

Chemical Analysis Report

CEN-DIST-2023-04-19-01

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

Event Description: **Run 22**
Request ID: **RQ-2023-04-17-18**
Customer: **CEN-DIST**
Project ID: **SMP**

Send Reports to:
FL Dept. of Environmental Protection
FL Dept. of Environmental Protection
3319 Maguire Blvd., Suite 232
Orlando, FL 32803-3767
Attn: Matthew Bearden

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

Date Certified: 08-MAY-2023 12:30



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 groups are included in this report: Metals and 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: LAKE LOUSIE AT CENTER OF SOUTH LOBE

Collection Date/Time: 04/18/2023 10:49

Field ID: G2CE0065

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2401493	EPA 200.7 Rev. 4.4	Calcium	5.88		mg/L	P428759	
		Iron	30	U	ug/L	P428759	
		Magnesium	3.95		mg/L	P428759	
		Potassium	6.0		mg/L	P428759	
		Sodium	9.0		mg/L	P428759	
		Strontium	27.6		ug/L	P428759	
		Tin	3.0	U	ug/L	P428759	
		Titanium	0.75	U	ug/L	P428759	
		Vanadium	2.0	U	ug/L	P428759	
		Zinc	5.0	U	ug/L	P428759	
	EPA 200.8 Rev. 5.4	Aluminum	23		ug/L	P428759	
		Antimony	0.071	I	ug/L	P428759	
		Arsenic	1.16		ug/L	P428759	
		Barium	12.0		ug/L	P428759	
		Beryllium	0.010	U	ug/L	P428759	
		Boron	62.7		ug/L	P428759	
		Cadmium	0.020	U	ug/L	P428759	
		Chromium	0.40	U	ug/L	P428759	
		Cobalt	0.020	U	ug/L	P428759	
		Copper	0.40	U	ug/L	P428759	
		Lead	0.20	U	ug/L	P428759	
		Manganese	7.13		ug/L	P428759	
		Molybdenum	0.15	U	ug/L	P428759	
		Nickel	0.50	U	ug/L	P428759	
		Selenium	0.20	U	ug/L	P428759	
		Silver	0.010	U	ug/L	P428759	
		Thallium	0.10	U	ug/L	P428759	
	SM 2340 B-2011	Hardness	31.0		mg/L	P428759	
2401494	EPA 8270E	Oxybenzone**	10	U	ng/L	P428618	
		Acetochlor	0.20	U	ng/L	P428618	
		Octinoxate**	73	V	ng/L	P428618	
		Alachlor	0.41	U	ng/L	P428618	
		Avobenzone**	100	U	ng/L	P428618	
		Ametryn	1.1	U	ng/L	P428618	
		Atrazine	1.4		ng/L	P428618	
		PBDE-47**	4.1	U	ng/L	P428618	RPD
		Atrazine Desethyl	1.3	U	ng/L	P428618	
		PBDE-99**	5.1	U	ng/L	P428618	RPD
		Azinphos Methyl	3.0	U	ng/L	P428618	
		Tri-o-cresyl Phosphate**	6.1	U	ng/L	P428618	
		Azoxystrobin	0.41	U	ng/L	P428618	
		Bromacil	0.61	U	ng/L	P428618	
		2-Ethylhexyl 2,3,4,5-tetrabromobenzoate (EHTBB)**	12	U	ng/L	P428618	

Field ID: G2CE0065

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2401494	EPA 8270E	Butylate	0.20	U	ng/L	P428618	
		Dechlorane Plus**	30	U	ng/L	P428618	
		Caffeine**	26	I	ng/L	P428618	MS, RPD
		Dechlorane 602**	5.1	U	ng/L	P428618	MS, RPD
		Carbophenothion	0.51	U	ng/L	P428618	
		Dechlorane 603**	4.1	U	ng/L	P428618	
		Carfentrazone Ethyl	0.15	U	ng/L	P428618	
		Hexabromobenzene**	6.1	U	ng/L	P428618	
		Chlorfenapyr	0.30	U	ng/L	P428618	
		PBB-153**	8.1	U	ng/L	P428618	
		Chlorpyrifos Ethyl	0.30	U	ng/L	P428618	
		Pentabromotoluene**	3.0	U	ng/L	P428618	
		Chlorpyrifos Methyl	0.10	U	ng/L	P428618	
		Tris(2-chloroethyl) phosphate (TCEP)**	71	U	ng/L	P428618	
		Coumaphos	1.1	U	ng/L	P428618	
		Tris(1-chloro-2-propyl) phosphate (TCPP)**	15	UJ	ng/L	P428618	LCS
		Cyanazine	5.1	U	ng/L	P428618	
		Tris(1,3-dichloro-2-propyl) phosphate (TDCPP)**	2.5	U	ng/L	P428618	
		Cyprodinil	0.20	U	ng/L	P428618	
		Tetradecachloro-m-terphenyl**	7.6	U	ng/L	P428618	
		Demeton	3.6	U	ng/L	P428618	
		Diazinon	0.13	U	ng/L	P428618	
		Difenoconazole	0.61	U	ng/L	P428618	
		Dimethenamid	0.10	U	ng/L	P428618	MS
		Dimethomorph	0.30	U	ng/L	P428618	
		Disulfoton	0.61	U	ng/L	P428618	
		Dithiopyr	1.0	U	ng/L	P428618	
		EPTC	0.51	U	ng/L	P428618	
		Ethion	0.30	U	ng/L	P428618	
		Ethoprop	0.13	U	ng/L	P428618	
		Etridiazole	0.10	U	ng/L	P428618	
		Fenamiphos	0.46	U	ng/L	P428618	
		Fenbuconazole	0.51	U	ng/L	P428618	
		Fipronil	0.20	U	ng/L	P428618	
		Fipronil Desulfinyl**	0.10	U	ng/L	P428618	
		Fipronil Sulfide	0.10	U	ng/L	P428618	
		Fipronil Sulfone	0.10	U	ng/L	P428618	
		Fluazifop-P-butyl	0.10	U	ng/L	P428618	
		Fludioxonil	0.10	U	ng/L	P428618	
		Flumioxazin	3.0	U	ng/L	P428618	
		Flutolanil	0.10	U	ng/L	P428618	
		Fluxapyroxad	23		ng/L	P428618	
		Fonofos	0.15	U	ng/L	P428618	RPD
		Hexazinone	0.51	U	ng/L	P428618	

Field ID: G2CE0065

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2401494	EPA 8270E	Imazalil	0.66	U	ng/L	P428618	
		Iprodione	0.51	U	ng/L	P428618	
		Loratadine**	0.30	U	ng/L	P428618	
		Malathion	0.36	U	ng/L	P428618	
		Metalaxyl	0.51	U	ng/L	P428618	
		Metolachlor	0.76	U	ng/L	P428618	
		Metribuzin	0.41	U	ng/L	P428618	
		Mevinphos	1.0	U	ng/L	P428618	
		Molinate	0.25	U	ng/L	P428618	
		Myclobutanil	0.36	U	ng/L	P428618	
		Naled	2.5	U	ng/L	P428618	
		Napropamide	0.71	U	ng/L	P428618	
		Norflurazon	1.0	U	ng/L	P428618	
		Oxadiazon	0.36	U	ng/L	P428618	
		Oxyfluorfen	0.20	U	ng/L	P428618	
		Parathion Ethyl	0.15	U	ng/L	P428618	
		Parathion Methyl	0.20	U	ng/L	P428618	
		Pendimethalin	0.76	UJ	ng/L	P428618	LCS
		Phenytol**	5.4	U	ng/L	P428618	
		Phorate	0.25	U	ng/L	P428618	
		Prodiamine	0.20	U	ng/L	P428618	
		Prometon	3.0	U	ng/L	P428618	
		Prometryn	0.36	U	ng/L	P428618	
		Pronamide	0.10	U	ng/L	P428618	MS
		Propanil	0.10	U	ng/L	P428618	
		Propargite	0.81	U	ng/L	P428618	
		Propiconazole	0.61	U	ng/L	P428618	
		Pyraflufen Ethyl	0.30	U	ng/L	P428618	
		Pyridaben	1.4	U	ng/L	P428618	
		Pyriproxyfen	0.25	U	ng/L	P428618	
		Simazine	0.25	U	ng/L	P428618	
		Stirophos	0.41	U	ng/L	P428618	
		Sulfentrazone	1.4	U	ng/L	P428618	
		Tebuconazole	2.3	I	ng/L	P428618	
		Terbufos	0.20	U	ng/L	P428618	
		Terbuthylazine	0.20	U	ng/L	P428618	
		Thiobencarb	0.51	U	ng/L	P428618	
		Triadimefon	0.15	U	ng/L	P428618	

Ref. Method and Comment:

EPA 8270E: MS accuracy for TCPP & TDCPP not assessed due to high content of these parameters in the sample spiked. V - Due to the presence of octinoxate in both the Method Blank and the sample. Refer to the Lab Analysis Report for an explanation of QC Codes.

EPA 8270E: MS accuracy for some parameters 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.

Sample Location: LAKE WINONA AT CENTER OF LAKE

Collection Date/Time: 04/18/2023 12:12

Field ID: G2CE0288

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2401492	EPA 200.7 Rev. 4.4	Calcium	3.65		mg/L	P428759	
		Iron	30	U	ug/L	P428759	
		Magnesium	3.34		mg/L	P428759	
		Potassium	3.4		mg/L	P428759	
		Sodium	8.4		mg/L	P428759	
		Strontium	22.5		ug/L	P428759	
		Tin	3.0	U	ug/L	P428759	
		Titanium	0.75	U	ug/L	P428759	
		Vanadium	2.0	U	ug/L	P428759	
	EPA 200.8 Rev. 5.4	Zinc	5.0	U	ug/L	P428759	
		Aluminum	41		ug/L	P428759	
		Antimony	0.14	I	ug/L	P428759	
		Arsenic	0.56		ug/L	P428759	
		Barium	14.3		ug/L	P428759	
		Beryllium	0.010	U	ug/L	P428759	
		Boron	29.1		ug/L	P428759	
		Cadmium	0.020	U	ug/L	P428759	
		Chromium	0.40	U	ug/L	P428759	
		Cobalt	0.020	U	ug/L	P428759	
		Copper	0.40	U	ug/L	P428759	
		Lead	0.20	U	ug/L	P428759	
		Manganese	8.57		ug/L	P428759	
		Molybdenum	0.15	I	ug/L	P428759	
		Nickel	0.50	U	ug/L	P428759	
		Selenium	0.20	U	ug/L	P428759	
		Silver	0.010	U	ug/L	P428759	
		Thallium	0.10	U	ug/L	P428759	
	SM 2340 B-2011	Hardness	22.9		mg/L	P428759	

Quality Assurance Report

Method Blank Results

Reference Method: EPA 200.7 Rev. 4.4

Batch ID: P428759

Component	Result	Code	Units
Calcium	0.075	U	mg/L
Iron	30	U	ug/L
Magnesium	0.040	U	mg/L
Potassium	0.30	U	mg/L
Sodium	0.50	U	mg/L
Strontium	2.0	U	ug/L
Tin	3.0	U	ug/L
Titanium	0.75	U	ug/L
Vanadium	2.0	U	ug/L
Zinc	5.0	U	ug/L

Reference Method: EPA 200.8 Rev. 5.4

Batch ID: P428759

Component	Result	Code	Units
Aluminum	5.0	U	ug/L
Antimony	0.050	U	ug/L
Arsenic	0.050	U	ug/L
Barium	0.20	U	ug/L
Beryllium	0.010	U	ug/L
Boron	2.0	U	ug/L
Cadmium	0.020	U	ug/L
Chromium	0.40	U	ug/L
Cobalt	0.020	U	ug/L
Copper	0.40	U	ug/L
Lead	0.20	U	ug/L
Manganese	0.10	U	ug/L
Molybdenum	0.15	U	ug/L
Nickel	0.50	U	ug/L
Selenium	0.20	U	ug/L
Silver	0.010	U	ug/L
Thallium	0.10	U	ug/L

Reference Method: EPA 8270E

Batch ID: P428618

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	0.20	U	ng/L
Acetochlor	0.20	U	ng/L
Alachlor	0.40	U	ng/L
Alachlor	0.40	U	ng/L
Ametryn	1.1	U	ng/L
Ametryn	1.1	U	ng/L
Atrazine	0.20	U	ng/L
Atrazine	0.20	U	ng/L
Atrazine Desethyl	1.3	U	ng/L
Atrazine Desethyl	1.3	U	ng/L
Avobenzone	100	U	ng/L
Avobenzone	100	U	ng/L
Azinphos Methyl	3.0	U	ng/L

Quality Assurance Report

Method Blank Results

Reference Method: EPA 8270E

Batch ID: P428618

Component	Result	Code	Units
Azinphos Methyl	3.0	U	ng/L
Azoxystrobin	0.40	U	ng/L
Azoxystrobin	0.40	U	ng/L
Bromacil	0.60	U	ng/L
Bromacil	0.60	U	ng/L
Butylate	0.20	U	ng/L
Butylate	0.20	U	ng/L
Caffeine	7.5	U	ng/L
Caffeine	7.5	U	ng/L
Carbophenothion	0.50	U	ng/L
Carbophenothion	0.50	U	ng/L
Carfentrazone Ethyl	0.15	U	ng/L
Carfentrazone Ethyl	0.15	U	ng/L
Chlorfenapyr	0.30	U	ng/L
Chlorfenapyr	0.30	U	ng/L
Chlorpyrifos Ethyl	0.30	U	ng/L
Chlorpyrifos Ethyl	0.30	U	ng/L
Chlorpyrifos Methyl	0.10	U	ng/L
Chlorpyrifos Methyl	0.10	U	ng/L
Coumaphos	1.0	U	ng/L
Coumaphos	1.0	U	ng/L
Cyanazine	5.0	U	ng/L
Cyanazine	5.0	U	ng/L
Cyprodinil	0.20	U	ng/L
Cyprodinil	0.20	U	ng/L
Dechlorane 602	5.0	U	ng/L
Dechlorane 602	5.0	U	ng/L
Dechlorane 603	4.0	U	ng/L
Dechlorane 603	4.0	U	ng/L
Dechlorane Plus	30	U	ng/L
Dechlorane Plus	30	U	ng/L
Demeton	3.5	U	ng/L
Demeton	3.5	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	0.30	U	ng/L
Dimethomorph	0.30	U	ng/L
Disulfoton	0.60	U	ng/L
Disulfoton	0.60	U	ng/L
Dithiopyr	1.0	U	ng/L
Dithiopyr	1.0	U	ng/L
EPTC	0.50	U	ng/L
EPTC	0.50	U	ng/L
Ethion	0.30	U	ng/L
Ethion	0.30	U	ng/L
Ethoprop	0.12	U	ng/L
Ethoprop	0.12	U	ng/L
Etridiazole	0.10	U	ng/L

Quality Assurance Report

Method Blank Results

Reference Method: EPA 8270E

Batch ID: P428618

Component	Result	Code	Units
Etridiazole	0.10	U	ng/L
Fenamiphos	0.45	U	ng/L
Fenamiphos	0.45	U	ng/L
Fenbuconazole	0.50	U	ng/L
Fenbuconazole	0.50	U	ng/L
Fipronil	0.20	U	ng/L
Fipronil	0.20	U	ng/L
Fipronil Desulfinyl	0.10	U	ng/L
Fipronil Desulfinyl	0.10	U	ng/L
Fipronil Sulfide	0.10	U	ng/L
Fipronil Sulfide	0.10	U	ng/L
Fipronil Sulfone	0.10	U	ng/L
Fipronil Sulfone	0.10	U	ng/L
Fluazifop-P-butyl	0.10	U	ng/L
Fluazifop-P-butyl	0.10	U	ng/L
Fludioxonil	0.10	U	ng/L
Fludioxonil	0.10	U	ng/L
Flumioxazin	3.0	U	ng/L
Flumioxazin	3.0	U	ng/L
Flutolanil	0.10	U	ng/L
Flutolanil	0.10	U	ng/L
Fluxapyroxad	0.25	U	ng/L
Fluxapyroxad	0.25	U	ng/L
Fonofos	0.15	U	ng/L
Fonofos	0.15	U	ng/L
Hexabromobenzene	6.0	U	ng/L
Hexabromobenzene	6.0	U	ng/L
Hexazinone	0.50	U	ng/L
Hexazinone	0.50	U	ng/L
Imazalil	0.65	U	ng/L
Imazalil	0.65	U	ng/L
Iprodione	0.50	U	ng/L
Iprodione	0.50	U	ng/L
Loratadine	0.30	U	ng/L
Loratadine	0.30	U	ng/L
Malathion	0.35	U	ng/L
Malathion	0.35	U	ng/L
Metalaxyl	0.50	U	ng/L
Metalaxyl	0.50	U	ng/L
Metolachlor	0.75	U	ng/L
Metolachlor	0.75	U	ng/L
Metribuzin	0.40	U	ng/L
Metribuzin	0.40	U	ng/L
Mevinphos	1.0	U	ng/L
Mevinphos	1.0	U	ng/L
Molinate	0.25	U	ng/L
Molinate	0.25	U	ng/L
Myclobutanil	0.35	U	ng/L
Myclobutanil	0.35	U	ng/L
Naled	2.5	U	ng/L
Naled	2.5	U	ng/L
Napropamide	0.70	U	ng/L

Quality Assurance Report

Method Blank Results

Reference Method: EPA 8270E

Batch ID: P428618

Component	Result	Code	Units
Napropamide	0.70	U	ng/L
Norflurazon	1.0	U	ng/L
Norflurazon	1.0	U	ng/L
Octinoxate	68		ng/L
Octinoxate	59	I	ng/L
Oxadiazon	0.35	U	ng/L
Oxadiazon	0.35	U	ng/L
Oxybenzone	10	U	ng/L
Oxybenzone	10	U	ng/L
Oxyfluorfen	0.20	U	ng/L
Oxyfluorfen	0.20	U	ng/L
Parathion Ethyl	0.15	U	ng/L
Parathion Ethyl	0.15	U	ng/L
Parathion Methyl	0.20	U	ng/L
Parathion Methyl	0.20	U	ng/L
PBB-153	8.0	U	ng/L
PBB-153	8.0	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	0.75	U	ng/L
Pendimethalin	0.75	U	ng/L
Pentabromotoluene	3.0	U	ng/L
Pentabromotoluene	3.0	U	ng/L
Phenytol	5.3	U	ng/L
Phenytol	5.3	U	ng/L
Phorate	0.25	U	ng/L
Phorate	0.25	U	ng/L
Prodiatone	0.20	U	ng/L
Prodiatone	0.20	U	ng/L
Prometon	3.0	U	ng/L
Prometon	3.0	U	ng/L
Prometryn	0.35	U	ng/L
Prometryn	0.35	U	ng/L
Pronamide	0.10	U	ng/L
Pronamide	0.10	U	ng/L
Propanil	0.10	U	ng/L
Propanil	0.10	U	ng/L
Propargite	0.80	U	ng/L
Propargite	0.80	U	ng/L
Propiconazole	0.60	U	ng/L
Propiconazole	0.60	U	ng/L
Pyraflufen Ethyl	0.30	U	ng/L
Pyraflufen Ethyl	0.30	U	ng/L
Pyridaben	1.4	U	ng/L
Pyridaben	1.4	U	ng/L
Pyriproxyfen	0.25	U	ng/L
Pyriproxyfen	0.25	U	ng/L
Simazine	0.25	U	ng/L
Simazine	0.25	U	ng/L
Stirophos	0.40	U	ng/L

Quality Assurance Report

Method Blank Results

Reference Method: EPA 8270E

Batch ID: P428618

Component	Result	Code	Units
Stirophos	0.40	U	ng/L
Sulfentrazone	1.4	U	ng/L
Sulfentrazone	1.4	U	ng/L
Tebuconazole	1.4	U	ng/L
Tebuconazole	1.4	U	ng/L
Terbufos	0.20	U	ng/L
Terbufos	0.20	U	ng/L
Terbutylazine	0.20	U	ng/L
Terbutylazine	0.20	U	ng/L
Tetradecachloro-m-terphenyl	7.5	U	ng/L
Tetradecachloro-m-terphenyl	7.5	U	ng/L
Thiobencarb	0.50	U	ng/L
Thiobencarb	0.50	U	ng/L
Tri-o-cresyl Phosphate	6.0	U	ng/L
Tri-o-cresyl Phosphate	6.0	U	ng/L
Triadimefon	0.15	U	ng/L
Triadimefon	0.15	U	ng/L
Tris(1-chloro-2-propyl) phosphate (TCPP)	15	U	ng/L
Tris(1-chloro-2-propyl) phosphate (TCPP)	15	U	ng/L
Tris(1,3-dichloro-2-propyl) phosphate (TDCPP)	2.5	U	ng/L
Tris(1,3-dichloro-2-propyl) phosphate (TDCPP)	2.5	U	ng/L
Tris(2-chloroethyl) phosphate (TCEP)	70	U	ng/L
Tris(2-chloroethyl) phosphate (TCEP)	70	U	ng/L

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 200.7 Rev. 4.4

Batch ID: P428759

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Calcium	98.2		P	80 - 120
Iron	98.6		P	80 - 120
Magnesium	100		P	80 - 120
Potassium	98.0		P	80 - 120
Sodium	101		P	80 - 120
Strontium	94.9		P	80 - 120
Tin	94.6		P	80 - 120
Titanium	95.7		P	80 - 120
Vanadium	95.9		P	80 - 120
Zinc	98.2		P	80 - 120

Reference Method: EPA 200.8 Rev. 5.4

Batch ID: P428759

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Aluminum	98.8		P	85 - 115
Antimony	98.5		P	85 - 115
Arsenic	98.1		P	85 - 115
Barium	100		P	85 - 115
Beryllium	93.8		P	85 - 115
Boron	100		P	85 - 115
Cadmium	100		P	85 - 115
Chromium	98.8		P	85 - 115
Cobalt	98.8		P	85 - 115
Copper	97.2		P	85 - 115
Lead	93.3		P	85 - 115
Manganese	96.5		P	85 - 115
Molybdenum	97.9		P	85 - 115
Nickel	98.8		P	85 - 115
Selenium	96.7		P	85 - 115
Silver	98.4		P	85 - 115
Thallium	98.2		P	85 - 115

Reference Method: EPA 8270E

Batch ID: P428618

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2-Ethylhexyl 2,3,4,5-tetrabromobenzoate (EHTBB)	94.7		P	42 - 162
Acetochlor	72.8		P	69 - 123
Alachlor	106		P	65 - 118
Ametryn	107		P	58 - 141
Atrazine	98.3		P	73 - 118
Atrazine Desethyl	90.1		P	32 - 125
Avobenzone	124		P	40 - 203
Azinphos Methyl	116		P	36 - 197
Azoxystrobin	104		P	58 - 226
Bromacil	112		P	48 - 120
Butylate	61.8		P	27 - 85.0
Caffeine	93.1		P	40 - 137
Carbophenothion	111		P	54 - 132
Carfentrazone Ethyl	127		P	60 - 142
Chlorfenapyr	65.0		P	53 - 117

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: EPA 8270E

Batch ID: P428618

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Chlorpyrifos Ethyl	82.6		P	59 - 116
Chlorpyrifos Methyl	96.1		P	66 - 119
Coumaphos	137		P	11 - 234
Cyanazine	131		P	61 - 248
Cyprodinil	91.3		P	50 - 147
Dechlorane 602	74.9		P	50 - 150
Dechlorane 603	99.2		P	50 - 150
Dechlorane Plus	64.0		P	47 - 182
Demeton	76.3		P	30 - 138
Diazinon	118		P	67 - 126
Difenoconazole	111		P	38 - 205
Dimethenamid	108		P	57 - 111
Dimethomorph	83.3		P	16 - 212
Disulfoton	108		P	46 - 126
Dithiopyr	107		P	62 - 115
EPTC	60.9		P	28 - 80.0
Ethion	106		P	24 - 122
Ethoprop	101		P	62 - 113
Etridiazole	66.5		P	28 - 92.0
Fenamiphos	77.7		P	57 - 128
Fenbuconazole	79.5		P	52 - 155
Fipronil	75.5		P	63 - 130
Fipronil Desulfinyl	94.6		P	61 - 130
Fipronil Sulfide	89.0		P	56 - 117
Fipronil Sulfone	107		P	52 - 118
Fluazifop-P-butyl	70.7		P	61 - 128
Fludioxonil	83.7		P	59 - 129
Flumioxazin	183		P	30 - 250
Flutolanil	82.5		P	53 - 127
Fluxapyroxad	103		P	42 - 132
Fonofos	83.3		P	61 - 110
Hexabromobenzene	86.1		P	50 - 150
Hexazinone	96.1		P	46 - 139
Imazalil	77.2		P	40 - 139
Iprodione	91.3		P	40 - 146
Loratadine	140		P	10 - 224
Malathion	96.5		P	61 - 135
Metalaxyl	107		P	58 - 121
Metolachlor	90.5		P	64 - 118
Metribuzin	109		P	45 - 245
Mevinphos	88.7		P	49 - 118
Molinate	61.0		P	42 - 92.0
Myclobutanil	110		P	55 - 127
Naled	43.5		P	10 - 114
Napropamide	79.9		P	39 - 121
Norflurazon	104		P	55 - 129
Octinoxate	110		P	26 - 166
Oxadiazon	92.5		P	54 - 115
Oxybenzone	68.8		P	49 - 135
Oxyfluorfen	96.8		P	64 - 139
Parathion Ethyl	93.8		P	70 - 111
Parathion Methyl	108		P	76 - 136

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: EPA 8270E

Batch ID: P428618

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
PBB-153	100		P	50 - 150
PBDE-47	78.4		P	41 - 148
PBDE-99	80.3		P	38 - 147
Pendimethalin	135		F	52 - 118
Pentabromotoluene	72.0		P	50 - 150
Phenytoin	127		P	10 - 162
Phorate	96.3		P	40 - 122
Prodiamine	68.8		P	26 - 141
Prometon	102		P	54 - 122
Prometryn	126		P	61 - 128
Pronamide	114		P	72 - 121
Propanil	122		P	45 - 144
Propargite	108		P	10 - 199
Propiconazole	70.3		P	56 - 127
Pyraflufen Ethyl	57.3		P	56 - 140
Pyridaben	80.5		P	26 - 211
Pyriproxyfen	122		P	33 - 194
Simazine	80.5		P	67 - 121
Stirophos	97.3		P	20 - 142
Sulfentrazone	104		P	21 - 144
Tebuconazole	90.6		P	10 - 122
Terbufos	117		P	60 - 129
Terbutylazine	82.8		P	69 - 113
Tetradecachloro-m-terphenyl	139		P	70 - 200
Thiobencarb	110		P	51 - 120
Tri-o-cresyl Phosphate	80.7		P	49 - 150
Triadimefon	95.1		P	56 - 114
Tris(1-chloro-2-propyl) phosphate (TCPP)	43.4		F	50 - 150
Tris(1,3-dichloro-2-propyl) phosphate (TDCPP)	69.3		P	50 - 150
Tris(2-chloroethyl) phosphate (TCEP)	78.0		P	70 - 180

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.7 Rev. 4.4

Batch ID: P428759

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2401110	Calcium	97.5		P	80 - 120
2401110	Iron	98.1	99.4	P/P	80 - 120
2401110	Magnesium	99.2	101	P/P	80 - 120
2401110	Potassium	96.9	96.5	P/P	80 - 120
2401110	Sodium	99.1	99.6	P/P	80 - 120
2401110	Strontium	95.0	95.0	P/P	80 - 120
2401110	Tin	95.8	94.4	P/P	80 - 120
2401110	Titanium	95.5	95.3	P/P	80 - 120
2401110	Vanadium	96.8	95.6	P/P	80 - 120
2401110	Zinc	95.9	96.0	P/P	80 - 120
2401492	Calcium	95.3		P	80 - 120
2401492	Iron	98.4		P	80 - 120
2401492	Magnesium	96.9		P	80 - 120
2401492	Potassium	94.7		P	80 - 120
2401492	Sodium	97.9		P	80 - 120
2401492	Strontium	94.7		P	80 - 120
2401492	Tin	93.5		P	80 - 120
2401492	Titanium	96.5		P	80 - 120
2401492	Vanadium	97.1		P	80 - 120
2401492	Zinc	97.5		P	80 - 120

Reference Method: EPA 200.8 Rev. 5.4

Batch ID: P428759

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2401110	Aluminum	95.2	95.6	P/P	80 - 120
2401110	Antimony	98.2	98.8	P/P	80 - 120
2401110	Arsenic	96.3	96.7	P/P	80 - 120
2401110	Barium	99.4	100	P/P	80 - 120
2401110	Beryllium	92.3	90.5	P/P	80 - 120
2401110	Boron	98.0	99.4	P/P	80 - 120
2401110	Cadmium	96.6	100	P/P	80 - 120
2401110	Chromium	99.2	99.3	P/P	80 - 120
2401110	Cobalt	95.5	96.9	P/P	80 - 120
2401110	Copper	95.7	95.3	P/P	80 - 120
2401110	Lead	93.8	93.0	P/P	80 - 120
2401110	Manganese	96.7	95.7	P/P	80 - 120
2401110	Molybdenum	98.5	97.5	P/P	80 - 120
2401110	Nickel	96.4	96.9	P/P	80 - 120
2401110	Selenium	95.7	96.1	P/P	80 - 120
2401110	Silver	97.7	98.7	P/P	80 - 120
2401110	Thallium	99.9	98.8	P/P	80 - 120
2401492	Aluminum	97.2		P	80 - 120
2401492	Antimony	98.3		P	80 - 120
2401492	Arsenic	96.1		P	80 - 120
2401492	Barium	99.6		P	80 - 120
2401492	Beryllium	89.9		P	80 - 120
2401492	Boron	100		P	80 - 120
2401492	Cadmium	97.8		P	80 - 120
2401492	Chromium	98.1		P	80 - 120
2401492	Cobalt	95.6		P	80 - 120
2401492	Copper	96.4		P	80 - 120

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P428759

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2401492	Lead	93.9		P	80 - 120
2401492	Manganese	96.6		P	80 - 120
2401492	Molybdenum	97.1		P	80 - 120
2401492	Nickel	96.5		P	80 - 120
2401492	Selenium	94.9		P	80 - 120
2401492	Silver	95.7		P	80 - 120
2401492	Thallium	98.3		P	80 - 120

Reference Method: EPA 8270E
Batch ID: P428618

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2400840	2-Ethylhexyl 2,3,4,5-tetrabromobenzoate (EHTBB)	110	78.7	P/P	26 - 165
2400840	Acetochlor	87.1	89.6	P/P	67 - 124
2400840	Alachlor	97.7	105	P/P	60 - 120
2400840	Ametryn	115	112	P/P	54 - 216
2400840	Atrazine Desethyl	87.7	79.3	P/P	15 - 122
2400840	Avobenzene	136	128	P/P	37 - 178
2400840	Azinphos Methyl	116	119	P/P	40 - 292
2400840	Azoxystrobin	101	138	P/P	35 - 220
2400840	Bromacil	111	122	P/P	45 - 127
2400840	Butylate	58.0	50.0	P/P	20 - 83.0
2400840	Caffeine	132	863	P/F	10 - 194
2400840	Carbophenothion	113	104	P/P	57 - 127
2400840	Carfentrazone Ethyl	127	115	P/P	51 - 141
2400840	Chlorpyrifos Ethyl	75.3	72.9	P/P	52 - 120
2400840	Chlorpyrifos Methyl	101	102	P/P	63 - 119
2400840	Coumaphos	150	129	P/P	10 - 228
2400840	Cyanazine	132	128	P/P	59 - 241
2400840	Cyprodinil	104	107	P/P	47 - 146
2400840	Dechlorane 602	87.7	39.8	P/F	50 - 150
2400840	Dechlorane 603	120	95.3	P/P	50 - 150
2400840	Dechlorane Plus	69.9	61.0	P/P	50 - 150
2400840	Demeton	105	103	P/P	40 - 136
2400840	Diazinon	123	115	P/P	69 - 132
2400840	Difenoconazole	131	93.2	P/P	57 - 258
2400840	Dimethenamid	120	104	F/P	54 - 110
2400840	Dimethomorph	136	139	P/P	28 - 210
2400840	Disulfoton	115	113	P/P	43 - 133
2400840	Dithiopyr	98.5	85.6	P/P	39 - 116
2400840	EPTC	54.5	45.4	P/P	20 - 78.0
2400840	Ethion	114	98.0	P/P	17 - 119
2400840	Ethoprop	92.7	101	P/P	66 - 120
2400840	Etridiazole	71.7	61.4	P/P	28 - 96.0
2400840	Fenamiphos	96.3	103	P/P	41 - 126
2400840	Fenbuconazole	83.8	81.3	P/P	42 - 169
2400840	Fluazifop-P-butyl	63.3	67.6	P/P	53 - 131
2400840	Fludioxonil	74.7	68.4	P/P	56 - 127
2400840	Flumioxazin	202	153	P/P	19 - 300
2400840	Flutolanil	103	106	P/P	41 - 127
2400840	Fluxapyroxad	114	85.2	P/P	42 - 172
2400840	Fonofos	108	75.4	P/P	59 - 113

Quality Assurance Report

Matrix Spike Accuracy

Reference Method: EPA 8270E

Batch ID: P428618

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2400840	Hexabromobenzene	96.0	86.8	P/P	50 - 150
2400840	Hexazinone	117	96.6	P/P	66 - 122
2400840	Imazalil	140	139	P/P	21 - 283
2400840	Iprodione	105	91.9	P/P	43 - 150
2400840	Loratadine	166	148	P/P	23 - 201
2400840	Malathion	115	96.8	P/P	58 - 136
2400840	Metalaxyl	90.4	85.7	P/P	55 - 120
2400840	Metolachlor	97.5	106	P/P	57 - 121
2400840	Metribuzin	99.1	106	P/P	58 - 294
2400840	Mevinphos	95.6	96.1	P/P	50 - 126
2400840	Molinate	57.5	57.0	P/P	42 - 93.0
2400840	Myclobutanil	115	101	P/P	55 - 125
2400840	Naled	50.6	49.6	P/P	18 - 200
2400840	Napropamide	91.1	70.9	P/P	39 - 110
2400840	Norflurazon	116	99.6	P/P	48 - 128
2400840	Octinoxate	82.3	80.2	P/P	21 - 159
2400840	Oxadiazon	87.9	81.4	P/P	43 - 112
2400840	Oxybenzone	82.2	78.8	P/P	41 - 142
2400840	Oxyfluorfen	110	103	P/P	64 - 153
2400840	Parathion Ethyl	103	107	P/P	69 - 114
2400840	Parathion Methyl	116	118	P/P	79 - 139
2400840	PBB-153	117	95.3	P/P	50 - 150
2400840	PBDE-47	87.4	53.9	P/P	27 - 144
2400840	PBDE-99	94.5	52.8	P/P	18 - 150
2400840	Pendimethalin	119	89.6	P/P	50 - 139
2400840	Pentabromotoluene	83.5	76.4	P/P	50 - 150
2400840	Phorate	142	149	P/P	54 - 161
2400840	Prodiamine	81.4	70.6	P/P	30 - 161
2400840	Prometon	111	103	P/P	45 - 134
2400840	Prometryn	128	129	P/P	45 - 137
2400840	Pronamide	137	134	F/F	65 - 133
2400840	Propanil	119	116	P/P	49 - 142
2400840	Propargite	101	86.0	P/P	10 - 203
2400840	Propiconazole	107	111	P/P	38 - 146
2400840	Pyraflufen Ethyl	58.6	63.5	P/P	34 - 153
2400840	Pyridaben	118	122	P/P	12 - 192
2400840	Pyriproxyfen	124	103	P/P	33 - 180
2400840	Stiropfos	105	60.7	P/P	10 - 128
2400840	Sulfentrazone	119	103	P/P	53 - 186
2400840	Tebuconazole	120	43.7	P/P	10 - 133
2400840	Terbufos	134	137	P/P	65 - 139
2400840	Terbutylazine	101	95.4	P/P	66 - 117
2400840	Tetradecachloro-m-terphenyl	161	144	P/P	70 - 200
2400840	Thiobencarb	101	111	P/P	51 - 119
2400840	Tri-o-cresyl Phosphate	91.0	80.1	P/P	31 - 144
2400840	Triadimefon	95.8	102	P/P	48 - 119
2400840	Tris(2-chloroethyl) phosphate (TCEP)	95.6	83.2	P/P	70 - 180

Quality Assurance Report

Precision

Reference Method: EPA 200.7 Rev. 4.4

Batch ID: P428759

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2401110	Calcium	0.934	Spike	P	0 - 20
2401110	Iron	1.27	Spike	P	0 - 20
2401110	Magnesium	0.997	Spike	P	0 - 20
2401110	Potassium	0.340	Spike	P	0 - 20
2401110	Sodium	0.382	Spike	P	0 - 20
2401110	Strontium	0.00319	Spike	P	0 - 20
2401110	Tin	1.49	Spike	P	0 - 20
2401110	Titanium	0.160	Spike	P	0 - 20
2401110	Vanadium	1.24	Spike	P	0 - 20
2401110	Zinc	0.0458	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4

Batch ID: P428759

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2401110	Aluminum	0.382	Spike	P	0 - 20
2401110	Antimony	0.566	Spike	P	0 - 20
2401110	Arsenic	0.407	Spike	P	0 - 20
2401110	Barium	0.530	Spike	P	0 - 20
2401110	Beryllium	1.79	Spike	P	0 - 20
2401110	Boron	1.30	Spike	P	0 - 20
2401110	Cadmium	3.46	Spike	P	0 - 20
2401110	Chromium	0.0745	Spike	P	0 - 20
2401110	Cobalt	1.43	Spike	P	0 - 20
2401110	Copper	0.458	Spike	P	0 - 20
2401110	Lead	0.852	Spike	P	0 - 20
2401110	Manganese	0.912	Spike	P	0 - 20
2401110	Molybdenum	1.03	Spike	P	0 - 20
2401110	Nickel	0.535	Spike	P	0 - 20
2401110	Selenium	0.486	Spike	P	0 - 20
2401110	Silver	1.01	Spike	P	0 - 20
2401110	Thallium	1.18	Spike	P	0 - 20

Reference Method: EPA 8270E

Batch ID: P428618

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2400840	2-Ethylhexyl 2,3,4,5-tetrabromobenzoate (EHTBB)	33.0	Spike	P	0 - 37
2400840	Acetochlor	2.78	Spike	P	0 - 28
2400840	Alachlor	7.55	Spike	P	0 - 30
2400840	Ametryn	2.88	Spike	P	0 - 32
2400840	Atrazine	3.09	Spike	P	0 - 41
2400840	Atrazine Desethyl	8.09	Spike	P	0 - 36
2400840	Avobenzone	6.26	Spike	P	0 - 36
2400840	Azinphos Methyl	2.08	Spike	P	0 - 75
2400840	Azoxystrobin	25.7	Spike	P	0 - 39
2400840	Bromacil	8.43	Spike	P	0 - 33
2400840	Butylate	14.8	Spike	P	0 - 44
2400840	Caffeine	128	Spike	F	0 - 74

Quality Assurance Report

Precision

Reference Method: EPA 8270E

Batch ID: P428618

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2400840	Carbophenothion	8.14	Spike	P	0 - 25
2400840	Carfentrazone Ethyl	9.59	Spike	P	0 - 27
2400840	Chlorfenapyr	9.29	Spike	P	0 - 24
2400840	Chlorpyrifos Ethyl	3.26	Spike	P	0 - 26
2400840	Chlorpyrifos Methyl	0.926	Spike	P	0 - 26
2400840	Coumaphos	14.8	Spike	P	0 - 28
2400840	Cyanazine	2.44	Spike	P	0 - 48
2400840	Cyprodinil	2.75	Spike	P	0 - 29
2400840	Dechlorane 602	75.0	Spike	F	0 - 30
2400840	Dechlorane 603	22.7	Spike	P	0 - 30
2400840	Dechlorane Plus	13.6	Spike	P	0 - 30
2400840	Demeton	1.67	Spike	P	0 - 33
2400840	Diazinon	7.13	Spike	P	0 - 29
2400840	Difenoconazole	33.5	Spike	P	0 - 34
2400840	Dimethenamid	13.9	Spike	P	0 - 39
2400840	Dimethomorph	1.97	Spike	P	0 - 51
2400840	Disulfoton	1.67	Spike	P	0 - 30
2400840	Dithiopyr	14.0	Spike	P	0 - 26
2400840	EPTC	18.3	Spike	P	0 - 43
2400840	Ethion	15.3	Spike	P	0 - 79
2400840	Ethoprop	8.46	Spike	P	0 - 29
2400840	Etridiazole	15.5	Spike	P	0 - 33
2400840	Fenamiphos	7.21	Spike	P	0 - 40
2400840	Fenbuconazole	3.11	Spike	P	0 - 74
2400840	Fipronil	12.0	Spike	P	0 - 29
2400840	Fipronil Desulfanyl	2.89	Spike	P	0 - 32
2400840	Fipronil Sulfide	8.23	Spike	P	0 - 30
2400840	Fipronil Sulfone	14.8	Spike	P	0 - 33
2400840	Fluazifop-P-butyl	6.59	Spike	P	0 - 38
2400840	Fludioxonil	4.26	Spike	P	0 - 29
2400840	Flumioxazin	27.5	Spike	P	0 - 51
2400840	Flutolanil	2.67	Spike	P	0 - 25
2400840	Fluxapyroxad	28.5	Spike	P	0 - 45
2400840	Fonofos	35.5	Spike	F	0 - 27
2400840	Hexabromobenzene	9.98	Spike	P	0 - 30
2400840	Hexazinone	14.7	Spike	P	0 - 30
2400840	Imazalil	0.981	Spike	P	0 - 100
2400840	Iprodione	13.3	Spike	P	0 - 33
2400840	Loratadine	8.27	Spike	P	0 - 56
2400840	Malathion	16.8	Spike	P	0 - 37
2400840	Metalaxyl	5.37	Spike	P	0 - 40
2400840	Metolachlor	8.20	Spike	P	0 - 29
2400840	Metribuzin	6.46	Spike	P	0 - 45
2400840	Mevinphos	0.509	Spike	P	0 - 29
2400840	Molinate	0.855	Spike	P	0 - 33
2400840	Myclobutanil	12.8	Spike	P	0 - 26
2400840	Naled	1.88	Spike	P	0 - 37
2400840	Napropamide	24.9	Spike	P	0 - 44
2400840	Norflurazon	15.6	Spike	P	0 - 30
2400840	Octinoxate	2.28	Spike	P	0 - 45
2400840	Oxadiazon	7.66	Spike	P	0 - 28

Quality Assurance Report Precision

Reference Method: EPA 8270E
Batch ID: P428618

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2400840	Oxybenzone	4.24	Spike	P	0 - 46
2400840	Oxyfluorfen	6.64	Spike	P	0 - 28
2400840	Parathion Ethyl	3.16	Spike	P	0 - 31
2400840	Parathion Methyl	1.57	Spike	P	0 - 29
2400840	PBB-153	20.5	Spike	P	0 - 30
2400840	PBDE-47	47.3	Spike	F	0 - 36
2400840	PBDE-99	56.5	Spike	F	0 - 40
2400840	Pendimethalin	28.0	Spike	P	0 - 33
2400840	Pentabromotoluene	8.88	Spike	P	0 - 30
2400840	Phenytoin	23.5	Spike	P	0 - 100
2400840	Phorate	4.90	Spike	P	0 - 36
2400840	Prodiamine	14.2	Spike	P	0 - 71
2400840	Prometon	7.92	Spike	P	0 - 36
2400840	Prometryn	0.903	Spike	P	0 - 28
2400840	Pronamide	2.64	Spike	P	0 - 24
2400840	Propanil	2.23	Spike	P	0 - 28
2400840	Propargite	15.6	Spike	P	0 - 43
2400840	Propiconazole	3.92	Spike	P	0 - 33
2400840	Pyraflufen Ethyl	7.88	Spike	P	0 - 29
2400840	Pyridaben	3.72	Spike	P	0 - 30
2400840	Pyriproxyfen	18.9	Spike	P	0 - 79
2400840	Simazine	2.44	Spike	P	0 - 29
2400840	Stiophos	53.9	Spike	P	0 - 61
2400840	Sulfentrazone	8.25	Spike	P	0 - 33
2400840	Tebuconazole	56.8	Spike	P	0 - 69
2400840	Terbufos	2.37	Spike	P	0 - 29
2400840	Terbutylazine	5.50	Spike	P	0 - 32
2400840	Tetradecachloro-m-terphenyl	11.0	Spike	P	0 - 30
2400840	Thiobencarb	10.1	Spike	P	0 - 26
2400840	Tri-o-cresyl Phosphate	12.8	Spike	P	0 - 33
2400840	Triadimefon	6.40	Spike	P	0 - 28
2400840	Tris(1-chloro-2-propyl) phosphate (TCPP)	4.57	Spike	P	0 - 30
2400840	Tris(1,3-dichloro-2-propyl) phosphate (TDCPP)	12.9	Spike	P	0 - 30
2400840	Tris(2-chloroethyl) phosphate (TCEP)	14.0	Spike	P	0 - 30

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

Quality Assurance Report Surrogates

Lab Sample ID: 2401494
Field Sample ID: G2CE0065

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8270E	Caffeine-d9	92.2	P	20 - 200
EPA 8270E	Simazine-d10	131	P	62 - 142
EPA 8270E	Terbufos-d10	84.7	P	58 - 132
EPA 8270E	Terphenyl-d14	84.6	P	52 - 137

Quality Assurance Report Calibration Verification

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A118728

Included Lab Sample IDs: 2401492, 2401493

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Aluminum	96.0	96.9	P/P	90 - 110
Aluminum	96.6	96.0	P/P	90 - 110
Antimony	96.3	94.5	P/P	90 - 110
Antimony	96.8	96.3	P/P	90 - 110
Arsenic	95.7	96.0	P/P	90 - 110
Arsenic	96.0	94.9	P/P	90 - 110
Barium	95.8	96.4	P/P	90 - 110
Barium	97.1	95.8	P/P	90 - 110
Beryllium	91.7	92.6	P/P	90 - 110
Beryllium	93.1	91.7	P/P	90 - 110
Boron	95.6	101	P/P	90 - 110
Boron	95.8	95.6	P/P	90 - 110
Cadmium	95.9	96.0	P/P	90 - 110
Cadmium	96.0	94.2	P/P	90 - 110
Chromium	96.3	93.9	P/P	90 - 110
Chromium	96.6	96.3	P/P	90 - 110
Cobalt	94.7	96.2	P/P	90 - 110
Cobalt	96.8	94.7	P/P	90 - 110
Copper	93.3	93.3	P/P	90 - 110
Copper	93.3	95.3	P/P	90 - 110
Lead	91.4	90.2	P/P	90 - 110
Manganese	95.7	94.6	P/P	90 - 110
Manganese	96.4	95.7	P/P	90 - 110
Molybdenum	94.4	93.3	P/P	90 - 110
Molybdenum	95.3	94.4	P/P	90 - 110
Nickel	94.2	96.7	P/P	90 - 110
Nickel	94.2	94.2	P/P	90 - 110
Selenium	96.1	94.9	P/P	90 - 110
Selenium	96.3	96.1	P/P	90 - 110
Silver	94.5	94.4	P/P	90 - 110
Silver	94.8	94.5	P/P	90 - 110
Thallium	95.1	94.4	P/P	90 - 110
Thallium	96.7	95.1	P/P	90 - 110

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A118770

Included Lab Sample IDs: 2401493

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Lead	91.4	91.4	P/P	90 - 110

Reference Method: EPA 8270E

Run ID: A118787

Included Lab Sample IDs: 2401494

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acetochlor	102		P	80 - 120
Alachlor	93.4		P	80 - 120
Ametryn	96.0		P	80 - 120
Atrazine	105		P	80 - 120
Atrazine Desethyl	102		P	80 - 120

Quality Assurance Report Calibration Verification

Reference Method: EPA 8270E
Run ID: A118787
Included Lab Sample IDs: 2401494

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Azinphos Methyl	88.3		P	80 - 120
Azoxystrobin	113		P	80 - 120
Bromacil	100		P	80 - 120
Butylate	106		P	80 - 120
Caffeine	99.8		P	80 - 120
Carbophenothion	84.2		P	80 - 120
Carfentrazone Ethyl	86.3		P	80 - 120
Chlorfenapyr	98.0		P	80 - 120
Chlorpyrifos Ethyl	97.2		P	80 - 120
Chlorpyrifos Methyl	94.9		P	80 - 120
Coumaphos	89.0		P	80 - 120
Cyanazine	117		P	80 - 120
Cyprodinil	90.6		P	80 - 120
Demeton	103		P	80 - 120
Diazinon	99.8		P	80 - 120
Difenoconazole	118		P	80 - 120
Dimethenamid	102		P	80 - 120
Dimethomorph	116		P	80 - 120
Disulfoton	96.3		P	80 - 120
Dithiopyr	101		P	80 - 120
EPTC	105		P	80 - 120
Ethion	92.8		P	80 - 120
Ethoprop	97.9		P	80 - 120
Etridiazole	107		P	80 - 120
Fenamiphos	105		P	80 - 120
Fenbuconazole	88.3		P	80 - 120
Fipronil	119		P	80 - 120
Fipronil Desulfinyl	86.5		P	80 - 120
Fipronil Sulfide	106		P	80 - 120
Fipronil Sulfone	108		P	80 - 120
Fluazifop-P-butyl	98.3		P	80 - 120
Fludioxonil	104		P	80 - 120
Flumioxazin	107		P	80 - 120
Flutolanil	98.4		P	80 - 120
Fluxapyroxad	83.6		P	80 - 120
Fonofos	91.8		P	80 - 120
Hexazinone	97.9		P	80 - 120
Imazalil	88.8		P	80 - 120
Iprodione	89.5		P	80 - 120
Loratadine	118		P	80 - 120
Malathion	96.6		P	80 - 120
Metalaxyl	101		P	80 - 120
Metolachlor	98.3		P	80 - 120
Metribuzin	101		P	80 - 120
Mevinphos	109		P	80 - 120
Molinate	95.7		P	80 - 120
Myclobutanil	113		P	80 - 120
Naled	103		P	80 - 120
Napropamide	104		P	80 - 120
Norflurazon	98.3		P	80 - 120
Oxadiazon	95.3		P	80 - 120

Quality Assurance Report Calibration Verification

Reference Method: EPA 8270E
Run ID: A118787
Included Lab Sample IDs: 2401494

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Oxyfluorfen	108		P	80 - 120
Parathion Ethyl	116		P	80 - 120
Parathion Methyl	94.3		P	80 - 120
Pendimethalin	87.2		P	80 - 120
Phenytoin	103		P	80 - 120
Phorate	101		P	80 - 120
Prodiamine	96.8		P	80 - 120
Prometon	97.0		P	80 - 120
Prometryn	97.9		P	80 - 120
Pronamide	102		P	80 - 120
Propanil	95.1		P	80 - 120
Propargite	100		P	80 - 120
Propiconazole	88.6		P	80 - 120
Pyraflufen Ethyl	95.4		P	80 - 120
Pyridaben	93.1		P	80 - 120
Pyriproxyfen	96.7		P	80 - 120
Simazine	99.4		P	80 - 120
Stirophos	93.5		P	80 - 120
Sulfentrazone	87.1		P	80 - 120
Tebuconazole	88.6		P	80 - 120
Terbufos	94.9		P	80 - 120
Terbuthylazine	96.0		P	80 - 120
Thiobencarb	103		P	80 - 120
Triadimefon	100		P	80 - 120

Reference Method: EPA 200.7 Rev. 4.4
Run ID: A118815
Included Lab Sample IDs: 2401492, 2401493

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Calcium	97.8	98.9	P/P	90 - 110
Iron	99.6	99.3	P/P	90 - 110
Magnesium	99.0	98.8	P/P	90 - 110
Potassium	98.2	98.3	P/P	90 - 110
Sodium	97.6	97.9	P/P	90 - 110
Strontium	92.0	95.3	P/P	90 - 110
Tin	93.5	95.1	P/P	90 - 110
Titanium	92.8	94.1	P/P	90 - 110
Vanadium	94.0	94.9	P/P	90 - 110
Zinc	93.7	95.5	P/P	90 - 110

Reference Method: EPA 8270E
Run ID: A118844
Included Lab Sample IDs: 2401494

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2-Ethylhexyl 2,3,4,5-tetrabromobenzoate (EHTBB)	92.6		P	80 - 120
Avobenzone	90.2		P	80 - 120
Dechlorane 602	101		P	80 - 120
Dechlorane 603	103		P	80 - 120
Dechlorane Plus	103		P	80 - 120

Quality Assurance Report Calibration Verification

Reference Method: EPA 8270E
Run ID: A118844
Included Lab Sample IDs: 2401494

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Hexabromobenzene	96.5		P	80 - 120
Octinoxate	91.2		P	80 - 120
Oxybenzone	88.5		P	80 - 120
PBB-153	96.5		P	80 - 120
PBDE-47	92.4		P	80 - 120
PBDE-99	96.0		P	80 - 120
Pentabromotoluene	99.9		P	80 - 120
Tetradecachloro-m-terphenyl	97.5		P	80 - 120
Tri-o-cresyl Phosphate	94.4		P	80 - 120
Tris(1-chloro-2-propyl) phosphate (TCPP)	92.0		P	80 - 120
Tris(1,3-dichloro-2-propyl) phosphate (TDCPP)	91.8		P	80 - 120
Tris(2-chloroethyl) phosphate (TCEP)	87.9		P	80 - 120

* Pass/Fail determinations are made for each bracketing calibration verification check.
Control limits for initial calibration checks may be different from those for continuing checks, depending on method requirements.
Where they are different, both control limits are provided.

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery			Precision	MS
			LCS	SMP			
EPA 200.7 Rev. 4.4	Calcium	98.2	97.5	95.3			0.934
	Iron	98.6	98.1	99.4	98.4		1.27
	Magnesium	100	99.2	101	96.9		0.997
	Potassium	98.0	96.9	96.5	94.7		0.340
	Sodium	101	99.1	99.6	97.9		0.382
	Strontium	94.9	95.0	95.0	94.7		0.0031
	Tin	94.6	95.8	94.4	93.5		1.49
	Titanium	95.7	95.5	95.3	96.5		0.160
	Vanadium	95.9	96.8	95.6	97.1		1.24
	Zinc	98.2	95.9	96.0	97.5		0.0458
EPA 200.8 Rev. 5.4	Aluminum	98.8	95.2	95.6	97.2		0.382
	Antimony	98.5	98.2	98.8	98.3		0.566
	Arsenic	98.1	96.3	96.7	96.1		0.407
	Barium	100	99.4	100	99.6		0.530
	Beryllium	93.8	92.3	90.5	89.9		1.79
	Boron	100	98.0	99.4	100		1.30
	Cadmium	100	96.6	100	97.8		3.46
	Chromium	98.8	99.2	99.3	98.1		0.0745
	Cobalt	98.8	95.5	96.9	95.6		1.43
	Copper	97.2	95.7	95.3	96.4		0.458
	Lead	93.3	93.8	93.0	93.9		0.852
	Manganese	96.5	96.7	95.7	96.6		0.912
	Molybdenum	97.9	98.5	97.5	97.1		1.03
	Nickel	98.8	96.4	96.9	96.5		0.535
	Selenium	96.7	95.7	96.1	94.9		0.486
	Silver	98.4	97.7	98.7	95.7		1.01
	Thallium	98.2	99.9	98.8	98.3		1.18
	2-Ethylhexyl 2,3,4,5-tetrabromobenzoate (EHTBB)	94.7	110	78.7			33.0
EPA 8270E	Acetochlor	72.8	89.6	87.1			2.78
	Alachlor	106	105	97.7			7.55
	Ametryn	107	112	115			2.88
	Atrazine	98.3					3.09
	Atrazine Desethyl	90.1	79.3	87.7			8.09
	Avobenzone	124	136	128			6.26
	Azinphos Methyl	116	119	116			2.08
	Azoxystrobin	104	138	101			25.7
	Bromacil	112	122	111			8.43
	Butylate	61.8	50.0	58.0			14.8
	Caffeine	93.1	132	863			128
	Carbophenothion	111	104	113			8.14
	Carfentrazone Ethyl	127	115	127			9.59
	Chlorfenapyr	65.0					9.29
	Chlorpyrifos Ethyl	82.6	72.9	75.3			3.26
	Chlorpyrifos Methyl	96.1	102	101			0.926
	Coumaphos	137	129	150			14.8
	Cyanazine	131	128	132			2.44
	Cyprodinil	91.3	107	104			2.75
	Dechlorane 602	74.9	87.7	39.8			75.0
	Dechlorane 603	99.2	120	95.3			22.7
	Dechlorane Plus	64.0	69.9	61.0			13.6
	Demeton	76.3	103	105			1.67
	Diazinon	118	115	123			7.13

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery		Precision SMP	MS
			LCS			
EPA 8270E	Difenoconazole	111	93.2	131		33.5
	Dimethenamid	108	104	120		13.9
	Dimethomorph	83.3	136	139		1.97
	Disulfoton	108	113	115		1.67
	Dithiopyr	107	85.6	98.5		14.0
	EPTC	60.9	45.4	54.5		18.3
	Ethion	106	98.0	114		15.3
	Ethoprop	101	101	92.7		8.46
	Etridiazole	66.5	61.4	71.7		15.5
	Fenamiphos	77.7	103	96.3		7.21
	Fenbuconazole	79.5	81.3	83.8		3.11
	Fipronil	75.5				12.0
	Fipronil Desulfinyl	94.6				2.89
	Fipronil Sulfide	89.0				8.23
	Fipronil Sulfone	107				14.8
	Fluazifop-P-butyl	70.7	67.6	63.3		6.59
	Fludioxonil	83.7	68.4	74.7		4.26
	Flumioxazin	183	153	202		27.5
	Flutolanil	82.5	103	106		2.67
	Fluxapyroxad	103	85.2	114		28.5
	Fonofos	83.3	108	75.4		35.5
	Hexabromobenzene	86.1	96.0	86.8		9.98
	Hexazinone	96.1	96.6	117		14.7
	Imazalil	77.2	139	140		0.981
	Iprodione	91.3	91.9	105		13.3
	Loratadine	140	148	166		8.27
	Malathion	96.5	96.8	115		16.8
	Metalaxyl	107	85.7	90.4		5.37
	Metolachlor	90.5	106	97.5		8.20
	Metribuzin	109	106	99.1		6.46
	Mevinphos	88.7	96.1	95.6		0.509
	Molinate	61.0	57.0	57.5		0.855
	Myclobutanil	110	101	115		12.8
	Naled	43.5	49.6	50.6		1.88
	Napropamide	79.9	70.9	91.1		24.9
	Norflurazon	104	99.6	116		15.6
	Octinoxate	110	82.3	80.2		2.28
	Oxadiazon	92.5	81.4	87.9		7.66
	Oxybenzone	68.8	82.2	78.8		4.24
	Oxyfluorfen	96.8	103	110		6.64
	Parathion Ethyl	93.8	107	103		3.16
	Parathion Methyl	108	118	116		1.57
	PBB-153	100	117	95.3		20.5
	PBDE-47	78.4	87.4	53.9		47.3
	PBDE-99	80.3	94.5	52.8		56.5
	Pendimethalin	135	119	89.6		28.0
	Pentabromotoluene	72.0	83.5	76.4		8.88
	Phenytoin	127				23.5
	Phorate	96.3	142	149		4.90
	Prodiamine	68.8	70.6	81.4		14.2
	Prometon	102	103	111		7.92
	Prometryn	126	129	128		0.903
	Pronamide	114	137	134		2.64
	Propanil	122	116	119		2.23

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery		Precision LCS	SMP	MS
EPA 8270E	Propargite	108	86.0	101			15.6
	Propiconazole	70.3	111	107			3.92
	Pyraflufen Ethyl	57.3	63.5	58.6			7.88
	Pyridaben	80.5	118	122			3.72
	Pyriproxyfen	122	124	103			18.9
	Simazine	80.5					2.44
	Stirophos	97.3	105	60.7			53.9
	Sulfentrazone	104	119	103			8.25
	Tebuconazole	90.6	120	43.7			56.8
	Terbufos	117	134	137			2.37
	Terbutylazine	82.8	101	95.4			5.50
	Tetradecachloro-m-terphenyl	139	161	144			11.0
	Thiobencarb	110	101	111			10.1
	Tri-o-cresyl Phosphate	80.7	91.0	80.1			12.8
	Triadimefon	95.1	95.8	102			6.40
	Tris(1-chloro-2-propyl) phosphate (TCPP)	43.4					4.57
	Tris(1,3-dichloro-2-propyl) phosphate (TDCPP)	69.3					12.9
	Tris(2-chloroethyl) phosphate (TCEP)	78.0	95.6	83.2			14.0

Reference Method Descriptions

Method	Description	Associated Samples
EPA 200.7 Rev. 4.4	Total Recoverable Metals analysis using ICP emission spectroscopy for aqueous samples supporting Clean Water Act Projects	2401492, 2401493
EPA 200.8 Rev. 5.4	Total Recoverable Metals analysis using ICP-MS for aqueous samples supporting Clean Water Act Projects	2401492, 2401493
EPA 8270E	Analysis of Sunscreen Compounds and Flame Retardants in Water by GC/MS-SIM	2401494
EPA 8270E	Organonitrogen and phosphorus pesticides in water matrices by GC/MS/MS	2401494
SM 2340 B-2011	Hardness by calculation, in aqueous matrices, reported as mg/L CaCO3	2401492, 2401493

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
EPA 200.7 Rev. 4.4	04/19/2023	04/20/2023 11:20	George D Taylor	04/27/2023 00:33	McKinley C Carter	2401492
	04/19/2023	04/20/2023 11:20	George D Taylor	04/27/2023 00:56	McKinley C Carter	2401493
EPA 200.8 Rev. 5.4	04/19/2023	04/20/2023 11:20	George D Taylor	04/21/2023 16:35	Emily M Philpot	2401492
	04/19/2023	04/20/2023 11:20	George D Taylor	04/21/2023 18:01	Emily M Philpot	2401493
	04/19/2023	04/20/2023 11:20	George D Taylor	04/25/2023 14:01	Emily M Philpot	2401493
	04/19/2023	04/20/2023 08:00	Rasheda Ghaffari	04/25/2023 20:11	Vandana T. Nagar	2401494
EPA 8270E	04/19/2023	04/20/2023 08:00	Rasheda Ghaffari	04/27/2023 21:36	Arthur Maknenko	2401494
SM 2340 B-2011	04/19/2023			04/27/2023 00:33	McKinley C Carter	2401492
	04/19/2023			04/27/2023 00:56	McKinley C Carter	2401493