

Chemical Analysis Report

SE-DIST-2024-06-04-02

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

Event Description: **SMP - Okee**
Request ID: **RQ-2024-05-13-17**
Customer: **SE-DIST**
Project ID: **SMP**

Send Reports to:
FL Dept. of Environmental Protection
FL Dept. of Environmental Protection
2199 South Rock Road
Fort Pierce, FL 34945
Attn: Andrew Luering

For additional information please contact
Colin Wright, Ph.D.
Chris Bowen, B.S.
Marek Topolski, Ph.D.
Dr. rer. nat. Bettina Steinbock
Thekkekalathil Chandrasekhar, Ph.D, QA Officer
Phone (850) 245-8085

Certified by: Thekkekalathil Chandrasekhar, Environmental Consultant

Date Certified: 24-JUN-2024 11:56



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: HENRY CREEK AT SE 128TH AVE

Collection Date/Time: 06/03/2024 09:15

Field ID: G1SE0030

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2491055	EPA 200.7 Rev. 4.4	Calcium	39.2		mg/L	P446074	
		Iron	240		ug/L	P446074	
		Magnesium	13.4		mg/L	P446074	
		Potassium	7.2		mg/L	P446074	
		Sodium	73.8		mg/L	P446074	
		Strontium	1.64E+03		ug/L	P446074	
		Tin	3.0	U	ug/L	P446074	
		Titanium	13.2		ug/L	P446074	
		Vanadium	4.2	I	ug/L	P446074	
		Zinc	32		ug/L	P446074	
	EPA 200.8 Rev. 5.4	Aluminum	354		ug/L	P446074	
		Antimony	0.090	I	ug/L	P446074	
		Arsenic	1.11		ug/L	P446074	
		Barium	30.2		ug/L	P446074	
		Beryllium	0.031	I	ug/L	P446074	
		Boron	70.0		ug/L	P446074	
		Cadmium	0.023	I	ug/L	P446074	
		Chromium	0.88	I	ug/L	P446074	
		Cobalt	0.395		ug/L	P446074	
		Copper	1.35		ug/L	P446074	
		Lead	0.47		ug/L	P446074	
		Manganese	35.7		ug/L	P446074	
		Molybdenum	0.39	I	ug/L	P446074	
		Nickel	0.61	I	ug/L	P446074	
		Selenium	0.21	I	ug/L	P446074	
		Silver	0.015	I	ug/L	P446074	
		Thallium	0.10	U	ug/L	P446074	
	SM 2340 B-2011	Hardness	153		mg/L	P446074	

Ref. Method and Comment:
EPA 200.7 Rev. 4.4: Batch matrix spike recoveries for potassium are unavailable for one of two spiked samples because of high analyte concentration in the QC sample.

Sample Location: NUBBIN SLOUGH 14 MILES UPSTREAM OF 710
Collection Date/Time: 06/03/2024 09:45

Field ID: G1SE0031		Matrix: W-SURF-FRH						
Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes	
2491053	EPA 8321B	Acesulfame K	0.10	U	ug/L	P445966		
		2,4-D	0.0027	I	ug/L	P445964		
		AMPA	0.50		ug/L	P445966		
		2,4,5-T	0.0040	U	ug/L	P445964		
		Acetaminophen	0.0080	U	ug/L	P445964		
		Endothall	0.25	U	ug/L	P445966		
		Acetamiprid	0.0020	U	ug/L	P445964		
		Glufosinate	0.10	U	ug/L	P445966		
		Glyphosate	1.1		ug/L	P445966		
		Afidopyropen	0.0020	U	ug/L	P445964		
		Sucralose	0.010	U	ug/L	P445966		
		Bentazon	8.0E-04	U	ug/L	P445964		
		Benzovindiflupyr	0.0020	U	ug/L	P445964		
		Carbamazepine	8.0E-04	U	ug/L	P445964		
		Clothianidin	0.0020	U	ug/L	P445964		
		Dinotefuran	0.0020	U	ug/L	P445964		
		Diuron	0.0020	U	ug/L	P445964		
		Fenuron	0.032	U	ug/L	P445964		
		Fluridone	4.0E-04	U	ug/L	P445964		
		Imazapyr	0.15		ug/L	P445964		
		Hydrocodone	0.0020	U	ug/L	P445964		
		Ibuprofen	0.080	U	ug/L	P445964		
		Imidacloprid	0.0020	U	ug/L	P445964		MS
		Linuron	0.0020	U	ug/L	P445964		
		Mandestrobin	0.0020	U	ug/L	P445964		
		MCPP	0.0020	U	ug/L	P445964		
		Naproxen	0.0080	U	ug/L	P445964		
		Primidone	0.0040	U	ug/L	P445964		
		Pyraclostrobin	0.0020	U	ug/L	P445964		
		Silvex	0.0040	U	ug/L	P445964		
		Thiamethoxam	0.0020	U	ug/L	P445964		MS
		Tolfenpyrad	0.0020	U	ug/L	P445964		
		Triclopyr	0.0040	U	ug/L	P445964		

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

Sample Location: NUBBIN SLOUGH UPSTREAM OF STA

Collection Date/Time: 06/03/2024 10:00

Field ID: G1SE0004

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2491054	EPA 200.7 Rev. 4.4	Calcium	21.6		mg/L	P446074	
		Iron	740		ug/L	P446074	
		Magnesium	5.27		mg/L	P446074	
		Potassium	17.2		mg/L	P446074	
		Sodium	33.0		mg/L	P446074	
		Strontium	178		ug/L	P446074	
		Tin	3.0	U	ug/L	P446074	
		Titanium	1.9	I	ug/L	P446074	
		Vanadium	2.3	I	ug/L	P446074	
		Zinc	11	I	ug/L	P446074	
	EPA 200.8 Rev. 5.4	Aluminum	333		ug/L	P446074	
		Antimony	0.087	I	ug/L	P446074	
		Arsenic	1.15		ug/L	P446074	
		Barium	18.6		ug/L	P446074	
		Beryllium	0.017	I	ug/L	P446074	
		Boron	41.7		ug/L	P446074	
		Cadmium	0.020	U	ug/L	P446074	
		Chromium	1.3	I	ug/L	P446074	
		Cobalt	0.271		ug/L	P446074	
		Copper	0.62	I	ug/L	P446074	
	SM 2340 B-2011	Lead	0.22	I	ug/L	P446074	
		Manganese	19.8		ug/L	P446074	
		Molybdenum	0.46	I	ug/L	P446074	
		Nickel	0.52	I	ug/L	P446074	
		Selenium	0.23	I	ug/L	P446074	
		Silver	0.010	U	ug/L	P446074	
		Thallium	0.10	U	ug/L	P446074	
		Hardness	75.6		mg/L	P446074	

Ref. Method and Comment:
 EPA 200.7 Rev. 4.4: Batch matrix spike recoveries for potassium are unavailable for one of two spiked samples because of high analyte concentration in the QC sample.

Sample Location: TAYLOR CREEK AT 98

Collection Date/Time: 06/03/2024 10:25

Field ID: G1SE0025

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2491052	EPA 8270E	Aldrin	0.68	U	ng/L	P445967	
		Alpha-BHC	0.11	U	ng/L	P445967	
		Alpha-Chlordane	0.21	U	ng/L	P445967	
		PCB-1016	2.1	U	ng/L	P445967	
		Beta-BHC	0.11	U	ng/L	P445967	
		PCB-1221	2.1	U	ng/L	P445967	
		Beta-Cyfluthrin	1.3	U	ng/L	P445967	
		PCB-1232	2.1	U	ng/L	P445967	
		Bifenthrin	0.53	U	ng/L	P445967	
		PCB-1242	2.1	U	ng/L	P445967	
		PCB-1248	2.1	U	ng/L	P445967	
		Chlorothalonil	3.8	U	ng/L	P445967	
		PCB-1254	2.1	U	ng/L	P445967	
		Cis-Nonachlor	0.21	U	ng/L	P445967	
		PCB-1260	2.1	U	ng/L	P445967	
		Cypermethrin	1.6	U	ng/L	P445967	
		Dacthal	0.16	U	ng/L	P445967	
		DDD-p,p'	0.26	U	ng/L	P445967	
		DDE-p,p'	0.21	U	ng/L	P445967	
		DDT-p,p'	0.84	U	ng/L	P445967	
		Delta-BHC	0.42	U	ng/L	P445967	
		Deltamethrin	1.3	U	ng/L	P445967	
		Dichlobenil	0.26	U	ng/L	P445967	
		Dicofol	1.3	U	ng/L	P445967	
		Dieldrin	0.42	U	ng/L	P445967	
		Endosulfan I	0.42	U	ng/L	P445967	
		Endosulfan II	0.95	U	ng/L	P445967	
		Endosulfan Sulfate	0.32	U	ng/L	P445967	
		Endrin	0.95	U	ng/L	P445967	
		Endrin Aldehyde	0.79	U	ng/L	P445967	
		Endrin Ketone	0.42	U	ng/L	P445967	
		Esfenvalerate	0.79	U	ng/L	P445967	
		Ethalfuralin	0.16	U	ng/L	P445967	
		Fenpropathrin	0.26	U	ng/L	P445967	
		Gamma-BHC	0.13	U	ng/L	P445967	
		Gamma-Chlordane	0.21	U	ng/L	P445967	
		Heptachlor	0.21	U	ng/L	P445967	
		Heptachlor Epoxide	0.26	U	ng/L	P445967	
		Hexachlorobenzene**	1.1	U	ng/L	P445967	
		Kepone	14	UJ	ng/L	P445967	CCV
		Lambda-Cyhalothrin	0.79	U	ng/L	P445967	
		Methoprene	0.79	U	ng/L	P445967	
		Methoxychlor	0.32	U	ng/L	P445967	
		MGK-264	0.21	U	ng/L	P445967	

Field ID: G1SE0025

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2491052	EPA 8270E	Mirex	0.37	U	ng/L	P445967	
		Oxychlordane	0.32	U	ng/L	P445967	
		Permethrin	1.7	U	ng/L	P445967	
		Phenothrin	0.95	U	ng/L	P445967	
		Piperonyl Butoxide	0.16	U	ng/L	P445967	
		Prallethrin	2.1	U	ng/L	P445967	
		Tau-Fluvalinate	0.26	U	ng/L	P445967	
		Tetramethrin	0.79	U	ng/L	P445967	
		Trans-Nonachlor	0.21	U	ng/L	P445967	
		Triclosan Methyl	0.16	U	ng/L	P445967	
		Trifluralin	0.21	U	ng/L	P445967	
	EPA 8276	Chlordane	2.1	U	ng/L	P445967	
		Toxaphene	16	U	ng/L	P445967	

Ref. Method and Comment:
EPA 8270E: Refer to the Lab Analysis Report for an explanation of QC Codes.

Quality Assurance Report

Method Blank Results

Reference Method: EPA 200.7 Rev. 4.4

Batch ID: P446074

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: P446074

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: P445967

Component	Result	Code	Units
Aldrin	0.65	U	ng/L
Alpha-BHC	0.10	U	ng/L
Alpha-Chlordane	0.20	U	ng/L
Beta-BHC	0.10	U	ng/L
Beta-Cyfluthrin	1.2	U	ng/L
Bifenthrin	0.50	U	ng/L
Chlorothalonil	3.6	U	ng/L
Cis-Nonachlor	0.20	U	ng/L
Cypermethrin	1.5	U	ng/L
Dacthal	0.15	U	ng/L
DDD-p,p'	0.25	U	ng/L
DDE-p,p'	0.20	U	ng/L
DDT-p,p'	0.80	U	ng/L
Delta-BHC	0.40	U	ng/L
Deltamethrin	1.2	U	ng/L

Quality Assurance Report

Method Blank Results

Reference Method: EPA 8270E
Batch ID: P445967

Component	Result	Code	Units
Dichlobenil	0.25	U	ng/L
Dicofol	1.2	U	ng/L
Dieldrin	0.40	U	ng/L
Endosulfan I	0.40	U	ng/L
Endosulfan II	0.90	U	ng/L
Endosulfan Sulfate	0.30	U	ng/L
Endrin	0.90	U	ng/L
Endrin Aldehyde	0.75	U	ng/L
Endrin Ketone	0.40	U	ng/L
Esfenvalerate	0.75	U	ng/L
Ethalfuralin	0.15	U	ng/L
Fenpropathrin	0.25	U	ng/L
Gamma-BHC	0.12	U	ng/L
Gamma-Chlordane	0.20	U	ng/L
Heptachlor	0.20	U	ng/L
Heptachlor Epoxide	0.25	U	ng/L
Hexachlorobenzene	1.0	U	ng/L
Kepone	14	U	ng/L
Lambda-Cyhalothrin	0.75	U	ng/L
Methoprene	0.75	U	ng/L
Methoxychlor	0.30	U	ng/L
MGK-264	0.20	U	ng/L
Mirex	0.35	U	ng/L
Oxychlordane	0.30	U	ng/L
PCB-1016	2.0	U	ng/L
PCB-1221	2.0	U	ng/L
PCB-1232	2.0	U	ng/L
PCB-1242	2.0	U	ng/L
PCB-1248	2.0	U	ng/L
PCB-1254	2.0	U	ng/L
PCB-1260	2.0	U	ng/L
Permethrin	1.6	U	ng/L
Phenothrin	0.90	U	ng/L
Piperonyl Butoxide	0.15	U	ng/L
Prallethrin	2.0	U	ng/L
Tau-Fluvalinate	0.25	U	ng/L
Tetramethrin	0.75	U	ng/L
Trans-Nonachlor	0.20	U	ng/L
Triclosan Methyl	0.15	U	ng/L
Trifluralin	0.20	U	ng/L

Reference Method: EPA 8276
Batch ID: P445967

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

Reference Method: EPA 8321B
Batch ID: P445964

Component	Result	Code	Units
-----------	--------	------	-------

Quality Assurance Report

Method Blank Results

Reference Method: EPA 8321B
Batch ID: P445964

Component	Result	Code	Units
2,4-D	0.0020	U	ug/L
2,4,5-T	0.0040	U	ug/L
Acetaminophen	0.0080	U	ug/L
Acetamiprid	0.0020	U	ug/L
Afidopyropen	0.0020	U	ug/L
Bentazon	8.0E-04	U	ug/L
Benzovindiflupyr	0.0020	U	ug/L
Carbamazepine	8.0E-04	U	ug/L
Clothianidin	0.0020	U	ug/L
Dinotefuran	0.0020	U	ug/L
Diuron	0.0020	U	ug/L
Fenuron	0.032	U	ug/L
Fluridone	4.0E-04	U	ug/L
Hydrocodone	0.0020	U	ug/L
Ibuprofen	0.080	U	ug/L
Imazapyr	0.0040	U	ug/L
Imidacloprid	0.0020	U	ug/L
Linuron	0.0020	U	ug/L
Mandestrobin	0.0020	U	ug/L
MCPP	0.0020	U	ug/L
Naproxen	0.0080	U	ug/L
Primidone	0.0040	U	ug/L
Pyraclostrobin	0.0020	U	ug/L
Silvex	0.0040	U	ug/L
Thiamethoxam	0.0020	U	ug/L
Tolfenpyrad	0.0020	U	ug/L
Triclopyr	0.0040	U	ug/L

Reference Method: EPA 8321B
Batch ID: P445966

Component	Result	Code	Units
Acesulfame K	0.10	U	ug/L
AMPA	0.10	U	ug/L
Endothall	0.25	U	ug/L
Glufosinate	0.10	U	ug/L
Glyphosate	0.10	U	ug/L
Sucralose	0.010	U	ug/L

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P446074

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Calcium	107		P	85 - 115
Iron	112		P	85 - 115
Magnesium	113		P	85 - 115
Potassium	103		P	85 - 115
Sodium	110		P	85 - 115
Strontium	100		P	85 - 115
Tin	98.0		P	85 - 115
Titanium	101		P	85 - 115
Vanadium	101		P	85 - 115
Zinc	101		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P446074

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Aluminum	105		P	80 - 120
Antimony	109		P	80 - 120
Arsenic	106		P	80 - 120
Barium	106		P	80 - 120
Beryllium	106		P	85 - 115
Boron	112		P	80 - 120
Cadmium	106		P	80 - 120
Chromium	106		P	85 - 115
Cobalt	106		P	80 - 120
Copper	105		P	80 - 120
Lead	104		P	80 - 120
Manganese	105		P	80 - 120
Molybdenum	104		P	80 - 120
Nickel	102		P	80 - 120
Selenium	110		P	80 - 120
Silver	115		P	80 - 120
Thallium	101		P	80 - 120

Reference Method: EPA 8270E
Batch ID: P445967

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Aldrin	47.6		P	30 - 96.0
Alpha-BHC	84.5		P	70 - 109
Alpha-Chlordane	65.6		P	45 - 107
Beta-BHC	97.6		P	64 - 138
Beta-Cyfluthrin	92.6		P	17 - 141
Bifenthrin	68.3		P	10 - 113
Chlorothalonil	70.2		P	26 - 180
Cis-Nonachlor	65.9		P	37 - 102
Cypermethrin	88.6		P	20 - 133
Dacthal	90.2		P	69 - 114
DDD-p,p'	66.0		P	42 - 105
DDE-p,p'	75.6		P	42 - 106
DDT-p,p'	65.3		P	42 - 107
Delta-BHC	93.7		P	67 - 144
Deltamethrin	95.4		P	15 - 149

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: EPA 8270E

Batch ID: P445967

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Dichlobenil	58.8		P	46 - 117
Dicofol	65.5		P	34 - 114
Dieldrin	67.9		P	50 - 108
Endosulfan I	73.8		P	55 - 104
Endosulfan II	72.8		P	51 - 111
Endosulfan Sulfate	68.2		P	56 - 121
Endrin	80.5		P	10 - 106
Endrin Aldehyde	63.7		P	34 - 114
Endrin Ketone	76.9		P	63 - 177
Esfenvalerate	90.2		P	29 - 143
Ethalfuralin	64.1		P	46 - 96.0
Fenpropathrin	76.2		P	28 - 115
Gamma-BHC	80.9		P	65 - 121
Gamma-Chlordane	72.6		P	39 - 103
Heptachlor	62.0		P	39 - 94.0
Heptachlor Epoxide	77.8		P	54 - 104
Hexachlorobenzene	68.5		P	36 - 100
Kepone	95.2		P	10 - 225
Lambda-Cyhalothrin	66.9		P	10 - 135
Methoprene	72.6		P	10 - 109
Methoxychlor	83.6		P	52 - 112
MGK-264	67.5		P	44 - 117
Mirex	63.6		P	20 - 90.0
Oxychlordane	75.1		P	44 - 102
PCB-1016	72.9		P	45 - 107
PCB-1260	86.2		P	40 - 118
Permethrin	76.9		P	18 - 135
Phenothrin	53.9		P	10 - 102
Piperonyl Butoxide	87.5		P	28 - 156
Prallethrin	60.9		P	28 - 113
Tau-Fluvalinate	71.1		P	10 - 123
Tetramethrin	70.8		P	18 - 158
Trans-Nonachlor	73.1		P	39 - 104
Triclosan Methyl	81.7		P	54 - 108
Trifluralin	72.6		P	46 - 97.0

Reference Method: EPA 8276

Batch ID: P445967

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Chlordane	90.4		P	52 - 117
Toxaphene	86.4		P	44 - 125

Reference Method: EPA 8321B

Batch ID: P445964

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	119		P	40 - 150
2,4,5-T	97.1		P	40 - 150
Acetaminophen	87.9		P	30 - 150
Acetamiprid	82.2		P	40 - 150
Afidopyropen	100		P	30 - 150

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: EPA 8321B
Batch ID: P445964

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Bentazon	114		P	30 - 150
Benzovindiflupyr	82.8		P	40 - 150
Carbamazepine	116		P	40 - 150
Clothianidin	113		P	40 - 150
Dinotefuran	103		P	40 - 150
Diuron	119		P	40 - 150
Fenuron	106		P	40 - 150
Fluridone	92.2		P	40 - 150
Hydrocodone	109		P	40 - 150
Ibuprofen	88.3		P	40 - 150
Imazapyr	96.3		P	40 - 150
Imidacloprid	114		P	40 - 150
Linuron	83.6		P	40 - 150
Mandestrobin	109		P	40 - 150
MCPP	115		P	40 - 150
Naproxen	72.4		P	40 - 150
Primidone	121		P	40 - 150
Pyraclostrobin	82.7		P	40 - 150
Silvex	104		P	40 - 150
Thiamethoxam	114		P	40 - 150
Tolfenpyrad	60.1		P	30 - 150
Triclopyr	99.8		P	40 - 150

Reference Method: EPA 8321B
Batch ID: P445966

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acesulfame K	104		P	40 - 150
AMPA	83.4		P	40 - 160
Endothall	63.1		P	40 - 160
Glufosinate	79.8		P	40 - 160
Glyphosate	79.1		P	40 - 160
Sucralose	95.8		P	40 - 150

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P446074

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2490576	Calcium	103		P	80 - 120
2490576	Iron	108	108	P/P	80 - 120
2490576	Magnesium	109	108	P/P	80 - 120
2490576	Potassium	99.8	101	P/P	80 - 120
2490576	Sodium	106	104	P/P	80 - 120
2490576	Strontium	98.5	97.5	P/P	80 - 120
2490576	Tin	95.0	94.8	P/P	80 - 120
2490576	Titanium	95.4	103	P/P	80 - 120
2490576	Vanadium	102	101	P/P	80 - 120
2490576	Zinc	97.2	97.9	P/P	80 - 120
2491054	Calcium	102		P	80 - 120
2491054	Iron	106		P	80 - 120
2491054	Magnesium	105		P	80 - 120
2491054	Sodium	101		P	80 - 120
2491054	Strontium	95.1		P	80 - 120
2491054	Tin	92.2		P	80 - 120
2491054	Titanium	99.3		P	80 - 120
2491054	Vanadium	99.2		P	80 - 120
2491054	Zinc	99.2		P	80 - 120

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P446074

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2490576	Aluminum	102	100	P/P	80 - 120
2490576	Antimony	107	107	P/P	80 - 120
2490576	Arsenic	105	105	P/P	80 - 120
2490576	Barium	105	104	P/P	80 - 120
2490576	Beryllium	110	106	P/P	80 - 120
2490576	Boron	113	112	P/P	80 - 120
2490576	Cadmium	106	107	P/P	80 - 120
2490576	Chromium	104	103	P/P	80 - 120
2490576	Cobalt	104	104	P/P	80 - 120
2490576	Copper	104	102	P/P	80 - 120
2490576	Lead	104	104	P/P	80 - 120
2490576	Manganese	102	103	P/P	80 - 120
2490576	Molybdenum	104	105	P/P	80 - 120
2490576	Nickel	101	101	P/P	80 - 120
2490576	Selenium	107	108	P/P	80 - 120
2490576	Silver	111	110	P/P	80 - 120
2490576	Thallium	103	103	P/P	80 - 120
2491054	Aluminum	99.8		P	80 - 120
2491054	Antimony	106		P	80 - 120
2491054	Arsenic	107		P	80 - 120
2491054	Barium	104		P	80 - 120
2491054	Beryllium	106		P	80 - 120
2491054	Boron	106		P	80 - 120
2491054	Cadmium	103		P	80 - 120
2491054	Chromium	103		P	80 - 120
2491054	Cobalt	107		P	80 - 120
2491054	Copper	104		P	80 - 120
2491054	Lead	106		P	80 - 120

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P446074

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2491054	Manganese	103		P	80 - 120
2491054	Molybdenum	106		P	80 - 120
2491054	Nickel	105		P	80 - 120
2491054	Selenium	104		P	80 - 120
2491054	Silver	110		P	80 - 120
2491054	Thallium	107		P	80 - 120

Reference Method: EPA 8270E
Batch ID: P445967

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2491658	Aldrin	63.5	63.4	P/P	24 - 81.0
2491658	Alpha-BHC	91.0	90.2	P/P	65 - 110
2491658	Alpha-Chlordane	69.6	66.4	P/P	43 - 119
2491658	Beta-BHC	116	102	P/P	54 - 165
2491658	Beta-Cyfluthrin	107	114	P/P	27 - 165
2491658	Bifenthrin	87.3	96.5	P/P	17 - 117
2491658	Chlorothalonil	51.0	84.8	P/P	10 - 255
2491658	Cis-Nonachlor	69.6	67.3	P/P	34 - 98.0
2491658	Cypermethrin	99.6	107	P/P	25 - 143
2491658	Dacthal	94.0	92.4	P/P	55 - 139
2491658	DDD-p,p'	68.9	66.8	P/P	30 - 109
2491658	DDE-p,p'	82.6	78.5	P/P	35 - 106
2491658	DDT-p,p'	69.1	65.6	P/P	41 - 101
2491658	Delta-BHC	108	109	P/P	58 - 165
2491658	Deltamethrin	115	142	P/P	10 - 194
2491658	Dichlobenil	51.6	49.6	P/P	22 - 114
2491658	Dicofol	67.8	65.6	P/P	17 - 133
2491658	Dieldrin	71.7	68.9	P/P	45 - 129
2491658	Endosulfan I	79.3	81.2	P/P	49 - 104
2491658	Endosulfan II	74.6	71.6	P/P	37 - 117
2491658	Endosulfan Sulfate	73.0	79.2	P/P	38 - 128
2491658	Endrin	85.6	82.7	P/P	35 - 116
2491658	Endrin Aldehyde	60.1	63.3	P/P	19 - 108
2491658	Endrin Ketone	76.6	69.9	P/P	44 - 134
2491658	Esfenvalerate	115	132	P/P	27 - 176
2491658	Ethalfuralin	67.2	74.6	P/P	49 - 100
2491658	Fenpropathrin	83.3	82.7	P/P	34 - 117
2491658	Gamma-BHC	83.9	83.5	P/P	59 - 129
2491658	Gamma-Chlordane	79.6	76.5	P/P	33 - 107
2491658	Heptachlor	65.5	66.9	P/P	37 - 94.0
2491658	Heptachlor Epoxide	81.1	79.2	P/P	38 - 118
2491658	Hexachlorobenzene	74.1	70.4	P/P	35 - 97.0
2491658	Kepone	87.7	97.6	P/P	10 - 221
2491658	Lambda-Cyhalothrin	82.1	80.4	P/P	23 - 190
2491658	Methoprene	84.1	80.7	P/P	21 - 109
2491658	Methoxychlor	92.9	100	P/P	46 - 118
2491658	MGK-264	77.1	80.9	P/P	39 - 122
2491658	Mirex	76.6	73.1	P/P	25 - 90.0
2491658	Oxychlordane	76.1	81.8	P/P	42 - 100
2491658	Permethrin	87.4	101	P/P	33 - 181
2491658	Phenothrin	78.0	80.9	P/P	12 - 125

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8270E
Batch ID: P445967

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2491658	Piperonyl Butoxide	88.8	91.2	P/P	10 - 178
2491658	Prallethrin	68.3	75.7	P/P	24 - 122
2491658	Tau-Fluvalinate	90.4	105	P/P	13 - 151
2491658	Tetramethrin	89.9	95.8	P/P	16 - 172
2491658	Trans-Nonachlor	80.8	78.3	P/P	39 - 100
2491658	Triclosan Methyl	88.6	84.0	P/P	43 - 110
2491658	Trifluralin	77.3	75.2	P/P	45 - 94.0
2491884	PCB-1016	71.0	66.1	P/P	45 - 107
2491884	PCB-1260	82.5	79.0	P/P	40 - 112

Reference Method: EPA 8276
Batch ID: P445967

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2491884	Chlordane	80.1	83.0	P/P	43 - 123
2491884	Toxaphene	94.8	102	P/P	27 - 156

Reference Method: EPA 8321B
Batch ID: P445964

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2490915	2,4-D	139	113	P/P	40 - 150
2490915	2,4,5-T	99.3	80.1	P/P	40 - 150
2490915	Acetaminophen	142	112	P/P	30 - 150
2490915	Acetamiprid	84.6	77.2	P/P	40 - 150
2490915	Afidopyropen	68.6	72.2	P/P	30 - 150
2490915	Benzovindiflupyr	77.8	71.3	P/P	40 - 150
2490915	Carbamazepine	90.6	76.9	P/P	40 - 150
2490915	Clothianidin	111	126	P/P	40 - 150
2490915	Dinotefuran	143	108	P/P	40 - 150
2490915	Diuron	79.6	59.5	P/P	40 - 150
2490915	Fenuron	80.2	85.7	P/P	40 - 150
2490915	Fluridone	68.7	48.4	P/P	40 - 150
2490915	Hydrocodone	107	98.7	P/P	40 - 150
2490915	Ibuprofen	96.0	77.9	P/P	40 - 150
2490915	Imidacloprid	185	149	F/P	40 - 150
2490915	Linuron	82.5	66.0	P/P	40 - 150
2490915	Mandestrobin	86.0	74.8	P/P	40 - 150
2490915	MCPP	101	103	P/P	40 - 150
2490915	Naproxen	123	111	P/P	40 - 150
2490915	Primidone	107	120	P/P	40 - 150
2490915	Pyraclostrobin	77.3	58.9	P/P	40 - 150
2490915	Silvex	92.7	101	P/P	40 - 150
2490915	Thiamethoxam	137	150	P/F	40 - 150
2490915	Tolfenpyrad	63.3	48.0	P/P	30 - 150
2490915	Triclopyr	97.0	87.0	P/P	40 - 150

Reference Method: EPA 8321B
Batch ID: P445966

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2490914	Acesulfame K	89.9	84.8	P/P	40 - 150

Quality Assurance Report
Matrix Spike Accuracy

Reference Method: EPA 8321B
Batch ID: P445966

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2490914	Endothall	91.7	92.7	P/P	40 - 160
2490914	Glufosinate	60.5	72.7	P/P	40 - 160
2490914	Sucralose	49.3	64.0	P/P	40 - 150

Quality Assurance Report Precision

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P446074

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2490576	Calcium	1.02	Spike	P	0 - 20
2490576	Iron	0.0863	Spike	P	0 - 20
2490576	Magnesium	0.603	Spike	P	0 - 20
2490576	Potassium	0.894	Spike	P	0 - 20
2490576	Sodium	0.927	Spike	P	0 - 20
2490576	Strontium	1.01	Spike	P	0 - 20
2490576	Tin	0.127	Spike	P	0 - 20
2490576	Titanium	5.76	Spike	P	0 - 20
2490576	Vanadium	0.161	Spike	P	0 - 20
2490576	Zinc	0.741	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P446074

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2490576	Aluminum	1.13	Spike	P	0 - 20
2490576	Antimony	0.102	Spike	P	0 - 20
2490576	Arsenic	0.322	Spike	P	0 - 20
2490576	Barium	0.432	Spike	P	0 - 20
2490576	Beryllium	3.39	Spike	P	0 - 20
2490576	Boron	0.905	Spike	P	0 - 20
2490576	Cadmium	0.793	Spike	P	0 - 20
2490576	Chromium	1.07	Spike	P	0 - 20
2490576	Cobalt	0.237	Spike	P	0 - 20
2490576	Copper	1.68	Spike	P	0 - 20
2490576	Lead	0.213	Spike	P	0 - 20
2490576	Manganese	0.291	Spike	P	0 - 20
2490576	Molybdenum	0.842	Spike	P	0 - 20
2490576	Nickel	0.171	Spike	P	0 - 20
2490576	Selenium	0.523	Spike	P	0 - 20
2490576	Silver	0.870	Spike	P	0 - 20
2490576	Thallium	0.118	Spike	P	0 - 20

Reference Method: EPA 8270E
Batch ID: P445967

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2491658	Aldrin	0.0197	Spike	P	0 - 41
2491658	Alpha-BHC	0.819	Spike	P	0 - 25
2491658	Alpha-Chlordane	4.77	Spike	P	0 - 32
2491658	Beta-BHC	13.0	Spike	P	0 - 33
2491658	Beta-Cyfluthrin	6.25	Spike	P	0 - 43
2491658	Bifenthrin	9.95	Spike	P	0 - 52
2491658	Chlorothalonil	49.8	Spike	P	0 - 82
2491658	Cis-Nonachlor	3.42	Spike	P	0 - 33
2491658	Cypermethrin	7.04	Spike	P	0 - 51
2491658	Dacthal	1.74	Spike	P	0 - 27
2491658	DDD-p,p'	3.15	Spike	P	0 - 39
2491658	DDE-p,p'	5.00	Spike	P	0 - 31

Quality Assurance Report Precision

Reference Method: EPA 8270E
Batch ID: P445967

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2491658	DDT-p,p'	5.29	Spike	P	0 - 29
2491658	Delta-BHC	1.10	Spike	P	0 - 35
2491658	Deltamethrin	20.6	Spike	P	0 - 100
2491658	Dichlobenil	4.11	Spike	P	0 - 40
2491658	Dicofol	3.29	Spike	P	0 - 37
2491658	Dieldrin	3.97	Spike	P	0 - 27
2491658	Endosulfan I	2.36	Spike	P	0 - 23
2491658	Endosulfan II	4.15	Spike	P	0 - 34
2491658	Endosulfan Sulfate	8.17	Spike	P	0 - 36
2491658	Endrin	3.38	Spike	P	0 - 45
2491658	Endrin Aldehyde	5.16	Spike	P	0 - 76
2491658	Endrin Ketone	9.16	Spike	P	0 - 43
2491658	Esfenvalerate	13.8	Spike	P	0 - 51
2491658	Ethalfuralin	10.4	Spike	P	0 - 22
2491658	Fenpropathrin	0.731	Spike	P	0 - 49
2491658	Gamma-BHC	0.472	Spike	P	0 - 28
2491658	Gamma-Chlordane	3.91	Spike	P	0 - 40
2491658	Heptachlor	2.11	Spike	P	0 - 29
2491658	Heptachlor Epoxide	2.36	Spike	P	0 - 33
2491658	Hexachlorobenzene	5.02	Spike	P	0 - 36
2491658	Kepone	10.6	Spike	P	0 - 85
2491658	Lambda-Cyhalothrin	2.10	Spike	P	0 - 55
2491658	Methoprene	4.05	Spike	P	0 - 53
2491658	Methoxychlor	7.72	Spike	P	0 - 50
2491658	MGK-264	4.85	Spike	P	0 - 43
2491658	Mirex	4.66	Spike	P	0 - 40
2491658	Oxychlordane	7.22	Spike	P	0 - 31
2491658	Permethrin	14.4	Spike	P	0 - 50
2491658	Phenothrin	3.73	Spike	P	0 - 58
2491658	Piperonyl Butoxide	2.66	Spike	P	0 - 100
2491658	Prallethrin	10.2	Spike	P	0 - 39
2491658	Tau-Fluvalinate	14.7	Spike	P	0 - 54
2491658	Tetramethrin	6.33	Spike	P	0 - 51
2491658	Trans-Nonachlor	3.06	Spike	P	0 - 39
2491658	Triclosan Methyl	5.33	Spike	P	0 - 31
2491658	Trifluralin	2.82	Spike	P	0 - 22
2491884	PCB-1016	7.24	Spike	P	0 - 25
2491884	PCB-1260	4.32	Spike	P	0 - 30

Reference Method: EPA 8276
Batch ID: P445967

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2491884	Chlordane	3.62	Spike	P	0 - 28
2491884	Toxaphene	7.18	Spike	P	0 - 27

Quality Assurance Report Precision

Reference Method: EPA 8321B
Batch ID: P445964

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2490915	2,4-D	18.4	Spike	P	0 - 30
2490915	2,4,5-T	21.4	Spike	P	0 - 30
2490915	Acetaminophen	23.8	Spike	P	0 - 30
2490915	Acetamiprid	9.08	Spike	P	0 - 30
2490915	Afidopyropen	5.16	Spike	P	0 - 30
2490915	Bentazon	8.61	Spike	P	0 - 30
2490915	Benzovindiflupyr	8.71	Spike	P	0 - 30
2490915	Carbamazepine	15.5	Spike	P	0 - 30
2490915	Clothianidin	13.0	Spike	P	0 - 30
2490915	Dinotefuran	28.1	Spike	P	0 - 30
2490915	Diuron	26.6	Spike	P	0 - 30
2490915	Fenuron	6.63	Spike	P	0 - 30
2490915	Fluridone	26.7	Spike	P	0 - 30
2490915	Hydrocodone	8.19	Spike	P	0 - 30
2490915	Ibuprofen	20.8	Spike	P	0 - 30
2490915	Imazapyr	1.81	Spike	P	0 - 30
2490915	Imidacloprid	21.3	Spike	P	0 - 30
2490915	Linuron	22.2	Spike	P	0 - 30
2490915	Mandestrobin	13.9	Spike	P	0 - 30
2490915	MCPP	2.17	Spike	P	0 - 30
2490915	Naproxen	9.89	Spike	P	0 - 30
2490915	Primidone	9.92	Spike	P	0 - 30
2490915	Pyraclostrobin	27.1	Spike	P	0 - 30
2490915	Silvex	8.20	Spike	P	0 - 30
2490915	Thiamethoxam	9.52	Spike	P	0 - 30
2490915	Tolfenpyrad	27.4	Spike	P	0 - 30
2490915	Triclopyr	10.8	Spike	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P445966

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2490914	Acesulfame K	5.35	Spike	P	0 - 30
2490914	AMPA	2.22	Spike	P	0 - 30
2490914	Endothall	1.02	Spike	P	0 - 30
2490914	Glufosinate	18.4	Spike	P	0 - 30
2490914	Glyphosate	9.57	Spike	P	0 - 30
2490914	Sucralose	21.2	Spike	P	0 - 30

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

Quality Assurance Report

Surrogates

Lab Sample ID: 2491052

Field Sample ID: G1SE0025

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8270E	Decachlorobiphenyl	89.9	P	37 - 129
EPA 8270E	Decachlorobiphenyl	88.1	P	26 - 115
EPA 8270E	Tetrachloro-m-xylene	40.7	P	30 - 101
EPA 8270E	Tetrachloro-m-xylene	41.9	P	29 - 95.0
EPA 8276	Decachlorobiphenyl	63.7	P	23 - 110
EPA 8276	PCNB	78.5	P	51 - 130

Lab Sample ID: 2491053

Field Sample ID: G1SE0031

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	127	P	30 - 160
EPA 8321B	Acetaminophen-d4	123	P	30 - 160
EPA 8321B	Carbamazepine-d10	64.6	P	30 - 160
EPA 8321B	Diuron-d6	41.8	P	30 - 160
EPA 8321B	Endothall-d6	85.9	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	95.7	P	30 - 160
EPA 8321B	Ibuprofen-d3	52.4	P	30 - 160
EPA 8321B	Primidone-d5	84.6	P	30 - 160
EPA 8321B	Sucralose-d6	95.9	P	30 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B
Run ID: A125985
Included Lab Sample IDs: 2491053

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
AMPA	95.6	92.1	P/P	60 - 160
Endothall	78.0	74.0	P/P	60 - 160
Glufosinate	79.2	86.0	P/P	60 - 160
Glyphosate	90.7	87.9	P/P	60 - 160

Reference Method: EPA 8321B
Run ID: A125990
Included Lab Sample IDs: 2491053

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acesulfame K	122	121	P/P	60 - 160
Sucralose	99.7	107	P/P	60 - 160

Reference Method: EPA 200.7 Rev. 4.4
Run ID: A126040
Included Lab Sample IDs: 2491054, 2491055

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Calcium	102	102	P/P	90 - 110
Calcium	102	104	P/P	90 - 110
Iron	102	103	P/P	90 - 110
Iron	103	104	P/P	90 - 110
Magnesium	103	103	P/P	90 - 110
Magnesium	103	105	P/P	90 - 110
Potassium	100	101	P/P	90 - 110
Potassium	101	102	P/P	90 - 110
Sodium	101	101	P/P	90 - 110
Sodium	101	102	P/P	90 - 110
Strontium	100	101	P/P	90 - 110
Strontium	101	99.9	P/P	90 - 110
Tin	101	102	P/P	90 - 110
Tin	102	101	P/P	90 - 110
Titanium	101	101	P/P	90 - 110
Titanium	101	100	P/P	90 - 110
Vanadium	100	99.0	P/P	90 - 110
Vanadium	100	100	P/P	90 - 110
Zinc	102	100	P/P	90 - 110
Zinc	102	102	P/P	90 - 110

Reference Method: EPA 8321B
Run ID: A126044
Included Lab Sample IDs: 2491053

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	105	100	P/P	50 - 150
2,4,5-T	98.3	89.6	P/P	50 - 150
Acetaminophen	96.9	108	P/P	60 - 160
Acetamiprid	120	117	P/P	50 - 150
Afidopyropen	118	104	P/P	50 - 150
Bentazon	105	111	P/P	50 - 160
Benzovindiflupyr	97.0	108	P/P	50 - 150

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B
Run ID: A126044
Included Lab Sample IDs: 2491053

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Carbamazepine	132	118	P/P	60 - 150
Clothianidin	106	114	P/P	60 - 150
Dinotefuran	91.9	93.6	P/P	50 - 150
Diuron	105	111	P/P	60 - 160
Fenuron	107	102	P/P	60 - 150
Fluridone	69.3	82.5	P/P	60 - 160
Hydrocodone	111	96.2	P/P	60 - 150
Ibuprofen	133	78.6	P/P	50 - 160
Imazapyr	120	87.2	P/P	50 - 150
Imidacloprid	113	110	P/P	60 - 150
Linuron	133	104	P/P	60 - 150
Mandestrobin	106	79.5	P/P	50 - 150
MCPPP	79.7	91.4	P/P	50 - 150
Naproxen	99.0	62.5	P/P	50 - 160
Primidone	133	130	P/P	60 - 150
Pyraclostrobin	131	114	P/P	60 - 150
Silvex	87.0	74.1	P/P	50 - 150
Thiamethoxam	121	120	P/P	50 - 150
Tolfenpyrad	101	112	P/P	60 - 150
Triclopyr	94.7	88.9	P/P	50 - 150

Reference Method: EPA 200.8 Rev. 5.4
Run ID: A126080
Included Lab Sample IDs: 2491054, 2491055

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Aluminum	101	102	P/P	90 - 110
Aluminum	102	101	P/P	90 - 110
Antimony	102	101	P/P	90 - 110
Antimony	103	102	P/P	90 - 110
Arsenic	103	101	P/P	90 - 110
Arsenic	104	102	P/P	90 - 110
Barium	99.3	97.8	P/P	90 - 110
Barium	99.9	99.7	P/P	90 - 110
Beryllium	102	102	P/P	90 - 110
Boron	101	104	P/P	90 - 110
Boron	104	100	P/P	90 - 110
Cadmium	103	101	P/P	90 - 110
Cadmium	103	103	P/P	90 - 110
Chromium	101	102	P/P	90 - 110
Chromium	103	103	P/P	90 - 110
Cobalt	110	109	P/P	90 - 110
Copper	101	103	P/P	90 - 110
Copper	103	101	P/P	90 - 110
Lead	103	103	P/P	90 - 110
Lead	104	103	P/P	90 - 110
Manganese	102	101	P/P	90 - 110
Manganese	103	102	P/P	90 - 110
Molybdenum	101	100	P/P	90 - 110
Molybdenum	102	101	P/P	90 - 110
Nickel	102	103	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A126080

Included Lab Sample IDs: 2491054, 2491055

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Nickel	104	101	P/P	90 - 110
Selenium	102	98.9	P/P	90 - 110
Selenium	99.4	96.2	P/P	90 - 110
Silver	102	102	P/P	90 - 110
Silver	102	102	P/P	90 - 110
Thallium	103	102	P/P	90 - 110
Thallium	103	103	P/P	90 - 110

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A126105

Included Lab Sample IDs: 2491054, 2491055

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Beryllium	104	105	P/P	90 - 110
Cobalt	105	106	P/P	90 - 110

Reference Method: EPA 8276

Run ID: A126133

Included Lab Sample IDs: 2491052

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chlordane	94.7		P	80 - 120
Toxaphene	114		P	80 - 120

Reference Method: EPA 8270E

Run ID: A126203

Included Lab Sample IDs: 2491052

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
PCB-1016	98.0		P	80 - 120
PCB-1260	101		P	80 - 120

Reference Method: EPA 8270E

Run ID: A126205

Included Lab Sample IDs: 2491052

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Aldrin	101		P	80 - 120
Alpha-BHC	99.7		P	80 - 120
Alpha-Chlordane	97.0		P	80 - 120
Beta-BHC	102		P	80 - 120
Beta-Cyfluthrin	105		P	80 - 120
Bifenthrin	103		P	80 - 120
Chlorothalonil	89.2		P	80 - 120
Cis-Nonachlor	97.7		P	80 - 120
Cypermethrin	103		P	80 - 120
Dacthal	102		P	80 - 120
DDD-p,p'	98.7		P	80 - 120
DDE-p,p'	101		P	80 - 120
DDT-p,p'	94.0		P	80 - 120
Delta-BHC	100		P	80 - 120

Quality Assurance Report Calibration Verification

Reference Method: EPA 8270E
Run ID: A126205
Included Lab Sample IDs: 2491052

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Deltamethrin	103		P	80 - 120
Dichlobenil	93.8		P	80 - 120
Dicofol	96.6		P	80 - 120
Dieldrin	95.2		P	80 - 120
Endosulfan I	98.4		P	80 - 120
Endosulfan II	97.5		P	80 - 120
Endosulfan Sulfate	96.3		P	80 - 120
Endrin	102		P	80 - 120
Endrin Aldehyde	89.1		P	80 - 120
Endrin Ketone	93.7		P	80 - 120
Esfenvalerate	107		P	80 - 120
Ethalfuralin	105		P	80 - 120
Fenpropathrin	103		P	80 - 120
Gamma-BHC	99.0		P	80 - 120
Gamma-Chlordane	99.5		P	80 - 120
Heptachlor	98.2		P	80 - 120
Heptachlor Epoxide	101		P	80 - 120
Hexachlorobenzene	101		P	80 - 120
Kepone	71.7*		F	80 - 120
Lambda-Cyhalothrin	100		P	80 - 120
Methoprene	103		P	80 - 120
Methoxychlor	102		P	80 - 120
MGK-264	97.4		P	80 - 120
Mirex	102		P	80 - 120
Oxychlordane	95.4		P	80 - 120
Permethrin	98.3		P	80 - 120
Phenothrin	102		P	80 - 120
Piperonyl Butoxide	99.2		P	80 - 120
Prallethrin	98.8		P	80 - 120
Tau-Fluvalinate	101		P	80 - 120
Tetramethrin	104		P	80 - 120
Trans-Nonachlor	99.1		P	80 - 120
Triclosan Methyl	102		P	80 - 120
Trifluralin	98.9		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 SMP	MS
			LCS				
EPA 200.7 Rev. 4.4	Calcium	107	103	102			1.02
	Iron	112	108	108	106		0.0863
	Magnesium	113	109	108	105		0.603
	Potassium	103	99.8	101			0.894
	Sodium	110	106	104	101		0.927
	Strontium	100	98.5	97.5	95.1		1.01
	Tin	98.0	95.0	94.8	92.2		0.127
	Titanium	101	95.4	103	99.3		5.76
	Vanadium	101	102	101	99.2		0.161
	Zinc	101	97.2	97.9	99.2		0.741
EPA 200.8 Rev. 5.4	Aluminum	105	102	100	99.8		1.13
	Antimony	109	106	107	107		0.102
	Arsenic	106	107	105	105		0.322
	Barium	106	104	105	104		0.432
	Beryllium	106	110	106	106		3.39
	Boron	112	113	112	106		0.905
	Cadmium	106	103	106	107		0.793
	Chromium	106	104	103	103		1.07
	Cobalt	106	107	104	104		0.237
	Copper	105	104	102	104		1.68
	Lead	104	106	104	104		0.213
	Manganese	105	103	102	103		0.291
	Molybdenum	104	104	105	106		0.842
	Nickel	102	101	101	105		0.171
	Selenium	110	104	107	108		0.523
	Silver	115	110	111	110		0.870
	Thallium	101	103	103	107		0.118
	Aldrin	47.6	63.5	63.4			0.0197
	Alpha-BHC	84.5	91.0	90.2			0.819
	Alpha-Chlordane	65.6	69.6	66.4			4.77
	Beta-BHC	97.6	116	102			13.0
EPA 8270E	Beta-Cyfluthrin	92.6	107	114			6.25
	Bifenthrin	68.3	87.3	96.5			9.95
	Chlorothalonil	70.2	51.0	84.8			49.8
	Cis-Nonachlor	65.9	69.6	67.3			3.42
	Cypermethrin	88.6	99.6	107			7.04
	Dacthal	90.2	94.0	92.4			1.74
	DDD-p,p'	66.0	68.9	66.8			3.15
	DDE-p,p'	75.6	82.6	78.5			5.00
	DDT-p,p'	65.3	69.1	65.6			5.29
	Delta-BHC	93.7	108	109			1.10
	Deltamethrin	95.4	115	142			20.6
	Dichlobenil	58.8	51.6	49.6			4.11
	Dicofol	65.5	67.8	65.6			3.29
	Dieldrin	67.9	71.7	68.9			3.97
	Endosulfan I	73.8	79.3	81.2			2.36
	Endosulfan II	72.8	74.6	71.6			4.15
	Endosulfan Sulfate	68.2	73.0	79.2			8.17
	Endrin	80.5	85.6	82.7			3.38
	Endrin Aldehyde	63.7	60.1	63.3			5.16
	Endrin Ketone	76.9	76.6	69.9			9.16
	Esfenvalerate	90.2	115	132			13.8
	Ethalfuralin	64.1	67.2	74.6			10.4
	Fenpropathrin	76.2	83.3	82.7			0.731

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery		Precision SMP	MS
			LCS			
EPA 8270E	Gamma-BHC	80.9	83.9	83.5		0.472
	Gamma-Chlordane	72.6	79.6	76.5		3.91
	Heptachlor	62.0	65.5	66.9		2.11
	Heptachlor Epoxide	77.8	81.1	79.2		2.36
	Hexachlorobenzene	68.5	74.1	70.4		5.02
	Kepone	95.2	87.7	97.6		10.6
	Lambda-Cyhalothrin	66.9	82.1	80.4		2.10
	Methoprene	72.6	84.1	80.7		4.05
	Methoxychlor	83.6	92.9	100		7.72
	MGK-264	67.5	77.1	80.9		4.85
	Mirex	63.6	76.6	73.1		4.66
	Oxychlordane	75.1	76.1	81.8		7.22
	PCB-1016	72.9	71.0	66.1		7.24
	PCB-1260	86.2	82.5	79.0		4.32
	Permethrin	76.9	87.4	101		14.4
	Phenothrin	53.9	78.0	80.9		3.73
	Piperonyl Butoxide	87.5	88.8	91.2		2.66
	Prallethrin	60.9	68.3	75.7		10.2
	Tau-Fluvalinate	71.1	90.4	105		14.7
	Tetramethrin	70.8	89.9	95.8		6.33
	Trans-Nonachlor	73.1	80.8	78.3		3.06
	Triclosan Methyl	81.7	88.6	84.0		5.33
	Trifluralin	72.6	77.3	75.2		2.82
EPA 8276	Chlordane	90.4	80.1	83.0		3.62
	Toxaphene	86.4	94.8	102		7.18
EPA 8321B	2,4-D	119	139	113		18.4
	2,4,5-T	97.1	99.3	80.1		21.4
	Acesulfame K	104	89.9	84.8		5.35
	Acetaminophen	87.9	142	112		23.8
	Acetamiprid	82.2	84.6	77.2		9.08
	Afidopyropen	100	68.6	72.2		5.16
	AMPA	83.4				2.22
	Bentazon	114				8.61
	Benzovindiflupyr	82.8	77.8	71.3		8.71
	Carbamazepine	116	90.6	76.9		15.5
	Clothianidin	113	111	126		13.0
	Dinotefuran	103	143	108		28.1
	Diuron	119	79.6	59.5		26.6
	Endothall	63.1	91.7	92.7		1.02
	Fenuron	106	80.2	85.7		6.63
	Fluridone	92.2	68.7	48.4		26.7
	Glufosinate	79.8	60.5	72.7		18.4
	Glyphosate	79.1				9.57
	Hydrocodone	109	107	98.7		8.19
	Ibuprofen	88.3	96.0	77.9		20.8
	Imazapyr	96.3				1.81
	Imidacloprid	114	149	185		21.3
	Linuron	83.6	82.5	66.0		22.2
	Mandestrobin	109	86.0	74.8		13.9
	MCPP	115	101	103		2.17
	Naproxen	72.4	123	111		9.89
	Primidone	121	107	120		9.92
	Pyraclostrobin	82.7	77.3	58.9		27.1
	Silvex	104	92.7	101		8.20

Quality Assurance Report

Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery		Precision	
					LCS	MS
EPA 8321B	Sucralose	95.8	49.3	64.0		21.2
	Thiamethoxam	114	137	150		9.52
	Tolfenpyrad	60.1	63.3	48.0		27.4
	Triclopyr	99.8	97.0	87.0		10.8

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	2491054, 2491055
EPA 200.8 Rev. 5.4	Total Recoverable Metals analysis using ICP-MS for aqueous samples supporting Clean Water Act Projects	2491054, 2491055
EPA 8270E	Organochlorine pesticides, pyrethroids and tracers in water matrices by GC/MS/MS	2491052
EPA 8270E	PCBs in water matrices by GC/MS/MS	2491052
EPA 8276	Chlordane and Toxaphene in water matrices by GC/MS with Negative Chemical Ionization	2491052
EPA 8321B	Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS	2491053
SM 2340 B-2011	Hardness by calculation, in aqueous matrices, reported as mg/L CaCO3	2491054, 2491055

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	06/04/2024	06/05/2024 13:35	George D Taylor	06/06/2024 12:53	Conrad Hartmann	2491054
	06/04/2024	06/05/2024 13:35	George D Taylor	06/06/2024 14:16	Conrad Hartmann	2491055
EPA 200.8 Rev. 5.4	06/04/2024	06/05/2024 13:35	George D Taylor	06/10/2024 18:55	Emily M Philpot	2491054
	06/04/2024	06/05/2024 13:35	George D Taylor	06/10/2024 21:54	Emily M Philpot	2491055
	06/04/2024	06/05/2024 13:35	George D Taylor	06/11/2024 15:22	McKinley C Carter	2491055
	06/04/2024	06/05/2024 13:35	George D Taylor	06/11/2024 15:29	McKinley C Carter	2491054
	06/04/2024	06/06/2024 08:00	Fe-Val Siddell	06/14/2024 02:16	Kenedi Mills	2491052
EPA 8270E	06/04/2024	06/06/2024 08:00	Fe-Val Siddell	06/14/2024 07:11	Lipi Saha	2491052
EPA 8276	06/04/2024	06/06/2024 08:00	Fe-Val Siddell	06/11/2024 16:31	Arthur Maknenko	2491052
EPA 8321B	06/04/2024	06/05/2024 10:00	Hoor Shaik	06/06/2024 19:44	Juyoung Kim	2491053
	06/04/2024	06/05/2024 15:15	Samatha Luckman	06/06/2024 05:34	Samatha Luckman	2491053
	06/04/2024	06/05/2024 15:15	Samatha Luckman	06/07/2024 07:06	Samatha Luckman	2491053
SM 2340 B-2011	06/04/2024			06/06/2024 12:53	Conrad Hartmann	2491054
	06/04/2024			06/06/2024 14:16	Conrad Hartmann	2491055