

Chemical Analysis Report

NE-DIST-2023-12-05-01

Florida DEP Laboratory
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Tallahassee, FL 32399-2400
DOH Accreditation E31780

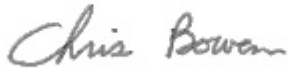
Event Description: **Suwannee North 2023**
Request ID: **RQ-2023-11-20-06**
Customer: **NE-DIST**
Project ID: **SMP**

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: Chris Bowen, Environmental Administrator

Date Certified: 28-DEC-2023 12:31



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 CANNON CR RD BUSINESS
PARK POINT W CR 47**

Collection Date/Time: 12/04/2023 10:45

Field ID: 21030138

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2454593	EPA 8270E	Aldrin	0.67	U	ng/L	P438606	
		Alpha-BHC	0.10	U	ng/L	P438606	MS
		Alpha-Chlordane	0.21	U	ng/L	P438606	
		PCB-1016	2.1	U	ng/L	P438606	MS
		Beta-BHC	0.10	U	ng/L	P438606	
		PCB-1221	2.1	U	ng/L	P438606	
		Beta-Cyfluthrin	1.3	U	ng/L	P438606	
		PCB-1232	2.1	U	ng/L	P438606	
		Bifenthrin	0.52	U	ng/L	P438606	
		PCB-1242	2.1	U	ng/L	P438606	
		PCB-1248	2.1	U	ng/L	P438606	
		Chlorothalonil	3.7	U	ng/L	P438606	
		PCB-1254	2.1	U	ng/L	P438606	
		Cis-Nonachlor	0.21	U	ng/L	P438606	
		PCB-1260	2.1	U	ng/L	P438606	MS
		Cypermethrin	1.6	U	ng/L	P438606	
		Dacthal	0.16	U	ng/L	P438606	
		DDD-p,p'	0.26	U	ng/L	P438606	
		DDE-p,p'	0.21	U	ng/L	P438606	
		DDT-p,p'	0.83	U	ng/L	P438606	
		Delta-BHC	0.41	U	ng/L	P438606	
		Deltamethrin	1.3	U	ng/L	P438606	
		Dichlobenil	0.26	U	ng/L	P438606	RPD
		Dicofol	1.3	U	ng/L	P438606	
		Dieldrin	0.41	U	ng/L	P438606	MS
		Endosulfan I	0.41	U	ng/L	P438606	RPD
		Endosulfan II	0.93	U	ng/L	P438606	
		Endosulfan Sulfate	0.31	U	ng/L	P438606	RPD
		Endrin	0.93	U	ng/L	P438606	
		Endrin Aldehyde	0.78	U	ng/L	P438606	RPD
		Endrin Ketone	0.41	U	ng/L	P438606	
		Esfenvalerate	0.78	U	ng/L	P438606	
		Ethalfuralin	0.16	U	ng/L	P438606	
		Fenpropathrin	0.26	U	ng/L	P438606	MS
		Gamma-BHC	0.13	U	ng/L	P438606	MS
		Gamma-Chlordane	0.21	U	ng/L	P438606	
		Heptachlor	0.21	U	ng/L	P438606	
		Heptachlor Epoxide	0.26	U	ng/L	P438606	
		Hexachlorobenzene**	1.0	U	ng/L	P438606	MS, RPD
		Kepone	14	U	ng/L	P438606	
		Lambda-Cyhalothrin	0.78	U	ng/L	P438606	
		Methoprene	0.78	U	ng/L	P438606	
		Methoxychlor	0.31	U	ng/L	P438606	MS

Field ID: 21030138

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2454593	EPA 8270E	MGK-264	0.21	U	ng/L	P438606	MS, RPD
		Mirex	0.36	U	ng/L	P438606	
		Oxychlordane	0.31	U	ng/L	P438606	
		Permethrin	1.7	U	ng/L	P438606	
		Phenothrin	0.93	U	ng/L	P438606	RPD
		Piperonyl Butoxide	0.62	I	ng/L	P438606	
		Prallethrin	2.1	U	ng/L	P438606	
		Tau-Fluvalinate	0.26	U	ng/L	P438606	
		Tetramethrin	0.78	U	ng/L	P438606	
		Trans-Nonachlor	0.21	U	ng/L	P438606	
		Triclosan Methyl	0.16	U	ng/L	P438606	
		Trifluralin	0.21	U	ng/L	P438606	
	EPA 8276	Chlordane	2.1	U	ng/L	P438606	
		Toxaphene	16	U	ng/L	P438606	

Sample Location: CANNON CR AT S WARD ST

Collection Date/Time: 12/04/2023 11:10

Field ID: 21030016FLA

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2454594	EPA 8321B	2,4-D	0.010		ug/L	P438413	
		Acesulfame K	0.10	U	ug/L	P438435	
		2,4,5-T	0.0040	U	ug/L	P438413	
		AMPA	0.12	I	ug/L	P438435	
		Acetaminophen	0.0080	U	ug/L	P438413	
		Acetamiprid	0.0020	U	ug/L	P438413	
		Endothall	0.25	U	ug/L	P438435	
		Glufosinate	0.10	U	ug/L	P438435	
		Glyphosate	0.17	I	ug/L	P438435	
		Afidopyropen	0.0020	U	ug/L	P438413	
		Bentazon	8.0E-04	U	ug/L	P438413	
		Sucralose	0.086		ug/L	P438435	
		Benzovindiflupyr	0.0020	U	ug/L	P438413	
		Carbamazepine	8.0E-04	U	ug/L	P438413	
		Clothianidin	0.0020	U	ug/L	P438413	
		Dinotefuran	0.0020	U	ug/L	P438413	
		Diuron	0.0096		ug/L	P438413	
		Fenuron	0.032	U	ug/L	P438413	
		Fluridone	8.0E-04	U	ug/L	P438413	
		Imazapyr	0.036		ug/L	P438413	
		Hydrocodone	0.0020	U	ug/L	P438413	
		Ibuprofen	0.080	U	ug/L	P438413	
		Imidacloprid	0.018		ug/L	P438413	
		Linuron	0.0040	U	ug/L	P438413	
		Mandestrobin	0.0020	U	ug/L	P438413	
		MCPP	0.0020	U	ug/L	P438413	
		Naproxen	0.0080	U	ug/L	P438413	
		Primidone	0.0040	U	ug/L	P438413	
		Pyraclostrobin	0.0020	U	ug/L	P438413	
		Silvex	0.0040	U	ug/L	P438413	
		Thiamethoxam	0.0020	U	ug/L	P438413	
		Tolfenpyrad	0.0020	U	ug/L	P438413	
		Triclopyr	0.0040	U	ug/L	P438413	

Ref. Method and Comment:

EPA 8321B: MS accuracy for some analytes could not be assessed due to high concentration of parameter in the spiked sample.

Quality Assurance Report

Method Blank Results

Reference Method: EPA 8270E

Batch ID: P438606

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: P438606

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: P438606

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

Reference Method: EPA 8321B
Batch ID: P438413

Component	Result	Code	Units
2,4-D	0.0020	U	ug/L
2,4,5-T	0.0040	U	ug/L
Acetaminophen	0.0080	U	ug/L
Acetamiprid	0.0020	U	ug/L
Afidopyropen	0.0020	U	ug/L
Bentazon	8.0E-04	U	ug/L
Benzovindiflupyr	0.0020	U	ug/L
Carbamazepine	8.0E-04	U	ug/L
Clothianidin	0.0020	U	ug/L
Dinotefuran	0.0020	U	ug/L
Diuron	0.0020	U	ug/L
Fenuron	0.032	U	ug/L
Fluridone	8.0E-04	U	ug/L
Hydrocodone	0.0020	U	ug/L
Ibuprofen	0.080	U	ug/L
Imazapyr	0.0040	U	ug/L
Imidacloprid	0.0020	U	ug/L
Linuron	0.0040	U	ug/L
Mandestrobin	0.0020	U	ug/L
MCPP	0.0020	U	ug/L
Naproxen	0.0080	U	ug/L
Primidone	0.0040	U	ug/L
Pyraclostrobin	0.0020	U	ug/L
Silvex	0.0040	U	ug/L
Thiamethoxam	0.0020	U	ug/L
Tolfenpyrad	0.0020	U	ug/L
Triclopyr	0.0040	U	ug/L

Reference Method: EPA 8321B
Batch ID: P438435

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

Quality Assurance Report

Method Blank Results

Reference Method: EPA 8321B
Batch ID: P438435

Component	Result	Code	Units
Sucralose	0.010	U	ug/L

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: EPA 8270E

Batch ID: P438606

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Aldrin	42.2		P	30 - 96.0
Alpha-BHC	80.3		P	70 - 109
Alpha-Chlordane	92.0		P	45 - 107
Beta-BHC	104		P	64 - 138
Beta-Cyfluthrin	88.9		P	17 - 141
Bifenthrin	59.7		P	10 - 113
Chlorothalonil	87.7		P	26 - 180
Cis-Nonachlor	87.9		P	37 - 102
Cypermethrin	94.0		P	20 - 133
Dacthal	86.3		P	69 - 114
DDD-p,p'	90.4		P	42 - 105
DDE-p,p'	64.4		P	42 - 106
DDT-p,p'	69.2		P	42 - 107
Delta-BHC	102		P	67 - 144
Deltamethrin	98.1		P	15 - 149
Dichlobenil	82.1		P	46 - 117
Dicofol	72.8		P	34 - 114
Dieldrin	75.7		P	50 - 108
Endosulfan I	83.6		P	55 - 104
Endosulfan II	90.2		P	51 - 111
Endosulfan Sulfate	77.2		P	56 - 121
Endrin	92.7		P	10 - 106
Endrin Aldehyde	72.0		P	34 - 114
Endrin Ketone	95.4		P	63 - 177
Esfenvalerate	76.6		P	29 - 143
Ethalfuralin	71.7		P	46 - 96.0
Fenpropathrin	66.2		P	28 - 115
Gamma-BHC	94.9		P	65 - 121
Gamma-Chlordane	84.4		P	39 - 103
Heptachlor	68.0		P	39 - 94.0
Heptachlor Epoxide	93.4		P	54 - 104
Hexachlorobenzene	81.3		P	36 - 100
Kepone	92.8		P	10 - 225
Lambda-Cyhalothrin	82.8		P	10 - 135
Methoprene	69.2		P	10 - 109
Methoxychlor	91.4		P	52 - 112
MGK-264	78.8		P	44 - 117
Mirex	60.1		P	20 - 90.0
Oxychlordane	64.9		P	44 - 102
PCB-1016	84.7		P	45 - 107
PCB-1260	110		P	40 - 118
Permethrin	83.5		P	18 - 135
Phenothrin	68.1		P	10 - 102
Piperonyl Butoxide	110		P	28 - 156
Prallethrin	84.3		P	28 - 113
Tau-Fluvalinate	95.4		P	10 - 123
Tetramethrin	88.5		P	18 - 158
Trans-Nonachlor	97.2		P	39 - 104
Triclosan Methyl	80.9		P	54 - 108
Trifluralin	90.3		P	46 - 97.0

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: EPA 8276

Batch ID: P438606

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Chlordane	99.8		P	52 - 117
Toxaphene	109		P	44 - 125

Reference Method: EPA 8321B

Batch ID: P438413

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	98.5		P	40 - 150
2,4,5-T	110		P	40 - 150
Acetaminophen	88.9		P	30 - 150
Acetamiprid	90.0		P	40 - 150
Afidopyropen	83.0		P	30 - 150
Bentazon	68.3		P	30 - 150
Benzovindiflupyr	87.3		P	40 - 150
Carbamazepine	81.0		P	40 - 150
Clothianidin	88.3		P	40 - 150
Dinotefuran	101		P	40 - 150
Diuron	66.3		P	40 - 150
Fenuron	99.8		P	40 - 150
Fluridone	89.9		P	40 - 150
Hydrocodone	90.0		P	40 - 150
Ibuprofen	69.6		P	40 - 150
Imazapyr	90.0		P	40 - 150
Imidacloprid	86.1		P	40 - 150
Linuron	81.7		P	40 - 150
Mandestrobin	89.3		P	40 - 150
MCPP	92.5		P	40 - 150
Naproxen	67.6		P	40 - 150
Primidone	85.0		P	40 - 150
Pyraclostrobin	79.0		P	40 - 150
Silvex	91.3		P	40 - 150
Thiamethoxam	92.5		P	40 - 150
Tolfenpyrad	46.7		P	30 - 150
Triclopyr	114		P	40 - 150

Reference Method: EPA 8321B

Batch ID: P438435

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acesulfame K	134		P	40 - 150
AMPA	73.8		P	40 - 160
Endothall	114		P	40 - 160
Glufosinate	90.5		P	40 - 160
Glyphosate	87.9		P	40 - 160
Sucralose	101		P	40 - 150

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8270E

Batch ID: P438606

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2454573	PCB-1016	91.3	114	P/F	45 - 107
2454573	PCB-1260	110	130	P/F	40 - 112
2455436	Aldrin	40.5	36.2	P/P	24 - 81.0
2455436	Alpha-BHC	55.5	58.9	F/F	65 - 110
2455436	Alpha-Chlordane	51.8	56.8	P/P	43 - 119
2455436	Beta-BHC	89.3	75.7	P/P	54 - 165
2455436	Beta-Cyfluthrin	64.0	61.5	P/P	27 - 165
2455436	Bifenthrin	46.9	56.2	P/P	17 - 117
2455436	Chlorothalonil	94.7	76.6	P/P	10 - 255
2455436	Cis-Nonachlor	58.0	57.6	P/P	34 - 98.0
2455436	Cypermethrin	42.3	55.5	P/P	25 - 143
2455436	Dacthal	72.7	63.5	P/P	55 - 139
2455436	DDD-p,p'	49.8	66.2	P/P	30 - 109
2455436	DDE-p,p'	56.4	55.2	P/P	35 - 106
2455436	DDT-p,p'	52.7	43.0	P/P	41 - 101
2455436	Delta-BHC	87.1	69.8	P/P	58 - 165
2455436	Deltamethrin	53.7	39.3	P/P	10 - 194
2455436	Dichlobenil	81.4	49.6	P/P	22 - 114
2455436	Dicofol	53.5	52.5	P/P	17 - 133
2455436	Dieldrin	22.9	22.1	F/F	45 - 129
2455436	Endosulfan I	64.5	50.1	P/P	49 - 104
2455436	Endosulfan II	57.7	66.6	P/P	37 - 117
2455436	Endosulfan Sulfate	98.5	51.9	P/P	38 - 128
2455436	Endrin	49.6	62.3	P/P	35 - 116
2455436	Endrin Aldehyde	72.6	28.7	P/P	19 - 108
2455436	Endrin Ketone	57.7	72.6	P/P	44 - 134
2455436	Esfenvalerate	60.4	71.5	P/P	27 - 176
2455436	Ethalfuralin	64.3	54.2	P/P	49 - 100
2455436	Fenpropathrin	42.3	33.4	P/F	34 - 117
2455436	Gamma-BHC	67.2	54.3	P/F	59 - 129
2455436	Gamma-Chlordane	47.9	50.4	P/P	33 - 107
2455436	Heptachlor	50.8	43.4	P/P	37 - 94.0
2455436	Heptachlor Epoxide	69.9	52.6	P/P	38 - 118
2455436	Hexachlorobenzene	29.4	48.8	F/P	35 - 97.0
2455436	Kepone	37.1	33.5	P/P	10 - 221
2455436	Lambda-Cyhalothrin	42.9	55.0	P/P	23 - 190
2455436	Methoprene	46.9	37.9	P/P	21 - 109
2455436	Methoxychlor	42.8	58.8	F/P	46 - 118
2455436	MGK-264	68.4	53.6	P/P	39 - 122
2455436	Mirex	49.2	36.6	P/P	25 - 90.0
2455436	Oxychlordane	53.5	35.3	P/F	42 - 100
2455436	Permethrin	51.1	61.2	P/P	33 - 181
2455436	Phenothrin	55.5	70.7	P/P	12 - 125
2455436	Piperonyl Butoxide	86.9	69.1	P/P	10 - 178
2455436	Prallethrin	51.8	46.1	P/P	24 - 122
2455436	Tau-Fluvalinate	53.1	93.0	P/P	13 - 151
2455436	Tetramethrin	65.5	64.2	P/P	16 - 172
2455436	Trans-Nonachlor	58.5	51.2	P/P	39 - 100
2455436	Triclosan Methyl	63.1	47.0	P/P	43 - 110
2455436	Trifluralin	60.7	49.2	P/P	45 - 94.0

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8276

Batch ID: P438606

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2454573	Chlordane	80.5	101	P/P	43 - 123
2454573	Toxaphene	71.2	95.2	P/P	27 - 156

Reference Method: EPA 8321B

Batch ID: P438413

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2453787	2,4-D	105	80.3	P/P	40 - 150
2453787	2,4,5-T	94.1	79.0	P/P	40 - 150
2453787	Acetaminophen	106	91.7	P/P	30 - 150
2453787	Acetamiprid	77.4	67.6	P/P	40 - 150
2453787	Afidopyropen	81.6	73.4	P/P	30 - 150
2453787	Benzovindiflupyr	98.0	82.0	P/P	40 - 150
2453787	Carbamazepine	81.9	72.5	P/P	40 - 150
2453787	Clothianidin	113	98.1	P/P	40 - 150
2453787	Dinotefuran	112	95.3	P/P	40 - 150
2453787	Diuron	75.0	65.4	P/P	40 - 150
2453787	Fenuron	86.4	79.7	P/P	40 - 150
2453787	Fluridone	94.5	81.1	P/P	40 - 150
2453787	Hydrocodone	90.5	79.4	P/P	40 - 150
2453787	Ibuprofen	70.9	58.7	P/P	40 - 150
2453787	Imidacloprid	141	120	P/P	40 - 150
2453787	Linuron	82.4	68.2	P/P	40 - 150
2453787	Mandestrobin	98.8	84.8	P/P	40 - 150
2453787	MCPP	103	86.8	P/P	40 - 150
2453787	Naproxen	90.0	69.1	P/P	40 - 150
2453787	Primidone	109	94.2	P/P	40 - 150
2453787	Pyraclostrobin	91.3	79.9	P/P	40 - 150
2453787	Silvex	101	81.7	P/P	40 - 150
2453787	Thiamethoxam	101	89.0	P/P	40 - 150
2453787	Tolfenpyrad	64.4	55.4	P/P	30 - 150
2453787	Triclopyr	100	84.0	P/P	40 - 150

Reference Method: EPA 8321B

Batch ID: P438435

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2453829	Acesulfame K	127	129	P/P	40 - 150
2453829	AMPA	75.3	82.9	P/P	40 - 160
2453829	Endothall	127	126	P/P	40 - 160
2453829	Glufosinate	82.1	81.9	P/P	40 - 160
2453829	Glyphosate	86.3	92.1	P/P	40 - 160
2453829	Sucralose	54.8	70.4	P/P	40 - 150

Quality Assurance Report Precision

Reference Method: EPA 8270E
Batch ID: P438606

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2454573	PCB-1016	22.4	Spike	P	0 - 25
2454573	PCB-1260	17.0	Spike	P	0 - 30
2455436	Aldrin	11.3	Spike	P	0 - 41
2455436	Alpha-BHC	5.87	Spike	P	0 - 25
2455436	Alpha-Chlordane	9.06	Spike	P	0 - 32
2455436	Beta-BHC	16.5	Spike	P	0 - 33
2455436	Beta-Cyfluthrin	3.95	Spike	P	0 - 43
2455436	Bifenthrin	18.2	Spike	P	0 - 52
2455436	Chlorothalonil	21.1	Spike	P	0 - 82
2455436	Cis-Nonachlor	0.665	Spike	P	0 - 33
2455436	Cypermethrin	27.1	Spike	P	0 - 51
2455436	Dacthal	13.5	Spike	P	0 - 27
2455436	DDD-p,p'	28.2	Spike	P	0 - 39
2455436	DDE-p,p'	2.15	Spike	P	0 - 31
2455436	DDT-p,p'	20.2	Spike	P	0 - 29
2455436	Delta-BHC	22.0	Spike	P	0 - 35
2455436	Deltamethrin	31.1	Spike	P	0 - 100
2455436	Dichlobenil	48.5	Spike	F	0 - 40
2455436	Dicofol	1.90	Spike	P	0 - 37
2455436	Dieldrin	1.08	Spike	P	0 - 27
2455436	Endosulfan I	25.2	Spike	F	0 - 23
2455436	Endosulfan II	14.4	Spike	P	0 - 34
2455436	Endosulfan Sulfate	61.9	Spike	F	0 - 36
2455436	Endrin	22.7	Spike	P	0 - 45
2455436	Endrin Aldehyde	86.8	Spike	F	0 - 76
2455436	Endrin Ketone	22.9	Spike	P	0 - 43
2455436	Esfenvalerate	16.8	Spike	P	0 - 51
2455436	Ethalfuralin	17.2	Spike	P	0 - 22
2455436	Fenpropathrin	23.4	Spike	P	0 - 49
2455436	Gamma-BHC	21.3	Spike	P	0 - 28
2455436	Gamma-Chlordane	5.11	Spike	P	0 - 40
2455436	Heptachlor	15.9	Spike	P	0 - 29
2455436	Heptachlor Epoxide	25.0	Spike	P	0 - 33
2455436	Hexachlorobenzene	49.5	Spike	F	0 - 36
2455436	Kepone	3.63	Spike	P	0 - 85
2455436	Lambda-Cyhalothrin	24.7	Spike	P	0 - 55
2455436	Methoprene	21.3	Spike	P	0 - 53
2455436	Methoxychlor	31.7	Spike	P	0 - 50
2455436	MGK-264	24.2	Spike	P	0 - 43
2455436	Mirex	29.3	Spike	P	0 - 40
2455436	Oxychlordane	41.1	Spike	F	0 - 31
2455436	Permethrin	18.0	Spike	P	0 - 50
2455436	Phenothrin	24.1	Spike	P	0 - 58
2455436	Piperonyl Butoxide	22.8	Spike	P	0 - 100
2455436	Prallethrin	11.7	Spike	P	0 - 39
2455436	Tau-Fluvalinate	54.7	Spike	F	0 - 54
2455436	Tetramethrin	2.07	Spike	P	0 - 51
2455436	Trans-Nonachlor	13.3	Spike	P	0 - 39
2455436	Triclosan Methyl	29.2	Spike	P	0 - 31
2455436	Trifluralin	21.1	Spike	P	0 - 22

Quality Assurance Report Precision

Reference Method: EPA 8276
Batch ID: P438606

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2454573	Chlordane	22.5	Spike	P	0 - 28
2454573	Toxaphene	25.0	Spike	P	0 - 27

Reference Method: EPA 8321B
Batch ID: P438413

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2453787	2,4-D	18.8	Spike	P	0 - 30
2453787	2,4,5-T	17.4	Spike	P	0 - 30
2453787	Acetaminophen	14.6	Spike	P	0 - 30
2453787	Acetamiprid	13.5	Spike	P	0 - 30
2453787	Afidopyropen	10.7	Spike	P	0 - 30
2453787	Bentazon	13.8	Spike	P	0 - 30
2453787	Benzovindiflupyr	17.7	Spike	P	0 - 30
2453787	Carbamazepine	10.2	Spike	P	0 - 30
2453787	Clothianidin	12.1	Spike	P	0 - 30
2453787	Dinotefuran	15.9	Spike	P	0 - 30
2453787	Diuron	13.6	Spike	P	0 - 30
2453787	Fenuron	8.07	Spike	P	0 - 30
2453787	Fluridone	9.31	Spike	P	0 - 30
2453787	Hydrocodone	13.0	Spike	P	0 - 30
2453787	Ibuprofen	18.9	Spike	P	0 - 30
2453787	Imazapyr	17.3	Spike	P	0 - 30
2453787	Imidacloprid	14.4	Spike	P	0 - 30
2453787	Linuron	18.8	Spike	P	0 - 30
2453787	Mandestrobin	15.2	Spike	P	0 - 30
2453787	MCP	16.4	Spike	P	0 - 30
2453787	Naproxen	26.2	Spike	P	0 - 30
2453787	Primidone	13.6	Spike	P	0 - 30
2453787	Pyraclostrobin	13.4	Spike	P	0 - 30
2453787	Silvex	21.6	Spike	P	0 - 30
2453787	Thiamethoxam	12.7	Spike	P	0 - 30
2453787	Tolfenpyrad	15.0	Spike	P	0 - 30
2453787	Triclopyr	17.4	Spike	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P438435

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2453829	Acesulfame K	1.79	Spike	P	0 - 30
2453829	AMPA	9.72	Spike	P	0 - 30
2453829	Endothall	1.16	Spike	P	0 - 30
2453829	Glufosinate	0.333	Spike	P	0 - 30
2453829	Glyphosate	6.48	Spike	P	0 - 30
2453829	Sucralose	25.0	Spike	P	0 - 30

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

Quality Assurance Report Surrogates

Lab Sample ID: 2454593

Field Sample ID: 21030138

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8270E	Decachlorobiphenyl	72.9	P	37 - 129
EPA 8270E	Decachlorobiphenyl	80.5	P	26 - 115
EPA 8270E	Tetrachloro-m-xylene	58.6	P	30 - 101
EPA 8270E	Tetrachloro-m-xylene	64.6	P	29 - 95.0
EPA 8276	Decachlorobiphenyl	94.0	P	28 - 102
EPA 8276	PCNB	96.4	P	49 - 115

Lab Sample ID: 2454594

Field Sample ID: 21030016FLA

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	80.3	P	30 - 160
EPA 8321B	Acetaminophen-d4	86.3	P	30 - 160
EPA 8321B	Carbamazepine-d10	53.5	P	30 - 160
EPA 8321B	Diuron-d6	53.7	P	30 - 160
EPA 8321B	Endothall-d6	106	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	88.8	P	30 - 160
EPA 8321B	Ibuprofen-d3	64.2	P	30 - 160
EPA 8321B	Primidone-d5	70.8	P	30 - 160
EPA 8321B	Sucralose-d6	109	P	30 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B
Run ID: A123035
Included Lab Sample IDs: 2454594

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acesulfame K	156	151	P/P	60 - 160
Sucralose	116	113	P/P	60 - 160

Reference Method: EPA 8321B
Run ID: A123037
Included Lab Sample IDs: 2454594

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
AMPA	85.8	88.3	P/P	60 - 160
Endothall	103	142	P/P	60 - 160
Glufosinate	84.9	88.6	P/P	60 - 160
Glyphosate	91.9	95.3	P/P	60 - 160

Reference Method: EPA 8321B
Run ID: A123073
Included Lab Sample IDs: 2454594

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	96.2	94.5	P/P	50 - 150
2,4,5-T	89.5	88.0	P/P	50 - 150
Acetaminophen	105	103	P/P	60 - 160
Acetamiprid	107	106	P/P	50 - 150
Afidopyropen	99.7	108	P/P	50 - 150
Bentazon	89.7	91.2	P/P	50 - 160
Benzovindiflupyr	107	105	P/P	50 - 150
Carbamazepine	109	111	P/P	60 - 150
Clothianidin	105	100	P/P	60 - 150
Dinotefuran	112	111	P/P	50 - 150
Diuron	105	103	P/P	60 - 160
Fenuron	105	105	P/P	60 - 150
Fluridone	112	109	P/P	60 - 160
Hydrocodone	109	112	P/P	60 - 150
Ibuprofen	95.9	87.2	P/P	50 - 160
Imazapyr	86.3	81.2	P/P	50 - 150
Imidacloprid	96.0	97.6	P/P	60 - 150
Linuron	100	99.0	P/P	60 - 150
Mandestrobin	108	110	P/P	50 - 150
MCPP	102	103	P/P	50 - 150
Naproxen	125	102	P/P	50 - 160
Primidone	97.7	98.7	P/P	60 - 150
Pyraclostrobin	102	102	P/P	60 - 150
Silvex	107	97.9	P/P	50 - 150
Thiamethoxam	112	112	P/P	50 - 150
Tolfenpyrad	98.3	94.7	P/P	60 - 150
Triclopyr	95.2	102	P/P	50 - 150

Reference Method: EPA 8270E
Run ID: A123257
Included Lab Sample IDs: 2454593

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

Reference Method: EPA 8270E
Run ID: A123257
Included Lab Sample IDs: 2454593

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
PCB-1016	93.3		P	80 - 120
PCB-1260	86.9		P	80 - 120

Reference Method: EPA 8276
Run ID: A123318
Included Lab Sample IDs: 2454593

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chlordane	96.7		P	80 - 120
Toxaphene	92.5		P	80 - 120

Reference Method: EPA 8270E
Run ID: A123394
Included Lab Sample IDs: 2454593

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Aldrin	101		P	80 - 120
Alpha-BHC	103		P	80 - 120
Alpha-Chlordane	88.2		P	80 - 120
Beta-BHC	89.2		P	80 - 120
Beta-Cyfluthrin	99.9		P	80 - 120
Bifenthrin	87.8		P	80 - 120
Chlorothalonil	96.4		P	80 - 120
Cis-Nonachlor	100		P	80 - 120
Cypermethrin	98.2		P	80 - 120
Dacthal	112		P	80 - 120
DDD-p,p'	110		P	80 - 120
DDE-p,p'	88.9		P	80 - 120
DDT-p,p'	93.9		P	80 - 120
Delta-BHC	91.3		P	80 - 120
Deltamethrin	98.0		P	80 - 120
Dichlobenil	91.5		P	80 - 120
Dicofol	98.0		P	80 - 120
Dieldrin	94.0		P	80 - 120
Endosulfan I	95.2		P	80 - 120
Endosulfan II	100		P	80 - 120
Endosulfan Sulfate	92.1		P	80 - 120
Endrin	99.3		P	80 - 120
Endrin Aldehyde	96.7		P	80 - 120
Endrin Ketone	101		P	80 - 120
Esfenvalerate	98.6		P	80 - 120
Ethalfuralin	88.1		P	80 - 120
Fenpropathrin	87.0		P	80 - 120
Gamma-BHC	85.3		P	80 - 120
Gamma-Chlordane	110		P	80 - 120
Heptachlor	102		P	80 - 120
Heptachlor Epoxide	100		P	80 - 120
Hexachlorobenzene	97.9		P	80 - 120
Kepone	82.8		P	80 - 120
Lambda-Cyhalothrin	104		P	80 - 120
Methoprene	97.4		P	80 - 120

Quality Assurance Report Calibration Verification

Reference Method: EPA 8270E
Run ID: A123394
Included Lab Sample IDs: 2454593

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Methoxychlor	98.8		P	80 - 120
MGK-264	89.8		P	80 - 120
Mirex	96.6		P	80 - 120
Oxychlordane	82.6		P	80 - 120
Permethrin	101		P	80 - 120
Phenothrin	103		P	80 - 120
Piperonyl Butoxide	106		P	80 - 120
Prallethrin	98.9		P	80 - 120
Tau-Fluvalinate	108		P	80 - 120
Tetramethrin	103		P	80 - 120
Trans-Nonachlor	115		P	80 - 120
Triclosan Methyl	85.8		P	80 - 120
Trifluralin	112		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	MS
						SMP	
EPA 8270E	Aldrin	42.2	36.2	40.5			11.3
	Alpha-BHC	80.3	58.9	55.5			5.87
	Alpha-Chlordane	92.0	56.8	51.8			9.06
	Beta-BHC	104	75.7	89.3			16.5
	Beta-Cyfluthrin	88.9	61.5	64.0			3.95
	Bifenthrin	59.7	56.2	46.9			18.2
	Chlorothalonil	87.7	76.6	94.7			21.1
	Cis-Nonachlor	87.9	57.6	58.0			0.665
	Cypermethrin	94.0	55.5	42.3			27.1
	Dacthal	86.3	63.5	72.7			13.5
	DDD-p,p'	90.4	66.2	49.8			28.2
	DDE-p,p'	64.4	55.2	56.4			2.15
	DDT-p,p'	69.2	43.0	52.7			20.2
	Delta-BHC	102	69.8	87.1			22.0
	Deltamethrin	98.1	39.3	53.7			31.1
	Dichlobenil	82.1	49.6	81.4			48.5
	Dicofol	72.8	52.5	53.5			1.90
	Dieldrin	75.7	22.1	22.9			1.08
	Endosulfan I	83.6	50.1	64.5			25.2
	Endosulfan II	90.2	66.6	57.7			14.4
	Endosulfan Sulfate	77.2	51.9	98.5			61.9
	Endrin	92.7	62.3	49.6			22.7
	Endrin Aldehyde	72.0	28.7	72.6			86.8
	Endrin Ketone	95.4	72.6	57.7			22.9
	Esfenvalerate	76.6	71.5	60.4			16.8
	Ethalfuralin	71.7	54.2	64.3			17.2
	Fenpropathrin	66.2	33.4	42.3			23.4
	Gamma-BHC	94.9	54.3	67.2			21.3
	Gamma-Chlordane	84.4	50.4	47.9			5.11
	Heptachlor	68.0	43.4	50.8			15.9
	Heptachlor Epoxide	93.4	52.6	69.9			25.0
	Hexachlorobenzene	81.3	48.8	29.4			49.5
	Kepone	92.8	33.5	37.1			3.63
	Lambda-Cyhalothrin	82.8	55.0	42.9			24.7
	Methoprene	69.2	37.9	46.9			21.3
	Methoxychlor	91.4	58.8	42.8			31.7
	MGK-264	78.8	53.6	68.4			24.2
	Mirex	60.1	36.6	49.2			29.3
	Oxychlordane	64.9	35.3	53.5			41.1
	PCB-1016	84.7	91.3	114			22.4
	PCB-1260	110	110	130			17.0
	Permethrin	83.5	61.2	51.1			18.0
	Phenothrin	68.1	70.7	55.5			24.1
	Piperonyl Butoxide	110	69.1	86.9			22.8
	Prallethrin	84.3	46.1	51.8			11.7
	Tau-Fluvalinate	95.4	93.0	53.1			54.7
	Tetramethrin	88.5	65.5	64.2			2.07
	Trans-Nonachlor	97.2	58.5	51.2			13.3
	Triclosan Methyl	80.9	63.1	47.0			29.2
	Trifluralin	90.3	60.7	49.2			21.1
EPA 8276	Chlordane	99.8	80.5	101			22.5
	Toxaphene	109	71.2	95.2			25.0
EPA 8321B	2,4-D	98.5	105	80.3			18.8
	2,4,5-T	110	94.1	79.0			17.4

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery		Precision SMP	MS
			LCS			
EPA 8321B	Acesulfame K	134	127	129		1.79
	Acetaminophen	88.9	91.7	106		14.6
	Acetamiprid	90.0	77.4	67.6		13.5
	Afidopyropen	83.0	81.6	73.4		10.7
	AMPA	73.8	75.3	82.9		9.72
	Bentazon	68.3				13.8
	Benzovindiflupyr	87.3	98.0	82.0		17.7
	Carbamazepine	81.0	81.9	72.5		10.2
	Clothianidin	88.3	113	98.1		12.1
	Dinotefuran	101	95.3	112		15.9
	Diuron	66.3	75.0	65.4		13.6
	Endothall	114	127	126		1.16
	Fenuron	99.8	86.4	79.7		8.07
	Fluridone	89.9	94.5	81.1		9.31
	Glufosinate	90.5	82.1	81.9		0.333
	Glyphosate	87.9	86.3	92.1		6.48
	Hydrocodone	90.0	79.4	90.5		13.0
	Ibuprofen	69.6	70.9	58.7		18.9
	Imazapyr	90.0				17.3
	Imidacloprid	86.1	141	120		14.4
	Linuron	81.7	82.4	68.2		18.8
	Mandestrobin	89.3	98.8	84.8		15.2
	MCPP	92.5	103	86.8		16.4
	Naproxen	67.6	90.0	69.1		26.2
	Primidone	85.0	94.2	109		13.6
	Pyraclostrobin	79.0	91.3	79.9		13.4
	Silvex	91.3	101	81.7		21.6
	Sucralose	101	54.8	70.4		25.0
	Thiamethoxam	92.5	89.0	101		12.7
	Tolfenpyrad	46.7	64.4	55.4		15.0
	Triclopyr	114	100	84.0		17.4

Reference Method Descriptions

Method	Description	Associated Samples
EPA 8270E	Organochlorine pesticides, pyrethroids and tracers in water matrices by GC/MS/MS	2454593
EPA 8270E	PCBs in water matrices by GC/MS/MS	2454593
EPA 8276	Chlordane and Toxaphene in water matrices by GC/MS with Negative Chemical Ionization	2454593
EPA 8321B	Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS	2454594

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
EPA 8270E	12/05/2023	12/08/2023 08:00	Fe-Val Siddell	12/13/2023 01:13	Lipi Saha	2454593
	12/05/2023	12/08/2023 08:00	Fe-Val Siddell	12/20/2023 23:22	Julie Wi	2454593
EPA 8276	12/05/2023	12/08/2023 08:00	Fe-Val Siddell	12/19/2023 08:57	Kenedi Mills	2454593
EPA 8321B	12/05/2023	12/05/2023 12:00	Tae K Lee	12/05/2023 15:01	Hana Lee	2454594
	12/05/2023	12/05/2023 12:00	Tae K Lee	12/05/2023 17:50	Hana Lee	2454594
	12/05/2023	12/05/2023 13:00	Hoor Shaik	12/06/2023 21:41	Juyoung Kim	2454594