

Chemical Analysis Report

SE-DIST-2024-04-12-01

Florida DEP Laboratory
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DOH Accreditation E31780

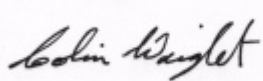
Event Description: **SMP - Okee**
Request ID: **RQ-2024-03-18-40**
Customer: **SE-DIST**
Project ID: **SMP**

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Certified by: Colin Wright, Program Administrator

Date Certified: 06-MAY-2024 13:42



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: TAYLOR CREEK AT 98

Collection Date/Time: 04/11/2024 13:00

Field ID: G1SE0025

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2481939	EPA 8270E	Aldrin	0.67	U	ng/L	P444034	
		Alpha-BHC	0.10	U	ng/L	P444034	
		Alpha-Chlordane	0.21	U	ng/L	P444034	
		PCB-1016	2.1	U	ng/L	P444034	
		Beta-BHC	0.10	U	ng/L	P444034	
		PCB-1221	2.1	U	ng/L	P444034	
		Beta-Cyfluthrin	1.3	U	ng/L	P444034	
		PCB-1232	2.1	U	ng/L	P444034	
		Bifenthrin	0.51	U	ng/L	P444034	
		PCB-1242	2.1	U	ng/L	P444034	
		PCB-1248	2.1	U	ng/L	P444034	
		Chlorothalonil	3.7	U	ng/L	P444034	
		PCB-1254	2.1	U	ng/L	P444034	
		Cis-Nonachlor	0.21	U	ng/L	P444034	
		PCB-1260	2.1	U	ng/L	P444034	
		Cypermethrin	1.5	U	ng/L	P444034	
		Dacthal	0.15	U	ng/L	P444034	
		DDD-p,p'	0.26	U	ng/L	P444034	
		DDE-p,p'	0.21	U	ng/L	P444034	
		DDT-p,p'	0.82	U	ng/L	P444034	
		Delta-BHC	0.41	U	ng/L	P444034	
		Deltamethrin	1.3	U	ng/L	P444034	
		Dichlobenil	0.26	U	ng/L	P444034	
		Dicofol	1.3	U	ng/L	P444034	
		Dieldrin	0.41	U	ng/L	P444034	
		Endosulfan I	0.41	U	ng/L	P444034	
		Endosulfan II	0.93	U	ng/L	P444034	
		Endosulfan Sulfate	0.31	U	ng/L	P444034	
		Endrin	0.93	U	ng/L	P444034	
		Endrin Aldehyde	0.77	U	ng/L	P444034	
		Endrin Ketone	0.41	U	ng/L	P444034	
		Esfenvalerate	0.77	U	ng/L	P444034	
		Ethalfuralin	0.15	U	ng/L	P444034	
		Fenpropathrin	0.26	U	ng/L	P444034	
		Gamma-BHC	0.13	U	ng/L	P444034	
		Gamma-Chlordane	0.27	I	ng/L	P444034	
		Heptachlor	0.21	U	ng/L	P444034	
		Heptachlor Epoxide	0.33	I	ng/L	P444034	
		Hexachlorobenzene**	1.0	U	ng/L	P444034	
		Kepone	14	UJ	ng/L	P444034	CCV
		Lambda-Cyhalothrin	0.77	U	ng/L	P444034	
		Methoprene	0.77	U	ng/L	P444034	
		Methoxychlor	0.31	U	ng/L	P444034	
		MGK-264	0.21	U	ng/L	P444034	

Field ID: G1SE0025

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2481939	EPA 8270E	Mirex	0.36	U	ng/L	P444034	
		Oxychlordane	0.31	U	ng/L	P444034	
		Permethrin	1.6	U	ng/L	P444034	
		Phenothrin	0.93	U	ng/L	P444034	
		Piperonyl Butoxide	0.44	I	ng/L	P444034	
		Prallethrin	2.1	U	ng/L	P444034	
		Tau-Fluvalinate	0.26	U	ng/L	P444034	
		Tetramethrin	0.77	U	ng/L	P444034	
		Trans-Nonachlor	0.21	U	ng/L	P444034	
		Triclosan Methyl	0.15	U	ng/L	P444034	
		Trifluralin	0.21	U	ng/L	P444034	
	EPA 8276	Chlordane	2.1	U	ng/L	P444034	
		Toxaphene	15	U	ng/L	P444034	

Ref. Method and Comment:
EPA 8270E: MS accuracy for kepone not assessed due to high content of this parameter in the sample spiked. Refer to the Lab Analysis Report for an explanation of QC Codes.

Sample Location: NUBBIN SLOUGH 14 MILES UPSTREAM OF 710

Collection Date/Time: 04/11/2024 13:30

Field ID: G1SE0031

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2481964	EPA 8321B	Acesulfame K	0.10	U	ug/L	P444142	
		2,4-D	0.0032	I	ug/L	P444166	MS
		2,4,5-T	0.0040	U	ug/L	P444166	
		AMPA	0.35	I	ug/L	P444142	
		Acetaminophen	0.0080	U	ug/L	P444166	
		Acetamiprid	0.0020	U	ug/L	P444166	
		Endothall	0.25	U	ug/L	P444142	
		Glufosinate	0.10	U	ug/L	P444142	
		Glyphosate	1.5		ug/L	P444142	MS
		Afidopyropen	0.0020	U	ug/L	P444166	
		Bentazon	8.0E-04	U	ug/L	P444166	
		Sucralose	0.016	I	ug/L	P444142	
		Benzovindiflupyr	0.0020	U	ug/L	P444166	
		Carbamazepine	8.0E-04	U	ug/L	P444166	
		Clothianidin	0.0020	U	ug/L	P444166	
		Dinotefuran	0.0020	U	ug/L	P444166	
		Diuron	0.0020	U	ug/L	P444166	
		Fenuron	0.032	U	ug/L	P444166	
		Fluridone	8.0E-04	U	ug/L	P444166	
		Imazapyr	0.17		ug/L	P444166	
		Hydrocodone	0.0020	U	ug/L	P444166	
		Ibuprofen	0.080	U	ug/L	P444166	
		Imidacloprid	0.0020	U	ug/L	P444166	
		Linuron	0.0040	U	ug/L	P444166	
		Mandestrobin	0.0020	U	ug/L	P444166	
		MCPP	0.0020	U	ug/L	P444166	
		Naproxen	0.0080	U	ug/L	P444166	
		Primidone	0.0040	U	ug/L	P444166	
		Pyraclostrobin	0.0020	U	ug/L	P444166	
		Silvex	0.0040	U	ug/L	P444166	
		Thiamethoxam	0.0020	U	ug/L	P444166	
		Tolfenpyrad	0.0020	U	ug/L	P444166	
		Triclopyr	0.0040	U	ug/L	P444166	

Ref. Method and Comment:

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

Sample Location: NUBBIN SLOUGH UPSTREAM OF STA

Collection Date/Time: 04/11/2024 13:40

Field ID: G1SE0004

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2481972	EPA 200.7 Rev. 4.4	Calcium	17.0		mg/L	P444257	
		Iron	1.16E+03		ug/L	P444257	
		Magnesium	4.61		mg/L	P444257	
		Potassium	15.7		mg/L	P444257	
		Sodium	26.4		mg/L	P444257	
		Strontium	121		ug/L	P444257	
		Tin	3.0	U	ug/L	P444257	
		Titanium	1.8	I	ug/L	P444257	
		Vanadium	4.5	I	ug/L	P444257	
		Zinc	12	I	ug/L	P444257	
	EPA 200.8 Rev. 5.4	Aluminum	439		ug/L	P444257	
		Antimony	0.054	I	ug/L	P444257	
		Arsenic	0.83		ug/L	P444257	
		Barium	19.8		ug/L	P444257	
		Beryllium	0.034	I	ug/L	P444257	
		Boron	33.6		ug/L	P444257	
		Cadmium	0.020	U	ug/L	P444257	
		Chromium	1.6	I	ug/L	P444257	
		Cobalt	0.229		ug/L	P444257	
		Copper	0.62	I	ug/L	P444257	
		Lead	0.30	I	ug/L	P444257	
		Manganese	10.9		ug/L	P444257	
		Molybdenum	0.35	I	ug/L	P444257	
		Nickel	0.50	U	ug/L	P444257	
		Selenium	0.20	U	ug/L	P444257	
		Silver	0.010	U	ug/L	P444257	
		Thallium	0.10	U	ug/L	P444257	
	SM 2340 B-2011	Hardness	61.4		mg/L	P444257	

Sample Location: HENRY CREEK AT SE 128TH AVE

Collection Date/Time: 04/11/2024 14:00

Field ID: G1SE0030

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2481973	EPA 200.7 Rev. 4.4	Calcium	35.2		mg/L	P444257	
		Iron	420		ug/L	P444257	
		Magnesium	17.7		mg/L	P444257	
		Potassium	14.0		mg/L	P444257	
		Sodium	132		mg/L	P444257	
		Strontium	1.67E+03		ug/L	P444257	
		Tin	3.0	U	ug/L	P444257	
		Titanium	0.75	U	ug/L	P444257	
		Vanadium	4.4	I	ug/L	P444257	
		Zinc	16	I	ug/L	P444257	
	EPA 200.8 Rev. 5.4	Aluminum	190		ug/L	P444257	
		Antimony	0.073	I	ug/L	P444257	
		Arsenic	1.26		ug/L	P444257	
		Barium	31.3		ug/L	P444257	
		Beryllium	0.027	I	ug/L	P444257	
		Boron	109		ug/L	P444257	
		Cadmium	0.020	U	ug/L	P444257	
		Chromium	2.2		ug/L	P444257	
		Cobalt	0.135		ug/L	P444257	
		Copper	0.40	U	ug/L	P444257	
		Lead	0.20	U	ug/L	P444257	
		Manganese	16.5		ug/L	P444257	
		Molybdenum	0.75		ug/L	P444257	
	SM 2340 B-2011	Nickel	0.50	U	ug/L	P444257	
		Selenium	0.31	I	ug/L	P444257	
		Silver	0.010	U	ug/L	P444257	
		Thallium	0.10	U	ug/L	P444257	
		Hardness	161		mg/L	P444257	

Quality Assurance Report Method Blank Results

Reference Method: EPA 200.7 Rev. 4.4

Batch ID: P444257

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: P444257

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: P444034

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: P444034

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: P444034

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

Reference Method: EPA 8321B
Batch ID: P444142

Component	Result	Code	Units
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Quality Assurance Report Method Blank Results

Reference Method: EPA 8321B
Batch ID: P444142

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

Reference Method: EPA 8321B
Batch ID: P444166

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

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P444257

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Calcium	102		P	85 - 115
Iron	110		P	85 - 115
Magnesium	113		P	85 - 115
Potassium	104		P	85 - 115
Sodium	96.0		P	85 - 115
Strontium	96.9		P	85 - 115
Tin	103		P	85 - 115
Titanium	106		P	85 - 115
Vanadium	98.8		P	85 - 115
Zinc	94.3		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P444257

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Aluminum	99.9		P	85 - 115
Antimony	103		P	85 - 115
Arsenic	97.7		P	85 - 115
Barium	102		P	85 - 115
Beryllium	94.6		P	85 - 115
Boron	102		P	85 - 115
Cadmium	99.5		P	85 - 115
Chromium	98.0		P	85 - 115
Cobalt	94.1		P	85 - 115
Copper	95.9		P	85 - 115
Lead	98.6		P	85 - 115
Manganese	105		P	85 - 115
Molybdenum	98.0		P	85 - 115
Nickel	93.5		P	85 - 115
Selenium	101		P	85 - 115
Silver	112		P	85 - 115
Thallium	97.5		P	85 - 115

Reference Method: EPA 8270E
Batch ID: P444034

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Aldrin	59.6		P	30 - 96.0
Alpha-BHC	82.4		P	70 - 109
Alpha-Chlordane	80.6		P	45 - 107
Beta-BHC	101		P	64 - 138
Beta-Cyfluthrin	75.2		P	17 - 141
Bifenthrin	66.2		P	10 - 113
Chlorothalonil	98.5		P	26 - 180
Cis-Nonachlor	65.0		P	37 - 102
Cypermethrin	72.9		P	20 - 133
Dacthal	89.1		P	69 - 114
DDD-p,p'	66.8		P	42 - 105
DDE-p,p'	75.8		P	42 - 106
DDT-p,p'	64.6		P	42 - 107
Delta-BHC	108		P	67 - 144
Deltamethrin	81.2		P	15 - 149

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 8270E
Batch ID: P444034

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Dichlobenil	58.8		P	46 - 117
Dicofol	60.9		P	34 - 114
Dieldrin	85.7		P	50 - 108
Endosulfan I	77.4		P	55 - 104
Endosulfan II	73.1		P	51 - 111
Endosulfan Sulfate	84.9		P	56 - 121
Endrin	80.9		P	10 - 106
Endrin Aldehyde	63.6		P	34 - 114
Endrin Ketone	76.6		P	63 - 177
Esfenvalerate	83.8		P	29 - 143
Ethalfuralin	62.5		P	46 - 96.0
Fenpropathrin	69.6		P	28 - 115
Gamma-BHC	82.5		P	65 - 121
Gamma-Chlordane	79.3		P	39 - 103
Heptachlor	65.9		P	39 - 94.0
Heptachlor Epoxide	77.5		P	54 - 104
Hexachlorobenzene	63.2		P	36 - 100
Kepone	116		P	10 - 225
Lambda-Cyhalothrin	83.3		P	10 - 135
Methoprene	70.7		P	10 - 109
Methoxychlor	73.2		P	52 - 112
MGK-264	72.4		P	44 - 117
Mirex	67.4		P	20 - 90.0
Oxychlordane	60.9		P	44 - 102
PCB-1016	81.2		P	45 - 107
PCB-1260	78.7		P	40 - 118
Permethrin	72.1		P	18 - 135
Phenothrin	63.2		P	10 - 102
Piperonyl Butoxide	122		P	28 - 156
Prallethrin	72.6		P	28 - 113
Tau-Fluvalinate	71.7		P	10 - 123
Tetramethrin	77.3		P	18 - 158
Trans-Nonachlor	72.6		P	39 - 104
Triclosan Methyl	82.2		P	54 - 108
Trifluralin	70.6		P	46 - 97.0

Reference Method: EPA 8276
Batch ID: P444034

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Chlordane	85.0		P	52 - 117
Toxaphene	91.0		P	44 - 125

Reference Method: EPA 8321B
Batch ID: P444142

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acesulfame K	106		P	40 - 150
AMPA	109		P	40 - 150
Endothall	93.6		P	40 - 150
Glufosinate	94.2		P	40 - 150
Glyphosate	95.0		P	40 - 150

Quality Assurance Report
Laboratory Control Sample Accuracy

Reference Method: EPA 8321B
Batch ID: P444142

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Sucralose	95.2		P	40 - 150

Reference Method: EPA 8321B
Batch ID: P444166

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	147		P	40 - 150
2,4,5-T	118		P	40 - 150
Acetaminophen	77.6		P	30 - 150
Acetamiprid	100		P	40 - 150
Afidopyropen	74.2		P	30 - 150
Bentazon	106		P	30 - 150
Benzovindiflupyr	89.3		P	40 - 150
Carbamazepine	78.7		P	40 - 150
Clothianidin	97.1		P	40 - 150
Dinotefuran	113		P	40 - 150
Diuron	70.7		P	40 - 150
Fenuron	101		P	40 - 150
Fluridone	95.1		P	40 - 150
Hydrocodone	98.8		P	40 - 150
Ibuprofen	81.1		P	40 - 150
Imazapyr	101		P	40 - 150
Imidacloprid	96.8		P	40 - 150
Linuron	70.1		P	40 - 150
Mandestrobin	94.4		P	40 - 150
MCPP	135		P	40 - 150
Naproxen	76.7		P	40 - 150
Primidone	86.2		P	40 - 150
Pyraclostrobin	82.4		P	40 - 150
Silvex	107		P	40 - 150
Thiamethoxam	95.5		P	40 - 150
Tolfenpyrad	60.0		P	30 - 150
Triclopyr	113		P	40 - 150

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P444257

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2481600	Calcium	100		P	80 - 120
2481600	Iron	108	105	P/P	80 - 120
2481600	Magnesium	110	109	P/P	80 - 120
2481600	Potassium	100	100	P/P	80 - 120
2481600	Sodium	94.4		P	80 - 120
2481600	Strontium	94.4	92.9	P/P	80 - 120
2481600	Tin	101	102	P/P	80 - 120
2481600	Titanium	99.7	100	P/P	80 - 120
2481600	Vanadium	98.6	99.6	P/P	80 - 120
2481600	Zinc	93.1	93.5	P/P	80 - 120
2482093	Calcium	95.8		P	80 - 120
2482093	Iron	106		P	80 - 120
2482093	Magnesium	101		P	80 - 120
2482093	Potassium	100		P	80 - 120
2482093	Sodium	93.2		P	80 - 120
2482093	Strontium	89.8		P	80 - 120
2482093	Tin	101		P	80 - 120
2482093	Titanium	105		P	80 - 120
2482093	Vanadium	97.6		P	80 - 120
2482093	Zinc	89.4		P	80 - 120

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P444257

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2481600	Aluminum	93.3	95.8	P/P	80 - 120
2481600	Antimony	99.7	100	P/P	80 - 120
2481600	Arsenic	95.9	95.5	P/P	80 - 120
2481600	Barium	98.9	100	P/P	80 - 120
2481600	Beryllium	95.7	94.8	P/P	80 - 120
2481600	Boron	104	104	P/P	80 - 120
2481600	Cadmium	98.3	99.5	P/P	80 - 120
2481600	Chromium	96.7	96.8	P/P	80 - 120
2481600	Cobalt	93.2	92.9	P/P	80 - 120
2481600	Copper	93.8	93.6	P/P	80 - 120
2481600	Lead	98.1	97.9	P/P	80 - 120
2481600	Manganese	103	100	P/P	80 - 120
2481600	Molybdenum	97.2	98.1	P/P	80 - 120
2481600	Nickel	92.1	92.0	P/P	80 - 120
2481600	Selenium	96.6	93.9	P/P	80 - 120
2481600	Silver	109	108	P/P	80 - 120
2481600	Thallium	97.0	97.5	P/P	80 - 120
2482093	Aluminum	98.3		P	80 - 120
2482093	Antimony	103		P	80 - 120
2482093	Arsenic	96.7		P	80 - 120
2482093	Barium	102		P	80 - 120
2482093	Beryllium	96.6		P	80 - 120
2482093	Boron	103		P	80 - 120
2482093	Cadmium	101		P	80 - 120
2482093	Chromium	95.5		P	80 - 120
2482093	Cobalt	89.8		P	80 - 120
2482093	Copper	91.0		P	80 - 120

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P444257

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2482093	Lead	97.2		P	80 - 120
2482093	Manganese	106		P	80 - 120
2482093	Molybdenum	97.9		P	80 - 120
2482093	Nickel	87.9		P	80 - 120
2482093	Selenium	97.3		P	80 - 120
2482093	Silver	110		P	80 - 120
2482093	Thallium	97.2		P	80 - 120

Reference Method: EPA 8270E
Batch ID: P444034

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2482105	PCB-1016	84.6	80.2	P/P	45 - 107
2482105	PCB-1260	71.0	70.6	P/P	40 - 112
2482140	Aldrin	54.5	62.5	P/P	24 - 81.0
2482140	Alpha-BHC	74.7	90.5	P/P	65 - 110
2482140	Alpha-Chlordane	70.8	91.1	P/P	43 - 119
2482140	Beta-BHC	94.3	120	P/P	54 - 165
2482140	Beta-Cyfluthrin	75.5	88.3	P/P	27 - 165
2482140	Bifenthrin	64.4	73.8	P/P	17 - 117
2482140	Chlorothalonil	101	114	P/P	10 - 255
2482140	Cis-Nonachlor	57.7	69.8	P/P	34 - 98.0
2482140	Cypermethrin	72.0	83.3	P/P	25 - 143
2482140	Dacthal	79.2	97.9	P/P	55 - 139
2482140	DDD-p,p'	59.8	72.2	P/P	30 - 109
2482140	DDE-p,p'	67.9	82.4	P/P	35 - 106
2482140	DDT-p,p'	62.7	70.6	P/P	41 - 101
2482140	Delta-BHC	98.0	123	P/P	58 - 165
2482140	Deltamethrin	84.2	99.7	P/P	10 - 194
2482140	Dichlobenil	57.8	62.9	P/P	22 - 114
2482140	Dicofol	58.1	71.1	P/P	17 - 133
2482140	Dieldrin	73.1	93.3	P/P	45 - 129
2482140	Endosulfan I	67.9	82.7	P/P	49 - 104
2482140	Endosulfan II	65.7	81.8	P/P	37 - 117
2482140	Endosulfan Sulfate	79.8	96.1	P/P	38 - 128
2482140	Endrin	70.2	86.5	P/P	35 - 116
2482140	Endrin Aldehyde	54.6	77.1	P/P	19 - 108
2482140	Endrin Ketone	75.2	91.1	P/P	44 - 134
2482140	Esfenvalerate	84.0	97.3	P/P	27 - 176
2482140	Ethalfuralin	56.0	68.5	P/P	49 - 100
2482140	Fenpropathrin	65.7	77.3	P/P	34 - 117
2482140	Gamma-BHC	75.6	89.6	P/P	59 - 129
2482140	Gamma-Chlordane	69.3	87.3	P/P	33 - 107
2482140	Heptachlor	59.0	68.8	P/P	37 - 94.0
2482140	Heptachlor Epoxide	68.0	82.6	P/P	38 - 118
2482140	Hexachlorobenzene	58.8	69.5	P/P	35 - 97.0
2482140	Lambda-Cyhalothrin	80.2	95.2	P/P	23 - 190
2482140	Methoprene	63.5	76.2	P/P	21 - 109
2482140	Methoxychlor	69.0	84.2	P/P	46 - 118
2482140	MGK-264	67.6	83.6	P/P	39 - 122
2482140	Mirex	63.5	72.4	P/P	25 - 90.0
2482140	Oxychlordane	57.0	73.5	P/P	42 - 100

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8270E
Batch ID: P444034

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2482140	Permethrin	69.2	80.5	P/P	33 - 181
2482140	Phenothrin	63.3	75.0	P/P	12 - 125
2482140	Piperonyl Butoxide	101	135	P/P	10 - 178
2482140	Prallethrin	63.7	75.8	P/P	24 - 122
2482140	Tau-Fluvalinate	73.9	84.5	P/P	13 - 151
2482140	Tetramethrin	72.3	89.6	P/P	16 - 172
2482140	Trans-Nonachlor	65.0	78.4	P/P	39 - 100
2482140	Triclosan Methyl	74.2	92.0	P/P	43 - 110
2482140	Trifluralin	63.6	76.4	P/P	45 - 94.0

Reference Method: EPA 8276
Batch ID: P444034

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2482105	Chlordane	67.4	69.5	P/P	43 - 123
2482105	Toxaphene	60.8	68.3	P/P	27 - 156

Reference Method: EPA 8321B
Batch ID: P444142

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2481820	Acesulfame K	137	146	P/P	40 - 150
2481820	AMPA	87.2	89.5	P/P	40 - 150
2481820	Endothall	121	130	P/P	40 - 150
2481820	Glufosinate	96.4	110	P/P	40 - 150
2481820	Glyphosate	142	160	P/F	40 - 150
2481820	Sucralose	103	103	P/P	40 - 150

Reference Method: EPA 8321B
Batch ID: P444166

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2481674	2,4-D	157	154	F/F	40 - 150
2481674	2,4,5-T	104	102	P/P	40 - 150
2481674	Acetaminophen	97.0	90.9	P/P	30 - 150
2481674	Acetamiprid	92.4	82.6	P/P	40 - 150
2481674	Afidopyropen	78.5	59.8	P/P	30 - 150
2481674	Bentazon	103	70.2	P/P	30 - 150
2481674	Benzovindiflupyr	85.8	86.6	P/P	40 - 150
2481674	Carbamazepine	58.8	57.7	P/P	40 - 150
2481674	Clothianidin	103	100	P/P	40 - 150
2481674	Dinotefuran	114	109	P/P	40 - 150
2481674	Diuron	51.4	50.9	P/P	40 - 150
2481674	Fenuron	79.9	79.4	P/P	40 - 150
2481674	Hydrocodone	89.5	87.0	P/P	40 - 150
2481674	Ibuprofen	81.9	85.5	P/P	40 - 150
2481674	Imidacloprid	128	122	P/P	40 - 150
2481674	Linuron	63.6	68.7	P/P	40 - 150
2481674	Mandestrobin	87.3	84.1	P/P	40 - 150
2481674	MCP	129	133	P/P	40 - 150
2481674	Naproxen	70.3	86.2	P/P	40 - 150
2481674	Primidone	109	106	P/P	40 - 150

Quality Assurance Report
Matrix Spike Accuracy

Reference Method: EPA 8321B
Batch ID: P444166

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2481674	Pyraclostrobin	89.8	88.1	P/P	40 - 150
2481674	Silvex	107	96.4	P/P	40 - 150
2481674	Thiamethoxam	95.5	91.1	P/P	40 - 150
2481674	Tolfenpyrad	66.9	73.3	P/P	30 - 150
2481674	Triclopyr	97.7	110	P/P	40 - 150

Quality Assurance Report Precision

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P444257

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2481600	Calcium	1.80	Spike	P	0 - 20
2481600	Iron	1.77	Spike	P	0 - 20
2481600	Magnesium	0.770	Spike	P	0 - 20
2481600	Potassium	0.109	Spike	P	0 - 20
2481600	Sodium	1.75	Spike	P	0 - 20
2481600	Strontium	1.59	Spike	P	0 - 20
2481600	Tin	1.10	Spike	P	0 - 20
2481600	Titanium	0.355	Spike	P	0 - 20
2481600	Vanadium	1.06	Spike	P	0 - 20
2481600	Zinc	0.380	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P444257

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2481600	Aluminum	1.77	Spike	P	0 - 20
2481600	Antimony	0.818	Spike	P	0 - 20
2481600	Arsenic	0.460	Spike	P	0 - 20
2481600	Barium	0.798	Spike	P	0 - 20
2481600	Beryllium	0.803	Spike	P	0 - 20
2481600	Boron	0.281	Spike	P	0 - 20
2481600	Cadmium	1.20	Spike	P	0 - 20
2481600	Chromium	0.160	Spike	P	0 - 20
2481600	Cobalt	0.349	Spike	P	0 - 20
2481600	Copper	0.267	Spike	P	0 - 20
2481600	Lead	0.219	Spike	P	0 - 20
2481600	Manganese	0.984	Spike	P	0 - 20
2481600	Molybdenum	0.989	Spike	P	0 - 20
2481600	Nickel	0.114	Spike	P	0 - 20
2481600	Selenium	2.83	Spike	P	0 - 20
2481600	Silver	0.760	Spike	P	0 - 20
2481600	Thallium	0.517	Spike	P	0 - 20

Reference Method: EPA 8270E
Batch ID: P444034

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2482105	PCB-1016	5.37	Spike	P	0 - 25
2482105	PCB-1260	0.496	Spike	P	0 - 30
2482140	Aldrin	13.7	Spike	P	0 - 41
2482140	Alpha-BHC	19.2	Spike	P	0 - 25
2482140	Alpha-Chlordane	25.1	Spike	P	0 - 32
2482140	Beta-BHC	24.1	Spike	P	0 - 33
2482140	Beta-Cyfluthrin	15.6	Spike	P	0 - 43
2482140	Bifenthrin	13.6	Spike	P	0 - 52
2482140	Chlorothalonil	11.5	Spike	P	0 - 82
2482140	Cis-Nonachlor	19.0	Spike	P	0 - 33
2482140	Cypermethrin	14.7	Spike	P	0 - 51
2482140	Dacthal	21.1	Spike	P	0 - 27

Quality Assurance Report Precision

Reference Method: EPA 8270E
Batch ID: P444034

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2482140	DDD-p,p'	18.9	Spike	P	0 - 39
2482140	DDE-p,p'	19.4	Spike	P	0 - 31
2482140	DDT-p,p'	11.9	Spike	P	0 - 29
2482140	Delta-BHC	23.1	Spike	P	0 - 35
2482140	Deltamethrin	16.9	Spike	P	0 - 100
2482140	Dichlobenil	8.47	Spike	P	0 - 40
2482140	Dicofol	20.2	Spike	P	0 - 37
2482140	Dieldrin	24.3	Spike	P	0 - 27
2482140	Endosulfan I	19.7	Spike	P	0 - 23
2482140	Endosulfan II	21.8	Spike	P	0 - 34
2482140	Endosulfan Sulfate	18.6	Spike	P	0 - 36
2482140	Endrin	20.7	Spike	P	0 - 45
2482140	Endrin Aldehyde	34.1	Spike	P	0 - 76
2482140	Endrin Ketone	19.1	Spike	P	0 - 43
2482140	Esfenvalerate	14.6	Spike	P	0 - 51
2482140	Ethalfuralin	20.0	Spike	P	0 - 22
2482140	Fenpropathrin	16.3	Spike	P	0 - 49
2482140	Gamma-BHC	17.0	Spike	P	0 - 28
2482140	Gamma-Chlordane	23.1	Spike	P	0 - 40
2482140	Heptachlor	15.3	Spike	P	0 - 29
2482140	Heptachlor Epoxide	19.3	Spike	P	0 - 33
2482140	Hexachlorobenzene	16.7	Spike	P	0 - 36
2482140	Kepone	15.9	Spike	P	0 - 85
2482140	Lambda-Cyhalothrin	17.1	Spike	P	0 - 55
2482140	Methoprene	18.2	Spike	P	0 - 53
2482140	Methoxychlor	19.8	Spike	P	0 - 50
2482140	MGK-264	21.3	Spike	P	0 - 43
2482140	Mirex	13.1	Spike	P	0 - 40
2482140	Oxychlordane	25.3	Spike	P	0 - 31
2482140	Permethrin	15.1	Spike	P	0 - 50
2482140	Phenothrin	17.0	Spike	P	0 - 58
2482140	Piperonyl Butoxide	29.0	Spike	P	0 - 100
2482140	Prallethrin	17.4	Spike	P	0 - 39
2482140	Tau-Fluvalinate	13.4	Spike	P	0 - 54
2482140	Tetramethrin	21.3	Spike	P	0 - 51
2482140	Trans-Nonachlor	18.8	Spike	P	0 - 39
2482140	Triclosan Methyl	21.4	Spike	P	0 - 31
2482140	Trifluralin	18.2	Spike	P	0 - 22

Reference Method: EPA 8276
Batch ID: P444034

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2482105	Chlordane	3.16	Spike	P	0 - 28
2482105	Toxaphene	11.6	Spike	P	0 - 27

Quality Assurance Report Precision

Reference Method: EPA 8321B
Batch ID: P444142

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2481820	Acesulfame K	6.62	Spike	P	0 - 30
2481820	AMPA	1.95	Spike	P	0 - 30
2481820	Endothall	6.54	Spike	P	0 - 30
2481820	Glufosinate	13.5	Spike	P	0 - 30
2481820	Glyphosate	7.46	Spike	P	0 - 30
2481820	Sucralose	0.0731	Spike	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P444166

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2481674	2,4-D	1.77	Spike	P	0 - 30
2481674	2,4,5-T	1.73	Spike	P	0 - 30
2481674	Acetaminophen	6.50	Spike	P	0 - 30
2481674	Acetamiprid	11.2	Spike	P	0 - 30
2481674	Afidopyropen	26.9	Spike	P	0 - 30
2481674	Bentazon	1.23	Spike	P	0 - 30
2481674	Benzovindiflupyr	0.966	Spike	P	0 - 30
2481674	Carbamazepine	1.85	Spike	P	0 - 30
2481674	Clothianidin	2.70	Spike	P	0 - 30
2481674	Dinotefuran	4.64	Spike	P	0 - 30
2481674	Diuron	0.874	Spike	P	0 - 30
2481674	Fenuron	0.656	Spike	P	0 - 30
2481674	Fluridone	3.11	Spike	P	0 - 30
2481674	Hydrocodone	2.82	Spike	P	0 - 30
2481674	Ibuprofen	4.26	Spike	P	0 - 30
2481674	Imazapyr	2.02	Spike	P	0 - 30
2481674	Imidacloprid	3.98	Spike	P	0 - 30
2481674	Linuron	7.64	Spike	P	0 - 30
2481674	Mandestrobin	3.72	Spike	P	0 - 30
2481674	MCPP	2.93	Spike	P	0 - 30
2481674	Naproxen	20.3	Spike	P	0 - 30
2481674	Primidone	2.58	Spike	P	0 - 30
2481674	Pyraclostrobin	1.98	Spike	P	0 - 30
2481674	Silvex	10.8	Spike	P	0 - 30
2481674	Thiamethoxam	4.64	Spike	P	0 - 30
2481674	Tolfenpyrad	9.16	Spike	P	0 - 30
2481674	Triclopyr	11.5	Spike	P	0 - 30

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

Quality Assurance Report Surrogates

Lab Sample ID: 2481939
Field Sample ID: G1SE0025

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8270E	Decachlorobiphenyl	76.2	P	37 - 129
EPA 8270E	Decachlorobiphenyl	84.0	P	26 - 115
EPA 8270E	Tetrachloro-m-xylene	68.0	P	30 - 101
EPA 8270E	Tetrachloro-m-xylene	59.3	P	29 - 95.0
EPA 8276	Decachlorobiphenyl	67.8	P	23 - 110
EPA 8276	PCNB	93.3	P	51 - 130

Lab Sample ID: 2481964
Field Sample ID: G1SE0031

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	64.1	P	30 - 160
EPA 8321B	Acetaminophen-d4	96.6	P	30 - 160
EPA 8321B	Carbamazepine-d10	52.0	P	30 - 160
EPA 8321B	Diuron-d6	43.6	P	30 - 160
EPA 8321B	Endothall-d6	103	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	59.9	P	30 - 160
EPA 8321B	Ibuprofen-d3	80.8	P	30 - 160
EPA 8321B	Primidone-d5	91.6	P	30 - 160
EPA 8321B	Sucralose-d6	96.1	P	30 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 200.7 Rev. 4.4

Run ID: A125345

Included Lab Sample IDs: 2481972, 2481973

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Calcium	100	97.7	P/P	90 - 110
Iron	101	98.8	P/P	90 - 110
Magnesium	103	100	P/P	90 - 110
Potassium	100	98.8	P/P	90 - 110
Sodium	94.3	92.4	P/P	90 - 110
Strontium	92.7	92.3	P/P	90 - 110
Tin	104	103	P/P	90 - 110
Titanium	103	103	P/P	90 - 110
Vanadium	95.7	95.3	P/P	90 - 110
Zinc	93.6	93.0	P/P	90 - 110

Reference Method: EPA 8270E

Run ID: A125359

Included Lab Sample IDs: 2481939

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Aldrin	101		P	80 - 120
Alpha-BHC	101		P	80 - 120
Alpha-Chlordane	101		P	80 - 120
Beta-BHC	101		P	80 - 120
Beta-Cyfluthrin	98.0		P	80 - 120
Bifenthrin	95.8		P	80 - 120
Chlorothalonil	90.6		P	80 - 120
Cis-Nonachlor	100		P	80 - 120
Cypermethrin	97.9		P	80 - 120
Dacthal	101		P	80 - 120
DDD-p,p'	100		P	80 - 120
DDE-p,p'	102		P	80 - 120
DDT-p,p'	95.7		P	80 - 120
Delta-BHC	94.9		P	80 - 120
Deltamethrin	90.4		P	80 - 120
Dichlobenil	102		P	80 - 120
Dicofol	94.3		P	80 - 120
Dieldrin	98.9		P	80 - 120
Endosulfan I	98.2		P	80 - 120
Endosulfan II	103		P	80 - 120
Endosulfan Sulfate	101		P	80 - 120
Endrin	101		P	80 - 120
Endrin Aldehyde	99.6		P	80 - 120
Endrin Ketone	99.7		P	80 - 120
Esfenvalerate	86.4		P	80 - 120
Ethalfuralin	105		P	80 - 120
Fenpropathrin	96.7		P	80 - 120
Gamma-BHC	100		P	80 - 120
Gamma-Chlordane	99.8		P	80 - 120
Heptachlor	101		P	80 - 120
Heptachlor Epoxide	101		P	80 - 120
Hexachlorobenzene	101		P	80 - 120
Kepone	78.0*		F	80 - 120
Lambda-Cyhalothrin	96.1		P	80 - 120
Methoprene	100		P	80 - 120

Quality Assurance Report Calibration Verification

Reference Method: EPA 8270E
Run ID: A125359
Included Lab Sample IDs: 2481939

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Methoxychlor	98.0		P	80 - 120
MGK-264	102		P	80 - 120
Mirex	101		P	80 - 120
Oxychlordane	100		P	80 - 120
Permethrin	98.5		P	80 - 120
Phenothrin	97.4		P	80 - 120
Piperonyl Butoxide	103		P	80 - 120
Prallethrin	103		P	80 - 120
Tau-Fluvalinate	96.8		P	80 - 120
Tetramethrin	99.5		P	80 - 120
Trans-Nonachlor	99.8		P	80 - 120
Triclosan Methyl	102		P	80 - 120
Trifluralin	101		P	80 - 120

Reference Method: EPA 200.8 Rev. 5.4
Run ID: A125381
Included Lab Sample IDs: 2481972, 2481973

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Aluminum	98.8	99.8	P/P	90 - 110
Aluminum	99.1	98.8	P/P	90 - 110
Antimony	100	101	P/P	90 - 110
Antimony	98.8	100	P/P	90 - 110
Arsenic	95.5	97.4	P/P	90 - 110
Arsenic	95.6	95.5	P/P	90 - 110
Barium	96.7	98.1	P/P	90 - 110
Barium	98.1	101	P/P	90 - 110
Beryllium	94.2	96.5	P/P	90 - 110
Beryllium	96.0	94.2	P/P	90 - 110
Boron	98.0	96.4	P/P	90 - 110
Boron	99.1	98.0	P/P	90 - 110
Cadmium	96.9	98.5	P/P	90 - 110
Cadmium	98.5	100	P/P	90 - 110
Chromium	94.0	95.6	P/P	90 - 110
Chromium	94.8	94.0	P/P	90 - 110
Cobalt	90.8	92.3	P/P	90 - 110
Cobalt	91.7	90.8	P/P	90 - 110
Copper	92.3	93.9	P/P	90 - 110
Copper	92.8	92.3	P/P	90 - 110
Lead	95.7	96.6	P/P	90 - 110
Lead	96.6	97.7	P/P	90 - 110
Manganese	101	101	P/P	90 - 110
Manganese	98.9	101	P/P	90 - 110
Molybdenum	94.4	95.1	P/P	90 - 110
Molybdenum	95.1	97.1	P/P	90 - 110
Nickel	90.5	92.1	P/P	90 - 110
Nickel	92.2	90.5	P/P	90 - 110
Selenium	96.3	97.3	P/P	90 - 110
Selenium	97.3	99.5	P/P	90 - 110
Silver	94.7	95.3	P/P	90 - 110
Silver	95.3	96.5	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A125381

Included Lab Sample IDs: 2481972, 2481973

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Thallium	95.9	96.1	P/P	90 - 110
Thallium	96.1	96.1	P/P	90 - 110

Reference Method: EPA 8321B

Run ID: A125390

Included Lab Sample IDs: 2481964

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	104	116	P/P	50 - 150
2,4,5-T	96.3	96.5	P/P	50 - 150
Acetaminophen	100	97.9	P/P	60 - 160
Acetamiprid	113	117	P/P	50 - 150
Afidopyropen	111	102	P/P	50 - 150
Bentazon	113	113	P/P	50 - 160
Benzovindiflupyr	110	113	P/P	50 - 150
Carbamazepine	114	109	P/P	60 - 150
Clothianidin	110	101	P/P	60 - 150
Dinotefuran	120	122	P/P	50 - 150
Diuron	116	107	P/P	60 - 160
Fenuron	107	110	P/P	60 - 150
Fluridone	116	117	P/P	60 - 160
Hydrocodone	113	114	P/P	60 - 150
Ibuprofen	94.6	81.8	P/P	50 - 160
Imazapyr	101	95.3	P/P	50 - 150
Imidacloprid	109	110	P/P	60 - 150
Linuron	100	114	P/P	60 - 150
Mandestrobin	114	111	P/P	50 - 150
MCPP	99.2	102	P/P	50 - 150
Naproxen	93.6	114	P/P	50 - 160
Primidone	93.8	94.9	P/P	60 - 150
Pyraclostrobin	110	111	P/P	60 - 150
Silvex	106	103	P/P	50 - 150
Thiamethoxam	115	116	P/P	50 - 150
Tolfenpyrad	109	109	P/P	60 - 150
Triclopyr	99.1	92.4	P/P	50 - 150

Reference Method: EPA 8270E

Run ID: A125409

Included Lab Sample IDs: 2481939

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
PCB-1016	101		P	80 - 120
PCB-1260	100		P	80 - 120

Reference Method: EPA 8321B

Run ID: A125447

Included Lab Sample IDs: 2481964

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acesulfame K	136	125	P/P	60 - 160
Sucralose	103	95.1	P/P	60 - 160

Quality Assurance Report
Calibration Verification

Reference Method: EPA 8321B
Run ID: A125452
Included Lab Sample IDs: 2481964

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
AMPA	89.8	83.9	P/P	60 - 160
Endothall	109	98.9	P/P	60 - 160
Glufosinate	102	103	P/P	60 - 160
Glyphosate	103	103	P/P	60 - 160

Reference Method: EPA 8276
Run ID: A125539
Included Lab Sample IDs: 2481939

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chlordane	98.5		P	80 - 120
Toxaphene	102		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	102	100	95.8			1.80
	Iron	110	108	105	106		1.77
	Magnesium	113	110	109	101		0.770
	Potassium	104	100	100	100		0.109
	Sodium	96.0	94.4	93.2			1.75
	Strontium	96.9	94.4	92.9	89.8		1.59
	Tin	103	101	102	101		1.10
	Titanium	106	99.7	100	105		0.355
	Vanadium	98.8	98.6	99.6	97.6		1.06
	Zinc	94.3	93.1	93.5	89.4		0.380
EPA 200.8 Rev. 5.4	Aluminum	99.9	93.3	95.8	98.3		1.77
	Antimony	103	99.7	100	103		0.818
	Arsenic	97.7	95.9	95.5	96.7		0.460
	Barium	102	98.9	100	102		0.798
	Beryllium	94.6	95.7	94.8	96.6		0.803
	Boron	102	104	104	103		0.281
	Cadmium	99.5	98.3	99.5	101		1.20
	Chromium	98.0	96.7	96.8	95.5		0.160
	Cobalt	94.1	93.2	92.9	89.8		0.349
	Copper	95.9	93.8	93.6	91.0		0.267
	Lead	98.6	98.1	97.9	97.2		0.219
	Manganese	105	103	100	106		0.984
	Molybdenum	98.0	97.2	98.1	97.9		0.989
	Nickel	93.5	92.1	92.0	87.9		0.114
	Selenium	101	96.6	93.9	97.3		2.83
	Silver	112	109	108	110		0.760
	Thallium	97.5	97.0	97.5	97.2		0.517
	Aldrin	59.6	54.5	62.5			13.7
	Alpha-BHC	82.4	74.7	90.5			19.2
	Alpha-Chlordane	80.6	70.8	91.1			25.1
	Beta-BHC	101	94.3	120			24.1
EPA 8270E	Beta-Cyfluthrin	75.2	75.5	88.3			15.6
	Bifenthrin	66.2	64.4	73.8			13.6
	Chlorothalonil	98.5	101	114			11.5
	Cis-Nonachlor	65.0	57.7	69.8			19.0
	Cypermethrin	72.9	72.0	83.3			14.7
	Dacthal	89.1	79.2	97.9			21.1
	DDD-p,p'	66.8	59.8	72.2			18.9
	DDE-p,p'	75.8	67.9	82.4			19.4
	DDT-p,p'	64.6	62.7	70.6			11.9
	Delta-BHC	108	98.0	123			23.1
	Deltamethrin	81.2	84.2	99.7			16.9
	Dichlobenil	58.8	57.8	62.9			8.47
	Dicofol	60.9	58.1	71.1			20.2
	Dieldrin	85.7	73.1	93.3			24.3
	Endosulfan I	77.4	67.9	82.7			19.7
	Endosulfan II	73.1	65.7	81.8			21.8
	Endosulfan Sulfate	84.9	79.8	96.1			18.6
	Endrin	80.9	70.2	86.5			20.7
	Endrin Aldehyde	63.6	54.6	77.1			34.1
	Endrin Ketone	76.6	75.2	91.1			19.1
	Esfenvalerate	83.8	84.0	97.3			14.6
	Ethalfuralin	62.5	56.0	68.5			20.0
	Fenpropathrin	69.6	65.7	77.3			16.3

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery		MS % Recovery		Precision	
						LCS	SMP
							MS
EPA 8270E	Gamma-BHC	82.5		75.6	89.6		17.0
	Gamma-Chlordane	79.3		69.3	87.3		23.1
	Heptachlor	65.9		59.0	68.8		15.3
	Heptachlor Epoxide	77.5		68.0	82.6		19.3
	Hexachlorobenzene	63.2		58.8	69.5		16.7
	Kepone	116					15.9
	Lambda-Cyhalothrin	83.3		80.2	95.2		17.1
	Methoprene	70.7		63.5	76.2		18.2
	Methoxychlor	73.2		69.0	84.2		19.8
	MGK-264	72.4		67.6	83.6		21.3
	Mirex	67.4		63.5	72.4		13.1
	Oxychlordane	60.9		57.0	73.5		25.3
	PCB-1016	81.2		84.6	80.2		5.37
	PCB-1260	78.7		71.0	70.6		0.496
	Permethrin	72.1		69.2	80.5		15.1
	Phenothrin	63.2		63.3	75.0		17.0
	Piperonyl Butoxide	122		101	135		29.0
	Prallethrin	72.6		63.7	75.8		17.4
	Tau-Fluvalinate	71.7		73.9	84.5		13.4
	Tetramethrin	77.3		72.3	89.6		21.3
	Trans-Nonachlor	72.6		65.0	78.4		18.8
	Triclosan Methyl	82.2		74.2	92.0		21.4
	Trifluralin	70.6		63.6	76.4		18.2
EPA 8276	Chlordane	85.0		67.4	69.5		3.16
	Toxaphene	91.0		60.8	68.3		11.6
EPA 8321B	2,4-D	147		157	154		1.77
	2,4,5-T	118		104	102		1.73
	Acesulfame K	106		137	146		6.62
	Acetaminophen	77.6		97.0	90.9		6.50
	Acetamiprid	100		92.4	82.6		11.2
	Afidopyropen	74.2		78.5	59.8		26.9
	AMPA	109		87.2	89.5		1.95
	Bentazon	106		103	70.2		1.23
	Benzovindiflupyr	89.3		85.8	86.6		0.966
	Carbamazepine	78.7		58.8	57.7		1.85
	Clothianidin	97.1		103	100		2.70
	Dinotefuran	113		114	109		4.64
	Diuron	70.7		51.4	50.9		0.874
	Endothall	93.6		121	130		6.54
	Fenuron	101		79.9	79.4		0.656
	Fluridone	95.1					3.11
	Glufosinate	94.2		96.4	110		13.5
	Glyphosate	95.0		142	160		7.46
	Hydrocodone	98.8		89.5	87.0		2.82
	Ibuprofen	81.1		81.9	85.5		4.26
	Imazapyr	101					2.02
	Imidacloprid	96.8		128	122		3.98
	Linuron	70.1		63.6	68.7		7.64
	Mandestrobin	94.4		87.3	84.1		3.72
	MCPP	135		129	133		2.93
	Naproxen	76.7		70.3	86.2		20.3
	Primidone	86.2		109	106		2.58
	Pyraclostrobin	82.4		89.8	88.1		1.98
	Silvex	107		107	96.4		10.8

Quality Assurance Report
Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery		LCS	Precision	MS
						SMP	
EPA 8321B	Sucralose	95.2	103	103			0.0731
	Thiamethoxam	95.5	95.5	91.1			4.64
	Tolfenpyrad	60.0	66.9	73.3			9.16
	Triclopyr	113	97.7	110			11.5

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	2481972, 2481973
EPA 200.8 Rev. 5.4	Total Recoverable Metals analysis using ICP-MS for aqueous samples supporting Clean Water Act Projects	2481972, 2481973
EPA 8270E	Organochlorine pesticides, pyrethroids and tracers in water matrices by GC/MS/MS	2481939
EPA 8270E	PCBs in water matrices by GC/MS/MS	2481939
EPA 8276	Chlordane and Toxaphene in water matrices by GC/MS with Negative Chemical Ionization	2481939
EPA 8321B	Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS	2481964
SM 2340 B-2011	Hardness by calculation, in aqueous matrices, reported as mg/L CaCO3	2481972, 2481973

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	04/12/2024	04/15/2024 12:20	George D Taylor	04/16/2024 19:13	Conrad Hartmann	2481972
	04/12/2024	04/15/2024 12:20	George D Taylor	04/16/2024 19:20	Conrad Hartmann	2481973
EPA 200.8 Rev. 5.4	04/12/2024	04/15/2024 12:20	George D Taylor	04/17/2024 17:20	Emily M Philpot	2481972
	04/12/2024	04/15/2024 12:20	George D Taylor	04/17/2024 18:13	Emily M Philpot	2481973
EPA 8270E	04/12/2024	04/15/2024 08:00	Fe-Val Siddell	04/17/2024 01:52	Kenedi Mills	2481939
	04/12/2024	04/15/2024 08:00	Fe-Val Siddell	04/18/2024 04:51	Lipi Saha	2481939
EPA 8276	04/12/2024	04/15/2024 08:00	Fe-Val Siddell	04/23/2024 18:00	Arthur Maknenko	2481939
EPA 8321B	04/12/2024	04/15/2024 13:00	Samatha Luckman	04/15/2024 20:50	Samatha Luckman	2481964
	04/12/2024	04/15/2024 13:00	Samatha Luckman	04/16/2024 04:37	Samatha Luckman	2481964
SM 2340 B-2011	04/12/2024	04/17/2024 09:00	Hoor Shaik	04/18/2024 01:17	Juyoung Kim	2481964
	04/12/2024			04/16/2024 19:13	Conrad Hartmann	2481972
	04/12/2024			04/16/2024 19:20	Conrad Hartmann	2481973