

Chemical Analysis Report

SO-DIST-2022-08-03-02

Florida Department of Environmental Protection
Central Laboratory
2600 Blair Stone Road
Tallahassee, FL 32399-2400
DOH Accreditation E31780

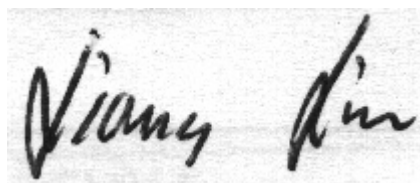
Event Description: **2022 SMP: Hatchett Creek**
Request ID: **RQ-2022-08-01-70**
Customer: **SO-DIST**
Project ID: **SMP**

Send Reports to:
FL Dept. of Environmental Protection
FLDEP South District Office
2295 Victoria Ave. Suite 364
Fort Myers, FL 33901-3381
Attn: William Mullen

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Certified by: Liang Lin, Environmental Administrator

Date Certified: 15-AUG-2022 14:28

A handwritten signature in black ink, appearing to read "Liang Lin", on a light-colored background.

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: Hatchett Creek Tidal 1

Collection Date/Time: 08/02/2022 09:45

Field ID: G3SD0191

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2345785	EPA 8270E	Oxybenzone**	9.5	U	ng/L	P417604	
		Acetochlor	0.24	U	ng/L	P417604	
		Octinoxate**	19	U	ng/L	P417604	
		Alachlor	0.24	U	ng/L	P417604	
		Avobenzone**	95	U	ng/L	P417604	
		Ametryn	4.2		ng/L	P417604	
		Atrazine	45		ng/L	P417604	
		PBDE-47**	3.8	U	ng/L	P417604	
		Atrazine Desethyl	9.7		ng/L	P417604	
		PBDE-99**	4.8	U	ng/L	P417604	
		Azinphos Methyl	1.9	U	ng/L	P417604	
		Tri-o-cresyl Phosphate**	5.7	U	ng/L	P417604	
		Azoxystrobin	1.5	I	ng/L	P417604	
		Bromacil	0.48	U	ng/L	P417604	
		2-Ethylhexyl	11	U	ng/L	P417604	
		2,3,4,5-tetrabromobenzoate (EHTBB)**					
		Butylate	0.38	U	ng/L	P417604	
		Caffeine**	20	I	ng/L	P417604	
		Carbophenothion	0.19	U	ng/L	P417604	
		Carfentrazone Ethyl	0.095	U	ng/L	P417604	
		Chlorfenapyr	0.17	U	ng/L	P417604	
		Chlorpyrifos Ethyl	0.24	U	ng/L	P417604	
		Chlorpyrifos Methyl	0.048	U	ng/L	P417604	
		Coumaphos	0.48	U	ng/L	P417604	
		Cyanazine	3.1	U	ng/L	P417604	
		Cyprodinil	0.095	U	ng/L	P417604	
		Demeton	1.4	U	ng/L	P417604	
		Diazinon	0.12	U	ng/L	P417604	
		Difenoconazole	0.57	U	ng/L	P417604	
		Dimethenamid	0.095	U	ng/L	P417604	
		Dimethomorph	0.17	U	ng/L	P417604	
		Disulfoton	0.48	U	ng/L	P417604	
		Dithiopyr	0.30	I	ng/L	P417604	
		EPTC	1.2	U	ng/L	P417604	
		Ethion	0.14	UJ	ng/L	P417604	LCS
		Ethoprop	0.095	U	ng/L	P417604	
		Etridiazole	0.14	U	ng/L	P417604	
		Fenamiphos	0.48	U	ng/L	P417604	
		Fenbuconazole	0.12	U	ng/L	P417604	
		Fipronil	2.6		ng/L	P417604	
		Fipronil Desulfinyl**	2.2		ng/L	P417604	
		Fipronil Sulfide	1.1		ng/L	P417604	
		Fipronil Sulfone	2.4		ng/L	P417604	
		Fluazifop-P-butyl	0.095	U	ng/L	P417604	

Field ID: G3SD0191

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2345785	EPA 8270E	Fludioxonil	0.12	U	ng/L	P417604	
		Flumioxazin	1.7	U	ng/L	P417604	
		Flutolanil	0.52		ng/L	P417604	
		Fluxapyroxad	1.4		ng/L	P417604	
		Fonofos	0.19	U	ng/L	P417604	
		Hexazinone	0.87	I	ng/L	P417604	
		Imazalil	0.71	U	ng/L	P417604	
		Iprodione	0.57	U	ng/L	P417604	
		Loratadine**	0.095	U	ng/L	P417604	MS
		Malathion	0.33	U	ng/L	P417604	
		Metalaxyl	0.71	U	ng/L	P417604	
		Metolachlor	0.33	U	ng/L	P417604	
		Metribuzin	2.4	U	ng/L	P417604	
		Mevinphos	1.0	U	ng/L	P417604	
		Molinate	0.29	U	ng/L	P417604	
		Myclobutanil	0.24	U	ng/L	P417604	
		Naled	1.4	U	ng/L	P417604	
		Napropamide	0.38	U	ng/L	P417604	
		Norflurazon	0.48	U	ng/L	P417604	
		Oxadiazon	1.8		ng/L	P417604	
		Oxyfluorfen	0.14	U	ng/L	P417604	
		Parathion Ethyl	0.24	U	ng/L	P417604	
		Parathion Methyl	0.52	U	ng/L	P417604	
		Pendimethalin	0.95	U	ng/L	P417604	
		Phenytol**	3.3	U	ng/L	P417604	MS
		Phorate	0.50	U	ng/L	P417604	
		Prodiamine	0.17	U	ng/L	P417604	
		Prometon	0.86	U	ng/L	P417604	
		Prometryn	0.19	U	ng/L	P417604	
		Pronamide	0.14	U	ng/L	P417604	
		Propanil	0.12	U	ng/L	P417604	
		Propargite	1.4	UJ	ng/L	P417604	LCS
		Propiconazole	0.53	I	ng/L	P417604	
		Pyraflufen Ethyl	0.24	U	ng/L	P417604	
		Pyridaben	0.43	U	ng/L	P417604	
		Pyriproxyfen	0.12	U	ng/L	P417604	
		Simazine	1.0	I	ng/L	P417604	
		Stirophos	0.12	U	ng/L	P417604	
		Sulfentrazone	19		ng/L	P417604	
		Tebuconazole	0.48	U	ng/L	P417604	
		Terbufos	0.095	U	ng/L	P417604	
		Terbuthylazine	0.40	U	ng/L	P417604	
		Thiobencarb	0.57	U	ng/L	P417604	
		Triadimefon	0.24	U	ng/L	P417604	

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
Ref. Method and Comment: EPA 8270E: MS accuracy for atrazine not assessed due to high content of this parameter in the sample spiked. Refer to the Lab Analysis Report for an explanation of QC Codes.							

Quality Assurance Report

Method Blank Results

Reference Method: EPA 8270E

Batch ID: P417604

Component	Result	Code	Units
2-Ethylhexyl 2,3,4,5-tetrabromobenzoate (EHTBB)	12	U	ng/L
2-Ethylhexyl 2,3,4,5-tetrabromobenzoate (EHTBB)	12	U	ng/L
Acetochlor	0.25	U	ng/L
Acetochlor	0.25	U	ng/L
Alachlor	0.25	U	ng/L
Alachlor	0.25	U	ng/L
Ametryn	0.60	U	ng/L
Ametryn	0.60	U	ng/L
Atrazine	0.25	U	ng/L
Atrazine	0.25	U	ng/L
Atrazine Desethyl	1.5	U	ng/L
Atrazine Desethyl	1.5	U	ng/L
Avobenzone	100	U	ng/L
Avobenzone	100	U	ng/L
Azinphos Methyl	2.0	U	ng/L
Azinphos Methyl	2.0	U	ng/L
Azoxystrobin	0.50	U	ng/L
Azoxystrobin	0.50	U	ng/L
Bromacil	0.50	U	ng/L
Bromacil	0.50	U	ng/L
Butylate	0.40	U	ng/L
Butylate	0.40	U	ng/L
Caffeine	7.5	U	ng/L
Caffeine	7.5	U	ng/L
Carbophenothion	0.20	U	ng/L
Carbophenothion	0.20	U	ng/L
Carfentrazone Ethyl	0.10	U	ng/L
Carfentrazone Ethyl	0.10	U	ng/L
Chlorfenapyr	0.18	U	ng/L
Chlorfenapyr	0.18	U	ng/L
Chlorpyrifos Ethyl	0.25	U	ng/L
Chlorpyrifos Ethyl	0.25	U	ng/L
Chlorpyrifos Methyl	0.050	U	ng/L
Chlorpyrifos Methyl	0.050	U	ng/L
Coumaphos	0.50	U	ng/L
Coumaphos	0.50	U	ng/L
Cyanazine	3.2	U	ng/L
Cyanazine	3.2	U	ng/L
Cyprodinil	0.10	U	ng/L
Cyprodinil	0.10	U	ng/L
Demeton	1.5	U	ng/L
Demeton	1.5	U	ng/L
Diazinon	0.12	U	ng/L
Diazinon	0.12	U	ng/L
Difenoconazole	0.60	U	ng/L
Difenoconazole	0.60	U	ng/L
Dimethenamid	0.10	U	ng/L
Dimethenamid	0.10	U	ng/L
Dimethomorph	0.18	U	ng/L
Dimethomorph	0.18	U	ng/L
Disulfoton	0.50	U	ng/L
Disulfoton	0.50	U	ng/L

Quality Assurance Report

Method Blank Results

Reference Method: EPA 8270E

Batch ID: P417604

Component	Result	Code	Units
Dithiopyr	0.18	U	ng/L
Dithiopyr	0.18	U	ng/L
EPTC	1.2	U	ng/L
EPTC	1.2	U	ng/L
Ethion	0.15	U	ng/L
Ethion	0.15	U	ng/L
Ethoprop	0.10	U	ng/L
Ethoprop	0.10	U	ng/L
Etridiazole	0.15	U	ng/L
Etridiazole	0.15	U	ng/L
Fenamiphos	0.50	U	ng/L
Fenamiphos	0.50	U	ng/L
Fenbuconazole	0.12	U	ng/L
Fenbuconazole	0.12	U	ng/L
Fipronil	0.25	U	ng/L
Fipronil	0.25	U	ng/L
Fipronil Desulfinyl	0.12	U	ng/L
Fipronil Desulfinyl	0.12	U	ng/L
Fipronil Sulfide	0.15	U	ng/L
Fipronil Sulfide	0.15	U	ng/L
Fipronil Sulfone	0.15	U	ng/L
Fipronil Sulfone	0.15	U	ng/L
Fluazifop-P-butyl	0.10	U	ng/L
Fluazifop-P-butyl	0.10	U	ng/L
Fludioxonil	0.12	U	ng/L
Fludioxonil	0.12	U	ng/L
Flumioxazin	1.8	U	ng/L
Flumioxazin	1.8	U	ng/L
Flutolanil	0.10	U	ng/L
Flutolanil	0.10	U	ng/L
Fluxapyroxad	0.10	U	ng/L
Fluxapyroxad	0.10	U	ng/L
Fonofos	0.20	U	ng/L
Fonofos	0.20	U	ng/L
Hexazinone	0.50	U	ng/L
Hexazinone	0.50	U	ng/L
Imazalil	0.75	U	ng/L
Imazalil	0.75	U	ng/L
Iprodione	0.60	U	ng/L
Iprodione	0.60	U	ng/L
Loratadine	0.10	U	ng/L
Loratadine	0.10	U	ng/L
Malathion	0.35	U	ng/L
Malathion	0.35	U	ng/L
Metalaxyl	0.75	U	ng/L
Metalaxyl	0.75	U	ng/L
Metolachlor	0.35	U	ng/L
Metolachlor	0.35	U	ng/L
Metribuzin	2.5	U	ng/L
Metribuzin	2.5	U	ng/L
Mevinphos	1.0	U	ng/L
Mevinphos	1.0	U	ng/L

Quality Assurance Report Method Blank Results

Reference Method: EPA 8270E

Batch ID: P417604

Component	Result	Code	Units
Molinate	0.30	U	ng/L
Molinate	0.30	U	ng/L
Myclobutanil	0.25	U	ng/L
Myclobutanil	0.25	U	ng/L
Naled	1.5	U	ng/L
Naled	1.5	U	ng/L
Napropamide	0.40	U	ng/L
Napropamide	0.40	U	ng/L
Norflurazon	0.50	U	ng/L
Norflurazon	0.50	U	ng/L
Octinoxate	20	U	ng/L
Octinoxate	20	U	ng/L
Oxadiazon	0.30	U	ng/L
Oxadiazon	0.30	U	ng/L
Oxybenzone	10	U	ng/L
Oxybenzone	10	U	ng/L
Oxyfluorfen	0.15	U	ng/L
Oxyfluorfen	0.15	U	ng/L
Parathion Ethyl	0.25	U	ng/L
Parathion Ethyl	0.25	U	ng/L
Parathion Methyl	0.55	U	ng/L
Parathion Methyl	0.55	U	ng/L
PBDE-47	4.0	U	ng/L
PBDE-47	4.0	U	ng/L
PBDE-99	5.0	U	ng/L
PBDE-99	5.0	U	ng/L
Pendimethalin	1.0	U	ng/L
Pendimethalin	1.0	U	ng/L
Phenytoin	3.5	U	ng/L
Phenytoin	3.5	U	ng/L
Phorate	0.52	U	ng/L
Phorate	0.52	U	ng/L
Prodiamine	0.18	U	ng/L
Prodiamine	0.18	U	ng/L
Prometon	0.90	U	ng/L
Prometon	0.90	U	ng/L
Prometryn	0.20	U	ng/L
Prometryn	0.20	U	ng/L
Pronamide	0.15	U	ng/L
Pronamide	0.15	U	ng/L
Propanil	0.12	U	ng/L
Propanil	0.12	U	ng/L
Propargite	1.5	U	ng/L
Propargite	1.5	U	ng/L
Propiconazole	0.50	U	ng/L
Propiconazole	0.50	U	ng/L
Pyraflufen Ethyl	0.25	U	ng/L
Pyraflufen Ethyl	0.25	U	ng/L
Pyridaben	0.45	U	ng/L
Pyridaben	0.45	U	ng/L
Pyriproxyfen	0.12	U	ng/L
Pyriproxyfen	0.12	U	ng/L

Quality Assurance Report

Method Blank Results

Reference Method: EPA 8270E

Batch ID: P417604

Component	Result	Code	Units
Simazine	0.50	U	ng/L
Simazine	0.50	U	ng/L
Stirophos	0.12	U	ng/L
Stirophos	0.12	U	ng/L
Sulfentrazone	0.50	U	ng/L
Sulfentrazone	0.50	U	ng/L
Tebuconazole	0.50	U	ng/L
Tebuconazole	0.50	U	ng/L
Terbufos	0.10	U	ng/L
Terbufos	0.10	U	ng/L
Terbuthylazine	0.42	U	ng/L
Terbuthylazine	0.42	U	ng/L
Thiobencarb	0.60	U	ng/L
Thiobencarb	0.60	U	ng/L
Tri-o-cresyl Phosphate	6.0	U	ng/L
Tri-o-cresyl Phosphate	6.0	U	ng/L
Triadimefon	0.25	U	ng/L
Triadimefon	0.25	U	ng/L

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: EPA 8270E

Batch ID: P417604

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2-Ethylhexyl 2,3,4,5-tetrabromobenzoate (EHTBB)	73.2		P	50 - 150
Acetochlor	107		P	70 - 121
Alachlor	103		P	68 - 119
Ametryn	133		P	64 - 139
Atrazine	110		P	76 - 120
Atrazine Desethyl	87.2		P	44 - 126
Avobenzone	72.3		P	59 - 206
Azinphos Methyl	103		P	43 - 192
Azoxystrobin	146		P	36 - 224
Bromacil	82.1		P	52 - 121
Butylate	48.6		P	28 - 91.0
Caffeine	83.7		P	50 - 134
Carbophenothion	70.0		P	56 - 129
Carfentrazone Ethyl	105		P	60 - 141
Chlorfenapyr	66.8		P	56 - 115
Chlorpyrifos Ethyl	113		P	60 - 118
Chlorpyrifos Methyl	89.9		P	68 - 119
Coumaphos	45.4		P	18 - 250
Cyanazine	92.9		P	61 - 250
Cyprodinil	126		P	55 - 145
Demeton	115		P	30 - 159
Diazinon	110		P	70 - 123
Difenoconazole	118		P	49 - 204
Dimethenamid	75.9		P	64 - 115
Dimethomorph	113		P	12 - 219
Disulfoton	104		P	44 - 125
Dithiopyr	104		P	64 - 115
EPTC	58.0		P	28 - 86.0
Ethion	19.3		F	33 - 125
Ethoprop	112		P	64 - 116
Etridiazole	69.3		P	34 - 91.0
Fenamiphos	71.8		P	12 - 127
Fenbuconazole	78.6		P	59 - 151
Fipronil	98.9		P	67 - 129
Fipronil Desulfinyl	102		P	65 - 127
Fipronil Sulfide	93.8		P	61 - 116
Fipronil Sulfone	89.7		P	55 - 117
Fluazifop-P-butyl	104		P	62 - 127
Fludioxonil	65.1		P	62 - 128
Flumioxazin	60.6		P	33 - 250
Flutolanil	85.4		P	56 - 127
Fluxapyroxad	50.7		P	45 - 128
Fonofos	106		P	62 - 111
Hexazinone	87.7		P	46 - 139
Imazalil	70.8		P	38 - 142
Iprodione	71.5		P	47 - 135
Loratadine	218		P	10 - 244
Malathion	104		P	61 - 139
Metalaxyl	102		P	10 - 119
Metolachlor	88.0		P	65 - 118
Metribuzin	112		P	51 - 250
Mevinphos	94.2		P	53 - 121

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: EPA 8270E
 Batch ID: P417604

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Molinate	67.0		P	42 - 96.0
Myclobutanil	88.1		P	55 - 128
Naled	65.7		P	10 - 98.0
Napropamide	52.4		P	49 - 121
Norflurazon	80.7		P	61 - 126
Octinoxate	85.6		P	25 - 150
Oxadiazon	90.6		P	59 - 116
Oxybenzone	82.7		P	59 - 147
Oxyfluorfen	96.8		P	64 - 137
Parathion Ethyl	104		P	70 - 112
Parathion Methyl	133		P	76 - 133
PBDE-47	64.2		P	50 - 150
PBDE-99	59.1		P	50 - 150
Pendimethalin	103		P	52 - 117
Phenytol	15.2		P	10 - 199
Phorate	104		P	48 - 121
Prodiamine	50.3		P	26 - 142
Prometon	80.9		P	43 - 123
Prometryn	112		P	66 - 127
Pronamide	115		P	75 - 121
Propanil	93.0		P	45 - 150
Propargite	35.4		F	42 - 208
Propiconazole	81.8		P	60 - 125
Pyraflufen Ethyl	75.1		P	70 - 138
Pyridaben	79.8		P	35 - 245
Pyriproxyfen	33.6		P	30 - 149
Simazine	95.4		P	72 - 125
Stirophos	29.2		P	29 - 164
Sulfentrazone	84.1		P	21 - 139
Tebuconazole	20.0		P	10 - 115
Terbufos	114		P	60 - 123
Terbutylazine	107		P	72 - 115
Thiobencarb	81.2		P	31 - 139
Tri-o-cresyl Phosphate	78.7		P	50 - 150
Triadimefon	82.8		P	65 - 116

Quality Assurance Report

Matrix Spike Accuracy

Reference Method: EPA 8270E

Batch ID: P417604

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2345169	2-Ethylhexyl 2,3,4,5-tetrabromobenzoate (EHTBB)	91.7	91.9	P/P	50 - 150
2345169	Acetochlor	111	101	P/P	65 - 124
2345169	Alachlor	99.2	90.5	P/P	61 - 121
2345169	Ametryn	115	103	P/P	52 - 216
2345169	Atrazine Desethyl	70.2	67.2	P/P	15 - 160
2345169	Avobenzone	85.2	90.0	P/P	59 - 206
2345169	Azinphos Methyl	114	101	P/P	40 - 292
2345169	Azoxystrobin	144	129	P/P	12 - 242
2345169	Bromacil	81.3	72.2	P/P	54 - 167
2345169	Butylate	50.3	52.5	P/P	14 - 94.0
2345169	Caffeine	92.7	87.4	P/P	10 - 226
2345169	Carbophenothion	72.0	70.1	P/P	49 - 122
2345169	Carfentrazone Ethyl	105	90.8	P/P	53 - 138
2345169	Chlorfenapyr	74.1	60.5	P/P	50 - 150
2345169	Chlorpyrifos Ethyl	93.6	83.4	P/P	52 - 122
2345169	Chlorpyrifos Methyl	99.0	94.6	P/P	66 - 117
2345169	Coumaphos	68.8	60.6	P/P	50 - 220
2345169	Cyanazine	116	106	P/P	43 - 245
2345169	Cyprodinil	108	94.4	P/P	50 - 150
2345169	Demeton	123	115	P/P	43 - 188
2345169	Diazinon	104	102	P/P	69 - 131
2345169	Difenoconazole	158	151	P/P	34 - 231
2345169	Dimethenamid	84.5	77.9	P/P	55 - 118
2345169	Dimethomorph	126	113	P/P	50 - 150
2345169	Disulfoton	109	96.8	P/P	38 - 141
2345169	Dithiopyr	104	94.3	P/P	42 - 116
2345169	EPTC	54.3	55.5	P/P	18 - 85.0
2345169	Ethion	44.9	45.9	P/P	10 - 131
2345169	Ethoprop	113	107	P/P	65 - 129
2345169	Etridiazole	66.0	62.2	P/P	50 - 150
2345169	Fenamiphos	72.1	81.1	P/P	31 - 137
2345169	Fenbuconazole	92.2	83.8	P/P	57 - 160
2345169	Fipronil	100	92.0	P/P	62 - 132
2345169	Fipronil Desulfinyl	111	99.1	P/P	57 - 131
2345169	Fipronil Sulfide	95.1	91.6	P/P	15 - 138
2345169	Fipronil Sulfone	79.2	69.3	P/P	21 - 134
2345169	Fluazifop-P-butyl	104	90.7	P/P	54 - 133
2345169	Fludioxonil	92.2	77.7	P/P	58 - 127
2345169	Flumioxazin	114	106	P/P	33 - 300
2345169	Flutolanil	107	94.6	P/P	42 - 130
2345169	Fluxapyroxad	80.2	76.4	P/P	23 - 141
2345169	Fonofos	102	96.6	P/P	58 - 119
2345169	Hexazinone	106	96.3	P/P	68 - 172
2345169	Imazalil	87.5	91.4	P/P	48 - 283
2345169	Iprodione	85.5	78.9	P/P	38 - 140
2345169	Loratadine	160	143	F/P	50 - 150
2345169	Malathion	119	108	P/P	40 - 137
2345169	Metalaxyl	99.6	91.3	P/P	21 - 129
2345169	Metolachlor	102	98.4	P/P	55 - 122
2345169	Metribuzin	113	104	P/P	38 - 187
2345169	Mevinphos	95.6	91.1	P/P	54 - 134
2345169	Molinate	69.1	68.0	P/P	41 - 97.0

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8270E

Batch ID: P417604

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2345169	Myclobutanil	106	89.6	P/P	56 - 125
2345169	Naled	74.1	78.8	P/P	10 - 108
2345169	Napropamide	70.8	68.6	P/P	50 - 150
2345169	Norflurazon	87.3	85.4	P/P	32 - 122
2345169	Octinoxate	84.1	84.3	P/P	25 - 150
2345169	Oxadiazon	85.4	82.4	P/P	40 - 119
2345169	Oxybenzone	77.4	85.7	P/P	59 - 147
2345169	Oxyfluorfen	101	99.7	P/P	61 - 153
2345169	Parathion Ethyl	101	98.4	P/P	59 - 130
2345169	Parathion Methyl	138	127	P/P	65 - 155
2345169	PBDE-47	75.6	75.6	P/P	50 - 150
2345169	PBDE-99	73.1	74.7	P/P	50 - 150
2345169	Pendimethalin	104	99.4	P/P	49 - 138
2345169	Phenytoin	28.9	28.6	F/F	50 - 200
2345169	Phorate	83.1	84.5	P/P	54 - 161
2345169	Prodiamine	56.6	47.4	P/P	33 - 161
2345169	Prometon	90.9	86.0	P/P	48 - 140
2345169	Prometryn	108	96.2	P/P	55 - 134
2345169	Pronamide	126	116	P/P	66 - 137
2345169	Propanil	102	92.6	P/P	50 - 150
2345169	Propargite	57.0	55.9	P/P	50 - 200
2345169	Propiconazole	92.1	84.4	P/P	36 - 150
2345169	Pyraflufen Ethyl	88.7	78.0	P/P	50 - 150
2345169	Pyridaben	75.3	66.8	P/P	50 - 200
2345169	Pyriproxyfen	66.4	69.4	P/P	10 - 165
2345169	Simazine	104	95.3	P/P	57 - 145
2345169	Stiropfos	50.9	53.4	P/P	50 - 150
2345169	Sulfentrazone	89.3	80.4	P/P	34 - 140
2345169	Tebuconazole	46.1	44.5	P/P	10 - 127
2345169	Terbufos	130	118	P/P	59 - 138
2345169	Terbutylazine	104	93.8	P/P	68 - 119
2345169	Thiobencarb	93.0	85.8	P/P	50 - 150
2345169	Tri-o-cresyl Phosphate	81.1	80.1	P/P	50 - 150
2345169	Triadimefon	97.5	90.3	P/P	50 - 150

Quality Assurance Report Precision

Reference Method: EPA 8270E

Batch ID: P417604

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2345169	2-Ethylhexyl 2,3,4,5-tetrabromobenzoate (EHTBB)	0.160	Spike	P	0 - 30
2345169	Acetochlor	9.24	Spike	P	0 - 27
2345169	Alachlor	9.17	Spike	P	0 - 27
2345169	Ametryn	10.5	Spike	P	0 - 34
2345169	Atrazine	5.61	Spike	P	0 - 41
2345169	Atrazine Desethyl	3.43	Spike	P	0 - 38
2345169	Avobenzone	5.39	Spike	P	0 - 30
2345169	Azinphos Methyl	12.0	Spike	P	0 - 62
2345169	Azoxystrobin	9.49	Spike	P	0 - 32
2345169	Bromacil	11.9	Spike	P	0 - 30
2345169	Butylate	4.32	Spike	P	0 - 59
2345169	Caffeine	5.87	Spike	P	0 - 60
2345169	Carbophenothion	2.69	Spike	P	0 - 25
2345169	Carfentrazone Ethyl	14.2	Spike	P	0 - 26
2345169	Chlorfenapyr	20.2	Spike	P	0 - 30
2345169	Chlorpyrifos Ethyl	11.5	Spike	P	0 - 27
2345169	Chlorpyrifos Methyl	4.49	Spike	P	0 - 26
2345169	Coumaphos	12.8	Spike	P	0 - 30
2345169	Cyanazine	9.05	Spike	P	0 - 58
2345169	Cyprodinil	13.5	Spike	P	0 - 30
2345169	Demeton	6.18	Spike	P	0 - 25
2345169	Diazinon	2.05	Spike	P	0 - 29
2345169	Difenoconazole	4.64	Spike	P	0 - 25
2345169	Dimethenamid	8.08	Spike	P	0 - 30
2345169	Dimethomorph	11.5	Spike	P	0 - 30
2345169	Disulfoton	11.5	Spike	P	0 - 33
2345169	Dithiopyr	10.1	Spike	P	0 - 22
2345169	EPTC	2.15	Spike	P	0 - 38
2345169	Ethion	2.16	Spike	P	0 - 79
2345169	Ethoprop	6.21	Spike	P	0 - 23
2345169	Etridiazole	5.79	Spike	P	0 - 30
2345169	Fenamiphos	11.7	Spike	P	0 - 58
2345169	Fenbuconazole	9.49	Spike	P	0 - 37
2345169	Fipronil	8.47	Spike	P	0 - 33
2345169	Fipronil Desulfinyl	10.1	Spike	P	0 - 26
2345169	Fipronil Sulfide	3.74	Spike	P	0 - 37
2345169	Fipronil Sulfone	11.7	Spike	P	0 - 50
2345169	Fluazifop-P-butyl	13.9	Spike	P	0 - 24
2345169	Fludioxonil	17.0	Spike	P	0 - 26
2345169	Flumioxazin	6.72	Spike	P	0 - 37
2345169	Flutolanil	12.5	Spike	P	0 - 26
2345169	Fluxapyroxad	4.86	Spike	P	0 - 34
2345169	Fonofos	5.14	Spike	P	0 - 27
2345169	Hexazinone	9.39	Spike	P	0 - 36
2345169	Imazalil	4.31	Spike	P	0 - 65
2345169	Iprodione	8.09	Spike	P	0 - 33
2345169	Loratadine	11.1	Spike	P	0 - 30
2345169	Malathion	9.73	Spike	P	0 - 44
2345169	Metalaxyl	8.74	Spike	P	0 - 38
2345169	Metolachlor	3.92	Spike	P	0 - 36
2345169	Metribuzin	8.07	Spike	P	0 - 63

Quality Assurance Report Precision

Reference Method: EPA 8270E
Batch ID: P417604

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2345169	Mevinphos	4.84	Spike	P	0 - 26
2345169	Molinate	1.47	Spike	P	0 - 40
2345169	Myclobutanil	16.7	Spike	P	0 - 21
2345169	Naled	6.08	Spike	P	0 - 26
2345169	Napropamide	3.12	Spike	P	0 - 30
2345169	Norflurazon	2.17	Spike	P	0 - 24
2345169	Octinoxate	0.219	Spike	P	0 - 30
2345169	Oxadiazon	2.86	Spike	P	0 - 27
2345169	Oxybenzone	10.1	Spike	P	0 - 30
2345169	Oxyfluorfen	1.44	Spike	P	0 - 24
2345169	Parathion Ethyl	2.56	Spike	P	0 - 28
2345169	Parathion Methyl	8.03	Spike	P	0 - 27
2345169	PBDE-47	0.0498	Spike	P	0 - 30
2345169	PBDE-99	2.15	Spike	P	0 - 30
2345169	Pendimethalin	4.91	Spike	P	0 - 31
2345169	Phenytoin	0.778	Spike	P	0 - 30
2345169	Phorate	1.75	Spike	P	0 - 27
2345169	Prodiamine	17.7	Spike	P	0 - 52
2345169	Prometon	5.51	Spike	P	0 - 31
2345169	Prometryn	11.6	Spike	P	0 - 28
2345169	Pronamide	8.67	Spike	P	0 - 26
2345169	Propanil	9.92	Spike	P	0 - 30
2345169	Propargite	1.96	Spike	P	0 - 30
2345169	Propiconazole	8.77	Spike	P	0 - 31
2345169	Pyraflufen Ethyl	12.8	Spike	P	0 - 30
2345169	Pyridaben	7.74	Spike	P	0 - 30
2345169	Pyriproxyfen	4.40	Spike	P	0 - 50
2345169	Simazine	8.71	Spike	P	0 - 29
2345169	Stirophos	4.76	Spike	P	0 - 30
2345169	Sulfentrazone	10.4	Spike	P	0 - 33
2345169	Tebuconazole	3.44	Spike	P	0 - 44
2345169	Terbufos	9.41	Spike	P	0 - 29
2345169	Terbuthylazine	10.5	Spike	P	0 - 27
2345169	Thiobencarb	8.05	Spike	P	0 - 30
2345169	Tri-o-cresyl Phosphate	1.27	Spike	P	0 - 30
2345169	Triadimefon	7.62	Spike	P	0 - 30

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

Quality Assurance Report Surrogates

Lab Sample ID: 2345785
Field Sample ID: G3SD0191

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8270E	Caffeine-d9	46.4	P	20 - 200
EPA 8270E	Simazine-d10	87.4	P	71 - 140
EPA 8270E	Terbufos-d10	88.8	P	62 - 131
EPA 8270E	Terphenyl-d14	85.2	P	52 - 141

Quality Assurance Report Calibration Verification

Reference Method: EPA 8270E
 Run ID: A113993
 Included Lab Sample IDs: 2345785

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acetochlor	97.3		P	80 - 120
Alachlor	96.7		P	80 - 120
Ametryn	95.7		P	80 - 120
Atrazine Desethyl	95.1		P	80 - 120
Azinphos Methyl	108		P	80 - 120
Azoxystrobin	101		P	80 - 120
Bromacil	90.0		P	80 - 120
Butylate	98.3		P	80 - 120
Caffeine	109		P	80 - 120
Carbophenothion	110		P	80 - 120
Carfentrazone Ethyl	95.6		P	80 - 120
Chlorfenapyr	107		P	80 - 120
Chlorpyrifos Ethyl	102		P	80 - 120
Chlorpyrifos Methyl	111		P	80 - 120
Coumaphos	108		P	80 - 120
Cyanazine	92.8		P	80 - 120
Cyprodinil	100		P	80 - 120
Demeton	114		P	80 - 120
Diazinon	98.9		P	80 - 120
Difenoconazole	104		P	80 - 120
Dimethenamid	95.8		P	80 - 120
Dimethomorph	85.9		P	80 - 120
Disulfoton	105		P	80 - 120
Dithiopyr	99.2		P	80 - 120
EPTC	98.9		P	80 - 120
Ethion	101		P	80 - 120
Ethoprop	98.3		P	80 - 120
Etridiazole	96.0		P	80 - 120
Fenamiphos	90.6		P	80 - 120
Fenbuconazole	95.7		P	80 - 120
Fipronil	93.1		P	80 - 120
Fipronil Desulfinyl	93.6		P	80 - 120
Fipronil Sulfide	96.2		P	80 - 120
Fipronil Sulfone	94.2		P	80 - 120
Fluazifop-P-butyl	99.5		P	80 - 120
Fludioxonil	91.5		P	80 - 120
Flumioxazin	91.3		P	80 - 120
Flutolanil	98.3		P	80 - 120
Fonofos	98.0		P	80 - 120
Hexazinone	104		P	80 - 120
Imazalil	100		P	80 - 120
Iprodione	90.4		P	80 - 120
Loratadine	107		P	80 - 120
Malathion	95.7		P	80 - 120
Metalaxyl	95.5		P	80 - 120
Metolachlor	100		P	80 - 120
Metribuzin	89.6		P	80 - 120
Mevinphos	90.3		P	80 - 120
Molinate	95.1		P	80 - 120
Myclobutanil	94.7		P	80 - 120
Naled	110		P	80 - 120

Quality Assurance Report Calibration Verification

Reference Method: EPA 8270E
Run ID: A113993
Included Lab Sample IDs: 2345785

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Napropamide	96.5		P	80 - 120
Norflurazon	93.7		P	80 - 120
Oxadiazon	100		P	80 - 120
Oxyfluorfen	105		P	80 - 120
Parathion Ethyl	97.0		P	80 - 120
Parathion Methyl	104		P	80 - 120
Pendimethalin	101		P	80 - 120
Phenytoin	98.0		P	80 - 120
Phorate	103		P	80 - 120
Prodiamine	104		P	80 - 120
Prometon	97.2		P	80 - 120
Prometryn	95.4		P	80 - 120
Pronamide	93.6		P	80 - 120
Propanil	92.9		P	80 - 120
Propargite	97.7		P	80 - 120
Propiconazole	94.0		P	80 - 120
Pyraflufen Ethyl	99.1		P	80 - 120
Pyridaben	96.9		P	80 - 120
Pyriproxyfen	97.2		P	80 - 120
Simazine	91.1		P	80 - 120
Stirophos	111		P	80 - 120
Sulfentrazone	92.6		P	80 - 120
Tebuconazole	95.6		P	80 - 120
Terbufos	107		P	80 - 120
Terbuthylazine	98.8		P	80 - 120
Thiobencarb	100		P	80 - 120
Triadimefon	100		P	80 - 120

Reference Method: EPA 8270E
Run ID: A113994
Included Lab Sample IDs: 2345785

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2-Ethylhexyl 2,3,4,5-tetrabromobenzoate (EHTBB)	93.5		P	80 - 120
Avobenzone	101		P	80 - 120
Octinoxate	95.1		P	80 - 120
Oxybenzone	92.7		P	80 - 120
PBDE-47	96.0		P	80 - 120
PBDE-99	93.6		P	80 - 120
Tri-o-cresyl Phosphate	95.9		P	80 - 120

Reference Method: EPA 8270E
Run ID: A113999
Included Lab Sample IDs: 2345785

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Atrazine	99.2		P	80 - 120
Fluxapyroxad	98.3		P	80 - 120

Quality Assurance Report

Calibration Verification

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

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

Where they are different, both control limits are provided.

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery		LCS	Precision SMP	MS
EPA 8270E	2-Ethylhexyl 2,3,4,5-tetrabromobenzoate (EHTBB)	73.2	91.7	91.9			0.160
	Acetochlor	107	111	101			9.24
	Alachlor	103	99.2	90.5			9.17
	Ametryn	133	115	103			10.5
	Atrazine	110					5.61
	Atrazine Desethyl	87.2	70.2	67.2			3.43
	Avobenzone	72.3	85.2	90.0			5.39
	Azinphos Methyl	103	114	101			12.0
	Azoxystrobin	146	144	129			9.49
	Bromacil	82.1	81.3	72.2			11.9
	Butylate	48.6	50.3	52.5			4.32
	Caffeine	83.7	92.7	87.4			5.87
	Carbophenothion	70.0	72.0	70.1			2.69
	Carfentrazone Ethyl	105	90.8	105			14.2
	Chlorfenapyr	66.8	74.1	60.5			20.2
	Chlorpyrifos Ethyl	113	93.6	83.4			11.5
	Chlorpyrifos Methyl	89.9	99.0	94.6			4.49
	Coumaphos	45.4	68.8	60.6			12.8
	Cyanazine	92.9	116	106			9.05
	Cyprodinil	126	108	94.4			13.5
	Demeton	115	123	115			6.18
	Diazinon	110	104	102			2.05
	Difenoconazole	118	158	151			4.64
	Dimethenamid	75.9	84.5	77.9			8.08
	Dimethomorph	113	126	113			11.5
	Disulfoton	104	109	96.8			11.5
	Dithiopyr	104	104	94.3			10.1
	EPTC	58.0	54.3	55.5			2.15
	Ethion	19.3	44.9	45.9			2.16
	Ethoprop	112	113	107			6.21
	Etridiazole	69.3	66.0	62.2			5.79
	Fenamiphos	71.8	72.1	81.1			11.7
	Fenbuconazole	78.6	92.2	83.8			9.49
	Fipronil	98.9	100	92.0			8.47
	Fipronil Desulfinyl	102	111	99.1			10.1
	Fipronil Sulfide	93.8	95.1	91.6			3.74
	Fipronil Sulfone	89.7	79.2	69.3			11.7
	Fluazifop-P-butyl	104	104	90.7			13.9
	Fludioxonil	65.1	92.2	77.7			17.0
	Flumioxazin	60.6	114	106			6.72
	Flutolanil	85.4	107	94.6			12.5
	Fluxapyroxad	50.7	80.2	76.4			4.86
	Fonofos	106	102	96.6			5.14
	Hexazinone	87.7	106	96.3			9.39
	Imazalil	70.8	87.5	91.4			4.31
	Iprodione	71.5	85.5	78.9			8.09
	Loratadine	218	160	143			11.1
	Malathion	104	119	108			9.73
	Metalaxyl	102	99.6	91.3			8.74
	Metolachlor	88.0	102	98.4			3.92
	Metribuzin	112	113	104			8.07
	Mevinphos	94.2	95.6	91.1			4.84

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery		Precision SMP	MS
			LCS			
EPA 8270E	Molinate	67.0	69.1	68.0		1.47
	Myclobutanil	88.1	106	89.6		16.7
	Naled	65.7	74.1	78.8		6.08
	Napropamide	52.4	70.8	68.6		3.12
	Norflurazon	80.7	87.3	85.4		2.17
	Octinoxate	85.6	84.1	84.3		0.219
	Oxadiazon	90.6	85.4	82.4		2.86
	Oxybenzone	82.7	77.4	85.7		10.1
	Oxyfluorfen	96.8	101	99.7		1.44
	Parathion Ethyl	104	101	98.4		2.56
	Parathion Methyl	133	138	127		8.03
	PBDE-47	64.2	75.6	75.6		0.0498
	PBDE-99	59.1	73.1	74.7		2.15
	Pendimethalin	103	104	99.4		4.91
	Phenytoin	15.2	28.9	28.6		0.778
	Phorate	104	83.1	84.5		1.75
	Prodiamine	50.3	56.6	47.4		17.7
	Prometon	80.9	90.9	86.0		5.51
	Prometryn	112	108	96.2		11.6
	Pronamide	115	126	116		8.67
	Propanil	93.0	102	92.6		9.92
	Propargite	35.4	57.0	55.9		1.96
	Propiconazole	81.8	92.1	84.4		8.77
	Pyraflufen Ethyl	75.1	88.7	78.0		12.8
	Pyridaben	79.8	75.3	66.8		7.74
	Pyriproxyfen	33.6	66.4	69.4		4.40
	Simazine	95.4	104	95.3		8.71
	Stirophos	29.2	50.9	53.4		4.76
	Sulfentrazone	84.1	89.3	80.4		10.4
	Tebuconazole	20.0	46.1	44.5		3.44
	Terbufos	114	130	118		9.41
	Terbuthylazine	107	104	93.8		10.5
	Thiobencarb	81.2	93.0	85.8		8.05
	Tri-o-cresyl Phosphate	78.7	81.1	80.1		1.27
	Triadimefon	82.8	97.5	90.3		7.62

Reference Method Descriptions

Method	Description	Associated Samples
EPA 8270E	Analysis of Sunscreen Compounds and Flame Retardants in Water by GC/MS-SIM	2345785
EPA 8270E	Organonitrogen and phosphorus pesticides in water matrices by GC/MS/MS	2345785

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
EPA 8270E	08/03/2022	08/05/2022 08:00	Fe-Val Siddell	08/09/2022 05:23	Michael Poppell	2345785
	08/03/2022	08/05/2022 08:00	Fe-Val Siddell	08/09/2022 18:12	Lipi Saha	2345785
	08/03/2022	08/05/2022 08:00	Fe-Val Siddell	08/10/2022 00:24	Michael Poppell	2345785