

Chemical Analysis Report

NW-DIST-2023-03-27-01

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

Event Description: **11-Mile Creek Recovery Run**
Request ID: **RQ-2023-03-20-20**
Customer: **NW-DIST**
Project ID: **SMP**

Send Reports to:
FL Dept. of Environmental Protection
160 W Government Street
Suite 208
Pensacola, FL 32502-5794
Attn: Myranda Butler

For additional information please contact
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Chris Bowen, B.S.
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Phone (850) 245-8085

Certified by: Thekkekalathil Chandrasekhar, Environmental Consultant

Date Certified: 13-APR-2023 09:29



NON-CONFORMANCE REPORT INCLUDED

Case Narrative

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

Results for the following analytical group are included in this report: 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: Bayou Chico Drain West Arm

Collection Date/Time: 03/22/2023 14:25

Field ID: G4NW0022

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2396422	EPA 8270E	Aldrin	0.69	UY	ng/L	P427650	
		Alpha-BHC	0.11	UY	ng/L	P427650	
		Alpha-Chlordane	0.83	IY	ng/L	P427650	
		PCB-1016	2.1	UY	ng/L	P427650	
		Beta-BHC	0.11	UY	ng/L	P427650	
		PCB-1221	2.1	UY	ng/L	P427650	
		Beta-Cyfluthrin	1.3	UY	ng/L	P427650	
		PCB-1232	2.1	UY	ng/L	P427650	
		Bifenthrin	0.53	UY	ng/L	P427650	
		PCB-1242	2.1	UY	ng/L	P427650	
		PCB-1248	2.1	UY	ng/L	P427650	
		Chlorothalonil	3.8	UY	ng/L	P427650	
		PCB-1254	2.1	UY	ng/L	P427650	
		Cis-Nonachlor	0.21	UY	ng/L	P427650	RPD
		PCB-1260	2.1	UY	ng/L	P427650	
		Cypermethrin	1.6	UY	ng/L	P427650	
		Dacthal	0.16	UY	ng/L	P427650	
		DDD-p,p'	0.27	UY	ng/L	P427650	
		DDE-p,p'	0.21	UY	ng/L	P427650	
		DDT-p,p'	0.27	UY	ng/L	P427650	
		Delta-BHC	0.42	UY	ng/L	P427650	
		Deltamethrin	1.3	UY	ng/L	P427650	
		Dichlobenil	0.27	UY	ng/L	P427650	
		Dicofol	1.3	UY	ng/L	P427650	
		Dieldrin	13	Y	ng/L	P427650	
		Endosulfan I	0.42	UY	ng/L	P427650	
		Endosulfan II	0.42	UY	ng/L	P427650	
		Endosulfan Sulfate	0.32	UY	ng/L	P427650	
		Endrin	0.42	UY	ng/L	P427650	
		Endrin Aldehyde	0.80	UY	ng/L	P427650	
		Endrin Ketone	0.42	UY	ng/L	P427650	
		Esfenvalerate	0.80	UY	ng/L	P427650	
		Ethalfuralin	0.16	UY	ng/L	P427650	
		Fenpropathrin	0.27	UY	ng/L	P427650	
		Gamma-BHC	0.13	UY	ng/L	P427650	
		Gamma-Chlordane	0.58	IY	ng/L	P427650	
		Heptachlor	0.21	UY	ng/L	P427650	
		Heptachlor Epoxide	4.8	Y	ng/L	P427650	
		Hexachlorobenzene**	1.1	UY	ng/L	P427650	
		Kepone	5.3	UY	ng/L	P427650	
		Lambda-Cyhalothrin	0.80	UY	ng/L	P427650	
		Methoprene	0.80	UY	ng/L	P427650	
		Methoxychlor	0.32	UY	ng/L	P427650	
		MGK-264	0.21	UY	ng/L	P427650	

Field ID: G4NW0022

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2396422	EPA 8270E	Mirex	0.37	UY	ng/L	P427650	
		Oxychlordane	0.32	UY	ng/L	P427650	
		Permethrin	1.7	UY	ng/L	P427650	
		Phenothrin	0.96	UY	ng/L	P427650	
		Piperonyl Butoxide	0.16	UY	ng/L	P427650	
		Prallethrin	2.1	UY	ng/L	P427650	
		Tau-Fluvalinate	0.27	UY	ng/L	P427650	
		Tetramethrin	0.80	UY	ng/L	P427650	
		Trans-Nonachlor	0.24	IY	ng/L	P427650	
		Triclosan Methyl	0.16	UY	ng/L	P427650	
		Trifluralin	0.21	UY	ng/L	P427650	
	EPA 8276	Chlordane	5.2	IYJ	ng/L	P427650	LCS
		Toxaphene	16	UY	ng/L	P427650	

Ref. Method and Comment:
 EPA 8270E: Y - Due to improper preservation; see NCR report.
 EPA 8276: Y - Due to improper preservation; see NCR report. Refer to the Lab Analysis Report for an explanation of QC Codes.

Sample Location: Bayou Chico at Navy Blvd. Bridge

Collection Date/Time: 03/22/2023 14:35

Field ID: G4NW0021

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2396423	EPA 8270E	Aldrin	0.70	UY	ng/L	P427650	
		Alpha-BHC	0.11	UY	ng/L	P427650	
		Alpha-Chlordane	0.25	IY	ng/L	P427650	
		PCB-1016	2.2	UY	ng/L	P427650	
		Beta-BHC	0.11	UY	ng/L	P427650	
		PCB-1221	2.2	UY	ng/L	P427650	
		Beta-Cyfluthrin	1.4	UY	ng/L	P427650	
		PCB-1232	2.2	UY	ng/L	P427650	
		Bifenthrin	0.54	UY	ng/L	P427650	
		PCB-1242	2.2	UY	ng/L	P427650	
		PCB-1248	2.2	UY	ng/L	P427650	
		Chlorothalonil	3.9	UY	ng/L	P427650	
		PCB-1254	2.2	UY	ng/L	P427650	
		Cis-Nonachlor	0.22	UYJ	ng/L	P427650	RPD
		PCB-1260	2.2	UY	ng/L	P427650	
		Cypermethrin	1.6	UY	ng/L	P427650	
		Dacthal	0.16	UY	ng/L	P427650	
		DDD-p,p'	0.27	UY	ng/L	P427650	
		DDE-p,p'	0.22	UY	ng/L	P427650	
		DDT-p,p'	0.27	UY	ng/L	P427650	
		Delta-BHC	0.43	UY	ng/L	P427650	
		Deltamethrin	1.4	UY	ng/L	P427650	
		Dichlobenil	0.27	UY	ng/L	P427650	
		Dicofol	1.4	UY	ng/L	P427650	
		Dieldrin	3.8	Y	ng/L	P427650	
		Endosulfan I	0.43	UY	ng/L	P427650	
		Endosulfan II	0.43	UY	ng/L	P427650	
		Endosulfan Sulfate	0.32	UY	ng/L	P427650	
		Endrin	0.43	UY	ng/L	P427650	
		Endrin Aldehyde	0.81	UY	ng/L	P427650	
		Endrin Ketone	0.43	UY	ng/L	P427650	
		Esfenvalerate	0.81	UY	ng/L	P427650	
		Ethalfuralin	0.16	UY	ng/L	P427650	
		Fenpropathrin	0.27	UY	ng/L	P427650	
		Gamma-BHC	0.14	UY	ng/L	P427650	
		Gamma-Chlordane	0.22	UY	ng/L	P427650	
		Heptachlor	0.22	UY	ng/L	P427650	
		Heptachlor Epoxide	2.1	Y	ng/L	P427650	
		Hexachlorobenzene**	1.1	UY	ng/L	P427650	
		Kepone	5.4	UY	ng/L	P427650	
		Lambda-Cyhalothrin	0.81	UY	ng/L	P427650	
		Methoprene	0.81	UY	ng/L	P427650	
		Methoxychlor	0.32	UY	ng/L	P427650	
		MGK-264	0.22	UY	ng/L	P427650	

Field ID: G4NW0021

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2396423	EPA 8270E	Mirex	0.38	UY	ng/L	P427650	
		Oxychlordane	0.32	UY	ng/L	P427650	
		Permethrin	1.7	UY	ng/L	P427650	
		Phenothrin	0.97	UY	ng/L	P427650	
		Piperonyl Butoxide	0.16	UY	ng/L	P427650	
		Prallethrin	2.2	UY	ng/L	P427650	
		Tau-Fluvalinate	0.27	UY	ng/L	P427650	
		Tetramethrin	0.81	UY	ng/L	P427650	
		Trans-Nonachlor	0.22	UY	ng/L	P427650	
		Triclosan Methyl	0.16	UY	ng/L	P427650	
		Trifluralin	0.22	UY	ng/L	P427650	
	EPA 8276	Chlordane	2.2	UYJ	ng/L	P427650	LCS
		Toxaphene	16	UY	ng/L	P427650	

Ref. Method and Comment:

EPA 8270E: Y - Due to improper preservation; see NCR report. Refer to the Lab Analysis Report for an explanation of QC Codes.

EPA 8276: Y - Due to improper preservation; see NCR report. Refer to the Lab Analysis Report for an explanation of QC Codes.

Non-Conformance Report

NCR ID: 9803

Event(s)

NW-DIST-2023-03-27-01

Job(s)

Sample(s)

Test(s)

NCR Type: SHIPPING/RECEIVING

NCR Category: Samples arrived late

Observation: Samples arrived late, samples received outside the acceptable temperature range.

Resolution: Samples will be qualified as appropriate.

Customer contacted, email correspondence attached to sample submittal forms.

Authorized by/Date: Kyle Klug 3/28/2023

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

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

Quality Assurance Report

Method Blank Results

Reference Method: EPA 8270E

Batch ID: P427650

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
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

Quality Assurance Report

Method Blank Results

Reference Method: EPA 8270E

Batch ID: P427650

Component	Result	Code	Units
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
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

Quality Assurance Report

Method Blank Results

Reference Method: EPA 8270E
Batch ID: P427650

Component	Result	Code	Units
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: P427650

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

Laboratory Control Sample Accuracy

Reference Method: EPA 8270E

Batch ID: P427650

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Aldrin	46.9		P	10 - 92.0
Alpha-BHC	84.8		P	75 - 107
Alpha-Chlordane	59.1		P	50 - 108
Beta-BHC	108		P	36 - 138
Beta-Cyfluthrin	67.0		P	20 - 161
Bifenthrin	44.6		P	10 - 119
Chlorothalonil	95.2		P	26 - 186
Cis-Nonachlor	65.1		P	42 - 119
Cypermethrin	67.3		P	22 - 150
Dacthal	76.9		P	72 - 119
DDD-p,p'	76.6		P	45 - 107
DDE-p,p'	62.8		P	48 - 106
DDT-p,p'	62.9		P	48 - 110
Delta-BHC	99.5		P	54 - 140
Deltamethrin	68.2		P	22 - 189
Dichlobenil	74.4		P	36 - 117
Dicofol	46.1		P	46 - 155
Dieldrin	60.3		P	54 - 110
Endosulfan I	69.3		P	59 - 105
Endosulfan II	75.9		P	51 - 118
Endosulfan Sulfate	81.4		P	57 - 121
Endrin	60.3		P	10 - 120
Endrin Aldehyde	72.8		P	34 - 118
Endrin Ketone	94.4		P	69 - 177
Esfenvalerate	59.6		P	23 - 168
Ethalfuralin	57.0		P	49 - 99.0
Fenpropathrin	64.7		P	34 - 117
Gamma-BHC	91.9		P	72 - 117
Gamma-Chlordane	55.9		P	43 - 106
Heptachlor	56.7		P	41 - 98.0
Heptachlor Epoxide	60.5		P	57 - 106
Hexachlorobenzene	59.2		P	36 - 99.0
Kepone	175		P	16 - 215
Lambda-Cyhalothrin	54.6		P	21 - 177
Methoprene	27.7		P	10 - 119
Methoxychlor	93.3		P	60 - 112
MGK-264	69.9		P	26 - 122
Mirex	41.4		P	10 - 169
Oxychlordane	52.4		P	43 - 105
PCB-1016	60.4		P	48 - 112
PCB-1260	52.2		P	44 - 118
Permethrin	87.0		P	24 - 148
Phenothrin	58.5		P	10 - 106
Piperonyl Butoxide	79.3		P	10 - 139
Prallethrin	62.1		P	17 - 109
Tau-Fluvalinate	37.7		P	13 - 131
Tetramethrin	98.1		P	10 - 132
Trans-Nonachlor	48.5		P	44 - 106
Triclosan Methyl	65.6		P	59 - 109
Trifluralin	51.6		P	44 - 101

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: EPA 8276
Batch ID: P427650

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Chlordane	51.8		F	61 - 116
Toxaphene	54.3		P	48 - 124

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8270E

Batch ID: P427650

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2395885	PCB-1016	69.1	65.1	P/P	46 - 111
2395885	PCB-1260	60.0	62.5	P/P	45 - 114
2396423	Aldrin	47.9	51.2	P/P	20 - 82.0
2396423	Alpha-BHC	97.4	91.4	P/P	71 - 109
2396423	Alpha-Chlordane	72.7	76.9	P/P	42 - 106
2396423	Beta-BHC	83.0	87.3	P/P	69 - 180
2396423	Beta-Cyfluthrin	87.7	103	P/P	18 - 175
2396423	Bifenthrin	74.1	68.0	P/P	21 - 128
2396423	Chlorothalonil	81.8	83.4	P/P	10 - 300
2396423	Cis-Nonachlor	63.8	102	P/P	34 - 106
2396423	Cypermethrin	91.7	106	P/P	22 - 158
2396423	Dacthal	82.0	90.8	P/P	54 - 116
2396423	DDD-p,p'	89.1	97.9	P/P	34 - 107
2396423	DDE-p,p'	81.3	81.7	P/P	33 - 110
2396423	DDT-p,p'	70.7	69.5	P/P	50 - 122
2396423	Delta-BHC	81.5	83.1	P/P	77 - 193
2396423	Deltamethrin	93.8	119	P/P	10 - 195
2396423	Dichlobenil	62.4	66.8	P/P	25 - 113
2396423	Dicofol	59.2	70.1	P/P	38 - 247
2396423	Dieldrin	87.0	87.8	P/P	45 - 118
2396423	Endosulfan I	71.6	76.4	P/P	51 - 106
2396423	Endosulfan II	87.0	76.0	P/P	37 - 122
2396423	Endosulfan Sulfate	76.4	74.7	P/P	43 - 132
2396423	Endrin	75.5	77.5	P/P	29 - 101
2396423	Endrin Aldehyde	63.3	59.0	P/P	19 - 110
2396423	Endrin Ketone	88.4	71.7	P/P	60 - 140
2396423	Esfenvalerate	83.1	97.0	P/P	26 - 199
2396423	Ethalfuralin	66.2	71.6	P/P	45 - 99.0
2396423	Fenpropathrin	71.9	81.8	P/P	35 - 120
2396423	Gamma-BHC	80.6	78.6	P/P	63 - 128
2396423	Gamma-Chlordane	84.6	87.5	P/P	40 - 104
2396423	Heptachlor	66.4	71.7	P/P	36 - 97.0
2396423	Heptachlor Epoxide	59.2	62.3	P/P	49 - 184
2396423	Hexachlorobenzene	61.4	60.4	P/P	39 - 96.0
2396423	Kepone	151	158	P/P	10 - 217
2396423	Lambda-Cyhalothrin	103	101	P/P	21 - 193
2396423	Methoprene	87.9	89.6	P/P	20 - 106
2396423	Methoxychlor	87.2	97.5	P/P	53 - 118
2396423	MGK-264	75.4	69.0	P/P	40 - 118
2396423	Mirex	65.0	60.9	P/P	26 - 92.0
2396423	Oxychlordane	84.3	76.0	P/P	44 - 99.0
2396423	Permethrin	97.3	107	P/P	33 - 182
2396423	Phenothrin	85.3	82.6	P/P	10 - 129
2396423	Piperonyl Butoxide	70.0	68.1	P/P	10 - 211
2396423	Prallethrin	105	104	P/P	24 - 113
2396423	Tau-Fluvalinate	71.0	98.0	P/P	14 - 149
2396423	Tetramethrin	124	124	P/P	17 - 151
2396423	Trans-Nonachlor	64.3	77.9	P/P	42 - 102
2396423	Triclosan Methyl	71.0	76.9	P/P	48 - 108
2396423	Trifluralin	60.6	74.0	P/P	47 - 96.0

Quality Assurance Report

Matrix Spike Accuracy

Reference Method: EPA 8276
Batch ID: P427650

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2395885	Chlordane	56.4	60.3	P/P	53 - 126
2395885	Toxaphene	63.6	66.0	P/P	56 - 211

Quality Assurance Report Precision

Reference Method: EPA 8270E
Batch ID: P427650

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2395885	PCB-1016	5.95	Spike	P	0 - 32
2395885	PCB-1260	4.11	Spike	P	0 - 31
2396423	Aldrin	6.66	Spike	P	0 - 41
2396423	Alpha-BHC	6.36	Spike	P	0 - 25
2396423	Alpha-Chlordane	5.06	Spike	P	0 - 33
2396423	Beta-BHC	5.09	Spike	P	0 - 36
2396423	Beta-Cyfluthrin	15.6	Spike	P	0 - 42
2396423	Bifenthrin	8.69	Spike	P	0 - 53
2396423	Chlorothalonil	1.97	Spike	P	0 - 71
2396423	Cis-Nonachlor	46.0	Spike	F	0 - 29
2396423	Cypermethrin	14.1	Spike	P	0 - 40
2396423	Dacthal	10.1	Spike	P	0 - 26
2396423	DDD-p,p'	9.44	Spike	P	0 - 39
2396423	DDE-p,p'	0.416	Spike	P	0 - 33
2396423	DDT-p,p'	1.73	Spike	P	0 - 40
2396423	Delta-BHC	1.92	Spike	P	0 - 37
2396423	Deltamethrin	23.4	Spike	P	0 - 100
2396423	Dichlobenil	6.79	Spike	P	0 - 40
2396423	Dicofol	16.9	Spike	P	0 - 31
2396423	Dieldrin	0.679	Spike	P	0 - 27
2396423	Endosulfan I	6.49	Spike	P	0 - 23
2396423	Endosulfan II	13.4	Spike	P	0 - 28
2396423	Endosulfan Sulfate	2.31	Spike	P	0 - 38
2396423	Endrin	2.64	Spike	P	0 - 63
2396423	Endrin Aldehyde	6.99	Spike	P	0 - 60
2396423	Endrin Ketone	20.8	Spike	P	0 - 37
2396423	Esfenvalerate	15.4	Spike	P	0 - 52
2396423	Ethalfuralin	7.78	Spike	P	0 - 23
2396423	Fenpropathrin	13.0	Spike	P	0 - 32
2396423	Gamma-BHC	2.41	Spike	P	0 - 17
2396423	Gamma-Chlordane	3.37	Spike	P	0 - 40
2396423	Heptachlor	7.64	Spike	P	0 - 29
2396423	Heptachlor Epoxide	2.53	Spike	P	0 - 25
2396423	Hexachlorobenzene	1.75	Spike	P	0 - 36
2396423	Kepone	4.22	Spike	P	0 - 93
2396423	Lambda-Cyhalothrin	1.70	Spike	P	0 - 55
2396423	Methoprene	1.92	Spike	P	0 - 53
2396423	Methoxychlor	11.2	Spike	P	0 - 29
2396423	MGK-264	8.87	Spike	P	0 - 35
2396423	Mirex	6.39	Spike	P	0 - 46
2396423	Oxychlordane	10.3	Spike	P	0 - 29
2396423	Permethrin	9.82	Spike	P	0 - 44
2396423	Phenothrin	3.15	Spike	P	0 - 56
2396423	Piperonyl Butoxide	2.88	Spike	P	0 - 100
2396423	Prallethrin	0.477	Spike	P	0 - 42
2396423	Tau-Fluvalinate	31.9	Spike	P	0 - 54
2396423	Tetramethrin	0.261	Spike	P	0 - 51
2396423	Trans-Nonachlor	19.1	Spike	P	0 - 37
2396423	Triclosan Methyl	7.89	Spike	P	0 - 31
2396423	Trifluralin	19.8	Spike	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8276
Batch ID: P427650

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2395885	Chlordane	6.67	Spike	P	0 - 25
2395885	Toxaphene	3.63	Spike	P	0 - 26

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

Quality Assurance Report Surrogates

Lab Sample ID: 2396422

Field Sample ID: G4NW0022

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8270E	Decachlorobiphenyl	79.1	P	29 - 130
EPA 8270E	Decachlorobiphenyl	60.1	P	30 - 118
EPA 8270E	Tetrachloro-m-xylene	38.2	P	29 - 104
EPA 8270E	Tetrachloro-m-xylene	35.5	P	30 - 97.0
EPA 8276	Decachlorobiphenyl	41.4	P	30 - 101
EPA 8276	PCNB	73.1	P	48 - 121

Lab Sample ID: 2396423

Field Sample ID: G4NW0021

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8270E	Decachlorobiphenyl	85.3	P	29 - 130
EPA 8270E	Decachlorobiphenyl	64.4	P	30 - 118
EPA 8270E	Tetrachloro-m-xylene	51.2	P	29 - 104
EPA 8270E	Tetrachloro-m-xylene	40.3	P	30 - 97.0
EPA 8276	Decachlorobiphenyl	48.8	P	30 - 101
EPA 8276	PCNB	83.6	P	48 - 121

Quality Assurance Report Calibration Verification

Reference Method: EPA 8276

Run ID: A118324

Included Lab Sample IDs: 2396422, 2396423

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chlordane	97.3		P	80 - 120
Toxaphene	99.5		P	80 - 120

Reference Method: EPA 8270E

Run ID: A118385

Included Lab Sample IDs: 2396422, 2396423

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Aldrin	96.0		P	80 - 120
Alpha-BHC	105		P	80 - 120
Alpha-Chlordane	102		P	80 - 120
Beta-BHC	93.8		P	80 - 120
Beta-Cyfluthrin	82.2		P	80 - 120
Chlorothalonil	107		P	80 - 120
Cis-Nonachlor	100		P	80 - 120
Cypermethrin	81.4		P	80 - 120
Dacthal	96.8		P	80 - 120
DDD-p,p'	90.2		P	80 - 120
DDE-p,p'	112		P	80 - 120
DDT-p,p'	101		P	80 - 120
Delta-BHC	107		P	80 - 120
Deltamethrin	81.4		P	80 - 120
Dichlobenil	106		P	80 - 120
Dicofol	88.8		P	80 - 120
Dieldrin	109		P	80 - 120
Endosulfan I	104		P	80 - 120
Endosulfan II	110		P	80 - 120
Endosulfan Sulfate	90.2		P	80 - 120
Endrin	115		P	80 - 120
Endrin Aldehyde	82.8		P	80 - 120
Endrin Ketone	94.8		P	80 - 120
Esfenvalerate	88.9		P	80 - 120
Ethalfuralin	100		P	80 - 120
Fenpropathrin	80.9		P	80 - 120
Gamma-BHC	101		P	80 - 120
Gamma-Chlordane	101		P	80 - 120
Heptachlor	102		P	80 - 120
Heptachlor Epoxide	113		P	80 - 120
Kepone	82.9		P	80 - 120
Methoprene	90.6		P	80 - 120
Methoxychlor	89.3		P	80 - 120
MGK-264	113		P	80 - 120
Mirex	94.2		P	80 - 120
Oxychlordane	102		P	80 - 120
Permethrin	81.7		P	80 - 120
Prallethrin	97.3		P	80 - 120
Tau-Fluvalinate	82.4		P	80 - 120
Trans-Nonachlor	111		P	80 - 120
Triclosan Methyl	101		P	80 - 120
Trifluralin	99.4		P	80 - 120

Quality Assurance Report Calibration Verification

Reference Method: EPA 8270E

Run ID: A118402

Included Lab Sample IDs: 2396422, 2396423

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
PCB-1016	99.4		P	80 - 120
PCB-1260	99.8		P	80 - 120

Reference Method: EPA 8270E

Run ID: A118403

Included Lab Sample IDs: 2396422, 2396423

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Bifenthrin	101		P	80 - 120
Hexachlorobenzene	99.6		P	80 - 120
Lambda-Cyhalothrin	97.8		P	80 - 120
Phenothrin	97.6		P	80 - 120
Piperonyl Butoxide	100		P	80 - 120
Tetramethrin	98.2		P	80 - 120

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

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

Where they are different, both control limits are provided.

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery		Precision SMP	MS
			LCS			
EPA 8270E	Aldrin	46.9	47.9	51.2		6.66
	Alpha-BHC	84.8	97.4	91.4		6.36
	Alpha-Chlordane	59.1	72.7	76.9		5.06
	Beta-BHC	108	83.0	87.3		5.09
	Beta-Cyfluthrin	67.0	87.7	103		15.6
	Bifenthrin	44.6	74.1	68.0		8.69
	Chlorothalonil	95.2	81.8	83.4		1.97
	Cis-Nonachlor	65.1	63.8	102		46.0
	Cypermethrin	67.3	91.7	106		14.1
	Dacthal	76.9	82.0	90.8		10.1
	DDD-p,p'	76.6	89.1	97.9		9.44
	DDE-p,p'	62.8	81.3	81.7		0.416
	DDT-p,p'	62.9	70.7	69.5		1.73
	Delta-BHC	99.5	81.5	83.1		1.92
	Deltamethrin	68.2	93.8	119		23.4
	Dichlobenil	74.4	62.4	66.8		6.79
	Dicofol	46.1	59.2	70.1		16.9
	Dieldrin	60.3	87.0	87.8		0.679
	Endosulfan I	69.3	71.6	76.4		6.49
	Endosulfan II	75.9	87.0	76.0		13.4
	Endosulfan Sulfate	81.4	76.4	74.7		2.31
	Endrin	60.3	75.5	77.5		2.64
	Endrin Aldehyde	72.8	63.3	59.0		6.99
	Endrin Ketone	94.4	88.4	71.7		20.8
	Esfenvalerate	59.6	83.1	97.0		15.4
	Ethalfuralin	57.0	66.2	71.6		7.78
	Fenpropathrin	64.7	71.9	81.8		13.0
	Gamma-BHC	91.9	80.6	78.6		2.41
	Gamma-Chlordane	55.9	84.6	87.5		3.37
	Heptachlor	56.7	66.4	71.7		7.64
	Heptachlor Epoxide	60.5	59.2	62.3		2.53
	Hexachlorobenzene	59.2	61.4	60.4		1.75
	Kepone	175	151	158		4.22
	Lambda-Cyhalothrin	54.6	103	101		1.70
	Methoprene	27.7	87.9	89.6		1.92
	Methoxychlor	93.3	87.2	97.5		11.2
	MGK-264	69.9	75.4	69.0		8.87
	Mirex	41.4	65.0	60.9		6.39
	Oxychlordane	52.4	84.3	76.0		10.3
	PCB-1016	60.4	69.1	65.1		5.95
	PCB-1260	52.2	60.0	62.5		4.11
	Permethrin	87.0	97.3	107		9.82
	Phenothrin	58.5	85.3	82.6		3.15
	Piperonyl Butoxide	79.3	70.0	68.1		2.88
	Prallethrin	62.1	105	104		0.477
	Tau-Fluvalinate	37.7	71.0	98.0		31.9
	Tetramethrin	98.1	124	124		0.261
	Trans-Nonachlor	48.5	64.3	77.9		19.1
	Triclosan Methyl	65.6	71.0	76.9		7.89
	Trifluralin	51.6	60.6	74.0		19.8
EPA 8276	Chlordane	51.8	56.4	60.3		6.67
	Toxaphene	54.3	63.6	66.0		3.63

Reference Method Descriptions

Method	Description	<u>Associated Samples</u>
EPA 8270E	Organochlorine pesticides, pyrethroids and tracers in water matrices by GC/MS/MS	2396422, 2396423
EPA 8270E	PCBs in water matrices by GC/MS/MS	2396422, 2396423
EPA 8276	Chlordane and Toxaphene in water matrices by GC/MS with Negative Chemical Ionization	2396422, 2396423

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
EPA 8270E	03/27/2023	03/28/2023 09:00	Rasheda Ghaffari	04/04/2023 17:33	Michael Poppell	2396423
	03/27/2023	03/28/2023 09:00	Rasheda Ghaffari	04/04/2023 22:55	Michael Poppell	2396422
	03/27/2023	03/28/2023 09:00	Rasheda Ghaffari	04/05/2023 20:15	Michael Poppell	2396423
	03/27/2023	03/28/2023 09:00	Rasheda Ghaffari	04/06/2023 02:07	Michael Poppell	2396422
	03/27/2023	03/28/2023 09:00	Rasheda Ghaffari	04/06/2023 04:24	Vandana T. Nagar	2396422
	03/27/2023	03/28/2023 09:00	Rasheda Ghaffari	04/06/2023 04:54	Vandana T. Nagar	2396423
EPA 8276	03/27/2023	03/28/2023 09:00	Rasheda Ghaffari	03/31/2023 13:57	Arthur Maknenko	2396422
	03/27/2023	03/28/2023 09:00	Rasheda Ghaffari	03/31/2023 14:54	Arthur Maknenko	2396423