

Chemical Analysis Report

SO-DIST-2023-07-25-01

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-2023-07-24-15**
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: Monica Jaeger

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

Certified by: Dr. rer. nat. Bettina Steinbock, Environmental Administrator

Date Certified: 08-AUG-2023 13:00



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: 07/24/2023 09:25

Field ID: G1SD0126

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2426367	EPA 8321B	Acesulfame K	0.10	U	ug/L	P432932	
		2,4-D	0.0020	U	ug/L	P432883	
		AMPA	10	U	ug/L	P432932	
		2,4,5-T	0.0040	U	ug/L	P432883	
		Acetaminophen	0.0080	U	ug/L	P432883	
		Endothall	0.25	U	ug/L	P432932	
		Acetamiprid	0.0020	U	ug/L	P432883	
		Glufosinate	10	U	ug/L	P432932	
		Glyphosate	10	U	ug/L	P432932	
		Afidopyropen	0.0020	U	ug/L	P432883	
		Sucralose	0.058		ug/L	P432932	
		Bentazon	8.0E-04	U	ug/L	P432883	
		Benzovindiflupyr	0.0020	U	ug/L	P432883	
		Carbamazepine	8.0E-04	U	ug/L	P432883	
		Clothianidin	0.0020	U	ug/L	P432883	
		Dinotefuran	0.0020	U	ug/L	P432883	
		Diuron	0.0020	U	ug/L	P432883	MS
		Fenuron	0.032	U	ug/L	P432883	
		Fluridone	8.0E-04	U	ug/L	P432883	
		Imazapyr	0.0040	U	ug/L	P432883	
		Hydrocodone	0.0020	U	ug/L	P432883	
		Ibuprofen	0.080	U	ug/L	P432883	
		Imidacloprid	0.0020	U	ug/L	P432883	
		Linuron	0.0040	U	ug/L	P432883	
		Mandestrobin	0.0020	U	ug/L	P432883	
		MCPP	0.0020	U	ug/L	P432883	
		Naproxen	0.0080	U	ug/L	P432883	
		Primidone	0.0040	U	ug/L	P432883	
		Pyraclostrobin	0.0020	U	ug/L	P432883	
		Silvex	0.0040	U	ug/L	P432883	
		Thiamethoxam	0.0020	U	ug/L	P432883	
		Tolfenpyrad	0.0020	U	ug/L	P432883	
		Triclopyr	0.0040	U	ug/L	P432883	

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

Sample Location: PORT OF THE ISLANDS MARINA

Collection Date/Time: 07/24/2023 10:05

Field ID: G1SD0130

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2426368	EPA 200.7 Rev. 4.4	Calcium	160		mg/L	P433240	
		Iron	90	U	ug/L	P433240	
		Magnesium	227		mg/L	P433240	
		Potassium	68		mg/L	P433240	
		Sodium	1.93E+03		mg/L	P433240	
		Strontium	1.66E+03		ug/L	P433240	
		Tin	9.0	U	ug/L	P433240	
		Titanium	2.2	U	ug/L	P433240	
		Vanadium	6.0	U	ug/L	P433240	
		Zinc	15	U	ug/L	P433240	
	EPA 200.8 Rev. 5.4	Aluminum	20	U	ug/L	P433240	
		Antimony	0.20	U	ug/L	P433240	
		Arsenic	1.69		ug/L	P433240	
		Barium	18.1		ug/L	P433240	
		Beryllium	0.040	U	ug/L	P433240	
		Boron	763		ug/L	P433240	
		Cadmium	0.080	U	ug/L	P433240	
		Chromium	1.6	U	ug/L	P433240	
		Cobalt	0.080	U	ug/L	P433240	
		Copper	1.7	I	ug/L	P433240	
		Lead	0.80	U	ug/L	P433240	
		Manganese	8.9		ug/L	P433240	
		Molybdenum	2.2	I	ug/L	P433240	
		Nickel	2.0	U	ug/L	P433240	
		Selenium	0.80	U	ug/L	P433240	
		Silver	0.040	U	ug/L	P433240	
		Thallium	0.40	U	ug/L	P433240	
	SM 2340 B-2011	Hardness	1.34E+03		mg/L	P433240	

Ref. Method and Comment:

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

EPA 200.8 Rev. 5.4: Batch matrix spike recoveries for boron are unavailable because of high analyte concentration in the QC sample.

Sample Location: TAMTOM

Collection Date/Time: 07/24/2023 10:50

Field ID: G1SD0091

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2426366	EPA 8270E	Aldrin	0.66	U	ng/L	P432964	MS, RPD
		Alpha-BHC	0.10	U	ng/L	P432964	
		Alpha-Chlordane	0.20	U	ng/L	P432964	
		PCB-1016	2.0	U	ng/L	P432964	
		Beta-BHC	0.10	U	ng/L	P432964	
		PCB-1221	2.0	U	ng/L	P432964	
		Beta-Cyfluthrin	1.3	U	ng/L	P432964	
		PCB-1232	2.0	U	ng/L	P432964	
		Bifenthrin	0.51	U	ng/L	P432964	
		PCB-1242	2.0	U	ng/L	P432964	
		PCB-1248	2.0	U	ng/L	P432964	
		Chlorothalonil	3.7	U	ng/L	P432964	
		PCB-1254	2.0	U	ng/L	P432964	
		Cis-Nonachlor	0.20	U	ng/L	P432964	
		PCB-1260	2.0	U	ng/L	P432964	
		Cypermethrin	1.5	U	ng/L	P432964	
		Dacthal	0.15	U	ng/L	P432964	
		DDD-p,p'	0.26	U	ng/L	P432964	
		DDE-p,p'	0.20	U	ng/L	P432964	
		DDT-p,p'	0.82	U	ng/L	P432964	
		Delta-BHC	0.41	U	ng/L	P432964	
		Deltamethrin	1.3	U	ng/L	P432964	
		Dichlobenil	0.26	U	ng/L	P432964	
		Dicofol	1.3	U	ng/L	P432964	
		Dieldrin	0.41	U	ng/L	P432964	
		Endosulfan I	0.41	U	ng/L	P432964	
		Endosulfan II	0.92	U	ng/L	P432964	
		Endosulfan Sulfate	0.31	U	ng/L	P432964	
		Endrin	0.92	U	ng/L	P432964	
		Endrin Aldehyde	0.77	U	ng/L	P432964	
		Endrin Ketone	0.41	U	ng/L	P432964	
		Esfenvalerate	0.77	U	ng/L	P432964	
		Ethalfuralin	0.15	U	ng/L	P432964	
		Fenpropathrin	0.26	U	ng/L	P432964	
		Gamma-BHC	0.13	U	ng/L	P432964	
		Gamma-Chlordane	0.20	U	ng/L	P432964	
		Heptachlor	0.20	U	ng/L	P432964	
		Heptachlor Epoxide	0.26	U	ng/L	P432964	
		Hexachlorobenzene**	1.0	U	ng/L	P432964	
		Kepone	14	U	ng/L	P432964	
		Lambda-Cyhalothrin	0.77	U	ng/L	P432964	
		Methoprene	0.77	U	ng/L	P432964	
		Methoxychlor	0.31	U	ng/L	P432964	
		MGK-264	0.20	U	ng/L	P432964	

Field ID: G1SD0091

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2426366	EPA 8270E	Mirex	0.36	U	ng/L	P432964	
		Oxychlordane	0.31	U	ng/L	P432964	
		Permethrin	1.6	U	ng/L	P432964	
		Phenothrin	0.92	U	ng/L	P432964	
		Piperonyl Butoxide	0.32	I	ng/L	P432964	
		Prallethrin	2.0	U	ng/L	P432964	
		Tau-Fluvalinate	0.26	U	ng/L	P432964	
		Tetramethrin	0.77	U	ng/L	P432964	
		Trans-Nonachlor	0.20	U	ng/L	P432964	
		Triclosan Methyl	0.15	U	ng/L	P432964	
		Trifluralin	0.20	U	ng/L	P432964	
		Chlordane	2.0	U	ng/L	P432964	
		Toxaphene	15	U	ng/L	P432964	
	EPA 8276						

Quality Assurance Report Method Blank Results

Reference Method: EPA 200.7 Rev. 4.4

Batch ID: P433240

Component	Result	Code	Units
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
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: P433240

Component	Result	Code	Units
Aluminum	5.0	U	ug/L
Antimony	0.050	U	ug/L
Arsenic	0.050	U	ug/L
Barium	0.20	U	ug/L
Beryllium	0.010	U	ug/L
Boron	2.0	U	ug/L
Cadmium	0.020	U	ug/L
Chromium	0.40	U	ug/L
Cobalt	0.020	U	ug/L
Copper	0.40	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
Silver	0.010	U	ug/L
Thallium	0.10	U	ug/L

Reference Method: EPA 8270E

Batch ID: P432964

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
Cis-Nonachlor	0.20	U	ng/L

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Method Blank Results

Reference Method: EPA 8270E

Batch ID: P432964

Component	Result	Code	Units
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'	0.80	U	ng/L
DDT-p,p'	0.80	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	0.90	U	ng/L
Endosulfan II	0.90	U	ng/L
Endosulfan Sulfate	0.30	U	ng/L
Endosulfan Sulfate	0.30	U	ng/L
Endrin	0.90	U	ng/L
Endrin	0.90	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	14	U	ng/L
Kepone	14	U	ng/L
Lambda-Cyhalothrin	0.75	U	ng/L

Quality Assurance Report Method Blank Results

Reference Method: EPA 8270E

Batch ID: P432964

Component	Result	Code	Units
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: P432964

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

Quality Assurance Report

Method Blank Results

Reference Method: EPA 8321B

Batch ID: P432883

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

Reference Method: EPA 8321B

Batch ID: P432932

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: P433240

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Calcium	100		P	85 - 115
Iron	103		P	85 - 115
Magnesium	100		P	85 - 115
Potassium	99.8		P	85 - 115
Sodium	98.1		P	85 - 115
Strontium	103		P	85 - 115
Tin	105		P	85 - 115
Titanium	103		P	85 - 115
Vanadium	103		P	85 - 115
Zinc	101		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4

Batch ID: P433240

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Aluminum	101		P	85 - 115
Antimony	95.9		P	85 - 115
Arsenic	96.5		P	85 - 115
Barium	99.2		P	85 - 115
Beryllium	91.1		P	85 - 115
Boron	109		P	85 - 115
Cadmium	97.6		P	85 - 115
Chromium	92.8		P	85 - 115
Cobalt	98.6		P	85 - 115
Copper	96.0		P	85 - 115
Lead	96.2		P	85 - 115
Manganese	96.8		P	85 - 115
Molybdenum	97.6		P	85 - 115
Nickel	96.4		P	85 - 115
Selenium	97.1		P	85 - 115
Silver	106		P	85 - 115
Thallium	100		P	85 - 115

Reference Method: EPA 8270E

Batch ID: P432964

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Aldrin	48.3		P	30 - 96.0
Alpha-BHC	74.6		P	70 - 109
Alpha-Chlordane	65.4		P	45 - 107
Beta-BHC	82.7		P	64 - 138
Beta-Cyfluthrin	93.6		P	17 - 141
Bifenthrin	64.3		P	10 - 113
Chlorothalonil	64.0		P	26 - 180
Cis-Nonachlor	56.6		P	37 - 102
Cypermethrin	89.0		P	20 - 133
Dacthal	75.2		P	69 - 114
DDD-p,p'	59.4		P	42 - 105
DDE-p,p'	57.5		P	42 - 106
DDT-p,p'	65.5		P	42 - 107
Delta-BHC	76.6		P	67 - 144
Deltamethrin	122		P	15 - 149

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 8270E
Batch ID: P432964

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Dichlobenil	66.4		P	46 - 117
Dicofol	69.4		P	34 - 114
Dieldrin	61.1		P	50 - 108
Endosulfan I	66.4		P	55 - 104
Endosulfan II	71.0		P	51 - 111
Endosulfan Sulfate	63.3		P	56 - 121
Endrin	64.8		P	10 - 106
Endrin Aldehyde	63.4		P	34 - 114
Endrin Ketone	94.6		P	63 - 177
Esfenvalerate	85.5		P	29 - 143
Ethalfuralin	66.9		P	46 - 96.0
Fenpropathrin	79.7		P	28 - 115
Gamma-BHC	73.6		P	65 - 121
Gamma-Chlordane	59.8		P	39 - 103
Heptachlor	56.0		P	39 - 94.0
Heptachlor Epoxide	64.5		P	54 - 104
Hexachlorobenzene	59.2		P	36 - 100
Kepone	51.6		P	10 - 225
Lambda-Cyhalothrin	77.1		P	10 - 135
Methoprene	53.5		P	10 - 109
Methoxychlor	85.7		P	52 - 112
MGK-264	70.3		P	44 - 117
Mirex	54.2		P	20 - 90.0
Oxychlordane	59.6		P	44 - 102
PCB-1016	69.4		P	45 - 107
PCB-1260	59.0		P	40 - 118
Permethrin	78.7		P	18 - 135
Phenothrin	61.8		P	10 - 102
Piperonyl Butoxide	121		P	28 - 156
Prallethrin	61.2		P	28 - 113
Tau-Fluvalinate	81.9		P	10 - 123
Tetramethrin	90.9		P	18 - 158
Trans-Nonachlor	64.4		P	39 - 104
Triclosan Methyl	65.0		P	54 - 108
Trifluralin	65.4		P	46 - 97.0

Reference Method: EPA 8276
Batch ID: P432964

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Chlordane	71.9		P	52 - 117
Toxaphene	80.1		P	44 - 125

Reference Method: EPA 8321B
Batch ID: P432883

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	81.8		P	40 - 150
2,4,5-T	70.3		P	40 - 150
Acetaminophen	79.0		P	30 - 150
Acetamiprid	79.5		P	40 - 150
Afidopyropen	57.9		P	30 - 150

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 8321B
Batch ID: P432883

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Bentazon	126		P	30 - 150
Benzovindiflupyr	78.2		P	40 - 150
Carbamazepine	69.8		P	40 - 150
Clothianidin	88.8		P	40 - 150
Dinotefuran	88.5		P	40 - 150
Diuron	44.0		P	40 - 150
Fenuron	96.2		P	40 - 150
Fluridone	98.8		P	40 - 150
Hydrocodone	80.8		P	40 - 150
Ibuprofen	72.5		P	40 - 150
Imazapyr	79.8		P	40 - 150
Imidacloprid	73.2		P	40 - 150
Linuron	52.1		P	40 - 150
Mandestrobin	81.4		P	40 - 150
MCPP	86.2		P	40 - 150
Naproxen	69.0		P	40 - 150
Primidone	68.7		P	40 - 150
Pyraclostrobin	74.0		P	40 - 150
Silvex	87.9		P	40 - 150
Thiamethoxam	98.3		P	40 - 150
Tolfenpyrad	56.8		P	30 - 150
Triclopyr	70.8		P	40 - 150

Reference Method: EPA 8321B
Batch ID: P432932

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acesulfame K	94.9		P	40 - 150
AMPA	57.2		P	40 - 150
Endothall	91.1		P	40 - 150
Glufosinate	104		P	40 - 150
Glyphosate	110		P	40 - 150
Sucralose	96.0		P	40 - 150

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.7 Rev. 4.4

Batch ID: P433240

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2427278	Iron	96.3	95.7	P/P	80 - 120
2427278	Strontium	94.5	95.5	P/P	80 - 120
2427278	Tin	86.0	80.7	P/P	80 - 120
2427278	Titanium	102	100	P/P	80 - 120
2427278	Vanadium	100	97.9	P/P	80 - 120
2427278	Zinc	96.6	93.2	P/P	80 - 120

Reference Method: EPA 200.8 Rev. 5.4

Batch ID: P433240

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2427278	Aluminum	102	104	P/P	70 - 130
2427278	Antimony	100	102	P/P	70 - 130
2427278	Arsenic	104	106	P/P	70 - 130
2427278	Barium	100	103	P/P	70 - 130
2427278	Beryllium	94.2	92.6	P/P	70 - 130
2427278	Cadmium	94.5	95.9	P/P	70 - 130
2427278	Chromium	92.6	94.5	P/P	70 - 130
2427278	Cobalt	94.5	95.7	P/P	70 - 130
2427278	Copper	101	102	P/P	70 - 130
2427278	Lead	99.0	101	P/P	70 - 130
2427278	Manganese	94.8	96.3	P/P	70 - 130
2427278	Molybdenum	108	109	P/P	70 - 130
2427278	Nickel	103	104	P/P	70 - 130
2427278	Selenium	101	100	P/P	70 - 130
2427278	Silver	98.8	101	P/P	70 - 130
2427278	Thallium	99.9	103	P/P	70 - 130

Reference Method: EPA 8270E

Batch ID: P432964

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2425849	Aldrin	45.2	49.9	P/P	24 - 81.0
2425849	Alpha-BHC	71.2	76.4	P/P	65 - 110
2425849	Alpha-Chlordane	50.6	67.7	P/P	43 - 119
2425849	Beta-BHC	65.0	67.1	P/P	54 - 165
2425849	Beta-Cyfluthrin	102	106	P/P	27 - 165
2425849	Bifenthrin	84.7	88.4	P/P	17 - 117
2425849	Chlorothalonil	70.1	53.9	P/P	10 - 255
2425849	Cis-Nonachlor	49.4	57.1	P/P	34 - 98.0
2425849	Cypermethrin	91.7	93.7	P/P	25 - 143
2425849	Dacthal	54.2	72.9	F/P	55 - 139
2425849	DDD-p,p'	51.7	62.0	P/P	30 - 109
2425849	DDE-p,p'	54.1	65.2	P/P	35 - 106
2425849	DDT-p,p'	70.9	66.7	P/P	41 - 101
2425849	Delta-BHC	73.6	66.2	P/P	58 - 165
2425849	Deltamethrin	131	142	P/P	10 - 194
2425849	Dichlobenil	44.1	55.3	P/P	22 - 114
2425849	Dicofol	71.5	69.6	P/P	17 - 133
2425849	Dieldrin	64.4	64.9	P/P	45 - 129
2425849	Endosulfan I	63.7	64.9	P/P	49 - 104
2425849	Endosulfan II	56.0	64.8	P/P	37 - 117

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8270E

Batch ID: P432964

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2425849	Endosulfan Sulfate	49.8	60.6	P/P	38 - 128
2425849	Endrin	59.9	64.8	P/P	35 - 116
2425849	Endrin Aldehyde	39.2	41.0	P/P	19 - 108
2425849	Endrin Ketone	92.0	77.6	P/P	44 - 134
2425849	Esfenvalerate	99.3	95.2	P/P	27 - 176
2425849	Ethalfuralin	62.4	62.8	P/P	49 - 100
2425849	Fenpropathrin	82.7	87.9	P/P	34 - 117
2425849	Gamma-BHC	83.5	79.6	P/P	59 - 129
2425849	Gamma-Chlordane	49.0	59.8	P/P	33 - 107
2425849	Heptachlor	63.3	59.9	P/P	37 - 94.0
2425849	Heptachlor Epoxide	67.4	60.6	P/P	38 - 118
2425849	Hexachlorobenzene	57.0	60.9	P/P	35 - 97.0
2425849	Kepone	28.7	33.6	P/P	10 - 221
2425849	Lambda-Cyhalothrin	98.6	100	P/P	23 - 190
2425849	Methoprene	56.4	68.1	P/P	21 - 109
2425849	Methoxychlor	93.3	90.0	P/P	46 - 118
2425849	MGK-264	65.9	75.0	P/P	39 - 122
2425849	Mirex	48.8	58.1	P/P	25 - 90.0
2425849	Oxychlordane	55.3	59.7	P/P	42 - 100
2425849	Permethrin	97.7	94.4	P/P	33 - 181
2425849	Phenothrin	94.3	90.7	P/P	12 - 125
2425849	Piperonyl Butoxide	123	128	P/P	10 - 178
2425849	Prallethrin	52.0	63.0	P/P	24 - 122
2425849	Tau-Fluvalinate	106	101	P/P	13 - 151
2425849	Tetramethrin	106	109	P/P	16 - 172
2425849	Trans-Nonachlor	53.5	64.6	P/P	39 - 100
2425849	Triclosan Methyl	62.1	66.1	P/P	43 - 110
2425849	Trifluralin	62.6	61.9	P/P	45 - 94.0
2426366	PCB-1016	78.5	79.8	P/P	45 - 107
2426366	PCB-1260	64.0	60.6	P/P	40 - 112

Reference Method: EPA 8276

Batch ID: P432964

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2426366	Chlordane	78.0	76.3	P/P	43 - 123
2426366	Toxaphene	85.5	83.4	P/P	27 - 156

Reference Method: EPA 8321B

Batch ID: P432883

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2425633	2,4-D	113	118	P/P	40 - 150
2425633	2,4,5-T	109	104	P/P	40 - 150
2425633	Acetaminophen	99.4	98.4	P/P	30 - 150
2425633	Acetamiprid	60.0	61.8	P/P	40 - 150
2425633	Afidopyropen	66.9	73.3	P/P	30 - 150
2425633	Bentazon	119	117	P/P	30 - 150
2425633	Benzovindiflupyr	80.7	79.7	P/P	40 - 150
2425633	Carbamazepine	50.0	55.9	P/P	40 - 150
2425633	Clothianidin	87.2	84.9	P/P	40 - 150
2425633	Dinotefuran	67.5	82.3	P/P	40 - 150

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8321B
Batch ID: P432883

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2425633	Diuron	31.6	34.4	F/F	40 - 150
2425633	Fenuron	61.1	64.6	P/P	40 - 150
2425633	Fluridone	87.9	90.3	P/P	40 - 150
2425633	Hydrocodone	60.2	62.3	P/P	40 - 150
2425633	Ibuprofen	66.2	69.8	P/P	40 - 150
2425633	Imazapyr	95.7	98.5	P/P	40 - 150
2425633	Imidacloprid	115	120	P/P	40 - 150
2425633	Linuron	52.8	50.5	P/P	40 - 150
2425633	Mandestrobin	80.0	85.3	P/P	40 - 150
2425633	MCPP	124	123	P/P	40 - 150
2425633	Naproxen	128	128	P/P	40 - 150
2425633	Primidone	78.0	75.2	P/P	40 - 150
2425633	Pyraclostrobin	77.3	76.6	P/P	40 - 150
2425633	Silvex	116	114	P/P	40 - 150
2425633	Thiamethoxam	76.5	76.7	P/P	40 - 150
2425633	Tolfenpyrad	57.7	56.4	P/P	30 - 150
2425633	Triclopyr	102	103	P/P	40 - 150

Reference Method: EPA 8321B
Batch ID: P432932

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2426070	Acesulfame K	109	118	P/P	40 - 150
2426070	AMPA	61.9	66.9	P/P	40 - 150
2426070	Endothall	128	127	P/P	40 - 150
2426070	Glufosinate	82.2	77.1	P/P	40 - 150
2426070	Glyphosate	116	111	P/P	40 - 150
2426070	Sucralose	104	94.5	P/P	40 - 150

Quality Assurance Report Precision

Reference Method: EPA 200.7 Rev. 4.4

Batch ID: P433240

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2427278	Calcium	0.163	Spike	P	0 - 20
2427278	Iron	0.614	Spike	P	0 - 20
2427278	Magnesium	0.0460	Spike	P	0 - 20
2427278	Potassium	1.12	Spike	P	0 - 20
2427278	Sodium	1.61	Spike	P	0 - 20
2427278	Strontium	0.561	Spike	P	0 - 20
2427278	Tin	5.49	Spike	P	0 - 20
2427278	Titanium	1.61	Spike	P	0 - 20
2427278	Vanadium	2.44	Spike	P	0 - 20
2427278	Zinc	3.64	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4

Batch ID: P433240

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2427278	Aluminum	1.72	Spike	P	0 - 20
2427278	Antimony	1.93	Spike	P	0 - 20
2427278	Arsenic	2.06	Spike	P	0 - 20
2427278	Barium	2.45	Spike	P	0 - 20
2427278	Beryllium	1.77	Spike	P	0 - 20
2427278	Boron	1.86	Spike	P	0 - 20
2427278	Cadmium	1.45	Spike	P	0 - 20
2427278	Chromium	2.03	Spike	P	0 - 20
2427278	Cobalt	1.35	Spike	P	0 - 20
2427278	Copper	1.53	Spike	P	0 - 20
2427278	Lead	1.83	Spike	P	0 - 20
2427278	Manganese	1.19	Spike	P	0 - 20
2427278	Molybdenum	0.974	Spike	P	0 - 20
2427278	Nickel	1.36	Spike	P	0 - 20
2427278	Selenium	1.02	Spike	P	0 - 20
2427278	Silver	1.87	Spike	P	0 - 20
2427278	Thallium	3.28	Spike	P	0 - 20

Reference Method: EPA 8270E

Batch ID: P432964

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2425849	Aldrin	9.85	Spike	P	0 - 41
2425849	Alpha-BHC	7.11	Spike	P	0 - 25
2425849	Alpha-Chlordane	28.8	Spike	P	0 - 32
2425849	Beta-BHC	3.23	Spike	P	0 - 33
2425849	Beta-Cyfluthrin	3.73	Spike	P	0 - 43
2425849	Bifenthrin	4.32	Spike	P	0 - 52
2425849	Chlorothalonil	26.0	Spike	P	0 - 82
2425849	Cis-Nonachlor	14.5	Spike	P	0 - 33
2425849	Cypermethrin	2.12	Spike	P	0 - 51
2425849	Dacthal	29.5	Spike	F	0 - 27
2425849	DDD-p,p'	18.1	Spike	P	0 - 39
2425849	DDE-p,p'	18.5	Spike	P	0 - 31

Quality Assurance Report Precision

Reference Method: EPA 8270E
Batch ID: P432964

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2425849	DDT-p,p'	6.09	Spike	P	0 - 29
2425849	Delta-BHC	9.23	Spike	P	0 - 35
2425849	Deltamethrin	8.00	Spike	P	0 - 100
2425849	Dichlobenil	22.5	Spike	P	0 - 40
2425849	Dicofol	2.66	Spike	P	0 - 37
2425849	Dieldrin	0.816	Spike	P	0 - 27
2425849	Endosulfan I	1.87	Spike	P	0 - 23
2425849	Endosulfan II	14.5	Spike	P	0 - 34
2425849	Endosulfan Sulfate	19.7	Spike	P	0 - 36
2425849	Endrin	7.95	Spike	P	0 - 45
2425849	Endrin Aldehyde	4.37	Spike	P	0 - 76
2425849	Endrin Ketone	16.9	Spike	P	0 - 43
2425849	Esfenvalerate	4.16	Spike	P	0 - 51
2425849	Ethalfuralin	0.686	Spike	P	0 - 22
2425849	Fenpropathrin	6.16	Spike	P	0 - 49
2425849	Gamma-BHC	4.73	Spike	P	0 - 28
2425849	Gamma-Chlordane	19.9	Spike	P	0 - 40
2425849	Heptachlor	5.51	Spike	P	0 - 29
2425849	Heptachlor Epoxide	10.6	Spike	P	0 - 33
2425849	Hexachlorobenzene	6.47	Spike	P	0 - 36
2425849	Kepone	15.8	Spike	P	0 - 85
2425849	Lambda-Cyhalothrin	1.61	Spike	P	0 - 55
2425849	Methoprene	18.9	Spike	P	0 - 53
2425849	Methoxychlor	3.61	Spike	P	0 - 50
2425849	MGK-264	13.0	Spike	P	0 - 43
2425849	Mirex	17.4	Spike	P	0 - 40
2425849	Oxychlordane	7.70	Spike	P	0 - 31
2425849	Permethrin	3.41	Spike	P	0 - 50
2425849	Phenothrin	3.80	Spike	P	0 - 58
2425849	Piperonyl Butoxide	3.23	Spike	P	0 - 100
2425849	Prallethrin	19.0	Spike	P	0 - 39
2425849	Tau-Fluvalinate	4.65	Spike	P	0 - 54
2425849	Tetramethrin	2.24	Spike	P	0 - 51
2425849	Trans-Nonachlor	18.9	Spike	P	0 - 39
2425849	Triclosan Methyl	6.28	Spike	P	0 - 31
2425849	Trifluralin	1.20	Spike	P	0 - 22
2426366	PCB-1016	1.59	Spike	P	0 - 25
2426366	PCB-1260	5.45	Spike	P	0 - 30

Reference Method: EPA 8276
Batch ID: P432964

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2426366	Chlordane	2.28	Spike	P	0 - 28
2426366	Toxaphene	2.51	Spike	P	0 - 27

Quality Assurance Report Precision

Reference Method: EPA 8321B
Batch ID: P432883

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2425633	2,4-D	4.43	Spike	P	0 - 30
2425633	2,4,5-T	4.92	Spike	P	0 - 30
2425633	Acetaminophen	1.09	Spike	P	0 - 30
2425633	Acetamiprid	3.04	Spike	P	0 - 30
2425633	Afidopyropen	9.12	Spike	P	0 - 30
2425633	Bentazon	1.48	Spike	P	0 - 30
2425633	Benzovindiflupyr	1.21	Spike	P	0 - 30
2425633	Carbamazepine	11.1	Spike	P	0 - 30
2425633	Clothianidin	2.58	Spike	P	0 - 30
2425633	Dinotefuran	19.8	Spike	P	0 - 30
2425633	Diuron	8.62	Spike	P	0 - 30
2425633	Fenuron	5.50	Spike	P	0 - 30
2425633	Fluridone	2.69	Spike	P	0 - 30
2425633	Hydrocodone	3.44	Spike	P	0 - 30
2425633	Ibuprofen	5.32	Spike	P	0 - 30
2425633	Imazapyr	2.90	Spike	P	0 - 30
2425633	Imidacloprid	4.25	Spike	P	0 - 30
2425633	Linuron	4.34	Spike	P	0 - 30
2425633	Mandestrobin	6.39	Spike	P	0 - 30
2425633	MCP	0.402	Spike	P	0 - 30
2425633	Naproxen	0.122	Spike	P	0 - 30
2425633	Primidone	3.65	Spike	P	0 - 30
2425633	Pyraclostrobin	0.916	Spike	P	0 - 30
2425633	Silvex	2.05	Spike	P	0 - 30
2425633	Thiamethoxam	0.286	Spike	P	0 - 30
2425633	Tolfenpyrad	2.18	Spike	P	0 - 30
2425633	Triclopyr	0.638	Spike	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P432932

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2426070	Acesulfame K	7.96	Spike	P	0 - 30
2426070	AMPA	5.89	Spike	P	0 - 30
2426070	Endothall	0.873	Spike	P	0 - 30
2426070	Glufosinate	6.34	Spike	P	0 - 30
2426070	Glyphosate	4.09	Spike	P	0 - 30
2426070	Sucralose	9.11	Spike	P	0 - 30

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

Quality Assurance Report Surrogates

Lab Sample ID: 2426366
Field Sample ID: G1SD0091

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8270E	Decachlorobiphenyl	83.2	P	37 - 129
EPA 8270E	Decachlorobiphenyl	90.3	P	26 - 115
EPA 8270E	Tetrachloro-m-xylene	66.4	P	30 - 101
EPA 8270E	Tetrachloro-m-xylene	53.8	P	29 - 95.0
EPA 8276	Decachlorobiphenyl	66.5	P	28 - 102
EPA 8276	PCNB	98.8	P	49 - 115

Lab Sample ID: 2426367
Field Sample ID: G1SD0126

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	96.2	P	30 - 160
EPA 8321B	Acetaminophen-d4	74.0	P	30 - 160
EPA 8321B	Carbamazepine-d10	45.6	P	30 - 160
EPA 8321B	Diuron-d6	40.6	P	30 - 160
EPA 8321B	Endothall-d6	81.7	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	51.0	P	30 - 160
EPA 8321B	Ibuprofen-d3	59.2	P	30 - 160
EPA 8321B	Primidone-d5	72.4	P	30 - 160
EPA 8321B	Sucralose-d6	110	P	30 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B
Run ID: A120726
Included Lab Sample IDs: 2426367

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acesulfame K	90.8	96.7	P/P	60 - 160
Sucralose	87.6	94.9	P/P	60 - 160

Reference Method: EPA 8321B
Run ID: A120727
Included Lab Sample IDs: 2426367

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
AMPA	102	107	P/P	60 - 160
Endothall	89.9	86.8	P/P	60 - 160
Glufosinate	94.7	95.4	P/P	60 - 160
Glyphosate	103	101	P/P	60 - 160

Reference Method: EPA 8276
Run ID: A120730
Included Lab Sample IDs: 2426366

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chlordane	99.1		P	80 - 120
Toxaphene	99.2		P	80 - 120

Reference Method: EPA 8321B
Run ID: A120734
Included Lab Sample IDs: 2426367

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	107	106	P/P	50 - 150
2,4,5-T	101	108	P/P	50 - 150
Acetaminophen	127	127	P/P	60 - 160
Acetamiprid	125	127	P/P	50 - 150
Afidopyropen	118	116	P/P	50 - 150
Bentazon	144	141	P/P	50 - 160
Benzovindiflupyr	120	136	P/P	50 - 150
Carbamazepine	137	144	P/P	60 - 150
Clothianidin	139	137	P/P	60 - 150
Dinotefuran	140	133	P/P	50 - 150
Diuron	130	130	P/P	60 - 160
Fenuron	126	125	P/P	60 - 150
Fluridone	135	142	P/P	60 - 160
Hydrocodone	119	133	P/P	60 - 150
Ibuprofen	109	73.9	P/P	50 - 160
Imazapyr	117	114	P/P	50 - 150
Imidacloprid	106	113	P/P	60 - 150
Linuron	111	124	P/P	60 - 150
Mandestrobin	131	136	P/P	50 - 150
MCPP	117	105	P/P	50 - 150
Naproxen	142	82.8	P/P	50 - 160
Primidone	116	124	P/P	60 - 150
Pyraclostrobin	125	134	P/P	60 - 150
Silvex	112	121	P/P	50 - 150
Thiamethoxam	125	123	P/P	50 - 150

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B
Run ID: A120734
Included Lab Sample IDs: 2426367

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Tolfenpyrad	117	121	P/P	60 - 150
Triclopyr	112	111	P/P	50 - 150

Reference Method: EPA 8270E
Run ID: A120743
Included Lab Sample IDs: 2426366

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
PCB-1016	99.3		P	80 - 120
PCB-1260	95.4		P	80 - 120

Reference Method: EPA 8270E
Run ID: A120779
Included Lab Sample IDs: 2426366

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Endosulfan Sulfate	84.3		P	80 - 120

Reference Method: EPA 8270E
Run ID: A120782
Included Lab Sample IDs: 2426366

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Aldrin	94.7		P	80 - 120
Alpha-BHC	98.8		P	80 - 120
Alpha-Chlordane	98.1		P	80 - 120
Beta-BHC	101		P	80 - 120
Beta-Cyfluthrin	101		P	80 - 120
Bifenthrin	102		P	80 - 120
Chlorothalonil	95.3		P	80 - 120
Cis-Nonachlor	92.4		P	80 - 120
Cypermethrin	92.9		P	80 - 120
Dacthal	91.6		P	80 - 120
DDD-p,p'	95.0		P	80 - 120
DDE-p,p'	89.3		P	80 - 120
DDT-p,p'	102		P	80 - 120
Delta-BHC	102		P	80 - 120
Deltamethrin	104		P	80 - 120
Dichlobenil	96.3		P	80 - 120
Dicofol	95.2		P	80 - 120
Dieldrin	100		P	80 - 120
Endosulfan I	104		P	80 - 120
Endosulfan II	92.5		P	80 - 120
Endrin	91.3		P	80 - 120
Endrin Aldehyde	84.6		P	80 - 120
Endrin Ketone	91.7		P	80 - 120
Esfenvalerate	101		P	80 - 120
Ethalfuralin	98.9		P	80 - 120
Fenpropathrin	101		P	80 - 120
Gamma-BHC	94.5		P	80 - 120
Gamma-Chlordane	91.0		P	80 - 120

Quality Assurance Report Calibration Verification

Reference Method: EPA 8270E
Run ID: A120782
Included Lab Sample IDs: 2426366

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Heptachlor	93.1		P	80 - 120
Heptachlor Epoxide	106		P	80 - 120
Hexachlorobenzene	108		P	80 - 120
Kepone	81.0		P	80 - 120
Lambda-Cyhalothrin	104		P	80 - 120
Methoprene	93.0		P	80 - 120
Methoxychlor	102		P	80 - 120
MGK-264	89.9		P	80 - 120
Mirex	96.9		P	80 - 120
Oxychlordane	93.9		P	80 - 120
Permethrin	104		P	80 - 120
Phenothrin	101		P	80 - 120
Piperonyl Butoxide	99.9		P	80 - 120
Prallethrin	88.9		P	80 - 120
Tau-Fluvalinate	103		P	80 - 120
Tetramethrin	101		P	80 - 120
Trans-Nonachlor	98.1		P	80 - 120
Triclosan Methyl	104		P	80 - 120
Trifluralin	99.6		P	80 - 120

Reference Method: EPA 200.8 Rev. 5.4
Run ID: A120806
Included Lab Sample IDs: 2426368

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Aluminum	103	103	P/P	90 - 110
Antimony	94.3	96.7	P/P	90 - 110
Arsenic	97.1	98.4	P/P	90 - 110
Barium	96.1	99.7	P/P	90 - 110
Beryllium	92.5	93.1	P/P	90 - 110
Boron	105	104	P/P	90 - 110
Cadmium	96.2	97.1	P/P	90 - 110
Chromium	90.8	92.8	P/P	90 - 110
Cobalt	98.4	98.5	P/P	90 - 110
Copper	96.9	97.6	P/P	90 - 110
Lead	94.4	95.6	P/P	90 - 110
Manganese	95.2	96.7	P/P	90 - 110
Molybdenum	95.9	97.9	P/P	90 - 110
Nickel	97.7	98.9	P/P	90 - 110
Selenium	96.3	98.1	P/P	90 - 110
Silver	96.6	97.9	P/P	90 - 110
Thallium	98.2	99.7	P/P	90 - 110

Reference Method: EPA 200.7 Rev. 4.4
Run ID: A120816
Included Lab Sample IDs: 2426368

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Calcium	95.2	95.9	P/P	90 - 110
Iron	97.7	99.2	P/P	90 - 110
Magnesium	96.8	98.5	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 200.7 Rev. 4.4

Run ID: A120816

Included Lab Sample IDs: 2426368

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Potassium	98.8	99.5	P/P	90 - 110
Sodium	103	99.1	P/P	90 - 110
Strontium	101	101	P/P	90 - 110
Tin	98.4	101	P/P	90 - 110
Titanium	98.9	101	P/P	90 - 110
Vanadium	98.4	101	P/P	90 - 110
Zinc	97.5	100	P/P	90 - 110

* 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	100						0.163
	Iron	103		96.3	95.7			0.614
	Magnesium	100						0.0460
	Potassium	99.8						1.12
	Sodium	98.1						1.61
	Strontium	103		94.5	95.5			0.561
	Tin	105		86.0	80.7			5.49
	Titanium	103		102	100			1.61
	Vanadium	103		100	97.9			2.44
	Zinc	101		96.6	93.2			3.64
EPA 200.8 Rev. 5.4	Aluminum	101		102	104			1.72
	Antimony	95.9		100	102			1.93
	Arsenic	96.5		104	106			2.06
	Barium	99.2		100	103			2.45
	Beryllium	91.1		94.2	92.6			1.77
	Boron	109						1.86
	Cadmium	97.6		94.5	95.9			1.45
	Chromium	92.8		92.6	94.5			2.03
	Cobalt	98.6		94.5	95.7			1.35
	Copper	96.0		101	102			1.53
	Lead	96.2		99.0	101			1.83
	Manganese	96.8		94.8	96.3			1.19
	Molybdenum	97.6		108	109			0.974
	Nickel	96.4		103	104			1.36
	Selenium	97.1		101	100			1.02
	Silver	106		98.8	101			1.87
	Thallium	100		99.9	103			3.28
	Aldrin	48.3		45.2	49.9			9.85
	Alpha-BHC	74.6		71.2	76.4			7.11
	Alpha-Chlordane	65.4		50.6	67.7			28.8
EPA 8270E	Beta-BHC	82.7		65.0	67.1			3.23
	Beta-Cyfluthrin	93.6		102	106			3.73
	Bifenthrin	64.3		88.4	84.7			4.32
	Chlorothalonil	64.0		70.1	53.9			26.0
	Cis-Nonachlor	56.6		49.4	57.1			14.5
	Cypermethrin	89.0		91.7	93.7			2.12
	Dacthal	75.2		54.2	72.9			29.5
	DDD-p,p'	59.4		51.7	62.0			18.1
	DDE-p,p'	57.5		54.1	65.2			18.5
	DDT-p,p'	65.5		70.9	66.7			6.09
	Delta-BHC	76.6		73.6	66.2			9.23
	Deltamethrin	122		131	142			8.00
	Dichlobenil	66.4		44.1	55.3			22.5
	Dicofol	69.4		71.5	69.6			2.66
	Dieldrin	61.1		64.4	64.9			0.816
	Endosulfan I	66.4		63.7	64.9			1.87
	Endosulfan II	71.0		56.0	64.8			14.5
	Endosulfan Sulfate	63.3		49.8	60.6			19.7
	Endrin	64.8		59.9	64.8			7.95
	Endrin Aldehyde	63.4		39.2	41.0			4.37
	Endrin Ketone	94.6		92.0	77.6			16.9
	Esfenvalerate	85.5		99.3	95.2			4.16
	Ethalfuralin	66.9		62.4	62.8			0.686
	Fenpropathrin	79.7		82.7	87.9			6.16

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery		LCS	Precision	MS
						SMP	
EPA 8270E	Gamma-BHC	73.6	83.5	79.6			4.73
	Gamma-Chlordane	59.8	49.0	59.8			19.9
	Heptachlor	56.0	63.3	59.9			5.51
	Heptachlor Epoxide	64.5	67.4	60.6			10.6
	Hexachlorobenzene	59.2	57.0	60.9			6.47
	Kepone	51.6	28.7	33.6			15.8
	Lambda-Cyhalothrin	77.1	98.6	100			1.61
	Methoprene	53.5	56.4	68.1			18.9
	Methoxychlor	85.7	93.3	90.0			3.61
	MGK-264	70.3	65.9	75.0			13.0
	Mirex	54.2	48.8	58.1			17.4
	Oxychlordane	59.6	55.3	59.7			7.70
	PCB-1016	69.4	78.5	79.8			1.59
	PCB-1260	59.0	64.0	60.6			5.45
	Permethrin	78.7	97.7	94.4			3.41
	Phenothrin	61.8	94.3	90.7			3.80
	Piperonyl Butoxide	121	123	128			3.23
	Prallethrin	61.2	52.0	63.0			19.0
	Tau-Fluvalinate	81.9	106	101			4.65
	Tetramethrin	90.9	106	109			2.24
	Trans-Nonachlor	64.4	53.5	64.6			18.9
	Triclosan Methyl	65.0	62.1	66.1			6.28
	Trifluralin	65.4	62.6	61.9			1.20
EPA 8276	Chlordane	71.9	78.0	76.3			2.28
	Toxaphene	80.1	85.5	83.4			2.51
EPA 8321B	2,4-D	81.8	118	113			4.43
	2,4,5-T	70.3	104	109			4.92
	Acesulfame K	94.9	109	118			7.96
	Acetaminophen	79.0	99.4	98.4			1.09
	Acetamiprid	79.5	60.0	61.8			3.04
	Afidopyropen	57.9	66.9	73.3			9.12
	AMPA	57.2	61.9	66.9			5.89
	Bentazon	126	117	119			1.48
	Benzovindiflupyr	78.2	80.7	79.7			1.21
	Carbamazepine	69.8	50.0	55.9			11.1
	Clothianidin	88.8	87.2	84.9			2.58
	Dinotefuran	88.5	67.5	82.3			19.8
	Diuron	44.0	31.6	34.4			8.62
	Endothall	91.1	128	127			0.873
	Fenuron	96.2	61.1	64.6			5.50
	Fluridone	98.8	87.9	90.3			2.69
	Glufosinate	104	82.2	77.1			6.34
	Glyphosate	110	116	111			4.09
	Hydrocodone	80.8	60.2	62.3			3.44
	Ibuprofen	72.5	69.8	66.2			5.32
	Imazapyr	79.8	98.5	95.7			2.90
	Imidacloprid	73.2	115	120			4.25
	Linuron	52.1	52.8	50.5			4.34
	Mandestrobin	81.4	80.0	85.3			6.39
	MCPP	86.2	123	124			0.402
	Naproxen	69.0	128	128			0.122
	Primidone	68.7	78.0	75.2			3.65
	Pyraclostrobin	74.0	77.3	76.6			0.916
	Silvex	87.9	114	116			2.05

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery		LCS	Precision	MS
						SMP	
EPA 8321B	Sucralose	96.0	104	94.5			9.11
	Thiamethoxam	98.3	76.5	76.7			0.286
	Tolfenpyrad	56.8	57.7	56.4			2.18
	Triclopyr	70.8	103	102			0.638

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	2426368
EPA 200.8 Rev. 5.4	Total Recoverable Metals analysis using ICP-MS for aqueous samples supporting Clean Water Act Projects	2426368
EPA 8270E	Organochlorine pesticides, pyrethroids and tracers in water matrices by GC/MS/MS	2426366
EPA 8270E	PCBs in water matrices by GC/MS/MS	2426366
EPA 8276	Chlordane and Toxaphene in water matrices by GC/MS with Negative Chemical Ionization	2426366
EPA 8321B	Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS	2426367
SM 2340 B-2011	Hardness by calculation, in aqueous matrices, reported as mg/L CaCO3	2426368

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
EPA 200.7 Rev. 4.4	07/25/2023	07/31/2023 13:25	George D Taylor	08/02/2023 22:26	Samatha Luckman	2426368
	07/25/2023	07/31/2023 13:25	George D Taylor	08/02/2023 22:38	Samatha Luckman	2426368
	07/25/2023	07/31/2023 13:25	George D Taylor	08/02/2023 18:38	Emily M Philpot	2426368
EPA 200.8 Rev. 5.4 EPA 8270E	07/25/2023	07/26/2023 08:30	Rasheda Ghaffari	07/28/2023 20:16	Lipi Saha	2426366
	07/25/2023	07/26/2023 08:30	Rasheda Ghaffari	07/31/2023 22:00	Michael Poppell	2426366
	07/25/2023	07/26/2023 08:30	Rasheda Ghaffari	08/02/2023 01:52	Michael Poppell	2426366
EPA 8276	07/25/2023	07/26/2023 08:30	Rasheda Ghaffari	07/29/2023 07:26	Arthur Maknenko	2426366
EPA 8321B	07/25/2023	07/25/2023 14:00	Hoor Shaik	07/26/2023 01:10	Juyoung Kim	2426367
	07/25/2023	07/26/2023 01:00	Hana Lee	07/26/2023 02:49	Tae K Lee	2426367
	07/25/2023	07/26/2023 01:00	Hana Lee	07/26/2023 12:18	Tae K Lee	2426367
	07/25/2023	07/26/2023 01:00	Hana Lee	07/26/2023 16:53	Tae K Lee	2426367
SM 2340 B-2011	07/25/2023			08/02/2023 22:26	Samatha Luckman	2426368