.0	87.7	P/P	30 - 121
2084294	Fipronil Sulfide	95.1	113	P/P	31 - 136
2084294	Fipronil Sulfone	90.3	92.9	P/P	16 - 136
2084294	Fonofos	84.9	82.1	P/P	55 - 129
2084294	Hexazinone	117	121	P/P	56 - 141
2084294	Malathion	96.8	95.8	P/P	56 - 135
2084294	Metalaxyl	81.8	84.1	P/P	54 - 135
2084294	Metolachlor	92.2	93.3	P/P	51 - 140
2084294	Metribuzin	93.9	98.7	P/P	45 - 254
2084294	Mevinphos	93.7	95.0	P/P	33 - 131
2084294	Molinate	66.7	70.6	P/P	14 - 98.0
2084294	Norflurazon	85.8	90.4	P/P	34 - 136
2084294	Oxadiazon	89.3	91.0	P/P	67 - 116
2084294	Parathion Ethyl	91.8	89.3	P/P	66 - 118
2084294	Parathion Methyl	98.6	93.2	P/P	64 - 136
2084294	Pendimethalin	90.2	85.2	P/P	59 - 144
2084294	Phorate	79.5	77.7	P/P	42 - 130
2084294	Prodiamine	99.2	101	P/P	42 - 148
2084294	Prometon	147	124	F/P	59 - 134
2084294	Prometryn	86.9	86.8	P/P	54 - 135
2084294	Simazine	93.6	97.1	P/P	53 - 156
2084294	Tebuconazole	79.0	81.4	P/P	10 - 131
2084294	Terbufos	85.4	85.0	P/P	57 - 131
2084294	Terbutylazine	91.0	94.7	P/P	68 - 125

Reference Method: EPA 8270E
Batch ID: P364350

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2084283	Dimethenamid	92.0		P	46 - 139

Reference Method: EPA 8276
Batch ID: P363864

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2084440	Chlordane	68.5	68.0	P/P	34 - 136
2084440	Toxaphene	61.0	63.6	P/P	22 - 152

Reference Method: EPA 8321B
Batch ID: P363505

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2083598	2,4-D	98.5	111	P/P	40 - 150
2083598	Acetaminophen	80.4	84.2	P/P	30 - 150
2083598	Bentazon	47.6	47.5	P/P	30 - 150
2083598	Carbamazepine	67.0	66.1	P/P	40 - 150
2083598	Diuron	57.1	58.7	P/P	40 - 150
2083598	Fenuron	73.8	73.6	P/P	40 - 150
2083598	Fluridone	64.3	70.7	P/P	40 - 150
2083598	Hydrocodone	81.2	84.0	P/P	40 - 150
2083598	Ibuprofen	65.2	68.1	P/P	40 - 150

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8321B
Batch ID: P363505

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2083598	Imazapyr	120	110	P/P	40 - 150
2083598	Imidacloprid	103	101	P/P	40 - 150
2083598	Linuron	47.2	50.2	P/P	40 - 150
2083598	MCP	130	130	P/P	40 - 150
2083598	Naproxen	78.5	82.8	P/P	40 - 150
2083598	Primidone	88.4	89.5	P/P	40 - 150
2083598	Pyraclostrobin	83.9	85.6	P/P	40 - 150
2083598	Triclopyr	72.9	85.5	P/P	40 - 150
2084405	3-Hydroxycarbofuran	67.4	66.3	P/P	40 - 150
2084405	Aldicarb	60.1	54.5	P/P	30 - 150
2084405	Aldicarb Sulfone	75.7	72.9	P/P	40 - 150
2084405	Aldicarb Sulfoxide	42.2	39.4	P/F	40 - 150
2084405	Carbaryl	47.2	46.9	P/P	40 - 150
2084405	Carbofuran	51.2	46.5	P/P	40 - 150
2084405	Methiocarb	49.6	48.1	P/P	40 - 150
2084405	Methomyl	60.1	59.8	P/P	40 - 150
2084405	Oxamyl	68.7	72.5	P/P	40 - 150
2084405	Propoxur	47.8	47.2	P/P	40 - 150

Reference Method: EPA 8321B
Batch ID: P363636

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2083598	Acesulfame K	78.8	97.1	P/P	40 - 150
2083598	AMPA	45.4	40.4	P/P	40 - 150
2083598	Endothall	91.8	94.5	P/P	40 - 150
2083598	Glufosinate	70.8	68.1	P/P	40 - 150
2083598	Glyphosate	96.5	86.6	P/P	40 - 140
2083598	Sucralose	103	102	P/P	40 - 150

Quality Assurance Report Precision

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P363686

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2084515	Barium	1.84	Spike	P	0 - 20
2084515	Calcium	1.03	Spike	P	0 - 20
2084515	Iron	2.61	Spike	P	0 - 20
2084515	Magnesium	2.41	Spike	P	0 - 20
2084515	Potassium	1.42	Spike	P	0 - 20
2084515	Sodium	2.01	Spike	P	0 - 20
2084515	Zinc	2.09	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P363686

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2084515	Aluminum	0.390	Spike	P	0 - 20
2084515	Antimony	1.29	Spike	P	0 - 20
2084515	Arsenic	2.05	Spike	P	0 - 20
2084515	Boron	0.952	Spike	P	0 - 20
2084515	Cadmium	0.0298	Spike	P	0 - 20
2084515	Chromium	0.420	Spike	P	0 - 20
2084515	Copper	1.96	Spike	P	0 - 20
2084515	Lead	0.674	Spike	P	0 - 20
2084515	Nickel	0.644	Spike	P	0 - 20
2084515	Selenium	2.46	Spike	P	0 - 20
2084515	Silver	2.62	Spike	P	0 - 20
2084515	Thallium	0.673	Spike	P	0 - 20

Reference Method: EPA 8270D
Batch ID: P363864

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2084129	Aldrin	5.10	Spike	P	0 - 30
2084129	Alpha-BHC	3.66	Spike	P	0 - 30
2084129	Alpha-Chlordane	3.88	Spike	P	0 - 30
2084129	Beta-BHC	2.00	Spike	P	0 - 30
2084129	Bifenthrin	8.08	Spike	P	0 - 30
2084129	Carbophenothion	1.66	Spike	P	0 - 30
2084129	Chlorothalonil	37.4	Spike	F	0 - 30
2084129	Cis-Nonachlor	1.00	Spike	P	0 - 30
2084129	Cypermethrin	5.21	Spike	P	0 - 30
2084129	DDD-p,p'	1.20	Spike	P	0 - 30
2084129	DDE-p,p'	5.56	Spike	P	0 - 30
2084129	DDT-p,p'	8.17	Spike	P	0 - 30
2084129	Delta-BHC	7.15	Spike	P	0 - 30
2084129	Dicofol	0.526	Spike	P	0 - 30
2084129	Dieldrin	3.38	Spike	P	0 - 30
2084129	Endosulfan I	1.85	Spike	P	0 - 30
2084129	Endosulfan II	9.15	Spike	P	0 - 30
2084129	Endosulfan Sulfate	1.65	Spike	P	0 - 30
2084129	Endrin	5.86	Spike	P	0 - 30
2084129	Endrin Aldehyde	18.8	Spike	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8270D
Batch ID: P363864

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2084129	Endrin Ketone	0.438	Spike	P	0 - 30
2084129	Ethalfuralin	1.65	Spike	P	0 - 30
2084129	Gamma-BHC	1.18	Spike	P	0 - 30
2084129	Gamma-Chlordane	3.20	Spike	P	0 - 30
2084129	Heptachlor	0.0105	Spike	P	0 - 30
2084129	Heptachlor Epoxide	4.33	Spike	P	0 - 30
2084129	Hexachlorobenzene	5.41	Spike	P	0 - 30
2084129	Methoxychlor	16.7	Spike	P	0 - 30
2084129	Mirex	1.16	Spike	P	0 - 30
2084129	Permethrin	3.08	Spike	P	0 - 30
2084129	Trans-Nonachlor	0.806	Spike	P	0 - 30
2084129	Trifluralin	1.28	Spike	P	0 - 30
LFB	Aldrin	13.5	LCS	P	0 - 30
LFB	Alpha-BHC	1.93	LCS	P	0 - 30
LFB	Alpha-Chlordane	11.4	LCS	P	0 - 30
LFB	Beta-BHC	9.99	LCS	P	0 - 30
LFB	Bifenthrin	0.146	LCS	P	0 - 30
LFB	Carbophenothion	1.37	LCS	P	0 - 30
LFB	Chlorothalonil	19.3	LCS	P	0 - 30
LFB	Cis-Nonachlor	1.07	LCS	P	0 - 30
LFB	Cypermethrin	2.81	LCS	P	0 - 30
LFB	DDD-p,p'	5.40	LCS	P	0 - 30
LFB	DDE-p,p'	14.9	LCS	P	0 - 30
LFB	DDT-p,p'	4.11	LCS	P	0 - 30
LFB	Delta-BHC	8.35	LCS	P	0 - 30
LFB	Dicofol	0.462	LCS	P	0 - 30
LFB	Dieldrin	10.8	LCS	P	0 - 30
LFB	Endosulfan I	12.8	LCS	P	0 - 30
LFB	Endosulfan II	9.26	LCS	P	0 - 30
LFB	Endosulfan Sulfate	10.2	LCS	P	0 - 30
LFB	Endrin	10.7	LCS	P	0 - 30
LFB	Endrin Aldehyde	1.93	LCS	P	0 - 30
LFB	Endrin Ketone	4.80	LCS	P	0 - 30
LFB	Ethalfuralin	10.4	LCS	P	0 - 30
LFB	Gamma-BHC	2.90	LCS	P	0 - 30
LFB	Gamma-Chlordane	6.04	LCS	P	0 - 30
LFB	Heptachlor	11.2	LCS	P	0 - 30
LFB	Heptachlor Epoxide	5.16	LCS	P	0 - 30
LFB	Hexachlorobenzene	10.2	LCS	P	0 - 30
LFB	Methoxychlor	0.436	LCS	P	0 - 30
LFB	Mirex	5.37	LCS	P	0 - 30
LFB	Permethrin	2.04	LCS	P	0 - 30
LFB	Trans-Nonachlor	11.2	LCS	P	0 - 30
LFB	Trifluralin	3.17	LCS	P	0 - 30

Reference Method: EPA 8270E
Batch ID: P363660

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2084294	Acetochlor	0.379	Spike	P	0 - 30

Quality Assurance Report

Precision

Reference Method: EPA 8270E
Batch ID: P363660

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2084294	Alachlor	3.83	Spike	P	0 - 30
2084294	Ametryn	1.08	Spike	P	0 - 30
2084294	Atrazine	1.53	Spike	P	0 - 30
2084294	Atrazine Desethyl	3.66	Spike	P	0 - 30
2084294	Azinphos Methyl	10.4	Spike	P	0 - 30
2084294	Bromacil	0.827	Spike	P	0 - 30
2084294	Butylate	4.53	Spike	P	0 - 30
2084294	Chlorpyrifos Ethyl	2.37	Spike	P	0 - 30
2084294	Chlorpyrifos Methyl	1.19	Spike	P	0 - 30
2084294	Cyanazine	5.83	Spike	P	0 - 30
2084294	Demeton	3.66	Spike	P	0 - 30
2084294	Diazinon	1.73	Spike	P	0 - 30
2084294	Disulfoton	3.40	Spike	P	0 - 30
2084294	Dithiopyr	0.472	Spike	P	0 - 30
2084294	EPTC	16.8	Spike	P	0 - 30
2084294	Ethion	0.652	Spike	P	0 - 30
2084294	Ethoprop	2.02	Spike	P	0 - 30
2084294	Fenamiphos	0.635	Spike	P	0 - 30
2084294	Fipronil	5.00	Spike	P	0 - 30
2084294	Fipronil Desulfinyl	5.53	Spike	P	0 - 30
2084294	Fipronil Sulfide	17.2	Spike	P	0 - 30
2084294	Fipronil Sulfone	2.86	Spike	P	0 - 30
2084294	Fonofos	3.32	Spike	P	0 - 30
2084294	Hexazinone	0.863	Spike	P	0 - 30
2084294	Malathion	1.05	Spike	P	0 - 30
2084294	Metalaxyl	2.83	Spike	P	0 - 30
2084294	Metolachlor	0.996	Spike	P	0 - 30
2084294	Metribuzin	4.99	Spike	P	0 - 30
2084294	Mevinphos	1.43	Spike	P	0 - 30
2084294	Molinate	5.75	Spike	P	0 - 30
2084294	Norflurazon	5.30	Spike	P	0 - 30
2084294	Oxadiazon	1.95	Spike	P	0 - 30
2084294	Parathion Ethyl	2.81	Spike	P	0 - 30
2084294	Parathion Methyl	5.70	Spike	P	0 - 30
2084294	Pendimethalin	5.64	Spike	P	0 - 30
2084294	Phorate	2.29	Spike	P	0 - 30
2084294	Prodiamine	2.26	Spike	P	0 - 30
2084294	Prometon	4.83	Spike	P	0 - 30
2084294	Prometryn	0.119	Spike	P	0 - 30
2084294	Simazine	2.82	Spike	P	0 - 30
2084294	Tebuconazole	2.58	Spike	P	0 - 30
2084294	Terbufos	0.497	Spike	P	0 - 30
2084294	Terbutylazine	3.99	Spike	P	0 - 30
LFB	Acetochlor	7.02	LCS	P	0 - 30
LFB	Alachlor	15.3	LCS	P	0 - 30
LFB	Ametryn	9.64	LCS	P	0 - 30
LFB	Atrazine	8.17	LCS	P	0 - 30
LFB	Atrazine Desethyl	3.54	LCS	P	0 - 30
LFB	Azinphos Methyl	9.98	LCS	P	0 - 30
LFB	Bromacil	19.7	LCS	P	0 - 30
LFB	Butylate	4.23	LCS	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8270E
Batch ID: P363660

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
LFB	Chlorpyrifos Ethyl	0.0112	LCS	P	0 - 30
LFB	Chlorpyrifos Methyl	0.836	LCS	P	0 - 30
LFB	Cyanazine	17.8	LCS	P	0 - 30
LFB	Demeton	12.3	LCS	P	0 - 30
LFB	Diazinon	6.50	LCS	P	0 - 30
LFB	Disulfoton	10.4	LCS	P	0 - 30
LFB	Dithiopyr	6.32	LCS	P	0 - 30
LFB	EPTC	0.243	LCS	P	0 - 30
LFB	Ethion	2.02	LCS	P	0 - 30
LFB	Ethoprop	1.61	LCS	P	0 - 30
LFB	Fenamiphos	21.7	LCS	P	0 - 30
LFB	Fipronil	14.3	LCS	P	0 - 30
LFB	Fipronil Desulfinyl	12.1	LCS	P	0 - 30
LFB	Fipronil Sulfide	0.276	LCS	P	0 - 30
LFB	Fipronil Sulfone	7.59	LCS	P	0 - 30
LFB	Fonofos	0.875	LCS	P	0 - 30
LFB	Hexazinone	29.6	LCS	P	0 - 30
LFB	Malathion	1.32	LCS	P	0 - 30
LFB	Metalaxyl	6.20	LCS	P	0 - 30
LFB	Metolachlor	8.95	LCS	P	0 - 30
LFB	Metribuzin	1.50	LCS	P	0 - 30
LFB	Mevinphos	2.08	LCS	P	0 - 30
LFB	Molinate	0.950	LCS	P	0 - 30
LFB	Norflurazon	25.8	LCS	P	0 - 30
LFB	Oxadiazon	2.17	LCS	P	0 - 30
LFB	Parathion Ethyl	6.30	LCS	P	0 - 30
LFB	Parathion Methyl	5.56	LCS	P	0 - 30
LFB	Pendimethalin	2.78	LCS	P	0 - 30
LFB	Phorate	10.6	LCS	P	0 - 30
LFB	Prodiamine	6.57	LCS	P	0 - 30
LFB	Prometon	47.2	LCS	F	0 - 30
LFB	Prometryn	14.4	LCS	P	0 - 30
LFB	Simazine	8.89	LCS	P	0 - 30
LFB	Tebuconazole	119	LCS	F	0 - 30
LFB	Terbufos	3.57	LCS	P	0 - 30
LFB	Terbuthylazine	7.96	LCS	P	0 - 30

Reference Method: EPA 8270E
Batch ID: P364350

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
LFB	Dimethenamid	0.842	LCS	P	0 - 30

Reference Method: EPA 8276
Batch ID: P363864

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2084440	Chlordane	0.723	Spike	P	0 - 30
2084440	Toxaphene	4.14	Spike	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8276
Batch ID: P363864

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
LFB	Chlordane	3.33	LCS	P	0 - 30
LFB	Toxaphene	3.06	LCS	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P363505

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2083598	2,4-D	8.42	Spike	P	0 - 30
2083598	Acetaminophen	4.59	Spike	P	0 - 30
2083598	Bentazon	0.00936	Spike	P	0 - 30
2083598	Carbamazepine	1.36	Spike	P	0 - 30
2083598	Diuron	1.87	Spike	P	0 - 30
2083598	Fenuron	0.363	Spike	P	0 - 30
2083598	Fluridone	2.04	Spike	P	0 - 30
2083598	Hydrocodone	3.40	Spike	P	0 - 30
2083598	Ibuprofen	4.39	Spike	P	0 - 30
2083598	Imazapyr	4.74	Spike	P	0 - 30
2083598	Imidacloprid	0.639	Spike	P	0 - 30
2083598	Linuron	6.12	Spike	P	0 - 30
2083598	MCP	0.285	Spike	P	0 - 30
2083598	Naproxen	5.43	Spike	P	0 - 30
2083598	Primidone	1.21	Spike	P	0 - 30
2083598	Pyraclostrobin	2.00	Spike	P	0 - 30
2083598	Triclopyr	16.0	Spike	P	0 - 30
2084405	3-Hydroxycarbofuran	1.64	Spike	P	0 - 30
2084405	Aldicarb	9.77	Spike	P	0 - 30
2084405	Aldicarb Sulfone	3.83	Spike	P	0 - 30
2084405	Aldicarb Sulfoxide	6.76	Spike	P	0 - 30
2084405	Carbaryl	0.697	Spike	P	0 - 30
2084405	Carbofuran	9.50	Spike	P	0 - 30
2084405	Methiocarb	3.00	Spike	P	0 - 30
2084405	Methomyl	0.541	Spike	P	0 - 30
2084405	Oxamyl	5.34	Spike	P	0 - 30
2084405	Propoxur	1.24	Spike	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P363636

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2083598	Acesulfame K	20.8	Spike	P	0 - 30
2083598	AMPA	4.87	Spike	P	0 - 30
2083598	Endothall	2.81	Spike	P	0 - 30
2083598	Glufosinate	3.82	Spike	P	0 - 30
2083598	Glyphosate	4.74	Spike	P	0 - 30
2083598	Sucralose	0.535	Spike	P	0 - 30

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

Quality Assurance Report Surrogates

Lab Sample ID: 2084405
Field Sample ID: IMKFHCK

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Carbaryl-d7	46.7	P	30 - 160

Lab Sample ID: 2084406
Field Sample ID: IMKFHCK

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	112	P	30 - 160
EPA 8321B	Acetaminophen-d4	80.9	P	30 - 160
EPA 8321B	Carbamazepine-d10	67.5	P	30 - 160
EPA 8321B	Diuron-d6	62.2	P	30 - 160
EPA 8321B	Endothall-d6	93.2	P	30 - 160
EPA 8321B	Endothall-d6	93.2	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	81.4	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	81.4	P	30 - 160
EPA 8321B	Ibuprofen-d3	83.5	P	30 - 160
EPA 8321B	Primidone-d5	74.6	P	30 - 160
EPA 8321B	Sucralose-d6	107	P	30 - 160
EPA 8321B	Sucralose-d6	107	P	30 - 160

Lab Sample ID: 2084407
Field Sample ID: IMKFHCK

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8270D	Decachlorobiphenyl	95.9	P	39 - 109
EPA 8270D	Tetrachloro-m-xylene	77.7	P	28 - 96.0
EPA 8276	Decachlorobiphenyl	72.2	P	30 - 103
EPA 8276	PCNB	102	P	37 - 143

Lab Sample ID: 2084408
Field Sample ID: IMKFHCK

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8270E	Simazine-d10	114	P	68 - 130
EPA 8270E	Simazine-d10	105	P	68 - 130
EPA 8270E	Terbufos-d10	99.7	P	61 - 136
EPA 8270E	Terbufos-d10	90.0	P	61 - 136

Quality Assurance Report

Calibration Verification

Reference Method: EPA 8321B
 Run ID: A91347
 Included Lab Sample IDs: 2084406

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acesulfame K	121	96.9	P/P	60 - 160
Endothall	109	109	P/P	60 - 160

Reference Method: EPA 200.7 Rev. 4.4
 Run ID: A91366
 Included Lab Sample IDs: 2084409

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Barium	101	100	P/P	90 - 110
Calcium	102	99.5	P/P	90 - 110
Iron	101	98.7	P/P	90 - 110
Magnesium	101	98.8	P/P	90 - 110
Potassium	102	98.6	P/P	90 - 110
Sodium	106	103	P/P	90 - 110
Zinc	101	100	P/P	90 - 110

Reference Method: EPA 8321B
 Run ID: A91381
 Included Lab Sample IDs: 2084406

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Sucralose	111	111	P/P	60 - 160

Reference Method: EPA 200.8 Rev. 5.4
 Run ID: A91399
 Included Lab Sample IDs: 2084409

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Aluminum	93.2	92.8	P/P	90 - 110
Antimony	94.8	93.3	P/P	90 - 110
Arsenic	96.5	95.4	P/P	90 - 110
Boron	95.4	92.6	P/P	90 - 110
Cadmium	95.4	93.8	P/P	90 - 110
Chromium	96.0	94.8	P/P	90 - 110
Copper	95.9	94.4	P/P	90 - 110
Lead	97.4	96.5	P/P	90 - 110
Nickel	95.7	94.9	P/P	90 - 110
Selenium	96.2	94.2	P/P	90 - 110
Silver	93.4	92.2	P/P	90 - 110
Thallium	95.0	93.5	P/P	90 - 110

Reference Method: EPA 8270E
 Run ID: A91401
 Included Lab Sample IDs: 2084408

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acetochlor	101		P	80 - 120
Alachlor	105		P	80 - 120
Ametryn	103		P	80 - 120
Atrazine	102		P	80 - 120
Atrazine Desethyl	90.4		P	80 - 120

Quality Assurance Report Calibration Verification

Reference Method: EPA 8270E
 Run ID: A91401
 Included Lab Sample IDs: 2084408

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Azinphos Methyl	96.0		P	80 - 120
Bromacil	100		P	80 - 120
Butylate	99.7		P	80 - 120
Chlorpyrifos Ethyl	97.9		P	80 - 120
Chlorpyrifos Methyl	100		P	80 - 120
Cyanazine	86.2		P	80 - 120
Demeton	98.8		P	80 - 120
Diazinon	99.5		P	80 - 120
Disulfoton	97.1		P	80 - 120
Dithiopyr	98.1		P	80 - 120
EPTC	97.8		P	80 - 120
Ethion	99.5		P	80 - 120
Ethoprop	97.3		P	80 - 120
Fenamiphos	97.5		P	80 - 120
Fipronil	99.5		P	80 - 120
Fipronil Desulfinyl	96.6		P	80 - 120
Fipronil Sulfide	96.8		P	80 - 120
Fipronil Sulfone	94.0		P	80 - 120
Fonofos	98.7		P	80 - 120
Hexazinone	97.4		P	80 - 120
Malathion	96.1		P	80 - 120
Metaxyl	103		P	80 - 120
Metolachlor	105		P	80 - 120
Metribuzin	89.1		P	80 - 120
Mevinphos	103		P	80 - 120
Molinate	99.2		P	80 - 120
Oxadiazon	104		P	80 - 120
Parathion Ethyl	95.5		P	80 - 120
Parathion Methyl	97.9		P	80 - 120
Pendimethalin	91.4		P	80 - 120
Phorate	96.9		P	80 - 120
Prodiamine	87.8		P	80 - 120
Prometon	98.0		P	80 - 120
Prometryn	103		P	80 - 120
Simazine	99.4		P	80 - 120
Tebuconazole	101		P	80 - 120
Terbufos	98.5		P	80 - 120
Terbutylazine	101		P	80 - 120

Reference Method: EPA 8321B
 Run ID: A91409
 Included Lab Sample IDs: 2084406

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
AMPA	115	123	P/P	60 - 160
Glufosinate	100	116	P/P	60 - 160
Glyphosate	112	109	P/P	60 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 8270E
Run ID: A91440
Included Lab Sample IDs: 2084408

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

Reference Method: EPA 8321B
Run ID: A91464
Included Lab Sample IDs: 2084406

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	91.0	104	P/P	50 - 150
3-Hydroxycarbofuran	104	110	P/P	60 - 150
Acetaminophen	112	105	P/P	60 - 160
Aldicarb	89.5	98.2	P/P	60 - 150
Aldicarb Sulfone	106	100	P/P	50 - 150
Aldicarb Sulfoxide	103	110	P/P	50 - 150
Bentazon	107	134	P/P	50 - 160
Carbamazepine	97.9	99.8	P/P	60 - 150
Carbaryl	98.5	93.9	P/P	60 - 150
Carbofuran	97.8	97.7	P/P	50 - 150
Diuron	100	101	P/P	60 - 150
Fenuron	103	105	P/P	60 - 150
Fluridone	107	107	P/P	60 - 160
Hydrocodone	101	96.2	P/P	60 - 150
Ibuprofen	113	114	P/P	50 - 160
Imazapyr	92.9	112	P/P	50 - 150
Imidacloprid	99.4	76.4	P/P	60 - 150
Linuron	91.3	91.7	P/P	60 - 150
MCPP	93.6	105	P/P	50 - 150
Methiocarb	94.9	94.8	P/P	50 - 150
Methomyl	103	106	P/P	50 - 150
Naproxen	114	94.1	P/P	50 - 160
Oxamyl	105	99.1	P/P	50 - 150
Primidone	95.9	97.1	P/P	60 - 150
Propoxur	99.4	96.2	P/P	50 - 150
Pyraclostrobin	106	107	P/P	60 - 150
Triclopyr	101	103	P/P	50 - 150

Reference Method: EPA 8270D
Run ID: A91543
Included Lab Sample IDs: 2084407

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Aldrin	92.6		P	80 - 120
Alpha-BHC	96.3		P	80 - 120
Alpha-Chlordane	97.6		P	80 - 120
Beta-BHC	91.5		P	80 - 120
Bifenthrin	93.6		P	80 - 120
Carbophenothion	150*		F	80 - 120
Chlorothalonil	61.7*		F	80 - 120
Cis-Nonachlor	98.6		P	80 - 120
Cypermethrin	86.1		P	80 - 120
DDD-p,p'	99.4		P	80 - 120
DDE-p,p'	98.4		P	80 - 120

Quality Assurance Report Calibration Verification

Reference Method: EPA 8270D
 Run ID: A91543
 Included Lab Sample IDs: 2084407

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
DDT-p,p'	101		P	80 - 120
Delta-BHC	88.0		P	80 - 120
Dicofol	99.8		P	80 - 120
Dieldrin	96.2		P	80 - 120
Endosulfan I	93.3		P	80 - 120
Endosulfan II	95.0		P	80 - 120
Endosulfan Sulfate	92.6		P	80 - 120
Endrin	97.7		P	80 - 120
Endrin Aldehyde	90.6		P	80 - 120
Endrin Ketone	93.3		P	80 - 120
Ethalfuralin	95.8		P	80 - 120
Gamma-BHC	95.4		P	80 - 120
Gamma-Chlordane	95.6		P	80 - 120
Heptachlor	98.9		P	80 - 120
Heptachlor Epoxide	95.8		P	80 - 120
Hexachlorobenzene	95.7		P	80 - 120
Methoxychlor	98.9		P	80 - 120
Mirex	96.4		P	80 - 120
Permethrin	91.3		P	80 - 120
Trans-Nonachlor	96.9		P	80 - 120
Trifluralin	94.5		P	80 - 120

Reference Method: EPA 8270E
 Run ID: A91581
 Included Lab Sample IDs: 2084408

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

Reference Method: EPA 8276
 Run ID: A91627
 Included Lab Sample IDs: 2084407

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chlordane	103		P	80 - 120
Toxaphene	90.7		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	99.5		99.0	98.1	99.9		1.84
	Calcium	99.3		100	100			1.03
	Iron	100		99.5	101	103		2.61
	Magnesium	107		105	101	105		2.41
	Potassium	99.4		97.1	96.7			1.42
	Sodium	101		102	101			2.01
	Zinc	98.2		99.6	102	105		2.09
EPA 200.8 Rev. 5.4	Aluminum	96.0		94.1	93.9	93.5		0.390
	Antimony	98.2		97.4	98.3	97.1		1.29
	Arsenic	102		99.9	102	99.6		2.05
	Boron	97.5		95.7	93.8	92.4		0.952
	Cadmium	100		98.2	98.9	98.9		0.0298
	Chromium	99.3		99.4	97.1	96.7		0.420
	Copper	99.6		97.6	98.2	96.3		1.96
	Lead	100		100	99.7	99.1		0.674
	Nickel	99.9		98.6	98.7	98.1		0.644
	Selenium	101		99.6	99.6	97.1		2.46
	Silver	98.4		96.8	96.5	94.0		2.62
	Thallium	103		103	103	102		0.673
EPA 8270D	Aldrin	43.0	37.6	56.2	53.4	13.5		5.10
	Alpha-BHC	109	107	125	120	1.93		3.66
	Alpha-Chlordane	80.6	71.9	82.1	85.4	11.4		3.88
	Beta-BHC	152	168	151	155	9.99		2.00
	Bifenthrin	62.9	63.0	82.9	76.5	0.146		8.08
	Carbophenothion	70.0	69.1	199	203	1.37		1.66
	Chlorothalonil	84.5	103	243	167	19.3		37.4
	Cis-Nonachlor	78.8	79.7	84.5	83.6	1.07		1.00
	Cypermethrin	67.4	69.3	89.3	84.7	2.81		5.21
	DDD-p,p'	87.9	92.8	94.3	95.4	5.40		1.20
	DDE-p,p'	79.0	68.1	77.4	81.9	14.9		5.56
	DDT-p,p'	91.0	87.4	111	102	4.11		8.17
	Delta-BHC	136	148	161	150	8.35		7.15
	Dicofol	93.6	94.1	103	102	0.462		0.526
	Dieldrin	89.6	80.4	94.4	97.7	10.8		3.38
	Endosulfan I	88.9	78.2	96.3	98.1	12.8		1.85
	Endosulfan II	97.4	107	338	371	9.26		9.15
	Endosulfan Sulfate	96.6	107	97.5	95.9	10.2		1.65
	Endrin	96.8	87.0	89.4	94.8	10.7		5.86
	Endrin Aldehyde	94.5	92.7	52.9	63.9	1.93		18.8
	Endrin Ketone	98.2	103	113	112	4.80		0.438
	Ethalfuralin	83.3	75.0	93.5	92.0	10.4		1.65
	Gamma-BHC	124	127	200	197	2.90		1.18
	Gamma-Chlordane	72.0	67.8	79.1	81.6	6.04		3.20
	Heptachlor	64.9	58.0	68.4	68.4	11.2		0.0105
	Heptachlor Epoxide	84.0	79.8	98.7	94.5	5.16		4.33
	Hexachlorobenzene	66.4	60.0	72.0	68.2	10.2		5.41
	Methoxychlor	108	109	134	114	0.436		16.7
	Mirex	52.1	49.4	67.2	66.4	5.37		1.16
	Permethrin	62.2	61.0	75.2	72.9	2.04		3.08
	Trans-Nonachlor	74.4	66.5	78.5	79.1	11.2		0.806
	Trifluralin	81.7	79.1	92.2	91.1	3.17		1.28
EPA 8270E	Acetochlor	103	111	90.2	90.5	7.02		0.379
	Alachlor	96.2	112	88.1	91.6	15.3		3.83
	Ametryn	102	112	114	112	9.64		1.08

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery		MS % Recovery		LCS	Precision SMP	MS
EPA 8270E	Atrazine	105	114	99.5	103	8.17		1.53
	Atrazine Desethyl	45.7	47.3	69.1	66.6	3.54		3.66
	Azinphos Methyl	98.5	109	81.0	89.9	9.98		10.4
	Bromacil	83.8	102	123	125	19.7		0.827
	Butylate	78.6	82.0	47.8	50.0	4.23		4.53
	Chlorpyrifos Ethyl	101	101	89.9	87.8	0.0112		2.37
	Chlorpyrifos Methyl	96.1	95.3	84.7	83.7	0.836		1.19
	Cyanazine	60.9	50.9	76.4	81.0	17.8		5.83
	Demeton	80.6	71.3	70.0	72.6	12.3		3.66
	Diazinon	99.1	106	87.8	86.3	6.50		1.73
	Dimethenamid	134	135	92.0		0.842		
	Disulfoton	86.2	77.7	79.9	77.2	10.4		3.40
	Dithiopyr	103	110	88.4	88.0	6.32		0.472
	EPTC	78.8	79.0	45.0	53.3	0.243		16.8
	Ethion	111	113	93.9	93.3	2.02		0.652
	Ethoprop	102	103	90.5	88.7	1.61		2.02
	Fenamiphos	73.3	58.9	85.6	85.1	21.7		0.635
	Fipronil	97.5	113	90.8	95.5	14.3		5.00
	Fipronil Desulfinyl	94.5	107	83.0	87.7	12.1		5.53
	Fipronil Sulfide	106	105	95.1	113	0.276		17.2
	Fipronil Sulfone	97.3	105	90.3	92.9	7.59		2.86
	Fonofos	91.1	91.9	84.9	82.1	0.875		3.32
	Hexazinone	86.5	116	117	121	29.6		0.863
	Malathion	108	106	96.8	95.8	1.32		1.05
	Metalaxyl	75.9	71.3	81.8	84.1	6.20		2.83
	Metolachlor	107	117	92.2	93.3	8.95		0.996
	Metribuzin	88.8	87.5	93.9	98.7	1.50		4.99
	Mevinphos	96.0	98.0	93.7	95.0	2.08		1.43
	Molinate	89.4	90.3	66.7	70.6	0.950		5.75
	Norflurazon	78.5	102	85.8	90.4	25.8		5.30
	Oxadiazon	111	114	89.3	91.0	2.17		1.95
	Parathion Ethyl	95.3	102	91.8	89.3	6.30		2.81
	Parathion Methyl	96.0	101	98.6	93.2	5.56		5.70
	Pendimethalin	94.5	97.2	90.2	85.2	2.78		5.64
	Phorate	86.2	77.5	79.5	77.7	10.6		2.29
	Prodiamine	110	117	99.2	101	6.57		2.26
	Prometon	54.1	87.6	147	124	47.2		4.83
	Prometryn	91.5	106	86.9	86.8	14.4		0.119
	Simazine	97.4	106	93.6	97.1	8.89		2.82
	Tebuconazole	16.3	64.0	79.0	81.4	119		2.58
	Terbufos	89.4	86.2	85.4	85.0	3.57		0.497
	Terbuthylazine	103	111	91.0	94.7	7.96		3.99
EPA 8276	Chlordane	76.4	73.9	68.5	68.0	3.33		0.723
	Toxaphene	63.6	65.6	61.0	63.6	3.06		4.14
EPA 8321B	2,4-D	89.6		98.5	111			8.42
	3-Hydroxycarbofuran	85.9		67.4	66.3			1.64
	Acesulfame K	114		78.8	97.1			20.8
	Acetaminophen	92.9		80.4	84.2			4.59
	Aldicarb	84.7		60.1	54.5			9.77
	Aldicarb Sulfone	94.8		75.7	72.9			3.83
	Aldicarb Sulfoxide	98.4		42.2	39.4			6.76
	AMPA	94.2		45.4	40.4			4.87
	Bentazon	106		47.6	47.5			0.0093
	Carbamazepine	92.2		67.0	66.1			1.36

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery		Precision LCS	SMP	MS
EPA 8321B	Carbaryl	80.1	47.2	46.9			0.697
	Carbofuran	79.4	51.2	46.5			9.50
	Diuron	90.4	57.1	58.7			1.87
	Endothall	105	91.8	94.5			2.81
	Fenuron	102	73.8	73.6			0.363
	Fluridone	95.3	64.3	70.7			2.04
	Glufosinate	110	70.8	68.1			3.82
	Glyphosate	116	96.5	86.6			4.74
	Hydrocodone	96.5	81.2	84.0			3.40
	Ibuprofen	82.0	65.2	68.1			4.39
	Imazapyr	93.1	120	110			4.74
	Imidacloprid	96.7	103	101			0.639
	Linuron	73.3	47.2	50.2			6.12
	MCPP	94.5	130	130			0.285
	Methiocarb	76.3	49.6	48.1			3.00
	Methomyl	82.8	60.1	59.8			0.541
	Naproxen	81.0	78.5	82.8			5.43
	Oxamyl	97.1	68.7	72.5			5.34
	Primidone	90.8	88.4	89.5			1.21
	Propoxur	77.4	47.8	47.2			1.24
	Pyraclostrobin	74.1	83.9	85.6			2.00
	Sucralose	101	103	102			0.535
	Triclopyr	58.2	72.9	85.5			16.0

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	2084409
EPA 200.8 Rev. 5.4 / E31780	Total Recoverable Metals analysis using ICP-MS for aqueous samples supporting Clean Water Act Projects	2084409
EPA 8270D / E31780	Organochlorine pesticides in water matrices by GC/MS-SIM	2084407
EPA 8270E / E31780	Organonitrogen and phosphorus pesticides in water matrices by GC/MS/MS	2084408
EPA 8276 / E31780	Organochlorine pesticides in water matrices by GC/MS with Negative Chemical Ionization	2084407
EPA 8321B / E31780	Carbamates in water matrices by HPLC/MS/MS	2084405
EPA 8321B / E31780	Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS	2084406
EPA 8321B / E31780	Water soluble organic compounds by HPLC/MS/MS	2084406

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	05/08/2019	05/09/2019 14:50	Elliott D. Healy	05/10/2019 16:52	Betina Topolski	2084409
EPA 200.8 Rev. 5.4	05/08/2019	05/09/2019 14:50	Elliott D. Healy	05/13/2019 20:46	Martin Acosta	2084409
EPA 8270D	05/08/2019	05/13/2019 08:00	Rasheda Ghaffari	05/21/2019 00:03	Arthur Maknenko	2084407
EPA 8270E	05/08/2019	05/09/2019 08:00	Rasheda Ghaffari	05/13/2019 18:14	Dinesh Mishra	2084408
	05/08/2019	05/09/2019 08:00	Rasheda Ghaffari	05/14/2019 20:34	Dinesh Mishra	2084408
	05/08/2019	05/17/2019 08:00	Rasheda Ghaffari	05/21/2019 18:26	Dinesh Mishra	2084408
	05/08/2019	05/13/2019 08:00	Rasheda Ghaffari	05/23/2019 06:28	Dinesh Mishra	2084407
EPA 8276	05/08/2019	05/09/2019 11:00	Rebecca Ware	05/09/2019 19:21	Rebecca Ware	2084406
EPA 8321B	05/08/2019	05/09/2019 11:00	Rebecca Ware	05/11/2019 21:53	Rebecca Ware	2084406
	05/08/2019	05/09/2019 11:00	Rebecca Ware	05/12/2019 21:58	Rebecca Ware	2084406
	05/08/2019	05/09/2019 13:00	Hoor Shaik	05/16/2019 22:18	Juyoung Kim	2084405
	05/08/2019	05/09/2019 13:00	Hoor Shaik	05/17/2019 07:32	Juyoung Kim	2084406