

Chemical Analysis Report

SO-DIST-2023-04-14-01

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-2023-04-03-41**
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
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Date Certified: 05-MAY-2023 12:18



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 PLANTATION PKWY

Collection Date/Time: 04/13/2023 09:25

Field ID: G1SD0126

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2400453	EPA 8321B	Acesulfame K	0.10	U	ug/L	P428489	
		2,4-D	0.0020	U	ug/L	P428534	
		AMPA	10	U	ug/L	P428489	
		2,4,5-T	0.0040	U	ug/L	P428534	
		Acetaminophen	0.0080	U	ug/L	P428534	
		Endothall	0.25	U	ug/L	P428489	
		Acetamiprid	0.0020	U	ug/L	P428534	
		Glufosinate	10	U	ug/L	P428489	
		Glyphosate	10	U	ug/L	P428489	
		Afidopyropen	0.0020	U	ug/L	P428534	
		Sucralose	0.055		ug/L	P428489	
		Bentazon	8.0E-04	U	ug/L	P428534	
		Benzovindiflupyr	0.0020	U	ug/L	P428534	
		Carbamazepine	8.0E-04	U	ug/L	P428534	
		Clothianidin	0.0020	U	ug/L	P428534	
		Dinotefuran	0.0020	U	ug/L	P428534	
		Diuron	0.0020	U	ug/L	P428534	
		Fenuron	0.032	U	ug/L	P428534	
		Fluridone	8.0E-04	U	ug/L	P428534	
		Imazapyr	0.0040	U	ug/L	P428534	
		Hydrocodone	0.0020	U	ug/L	P428534	
		Ibuprofen	0.080	U	ug/L	P428534	
		Imidacloprid	0.0020	U	ug/L	P428534	
		Linuron	0.0040	U	ug/L	P428534	
		Mandestrobin	0.0020	U	ug/L	P428534	
		MCPP	0.0020	U	ug/L	P428534	
		Naproxen	0.0080	U	ug/L	P428534	
		Primidone	0.0040	U	ug/L	P428534	
		Pyraclostrobin	0.0020	U	ug/L	P428534	
		Silvex	0.0040	U	ug/L	P428534	
		Thiamethoxam	0.0020	U	ug/L	P428534	
		Tolfenpyrad	0.0020	U	ug/L	P428534	
		Triclopyr	0.0040	U	ug/L	P428534	

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

Sample Location: FB

Collection Date/Time: 04/13/2023 09:40

Field ID: FB_04132023

Matrix: W-FIELD-BK

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2400454	EPA 8321B	2,4-D	0.0020	U	ug/L	P428534	
		Acesulfame K	0.10	U	ug/L	P428489	
		2,4,5-T	0.0040	U	ug/L	P428534	
		AMPA	0.10	U	ug/L	P428489	
		Acetaminophen	0.0080	U	ug/L	P428534	
		Acetamiprid	0.0020	U	ug/L	P428534	
		Endothall	0.25	U	ug/L	P428489	
		Glufosinate	0.10	U	ug/L	P428489	
		Glyphosate	0.10	U	ug/L	P428489	
		Afidopyropen	0.0020	U	ug/L	P428534	
		Bentazon	8.0E-04	U	ug/L	P428534	
		Sucralose	0.010	U	ug/L	P428489	
		Benzovindiflupyr	0.0020	U	ug/L	P428534	
		Carbamazepine	8.0E-04	U	ug/L	P428534	
		Clothianidin	0.0020	U	ug/L	P428534	
		Dinotefuran	0.0020	U	ug/L	P428534	
		Diuron	0.0020	U	ug/L	P428534	
		Fenuron	0.032	U	ug/L	P428534	
		Fluridone	8.0E-04	U	ug/L	P428534	
		Imazapyr	0.0040	U	ug/L	P428534	
		Hydrocodone	0.0020	U	ug/L	P428534	
		Ibuprofen	0.080	U	ug/L	P428534	
		Imidacloprid	0.0020	U	ug/L	P428534	
		Linuron	0.0040	U	ug/L	P428534	
		Mandestrobin	0.0020	U	ug/L	P428534	
		MCPP	0.0020	U	ug/L	P428534	
		Naproxen	0.0080	U	ug/L	P428534	
		Primidone	0.0040	U	ug/L	P428534	
		Pyraclostrobin	0.0020	U	ug/L	P428534	
		Silvex	0.0040	U	ug/L	P428534	
		Thiamethoxam	0.0020	U	ug/L	P428534	
		Tolfenpyrad	0.0020	U	ug/L	P428534	
		Triclopyr	0.0040	U	ug/L	P428534	

Sample Location: PORT OF THE ISLAND MARINA

Collection Date/Time: 04/13/2023 10:00

Field ID: G1SD0130

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2400455	EPA 200.7 Rev. 4.4	Calcium	451		mg/L	P428560	
		Iron	120	U	ug/L	P428560	
		Magnesium	1.36E+03		mg/L	P428560	
		Strontium	8.20E+03		ug/L	P428560	
	EPA 200.8 Rev. 5.4	Tin	300	U	ug/L	P428560	
		Titanium	3.0	U	ug/L	P428560	
		Vanadium	8.0	U	ug/L	P428560	
		Zinc	20	U	ug/L	P428560	
		Aluminum	34	I	ug/L	P428560	
		Antimony	0.20	U	ug/L	P428560	
		Arsenic	2.44		ug/L	P428560	
		Beryllium	0.040	U	ug/L	P428560	
		Cadmium	0.080	U	ug/L	P428560	
		Chromium	4.0	U	ug/L	P428560	
		Cobalt	0.099	I	ug/L	P428560	
		Copper	18.4		ug/L	P428560	
		Lead	2.0	U	ug/L	P428560	
		Manganese	11.9		ug/L	P428560	
		Molybdenum	9.7		ug/L	P428560	
		Nickel	2.0	U	ug/L	P428560	
		Selenium	0.80	U	ug/L	P428560	
		Silver	0.040	U	ug/L	P428560	
		Thallium	1.0	U	ug/L	P428560	

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 in the undigested sample on 04/19/2023.

Sample Location: TAMTOM

Collection Date/Time: 04/13/2023 10:55

Field ID: G1SD0091

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2400452	EPA 8270E	Aldrin	0.66	U	ng/L	P428516	
		Alpha-BHC	0.10	U	ng/L	P428516	
		Alpha-Chlordane	0.20	U	ng/L	P428516	
		PCB-1016	2.0	U	ng/L	P428516	
		Beta-BHC	0.10	U	ng/L	P428516	
		PCB-1221	2.0	U	ng/L	P428516	
		Beta-Cyfluthrin	1.3	U	ng/L	P428516	
		PCB-1232	2.0	U	ng/L	P428516	
		Bifenthrin	0.51	U	ng/L	P428516	
		PCB-1242	2.0	U	ng/L	P428516	
		PCB-1248	2.0	U	ng/L	P428516	
		Chlorothalonil	3.7	U	ng/L	P428516	
		PCB-1254	2.0	U	ng/L	P428516	
		Cis-Nonachlor	0.20	U	ng/L	P428516	
		PCB-1260	2.0	U	ng/L	P428516	
		Cypermethrin	1.5	U	ng/L	P428516	
		Dacthal	0.15	U	ng/L	P428516	
		DDD-p,p'	0.32	I	ng/L	P428516	
		DDE-p,p'	0.20	U	ng/L	P428516	
		DDT-p,p'	0.26	U	ng/L	P428516	
		Delta-BHC	0.41	U	ng/L	P428516	
		Deltamethrin	1.3	U	ng/L	P428516	
		Dichlobenil	0.26	U	ng/L	P428516	
		Dicofol	1.3	U	ng/L	P428516	
		Dieldrin	0.41	U	ng/L	P428516	
		Endosulfan I	0.41	U	ng/L	P428516	
		Endosulfan II	0.41	U	ng/L	P428516	
		Endosulfan Sulfate	0.31	U	ng/L	P428516	
		Endrin	0.41	U	ng/L	P428516	
		Endrin Aldehyde	0.77	U	ng/L	P428516	
		Endrin Ketone	0.41	U	ng/L	P428516	
		Esfenvalerate	0.77	U	ng/L	P428516	
		Ethalfuralin	0.15	U	ng/L	P428516	
		Fenpropathrin	0.26	U	ng/L	P428516	
		Gamma-BHC	0.13	U	ng/L	P428516	RPD
		Gamma-Chlordane	0.20	U	ng/L	P428516	
		Heptachlor	0.20	U	ng/L	P428516	
		Heptachlor Epoxide	0.26	U	ng/L	P428516	
		Hexachlorobenzene**	1.0	U	ng/L	P428516	
		Kepone	5.1	UJ	ng/L	P428516	CCV
		Lambda-Cyhalothrin	0.77	U	ng/L	P428516	
		Methoprene	0.77	U	ng/L	P428516	
		Methoxychlor	0.31	U	ng/L	P428516	
		MGK-264	0.20	U	ng/L	P428516	

Field ID: G1SD0091

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2400452	EPA 8270E	Mirex	0.36	U	ng/L	P428516	
		Oxychlordane	0.31	U	ng/L	P428516	
		Permethrin	1.6	U	ng/L	P428516	
		Phenothrin	0.92	U	ng/L	P428516	
		Piperonyl Butoxide	0.28	I	ng/L	P428516	
		Prallethrin	2.0	U	ng/L	P428516	
		Tau-Fluvalinate	0.26	U	ng/L	P428516	
		Tetramethrin	0.77	U	ng/L	P428516	
		Trans-Nonachlor	0.20	U	ng/L	P428516	
		Triclosan Methyl	0.15	U	ng/L	P428516	
		Trifluralin	0.20	U	ng/L	P428516	
	EPA 8276	Chlordane	2.0	U	ng/L	P428516	
		Toxaphene	15	U	ng/L	P428516	

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

Quality Assurance Report Method Blank Results

Reference Method: EPA 200.7 Rev. 4.4

Batch ID: P428560

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: P428560

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
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: P428516

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
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

Quality Assurance Report Method Blank Results

Reference Method: EPA 8270E

Batch ID: P428516

Component	Result	Code	Units
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
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

Quality Assurance Report Method Blank Results

Reference Method: EPA 8270E
Batch ID: P428516

Component	Result	Code	Units
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: P428516

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: P428489

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: P428534

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: P428560

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Calcium	101		P	85 - 115
Iron	105		P	85 - 115
Magnesium	103		P	85 - 115
Strontium	100		P	85 - 115
Tin	101		P	85 - 115
Titanium	101		P	85 - 115
Vanadium	102		P	85 - 115
Zinc	101		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4

Batch ID: P428560

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Aluminum	102		P	85 - 115
Antimony	101		P	85 - 115
Arsenic	102		P	85 - 115
Beryllium	94.4		P	85 - 115
Cadmium	101		P	85 - 115
Chromium	99.5		P	85 - 115
Cobalt	103		P	85 - 115
Copper	102		P	85 - 115
Lead	96.2		P	85 - 115
Manganese	99.5		P	85 - 115
Molybdenum	102		P	85 - 115
Nickel	101		P	85 - 115
Selenium	101		P	85 - 115
Silver	101		P	85 - 115
Thallium	102		P	85 - 115

Reference Method: EPA 8270E

Batch ID: P428516

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Aldrin	49.6		P	10 - 92.0
Alpha-BHC	95.1		P	75 - 107
Alpha-Chlordane	80.8		P	50 - 108
Beta-BHC	92.6		P	36 - 138
Beta-Cyfluthrin	96.4		P	20 - 161
Bifenthrin	67.9		P	10 - 119
Chlorothalonil	70.3		P	26 - 186
Cis-Nonachlor	76.0		P	42 - 119
Cypermethrin	92.4		P	22 - 150
Dacthal	95.7		P	72 - 119
DDD-p,p'	71.9		P	45 - 107
DDE-p,p'	77.1		P	48 - 106
DDT-p,p'	81.2		P	48 - 110
Delta-BHC	90.1		P	54 - 140
Deltamethrin	105		P	22 - 189
Dichlobenil	70.1		P	36 - 117
Dicofol	82.9		P	46 - 155
Dieldrin	79.0		P	54 - 110
Endosulfan I	77.1		P	59 - 105

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 8270E

Batch ID: P428516

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Endosulfan II	81.7		P	51 - 118
Endosulfan Sulfate	91.6		P	57 - 121
Endrin	84.5		P	10 - 120
Endrin Aldehyde	80.5		P	34 - 118
Endrin Ketone	127		P	69 - 177
Esfenvalerate	90.0		P	23 - 168
Ethalfuralin	79.7		P	49 - 99.0
Fenpropathrin	86.2		P	34 - 117
Gamma-BHC	87.3		P	72 - 117
Gamma-Chlordane	76.6		P	43 - 106
Heptachlor	72.0		P	41 - 98.0
Heptachlor Epoxide	84.7		P	57 - 106
Hexachlorobenzene	63.4		P	36 - 99.0
Kepone	86.5		P	16 - 215
Lambda-Cyhalothrin	80.2		P	21 - 177
Methoprene	63.9		P	10 - 119
Methoxychlor	93.2		P	60 - 112
MGK-264	79.6		P	26 - 122
Mirex	65.4		P	10 - 169
Oxychlordane	74.1		P	43 - 105
PCB-1016	81.3		P	48 - 112
PCB-1260	75.0		P	44 - 118
Permethrin	86.3		P	24 - 148
Phenothrin	59.5		P	10 - 106
Piperonyl Butoxide	93.9		P	10 - 139
Prallethrin	68.1		P	17 - 109
Tau-Fluvalinate	84.3		P	13 - 131
Tetramethrin	73.6		P	10 - 132
Trans-Nonachlor	77.5		P	44 - 106
Triclosan Methyl	79.7		P	59 - 109
Trifluralin	82.6		P	44 - 101

Reference Method: EPA 8276

Batch ID: P428516

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Chlordane	82.6		P	61 - 116
Toxaphene	95.7		P	48 - 124

Reference Method: EPA 8321B

Batch ID: P428489

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acesulfame K	99.5		P	40 - 150
AMPA	121		P	40 - 150
Endothall	94.0		P	40 - 150
Glufosinate	103		P	40 - 150
Glyphosate	126		P	40 - 150
Sucralose	100		P	40 - 150

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: EPA 8321B
Batch ID: P428534

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	112		P	40 - 150
2,4,5-T	110		P	40 - 150
Acetaminophen	77.1		P	30 - 150
Acetamiprid	84.5		P	40 - 150
Afidopyropen	73.7		P	30 - 150
Bentazon	77.1		P	30 - 150
Benzovindiflupyr	86.9		P	40 - 150
Carbamazepine	85.2		P	40 - 150
Clothianidin	88.7		P	40 - 150
Dinotefuran	88.1		P	40 - 150
Diuron	109		P	40 - 150
Fenuron	88.3		P	40 - 150
Fluridone	82.5		P	40 - 150
Hydrocodone	90.7		P	40 - 150
Ibuprofen	67.6		P	40 - 150
Imazapyr	99.4		P	40 - 150
Imidacloprid	93.2		P	40 - 150
Linuron	88.0		P	40 - 150
Mandestrobin	83.2		P	40 - 150
MCPP	103		P	40 - 150
Naproxen	64.9		P	40 - 150
Primidone	93.5		P	40 - 150
Pyraclostrobin	74.9		P	40 - 150
Silvex	106		P	40 - 150
Thiamethoxam	84.8		P	40 - 150
Tolfenpyrad	51.0		P	30 - 150
Triclopyr	110		P	40 - 150

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.7 Rev. 4.4

Batch ID: P428560

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2400131	Iron	101	102	P/P	70 - 130
2400131	Tin	82.3	83.1	P/P	70 - 130
2400131	Titanium	104	104	P/P	70 - 130
2400131	Vanadium	101	101	P/P	70 - 130
2400131	Zinc	97.5	97.0	P/P	70 - 130

Reference Method: EPA 200.8 Rev. 5.4

Batch ID: P428560

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2400131	Aluminum	104	106	P/P	70 - 130
2400131	Antimony	102	102	P/P	70 - 130
2400131	Arsenic	111	110	P/P	70 - 130
2400131	Beryllium	99.5	105	P/P	70 - 130
2400131	Cadmium	101	99.3	P/P	70 - 130
2400131	Chromium	88.9	90.0	P/P	70 - 130
2400131	Cobalt	102	102	P/P	70 - 130
2400131	Copper	110	110	P/P	70 - 130
2400131	Lead	101	102	P/P	70 - 130
2400131	Manganese	88.9	91.2	P/P	70 - 130
2400131	Molybdenum	113	112	P/P	70 - 130
2400131	Nickel	98.9	101	P/P	70 - 130
2400131	Selenium	103	104	P/P	70 - 130
2400131	Silver	93.6	93.1	P/P	70 - 130
2400131	Thallium	105	107	P/P	70 - 130

Reference Method: EPA 8270E

Batch ID: P428516

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2400278	PCB-1016	84.8	99.4	P/P	46 - 111
2400278	PCB-1260	77.8	82.8	P/P	45 - 114
2400372	Aldrin	46.1	46.9	P/P	20 - 82.0
2400372	Alpha-BHC	92.1	88.6	P/P	71 - 109
2400372	Alpha-Chlordane	54.0	52.8	P/P	42 - 106
2400372	Beta-BHC	111	89.2	P/P	69 - 180
2400372	Beta-Cyfluthrin	92.2	73.8	P/P	18 - 175
2400372	Bifenthrin	56.2	59.3	P/P	21 - 128
2400372	Chlorothalonil	93.7	63.8	P/P	10 - 300
2400372	Cis-Nonachlor	55.8	63.8	P/P	34 - 106
2400372	Cypermethrin	84.3	69.5	P/P	22 - 158
2400372	Dacthal	95.6	88.0	P/P	54 - 116
2400372	DDD-p,p'	52.8	58.5	P/P	34 - 107
2400372	DDE-p,p'	59.8	67.4	P/P	33 - 110
2400372	DDT-p,p'	68.8	66.8	P/P	50 - 122
2400372	Delta-BHC	110	86.9	P/P	77 - 193
2400372	Deltamethrin	103	77.9	P/P	10 - 195
2400372	Dichlobenil	70.3	58.3	P/P	25 - 113
2400372	Dicofol	73.0	71.2	P/P	38 - 247
2400372	Dieldrin	64.3	71.6	P/P	45 - 118
2400372	Endosulfan I	61.0	69.5	P/P	51 - 106
2400372	Endosulfan II	65.0	73.0	P/P	37 - 122

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8270E

Batch ID: P428516

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2400372	Endosulfan Sulfate	85.5	79.6	P/P	43 - 132
2400372	Endrin	63.0	71.6	P/P	29 - 101
2400372	Endrin Aldehyde	79.9	72.0	P/P	19 - 110
2400372	Endrin Ketone	115	111	P/P	60 - 140
2400372	Esfenvalerate	90.0	68.4	P/P	26 - 199
2400372	Ethalfuralin	66.4	65.2	P/P	45 - 99.0
2400372	Fenpropathrin	76.3	66.0	P/P	35 - 120
2400372	Gamma-BHC	113	87.2	P/P	63 - 128
2400372	Gamma-Chlordane	54.9	63.1	P/P	40 - 104
2400372	Heptachlor	61.8	62.2	P/P	36 - 97.0
2400372	Heptachlor Epoxide	69.1	63.3	P/P	49 - 184
2400372	Hexachlorobenzene	53.7	49.3	P/P	39 - 96.0
2400372	Kepone	115	87.0	P/P	10 - 217
2400372	Lambda-Cyhalothrin	83.2	67.3	P/P	21 - 193
2400372	Methoprene	58.3	58.9	P/P	20 - 106
2400372	Methoxychlor	86.0	78.2	P/P	53 - 118
2400372	MGK-264	91.8	77.9	P/P	40 - 118
2400372	Mirex	49.0	56.4	P/P	26 - 92.0
2400372	Oxychlordane	59.4	63.1	P/P	44 - 99.0
2400372	Permethrin	81.0	66.1	P/P	33 - 182
2400372	Phenothrin	70.3	53.8	P/P	10 - 129
2400372	Piperonyl Butoxide	98.6	89.4	P/P	10 - 211
2400372	Prallethrin	59.0	63.9	P/P	24 - 113
2400372	Tau-Fluvalinate	87.4	66.1	P/P	14 - 149
2400372	Tetramethrin	76.9	66.2	P/P	17 - 151
2400372	Trans-Nonachlor	57.5	62.9	P/P	42 - 102
2400372	Triclosan Methyl	63.9	72.4	P/P	48 - 108
2400372	Trifluralin	70.3	70.0	P/P	47 - 96.0

Reference Method: EPA 8276

Batch ID: P428516

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2400278	Chlordane	87.4	87.6	P/P	53 - 126
2400278	Toxaphene	111	111	P/P	56 - 211

Reference Method: EPA 8321B

Batch ID: P428489

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2400440	Acesulfame K	88.9	89.6	P/P	40 - 150
2400440	AMPA	102	99.5	P/P	40 - 150
2400440	Endothall	94.4	97.7	P/P	40 - 150
2400440	Glufosinate	82.3	87.4	P/P	40 - 150
2400440	Glyphosate	96.7	91.3	P/P	40 - 150
2400440	Sucralose	95.2	110	P/P	40 - 150

Reference Method: EPA 8321B

Batch ID: P428534

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2400453	2,4-D	118	119	P/P	40 - 150

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8321B
Batch ID: P428534

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2400453	2,4,5-T	122	94.2	P/P	40 - 150
2400453	Acetaminophen	80.6	74.3	P/P	30 - 150
2400453	Acetamiprid	95.4	88.4	P/P	40 - 150
2400453	Afidopyropen	87.3	78.5	P/P	30 - 150
2400453	Bentazon	60.9	57.8	P/P	30 - 150
2400453	Benzovindiflupyr	85.6	77.9	P/P	40 - 150
2400453	Carbamazepine	80.0	74.8	P/P	40 - 150
2400453	Clothianidin	98.7	92.9	P/P	40 - 150
2400453	Dinotefuran	79.9	73.2	P/P	40 - 150
2400453	Diuron	93.9	89.9	P/P	40 - 150
2400453	Fenuron	66.8	66.0	P/P	40 - 150
2400453	Fluridone	70.9	62.6	P/P	40 - 150
2400453	Hydrocodone	72.0	70.1	P/P	40 - 150
2400453	Ibuprofen	75.2	63.3	P/P	40 - 150
2400453	Imazapyr	100	93.3	P/P	40 - 150
2400453	Imidacloprid	131	121	P/P	40 - 150
2400453	Linuron	82.9	77.7	P/P	40 - 150
2400453	Mandestrobin	90.7	87.0	P/P	40 - 150
2400453	MCPP	113	112	P/P	40 - 150
2400453	Naproxen	60.2	70.2	P/P	40 - 150
2400453	Primidone	95.8	94.9	P/P	40 - 150
2400453	Pyraclostrobin	83.3	78.1	P/P	40 - 150
2400453	Silvex	109	105	P/P	40 - 150
2400453	Thiamethoxam	95.4	92.9	P/P	40 - 150
2400453	Tolfenpyrad	43.1	41.6	P/P	30 - 150
2400453	Triclopyr	112	113	P/P	40 - 150

Quality Assurance Report Precision

Reference Method: EPA 200.7 Rev. 4.4

Batch ID: P428560

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2400131	Calcium	0.768	Spike	P	0 - 20
2400131	Iron	1.02	Spike	P	0 - 20
2400131	Magnesium	0.746	Spike	P	0 - 20
2400131	Strontium	0.441	Spike	P	0 - 20
2400131	Tin	0.906	Spike	P	0 - 20
2400131	Titanium	0.154	Spike	P	0 - 20
2400131	Vanadium	0.0239	Spike	P	0 - 20
2400131	Zinc	0.486	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4

Batch ID: P428560

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2400131	Aluminum	1.72	Spike	P	0 - 20
2400131	Antimony	0.650	Spike	P	0 - 20
2400131	Arsenic	0.720	Spike	P	0 - 20
2400131	Beryllium	5.59	Spike	P	0 - 20
2400131	Cadmium	1.38	Spike	P	0 - 20
2400131	Chromium	1.20	Spike	P	0 - 20
2400131	Cobalt	0.622	Spike	P	0 - 20
2400131	Copper	0.451	Spike	P	0 - 20
2400131	Lead	0.995	Spike	P	0 - 20
2400131	Manganese	1.89	Spike	P	0 - 20
2400131	Molybdenum	0.742	Spike	P	0 - 20
2400131	Nickel	1.86	Spike	P	0 - 20
2400131	Selenium	0.920	Spike	P	0 - 20
2400131	Silver	0.446	Spike	P	0 - 20
2400131	Thallium	1.71	Spike	P	0 - 20

Reference Method: EPA 8270E

Batch ID: P428516

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2400278	PCB-1016	15.9	Spike	P	0 - 32
2400278	PCB-1260	6.24	Spike	P	0 - 31
2400372	Aldrin	1.69	Spike	P	0 - 41
2400372	Alpha-BHC	3.91	Spike	P	0 - 25
2400372	Alpha-Chlordane	0.882	Spike	P	0 - 33
2400372	Beta-BHC	21.6	Spike	P	0 - 36
2400372	Beta-Cyfluthrin	22.2	Spike	P	0 - 42
2400372	Bifenthrin	5.29	Spike	P	0 - 53
2400372	Chlorothalonil	38.1	Spike	P	0 - 71
2400372	Cis-Nonachlor	13.3	Spike	P	0 - 29
2400372	Cypermethrin	19.2	Spike	P	0 - 40
2400372	Dacthal	8.22	Spike	P	0 - 26
2400372	DDD-p,p'	10.3	Spike	P	0 - 39
2400372	DDE-p,p'	12.1	Spike	P	0 - 33
2400372	DDT-p,p'	2.94	Spike	P	0 - 40
2400372	Delta-BHC	23.3	Spike	P	0 - 37

Quality Assurance Report Precision

Reference Method: EPA 8270E

Batch ID: P428516

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2400372	Deltamethrin	28.0	Spike	P	0 - 100
2400372	Dichlobenil	18.7	Spike	P	0 - 40
2400372	Dicofol	2.57	Spike	P	0 - 31
2400372	Dieldrin	10.9	Spike	P	0 - 27
2400372	Endosulfan I	13.1	Spike	P	0 - 23
2400372	Endosulfan II	11.6	Spike	P	0 - 28
2400372	Endosulfan Sulfate	7.11	Spike	P	0 - 38
2400372	Endrin	12.8	Spike	P	0 - 63
2400372	Endrin Aldehyde	10.4	Spike	P	0 - 60
2400372	Endrin Ketone	3.64	Spike	P	0 - 37
2400372	Esfenvalerate	27.3	Spike	P	0 - 52
2400372	Ethalfuralin	1.73	Spike	P	0 - 23
2400372	Fenpropathrin	14.4	Spike	P	0 - 32
2400372	Gamma-BHC	25.5	Spike	F	0 - 17
2400372	Gamma-Chlordane	9.71	Spike	P	0 - 40
2400372	Heptachlor	0.711	Spike	P	0 - 29
2400372	Heptachlor Epoxide	6.21	Spike	P	0 - 25
2400372	Hexachlorobenzene	8.70	Spike	P	0 - 36
2400372	Kepone	27.3	Spike	P	0 - 93
2400372	Lambda-Cyhalothrin	21.2	Spike	P	0 - 55
2400372	Methoprene	1.08	Spike	P	0 - 53
2400372	Methoxychlor	9.54	Spike	P	0 - 29
2400372	MGK-264	16.3	Spike	P	0 - 35
2400372	Mirex	14.0	Spike	P	0 - 46
2400372	Oxychlordane	5.97	Spike	P	0 - 29
2400372	Permethrin	20.3	Spike	P	0 - 44
2400372	Phenothrin	26.7	Spike	P	0 - 56
2400372	Piperonyl Butoxide	9.78	Spike	P	0 - 100
2400372	Prallethrin	7.98	Spike	P	0 - 42
2400372	Tau-Fluvalinate	27.8	Spike	P	0 - 54
2400372	Tetramethrin	14.9	Spike	P	0 - 51
2400372	Trans-Nonachlor	7.14	Spike	P	0 - 37
2400372	Triclosan Methyl	12.5	Spike	P	0 - 31
2400372	Trifluralin	0.317	Spike	P	0 - 30

Reference Method: EPA 8276

Batch ID: P428516

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2400278	Chlordane	0.232	Spike	P	0 - 25
2400278	Toxaphene	0.723	Spike	P	0 - 26

Reference Method: EPA 8321B

Batch ID: P428489

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2400440	Acesulfame K	0.723	Spike	P	0 - 30
2400440	AMPA	2.69	Spike	P	0 - 30
2400440	Endothall	3.42	Spike	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8321B
 Batch ID: P428489

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2400440	Glufosinate	6.03	Spike	P	0 - 30
2400440	Glyphosate	4.49	Spike	P	0 - 30
2400440	Sucralose	12.4	Spike	P	0 - 30

Reference Method: EPA 8321B
 Batch ID: P428534

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2400453	2,4-D	0.272	Spike	P	0 - 30
2400453	2,4,5-T	25.8	Spike	P	0 - 30
2400453	Acetaminophen	8.05	Spike	P	0 - 30
2400453	Acetamiprid	7.65	Spike	P	0 - 30
2400453	Afidopyropen	10.6	Spike	P	0 - 30
2400453	Bentazon	5.21	Spike	P	0 - 30
2400453	Benzovindiflupyr	9.37	Spike	P	0 - 30
2400453	Carbamazepine	6.66	Spike	P	0 - 30
2400453	Clothianidin	6.00	Spike	P	0 - 30
2400453	Dinotefuran	8.75	Spike	P	0 - 30
2400453	Diuron	4.41	Spike	P	0 - 30
2400453	Fenuron	1.20	Spike	P	0 - 30
2400453	Fluridone	12.4	Spike	P	0 - 30
2400453	Hydrocodone	2.71	Spike	P	0 - 30
2400453	Ibuprofen	17.2	Spike	P	0 - 30
2400453	Imazapyr	7.43	Spike	P	0 - 30
2400453	Imidacloprid	8.02	Spike	P	0 - 30
2400453	Linuron	6.46	Spike	P	0 - 30
2400453	Mandestrobin	4.17	Spike	P	0 - 30
2400453	MCPP	0.567	Spike	P	0 - 30
2400453	Naproxen	15.3	Spike	P	0 - 30
2400453	Primidone	0.939	Spike	P	0 - 30
2400453	Pyraclostrobin	6.46	Spike	P	0 - 30
2400453	Silvex	4.09	Spike	P	0 - 30
2400453	Thiamethoxam	2.67	Spike	P	0 - 30
2400453	Tolfenpyrad	3.59	Spike	P	0 - 30
2400453	Triclopyr	0.274	Spike	P	0 - 30

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

Quality Assurance Report Surrogates

Lab Sample ID: 2400452
Field Sample ID: G1SD0091

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8270E	Decachlorobiphenyl	62.9	P	29 - 130
EPA 8270E	Decachlorobiphenyl	89.7	P	30 - 118
EPA 8270E	Tetrachloro-m-xylene	73.9	P	29 - 104
EPA 8270E	Tetrachloro-m-xylene	73.1	P	30 - 97.0
EPA 8276	Decachlorobiphenyl	82.5	P	30 - 101
EPA 8276	PCNB	91.8	P	48 - 121

Lab Sample ID: 2400453
Field Sample ID: G1SD0126

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	118	P	30 - 160
EPA 8321B	Acetaminophen-d4	89.7	P	30 - 160
EPA 8321B	Carbamazepine-d10	95.7	P	30 - 160
EPA 8321B	Diuron-d6	98.9	P	30 - 160
EPA 8321B	Endothall-d6	95.1	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	60.5	P	30 - 160
EPA 8321B	Ibuprofen-d3	72.6	P	30 - 160
EPA 8321B	Primidone-d5	104	P	30 - 160
EPA 8321B	Sucralose-d6	87.3	P	30 - 160

Lab Sample ID: 2400454
Field Sample ID: FB_04132023

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	132	P	30 - 160
EPA 8321B	Acetaminophen-d4	73.1	P	30 - 160
EPA 8321B	Carbamazepine-d10	88.5	P	30 - 160
EPA 8321B	Diuron-d6	91.9	P	30 - 160
EPA 8321B	Endothall-d6	93.5	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	126	P	30 - 160
EPA 8321B	Ibuprofen-d3	75.3	P	30 - 160
EPA 8321B	Primidone-d5	92.6	P	30 - 160
EPA 8321B	Sucralose-d6	92.9	P	30 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B

Run ID: A118606

Included Lab Sample IDs: 2400453, 2400454

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acesulfame K	97.3	99.5	P/P	60 - 160
Sucralose	91.7	105	P/P	60 - 160

Reference Method: EPA 8321B

Run ID: A118625

Included Lab Sample IDs: 2400453, 2400454

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
AMPA	113	114	P/P	60 - 160
AMPA	114	120	P/P	60 - 160
Endothall	98.2	95.9	P/P	60 - 160
Glufosinate	100	96.3	P/P	60 - 160
Glufosinate	105	100	P/P	60 - 160
Glyphosate	108	118	P/P	60 - 160
Glyphosate	119	108	P/P	60 - 160

Reference Method: EPA 200.7 Rev. 4.4

Run ID: A118667

Included Lab Sample IDs: 2400455

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Calcium	102	101	P/P	90 - 110
Iron	104	103	P/P	90 - 110
Magnesium	104	103	P/P	90 - 110
Strontium	103	104	P/P	90 - 110
Tin	99.8	100	P/P	90 - 110
Titanium	97.8	100	P/P	90 - 110
Vanadium	100	100	P/P	90 - 110
Zinc	98.4	101	P/P	90 - 110

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A118674

Included Lab Sample IDs: 2400455

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Aluminum	102	101	P/P	90 - 110
Antimony	99.3	101	P/P	90 - 110
Arsenic	101	103	P/P	90 - 110
Beryllium	99.8	101	P/P	90 - 110
Cadmium	98.6	99.5	P/P	90 - 110
Chromium	97.4	96.6	P/P	90 - 110
Cobalt	103	104	P/P	90 - 110
Copper	103	106	P/P	90 - 110
Lead	93.9	94.6	P/P	90 - 110
Manganese	98.9	98.9	P/P	90 - 110
Molybdenum	100	101	P/P	90 - 110
Nickel	101	103	P/P	90 - 110
Selenium	99.2	103	P/P	90 - 110
Silver	99.9	101	P/P	90 - 110
Thallium	101	101	P/P	90 - 110

Quality Assurance Report

Calibration Verification

Reference Method: EPA 8270E
 Run ID: A118697
 Included Lab Sample IDs: 2400452

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Aldrin	91.9		P	80 - 120
Alpha-BHC	98.0		P	80 - 120
Alpha-Chlordane	98.0		P	80 - 120
Beta-BHC	97.4		P	80 - 120
Beta-Cyfluthrin	94.3		P	80 - 120
Bifenthrin	92.0		P	80 - 120
Chlorothalonil	91.7		P	80 - 120
Cis-Nonachlor	95.2		P	80 - 120
Cypermethrin	93.0		P	80 - 120
Dacthal	102		P	80 - 120
DDD-p,p'	99.0		P	80 - 120
DDE-p,p'	96.7		P	80 - 120
DDT-p,p'	100		P	80 - 120
Delta-BHC	94.3		P	80 - 120
Deltamethrin	87.5		P	80 - 120
Dichlobenil	98.7		P	80 - 120
Dicofol	98.7		P	80 - 120
Dieldrin	95.7		P	80 - 120
Endosulfan I	93.6		P	80 - 120
Endosulfan II	92.0		P	80 - 120
Endosulfan Sulfate	96.6		P	80 - 120
Endrin	97.7		P	80 - 120
Endrin Aldehyde	97.2		P	80 - 120
Endrin Ketone	117		P	80 - 120
Esfenvalerate	91.5		P	80 - 120
Ethalfuralin	99.2		P	80 - 120
Fenpropathrin	94.5		P	80 - 120
Gamma-BHC	92.1		P	80 - 120
Gamma-Chlordane	96.1		P	80 - 120
Heptachlor	93.0		P	80 - 120
Heptachlor Epoxide	99.3		P	80 - 120
Hexachlorobenzene	99.9		P	80 - 120
Kepone	77.8*		F	80 - 120
Lambda-Cyhalothrin	95.7		P	80 - 120
Methoprene	94.2		P	80 - 120
Methoxychlor	94.6		P	80 - 120
MGK-264	98.5		P	80 - 120
Mirex	94.4		P	80 - 120
Oxychlordane	95.2		P	80 - 120
Permethrin	95.8		P	80 - 120
Phenothrin	95.6		P	80 - 120
Piperonyl Butoxide	96.3		P	80 - 120
Prallethrin	93.5		P	80 - 120
Tau-Fluvalinate	94.4		P	80 - 120
Tetramethrin	93.8		P	80 - 120
Trans-Nonachlor	95.4		P	80 - 120
Triclosan Methyl	96.0		P	80 - 120
Trifluralin	97.7		P	80 - 120

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B

Run ID: A118768

Included Lab Sample IDs: 2400453, 2400454

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	89.4	90.5	P/P	50 - 150
2,4,5-T	79.4	96.9	P/P	50 - 150
Acetaminophen	85.2	89.7	P/P	60 - 160
Acetamiprid	115	114	P/P	50 - 150
Afidopyropen	109	113	P/P	50 - 150
Bentazon	101	96.7	P/P	50 - 160
Benzovindiflupyr	105	108	P/P	50 - 150
Carbamazepine	105	96.7	P/P	60 - 150
Clothianidin	101	100	P/P	60 - 150
Dinotefuran	97.3	99.4	P/P	50 - 150
Diuron	121	119	P/P	60 - 160
Fenuron	99.3	97.2	P/P	60 - 150
Fluridone	91.6	89.6	P/P	60 - 160
Hydrocodone	105	113	P/P	60 - 150
Ibuprofen	65.8	89.8	P/P	50 - 160
Imazapyr	107	112	P/P	50 - 150
Imidacloprid	93.1	101	P/P	60 - 150
Linuron	101	107	P/P	60 - 150
Mandestrobin	106	109	P/P	50 - 150
MCPP	99.5	99.7	P/P	50 - 150
Naproxen	106	87.4	P/P	50 - 160
Primidone	103	94.3	P/P	60 - 150
Pyraclostrobin	107	107	P/P	60 - 150
Silvex	108	102	P/P	50 - 150
Thiamethoxam	107	104	P/P	50 - 150
Tolfenpyrad	99.0	103	P/P	60 - 150
Triclopyr	85.4	98.6	P/P	50 - 150

Reference Method: EPA 8276

Run ID: A118775

Included Lab Sample IDs: 2400452

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chlordane	102		P	80 - 120
Toxaphene	103		P	80 - 120

Reference Method: EPA 8270E

Run ID: A118875

Included Lab Sample IDs: 2400452

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
PCB-1016	101		P	80 - 120
PCB-1260	100		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	101					0.768
	Iron	105	101	102			1.02
	Magnesium	103					0.746
	Strontium	100					0.441
	Tin	101	82.3	83.1			0.906
	Titanium	101	104	104			0.154
	Vanadium	102	101	101			0.0239
	Zinc	101	97.5	97.0			0.486
EPA 200.8 Rev. 5.4	Aluminum	102	104	106			1.72
	Antimony	101	102	102			0.650
	Arsenic	102	111	110			0.720
	Beryllium	94.4	99.5	105			5.59
	Cadmium	101	101	99.3			1.38
	Chromium	99.5	88.9	90.0			1.20
	Cobalt	103	102	102			0.622
	Copper	102	110	110			0.451
	Lead	96.2	101	102			0.995
	Manganese	99.5	88.9	91.2			1.89
	Molybdenum	102	113	112			0.742
	Nickel	101	98.9	101			1.86
	Selenium	101	103	104			0.920
	Silver	101	93.6	93.1			0.446
	Thallium	102	105	107			1.71
EPA 8270E	Aldrin	49.6	46.1	46.9			1.69
	Alpha-BHC	95.1	92.1	88.6			3.91
	Alpha-Chlordane	80.8	54.0	52.8			0.882
	Beta-BHC	92.6	111	89.2			21.6
	Beta-Cyfluthrin	96.4	92.2	73.8			22.2
	Bifenthrin	67.9	56.2	59.3			5.29
	Chlorothalonil	70.3	93.7	63.8			38.1
	Cis-Nonachlor	76.0	55.8	63.8			13.3
	Cypermethrin	92.4	84.3	69.5			19.2
	Dacthal	95.7	95.6	88.0			8.22
	DDD-p,p'	71.9	52.8	58.5			10.3
	DDE-p,p'	77.1	59.8	67.4			12.1
	DDT-p,p'	81.2	68.8	66.8			2.94
	Delta-BHC	90.1	110	86.9			23.3
	Deltamethrin	105	103	77.9			28.0
	Dichlobenil	70.1	70.3	58.3			18.7
	Dicofol	82.9	73.0	71.2			2.57
	Dieldrin	79.0	64.3	71.6			10.9
	Endosulfan I	77.1	61.0	69.5			13.1
	Endosulfan II	81.7	65.0	73.0			11.6
	Endosulfan Sulfate	91.6	85.5	79.6			7.11
	Endrin	84.5	63.0	71.6			12.8
	Endrin Aldehyde	80.5	79.9	72.0			10.4
	Endrin Ketone	127	115	111			3.64
	Esfenvalerate	90.0	90.0	68.4			27.3
	Ethalfuralin	79.7	66.4	65.2			1.73
	Fenpropathrin	86.2	76.3	66.0			14.4
	Gamma-BHC	87.3	113	87.2			25.5
	Gamma-Chlordane	76.6	54.9	63.1			9.71
	Heptachlor	72.0	61.8	62.2			0.711
	Heptachlor Epoxide	84.7	69.1	63.3			6.21

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery		LCS	Precision	MS
						SMP	
EPA 8270E	Hexachlorobenzene	63.4	53.7	49.3			8.70
	Kepone	86.5	115	87.0			27.3
	Lambda-Cyhalothrin	80.2	83.2	67.3			21.2
	Methoprene	63.9	58.3	58.9			1.08
	Methoxychlor	93.2	86.0	78.2			9.54
	MGK-264	79.6	91.8	77.9			16.3
	Mirex	65.4	49.0	56.4			14.0
	Oxychlordane	74.1	59.4	63.1			5.97
	PCB-1016	81.3	84.8	99.4			15.9
	PCB-1260	75.0	77.8	82.8			6.24
	Permethrin	86.3	81.0	66.1			20.3
	Phenothrin	59.5	70.3	53.8			26.7
	Piperonyl Butoxide	93.9	98.6	89.4			9.78
	Prallethrin	68.1	59.0	63.9			7.98
	Tau-Fluvalinate	84.3	87.4	66.1			27.8
	Tetramethrin	73.6	76.9	66.2			14.9
	Trans-Nonachlor	77.5	57.5	62.9			7.14
EPA 8276	Triclosan Methyl	79.7	63.9	72.4			12.5
	Trifluralin	82.6	70.3	70.0			0.317
	Chlordane	82.6	87.4	87.6			0.232
EPA 8321B	Toxaphene	95.7	111	111			0.723
	2,4-D	112	118	119			0.272
	2,4,5-T	110	122	94.2			25.8
	Acesulfame K	99.5	88.9	89.6			0.723
	Acetaminophen	77.1	80.6	74.3			8.05
	Acetamiprid	84.5	95.4	88.4			7.65
	Afidopyropen	73.7	87.3	78.5			10.6
	AMPA	121	102	99.5			2.69
	Bentazon	77.1	60.9	57.8			5.21
	Benzovindiflupyr	86.9	85.6	77.9			9.37
	Carbamazepine	85.2	80.0	74.8			6.66
	Clothianidin	88.7	98.7	92.9			6.00
	Dinotefuran	88.1	79.9	73.2			8.75
	Diuron	109	93.9	89.9			4.41
	Endothall	94.0	94.4	97.7			3.42
	Fenuron	88.3	66.8	66.0			1.20
	Fluridone	82.5	70.9	62.6			12.4
	Glufosinate	103	82.3	87.4			6.03
	Glyphosate	126	96.7	91.3			4.49
	Hydrocodone	90.7	72.0	70.1			2.71
	Ibuprofen	67.6	75.2	63.3			17.2
	Imazapyr	99.4	100	93.3			7.43
	Imidacloprid	93.2	131	121			8.02
	Linuron	88.0	82.9	77.7			6.46
	Mandestrobin	83.2	90.7	87.0			4.17
	MCPP	103	113	112			0.567
	Naproxen	64.9	60.2	70.2			15.3
	Primidone	93.5	95.8	94.9			0.939
	Pyraclostrobin	74.9	83.3	78.1			6.46
	Silvex	106	109	105			4.09
	Sucralose	100	95.2	110			12.4
	Thiamethoxam	84.8	95.4	92.9			2.67
	Tolfenpyrad	51.0	43.1	41.6			3.59
	Triclopyr	110	112	113			0.274

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	2400455
EPA 200.8 Rev. 5.4	Total Recoverable Metals analysis using ICP-MS for aqueous samples supporting Clean Water Act Projects	2400455
EPA 8270E	Organochlorine pesticides, pyrethroids and tracers in water matrices by GC/MS/MS	2400452
EPA 8270E	PCBs in water matrices by GC/MS/MS	2400452
EPA 8276	Chlordane and Toxaphene in water matrices by GC/MS with Negative Chemical Ionization	2400452
EPA 8321B	Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS	2400453, 2400454

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	04/14/2023	04/17/2023 11:55	George D Taylor	04/20/2023 02:18	McKinley C Carter	2400455
	04/14/2023	04/17/2023 11:55	George D Taylor	04/20/2023 02:26	McKinley C Carter	2400455
EPA 200.8 Rev. 5.4	04/14/2023	04/17/2023 11:55	George D Taylor	04/19/2023 19:34	Emily M Philpot	2400455
	04/14/2023	04/17/2023 11:55	George D Taylor	04/19/2023 21:48	Emily M Philpot	2400455
EPA 8270E	04/14/2023	04/18/2023 08:00	Fe-Val Siddell	04/20/2023 23:22	Michael Poppell	2400452
	04/14/2023	04/18/2023 08:00	Fe-Val Siddell	04/24/2023 01:09	Julie Wi	2400452
EPA 8276	04/14/2023	04/18/2023 08:00	Fe-Val Siddell	04/25/2023 13:19	Arthur Maknenko	2400452
EPA 8321B	04/14/2023	04/14/2023 12:00	Manjita Shrestha	04/14/2023 18:16	Manjita Shrestha	2400453
	04/14/2023	04/14/2023 12:00	Manjita Shrestha	04/14/2023 18:29	Manjita Shrestha	2400454
	04/14/2023	04/14/2023 12:00	Manjita Shrestha	04/14/2023 21:19	Manjita Shrestha	2400453
	04/14/2023	04/14/2023 12:00	Manjita Shrestha	04/15/2023 12:00	Manjita Shrestha	2400453
	04/14/2023	04/14/2023 12:00	Manjita Shrestha	04/15/2023 12:14	Manjita Shrestha	2400454
	04/14/2023	04/15/2023 09:00	Hoor Shaik	04/18/2023 16:23	Juyoung Kim	2400453
	04/14/2023	04/15/2023 09:00	Hoor Shaik	04/18/2023 17:00	Juyoung Kim	2400454