

Chemical Analysis Report

SO-DIST-2023-02-15-02

Florida DEP Laboratory
2600 Blair Stone Road
Tallahassee, FL 32399-2400
DOH Accreditation E31780

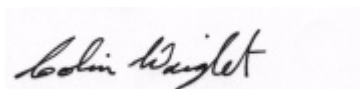
Event Description: **2023 SMP: SO CO OH NO**
Request ID: **RQ-2023-02-06-45**
Customer: **SO-DIST**
Project ID: **SMP**

Send Reports to:
FL Dept. of Environmental Protection
FLDEP South District Office
2295 Victoria Ave. Suite 314
Fort Myers, FL 33901-3381
Attn: William Mullen

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Certified by: Colin Wright, Program Administrator

Date Certified: 09-MAR-2023 10:14

A handwritten signature in black ink, appearing to read "Colin Wright", is displayed on a light pink rectangular background.

Case Narrative

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

Results for the following analytical 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: Canal At PlantationPkwY

Collection Date/Time: 02/14/2023 09:25

Field ID: G1SD0126

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2387797	EPA 8321B	Acesulfame K	0.10	U	ug/L	P425764	
		2,4-D	0.0020	U	ug/L	P425865	
		AMPA	10	U	ug/L	P425764	
		2,4,5-T	0.0040	U	ug/L	P425865	
		Acetaminophen	0.0080	U	ug/L	P425865	
		Endothall	0.25	U	ug/L	P425764	
		Acetamiprid	0.0020	U	ug/L	P425865	
		Glufosinate	10	U	ug/L	P425764	
		Glyphosate	10	U	ug/L	P425764	
		Afidopyropen	0.0020	U	ug/L	P425865	
		Sucralose	0.046		ug/L	P425764	
		Bentazon	8.2E-04	I	ug/L	P425865	
		Benzovindiflupyr	0.0020	U	ug/L	P425865	
		Carbamazepine	8.0E-04	U	ug/L	P425865	
		Clothianidin	0.0020	U	ug/L	P425865	
		Dinotefuran	0.0020	U	ug/L	P425865	
		Diuron	0.0020	U	ug/L	P425865	
		Fenuron	0.032	U	ug/L	P425865	
		Fluridone	8.0E-04	U	ug/L	P425865	
		Imazapyr	0.0040	U	ug/L	P425865	
		Hydrocodone	0.0020	U	ug/L	P425865	
		Ibuprofen	0.080	U	ug/L	P425865	
		Imidacloprid	0.0020	U	ug/L	P425865	
		Linuron	0.0040	U	ug/L	P425865	
		Mandestrobin	0.0020	U	ug/L	P425865	
		MCPP	0.0020	U	ug/L	P425865	
		Naproxen	0.0080	U	ug/L	P425865	
		Primidone	0.0040	U	ug/L	P425865	
		Pyraclostrobin	0.0020	U	ug/L	P425865	
		Silvex	0.0040	U	ug/L	P425865	
		Thiamethoxam	0.0020	U	ug/L	P425865	
		Tolfenpyrad	0.0020	U	ug/L	P425865	
		Triclopyr	0.0040	U	ug/L	P425865	

Ref. Method and Comment:
EPA 8321B: Some MDLs are elevated due to required dilution of sample matrix.

Sample Location: PortOfTheIslandsMarina

Collection Date/Time: 02/14/2023 09:55

Field ID: G1SD0130

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2387799	EPA 200.7 Rev. 4.4	Calcium	239		mg/L	P426273	
		Iron	130	I	ug/L	P426273	
		Magnesium	534		mg/L	P426273	
		Strontium	3.11E+03		ug/L	P426273	
	EPA 200.8 Rev. 5.4	Tin	9.0	U	ug/L	P426273	
		Titanium	2.8	I	ug/L	P426273	
		Vanadium	6.0	U	ug/L	P426273	
		Zinc	15	U	ug/L	P426273	
		Aluminum	20	U	ug/L	P426273	
		Antimony	0.20	U	ug/L	P426273	
		Arsenic	1.59		ug/L	P426273	
		Beryllium	0.040	U	ug/L	P426273	
		Cadmium	0.080	U	ug/L	P426273	
		Chromium	1.6	U	ug/L	P426273	
		Cobalt	0.089	I	ug/L	P426273	
		Copper	5.0		ug/L	P426586	
		Lead	2.0	U	ug/L	P426273	
		Manganese	11.2		ug/L	P426273	
		Molybdenum	4.4		ug/L	P426273	
		Nickel	2.0	U	ug/L	P426273	
		Selenium	0.80	U	ug/L	P426273	
		Silver	0.040	U	ug/L	P426586	
		Thallium	0.40	U	ug/L	P426273	

Ref. Method and Comment:

EPA 200.7 Rev. 4.4: Batch matrix spike recoveries for calcium, magnesium and strontium are unavailable because of high analyte concentration in the QC sample.

EPA 200.8 Rev. 5.4: The copper result was confirmed on 02/27/2023.

Sample Location: TamTom

Collection Date/Time: 02/14/2023 10:35

Field ID: G1SD0091

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2387795	EPA 8270E	Aldrin	0.66	U	ng/L	P426116	
		Alpha-BHC	0.10	U	ng/L	P426116	
		Alpha-Chlordane	0.20	U	ng/L	P426116	
		PCB-1016	2.0	U	ng/L	P426116	
		Beta-BHC	0.10	U	ng/L	P426116	MS
		PCB-1221	2.0	U	ng/L	P426116	
		Beta-Cyfluthrin	1.3	U	ng/L	P426116	
		PCB-1232	2.0	U	ng/L	P426116	
		Bifenthrin	0.51	U	ng/L	P426116	
		PCB-1242	2.0	U	ng/L	P426116	
		PCB-1248	2.0	U	ng/L	P426116	
		Chlorothalonil	3.7	U	ng/L	P426116	
		PCB-1254	2.0	U	ng/L	P426116	
		Cis-Nonachlor	0.20	U	ng/L	P426116	
		PCB-1260	2.0	U	ng/L	P426116	
		Cypermethrin	1.5	U	ng/L	P426116	
		Dacthal	0.15	U	ng/L	P426116	
		DDD-p,p'	0.25	U	ng/L	P426116	
		DDE-p,p'	0.20	U	ng/L	P426116	
		DDT-p,p'	0.25	U	ng/L	P426116	
		Delta-BHC	0.41	U	ng/L	P426116	
		Deltamethrin	1.3	U	ng/L	P426116	
		Dichlobenil	0.25	U	ng/L	P426116	
		Dicofol	1.3	U	ng/L	P426116	
		Dieldrin	0.41	U	ng/L	P426116	
		Endosulfan I	0.41	U	ng/L	P426116	
		Endosulfan II	0.41	U	ng/L	P426116	
		Endosulfan Sulfate	0.31	U	ng/L	P426116	
		Endrin	0.41	U	ng/L	P426116	
		Endrin Aldehyde	0.76	U	ng/L	P426116	
		Endrin Ketone	0.41	U	ng/L	P426116	
		Esfenvalerate	0.76	U	ng/L	P426116	
		Ethalfuralin	0.15	U	ng/L	P426116	
		Fenpropathrin	0.25	U	ng/L	P426116	
		Gamma-BHC	0.13	U	ng/L	P426116	
		Gamma-Chlordane	0.20	U	ng/L	P426116	
		Heptachlor	0.20	U	ng/L	P426116	
		Heptachlor Epoxide	0.25	U	ng/L	P426116	
		Hexachlorobenzene**	1.0	U	ng/L	P426116	
		Kepone	7.3	I	ng/L	P426116	
		Lambda-Cyhalothrin	0.76	U	ng/L	P426116	
		Methoprene	0.76	U	ng/L	P426116	
		Methoxychlor	0.31	U	ng/L	P426116	
		MGK-264	0.20	U	ng/L	P426116	

Field ID: G1SD0091

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2387795	EPA 8270E	Mirex	0.36	U	ng/L	P426116	
		Oxychlordane	0.31	U	ng/L	P426116	
		Permethrin	1.6	U	ng/L	P426116	
		Phenothrin	0.92	U	ng/L	P426116	
		Piperonyl Butoxide	0.29	I	ng/L	P426116	
		Prallethrin	2.0	U	ng/L	P426116	
		Tau-Fluvalinate	0.25	U	ng/L	P426116	
		Tetramethrin	0.76	U	ng/L	P426116	
		Trans-Nonachlor	0.20	U	ng/L	P426116	
		Triclosan Methyl	0.15	U	ng/L	P426116	
		Trifluralin	0.20	U	ng/L	P426116	
	EPA 8276	Chlordane	2.0	UQ	ng/L	P426421	
		Toxaphene	33	IQ	ng/L	P426421	MS

Ref. Method and Comment:
EPA 8276: Sample expired for preparation due to need for re-extraction.

Quality Assurance Report Method Blank Results

Reference Method: EPA 200.7 Rev. 4.4

Batch ID: P426273

Component	Result	Code	Units
Calcium	0.075	U	mg/L
Iron	30	U	ug/L
Magnesium	0.040	U	mg/L
Strontium	2.0	U	ug/L
Tin	3.0	U	ug/L
Titanium	0.75	U	ug/L
Vanadium	2.0	U	ug/L
Zinc	5.0	U	ug/L

Reference Method: EPA 200.8 Rev. 5.4

Batch ID: P426273

Component	Result	Code	Units
Aluminum	5.0	U	ug/L
Antimony	0.050	U	ug/L
Arsenic	0.050	U	ug/L
Beryllium	0.010	U	ug/L
Cadmium	0.020	U	ug/L
Chromium	0.40	U	ug/L
Cobalt	0.020	U	ug/L
Lead	0.20	U	ug/L
Manganese	0.10	U	ug/L
Molybdenum	0.15	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: P426586

Component	Result	Code	Units
Copper	0.40	U	ug/L
Silver	0.010	U	ug/L

Reference Method: EPA 8270E

Batch ID: P426116

Component	Result	Code	Units
Aldrin	0.65	U	ng/L
Aldrin	0.65	U	ng/L
Alpha-BHC	0.10	U	ng/L
Alpha-BHC	0.10	U	ng/L
Alpha-Chlordane	0.20	U	ng/L
Alpha-Chlordane	0.20	U	ng/L
Beta-BHC	0.10	U	ng/L
Beta-BHC	0.10	U	ng/L
Beta-Cyfluthrin	1.2	U	ng/L
Beta-Cyfluthrin	1.2	U	ng/L
Bifenthrin	0.50	U	ng/L
Bifenthrin	0.50	U	ng/L
Chlorothalonil	3.6	U	ng/L
Chlorothalonil	3.6	U	ng/L

Quality Assurance Report

Method Blank Results

Reference Method: EPA 8270E

Batch ID: P426116

Component	Result	Code	Units
Cis-Nonachlor	0.20	U	ng/L
Cis-Nonachlor	0.20	U	ng/L
Cypermethrin	1.5	U	ng/L
Cypermethrin	1.5	U	ng/L
Dacthal	0.15	U	ng/L
Dacthal	0.15	U	ng/L
DDD-p,p'	0.25	U	ng/L
DDD-p,p'	0.25	U	ng/L
DDE-p,p'	0.20	U	ng/L
DDE-p,p'	0.20	U	ng/L
DDT-p,p'	0.25	U	ng/L
DDT-p,p'	0.25	U	ng/L
Delta-BHC	0.40	U	ng/L
Delta-BHC	0.40	U	ng/L
Deltamethrin	1.2	U	ng/L
Deltamethrin	1.2	U	ng/L
Dichlobenil	0.25	U	ng/L
Dichlobenil	0.25	U	ng/L
Dicofol	1.2	U	ng/L
Dicofol	1.2	U	ng/L
Dieldrin	0.40	U	ng/L
Dieldrin	0.40	U	ng/L
Endosulfan I	0.40	U	ng/L
Endosulfan I	0.40	U	ng/L
Endosulfan II	0.40	U	ng/L
Endosulfan II	0.40	U	ng/L
Endosulfan Sulfate	0.30	U	ng/L
Endosulfan Sulfate	0.30	U	ng/L
Endrin	0.40	U	ng/L
Endrin	0.40	U	ng/L
Endrin Aldehyde	0.75	U	ng/L
Endrin Aldehyde	0.75	U	ng/L
Endrin Ketone	0.40	U	ng/L
Endrin Ketone	0.40	U	ng/L
Esfenvalerate	0.75	U	ng/L
Esfenvalerate	0.75	U	ng/L
Ethalfuralin	0.15	U	ng/L
Ethalfuralin	0.15	U	ng/L
Fenpropathrin	0.25	U	ng/L
Fenpropathrin	0.25	U	ng/L
Gamma-BHC	0.12	U	ng/L
Gamma-BHC	0.12	U	ng/L
Gamma-Chlordane	0.20	U	ng/L
Gamma-Chlordane	0.20	U	ng/L
Heptachlor	0.20	U	ng/L
Heptachlor	0.20	U	ng/L
Heptachlor Epoxide	0.25	U	ng/L
Heptachlor Epoxide	0.25	U	ng/L
Hexachlorobenzene	1.0	U	ng/L
Hexachlorobenzene	1.0	U	ng/L
Kepone	5.0	U	ng/L
Kepone	5.0	U	ng/L

Quality Assurance Report

Method Blank Results

Reference Method: EPA 8270E

Batch ID: P426116

Component	Result	Code	Units
Lambda-Cyhalothrin	0.75	U	ng/L
Lambda-Cyhalothrin	0.75	U	ng/L
Methoprene	0.75	U	ng/L
Methoprene	0.75	U	ng/L
Methoxychlor	0.30	U	ng/L
Methoxychlor	0.30	U	ng/L
MGK-264	0.20	U	ng/L
MGK-264	0.20	U	ng/L
Mirex	0.35	U	ng/L
Mirex	0.35	U	ng/L
Oxychlordane	0.30	U	ng/L
Oxychlordane	0.30	U	ng/L
PCB-1016	2.0	U	ng/L
PCB-1016	2.0	U	ng/L
PCB-1221	2.0	U	ng/L
PCB-1221	2.0	U	ng/L
PCB-1232	2.0	U	ng/L
PCB-1232	2.0	U	ng/L
PCB-1242	2.0	U	ng/L
PCB-1242	2.0	U	ng/L
PCB-1248	2.0	U	ng/L
PCB-1248	2.0	U	ng/L
PCB-1254	2.0	U	ng/L
PCB-1254	2.0	U	ng/L
PCB-1260	2.0	U	ng/L
PCB-1260	2.0	U	ng/L
Permethrin	1.6	U	ng/L
Permethrin	1.6	U	ng/L
Phenothrin	0.90	U	ng/L
Phenothrin	0.90	U	ng/L
Piperonyl Butoxide	0.15	U	ng/L
Piperonyl Butoxide	0.15	U	ng/L
Prallethrin	2.0	U	ng/L
Prallethrin	2.0	U	ng/L
Tau-Fluvalinate	0.25	U	ng/L
Tau-Fluvalinate	0.25	U	ng/L
Tetramethrin	0.75	U	ng/L
Tetramethrin	0.75	U	ng/L
Trans-Nonachlor	0.20	U	ng/L
Trans-Nonachlor	0.20	U	ng/L
Triclosan Methyl	0.15	U	ng/L
Triclosan Methyl	0.15	U	ng/L
Trifluralin	0.20	U	ng/L
Trifluralin	0.20	U	ng/L

Reference Method: EPA 8276

Batch ID: P426421

Component	Result	Code	Units
Chlordane	2.0	U	ng/L
Chlordane	2.0	U	ng/L
Toxaphene	15	U	ng/L

Quality Assurance Report Method Blank Results

Reference Method: EPA 8276
Batch ID: P426421

Component	Result	Code	Units
Toxaphene	15	U	ng/L

Reference Method: EPA 8321B
Batch ID: P425764

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: P425865

Component	Result	Code	Units
2,4-D	0.0020	U	ug/L
2,4,5-T	0.0040	U	ug/L
Acetaminophen	0.0080	U	ug/L
Acetamiprid	0.0020	U	ug/L
Afidopyropen	0.0020	U	ug/L
Bentazon	8.0E-04	U	ug/L
Benzovindiflupyr	0.0020	U	ug/L
Carbamazepine	8.0E-04	U	ug/L
Clothianidin	0.0020	U	ug/L
Dinotefuran	0.0020	U	ug/L
Diuron	0.0020	U	ug/L
Fenuron	0.032	U	ug/L
Fluridone	8.0E-04	U	ug/L
Hydrocodone	0.0020	U	ug/L
Ibuprofen	0.080	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
Silvex	0.0040	U	ug/L
Thiamethoxam	0.0020	U	ug/L
Tolfenpyrad	0.0020	U	ug/L
Triclopyr	0.0040	U	ug/L

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 200.7 Rev. 4.4

Batch ID: P426273

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Calcium	105		P	85 - 115
Iron	105		P	85 - 115
Magnesium	105		P	85 - 115
Strontium	101		P	85 - 115
Tin	99.2		P	85 - 115
Titanium	102		P	85 - 115
Vanadium	98.6		P	85 - 115
Zinc	103		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4

Batch ID: P426273

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Aluminum	96.8		P	85 - 115
Antimony	97.1		P	85 - 115
Arsenic	94.1		P	85 - 115
Beryllium	89.0		P	85 - 115
Cadmium	97.2		P	85 - 115
Chromium	95.0		P	85 - 115
Cobalt	97.1		P	85 - 115
Lead	93.3		P	85 - 115
Manganese	95.5		P	85 - 115
Molybdenum	94.4		P	85 - 115
Nickel	94.8		P	85 - 115
Selenium	93.5		P	85 - 115
Thallium	97.8		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4

Batch ID: P426586

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Copper	97.9		P	85 - 115
Silver	98.5		P	85 - 115

Reference Method: EPA 8270E

Batch ID: P426116

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Aldrin	61.4		P	10 - 92.0
Alpha-BHC	90.8		P	75 - 107
Alpha-Chlordane	81.6		P	50 - 108
Beta-BHC	80.5		P	36 - 138
Beta-Cyfluthrin	82.6		P	20 - 161
Bifenthrin	64.2		P	10 - 119
Chlorothalonil	101		P	26 - 186
Cis-Nonachlor	79.8		P	42 - 119
Cypermethrin	85.6		P	22 - 150
Dacthal	93.6		P	72 - 119
DDD-p,p'	74.0		P	45 - 107
DDE-p,p'	80.4		P	48 - 106
DDT-p,p'	75.8		P	48 - 110
Delta-BHC	89.0		P	54 - 140

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 8270E

Batch ID: P426116

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Deltamethrin	103		P	22 - 189
Dichlobenil	71.0		P	36 - 117
Dicofol	79.1		P	46 - 155
Dieldrin	88.7		P	54 - 110
Endosulfan I	89.2		P	59 - 105
Endosulfan II	92.7		P	51 - 118
Endosulfan Sulfate	77.8		P	57 - 121
Endrin	92.9		P	10 - 120
Endrin Aldehyde	89.2		P	34 - 118
Endrin Ketone	90.6		P	69 - 177
Esfenvalerate	83.3		P	23 - 168
Ethalfuralin	84.2		P	49 - 99.0
Fenpropathrin	79.8		P	34 - 117
Gamma-BHC	94.6		P	72 - 117
Gamma-Chlordane	79.7		P	43 - 106
Heptachlor	72.0		P	41 - 98.0
Heptachlor Epoxide	86.7		P	57 - 106
Hexachlorobenzene	65.7		P	36 - 99.0
Kepone	84.8		P	16 - 215
Lambda-Cyhalothrin	70.8		P	21 - 177
Methoprene	75.6		P	10 - 119
Methoxychlor	86.3		P	60 - 112
MGK-264	78.4		P	26 - 122
Mirex	73.6		P	10 - 169
Oxychlordane	80.1		P	43 - 105
PCB-1016	86.6		P	48 - 112
PCB-1260	79.5		P	44 - 118
Permethrin	84.9		P	24 - 148
Phenothrin	67.7		P	10 - 106
Piperonyl Butoxide	138		P	10 - 139
Prallethrin	82.5		P	17 - 109
Tau-Fluvalinate	70.7		P	13 - 131
Tetramethrin	96.4		P	10 - 132
Trans-Nonachlor	79.4		P	44 - 106
Triclosan Methyl	84.9		P	59 - 109
Trifluralin	80.7		P	44 - 101

Reference Method: EPA 8276

Batch ID: P426421

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Chlordane	79.1		P	53 - 126
Toxaphene	85.0		P	56 - 211

Reference Method: EPA 8321B

Batch ID: P425764

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acesulfame K	108		P	40 - 150
AMPA	107		P	40 - 150
Endothall	101		P	40 - 150
Glufosinate	104		P	40 - 150

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 8321B
Batch ID: P425764

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Glyphosate	97.6		P	40 - 150
Sucralose	104		P	40 - 150

Reference Method: EPA 8321B
Batch ID: P425865

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	115		P	40 - 150
2,4,5-T	101		P	40 - 150
Acetaminophen	93.8		P	30 - 150
Acetamiprid	110		P	40 - 150
Afidopyropen	69.3		P	30 - 150
Bentazon	96.5		P	30 - 150
Benzovindiflupyr	87.1		P	40 - 150
Carbamazepine	64.6		P	40 - 150
Clothianidin	96.1		P	40 - 150
Dinotefuran	104		P	40 - 150
Diuron	64.8		P	40 - 150
Fenuron	94.7		P	40 - 150
Fluridone	86.0		P	40 - 150
Hydrocodone	76.8		P	40 - 150
Ibuprofen	77.0		P	40 - 150
Imazapyr	92.8		P	40 - 150
Imidacloprid	106		P	40 - 150
Linuron	85.4		P	40 - 150
Mandestrobin	95.9		P	40 - 150
MCPP	97.8		P	40 - 150
Naproxen	70.5		P	40 - 150
Primidone	95.2		P	40 - 150
Pyraclostrobin	81.7		P	40 - 150
Silvex	106		P	40 - 150
Thiamethoxam	97.9		P	40 - 150
Tolfenpyrad	57.5		P	30 - 150
Triclopyr	108		P	40 - 150

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.7 Rev. 4.4

Batch ID: P426273

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2388189	Iron	102	104	P/P	80 - 120
2388189	Tin	91.3	94.2	P/P	80 - 120
2388189	Titanium	100	104	P/P	80 - 120
2388189	Vanadium	106	110	P/P	80 - 120
2388189	Zinc	103	105	P/P	80 - 120

Reference Method: EPA 200.8 Rev. 5.4

Batch ID: P426273

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2388189	Aluminum	98.5	99.3	P/P	70 - 130
2388189	Antimony	95.5	96.3	P/P	70 - 130
2388189	Arsenic	104	105	P/P	70 - 130
2388189	Beryllium	89.0	88.3	P/P	70 - 130
2388189	Cadmium	87.3	89.6	P/P	70 - 130
2388189	Chromium	92.0	93.5	P/P	70 - 130
2388189	Cobalt	107	108	P/P	70 - 130
2388189	Lead	98.2	102	P/P	70 - 130
2388189	Manganese	88.3	90.8	P/P	70 - 130
2388189	Molybdenum	109	110	P/P	70 - 130
2388189	Nickel	103	104	P/P	70 - 130
2388189	Selenium	90.5	91.9	P/P	70 - 130
2388189	Thallium	106	107	P/P	70 - 130

Reference Method: EPA 200.8 Rev. 5.4

Batch ID: P426586

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2390063	Copper	103	103	P/P	70 - 130
2390063	Silver	90.7	91.5	P/P	70 - 130

Reference Method: EPA 8270E

Batch ID: P426116

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2387757	Aldrin	59.2	57.3	P/P	20 - 82.0
2387757	Alpha-BHC	90.2	85.3	P/P	71 - 109
2387757	Alpha-Chlordane	64.2	68.3	P/P	42 - 106
2387757	Beta-BHC	89.5	61.1	P/F	69 - 180
2387757	Beta-Cyfluthrin	84.7	95.3	P/P	18 - 175
2387757	Bifenthrin	60.2	74.4	P/P	21 - 128
2387757	Chlorothalonil	117	104	P/P	10 - 300
2387757	Cis-Nonachlor	56.4	54.9	P/P	34 - 106
2387757	Cypermethrin	84.8	84.1	P/P	22 - 158
2387757	Dacthal	92.4	85.4	P/P	54 - 116
2387757	DDD-p,p'	72.2	67.8	P/P	34 - 107
2387757	DDE-p,p'	68.6	71.7	P/P	33 - 110
2387757	DDT-p,p'	66.9	70.2	P/P	50 - 122
2387757	Delta-BHC	101	80.3	P/P	77 - 193
2387757	Deltamethrin	101	110	P/P	10 - 195
2387757	Dichlobenil	43.0	33.3	P/P	25 - 113
2387757	Dicofol	73.4	76.0	P/P	38 - 247

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8270E

Batch ID: P426116

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2387757	Dieldrin	72.6	72.3	P/P	45 - 118
2387757	Endosulfan I	78.5	75.8	P/P	51 - 106
2387757	Endosulfan II	74.3	64.0	P/P	37 - 122
2387757	Endosulfan Sulfate	71.5	64.4	P/P	43 - 132
2387757	Endrin	78.0	74.1	P/P	29 - 101
2387757	Endrin Aldehyde	59.4	44.1	P/P	19 - 110
2387757	Endrin Ketone	83.7	73.6	P/P	60 - 140
2387757	Esfenvalerate	81.6	88.1	P/P	26 - 199
2387757	Ethalfuralin	80.7	81.3	P/P	45 - 99.0
2387757	Fenpropathrin	75.8	76.9	P/P	35 - 120
2387757	Gamma-BHC	98.0	94.7	P/P	63 - 128
2387757	Gamma-Chlordane	89.2	88.5	P/P	40 - 104
2387757	Heptachlor	69.0	61.8	P/P	36 - 97.0
2387757	Heptachlor Epoxide	77.4	65.6	P/P	49 - 184
2387757	Hexachlorobenzene	62.7	52.4	P/P	39 - 96.0
2387757	Kepone	84.0	68.5	P/P	10 - 217
2387757	Lambda-Cyhalothrin	81.9	85.7	P/P	21 - 193
2387757	Methoprene	67.2	74.3	P/P	20 - 106
2387757	Methoxychlor	85.1	81.4	P/P	53 - 118
2387757	MGK-264	101	89.0	P/P	40 - 118
2387757	Mirex	54.0	59.9	P/P	26 - 92.0
2387757	Oxychlordane	68.1	65.2	P/P	44 - 99.0
2387757	Permethrin	80.0	87.7	P/P	33 - 182
2387757	Phenothrin	76.6	79.3	P/P	10 - 129
2387757	Piperonyl Butoxide	158	145	P/P	10 - 211
2387757	Prallethrin	83.4	74.1	P/P	24 - 113
2387757	Tau-Fluvalinate	76.0	86.4	P/P	14 - 149
2387757	Tetramethrin	138	124	P/P	17 - 151
2387757	Trans-Nonachlor	63.8	60.1	P/P	42 - 102
2387757	Triclosan Methyl	75.7	78.7	P/P	48 - 108
2387757	Trifluralin	72.7	76.5	P/P	47 - 96.0
2387795	PCB-1016	93.7	97.4	P/P	46 - 111
2387795	PCB-1260	73.6	78.1	P/P	45 - 114

Reference Method: EPA 8276

Batch ID: P426421

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2389595	Chlordane	59.5	60.6	P/P	53 - 126
2389595	Toxaphene	40.7	45.2	F/F	56 - 211

Reference Method: EPA 8321B

Batch ID: P425764

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2386890	Acesulfame K	77.9	79.5	P/P	40 - 150
2386890	AMPA	95.5	87.2	P/P	40 - 150
2386890	Endothall	114	118	P/P	40 - 150
2386890	Glufosinate	118	119	P/P	40 - 150
2386890	Glyphosate	120	140	P/P	40 - 150
2386890	Sucralose	73.7	75.2	P/P	40 - 150

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8321B
Batch ID: P425865

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2386891	2,4-D	119	107	P/P	40 - 150
2386891	2,4,5-T	93.9	95.3	P/P	40 - 150
2386891	Acetaminophen	99.5	95.0	P/P	30 - 150
2386891	Acetamiprid	84.2	92.2	P/P	40 - 150
2386891	Afidopyropen	65.6	67.3	P/P	30 - 150
2386891	Bentazon	90.0	86.7	P/P	30 - 150
2386891	Benzovindiflupyr	78.1	76.7	P/P	40 - 150
2386891	Carbamazepine	59.9	58.1	P/P	40 - 150
2386891	Clothianidin	99.4	92.1	P/P	40 - 150
2386891	Dinotefuran	97.7	94.7	P/P	40 - 150
2386891	Diuron	53.7	55.8	P/P	40 - 150
2386891	Fenuron	81.9	77.6	P/P	40 - 150
2386891	Fluridone	83.3	72.4	P/P	40 - 150
2386891	Hydrocodone	75.6	72.4	P/P	40 - 150
2386891	Ibuprofen	87.5	66.6	P/P	40 - 150
2386891	Imazapyr	90.8	86.2	P/P	40 - 150
2386891	Imidacloprid	125	118	P/P	40 - 150
2386891	Linuron	71.2	68.4	P/P	40 - 150
2386891	Mandestrobin	87.4	85.8	P/P	40 - 150
2386891	MCPP	91.2	87.5	P/P	40 - 150
2386891	Naproxen	82.4	103	P/P	40 - 150
2386891	Primidone	102	89.7	P/P	40 - 150
2386891	Pyraclostrobin	82.1	79.3	P/P	40 - 150
2386891	Silvex	88.1	91.9	P/P	40 - 150
2386891	Thiamethoxam	105	96.9	P/P	40 - 150
2386891	Tolfenpyrad	53.8	50.1	P/P	30 - 150
2386891	Triclopyr	107	87.4	P/P	40 - 150

Quality Assurance Report Precision

Reference Method: EPA 200.7 Rev. 4.4

Batch ID: P426273

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2388189	Calcium	1.44	Spike	P	0 - 20
2388189	Iron	1.74	Spike	P	0 - 20
2388189	Magnesium	7.02	Spike	P	0 - 20
2388189	Strontium	1.79	Spike	P	0 - 20
2388189	Tin	2.79	Spike	P	0 - 20
2388189	Titanium	3.17	Spike	P	0 - 20
2388189	Vanadium	3.13	Spike	P	0 - 20
2388189	Zinc	2.42	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4

Batch ID: P426273

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2388189	Aluminum	0.821	Spike	P	0 - 20
2388189	Antimony	0.880	Spike	P	0 - 20
2388189	Arsenic	1.54	Spike	P	0 - 20
2388189	Beryllium	0.805	Spike	P	0 - 20
2388189	Cadmium	2.54	Spike	P	0 - 20
2388189	Chromium	1.58	Spike	P	0 - 20
2388189	Cobalt	1.23	Spike	P	0 - 20
2388189	Lead	3.59	Spike	P	0 - 20
2388189	Manganese	2.37	Spike	P	0 - 20
2388189	Molybdenum	0.775	Spike	P	0 - 20
2388189	Nickel	0.870	Spike	P	0 - 20
2388189	Selenium	1.51	Spike	P	0 - 20
2388189	Thallium	1.15	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4

Batch ID: P426586

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2390063	Copper	0.132	Spike	P	0 - 20
2390063	Silver	0.874	Spike	P	0 - 20

Reference Method: EPA 8270E

Batch ID: P426116

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2387757	Aldrin	3.32	Spike	P	0 - 41
2387757	Alpha-BHC	5.66	Spike	P	0 - 25
2387757	Alpha-Chlordane	5.57	Spike	P	0 - 33
2387757	Beta-BHC	28.0	Spike	P	0 - 36
2387757	Beta-Cyfluthrin	11.8	Spike	P	0 - 42
2387757	Bifenthrin	21.2	Spike	P	0 - 53
2387757	Chlorothalonil	11.5	Spike	P	0 - 71
2387757	Cis-Nonachlor	2.71	Spike	P	0 - 29
2387757	Cypermethrin	0.740	Spike	P	0 - 40
2387757	Dacthal	7.90	Spike	P	0 - 26

Quality Assurance Report Precision

Reference Method: EPA 8270E
Batch ID: P426116

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2387757	DDD-p,p'	6.27	Spike	P	0 - 39
2387757	DDE-p,p'	4.52	Spike	P	0 - 33
2387757	DDT-p,p'	4.83	Spike	P	0 - 40
2387757	Delta-BHC	21.0	Spike	P	0 - 37
2387757	Deltamethrin	8.73	Spike	P	0 - 100
2387757	Dichlobenil	25.6	Spike	P	0 - 40
2387757	Dicofol	3.41	Spike	P	0 - 31
2387757	Dieldrin	0.402	Spike	P	0 - 27
2387757	Endosulfan I	3.51	Spike	P	0 - 23
2387757	Endosulfan II	14.9	Spike	P	0 - 28
2387757	Endosulfan Sulfate	10.4	Spike	P	0 - 38
2387757	Endrin	5.20	Spike	P	0 - 63
2387757	Endrin Aldehyde	29.5	Spike	P	0 - 60
2387757	Endrin Ketone	12.9	Spike	P	0 - 37
2387757	Esfenvalerate	7.63	Spike	P	0 - 52
2387757	Ethalfuralin	0.731	Spike	P	0 - 23
2387757	Fenpropathrin	1.45	Spike	P	0 - 32
2387757	Gamma-BHC	3.47	Spike	P	0 - 17
2387757	Gamma-Chlordane	0.835	Spike	P	0 - 40
2387757	Heptachlor	11.0	Spike	P	0 - 29
2387757	Heptachlor Epoxide	11.7	Spike	P	0 - 25
2387757	Hexachlorobenzene	18.0	Spike	P	0 - 36
2387757	Kepone	20.3	Spike	P	0 - 93
2387757	Lambda-Cyhalothrin	4.57	Spike	P	0 - 55
2387757	Methoprene	10.1	Spike	P	0 - 53
2387757	Methoxychlor	4.46	Spike	P	0 - 29
2387757	MGK-264	12.5	Spike	P	0 - 35
2387757	Mirex	10.3	Spike	P	0 - 46
2387757	Oxychlordane	4.37	Spike	P	0 - 29
2387757	Permethrin	9.12	Spike	P	0 - 44
2387757	Phenothrin	3.48	Spike	P	0 - 56
2387757	Piperonyl Butoxide	6.03	Spike	P	0 - 100
2387757	Prallethrin	11.8	Spike	P	0 - 42
2387757	Tau-Fluvalinate	12.8	Spike	P	0 - 54
2387757	Tetramethrin	10.5	Spike	P	0 - 51
2387757	Trans-Nonachlor	6.02	Spike	P	0 - 37
2387757	Triclosan Methyl	3.89	Spike	P	0 - 31
2387757	Trifluralin	5.06	Spike	P	0 - 30
2387795	PCB-1016	3.84	Spike	P	0 - 32
2387795	PCB-1260	5.88	Spike	P	0 - 31

Reference Method: EPA 8276
Batch ID: P426421

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2389595	Chlordane	1.81	Spike	P	0 - 25
2389595	Toxaphene	5.98	Spike	P	0 - 26

Quality Assurance Report Precision

Reference Method: EPA 8321B
Batch ID: P425764

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2386890	Acesulfame K	2.03	Spike	P	0 - 30
2386890	AMPA	7.03	Spike	P	0 - 30
2386890	Endothall	3.29	Spike	P	0 - 30
2386890	Glufosinate	0.183	Spike	P	0 - 30
2386890	Glyphosate	10.7	Spike	P	0 - 30
2386890	Sucralose	1.80	Spike	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P425865

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2386891	2,4-D	10.1	Spike	P	0 - 30
2386891	2,4,5-T	1.41	Spike	P	0 - 30
2386891	Acetaminophen	4.60	Spike	P	0 - 30
2386891	Acetamiprid	9.10	Spike	P	0 - 30
2386891	Afidopyropen	2.45	Spike	P	0 - 30
2386891	Bentazon	3.74	Spike	P	0 - 30
2386891	Benzovindiflupyr	1.75	Spike	P	0 - 30
2386891	Carbamazepine	3.12	Spike	P	0 - 30
2386891	Clothianidin	7.54	Spike	P	0 - 30
2386891	Dinotefuran	3.12	Spike	P	0 - 30
2386891	Diuron	3.83	Spike	P	0 - 30
2386891	Fenuron	5.32	Spike	P	0 - 30
2386891	Fluridone	12.0	Spike	P	0 - 30
2386891	Hydrocodone	4.24	Spike	P	0 - 30
2386891	Ibuprofen	27.0	Spike	P	0 - 30
2386891	Imazapyr	5.23	Spike	P	0 - 30
2386891	Imidacloprid	5.81	Spike	P	0 - 30
2386891	Linuron	4.10	Spike	P	0 - 30
2386891	Mandestrobin	1.86	Spike	P	0 - 30
2386891	MCPP	4.11	Spike	P	0 - 30
2386891	Naproxen	22.1	Spike	P	0 - 30
2386891	Primidone	12.3	Spike	P	0 - 30
2386891	Pyraclostrobin	3.40	Spike	P	0 - 30
2386891	Silvex	4.27	Spike	P	0 - 30
2386891	Thiamethoxam	8.07	Spike	P	0 - 30
2386891	Tolfenpyrad	7.05	Spike	P	0 - 30
2386891	Triclopyr	19.7	Spike	P	0 - 30

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

Quality Assurance Report Surrogates

Lab Sample ID: 2387795
Field Sample ID: G1SD0091

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8270E	Decachlorobiphenyl	69.3	P	29 - 130
EPA 8270E	Decachlorobiphenyl	71.3	P	30 - 118
EPA 8270E	Tetrachloro-m-xylene	44.5	P	29 - 104
EPA 8270E	Tetrachloro-m-xylene	49.6	P	30 - 97.0
EPA 8276	Decachlorobiphenyl	48.7	P	30 - 101
EPA 8276	Decachlorobiphenyl	20.2	F	30 - 101
EPA 8276	PCNB	72.7	P	48 - 121
EPA 8276	PCNB	71.8	P	48 - 121

Lab Sample ID: 2387797
Field Sample ID: G1SD0126

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	104	P	30 - 160
EPA 8321B	Acetaminophen-d4	107	P	30 - 160
EPA 8321B	Carbamazepine-d10	63.1	P	30 - 160
EPA 8321B	Diuron-d6	55.2	P	30 - 160
EPA 8321B	Endothall-d6	77.9	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	159	P	30 - 160
EPA 8321B	Ibuprofen-d3	70.3	P	30 - 160
EPA 8321B	Primidone-d5	98.2	P	30 - 160
EPA 8321B	Sucralose-d6	74.0	P	30 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B
Run ID: A117541
Included Lab Sample IDs: 2387797

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acesulfame K	111	110	P/P	60 - 160
Sucralose	109	112	P/P	60 - 160

Reference Method: EPA 8321B
Run ID: A117543
Included Lab Sample IDs: 2387797

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	91.0	104	P/P	50 - 150
2,4,5-T	102	92.0	P/P	50 - 150
Acetaminophen	113	113	P/P	60 - 160
Acetamiprid	123	132	P/P	50 - 150
Afidopyropen	102	89.8	P/P	50 - 150
Bentazon	92.8	107	P/P	50 - 160
Benzovindiflupyr	112	111	P/P	50 - 150
Carbamazepine	108	110	P/P	60 - 150
Clothianidin	110	116	P/P	60 - 150
Dinotefuran	109	117	P/P	50 - 150
Diuron	99.2	112	P/P	60 - 160
Fenuron	106	115	P/P	60 - 150
Fluridone	114	118	P/P	60 - 160
Hydrocodone	115	116	P/P	60 - 150
Ibuprofen	120	87.8	P/P	50 - 160
Imazapyr	105	107	P/P	50 - 150
Imidacloprid	110	60.0	P/P	60 - 150
Linuron	101	95.0	P/P	60 - 150
Mandestrobin	113	117	P/P	50 - 150
MCPP	106	87.4	P/P	50 - 150
Naproxen	73.2	75.3	P/P	50 - 160
Primidone	113	113	P/P	60 - 150
Pyraclostrobin	112	110	P/P	60 - 150
Silvex	102	93.9	P/P	50 - 150
Thiamethoxam	117	125	P/P	50 - 150
Tolfenpyrad	101	101	P/P	60 - 150
Triclopyr	108	90.1	P/P	50 - 150

Reference Method: EPA 8321B
Run ID: A117549
Included Lab Sample IDs: 2387797

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
AMPA	103	112	P/P	60 - 160
Endothall	97.8	68.7	P/P	60 - 160
Glufosinate	105	103	P/P	60 - 160
Glyphosate	116	123	P/P	60 - 160

Reference Method: EPA 8270E
Run ID: A117673
Included Lab Sample IDs: 2387795

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
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Quality Assurance Report Calibration Verification

Reference Method: EPA 8270E
Run ID: A117673
Included Lab Sample IDs: 2387795

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
PCB-1016	95.1		P	80 - 120
PCB-1260	95.4		P	80 - 120

Reference Method: EPA 8270E
Run ID: A117675
Included Lab Sample IDs: 2387795

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Aldrin	97.9		P	80 - 120
Alpha-BHC	99.0		P	80 - 120
Alpha-Chlordane	99.6		P	80 - 120
Beta-BHC	101		P	80 - 120
Beta-Cyfluthrin	117		P	80 - 120
Bifenthrin	95.3		P	80 - 120
Chlorothalonil	107		P	80 - 120
Cis-Nonachlor	101		P	80 - 120
Cypermethrin	103		P	80 - 120
Dacthal	103		P	80 - 120
DDD-p,p'	95.8		P	80 - 120
DDE-p,p'	99.1		P	80 - 120
DDT-p,p'	98.2		P	80 - 120
Delta-BHC	111		P	80 - 120
Deltamethrin	106		P	80 - 120
Dichlobenil	99.8		P	80 - 120
Dicofol	97.2		P	80 - 120
Dieldrin	100		P	80 - 120
Endosulfan I	105		P	80 - 120
Endosulfan II	109		P	80 - 120
Endosulfan Sulfate	97.4		P	80 - 120
Endrin	103		P	80 - 120
Endrin Aldehyde	101		P	80 - 120
Endrin Ketone	98.4		P	80 - 120
Esfenvalerate	110		P	80 - 120
Ethalfuralin	98.3		P	80 - 120
Fenpropathrin	98.1		P	80 - 120
Gamma-BHC	101		P	80 - 120
Gamma-Chlordane	99.2		P	80 - 120
Heptachlor	102		P	80 - 120
Heptachlor Epoxide	105		P	80 - 120
Hexachlorobenzene	96.5		P	80 - 120
Kepone	90.1		P	80 - 120
Lambda-Cyhalothrin	101		P	80 - 120
Methoprene	101		P	80 - 120
Methoxychlor	98.8		P	80 - 120
MGK-264	101		P	80 - 120
Mirex	99.3		P	80 - 120
Oxychlordane	102		P	80 - 120
Permethrin	93.7		P	80 - 120
Phenothrin	94.6		P	80 - 120
Piperonyl Butoxide	91.1		P	80 - 120
Prallethrin	101		P	80 - 120

Quality Assurance Report Calibration Verification

Reference Method: EPA 8270E
Run ID: A117675
Included Lab Sample IDs: 2387795

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Tau-Fluvalinate	103		P	80 - 120
Tetramethrin	103		P	80 - 120
Trans-Nonachlor	102		P	80 - 120
Triclosan Methyl	101		P	80 - 120
Trifluralin	100		P	80 - 120

Reference Method: EPA 200.8 Rev. 5.4
Run ID: A117692
Included Lab Sample IDs: 2387799

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Aluminum	93.3	93.5	P/P	90 - 110
Antimony	93.0	92.1	P/P	90 - 110
Arsenic	94.0	94.1	P/P	90 - 110
Beryllium	92.8	92.5	P/P	90 - 110
Cadmium	91.9	91.5	P/P	90 - 110
Chromium	91.6	91.8	P/P	90 - 110
Cobalt	95.7	95.5	P/P	90 - 110
Lead	90.2	90.1	P/P	90 - 110
Manganese	92.4	92.0	P/P	90 - 110
Molybdenum	92.2	92.2	P/P	90 - 110
Nickel	93.7	93.1	P/P	90 - 110
Selenium	92.3	91.8	P/P	90 - 110
Thallium	93.0	92.9	P/P	90 - 110

Reference Method: EPA 200.7 Rev. 4.4
Run ID: A117742
Included Lab Sample IDs: 2387799

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Calcium	100	103	P/P	90 - 110
Iron	101	104	P/P	90 - 110
Magnesium	101	104	P/P	90 - 110
Strontium	99.9	102	P/P	90 - 110
Tin	99.0	101	P/P	90 - 110
Titanium	99.6	102	P/P	90 - 110
Vanadium	98.7	102	P/P	90 - 110
Zinc	97.9	101	P/P	90 - 110

Reference Method: EPA 200.8 Rev. 5.4
Run ID: A117811
Included Lab Sample IDs: 2387799

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Copper	97.6	97.3	P/P	90 - 110
Silver	95.4	95.5	P/P	90 - 110

Quality Assurance Report

Calibration Verification

Reference Method: EPA 8276
Run ID: A117816
Included Lab Sample IDs: 2387795

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chlordane	96.6		P	80 - 120
Toxaphene	99.6		P	80 - 120

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

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery		LCS	Precision SMP	MS
EPA 200.7 Rev. 4.4	Calcium	105					1.44
	Iron	105	102	104			1.74
	Magnesium	105					7.02
	Strontium	101					1.79
	Tin	99.2	91.3	94.2			2.79
	Titanium	102	100	104			3.17
	Vanadium	98.6	106	110			3.13
	Zinc	103	103	105			2.42
EPA 200.8 Rev. 5.4	Aluminum	96.8	98.5	99.3			0.821
	Antimony	97.1	95.5	96.3			0.880
	Arsenic	94.1	104	105			1.54
	Beryllium	89.0	89.0	88.3			0.805
	Cadmium	97.2	87.3	89.6			2.54
	Chromium	95.0	92.0	93.5			1.58
	Cobalt	97.1	107	108			1.23
	Copper	97.9	103	103			0.132
	Lead	93.3	98.2	102			3.59
	Manganese	95.5	88.3	90.8			2.37
	Molybdenum	94.4	109	110			0.775
	Nickel	94.8	103	104			0.870
	Selenium	93.5	90.5	91.9			1.51
	Silver	98.5	90.7	91.5			0.874
	Thallium	97.8	106	107			1.15
EPA 8270E	Aldrin	61.4	59.2	57.3			3.32
	Alpha-BHC	90.8	90.2	85.3			5.66
	Alpha-Chlordane	81.6	64.2	68.3			5.57
	Beta-BHC	80.5	89.5	61.1			28.0
	Beta-Cyfluthrin	82.6	84.7	95.3			11.8
	Bifenthrin	64.2	60.2	74.4			21.2
	Chlorothalonil	101	117	104			11.5
	Cis-Nonachlor	79.8	56.4	54.9			2.71
	Cypermethrin	85.6	84.8	84.1			0.740
	Dacthal	93.6	92.4	85.4			7.90
	DDD-p,p'	74.0	72.2	67.8			6.27
	DDE-p,p'	80.4	68.6	71.7			4.52
	DDT-p,p'	75.8	66.9	70.2			4.83
	Delta-BHC	89.0	101	80.3			21.0
	Deltamethrin	103	101	110			8.73
	Dichlobenil	71.0	43.0	33.3			25.6
	Dicofol	79.1	73.4	76.0			3.41
	Dieldrin	88.7	72.6	72.3			0.402
	Endosulfan I	89.2	78.5	75.8			3.51
	Endosulfan II	92.7	74.3	64.0			14.9
	Endosulfan Sulfate	77.8	71.5	64.4			10.4
	Endrin	92.9	78.0	74.1			5.20
	Endrin Aldehyde	89.2	59.4	44.1			29.5
	Endrin Ketone	90.6	83.7	73.6			12.9
	Esfenvalerate	83.3	81.6	88.1			7.63
	Ethalfuralin	84.2	80.7	81.3			0.731
	Fenpropathrin	79.8	75.8	76.9			1.45
	Gamma-BHC	94.6	98.0	94.7			3.47
	Gamma-Chlordane	79.7	89.2	88.5			0.835
	Heptachlor	72.0	69.0	61.8			11.0
	Heptachlor Epoxide	86.7	77.4	65.6			11.7

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery		LCS	Precision	MS
						SMP	
EPA 8270E	Hexachlorobenzene	65.7	62.7	52.4			18.0
	Kepone	84.8	84.0	68.5			20.3
	Lambda-Cyhalothrin	70.8	81.9	85.7			4.57
	Methoprene	75.6	67.2	74.3			10.1
	Methoxychlor	86.3	85.1	81.4			4.46
	MGK-264	78.4	101	89.0			12.5
	Mirex	73.6	54.0	59.9			10.3
	Oxychlordane	80.1	68.1	65.2			4.37
	PCB-1016	86.6	93.7	97.4			3.84
	PCB-1260	79.5	73.6	78.1			5.88
	Permethrin	84.9	80.0	87.7			9.12
	Phenothrin	67.7	76.6	79.3			3.48
	Piperonyl Butoxide	138	158	145			6.03
	Prallethrin	82.5	83.4	74.1			11.8
	Tau-Fluvalinate	70.7	76.0	86.4			12.8
	Tetramethrin	96.4	138	124			10.5
	Trans-Nonachlor	79.4	63.8	60.1			6.02
	Triclosan Methyl	84.9	75.7	78.7			3.89
	Trifluralin	80.7	72.7	76.5			5.06
EPA 8276	Chlordane	79.1	59.5	60.6			1.81
	Toxaphene	85.0	40.7	45.2			5.98
EPA 8321B	2,4-D	115	107	119			10.1
	2,4,5-T	101	95.3	93.9			1.41
	Acesulfame K	108	77.9	79.5			2.03
	Acetaminophen	93.8	99.5	95.0			4.60
	Acetamiprid	110	84.2	92.2			9.10
	Afidopyropen	69.3	65.6	67.3			2.45
	AMPA	107	95.5	87.2			7.03
	Bentazon	96.5	86.7	90.0			3.74
	Benzovindiflupyr	87.1	78.1	76.7			1.75
	Carbamazepine	64.6	59.9	58.1			3.12
	Clothianidin	96.1	99.4	92.1			7.54
	Dinotefuran	104	97.7	94.7			3.12
	Diuron	64.8	53.7	55.8			3.83
	Endothall	101	114	118			3.29
	Fenuron	94.7	81.9	77.6			5.32
	Fluridone	86.0	83.3	72.4			12.0
	Glufosinate	104	118	119			0.183
	Glyphosate	97.6	120	140			10.7
	Hydrocodone	76.8	75.6	72.4			4.24
	Ibuprofen	77.0	66.6	87.5			27.0
	Imazapyr	92.8	86.2	90.8			5.23
	Imidacloprid	106	125	118			5.81
	Linuron	85.4	71.2	68.4			4.10
	Mandestrobin	95.9	87.4	85.8			1.86
	MCPP	97.8	87.5	91.2			4.11
	Naproxen	70.5	103	82.4			22.1
	Primidone	95.2	102	89.7			12.3
	Pyraclostrobin	81.7	79.3	82.1			3.40
	Silvex	106	91.9	88.1			4.27
	Sucralose	104	73.7	75.2			1.80
	Thiamethoxam	97.9	105	96.9			8.07
	Tolfenpyrad	57.5	50.1	53.8			7.05
	Triclopyr	108	87.4	107			19.7

Reference Method Descriptions

Method	Description	<u>Associated Samples</u>
EPA 200.7 Rev. 4.4	Total Recoverable Metals analysis using ICP emission spectroscopy for aqueous samples supporting Clean Water Act Projects	2387799
EPA 200.8 Rev. 5.4	Total Recoverable Metals analysis using ICP-MS for aqueous samples supporting Clean Water Act Projects	2387799
EPA 8270E	Organochlorine pesticides, pyrethroids and tracers in water matrices by GC/MS/MS	2387795
EPA 8270E	PCBs in water matrices by GC/MS/MS	2387795
EPA 8276	Organochlorine pesticides in water matrices by GC/MS with Negative Chemical Ionization	2387795
EPA 8321B	Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS	2387797

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	02/15/2023	02/23/2023 11:15	Vijayalakshmi Reddy	03/01/2023 20:20	McKinley C Carter	2387799
	02/15/2023	02/23/2023 11:15	Vijayalakshmi Reddy	03/01/2023 20:28	McKinley C Carter	2387799
EPA 200.8 Rev. 5.4	02/15/2023	02/23/2023 11:15	Vijayalakshmi Reddy	02/27/2023 15:53	Emily M Philpot	2387799
	02/15/2023	02/23/2023 11:15	Vijayalakshmi Reddy	02/27/2023 17:19	Emily M Philpot	2387799
	02/15/2023	03/02/2023 10:15	Vijayalakshmi Reddy	03/03/2023 21:42	Emily M Philpot	2387799
	02/15/2023	02/20/2023 08:00	Fe-Val Siddell	02/22/2023 19:02	Vandana T. Nagar	2387795
EPA 8270E	02/15/2023	02/20/2023 08:00	Fe-Val Siddell	02/22/2023 23:42	Vandana T. Nagar	2387795
EPA 8276	02/15/2023	02/28/2023 09:00	Julie Wi	03/04/2023 03:12	Lipi Saha	2387795
EPA 8321B	02/15/2023	02/16/2023 14:00	Hoor Shaik	02/17/2023 22:15	Juyoung Kim	2387797
	02/15/2023	02/16/2023 14:00	Manjita Shrestha	02/16/2023 19:03	Manjita Shrestha	2387797
	02/15/2023	02/16/2023 14:00	Manjita Shrestha	02/17/2023 09:39	Manjita Shrestha	2387797
	02/15/2023	02/16/2023 14:00	Manjita Shrestha	02/20/2023 14:15	Manjita Shrestha	2387797