

Chemical Analysis Report

NE-DIST-2023-10-18-02

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

Event Description: **Suwannee North**
Request ID: **RQ-2023-09-18-21**
Customer: **NE-DIST**
Project ID: **SMP**

Send Reports to:
FL Dept. of Environmental Protection
8800 Baymeadows Way West
Suite 100
Jacksonville, FL 32256
Attn: Jeremy Parrish

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Certified by: Thekkekalathil Chandrasekhar, Environmental Consultant

Date Certified: 09-NOV-2023 11:14



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: CANNON CR AT S WARD ST

Collection Date/Time: 10/17/2023 10:35

Field ID: 21030016FLA

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2445756	EPA 8321B	2,4-D	0.022		ug/L	P436749	
		Acesulfame K	0.10	U	ug/L	P436574	
		2,4,5-T	0.0040	U	ug/L	P436749	
		AMPA	0.20	I	ug/L	P436574	MS
		Acetaminophen	0.0080	U	ug/L	P436749	
		Acetamiprid	0.0020	U	ug/L	P436749	
		Endothall	0.25	U	ug/L	P436574	
		Glufosinate	0.10	U	ug/L	P436574	
		Glyphosate	0.67		ug/L	P436574	
		Afidopyropen	0.0020	U	ug/L	P436749	
		Bentazon	8.0E-04	U	ug/L	P436749	
		Sucralose	0.12		ug/L	P436574	
		Benzovindiflupyr	0.0020	U	ug/L	P436749	
		Carbamazepine	8.0E-04	U	ug/L	P436749	
		Clothianidin	0.0020	U	ug/L	P436749	
		Dinotefuran	0.0020	U	ug/L	P436749	
		Diuron	0.0030	I	ug/L	P436749	
		Fenuron	0.032	U	ug/L	P436749	MS
		Fluridone	8.0E-04	U	ug/L	P436749	
		Imazapyr	0.33		ug/L	P436749	
		Hydrocodone	0.0020	U	ug/L	P436749	
		Ibuprofen	0.080	U	ug/L	P436749	
		Imidacloprid	0.0025	I	ug/L	P436749	
		Linuron	0.0040	U	ug/L	P436749	
		Mandestrobin	0.0020	U	ug/L	P436749	
		MCPP	0.0020	U	ug/L	P436749	
		Naproxen	0.0080	U	ug/L	P436749	
		Primidone	0.0040	U	ug/L	P436749	
		Pyraclostrobin	0.0020	U	ug/L	P436749	
		Silvex	0.0040	U	ug/L	P436749	
		Thiamethoxam	0.0020	U	ug/L	P436749	
		Tolfenpyrad	0.0020	U	ug/L	P436749	
		Triclopyr	0.0040	U	ug/L	P436749	

**Sample Location: CANNON CR AT CANNON CR RD BUSNISS
PARK POINT W CR 47**

Collection Date/Time: 10/17/2023 10:50

Field ID: 21030138

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2445755	EPA 8270E	Aldrin	0.68	U	ng/L	P436746	
		Alpha-BHC	0.11	U	ng/L	P436746	
		Alpha-Chlordane	0.21	U	ng/L	P436746	
		PCB-1016	2.1	U	ng/L	P436746	
		Beta-BHC	0.11	U	ng/L	P436746	
		PCB-1221	2.1	U	ng/L	P436746	
		Beta-Cyfluthrin	1.3	U	ng/L	P436746	
		PCB-1232	2.1	U	ng/L	P436746	
		Bifenthrin	0.53	U	ng/L	P436746	
		PCB-1242	2.1	U	ng/L	P436746	
		PCB-1248	2.1	U	ng/L	P436746	
		Chlorothalonil	3.8	U	ng/L	P436746	
		PCB-1254	2.1	U	ng/L	P436746	
		Cis-Nonachlor	0.21	U	ng/L	P436746	
		PCB-1260	2.1	U	ng/L	P436746	
		Cypermethrin	1.6	U	ng/L	P436746	
		Dacthal	0.16	U	ng/L	P436746	
		DDD-p,p'	0.26	U	ng/L	P436746	
		DDE-p,p'	0.21	U	ng/L	P436746	
		DDT-p,p'	0.91	I	ng/L	P436746	
		Delta-BHC	0.42	U	ng/L	P436746	
		Deltamethrin	1.3	U	ng/L	P436746	
		Dichlobenil	0.26	U	ng/L	P436746	
		Dicofol	1.3	U	ng/L	P436746	
		Dieldrin	0.42	U	ng/L	P436746	
		Endosulfan I	0.42	U	ng/L	P436746	
		Endosulfan II	0.95	U	ng/L	P436746	
		Endosulfan Sulfate	0.32	U	ng/L	P436746	
		Endrin	0.95	U	ng/L	P436746	
		Endrin Aldehyde	0.79	U	ng/L	P436746	
		Endrin Ketone	0.42	U	ng/L	P436746	
		Esfenvalerate	0.79	U	ng/L	P436746	
		Ethalfuralin	0.16	U	ng/L	P436746	
		Fenpropathrin	0.26	U	ng/L	P436746	
		Gamma-BHC	0.13	U	ng/L	P436746	
		Gamma-Chlordane	0.21	U	ng/L	P436746	
		Heptachlor	0.21	U	ng/L	P436746	
		Heptachlor Epoxide	0.26	U	ng/L	P436746	
		Hexachlorobenzene**	1.1	U	ng/L	P436746	
		Kepone	14	U	ng/L	P436746	
		Lambda-Cyhalothrin	0.79	U	ng/L	P436746	
		Methoprene	0.79	U	ng/L	P436746	
		Methoxychlor	0.32	U	ng/L	P436746	

Field ID: 21030138

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2445755	EPA 8270E	MGK-264	0.21	U	ng/L	P436746	
		Mirex	0.37	U	ng/L	P436746	
		Oxychlordane	0.32	U	ng/L	P436746	
		Permethrin	1.7	U	ng/L	P436746	
		Phenothrin	0.95	U	ng/L	P436746	
		Piperonyl Butoxide	0.30	I	ng/L	P436746	
		Prallethrin	2.1	U	ng/L	P436746	
		Tau-Fluvalinate	0.26	U	ng/L	P436746	
		Tetramethrin	0.79	U	ng/L	P436746	
		Trans-Nonachlor	0.21	U	ng/L	P436746	
		Triclosan Methyl	0.16	U	ng/L	P436746	
		Trifluralin	0.21	U	ng/L	P436746	
	EPA 8276	Chlordane	2.1	U	ng/L	P436746	
		Toxaphene	16	U	ng/L	P436746	

Quality Assurance Report

Method Blank Results

Reference Method: EPA 8270E

Batch ID: P436746

Component	Result	Code	Units
Aldrin	0.65	U	ng/L
Alpha-BHC	0.10	U	ng/L
Alpha-Chlordane	0.20	U	ng/L
Beta-BHC	0.10	U	ng/L
Beta-Cyfluthrin	1.2	U	ng/L
Bifenthrin	0.50	U	ng/L
Chlorothalonil	3.6	U	ng/L
Cis-Nonachlor	0.20	U	ng/L
Cypermethrin	1.5	U	ng/L
Dacthal	0.15	U	ng/L
DDD-p,p'	0.25	U	ng/L
DDE-p,p'	0.20	U	ng/L
DDT-p,p'	0.80	U	ng/L
Delta-BHC	0.40	U	ng/L
Deltamethrin	1.2	U	ng/L
Dichlobenil	0.25	U	ng/L
Dicofol	1.2	U	ng/L
Dieldrin	0.40	U	ng/L
Endosulfan I	0.40	U	ng/L
Endosulfan II	0.90	U	ng/L
Endosulfan Sulfate	0.30	U	ng/L
Endrin	0.90	U	ng/L
Endrin Aldehyde	0.75	U	ng/L
Endrin Ketone	0.40	U	ng/L
Esfenvalerate	0.75	U	ng/L
Ethalfuralin	0.15	U	ng/L
Fenpropathrin	0.25	U	ng/L
Gamma-BHC	0.12	U	ng/L
Gamma-Chlordane	0.20	U	ng/L
Heptachlor	0.20	U	ng/L
Heptachlor Epoxide	0.25	U	ng/L
Hexachlorobenzene	1.0	U	ng/L
Kepone	14	U	ng/L
Lambda-Cyhalothrin	0.75	U	ng/L
Methoprene	0.75	U	ng/L
Methoxychlor	0.30	U	ng/L
MGK-264	0.20	U	ng/L
Mirex	0.35	U	ng/L
Oxychlordane	0.30	U	ng/L
PCB-1016	2.0	U	ng/L
PCB-1221	2.0	U	ng/L
PCB-1232	2.0	U	ng/L
PCB-1242	2.0	U	ng/L
PCB-1248	2.0	U	ng/L
PCB-1254	2.0	U	ng/L
PCB-1260	2.0	U	ng/L
Permethrin	1.6	U	ng/L
Phenothrin	0.90	U	ng/L
Piperonyl Butoxide	0.15	U	ng/L
Prallethrin	2.0	U	ng/L
Tau-Fluvalinate	0.25	U	ng/L
Tetramethrin	0.75	U	ng/L

Quality Assurance Report Method Blank Results

Reference Method: EPA 8270E
Batch ID: P436746

Component	Result	Code	Units
Trans-Nonachlor	0.20	U	ng/L
Triclosan Methyl	0.15	U	ng/L
Trifluralin	0.20	U	ng/L

Reference Method: EPA 8276
Batch ID: P436746

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

Reference Method: EPA 8321B
Batch ID: P436574

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: P436749

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

Quality Assurance Report

Method Blank Results

Reference Method: EPA 8321B
Batch ID: P436749

Component	Result	Code	Units
Triclopyr	0.0040	U	ug/L

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: EPA 8270E

Batch ID: P436746

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Aldrin	51.2		P	30 - 96.0
Alpha-BHC	79.2		P	70 - 109
Alpha-Chlordane	93.5		P	45 - 107
Beta-BHC	133		P	64 - 138
Beta-Cyfluthrin	74.8		P	17 - 141
Bifenthrin	42.2		P	10 - 113
Chlorothalonil	97.2		P	26 - 180
Cis-Nonachlor	56.2		P	37 - 102
Cypermethrin	54.3		P	20 - 133
Dacthal	110		P	69 - 114
DDD-p,p'	64.0		P	42 - 105
DDE-p,p'	89.9		P	42 - 106
DDT-p,p'	69.4		P	42 - 107
Delta-BHC	133		P	67 - 144
Deltamethrin	87.7		P	15 - 149
Dichlobenil	90.3		P	46 - 117
Dicofol	78.9		P	34 - 114
Dieldrin	66.4		P	50 - 108
Endosulfan I	95.3		P	55 - 104
Endosulfan II	99.6		P	51 - 111
Endosulfan Sulfate	117		P	56 - 121
Endrin	72.7		P	10 - 106
Endrin Aldehyde	89.8		P	34 - 114
Endrin Ketone	85.2		P	63 - 177
Esfenvalerate	81.4		P	29 - 143
Ethalfuralin	73.0		P	46 - 96.0
Fenpropathrin	59.7		P	28 - 115
Gamma-BHC	104		P	65 - 121
Gamma-Chlordane	98.0		P	39 - 103
Heptachlor	46.3		P	39 - 94.0
Heptachlor Epoxide	103		P	54 - 104
Hexachlorobenzene	65.5		P	36 - 100
Kepone	70.0		P	10 - 225
Lambda-Cyhalothrin	57.5		P	10 - 135
Methoprene	34.7		P	10 - 109
Methoxychlor	75.4		P	52 - 112
MGK-264	114		P	44 - 117
Mirex	69.0		P	20 - 90.0
Oxychlordane	71.5		P	44 - 102
PCB-1016	87.0		P	45 - 107
PCB-1260	87.9		P	40 - 118
Permethrin	70.0		P	18 - 135
Phenothrin	47.6		P	10 - 102
Piperonyl Butoxide	83.9		P	28 - 156
Prallethrin	73.8		P	28 - 113
Tau-Fluvalinate	76.1		P	10 - 123
Tetramethrin	69.9		P	18 - 158
Trans-Nonachlor	83.8		P	39 - 104
Triclosan Methyl	63.8		P	54 - 108
Trifluralin	70.2		P	46 - 97.0

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 8276
Batch ID: P436746

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Chlordane	70.9		P	52 - 117
Toxaphene	90.7		P	44 - 125

Reference Method: EPA 8321B
Batch ID: P436574

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acesulfame K	107		P	40 - 150
AMPA	123		P	40 - 150
Endothall	87.3		P	40 - 150
Glufosinate	95.4		P	40 - 150
Glyphosate	88.2		P	40 - 150
Sucralose	102		P	40 - 150

Reference Method: EPA 8321B
Batch ID: P436749

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	73.5		P	40 - 150
2,4,5-T	76.8		P	40 - 150
Acetaminophen	95.7		P	30 - 150
Acetamiprid	89.0		P	40 - 150
Afidopyropen	82.5		P	30 - 150
Bentazon	97.0		P	30 - 150
Benzovindiflupyr	87.8		P	40 - 150
Carbamazepine	84.6		P	40 - 150
Clothianidin	95.4		P	40 - 150
Dinotefuran	105		P	40 - 150
Diuron	80.7		P	40 - 150
Fenuron	98.5		P	40 - 150
Fluridone	95.8		P	40 - 150
Hydrocodone	100		P	40 - 150
Ibuprofen	84.3		P	40 - 150
Imazapyr	88.2		P	40 - 150
Imidacloprid	87.4		P	40 - 150
Linuron	82.0		P	40 - 150
Mandestrobin	86.4		P	40 - 150
MCPP	89.4		P	40 - 150
Naproxen	70.2		P	40 - 150
Primidone	94.0		P	40 - 150
Pyraclostrobin	87.9		P	40 - 150
Silvex	83.2		P	40 - 150
Thiamethoxam	95.3		P	40 - 150
Tolfenpyrad	62.5		P	30 - 150
Triclopyr	79.2		P	40 - 150

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8270E
Batch ID: P436746

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2445755	PCB-1016	87.4	86.2	P/P	45 - 107
2445755	PCB-1260	81.7	89.9	P/P	40 - 112
2446057	Aldrin	62.4	56.2	P/P	24 - 81.0
2446057	Alpha-BHC	69.6	72.1	P/P	65 - 110
2446057	Alpha-Chlordane	81.5	80.5	P/P	43 - 119
2446057	Beta-BHC	94.7	105	P/P	54 - 165
2446057	Beta-Cyfluthrin	109	110	P/P	27 - 165
2446057	Bifenthrin	83.7	86.9	P/P	17 - 117
2446057	Chlorothalonil	170	171	P/P	10 - 255
2446057	Cis-Nonachlor	80.3	82.2	P/P	34 - 98.0
2446057	Cypermethrin	112	108	P/P	25 - 143
2446057	Dacthal	87.9	103	P/P	55 - 139
2446057	DDD-p,p'	94.5	92.7	P/P	30 - 109
2446057	DDE-p,p'	69.8	75.4	P/P	35 - 106
2446057	DDT-p,p'	91.1	98.4	P/P	41 - 101
2446057	Delta-BHC	103	101	P/P	58 - 165
2446057	Deltamethrin	130	133	P/P	10 - 194
2446057	Dichlobenil	51.8	56.9	P/P	22 - 114
2446057	Dicofol	86.4	82.4	P/P	17 - 133
2446057	Dieldrin	80.4	74.3	P/P	45 - 129
2446057	Endosulfan I	77.7	86.3	P/P	49 - 104
2446057	Endosulfan II	77.2	74.0	P/P	37 - 117
2446057	Endosulfan Sulfate	72.4	86.0	P/P	38 - 128
2446057	Endrin	79.7	76.8	P/P	35 - 116
2446057	Endrin Aldehyde	49.7	58.9	P/P	19 - 108
2446057	Endrin Ketone	82.2	80.5	P/P	44 - 134
2446057	Esfenvalerate	112	124	P/P	27 - 176
2446057	Ethalfuralin	90.9	97.8	P/P	49 - 100
2446057	Fenpropathrin	85.4	89.2	P/P	34 - 117
2446057	Gamma-BHC	67.4	64.7	P/P	59 - 129
2446057	Gamma-Chlordane	86.3	98.9	P/P	33 - 107
2446057	Heptachlor	82.4	63.9	P/P	37 - 94.0
2446057	Heptachlor Epoxide	85.9	92.3	P/P	38 - 118
2446057	Hexachlorobenzene	63.3	63.5	P/P	35 - 97.0
2446057	Kepone	57.8	58.3	P/P	10 - 221
2446057	Lambda-Cyhalothrin	101	101	P/P	23 - 190
2446057	Methoprene	87.4	97.2	P/P	21 - 109
2446057	Methoxychlor	78.6	79.5	P/P	46 - 118
2446057	MGK-264	98.3	99.3	P/P	39 - 122
2446057	Mirex	60.4	64.3	P/P	25 - 90.0
2446057	Oxychlordane	97.2	96.5	P/P	42 - 100
2446057	Permethrin	91.2	99.6	P/P	33 - 181
2446057	Phenothrin	90.7	78.1	P/P	12 - 125
2446057	Piperonyl Butoxide	96.1	111	P/P	10 - 178
2446057	Prallethrin	67.1	69.4	P/P	24 - 122
2446057	Tau-Fluvalinate	107	131	P/P	13 - 151
2446057	Tetramethrin	105	97.5	P/P	16 - 172
2446057	Trans-Nonachlor	70.3	88.2	P/P	39 - 100
2446057	Triclosan Methyl	85.2	80.8	P/P	43 - 110
2446057	Trifluralin	77.8	78.3	P/P	45 - 94.0

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8276
Batch ID: P436746

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2445755	Chlordane	72.4	66.4	P/P	43 - 123
2445755	Toxaphene	73.9	71.9	P/P	27 - 156

Reference Method: EPA 8321B
Batch ID: P436574

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2445134	Acesulfame K	112	111	P/P	40 - 150
2445134	AMPA	186	190	F/F	40 - 150
2445134	Endothall	83.0	78.3	P/P	40 - 150
2445134	Glufosinate	89.4	84.6	P/P	40 - 150
2445134	Glyphosate	75.9	74.8	P/P	40 - 150
2445134	Sucralose	105	98.2	P/P	40 - 150

Reference Method: EPA 8321B
Batch ID: P436749

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2445740	2,4-D	90.0	92.7	P/P	40 - 150
2445740	2,4,5-T	104	107	P/P	40 - 150
2445740	Acetaminophen	76.6	81.4	P/P	30 - 150
2445740	Acetamiprid	57.2	58.4	P/P	40 - 150
2445740	Afidopyropen	77.5	71.8	P/P	30 - 150
2445740	Bentazon	41.4	31.5	P/P	30 - 150
2445740	Benzovindiflupyr	75.8	75.4	P/P	40 - 150
2445740	Carbamazepine	59.0	55.9	P/P	40 - 150
2445740	Clothianidin	62.6	66.0	P/P	40 - 150
2445740	Dinotefuran	64.2	67.6	P/P	40 - 150
2445740	Diuron	44.7	49.6	P/P	40 - 150
2445740	Fenuron	39.8	39.5	F/F	40 - 150
2445740	Fluridone	60.8	57.5	P/P	40 - 150
2445740	Hydrocodone	62.7	64.0	P/P	40 - 150
2445740	Ibuprofen	64.3	70.7	P/P	40 - 150
2445740	Imazapyr	68.6	58.3	P/P	40 - 150
2445740	Imidacloprid	89.3	89.2	P/P	40 - 150
2445740	Linuron	59.9	60.2	P/P	40 - 150
2445740	Mandestrobin	78.2	79.2	P/P	40 - 150
2445740	MCPP	101	108	P/P	40 - 150
2445740	Naproxen	61.2	62.3	P/P	40 - 150
2445740	Primidone	57.5	59.8	P/P	40 - 150
2445740	Pyraclostrobin	73.5	74.7	P/P	40 - 150
2445740	Silvex	96.9	103	P/P	40 - 150
2445740	Thiamethoxam	71.8	74.1	P/P	40 - 150
2445740	Tolfenpyrad	52.0	52.0	P/P	30 - 150
2445740	Triclopyr	98.9	110	P/P	40 - 150

Quality Assurance Report Precision

Reference Method: EPA 8270E
Batch ID: P436746

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2445755	PCB-1016	1.40	Spike	P	0 - 25
2445755	PCB-1260	9.50	Spike	P	0 - 30
2446057	Aldrin	10.4	Spike	P	0 - 41
2446057	Alpha-BHC	3.47	Spike	P	0 - 25
2446057	Alpha-Chlordane	1.23	Spike	P	0 - 32
2446057	Beta-BHC	10.3	Spike	P	0 - 33
2446057	Beta-Cyfluthrin	1.03	Spike	P	0 - 43
2446057	Bifenthrin	3.76	Spike	P	0 - 52
2446057	Chlorothalonil	0.959	Spike	P	0 - 82
2446057	Cis-Nonachlor	2.31	Spike	P	0 - 33
2446057	Cypermethrin	3.35	Spike	P	0 - 51
2446057	Dacthal	15.5	Spike	P	0 - 27
2446057	DDD-p,p'	1.85	Spike	P	0 - 39
2446057	DDE-p,p'	7.73	Spike	P	0 - 31
2446057	DDT-p,p'	6.17	Spike	P	0 - 29
2446057	Delta-BHC	1.94	Spike	P	0 - 35
2446057	Deltamethrin	2.22	Spike	P	0 - 100
2446057	Dichlobenil	9.41	Spike	P	0 - 40
2446057	Dicofol	4.70	Spike	P	0 - 37
2446057	Dieldrin	7.86	Spike	P	0 - 27
2446057	Endosulfan I	10.5	Spike	P	0 - 23
2446057	Endosulfan II	4.26	Spike	P	0 - 34
2446057	Endosulfan Sulfate	17.1	Spike	P	0 - 36
2446057	Endrin	3.69	Spike	P	0 - 45
2446057	Endrin Aldehyde	16.9	Spike	P	0 - 76
2446057	Endrin Ketone	2.09	Spike	P	0 - 43
2446057	Esfenvalerate	10.0	Spike	P	0 - 51
2446057	Ethalfuralin	7.37	Spike	P	0 - 22
2446057	Fenpropathrin	4.36	Spike	P	0 - 49
2446057	Gamma-BHC	4.08	Spike	P	0 - 28
2446057	Gamma-Chlordane	13.6	Spike	P	0 - 40
2446057	Heptachlor	25.4	Spike	P	0 - 29
2446057	Heptachlor Epoxide	7.13	Spike	P	0 - 33
2446057	Hexachlorobenzene	0.410	Spike	P	0 - 36
2446057	Kepone	0.825	Spike	P	0 - 85
2446057	Lambda-Cyhalothrin	0.0607	Spike	P	0 - 55
2446057	Methoprene	10.6	Spike	P	0 - 53
2446057	Methoxychlor	1.19	Spike	P	0 - 50
2446057	MGK-264	0.958	Spike	P	0 - 43
2446057	Mirex	6.23	Spike	P	0 - 40
2446057	Oxychlordane	0.650	Spike	P	0 - 31
2446057	Permethrin	8.88	Spike	P	0 - 50
2446057	Phenothrin	14.9	Spike	P	0 - 58
2446057	Piperonyl Butoxide	14.8	Spike	P	0 - 100
2446057	Prallethrin	3.48	Spike	P	0 - 39
2446057	Tau-Fluvalinate	19.5	Spike	P	0 - 54
2446057	Tetramethrin	7.55	Spike	P	0 - 51
2446057	Trans-Nonachlor	22.6	Spike	P	0 - 39
2446057	Triclosan Methyl	5.34	Spike	P	0 - 31
2446057	Trifluralin	0.727	Spike	P	0 - 22

Quality Assurance Report Precision

Reference Method: EPA 8276

Batch ID: P436746

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2445755	Chlordane	8.53	Spike	P	0 - 28
2445755	Toxaphene	2.84	Spike	P	0 - 27

Reference Method: EPA 8321B

Batch ID: P436574

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2445134	Acesulfame K	0.251	Spike	P	0 - 30
2445134	AMPA	2.06	Spike	P	0 - 30
2445134	Endothall	5.81	Spike	P	0 - 30
2445134	Glufosinate	5.53	Spike	P	0 - 30
2445134	Glyphosate	1.42	Spike	P	0 - 30
2445134	Sucralose	6.30	Spike	P	0 - 30

Reference Method: EPA 8321B

Batch ID: P436749

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2445740	2,4-D	2.01	Spike	P	0 - 30
2445740	2,4,5-T	2.99	Spike	P	0 - 30
2445740	Acetaminophen	6.04	Spike	P	0 - 30
2445740	Acetamiprid	2.11	Spike	P	0 - 30
2445740	Afidopyropen	7.54	Spike	P	0 - 30
2445740	Bentazon	4.38	Spike	P	0 - 30
2445740	Benzovindiflupyr	0.636	Spike	P	0 - 30
2445740	Carbamazepine	5.47	Spike	P	0 - 30
2445740	Clothianidin	5.28	Spike	P	0 - 30
2445740	Dinotefuran	5.11	Spike	P	0 - 30
2445740	Diuron	8.10	Spike	P	0 - 30
2445740	Fenuron	0.765	Spike	P	0 - 30
2445740	Fluridone	4.13	Spike	P	0 - 30
2445740	Hydrocodone	2.11	Spike	P	0 - 30
2445740	Ibuprofen	9.52	Spike	P	0 - 30
2445740	Imazapyr	6.38	Spike	P	0 - 30
2445740	Imidacloprid	0.116	Spike	P	0 - 30
2445740	Linuron	0.396	Spike	P	0 - 30
2445740	Mandestrobin	1.34	Spike	P	0 - 30
2445740	MCPP	6.35	Spike	P	0 - 30
2445740	Naproxen	1.79	Spike	P	0 - 30
2445740	Primidone	3.90	Spike	P	0 - 30
2445740	Pyraclostrobin	1.60	Spike	P	0 - 30
2445740	Silvex	6.26	Spike	P	0 - 30
2445740	Thiamethoxam	3.19	Spike	P	0 - 30
2445740	Tolfenpyrad	0.113	Spike	P	0 - 30
2445740	Triclopyr	11.0	Spike	P	0 - 30

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

Quality Assurance Report Surrogates

Lab Sample ID: 2445755

Field Sample ID: 21030138

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8270E	Decachlorobiphenyl	73.6	P	37 - 129
EPA 8270E	Decachlorobiphenyl	65.4	P	26 - 115
EPA 8270E	Tetrachloro-m-xylene	46.3	P	30 - 101
EPA 8270E	Tetrachloro-m-xylene	46.9	P	29 - 95.0
EPA 8276	Decachlorobiphenyl	46.9	P	28 - 102
EPA 8276	PCNB	108	P	49 - 115

Lab Sample ID: 2445756

Field Sample ID: 21030016FLA

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	95.9	P	30 - 160
EPA 8321B	Acetaminophen-d4	81.6	P	30 - 160
EPA 8321B	Carbamazepine-d10	55.1	P	30 - 160
EPA 8321B	Diuron-d6	39.1	P	30 - 160
EPA 8321B	Endothall-d6	87.5	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	80.3	P	30 - 160
EPA 8321B	Ibuprofen-d3	66.5	P	30 - 160
EPA 8321B	Primidone-d5	55.3	P	30 - 160
EPA 8321B	Sucralose-d6	97.6	P	30 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B
Run ID: A122179
Included Lab Sample IDs: 2445756

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acesulfame K	113	115	P/P	60 - 160
Sucralose	98.0	101	P/P	60 - 160

Reference Method: EPA 8321B
Run ID: A122336
Included Lab Sample IDs: 2445756

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
AMPA	90.0	92.1	P/P	60 - 160
Endothall	88.7	81.6	P/P	60 - 160
Glufosinate	90.5	93.4	P/P	60 - 160
Glyphosate	93.3	93.1	P/P	60 - 160

Reference Method: EPA 8321B
Run ID: A122346
Included Lab Sample IDs: 2445756

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	88.9	84.2	P/P	50 - 150
2,4,5-T	100	91.1	P/P	50 - 150
Acetaminophen	114	110	P/P	60 - 160
Acetamiprid	108	111	P/P	50 - 150
Afidopyropen	131	125	P/P	50 - 150
Bentazon	102	98.5	P/P	50 - 160
Benzovindiflupyr	107	107	P/P	50 - 150
Carbamazepine	107	103	P/P	60 - 150
Clothianidin	110	109	P/P	60 - 150
Dinotefuran	109	107	P/P	50 - 150
Diuron	109	108	P/P	60 - 160
Fenuron	109	111	P/P	60 - 150
Fluridone	117	117	P/P	60 - 160
Hydrocodone	115	116	P/P	60 - 150
Ibuprofen	109	111	P/P	50 - 160
Imazapyr	90.9	95.4	P/P	50 - 150
Imidacloprid	99.9	103	P/P	60 - 150
Linuron	122	116	P/P	60 - 150
Mandestrobin	111	104	P/P	50 - 150
MCPP	101	88.8	P/P	50 - 150
Naproxen	130	60.7	P/P	50 - 160
Primidone	104	101	P/P	60 - 150
Pyraclostrobin	109	106	P/P	60 - 150
Silvex	97.7	84.5	P/P	50 - 150
Thiamethoxam	109	113	P/P	50 - 150
Tolfenpyrad	102	102	P/P	60 - 150
Triclopyr	94.0	96.4	P/P	50 - 150

Reference Method: EPA 8270E
Run ID: A122429
Included Lab Sample IDs: 2445755

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

Reference Method: EPA 8270E
Run ID: A122429
Included Lab Sample IDs: 2445755

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
PCB-1016	92.4		P	80 - 120
PCB-1260	93.7		P	80 - 120

Reference Method: EPA 8276
Run ID: A122438
Included Lab Sample IDs: 2445755

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chlordane	105		P	80 - 120
Toxaphene	109		P	80 - 120

Reference Method: EPA 8270E
Run ID: A122570
Included Lab Sample IDs: 2445755

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Aldrin	97.5		P	80 - 120
Alpha-BHC	92.1		P	80 - 120
Alpha-Chlordane	104		P	80 - 120
Beta-BHC	95.9		P	80 - 120
Beta-Cyfluthrin	89.7		P	80 - 120
Bifenthrin	89.3		P	80 - 120
Chlorothalonil	95.4		P	80 - 120
Cis-Nonachlor	80.0		P	80 - 120
Cypermethrin	84.5		P	80 - 120
Dacthal	96.2		P	80 - 120
DDD-p,p'	90.6		P	80 - 120
DDE-p,p'	96.0		P	80 - 120
DDT-p,p'	102		P	80 - 120
Delta-BHC	92.5		P	80 - 120
Deltamethrin	91.0		P	80 - 120
Dichlobenil	102		P	80 - 120
Dicofol	99.7		P	80 - 120
Dieldrin	80.4		P	80 - 120
Endosulfan I	105		P	80 - 120
Endosulfan II	88.8		P	80 - 120
Endosulfan Sulfate	95.4		P	80 - 120
Endrin	90.2		P	80 - 120
Endrin Aldehyde	91.6		P	80 - 120
Endrin Ketone	86.5		P	80 - 120
Esfenvalerate	90.4		P	80 - 120
Ethalfuralin	103		P	80 - 120
Fenpropathrin	90.8		P	80 - 120
Gamma-BHC	99.5		P	80 - 120
Gamma-Chlordane	108		P	80 - 120
Heptachlor	92.3		P	80 - 120
Heptachlor Epoxide	111		P	80 - 120
Hexachlorobenzene	92.4		P	80 - 120
Kepone	84.4		P	80 - 120
Lambda-Cyhalothrin	94.8		P	80 - 120
Methoprene	80.2		P	80 - 120

Quality Assurance Report Calibration Verification

Reference Method: EPA 8270E
Run ID: A122570
Included Lab Sample IDs: 2445755

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Methoxychlor	90.8		P	80 - 120
MGK-264	110		P	80 - 120
Mirex	95.9		P	80 - 120
Oxychlordane	88.3		P	80 - 120
Permethrin	94.1		P	80 - 120
Phenothrin	89.3		P	80 - 120
Piperonyl Butoxide	85.9		P	80 - 120
Prallethrin	88.1		P	80 - 120
Tau-Fluvalinate	92.6		P	80 - 120
Tetramethrin	88.4		P	80 - 120
Trans-Nonachlor	107		P	80 - 120
Triclosan Methyl	84.7		P	80 - 120
Trifluralin	102		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	51.2	62.4	56.2		10.4
	Alpha-BHC	79.2	69.6	72.1		3.47
	Alpha-Chlordane	93.5	81.5	80.5		1.23
	Beta-BHC	133	94.7	105		10.3
	Beta-Cyfluthrin	74.8	109	110		1.03
	Bifenthrin	42.2	83.7	86.9		3.76
	Chlorothalonil	97.2	170	171		0.959
	Cis-Nonachlor	56.2	80.3	82.2		2.31
	Cypermethrin	54.3	112	108		3.35
	Dacthal	110	87.9	103		15.5
	DDD-p,p'	64.0	94.5	92.7		1.85
	DDE-p,p'	89.9	69.8	75.4		7.73
	DDT-p,p'	69.4	91.1	98.4		6.17
	Delta-BHC	133	103	101		1.94
	Deltamethrin	87.7	130	133		2.22
	Dichlobenil	90.3	51.8	56.9		9.41
	Dicofol	78.9	86.4	82.4		4.70
	Dieldrin	66.4	80.4	74.3		7.86
	Endosulfan I	95.3	77.7	86.3		10.5
	Endosulfan II	99.6	77.2	74.0		4.26
	Endosulfan Sulfate	117	72.4	86.0		17.1
	Endrin	72.7	79.7	76.8		3.69
	Endrin Aldehyde	89.8	49.7	58.9		16.9
	Endrin Ketone	85.2	82.2	80.5		2.09
	Esfenvalerate	81.4	112	124		10.0
	Ethalfuralin	73.0	90.9	97.8		7.37
	Fenpropathrin	59.7	85.4	89.2		4.36
	Gamma-BHC	104	67.4	64.7		4.08
	Gamma-Chlordane	98.0	86.3	98.9		13.6
	Heptachlor	46.3	82.4	63.9		25.4
	Heptachlor Epoxide	103	85.9	92.3		7.13
	Hexachlorobenzene	65.5	63.3	63.5		0.410
	Kepone	70.0	57.8	58.3		0.825
	Lambda-Cyhalothrin	57.5	101	101		0.0607
	Methoprene	34.7	87.4	97.2		10.6
	Methoxychlor	75.4	78.6	79.5		1.19
	MGK-264	114	98.3	99.3		0.958
	Mirex	69.0	60.4	64.3		6.23
	Oxychlordane	71.5	97.2	96.5		0.650
	PCB-1016	87.0	87.4	86.2		1.40
	PCB-1260	87.9	81.7	89.9		9.50
	Permethrin	70.0	91.2	99.6		8.88
	Phenothrin	47.6	90.7	78.1		14.9
	Piperonyl Butoxide	83.9	96.1	111		14.8
	Prallethrin	73.8	67.1	69.4		3.48
	Tau-Fluvalinate	76.1	107	131		19.5
	Tetramethrin	69.9	105	97.5		7.55
	Trans-Nonachlor	83.8	70.3	88.2		22.6
	Triclosan Methyl	63.8	85.2	80.8		5.34
	Trifluralin	70.2	77.8	78.3		0.727
EPA 8276	Chlordane	70.9	72.4	66.4		8.53
	Toxaphene	90.7	73.9	71.9		2.84
EPA 8321B	2,4-D	73.5	90.0	92.7		2.01
	2,4,5-T	76.8	104	107		2.99

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery		Precision SMP	MS
			LCS			
EPA 8321B	Acesulfame K	107	112	111		0.251
	Acetaminophen	95.7	76.6	81.4		6.04
	Acetamiprid	89.0	57.2	58.4		2.11
	Afidopyropen	82.5	77.5	71.8		7.54
	AMPA	123	186	190		2.06
	Bentazon	97.0	41.4	31.5		4.38
	Benzovindiflupyr	87.8	75.8	75.4		0.636
	Carbamazepine	84.6	59.0	55.9		5.47
	Clothianidin	95.4	62.6	66.0		5.28
	Dinotefuran	105	64.2	67.6		5.11
	Diuron	80.7	44.7	49.6		8.10
	Endothall	87.3	83.0	78.3		5.81
	Fenuron	98.5	39.8	39.5		0.765
	Fluridone	95.8	60.8	57.5		4.13
	Glufosinate	95.4	89.4	84.6		5.53
	Glyphosate	88.2	75.9	74.8		1.42
	Hydrocodone	100	62.7	64.0		2.11
	Ibuprofen	84.3	64.3	70.7		9.52
	Imazapyr	88.2	68.6	58.3		6.38
	Imidacloprid	87.4	89.3	89.2		0.116
	Linuron	82.0	59.9	60.2		0.396
	Mandestrobin	86.4	78.2	79.2		1.34
	MCPP	89.4	101	108		6.35
	Naproxen	70.2	61.2	62.3		1.79
	Primidone	94.0	57.5	59.8		3.90
	Pyraclostrobin	87.9	73.5	74.7		1.60
	Silvex	83.2	96.9	103		6.26
	Sucralose	102	105	98.2		6.30
	Thiamethoxam	95.3	71.8	74.1		3.19
	Tolfenpyrad	62.5	52.0	52.0		0.113
	Triclopyr	79.2	98.9	110		11.0

Reference Method Descriptions

Method	Description	Associated Samples
EPA 8270E	Organochlorine pesticides, pyrethroids and tracers in water matrices by GC/MS/MS	2445755
EPA 8270E	PCBs in water matrices by GC/MS/MS	2445755
EPA 8276	Chlordane and Toxaphene in water matrices by GC/MS with Negative Chemical Ionization	2445755
EPA 8321B	Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS	2445756

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
EPA 8270E	10/18/2023	10/20/2023 08:30	Rasheda Ghaffari	10/26/2023 21:06	Lipi Saha	2445755
	10/18/2023	10/20/2023 08:30	Rasheda Ghaffari	10/29/2023 05:53	Julie Wi	2445755
EPA 8276	10/18/2023	10/20/2023 08:30	Rasheda Ghaffari	10/28/2023 05:05	Arthur Maknenko	2445755
EPA 8321B	10/18/2023	10/18/2023 14:00	Tae K Lee	10/19/2023 04:47	Hana Lee	2445756
	10/18/2023	10/18/2023 14:00	Tae K Lee	10/23/2023 20:27	Tae K Lee	2445756
	10/18/2023	10/24/2023 08:30	Hoor Shaik	10/24/2023 20:00	Juyoung Kim	2445756