

Chemical Analysis Report

SO-DIST-2022-12-20-01

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

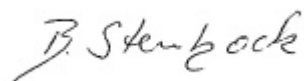
Event Description: **2022 SMP : Rookery Bay**
Request ID: **RQ-2022-11-14-44**
Customer: **SO-DIST**
Project ID: **SMP**

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: Dr. rer. nat. Bettina Steinbock, Environmental Administrator

Date Certified: 10-JAN-2023 14:51



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: Rookery Bay Site 1

Collection Date/Time: 12/19/2022 10:20

Field ID: G1SD0067

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2376529	EPA 8270E	Oxybenzone**	9.5	U	ng/L	P423751	
		Acetochlor	0.24	U	ng/L	P423751	
		Octinoxate**	19	U	ng/L	P423751	
		Alachlor	0.24	U	ng/L	P423751	
		Avobenzone**	95	U	ng/L	P423751	
		Ametryn	0.57	U	ng/L	P423751	
		Atrazine	3.5		ng/L	P423751	
		PBDE-47**	3.8	U	ng/L	P423751	
		Atrazine Desethyl	1.4	U	ng/L	P423751	
		PBDE-99**	4.7	U	ng/L	P423751	
		Azinphos Methyl	1.9	U	ng/L	P423751	
		Tri-o-cresyl Phosphate**	5.7	U	ng/L	P423751	
		Azoxystrobin	0.47	U	ng/L	P423751	
		Bromacil	0.47	U	ng/L	P423751	
		2-Ethylhexyl 2,3,4,5-tetrabromobenzoate (EHTBB)**	11	U	ng/L	P423751	
		Butylate	0.38	U	ng/L	P423751	
		Dechlorane Plus**	28	U	ng/L	P423751	
		Caffeine**	7.1	U	ng/L	P423751	
		Carbophenothion	0.19	U	ng/L	P423751	
		Carfentrazone Ethyl	0.095	U	ng/L	P423751	
		Chlorfenapyr	0.17	U	ng/L	P423751	
		Chlorpyrifos Ethyl	0.24	U	ng/L	P423751	
		Chlorpyrifos Methyl	0.047	U	ng/L	P423751	
		Coumaphos	0.47	U	ng/L	P423751	
		Cyanazine	3.1	UJ	ng/L	P423751	LCS, MS
		Cyprodinil	0.095	U	ng/L	P423751	
		Demeton	1.4	U	ng/L	P423751	
		Diazinon	0.12	U	ng/L	P423751	
		Difenoconazole	0.57	U	ng/L	P423751	
		Dimethenamid	0.095	U	ng/L	P423751	
		Dimethomorph	0.17	U	ng/L	P423751	
		Disulfoton	0.47	U	ng/L	P423751	
		Dithiopyr	0.59	U	ng/L	P423751	
		EPTC	1.2	U	ng/L	P423751	
		Ethion	0.14	U	ng/L	P423751	
		Ethoprop	0.095	U	ng/L	P423751	
		Etridiazole	0.14	U	ng/L	P423751	
		Fenamiphos	0.47	U	ng/L	P423751	
		Fenbuconazole	0.12	U	ng/L	P423751	
		Fipronil	0.24	U	ng/L	P423751	
		Fipronil Desulfinyl**	0.12	U	ng/L	P423751	
		Fipronil Sulfide	0.14	U	ng/L	P423751	
		Fipronil Sulfone	0.14	U	ng/L	P423751	

Field ID: G1SD0067

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2376529	EPA 8270E	Fluazifop-P-butyl	0.095	U	ng/L	P423751	
		Fludioxonil	0.12	U	ng/L	P423751	
		Flumioxazin	4.3	U	ng/L	P423751	
		Flutolanil	0.095	U	ng/L	P423751	
		Fluxapyroxad	0.22	I	ng/L	P423751	
		Fonofos	0.19	U	ng/L	P423751	
		Hexazinone	1.2	I	ng/L	P423751	
		Imazalil	0.71	U	ng/L	P423751	
		Iprodione	0.57	U	ng/L	P423751	
		Loratadine**	0.33	U	ng/L	P423751	
		Malathion	0.33	U	ng/L	P423751	
		Metalaxyl	0.71	U	ng/L	P423751	
		Metolachlor	0.76	I	ng/L	P423751	
		Metribuzin	1.4	U	ng/L	P423751	
		Mevinphos	1.0	U	ng/L	P423751	
		Molinate	0.28	U	ng/L	P423751	
		Myclobutanil	0.24	U	ng/L	P423751	
		Naled	1.4	U	ng/L	P423751	
		Napropamide	0.38	U	ng/L	P423751	
		Norflurazon	0.70	I	ng/L	P423751	
		Oxadiazon	0.28	U	ng/L	P423751	
		Oxyfluorfen	0.14	U	ng/L	P423751	
		Parathion Ethyl	0.24	U	ng/L	P423751	
		Parathion Methyl	0.52	U	ng/L	P423751	
		Pendimethalin	0.95	U	ng/L	P423751	
		Phenytol**	3.3	U	ng/L	P423751	
		Phorate	0.50	U	ng/L	P423751	
		Prodiamine	0.17	U	ng/L	P423751	
		Prometon	0.85	U	ng/L	P423751	
		Prometryn	0.19	U	ng/L	P423751	
		Pronamide	0.14	U	ng/L	P423751	
		Propanil	0.12	U	ng/L	P423751	
		Propargite	1.4	U	ng/L	P423751	
		Propiconazole	0.47	U	ng/L	P423751	
		Pyraflufen Ethyl	0.24	U	ng/L	P423751	
		Pyridaben	0.43	U	ng/L	P423751	
		Pyriproxyfen	0.12	U	ng/L	P423751	
		Simazine	0.72	I	ng/L	P423751	
		Stirophos	0.12	U	ng/L	P423751	
		Sulfentrazone	0.47	U	ng/L	P423751	
		Tebuconazole	0.47	U	ng/L	P423751	
		Terbufos	0.095	U	ng/L	P423751	
		Terbutylazine	0.40	U	ng/L	P423751	
		Thiobencarb	0.57	U	ng/L	P423751	
		Triadimefon	0.24	U	ng/L	P423751	

Field ID: G1SD0067

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
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Ref. Method and Comment:
EPA 8270E: MS accuracy for bromacil and norflurazon not assessed due to high content of these parameters 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: P423751

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
Dechlorane Plus	30	U	ng/L
Dechlorane Plus	30	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

Quality Assurance Report

Method Blank Results

Reference Method: EPA 8270E

Batch ID: P423751

Component	Result	Code	Units
Disulfoton	0.50	U	ng/L
Disulfoton	0.50	U	ng/L
Dithiopyr	0.62	U	ng/L
Dithiopyr	0.62	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	4.5	U	ng/L
Flumioxazin	4.5	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	0.35	U	ng/L
Loratadine	0.35	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	1.5	U	ng/L
Metribuzin	1.5	U	ng/L

Quality Assurance Report

Method Blank Results

Reference Method: EPA 8270E
 Batch ID: P423751

Component	Result	Code	Units
Mevinphos	1.0	U	ng/L
Mevinphos	1.0	U	ng/L
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

Quality Assurance Report

Method Blank Results

Reference Method: EPA 8270E

Batch ID: P423751

Component	Result	Code	Units
Pyriproxyfen	0.12	U	ng/L
Pyriproxyfen	0.12	U	ng/L
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: P423751

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2-Ethylhexyl 2,3,4,5-tetrabromobenzoate (EHTBB)	81.5		P	42 - 162
Acetochlor	88.5		P	69 - 123
Alachlor	79.3		P	65 - 118
Ametryn	111		P	58 - 141
Atrazine	101		P	73 - 118
Atrazine Desethyl	73.6		P	32 - 125
Avobenzone	115		P	40 - 203
Azinphos Methyl	133		P	36 - 197
Azoxystrobin	101		P	58 - 226
Bromacil	107		P	48 - 120
Butylate	57.8		P	27 - 85.0
Caffeine	98.8		P	40 - 137
Carbophenothion	100		P	54 - 132
Carfentrazone Ethyl	99.0		P	60 - 142
Chlorfenapyr	63.5		P	53 - 117
Chlorpyrifos Ethyl	83.1		P	59 - 116
Chlorpyrifos Methyl	89.8		P	66 - 119
Coumaphos	225		P	11 - 234
Cyanazine	264		F	61 - 248
Cyprodinil	95.2		P	50 - 147
Dechlorane Plus	105		P	47 - 182
Demeton	65.0		P	30 - 138
Diazinon	91.1		P	67 - 126
Difenoconazole	95.4		P	38 - 205
Dimethenamid	103		P	57 - 111
Dimethomorph	121		P	16 - 212
Disulfoton	69.3		P	46 - 126
Dithiopyr	85.2		P	62 - 115
EPTC	47.1		P	28 - 80.0
Ethion	68.8		P	24 - 122
Ethoprop	72.7		P	62 - 113
Etridiazole	43.2		P	28 - 92.0
Fenamiphos	103		P	57 - 128
Fenbuconazole	99.2		P	52 - 155
Fipronil	73.9		P	63 - 130
Fipronil Desulfinyl	101		P	61 - 130
Fipronil Sulfide	69.5		P	56 - 117
Fipronil Sulfone	99.7		P	52 - 118
Fluazifop-P-butyl	111		P	61 - 128
Fludioxonil	114		P	59 - 129
Flumioxazin	103		P	30 - 250
Flutolanil	106		P	53 - 127
Fluxapyroxad	92.4		P	42 - 132
Fonofos	77.6		P	61 - 110
Hexazinone	97.3		P	46 - 139
Imazalil	115		P	40 - 139
Iprodione	130		P	40 - 146
Loratadine	120		P	10 - 224
Malathion	86.0		P	61 - 135
Metalaxyl	115		P	58 - 121
Metolachlor	99.8		P	64 - 118
Metribuzin	96.4		P	45 - 245

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: EPA 8270E
 Batch ID: P423751

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Mevinphos	80.0		P	49 - 118
Molinate	57.1		P	42 - 92.0
Myclobutanil	80.2		P	55 - 127
Naled	111		P	10 - 114
Napropamide	51.5		P	39 - 121
Norflurazon	119		P	55 - 129
Octinoxate	76.2		P	26 - 166
Oxadiazon	76.4		P	54 - 115
Oxybenzone	71.6		P	49 - 135
Oxyfluorfen	74.8		P	64 - 139
Parathion Ethyl	93.6		P	70 - 111
Parathion Methyl	97.7		P	76 - 136
PBDE-47	76.5		P	41 - 148
PBDE-99	80.5		P	38 - 147
Pendimethalin	76.9		P	52 - 118
Phenytoin	25.6		P	10 - 162
Phorate	68.2		P	40 - 122
Prodiamine	86.5		P	26 - 141
Prometon	97.6		P	54 - 122
Prometryn	89.9		P	61 - 128
Pronamide	76.1		P	72 - 121
Propanil	111		P	45 - 144
Propargite	76.2		P	10 - 199
Propiconazole	79.5		P	56 - 127
Pyraflufen Ethyl	77.6		P	56 - 140
Pyridaben	117		P	26 - 211
Pyriproxyfen	106		P	33 - 194
Simazine	91.0		P	67 - 121
Stirophos	83.4		P	20 - 142
Sulfentrazone	60.4		P	21 - 144
Tebuconazole	77.8		P	10 - 122
Terbufos	80.7		P	60 - 129
Terbutylazine	89.9		P	69 - 113
Thiobencarb	102		P	51 - 120
Tri-o-cresyl Phosphate	80.8		P	49 - 150
Triadimefon	74.2		P	56 - 114

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8270E

Batch ID: P423751

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2375943	2-Ethylhexyl 2,3,4,5-tetrabromobenzoate (EHTBB)	79.6	86.8	P/P	26 - 165
2375943	Acetochlor	85.2	89.1	P/P	67 - 124
2375943	Alachlor	77.6	74.4	P/P	60 - 120
2375943	Ametryn	138	143	P/P	54 - 216
2375943	Atrazine	113	110	P/P	66 - 128
2375943	Atrazine Desethyl	65.7	72.0	P/P	15 - 122
2375943	Avobenzone	93.3	119	P/P	37 - 178
2375943	Azinphos Methyl	145	157	P/P	40 - 292
2375943	Azoxystrobin	109	126	P/P	35 - 220
2375943	Butylate	55.1	61.3	P/P	20 - 83.0
2375943	Caffeine	98.3	97.2	P/P	10 - 194
2375943	Carbophenothion	122	122	P/P	57 - 127
2375943	Carfentrazone Ethyl	108	109	P/P	51 - 141
2375943	Chlorfenapyr	80.2	80.9	P/P	46 - 111
2375943	Chlorpyrifos Ethyl	110	120	P/P	52 - 120
2375943	Chlorpyrifos Methyl	86.0	106	P/P	63 - 119
2375943	Coumaphos	217	222	P/P	10 - 228
2375943	Cyanazine	279	303	F/F	59 - 241
2375943	Cyprodinil	89.6	105	P/P	47 - 146
2375943	Dechlorane Plus	79.5	96.6	P/P	50 - 150
2375943	Demeton	70.7	79.6	P/P	40 - 136
2375943	Diazinon	99.6	119	P/P	69 - 132
2375943	Difenoconazole	192	140	P/P	57 - 258
2375943	Dimethenamid	86.3	87.3	P/P	54 - 110
2375943	Dimethomorph	109	167	P/P	28 - 210
2375943	Disulfoton	79.5	81.5	P/P	43 - 133
2375943	Dithiopyr	91.9	99.7	P/P	39 - 116
2375943	EPTC	48.7	55.8	P/P	20 - 78.0
2375943	Ethion	70.1	83.0	P/P	17 - 119
2375943	Ethoprop	84.1	112	P/P	66 - 120
2375943	Etridiazole	47.3	44.6	P/P	28 - 96.0
2375943	Fenamiphos	122	122	P/P	41 - 126
2375943	Fenbuconazole	113	131	P/P	42 - 169
2375943	Fipronil	100	91.2	P/P	61 - 132
2375943	Fipronil Desulfinyl	83.7	106	P/P	56 - 132
2375943	Fipronil Sulfide	99.3	78.4	P/P	48 - 119
2375943	Fipronil Sulfone	104	117	P/P	42 - 131
2375943	Fluazifop-P-butyl	117	130	P/P	53 - 131
2375943	Fludioxonil	107	125	P/P	56 - 127
2375943	Flumioxazin	205	204	P/P	19 - 300
2375943	Flutolanil	123	124	P/P	41 - 127
2375943	Fluxapyroxad	135	120	P/P	42 - 172
2375943	Fonofos	89.3	111	P/P	59 - 113
2375943	Hexazinone	105	116	P/P	66 - 122
2375943	Imazalil	111	117	P/P	21 - 283
2375943	Iprodione	108	104	P/P	43 - 150
2375943	Loratadine	154	161	P/P	23 - 201
2375943	Malathion	106	111	P/P	58 - 136
2375943	Metalaxyl	103	101	P/P	55 - 120
2375943	Metolachlor	91.9	84.4	P/P	57 - 121
2375943	Metribuzin	99.0	117	P/P	58 - 294
2375943	Mevinphos	94.1	102	P/P	50 - 126

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8270E

Batch ID: P423751

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2375943	Molinate	68.9	76.2	P/P	42 - 93.0
2375943	Myclobutanil	121	123	P/P	55 - 125
2375943	Naled	113	132	P/P	18 - 200
2375943	Napropamide	63.2	65.9	P/P	39 - 110
2375943	Octinoxate	63.0	77.4	P/P	21 - 159
2375943	Oxadiazon	88.4	97.3	P/P	43 - 112
2375943	Oxybenzone	62.2	73.4	P/P	41 - 142
2375943	Oxyfluorfen	88.6	95.3	P/P	64 - 153
2375943	Parathion Ethyl	106	111	P/P	69 - 114
2375943	Parathion Methyl	105	137	P/P	79 - 139
2375943	PBDE-47	63.8	76.8	P/P	27 - 144
2375943	PBDE-99	68.3	81.0	P/P	18 - 150
2375943	Pendimethalin	116	123	P/P	50 - 139
2375943	Phenytoin	72.1	59.6	P/P	10 - 146
2375943	Phorate	74.0	102	P/P	54 - 161
2375943	Prodiamine	94.0	104	P/P	30 - 161
2375943	Prometon	112	115	P/P	45 - 134
2375943	Prometryn	86.9	103	P/P	45 - 137
2375943	Pronamide	84.3	87.1	P/P	65 - 133
2375943	Propanil	99.2	123	P/P	49 - 142
2375943	Propargite	101	97.9	P/P	10 - 203
2375943	Propiconazole	106	105	P/P	38 - 146
2375943	Pyraflufen Ethyl	105	85.9	P/P	34 - 153
2375943	Pyridaben	112	128	P/P	12 - 192
2375943	Pyriproxyfen	105	120	P/P	33 - 180
2375943	Simazine	113	117	P/P	51 - 157
2375943	Stiropfos	108	105	P/P	10 - 128
2375943	Sulfentrazone	147	162	P/P	53 - 186
2375943	Tebuconazole	93.5	92.8	P/P	10 - 133
2375943	Terbufos	92.2	123	P/P	65 - 139
2375943	Terbutylazine	86.6	89.6	P/P	66 - 117
2375943	Thiobencarb	99.0	102	P/P	51 - 119
2375943	Tri-o-cresyl Phosphate	66.5	79.7	P/P	31 - 144
2375943	Triadimefon	72.9	63.5	P/P	48 - 119

Quality Assurance Report Precision

Reference Method: EPA 8270E

Batch ID: P423751

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2375943	2-Ethylhexyl 2,3,4,5-tetrabromobenzoate (EHTBB)	8.66	Spike	P	0 - 37
2375943	Acetochlor	4.53	Spike	P	0 - 28
2375943	Alachlor	4.22	Spike	P	0 - 30
2375943	Ametryn	3.80	Spike	P	0 - 32
2375943	Atrazine	1.82	Spike	P	0 - 41
2375943	Atrazine Desethyl	9.09	Spike	P	0 - 36
2375943	Avobenzone	24.4	Spike	P	0 - 36
2375943	Azinphos Methyl	7.69	Spike	P	0 - 75
2375943	Azoxystrobin	14.4	Spike	P	0 - 39
2375943	Bromacil	14.5	Spike	P	0 - 33
2375943	Butylate	10.7	Spike	P	0 - 44
2375943	Caffeine	1.08	Spike	P	0 - 74
2375943	Carbophenothion	0.388	Spike	P	0 - 25
2375943	Carfentrazone Ethyl	0.720	Spike	P	0 - 27
2375943	Chlorfenapyr	0.885	Spike	P	0 - 24
2375943	Chlorpyrifos Ethyl	8.69	Spike	P	0 - 26
2375943	Chlorpyrifos Methyl	20.6	Spike	P	0 - 26
2375943	Coumaphos	2.20	Spike	P	0 - 28
2375943	Cyanazine	8.25	Spike	P	0 - 48
2375943	Cyprodinil	15.6	Spike	P	0 - 29
2375943	Dechlorane Plus	19.4	Spike	P	0 - 30
2375943	Demeton	11.9	Spike	P	0 - 33
2375943	Diazinon	17.5	Spike	P	0 - 29
2375943	Difenoconazole	31.6	Spike	P	0 - 34
2375943	Dimethenamid	1.18	Spike	P	0 - 39
2375943	Dimethomorph	42.2	Spike	P	0 - 51
2375943	Disulfoton	2.53	Spike	P	0 - 30
2375943	Dithiopyr	8.10	Spike	P	0 - 26
2375943	EPTC	13.5	Spike	P	0 - 43
2375943	Ethion	16.8	Spike	P	0 - 79
2375943	Ethoprop	28.7	Spike	P	0 - 29
2375943	Etridiazole	6.05	Spike	P	0 - 33
2375943	Fenamiphos	0.00973	Spike	P	0 - 40
2375943	Fenbuconazole	15.0	Spike	P	0 - 74
2375943	Fipronil	8.10	Spike	P	0 - 29
2375943	Fipronil Desulfanyl	23.5	Spike	P	0 - 32
2375943	Fipronil Sulfide	21.4	Spike	P	0 - 30
2375943	Fipronil Sulfone	8.99	Spike	P	0 - 33
2375943	Fluazifop-P-butyl	10.6	Spike	P	0 - 38
2375943	Fludioxonil	15.4	Spike	P	0 - 29
2375943	Flumioxazin	0.675	Spike	P	0 - 51
2375943	Flutolanil	0.696	Spike	P	0 - 25
2375943	Fluxapyroxad	12.0	Spike	P	0 - 45
2375943	Fonofos	22.1	Spike	P	0 - 27
2375943	Hexazinone	8.63	Spike	P	0 - 30
2375943	Imazalil	5.31	Spike	P	0 - 100
2375943	Iprodione	4.09	Spike	P	0 - 33
2375943	Loratadine	4.75	Spike	P	0 - 56
2375943	Malathion	4.26	Spike	P	0 - 37
2375943	Metalaxyl	1.17	Spike	P	0 - 40
2375943	Metolachlor	5.45	Spike	P	0 - 29

Quality Assurance Report Precision

Reference Method: EPA 8270E
Batch ID: P423751

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2375943	Metribuzin	16.3	Spike	P	0 - 45
2375943	Mevinphos	8.06	Spike	P	0 - 29
2375943	Molinate	10.1	Spike	P	0 - 33
2375943	Myclobutanil	1.65	Spike	P	0 - 26
2375943	Naled	15.7	Spike	P	0 - 37
2375943	Napropamide	4.12	Spike	P	0 - 44
2375943	Norflurazon	13.3	Spike	P	0 - 30
2375943	Octinoxate	20.6	Spike	P	0 - 45
2375943	Oxadiazon	9.57	Spike	P	0 - 28
2375943	Oxybenzone	16.6	Spike	P	0 - 46
2375943	Oxyfluorfen	7.27	Spike	P	0 - 28
2375943	Parathion Ethyl	4.61	Spike	P	0 - 31
2375943	Parathion Methyl	26.7	Spike	P	0 - 29
2375943	PBDE-47	18.5	Spike	P	0 - 36
2375943	PBDE-99	17.1	Spike	P	0 - 40
2375943	Pendimethalin	5.84	Spike	P	0 - 33
2375943	Phenytoin	18.9	Spike	P	0 - 100
2375943	Phorate	31.6	Spike	P	0 - 36
2375943	Prodiamine	9.15	Spike	P	0 - 71
2375943	Prometon	2.56	Spike	P	0 - 36
2375943	Prometryn	17.3	Spike	P	0 - 28
2375943	Pronamide	3.29	Spike	P	0 - 24
2375943	Propanil	21.2	Spike	P	0 - 28
2375943	Propargite	3.46	Spike	P	0 - 43
2375943	Propiconazole	1.04	Spike	P	0 - 33
2375943	Pyraflufen Ethyl	20.2	Spike	P	0 - 29
2375943	Pyridaben	13.9	Spike	P	0 - 30
2375943	Pyriproxyfen	14.0	Spike	P	0 - 79
2375943	Simazine	2.79	Spike	P	0 - 29
2375943	Stirophos	2.79	Spike	P	0 - 61
2375943	Sulfentrazone	8.78	Spike	P	0 - 33
2375943	Tebuconazole	0.717	Spike	P	0 - 69
2375943	Terbufos	28.3	Spike	P	0 - 29
2375943	Terbuthylazine	3.43	Spike	P	0 - 32
2375943	Thiobencarb	3.17	Spike	P	0 - 26
2375943	Tri-o-cresyl Phosphate	18.0	Spike	P	0 - 33
2375943	Triadimefon	13.8	Spike	P	0 - 28

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

Quality Assurance Report Surrogates

Lab Sample ID: 2376529

Field Sample ID: G1SD0067

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8270E	Caffeine-d9	56.5	P	20 - 200
EPA 8270E	Simazine-d10	93.0	P	62 - 142
EPA 8270E	Terbufos-d10	99.9	P	58 - 132
EPA 8270E	Terphenyl-d14	77.0	P	52 - 137

Quality Assurance Report Calibration Verification

Reference Method: EPA 8270E
 Run ID: A116648
 Included Lab Sample IDs: 2376529

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2-Ethylhexyl 2,3,4,5-tetrabromobenzoate (EHTBB)	101		P	80 - 120
Avobenzone	109		P	80 - 120
Dechlorane Plus	101		P	80 - 120
Octinoxate	91.7		P	80 - 120
Oxybenzone	92.3		P	80 - 120
PBDE-47	95.8		P	80 - 120
PBDE-99	99.6		P	80 - 120
Tri-o-cresyl Phosphate	94.8		P	80 - 120

Reference Method: EPA 8270E
 Run ID: A116658
 Included Lab Sample IDs: 2376529

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acetochlor	89.9		P	80 - 120
Alachlor	96.2		P	80 - 120
Ametryn	97.6		P	80 - 120
Atrazine	104		P	80 - 120
Atrazine Desethyl	111		P	80 - 120
Azinphos Methyl	84.7		P	80 - 120
Azoxystrobin	90.3		P	80 - 120
Bromacil	115		P	80 - 120
Butylate	99.9		P	80 - 120
Caffeine	98.8		P	80 - 120
Carbophenothion	110		P	80 - 120
Chlorfenapyr	97.6		P	80 - 120
Chlorpyrifos Ethyl	118		P	80 - 120
Chlorpyrifos Methyl	88.4		P	80 - 120
Coumaphos	89.3		P	80 - 120
Cyprodinil	99.3		P	80 - 120
Demeton	87.3		P	80 - 120
Diazinon	90.2		P	80 - 120
Difenoconazole	84.4		P	80 - 120
Dimethenamid	108		P	80 - 120
Dimethomorph	82.6		P	80 - 120
Disulfoton	87.9		P	80 - 120
Dithiopyr	101		P	80 - 120
EPTC	105		P	80 - 120
Ethion	98.9		P	80 - 120
Ethoprop	119		P	80 - 120
Etridiazole	83.7		P	80 - 120
Fenamiphos	108		P	80 - 120
Fenbuconazole	83.6		P	80 - 120
Fipronil	114		P	80 - 120
Fipronil Desulfinyl	101		P	80 - 120
Fipronil Sulfide	101		P	80 - 120
Fipronil Sulfone	102		P	80 - 120
Fluazifop-P-butyl	113		P	80 - 120
Fludioxonil	102		P	80 - 120
Flumioxazin	112		P	80 - 120
Flutolanil	107		P	80 - 120

Quality Assurance Report Calibration Verification

Reference Method: EPA 8270E
Run ID: A116658
Included Lab Sample IDs: 2376529

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluxapyroxad	92.2		P	80 - 120
Fonofos	97.8		P	80 - 120
Hexazinone	102		P	80 - 120
Imazalil	115		P	80 - 120
Iprodione	93.2		P	80 - 120
Loratadine	86.9		P	80 - 120
Malathion	100		P	80 - 120
Metaxyl	120		P	80 - 120
Metolachlor	120		P	80 - 120
Metribuzin	104		P	80 - 120
Molinate	94.5		P	80 - 120
Myclobutanil	95.0		P	80 - 120
Naled	118		P	80 - 120
Napropamide	87.1		P	80 - 120
Norflurazon	118		P	80 - 120
Oxadiazon	99.6		P	80 - 120
Oxyfluorfen	87.3		P	80 - 120
Parathion Ethyl	93.4		P	80 - 120
Parathion Methyl	81.6		P	80 - 120
Pendimethalin	109		P	80 - 120
Phenytoin	115		P	80 - 120
Phorate	119		P	80 - 120
Prodiamine	106		P	80 - 120
Prometon	90.1		P	80 - 120
Prometryn	112		P	80 - 120
Pronamide	80.8		P	80 - 120
Propanil	100		P	80 - 120
Propargite	108		P	80 - 120
Propiconazole	117		P	80 - 120
Pyraflufen Ethyl	97.8		P	80 - 120
Pyridaben	81.9		P	80 - 120
Pyriproxyfen	88.3		P	80 - 120
Simazine	108		P	80 - 120
Stirophos	102		P	80 - 120
Sulfentrazone	100		P	80 - 120
Tebuconazole	108		P	80 - 120
Terbufos	92.8		P	80 - 120
Terbuthylazine	106		P	80 - 120
Thiobencarb	106		P	80 - 120
Triadimefon	114		P	80 - 120

Reference Method: EPA 8270E
Run ID: A116679
Included Lab Sample IDs: 2376529

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Carfentrazone Ethyl	92.2		P	80 - 120
Cyanazine	97.5		P	80 - 120
Mevinphos	93.5		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)	81.5	79.6 86.8			8.66
	Acetochlor	88.5	85.2 89.1			4.53
	Alachlor	79.3	77.6 74.4			4.22
	Ametryn	111	138 143			3.80
	Atrazine	101	113 110			1.82
	Atrazine Desethyl	73.6	65.7 72.0			9.09
	Avobenzone	115	93.3 119			24.4
	Azinphos Methyl	133	145 157			7.69
	Azoxystrobin	101	109 126			14.4
	Bromacil	107				14.5
	Butylate	57.8	55.1 61.3			10.7
	Caffeine	98.8	98.3 97.2			1.08
	Carbophenothion	100	122 122			0.388
	Carfentrazone Ethyl	99.0	108 109			0.720
	Chlorfenapyr	63.5	80.2 80.9			0.885
	Chlorpyrifos Ethyl	83.1	110 120			8.69
	Chlorpyrifos Methyl	89.8	86.0 106			20.6
	Coumaphos	225	217 222			2.20
	Cyanazine	264	279 303			8.25
	Cyprodinil	95.2	89.6 105			15.6
	Dechlorane Plus	105	79.5 96.6			19.4
	Demeton	65.0	70.7 79.6			11.9
	Diazinon	91.1	99.6 119			17.5
	Difenoconazole	95.4	192 140			31.6
	Dimethenamid	103	86.3 87.3			1.18
	Dimethomorph	121	109 167			42.2
	Disulfoton	69.3	79.5 81.5			2.53
	Dithiopyr	85.2	91.9 99.7			8.10
	EPTC	47.1	48.7 55.8			13.5
	Ethion	68.8	70.1 83.0			16.8
	Ethoprop	72.7	84.1 112			28.7
	Etridiazole	43.2	47.3 44.6			6.05
	Fenamiphos	103	122 122			0.0097
	Fenbuconazole	99.2	113 131			15.0
	Fipronil	73.9	100 91.2			8.10
	Fipronil Desulfinyl	101	83.7 106			23.5
	Fipronil Sulfide	69.5	99.3 78.4			21.4
	Fipronil Sulfone	99.7	104 117			8.99
	Fluazifop-P-butyl	111	117 130			10.6
	Fludioxonil	114	107 125			15.4
	Flumioxazin	103	205 204			0.675
	Flutolanil	106	123 124			0.696
	Fluxapyroxad	92.4	135 120			12.0
	Fonofos	77.6	89.3 111			22.1
	Hexazinone	97.3	105 116			8.63
	Imazalil	115	111 117			5.31
	Iprodione	130	108 104			4.09
	Loratadine	120	154 161			4.75
	Malathion	86.0	106 111			4.26
	Metalaxyl	115	103 101			1.17
	Metolachlor	99.8	91.9 84.4			5.45
	Metribuzin	96.4	99.0 117			16.3

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery		LCS	Precision	MS
						SMP	
EPA 8270E	Mevinphos	80.0	94.1	102			8.06
	Molinate	57.1	68.9	76.2			10.1
	Myclobutanil	80.2	121	123			1.65
	Naled	111	113	132			15.7
	Napropamide	51.5	63.2	65.9			4.12
	Norflurazon	119					13.3
	Octinoxate	76.2	63.0	77.4			20.6
	Oxadiazon	76.4	88.4	97.3			9.57
	Oxybenzone	71.6	62.2	73.4			16.6
	Oxyfluorfen	74.8	88.6	95.3			7.27
	Parathion Ethyl	93.6	106	111			4.61
	Parathion Methyl	97.7	105	137			26.7
	PBDE-47	76.5	63.8	76.8			18.5
	PBDE-99	80.5	68.3	81.0			17.1
	Pendimethalin	76.9	116	123			5.84
	Phenytoin	25.6	72.1	59.6			18.9
	Phorate	68.2	74.0	102			31.6
	Prodiamine	86.5	94.0	104			9.15
	Prometon	97.6	112	115			2.56
	Prometryn	89.9	86.9	103			17.3
	Pronamide	76.1	84.3	87.1			3.29
	Propanil	111	99.2	123			21.2
	Propargite	76.2	101	97.9			3.46
	Propiconazole	79.5	106	105			1.04
	Pyraflufen Ethyl	77.6	105	85.9			20.2
	Pyridaben	117	112	128			13.9
	Pyriproxyfen	106	105	120			14.0
	Simazine	91.0	113	117			2.79
	Stirophos	83.4	108	105			2.79
	Sulfentrazone	60.4	147	162			8.78
	Tebuconazole	77.8	93.5	92.8			0.717
	Terbufos	80.7	92.2	123			28.3
	Terbutylazine	89.9	86.6	89.6			3.43
	Thiobencarb	102	99.0	102			3.17
	Tri-o-cresyl Phosphate	80.8	66.5	79.7			18.0
	Triadimefon	74.2	72.9	63.5			13.8

Reference Method Descriptions

Method	Description	Associated Samples
EPA 8270E	Analysis of Sunscreen Compounds and Flame Retardants in Water by GC/MS-SIM	2376529
EPA 8270E	Organonitrogen and phosphorus pesticides in water matrices by GC/MS/MS	2376529

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
EPA 8270E	12/20/2022	12/21/2022 08:00	Fe-Val Siddell	12/22/2022 21:43	Arthur Maknenko	2376529
	12/20/2022	12/21/2022 08:00	Fe-Val Siddell	12/23/2022 21:25	Michael Poppell	2376529
	12/20/2022	12/21/2022 08:00	Fe-Val Siddell	12/29/2022 00:55	Michael Poppell	2376529