Chemical Analysis Report

NW-DIST-2023-05-15-01

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

Event Description: **Western Lake Run**
Request ID: **RQ-2023-05-08-48**
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 K Butler

For additional information please contact
Colin Wright, Ph.D.
Chris Bowen, B.S.
Kerry Tate, Ph.D.
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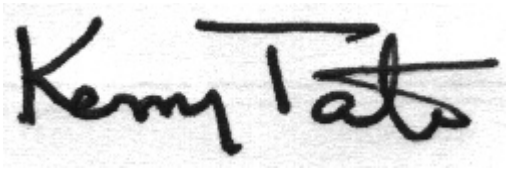
Phone (850) 245-8085

Certified by: Kerry Tate, Ph.D., Environmental Administrator

Date Certified: 02-JUN-2023 14:43



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: POND CREEK WEST OF HEADWATERS OF BLACKWATER BAY **Collection Date/Time: 05/11/2023 12:20**

Field ID: G4NW0277 Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2409541	EPA 8270E	Aldrin	0.71	UY	ng/L	P430111	
		Alpha-BHC	0.11	UY	ng/L	P430111	
		Alpha-Chlordane	0.22	UY	ng/L	P430111	
		PCB-1016	2.2	UY	ng/L	P430111	
		Beta-BHC	0.11	UY	ng/L	P430111	
		PCB-1221	2.2	UY	ng/L	P430111	
		Beta-Cyfluthrin	1.4	UY	ng/L	P430111	
		PCB-1232	2.2	UY	ng/L	P430111	
		Bifenthrin	0.55	UY	ng/L	P430111	
		PCB-1242	2.2	UY	ng/L	P430111	
		Carbophenothion	0.99	UY	ng/L	P430111	
		PCB-1248	2.2	UY	ng/L	P430111	
		Chlorothalonil	4.0	UY	ng/L	P430111	
		PCB-1254	2.2	UY	ng/L	P430111	
		Cis-Nonachlor	0.22	UY	ng/L	P430111	
		PCB-1260	2.2	UY	ng/L	P430111	
		Cypermethrin	1.6	UY	ng/L	P430111	
		Dacthal	0.16	UY	ng/L	P430111	
		DDD-p,p'	0.27	UY	ng/L	P430111	
		DDE-p,p'	0.22	UY	ng/L	P430111	
		DDT-p,p'	0.27	UY	ng/L	P430111	
		Delta-BHC	0.44	UY	ng/L	P430111	
		Deltamethrin	1.4	UY	ng/L	P430111	
		Dichlobenil	0.27	UY	ng/L	P430111	
		Dicofol	1.4	UY	ng/L	P430111	
		Dieldrin	0.44	UY	ng/L	P430111	
		Endosulfan I	0.44	UY	ng/L	P430111	
		Endosulfan II	0.44	UY	ng/L	P430111	
		Endosulfan Sulfate	0.33	UY	ng/L	P430111	
		Endrin	0.44	UY	ng/L	P430111	
		Endrin Aldehyde	0.82	UY	ng/L	P430111	
		Endrin Ketone	0.44	UY	ng/L	P430111	
		Esfenvalerate	0.82	UY	ng/L	P430111	
		Ethalfluralin	0.16	UY	ng/L	P430111	
		Fenpropathrin	0.27	UY	ng/L	P430111	
		Gamma-BHC	0.14	UY	ng/L	P430111	
		Gamma-Chlordane	0.22	UY	ng/L	P430111	
		Heptachlor	0.22	UY	ng/L	P430111	
		Heptachlor Epoxide	0.27	UY	ng/L	P430111	
		Hexachlorobenzene**	1.1	UY	ng/L	P430111	
		Kepone	5.5	UY	ng/L	P430111	
		Lambda-Cyhalothrin	0.82	UY	ng/L	P430111	
		Methoprene	0.82	UY	ng/L	P430111	

Field ID: G4NW0277 Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2409541	EPA 8270E	Methoxychlor	0.33	UY	ng/L	P430111	
		MGK-264	0.22	UY	ng/L	P430111	
		Mirex	0.38	UY	ng/L	P430111	
		Oxychlordane	0.33	UY	ng/L	P430111	
		Permethrin	1.8	UY	ng/L	P430111	
		Phenothrin	0.99	UY	ng/L	P430111	
		Piperonyl Butoxide	3.0	Y	ng/L	P430111	
		Prallethrin	2.2	UY	ng/L	P430111	
		Tau-Fluvalinate	0.27	UY	ng/L	P430111	
		Tetramethrin	0.82	UY	ng/L	P430111	
		Trans-Nonachlor	0.22	UY	ng/L	P430111	
		Triclosan Methyl	0.16	UY	ng/L	P430111	
		Trifluralin	0.22	UY	ng/L	P430111	
	EPA 8276	Chlordane	2.2	UY	ng/L	P430111	
		Toxaphene	16	UY	ng/L	P430111	

Ref. Method and Comment:
EPA 8270E: Y - Due to improper preservation; see NCR report.
EPA 8276: Y - Due to improper preservation; see NCR report.

Non-Conformance Report

NCR ID: 9870

Event(s)	Job(s)	Sample(s)	Test(s)
NW-DIST-2023-05-15-01	TLH-2023-05-15-02	2409541	

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 5/17/2023

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: P430111

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
Carbophenothion	0.90	U	ng/L
Carbophenothion	0.90	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

Quality Assurance Report
Method Blank Results

Reference Method: EPA 8270E
Batch ID: P430111

Component	Result	Code	Units
Ethalfluralin	0.15	U	ng/L
Ethalfluralin	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
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

Quality Assurance Report
Method Blank Results

Reference Method: EPA 8270E
Batch ID: P430111

Component	Result	Code	Units
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: P430111

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: P430111

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Aldrin	61.8		P	10 - 92.0
Alpha-BHC	86.5		P	75 - 107
Alpha-Chlordane	69.2		P	50 - 108
Beta-BHC	94.0		P	36 - 138
Beta-Cyfluthrin	80.2		P	20 - 161
Bifenthrin	59.4		P	10 - 119
Carbophenothion	76.6		P	19 - 94.0
Chlorothalonil	72.8		P	26 - 186
Cis-Nonachlor	67.3		P	42 - 119
Cypermethrin	82.1		P	22 - 150
Dacthal	89.9		P	72 - 119
DDD-p,p'	72.0		P	45 - 107
DDE-p,p'	75.6		P	48 - 106
DDT-p,p'	73.3		P	48 - 110
Delta-BHC	84.4		P	54 - 140
Deltamethrin	88.4		P	22 - 189
Dichlobenil	89.2		P	36 - 117
Dicofol	70.5		P	46 - 155
Dieldrin	76.3		P	54 - 110
Endosulfan I	69.3		P	59 - 105
Endosulfan II	83.1		P	51 - 118
Endosulfan Sulfate	88.9		P	57 - 121
Endrin	71.8		P	10 - 120
Endrin Aldehyde	70.0		P	34 - 118
Endrin Ketone	119		P	69 - 177
Esfenvalerate	74.0		P	23 - 168
Ethalfluralin	65.8		P	49 - 99.0
Fenpropathrin	69.1		P	34 - 117
Gamma-BHC	86.5		P	72 - 117
Gamma-Chlordane	70.0		P	43 - 106
Heptachlor	69.8		P	41 - 98.0
Heptachlor Epoxide	85.0		P	57 - 106
Hexachlorobenzene	67.5		P	36 - 99.0
Kepone	101		P	16 - 215
Lambda-Cyhalothrin	65.8		P	21 - 177
Methoprene	63.3		P	10 - 119
Methoxychlor	82.7		P	60 - 112
MGK-264	89.6		P	26 - 122
Mirex	65.6		P	10 - 169
Oxychlordane	79.0		P	43 - 105
PCB-1016	73.4		P	48 - 112
PCB-1260	75.5		P	44 - 118
Permethrin	72.7		P	24 - 148
Phenothrin	61.2		P	10 - 106
Piperonyl Butoxide	96.4		P	10 - 139
Prallethrin	66.6		P	17 - 109
Tau-Fluvalinate	66.8		P	13 - 131
Tetramethrin	75.7		P	10 - 132
Trans-Nonachlor	67.7		P	44 - 106
Triclosan Methyl	76.2		P	59 - 109
Trifluralin	72.2		P	44 - 101

Quality Assurance Report
Laboratory Control Sample Accuracy

Reference Method: EPA 8276
Batch ID: P430111

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Chlordane	83.8		P	61 - 116
Toxaphene	101		P	48 - 124

Quality Assurance Report
Matrix Spike Accuracy

Reference Method: EPA 8270E
Batch ID: P430111

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2409351	PCB-1016	63.6	61.1	P/P	46 - 111
2409351	PCB-1260	63.9	64.4	P/P	45 - 114
2409541	Aldrin	49.9	52.0	P/P	20 - 82.0
2409541	Alpha-BHC	86.3	81.6	P/P	71 - 109
2409541	Alpha-Chlordane	58.8	62.0	P/P	42 - 106
2409541	Beta-BHC	99.4	102	P/P	69 - 180
2409541	Beta-Cyfluthrin	85.3	88.8	P/P	18 - 175
2409541	Bifenthrin	71.7	69.0	P/P	21 - 128
2409541	Carbophenothion	55.2	58.7	P/P	10 - 126
2409541	Chlorothalonil	91.1	99.8	P/P	10 - 300
2409541	Cis-Nonachlor	52.7	58.2	P/P	34 - 106
2409541	Cypermethrin	82.7	85.8	P/P	22 - 158
2409541	Dacthal	93.2	96.1	P/P	54 - 116
2409541	DDD-p,p'	53.9	59.9	P/P	34 - 107
2409541	DDE-p,p'	60.4	61.3	P/P	33 - 110
2409541	DDT-p,p'	67.9	66.2	P/P	50 - 122
2409541	Delta-BHC	94.1	104	P/P	77 - 193
2409541	Deltamethrin	92.9	97.3	P/P	10 - 195
2409541	Dichlobenil	56.9	57.8	P/P	25 - 113
2409541	Dicofol	69.8	68.8	P/P	38 - 247
2409541	Dieldrin	66.4	67.6	P/P	45 - 118
2409541	Endosulfan I	60.1	61.3	P/P	51 - 106
2409541	Endosulfan II	71.1	72.2	P/P	37 - 122
2409541	Endosulfan Sulfate	65.4	71.9	P/P	43 - 132
2409541	Endrin	59.5	67.3	P/P	29 - 101
2409541	Endrin Aldehyde	58.3	59.2	P/P	19 - 110
2409541	Endrin Ketone	71.5	101	P/P	60 - 140
2409541	Esfenvalerate	80.4	84.0	P/P	26 - 199
2409541	Ethalfluralin	60.9	65.4	P/P	45 - 99.0
2409541	Fenpropathrin	75.5	77.3	P/P	35 - 120
2409541	Gamma-BHC	96.2	103	P/P	63 - 128
2409541	Gamma-Chlordane	64.2	62.6	P/P	40 - 104
2409541	Heptachlor	56.9	61.0	P/P	36 - 97.0
2409541	Heptachlor Epoxide	87.9	86.0	P/P	49 - 184
2409541	Hexachlorobenzene	59.8	55.5	P/P	39 - 96.0
2409541	Kepone	82.8	93.4	P/P	10 - 217
2409541	Lambda-Cyhalothrin	83.0	80.2	P/P	21 - 193
2409541	Methoprene	61.7	62.9	P/P	20 - 106
2409541	Methoxychlor	80.4	78.8	P/P	53 - 118
2409541	MGK-264	98.3	105	P/P	40 - 118
2409541	Mirex	49.2	52.0	P/P	26 - 92.0
2409541	Oxychlordane	74.1	76.6	P/P	44 - 99.0
2409541	Permethrin	85.9	85.5	P/P	33 - 182
2409541	Phenothrin	72.4	71.6	P/P	10 - 129
2409541	Piperonyl Butoxide	92.8	94.6	P/P	10 - 211
2409541	Prallethrin	61.0	63.6	P/P	24 - 113
2409541	Tau-Fluvalinate	79.2	83.9	P/P	14 - 149
2409541	Tetramethrin	89.3	84.7	P/P	17 - 151
2409541	Trans-Nonachlor	57.5	59.8	P/P	42 - 102
2409541	Triclosan Methyl	64.0	63.8	P/P	48 - 108
2409541	Trifluralin	67.6	67.8	P/P	47 - 96.0

Quality Assurance Report
Matrix Spike Accuracy

Reference Method: EPA 8276
Batch ID: P430111

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2409351	Chlordane	55.5	55.1	P/P	53 - 126
2409351	Toxaphene	65.2	59.9	P/P	56 - 211

Quality Assurance Report
Precision

Reference Method: EPA 8270E
Batch ID: P430111

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2409351	PCB-1016	4.08	Spike	P	0 - 32
2409351	PCB-1260	0.785	Spike	P	0 - 31
2409541	Aldrin	4.13	Spike	P	0 - 41
2409541	Alpha-BHC	5.60	Spike	P	0 - 25
2409541	Alpha-Chlordane	5.25	Spike	P	0 - 33
2409541	Beta-BHC	2.67	Spike	P	0 - 36
2409541	Beta-Cyfluthrin	4.08	Spike	P	0 - 42
2409541	Bifenthrin	3.87	Spike	P	0 - 53
2409541	Carbophenothion	6.20	Spike	P	0 - 49
2409541	Chlorothalonil	9.16	Spike	P	0 - 71
2409541	Cis-Nonachlor	9.87	Spike	P	0 - 29
2409541	Cypermethrin	3.65	Spike	P	0 - 40
2409541	Dacthal	3.08	Spike	P	0 - 26
2409541	DDD-p,p'	10.6	Spike	P	0 - 39
2409541	DDE-p,p'	1.43	Spike	P	0 - 33
2409541	DDT-p,p'	2.58	Spike	P	0 - 40
2409541	Delta-BHC	9.87	Spike	P	0 - 37
2409541	Deltamethrin	4.66	Spike	P	0 - 100
2409541	Dichlobenil	1.68	Spike	P	0 - 40
2409541	Dicofol	1.51	Spike	P	0 - 31
2409541	Dieldrin	1.81	Spike	P	0 - 27
2409541	Endosulfan I	1.99	Spike	P	0 - 23
2409541	Endosulfan II	1.52	Spike	P	0 - 28
2409541	Endosulfan Sulfate	9.41	Spike	P	0 - 38
2409541	Endrin	12.4	Spike	P	0 - 63
2409541	Endrin Aldehyde	1.51	Spike	P	0 - 60
2409541	Endrin Ketone	34.0	Spike	P	0 - 37
2409541	Esfenvalerate	4.33	Spike	P	0 - 52
2409541	Ethalfluralin	7.08	Spike	P	0 - 23
2409541	Fenpropathrin	2.45	Spike	P	0 - 32
2409541	Gamma-BHC	6.71	Spike	P	0 - 17
2409541	Gamma-Chlordane	2.56	Spike	P	0 - 40
2409541	Heptachlor	6.82	Spike	P	0 - 29
2409541	Heptachlor Epoxide	2.19	Spike	P	0 - 25
2409541	Hexachlorobenzene	7.43	Spike	P	0 - 36
2409541	Kepone	12.0	Spike	P	0 - 93
2409541	Lambda-Cyhalothrin	3.39	Spike	P	0 - 55
2409541	Methoprene	1.99	Spike	P	0 - 53
2409541	Methoxychlor	2.03	Spike	P	0 - 29
2409541	MGK-264	6.94	Spike	P	0 - 35
2409541	Mirex	5.49	Spike	P	0 - 46
2409541	Oxychlordane	3.35	Spike	P	0 - 29
2409541	Permethrin	0.531	Spike	P	0 - 44
2409541	Phenothrin	1.19	Spike	P	0 - 56
2409541	Piperonyl Butoxide	1.02	Spike	P	0 - 100
2409541	Prallethrin	4.28	Spike	P	0 - 42
2409541	Tau-Fluvalinate	5.75	Spike	P	0 - 54
2409541	Tetramethrin	5.33	Spike	P	0 - 51
2409541	Trans-Nonachlor	3.91	Spike	P	0 - 37
2409541	Triclosan Methyl	0.462	Spike	P	0 - 31
2409541	Trifluralin	0.352	Spike	P	0 - 30

Quality Assurance Report
Precision

Reference Method: EPA 8276
Batch ID: P430111

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2409351	Chlordane	0.749	Spike	P	0 - 25
2409351	Toxaphene	8.61	Spike	P	0 - 26

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

Quality Assurance Report
Surrogates

Lab Sample ID: 2409541
Field Sample ID: G4NW0277

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8270E	Decachlorobiphenyl	106	P	29 - 130
EPA 8270E	Decachlorobiphenyl	68.0	P	30 - 118
EPA 8270E	Tetrachloro-m-xylene	65.7	P	29 - 104
EPA 8270E	Tetrachloro-m-xylene	69.9	P	30 - 97.0
EPA 8276	Decachlorobiphenyl	69.0	P	30 - 101
EPA 8276	PCNB	86.1	P	48 - 121

Quality Assurance Report
Calibration Verification

Reference Method: EPA 8276
Run ID: A119310
Included Lab Sample IDs: 2409541

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chlordane	101		P	80 - 120
Toxaphene	102		P	80 - 120

Reference Method: EPA 8270E
Run ID: A119356
Included Lab Sample IDs: 2409541

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
PCB-1016	101		P	80 - 120
PCB-1260	92.9		P	80 - 120

Reference Method: EPA 8270E
Run ID: A119369
Included Lab Sample IDs: 2409541

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Aldrin	96.3		P	80 - 120
Alpha-BHC	99.4		P	80 - 120
Alpha-Chlordane	97.5		P	80 - 120
Beta-BHC	102		P	80 - 120
Beta-Cyfluthrin	99.4		P	80 - 120
Bifenthrin	103		P	80 - 120
Carbophenothion	91.9		P	80 - 120
Chlorothalonil	96.4		P	80 - 120
Cis-Nonachlor	95.4		P	80 - 120
Cypermethrin	97.7		P	80 - 120
Dacthal	101		P	80 - 120
DDD-p,p'	98.4		P	80 - 120
DDE-p,p'	98.6		P	80 - 120
DDT-p,p'	99.4		P	80 - 120
Delta-BHC	98.2		P	80 - 120
Deltamethrin	94.6		P	80 - 120
Dichlobenil	102		P	80 - 120
Dicofol	101		P	80 - 120
Dieldrin	102		P	80 - 120
Endosulfan I	93.2		P	80 - 120
Endosulfan II	91.2		P	80 - 120
Endosulfan Sulfate	89.1		P	80 - 120
Endrin	98.4		P	80 - 120
Endrin Aldehyde	97.0		P	80 - 120
Endrin Ketone	90.8		P	80 - 120
Esfenvalerate	95.2		P	80 - 120
Ethalfluralin	97.3		P	80 - 120
Fenpropathrin	99.4		P	80 - 120
Gamma-BHC	97.5		P	80 - 120
Gamma-Chlordane	101		P	80 - 120
Heptachlor	96.8		P	80 - 120
Heptachlor Epoxide	100		P	80 - 120
Hexachlorobenzene	99.4		P	80 - 120
Kepone	86.1		P	80 - 120
Lambda-Cyhalothrin	101		P	80 - 120

Quality Assurance Report
Calibration Verification

Reference Method: EPA 8270E
Run ID: A119369
Included Lab Sample IDs: 2409541

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Methoprene	96.7		P	80 - 120
Methoxychlor	103		P	80 - 120
MGK-264	99.1		P	80 - 120
Mirex	97.8		P	80 - 120
Oxychlordane	98.0		P	80 - 120
Permethrin	102		P	80 - 120
Phenothrin	99.4		P	80 - 120
Piperonyl Butoxide	93.6		P	80 - 120
Prallethrin	97.1		P	80 - 120
Tau-Fluvalinate	99.2		P	80 - 120
Tetramethrin	103		P	80 - 120
Trans-Nonachlor	99.1		P	80 - 120
Triclosan Methyl	98.3		P	80 - 120
Trifluralin	101		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		
					LCS	SMP	MS
EPA 8270E	Aldrin	61.8	49.9	52.0			4.13
	Alpha-BHC	86.5	86.3	81.6			5.60
	Alpha-Chlordane	69.2	58.8	62.0			5.25
	Beta-BHC	94.0	99.4	102			2.67
	Beta-Cyfluthrin	80.2	85.3	88.8			4.08
	Bifenthrin	59.4	71.7	69.0			3.87
	Carbophenothion	76.6	55.2	58.7			6.20
	Chlorothalonil	72.8	91.1	99.8			9.16
	Cis-Nonachlor	67.3	52.7	58.2			9.87
	Cypermethrin	82.1	82.7	85.8			3.65
	Dacthal	89.9	93.2	96.1			3.08
	DDD-p,p'	72.0	53.9	59.9			10.6
	DDE-p,p'	75.6	60.4	61.3			1.43
	DDT-p,p'	73.3	67.9	66.2			2.58
	Delta-BHC	84.4	94.1	104			9.87
	Deltamethrin	88.4	92.9	97.3			4.66
	Dichlobenil	89.2	56.9	57.8			1.68
	Dicofol	70.5	69.8	68.8			1.51
	Dieldrin	76.3	66.4	67.6			1.81
	Endosulfan I	69.3	60.1	61.3			1.99
	Endosulfan II	83.1	71.1	72.2			1.52
	Endosulfan Sulfate	88.9	65.4	71.9			9.41
	Endrin	71.8	59.5	67.3			12.4
	Endrin Aldehyde	70.0	58.3	59.2			1.51
	Endrin Ketone	119	71.5	101			34.0
	Esfenvalerate	74.0	80.4	84.0			4.33
	Ethalfluralin	65.8	60.9	65.4			7.08
	Fenpropathrin	69.1	75.5	77.3			2.45
	Gamma-BHC	86.5	96.2	103			6.71
	Gamma-Chlordane	70.0	64.2	62.6			2.56
	Heptachlor	69.8	56.9	61.0			6.82
	Heptachlor Epoxide	85.0	87.9	86.0			2.19
	Hexachlorobenzene	67.5	59.8	55.5			7.43
	Kepone	101	82.8	93.4			12.0
	Lambda-Cyhalothrin	65.8	83.0	80.2			3.39
	Methoprene	63.3	61.7	62.9			1.99
	Methoxychlor	82.7	80.4	78.8			2.03
	MGK-264	89.6	98.3	105			6.94
	Mirex	65.6	49.2	52.0			5.49
	Oxychlordane	79.0	74.1	76.6			3.35
	PCB-1016	73.4	63.6	61.1			4.08
	PCB-1260	75.5	63.9	64.4			0.785
	Permethrin	72.7	85.9	85.5			0.531
	Phenothrin	61.2	72.4	71.6			1.19
	Piperonyl Butoxide	96.4	92.8	94.6			1.02
	Prallethrin	66.6	61.0	63.6			4.28
	Tau-Fluvalinate	66.8	79.2	83.9			5.75
	Tetramethrin	75.7	89.3	84.7			5.33
	Trans-Nonachlor	67.7	57.5	59.8			3.91
	Triclosan Methyl	76.2	64.0	63.8			0.462
	Trifluralin	72.2	67.6	67.8			0.352
EPA 8276	Chlordane	83.8	55.5	55.1			0.749
	Toxaphene	101	65.2	59.9			8.61

Reference Method Descriptions

Method	Description	Associated Samples
EPA 8270E	Organochlorine pesticides, pyrethroids and tracers in water matrices by GC/MS/MS	2409541
EPA 8270E	PCBs in water matrices by GC/MS/MS	2409541
EPA 8276	Chlordane and Toxaphene in water matrices by GC/MS with Negative Chemical Ionization	2409541

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
EPA 8270E	05/15/2023	05/16/2023 08:30	Rasheda Ghaffari	05/22/2023 19:16	Vandana T. Nagar	2409541
	05/15/2023	05/16/2023 08:30	Rasheda Ghaffari	05/23/2023 03:05	Michael Poppell	2409541
EPA 8276	05/15/2023	05/16/2023 08:30	Rasheda Ghaffari	05/21/2023 05:52	Arthur Maknenko	2409541