

Chemical Analysis Report

SE-DIST-2024-02-16-02

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

Event Description: **SMP - Okee**
Request ID: **RQ-2024-02-05-23**
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

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Certified by: Colin Wright, Program Administrator

Date Certified: 11-MAR-2024 12:13

A handwritten signature in black ink, appearing to read "Colin Wright", is displayed on a light gray rectangular background.

Case Narrative

Unless otherwise noted, all samples included in this report were received in accordance with protocols referenced in Chapter 62-160, Florida Administrative Code (F.A.C.). Results published in this report pertain only to the samples as submitted to, and received by the laboratory. All times in this report are adjusted to the applicable Eastern Time Zone (EST or EDT).

Results for the following analytical 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: 02/15/2024 09:00

Field ID: G1SE0030

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2469577	EPA 200.7 Rev. 4.4	Calcium	46.3		mg/L	P441649	
		Iron	1.00E+03		ug/L	P441649	
		Magnesium	22.8		mg/L	P441649	
		Potassium	9.1		mg/L	P441649	
		Sodium	173		mg/L	P441649	
		Strontium	2.94E+03		ug/L	P441649	
		Tin	3.0	U	ug/L	P441649	
		Titanium	1.0	I	ug/L	P441649	
		Vanadium	2.5	I	ug/L	P441649	
		Zinc	9.8	I	ug/L	P441649	
	EPA 200.8 Rev. 5.4	Aluminum	243		ug/L	P441649	
		Antimony	0.062	I	ug/L	P441649	
		Arsenic	1.22		ug/L	P441649	
		Barium	34.1		ug/L	P441649	
		Beryllium	0.027	I	ug/L	P441649	
		Boron	98.9		ug/L	P441649	
		Cadmium	0.020	U	ug/L	P441649	
		Chromium	2.2		ug/L	P441649	
		Cobalt	0.226		ug/L	P441649	
		Copper	0.40	U	ug/L	P441649	
	SM 2340 B-2011	Lead	0.26	I	ug/L	P441649	
		Manganese	14.6		ug/L	P441649	
		Molybdenum	0.20	I	ug/L	P441649	
		Nickel	0.55	I	ug/L	P441649	
		Selenium	0.26	I	ug/L	P441649	
		Silver	0.010	U	ug/L	P441649	
		Thallium	0.10	U	ug/L	P441649	
		Hardness	209		mg/L	P441649	

Sample Location: TAYLOR CREEK AT 98

Collection Date/Time: 02/15/2024 09:55

Field ID: G1SE0025

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2469570	EPA 8270E	Aldrin	0.66	U	ng/L	P441759	
		Alpha-BHC	0.10	U	ng/L	P441759	
		Alpha-Chlordane	0.20	U	ng/L	P441759	
		PCB-1016	2.0	U	ng/L	P441759	
		Beta-BHC	0.10	U	ng/L	P441759	
		PCB-1221	2.0	U	ng/L	P441759	
		Beta-Cyfluthrin	1.3	U	ng/L	P441759	
		PCB-1232	2.0	U	ng/L	P441759	
		Bifenthrin	0.51	U	ng/L	P441759	MS
		PCB-1242	2.0	U	ng/L	P441759	
		PCB-1248	2.0	U	ng/L	P441759	
		Chlorothalonil	3.7	U	ng/L	P441759	
		PCB-1254	2.0	U	ng/L	P441759	
		Cis-Nonachlor	0.20	U	ng/L	P441759	
		PCB-1260	2.0	U	ng/L	P441759	
		Cypermethrin	1.5	U	ng/L	P441759	
		Dacthal	0.15	U	ng/L	P441759	
		DDD-p,p'	0.36	I	ng/L	P441759	
		DDE-p,p'	0.20	U	ng/L	P441759	
		DDT-p,p'	2.2	I	ng/L	P441759	
		Delta-BHC	0.41	U	ng/L	P441759	
		Deltamethrin	1.3	U	ng/L	P441759	
		Dichlobenil	0.26	U	ng/L	P441759	
		Dicofol	1.3	U	ng/L	P441759	
		Dieldrin	0.41	U	ng/L	P441759	
		Endosulfan I	0.41	U	ng/L	P441759	
		Endosulfan II	0.92	U	ng/L	P441759	
		Endosulfan Sulfate	0.31	U	ng/L	P441759	
		Endrin	0.92	U	ng/L	P441759	
		Endrin Aldehyde	0.77	U	ng/L	P441759	
		Endrin Ketone	0.41	U	ng/L	P441759	
		Esfenvalerate	0.77	U	ng/L	P441759	
		Ethalfuralin	0.15	U	ng/L	P441759	
		Fenpropathrin	0.26	U	ng/L	P441759	
		Gamma-BHC	0.13	U	ng/L	P441759	
		Gamma-Chlordane	0.20	U	ng/L	P441759	
		Heptachlor	0.20	U	ng/L	P441759	MS
		Heptachlor Epoxide	0.26	U	ng/L	P441759	
		Hexachlorobenzene**	1.0	U	ng/L	P441759	
		Kepone	14	U	ng/L	P441759	
		Lambda-Cyhalothrin	0.77	U	ng/L	P441759	
		Methoprene	0.77	U	ng/L	P441759	
		Methoxychlor	0.31	U	ng/L	P441759	
		MGK-264	0.20	U	ng/L	P441759	

Field ID: G1SE0025

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2469570	EPA 8270E	Mirex	0.36	U	ng/L	P441759	
		Oxychlordane	0.31	U	ng/L	P441759	MS
		Permethrin	1.6	U	ng/L	P441759	
		Phenothrin	0.92	U	ng/L	P441759	MS
		Piperonyl Butoxide	0.15	U	ng/L	P441759	
		Prallethrin	2.0	U	ng/L	P441759	
		Tau-Fluvalinate	0.26	U	ng/L	P441759	
		Tetramethrin	0.77	U	ng/L	P441759	
		Trans-Nonachlor	0.20	U	ng/L	P441759	
		Triclosan Methyl	0.15	U	ng/L	P441759	
		Trifluralin	0.20	U	ng/L	P441759	
	EPA 8276	Chlordane	2.0	U	ng/L	P441759	
		Toxaphene	15	U	ng/L	P441759	

**Sample Location: NUBBIN SLOUGH 14 MILES UPSTREAM OF
710**

Collection Date/Time: 02/15/2024 10:25

Field ID: G1SE0031

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2469574	EPA 8321B	2,4-D	0.0020	U	ug/L	P441664	
		Acesulfame K	0.10	U	ug/L	P441572	
		2,4,5-T	0.0040	U	ug/L	P441664	
		AMPA	0.10	U	ug/L	P441572	
		Acetaminophen	0.0080	U	ug/L	P441664	
		Acetamiprid	0.0020	U	ug/L	P441664	
		Endothall	0.25	U	ug/L	P441572	
		Glufosinate	0.10	U	ug/L	P441572	
		Glyphosate	0.17	I	ug/L	P441572	
		Afidopyropen	0.0020	U	ug/L	P441664	
		Bentazon	8.0E-04	U	ug/L	P441664	
		Sucralose	0.038	I	ug/L	P441572	
		Benzovindiflupyr	0.0020	U	ug/L	P441664	
		Carbamazepine	8.0E-04	U	ug/L	P441664	
		Clothianidin	0.0020	U	ug/L	P441664	
		Dinotefuran	0.0020	U	ug/L	P441664	
		Diuron	0.0020	U	ug/L	P441664	
		Fenuron	0.032	U	ug/L	P441664	
		Fluridone	8.0E-04	U	ug/L	P441664	
		Imazapyr	0.019		ug/L	P441664	
		Hydrocodone	0.0020	U	ug/L	P441664	
		Ibuprofen	0.080	U	ug/L	P441664	
		Imidacloprid	0.0020	U	ug/L	P441664	
		Linuron	0.0040	U	ug/L	P441664	
		Mandestrobin	0.0020	U	ug/L	P441664	
		MCPP	0.0020	U	ug/L	P441664	
		Naproxen	0.0080	U	ug/L	P441664	
		Primidone	0.0040	U	ug/L	P441664	
		Pyraclostrobin	0.0020	U	ug/L	P441664	
		Silvex	0.0040	U	ug/L	P441664	
		Thiamethoxam	0.0020	U	ug/L	P441664	
		Tolfenpyrad	0.0020	U	ug/L	P441664	
		Triclopyr	0.0040	U	ug/L	P441664	

Sample Location: FB

Collection Date/Time: 02/15/2024 10:30

Field ID: FB_02152024

Matrix: W-FIELD-BK

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2469575	EPA 8321B	2,4-D	0.0020	U	ug/L	P441664	
		Acesulfame K	0.10	U	ug/L	P441572	
		2,4,5-T	0.0040	U	ug/L	P441664	
		AMPA	0.10	U	ug/L	P441572	
		Acetaminophen	0.0080	U	ug/L	P441664	
		Acetamiprid	0.0020	U	ug/L	P441664	
		Endothall	0.25	U	ug/L	P441572	
		Glufosinate	0.10	U	ug/L	P441572	
		Glyphosate	0.10	U	ug/L	P441572	
		Afidopyropen	0.0020	U	ug/L	P441664	
		Bentazon	8.0E-04	U	ug/L	P441664	
		Sucralose	0.010	U	ug/L	P441572	
		Benzovindiflupyr	0.0020	U	ug/L	P441664	
		Carbamazepine	8.0E-04	U	ug/L	P441664	
		Clothianidin	0.0020	U	ug/L	P441664	
		Dinotefuran	0.0020	U	ug/L	P441664	
		Diuron	0.0020	U	ug/L	P441664	
		Fenuron	0.032	U	ug/L	P441664	
		Fluridone	8.0E-04	U	ug/L	P441664	
		Imazapyr	0.0040	U	ug/L	P441664	
		Hydrocodone	0.0020	U	ug/L	P441664	
		Ibuprofen	0.080	U	ug/L	P441664	
		Imidacloprid	0.0020	U	ug/L	P441664	
		Linuron	0.0040	U	ug/L	P441664	
		Mandestrobin	0.0020	U	ug/L	P441664	
		MCPP	0.0020	U	ug/L	P441664	
		Naproxen	0.0080	U	ug/L	P441664	
		Primidone	0.0040	U	ug/L	P441664	
		Pyraclostrobin	0.0020	U	ug/L	P441664	
		Silvex	0.0040	U	ug/L	P441664	
		Thiamethoxam	0.0020	U	ug/L	P441664	
		Tolfenpyrad	0.0020	U	ug/L	P441664	
		Triclopyr	0.0040	U	ug/L	P441664	

Sample Location: NUBBIN SLOUGH UPSTREAM OF STA

Collection Date/Time: 02/15/2024 10:45

Field ID: G1SE0004

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2469576	EPA 200.7 Rev. 4.4	Calcium	18.6		mg/L	P441649	
		Iron	1.44E+03		ug/L	P441649	
		Magnesium	4.82		mg/L	P441649	
		Potassium	16.9		mg/L	P441649	
		Sodium	26.9		mg/L	P441649	
		Strontium	140		ug/L	P441649	
		Tin	3.0	U	ug/L	P441649	
		Titanium	1.5	I	ug/L	P441649	
		Vanadium	2.4	I	ug/L	P441649	
		Zinc	8.9	I	ug/L	P441649	
	EPA 200.8 Rev. 5.4	Aluminum	330		ug/L	P441649	
		Antimony	0.050	U	ug/L	P441649	
		Arsenic	1.03		ug/L	P441649	
		Barium	17.1		ug/L	P441649	
		Beryllium	0.024	I	ug/L	P441649	
		Boron	33.4		ug/L	P441649	
		Cadmium	0.020	U	ug/L	P441649	
		Chromium	2.0		ug/L	P441649	
		Cobalt	0.283		ug/L	P441649	
		Copper	0.40	U	ug/L	P441649	
		Lead	0.20	U	ug/L	P441649	
		Manganese	18.3		ug/L	P441649	
		Molybdenum	0.34	I	ug/L	P441649	
		Nickel	0.50	I	ug/L	P441649	
		Selenium	0.27	I	ug/L	P441649	
		Silver	0.010	U	ug/L	P441649	
		Thallium	0.10	U	ug/L	P441649	
	SM 2340 B-2011	Hardness	66.2		mg/L	P441649	

Quality Assurance Report Method Blank Results

Reference Method: EPA 200.7 Rev. 4.4

Batch ID: P441649

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: P441649

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: P441759

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: P441759

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: P441759

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

Reference Method: EPA 8321B
Batch ID: P441572

Component	Result	Code	Units
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Quality Assurance Report

Method Blank Results

Reference Method: EPA 8321B

Batch ID: P441572

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: P441664

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: P441649

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Calcium	107		P	85 - 115
Iron	113		P	85 - 115
Magnesium	113		P	85 - 115
Potassium	105		P	85 - 115
Sodium	106		P	85 - 115
Strontium	103		P	85 - 115
Tin	99.1		P	85 - 115
Titanium	102		P	85 - 115
Vanadium	101		P	85 - 115
Zinc	102		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P441649

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Aluminum	97.5		P	85 - 115
Antimony	99.9		P	85 - 115
Arsenic	98.4		P	85 - 115
Barium	101		P	85 - 115
Beryllium	93.6		P	85 - 115
Boron	97.0		P	85 - 115
Cadmium	99.4		P	85 - 115
Chromium	102		P	85 - 115
Cobalt	97.9		P	85 - 115
Copper	95.9		P	85 - 115
Lead	92.7		P	85 - 115
Manganese	97.9		P	85 - 115
Molybdenum	97.4		P	85 - 115
Nickel	97.6		P	85 - 115
Selenium	99.0		P	85 - 115
Silver	96.3		P	85 - 115
Thallium	95.8		P	85 - 115

Reference Method: EPA 8270E
Batch ID: P441759

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Aldrin	49.1		P	30 - 96.0
Alpha-BHC	88.9		P	70 - 109
Alpha-Chlordane	79.6		P	45 - 107
Beta-BHC	84.9		P	64 - 138
Beta-Cyfluthrin	65.4		P	17 - 141
Bifenthrin	52.9		P	10 - 113
Chlorothalonil	64.5		P	26 - 180
Cis-Nonachlor	72.0		P	37 - 102
Cypermethrin	60.0		P	20 - 133
Dacthal	95.8		P	69 - 114
DDD-p,p'	59.8		P	42 - 105
DDE-p,p'	60.1		P	42 - 106
DDT-p,p'	77.3		P	42 - 107
Delta-BHC	90.2		P	67 - 144
Deltamethrin	83.0		P	15 - 149

Quality Assurance Report
Laboratory Control Sample Accuracy

Reference Method: EPA 8270E
Batch ID: P441759

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Dichlobenil	81.5		P	46 - 117
Dicofol	70.3		P	34 - 114
Dieldrin	61.0		P	50 - 108
Endosulfan I	64.3		P	55 - 104
Endosulfan II	65.1		P	51 - 111
Endosulfan Sulfate	88.5		P	56 - 121
Endrin	69.8		P	10 - 106
Endrin Aldehyde	70.9		P	34 - 114
Endrin Ketone	74.2		P	63 - 177
Esfenvalerate	71.4		P	29 - 143
Ethalfuralin	71.3		P	46 - 96.0
Fenpropathrin	78.3		P	28 - 115
Gamma-BHC	94.7		P	65 - 121
Gamma-Chlordane	77.5		P	39 - 103
Heptachlor	68.3		P	39 - 94.0
Heptachlor Epoxide	95.0		P	54 - 104
Hexachlorobenzene	65.1		P	36 - 100
Kepone	70.9		P	10 - 225
Lambda-Cyhalothrin	27.3		P	10 - 135
Methoprene	42.3		P	10 - 109
Methoxychlor	77.8		P	52 - 112
MGK-264	83.1		P	44 - 117
Mirex	54.7		P	20 - 90.0
Oxychlordane	79.2		P	44 - 102
PCB-1016	72.7		P	45 - 107
PCB-1260	87.4		P	40 - 112
Permethrin	66.3		P	18 - 135
Phenothrin	41.2		P	10 - 102
Piperonyl Butoxide	86.4		P	28 - 156
Prallethrin	56.7		P	28 - 113
Tau-Fluvalinate	53.5		P	10 - 123
Tetramethrin	82.7		P	18 - 158
Trans-Nonachlor	74.3		P	39 - 104
Triclosan Methyl	89.4		P	54 - 108
Trifluralin	72.2		P	46 - 97.0

Reference Method: EPA 8276
Batch ID: P441759

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Chlordane	72.3		P	52 - 117
Toxaphene	70.5		P	44 - 125

Reference Method: EPA 8321B
Batch ID: P441572

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acesulfame K	124		P	40 - 150
AMPA	103		P	40 - 160
Endothall	87.1		P	40 - 160
Glufosinate	90.3		P	40 - 160
Glyphosate	99.3		P	40 - 160

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: EPA 8321B
Batch ID: P441572

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Sucralose	98.4		P	40 - 150

Reference Method: EPA 8321B
Batch ID: P441664

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	111		P	40 - 150
2,4,5-T	98.6		P	40 - 150
Acetaminophen	81.5		P	30 - 150
Acetamiprid	73.9		P	40 - 150
Afidopyropen	58.5		P	30 - 150
Bentazon	103		P	30 - 150
Benzovindiflupyr	82.2		P	40 - 150
Carbamazepine	84.4		P	40 - 150
Clothianidin	88.0		P	40 - 150
Dinotefuran	97.3		P	40 - 150
Diuron	88.5		P	40 - 150
Fenuron	91.1		P	40 - 150
Fluridone	92.9		P	40 - 150
Hydrocodone	88.2		P	40 - 150
Ibuprofen	63.5		P	40 - 150
Imazapyr	101		P	40 - 150
Imidacloprid	87.7		P	40 - 150
Linuron	84.9		P	40 - 150
Mandestrobin	75.9		P	40 - 150
MCPP	90.2		P	40 - 150
Naproxen	101		P	40 - 150
Primidone	82.9		P	40 - 150
Pyraclostrobin	82.4		P	40 - 150
Silvex	100		P	40 - 150
Thiamethoxam	86.7		P	40 - 150
Tolfenpyrad	51.2		P	30 - 150
Triclopyr	103		P	40 - 150

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P441649

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2469594	Calcium	102		P	80 - 120
2469594	Iron	111	110	P/P	80 - 120
2469594	Magnesium	109	108	P/P	80 - 120
2469594	Potassium	103	101	P/P	80 - 120
2469594	Sodium	104		P	80 - 120
2469594	Strontium	100	101	P/P	80 - 120
2469594	Tin	94.4	94.2	P/P	80 - 120
2469594	Titanium	98.0	99.1	P/P	80 - 120
2469594	Vanadium	100	99.4	P/P	80 - 120
2469594	Zinc	99.6	100	P/P	80 - 120
2469641	Calcium	99.8		P	80 - 120
2469641	Iron	110		P	80 - 120
2469641	Magnesium	103		P	80 - 120
2469641	Potassium	102		P	80 - 120
2469641	Sodium	102		P	80 - 120
2469641	Strontium	99.3		P	80 - 120
2469641	Tin	95.2		P	80 - 120
2469641	Titanium	97.9		P	80 - 120
2469641	Vanadium	99.3		P	80 - 120
2469641	Zinc	97.0		P	80 - 120

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P441649

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2469594	Aluminum	94.5	94.8	P/P	80 - 120
2469594	Antimony	99.3	99.2	P/P	80 - 120
2469594	Arsenic	97.1	96.9	P/P	80 - 120
2469594	Barium	99.0	98.3	P/P	80 - 120
2469594	Beryllium	96.7	95.3	P/P	80 - 120
2469594	Boron	96.7	99.0	P/P	80 - 120
2469594	Cadmium	98.2	97.2	P/P	80 - 120
2469594	Chromium	101	99.8	P/P	80 - 120
2469594	Cobalt	97.1	95.7	P/P	80 - 120
2469594	Copper	94.3	93.2	P/P	80 - 120
2469594	Lead	93.1	92.3	P/P	80 - 120
2469594	Manganese	94.9	94.0	P/P	80 - 120
2469594	Molybdenum	98.1	97.3	P/P	80 - 120
2469594	Nickel	96.9	95.6	P/P	80 - 120
2469594	Selenium	97.6	97.8	P/P	80 - 120
2469594	Silver	91.9	92.1	P/P	80 - 120
2469594	Thallium	97.9	97.3	P/P	80 - 120
2469641	Aluminum	97.0		P	80 - 120
2469641	Antimony	99.6		P	80 - 120
2469641	Arsenic	96.9		P	80 - 120
2469641	Barium	97.9		P	80 - 120
2469641	Beryllium	89.7		P	80 - 120
2469641	Boron	98.0		P	80 - 120
2469641	Cadmium	94.9		P	80 - 120
2469641	Chromium	103		P	80 - 120
2469641	Cobalt	96.5		P	80 - 120
2469641	Copper	94.1		P	80 - 120

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P441649

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2469641	Lead	91.3		P	80 - 120
2469641	Manganese	90.5		P	80 - 120
2469641	Molybdenum	96.3		P	80 - 120
2469641	Nickel	96.3		P	80 - 120
2469641	Selenium	99.5		P	80 - 120
2469641	Silver	90.6		P	80 - 120
2469641	Thallium	96.6		P	80 - 120

Reference Method: EPA 8270E
Batch ID: P441759

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2469168	Aldrin	71.5	73.9	P/P	24 - 81.0
2469168	Alpha-BHC	92.6	89.3	P/P	65 - 110
2469168	Alpha-Chlordane	101	110	P/P	43 - 119
2469168	Beta-BHC	93.3	91.2	P/P	54 - 165
2469168	Beta-Cyfluthrin	93.4	106	P/P	27 - 165
2469168	Bifenthrin	118	116	F/P	17 - 117
2469168	Chlorothalonil	139	112	P/P	10 - 255
2469168	Cis-Nonachlor	97.8	83.8	P/P	34 - 98.0
2469168	Cypermethrin	80.9	90.3	P/P	25 - 143
2469168	Dacthal	115	123	P/P	55 - 139
2469168	DDD-p,p'	70.4	73.1	P/P	30 - 109
2469168	DDE-p,p'	70.0	75.5	P/P	35 - 106
2469168	DDT-p,p'	79.3	83.1	P/P	41 - 101
2469168	Delta-BHC	114	118	P/P	58 - 165
2469168	Deltamethrin	143	96.4	P/P	10 - 194
2469168	Dichlobenil	55.8	63.8	P/P	22 - 114
2469168	Dicofol	80.2	82.3	P/P	17 - 133
2469168	Dieldrin	71.5	75.3	P/P	45 - 129
2469168	Endosulfan I	69.2	74.2	P/P	49 - 104
2469168	Endosulfan II	71.1	74.3	P/P	37 - 117
2469168	Endosulfan Sulfate	80.4	84.3	P/P	38 - 128
2469168	Endrin	73.2	80.7	P/P	35 - 116
2469168	Endrin Aldehyde	43.2	46.8	P/P	19 - 108
2469168	Endrin Ketone	72.3	82.5	P/P	44 - 134
2469168	Esfenvalerate	129	130	P/P	27 - 176
2469168	Ethalfuralin	76.8	82.8	P/P	49 - 100
2469168	Fenpropathrin	113	113	P/P	34 - 117
2469168	Gamma-BHC	104	95.1	P/P	59 - 129
2469168	Gamma-Chlordane	104	104	P/P	33 - 107
2469168	Heptachlor	97.2	82.1	F/P	37 - 94.0
2469168	Heptachlor Epoxide	103	116	P/P	38 - 118
2469168	Hexachlorobenzene	77.5	80.8	P/P	35 - 97.0
2469168	Kepone	65.1	77.9	P/P	10 - 221
2469168	Lambda-Cyhalothrin	51.2	57.0	P/P	23 - 190
2469168	Methoprene	79.6	81.7	P/P	21 - 109
2469168	Methoxychlor	91.2	94.7	P/P	46 - 118
2469168	MGK-264	102	106	P/P	39 - 122
2469168	Mirex	79.5	80.0	P/P	25 - 90.0
2469168	Oxychlordane	132	130	F/F	42 - 100
2469168	Permethrin	89.1	94.1	P/P	33 - 181

Quality Assurance Report

Matrix Spike Accuracy

Reference Method: EPA 8270E

Batch ID: P441759

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2469168	Phenothrin	114	125	P/F	12 - 125
2469168	Piperonyl Butoxide	79.9	84.8	P/P	10 - 178
2469168	Prallethrin	61.7	63.3	P/P	24 - 122
2469168	Tau-Fluvalinate	102	112	P/P	13 - 151
2469168	Tetramethrin	126	126	P/P	16 - 172
2469168	Trans-Nonachlor	78.3	84.6	P/P	39 - 100
2469168	Triclosan Methyl	104	110	P/P	43 - 110
2469168	Trifluralin	79.7	73.9	P/P	45 - 94.0
2469632	PCB-1016	82.1	76.8	P/P	45 - 107
2469632	PCB-1260	95.9	94.1	P/P	40 - 112

Reference Method: EPA 8276

Batch ID: P441759

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2469632	Chlordane	78.2	78.3	P/P	43 - 123
2469632	Toxaphene	72.1	83.1	P/P	27 - 156

Reference Method: EPA 8321B

Batch ID: P441572

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2469167	Acesulfame K	122	124	P/P	40 - 150
2469167	AMPA	101	103	P/P	40 - 160
2469167	Endothall	93.4	94.0	P/P	40 - 160
2469167	Glufosinate	88.5	88.6	P/P	40 - 160
2469167	Glyphosate	97.9	95.9	P/P	40 - 160
2469167	Sucralose	102	106	P/P	40 - 150

Reference Method: EPA 8321B

Batch ID: P441664

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2469574	2,4-D	71.9	73.9	P/P	40 - 150
2469574	2,4,5-T	75.2	74.6	P/P	40 - 150
2469574	Acetaminophen	62.4	73.0	P/P	30 - 150
2469574	Acetamiprid	43.8	50.3	P/P	40 - 150
2469574	Afidopyropen	56.1	57.8	P/P	30 - 150
2469574	Bentazon	51.7	51.6	P/P	30 - 150
2469574	Benzovindiflupyr	85.4	79.7	P/P	40 - 150
2469574	Carbamazepine	67.9	64.4	P/P	40 - 150
2469574	Clothianidin	61.2	61.3	P/P	40 - 150
2469574	Dinotefuran	53.4	61.5	P/P	40 - 150
2469574	Diuron	65.2	65.5	P/P	40 - 150
2469574	Fenuron	53.4	54.4	P/P	40 - 150
2469574	Fluridone	76.4	71.1	P/P	40 - 150
2469574	Hydrocodone	52.1	54.8	P/P	40 - 150
2469574	Ibuprofen	65.8	59.0	P/P	40 - 150
2469574	Imazapyr	95.5	87.2	P/P	40 - 150
2469574	Imidacloprid	67.1	68.1	P/P	40 - 150
2469574	Linuron	71.2	67.3	P/P	40 - 150
2469574	Mandestrobin	78.8	75.0	P/P	40 - 150

Quality Assurance Report
Matrix Spike Accuracy

Reference Method: EPA 8321B
Batch ID: P441664

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2469574	MCP	75.0	70.0	P/P	40 - 150
2469574	Naproxen	89.5	76.3	P/P	40 - 150
2469574	Primidone	72.5	75.2	P/P	40 - 150
2469574	Pyraclostrobin	82.5	78.4	P/P	40 - 150
2469574	Silvex	79.0	77.2	P/P	40 - 150
2469574	Thiamethoxam	53.3	55.4	P/P	40 - 150
2469574	Tolfenpyrad	46.4	51.1	P/P	30 - 150
2469574	Triclopyr	75.0	74.2	P/P	40 - 150

Quality Assurance Report Precision

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P441649

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2469594	Calcium	0.150	Spike	P	0 - 20
2469594	Iron	0.329	Spike	P	0 - 20
2469594	Magnesium	0.607	Spike	P	0 - 20
2469594	Potassium	0.968	Spike	P	0 - 20
2469594	Sodium	0.113	Spike	P	0 - 20
2469594	Strontium	0.539	Spike	P	0 - 20
2469594	Tin	0.191	Spike	P	0 - 20
2469594	Titanium	1.05	Spike	P	0 - 20
2469594	Vanadium	0.612	Spike	P	0 - 20
2469594	Zinc	0.803	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P441649

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2469594	Aluminum	0.347	Spike	P	0 - 20
2469594	Antimony	0.0518	Spike	P	0 - 20
2469594	Arsenic	0.156	Spike	P	0 - 20
2469594	Barium	0.607	Spike	P	0 - 20
2469594	Beryllium	1.46	Spike	P	0 - 20
2469594	Boron	1.92	Spike	P	0 - 20
2469594	Cadmium	0.980	Spike	P	0 - 20
2469594	Chromium	1.10	Spike	P	0 - 20
2469594	Cobalt	1.44	Spike	P	0 - 20
2469594	Copper	1.18	Spike	P	0 - 20
2469594	Lead	0.910	Spike	P	0 - 20
2469594	Manganese	0.824	Spike	P	0 - 20
2469594	Molybdenum	0.779	Spike	P	0 - 20
2469594	Nickel	1.31	Spike	P	0 - 20
2469594	Selenium	0.183	Spike	P	0 - 20
2469594	Silver	0.147	Spike	P	0 - 20
2469594	Thallium	0.644	Spike	P	0 - 20

Reference Method: EPA 8270E
Batch ID: P441759

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2469168	Aldrin	3.29	Spike	P	0 - 41
2469168	Alpha-BHC	3.58	Spike	P	0 - 25
2469168	Alpha-Chlordane	8.15	Spike	P	0 - 32
2469168	Beta-BHC	2.30	Spike	P	0 - 33
2469168	Beta-Cyfluthrin	13.0	Spike	P	0 - 43
2469168	Bifenthrin	2.37	Spike	P	0 - 52
2469168	Chlorothalonil	21.3	Spike	P	0 - 82
2469168	Cis-Nonachlor	15.4	Spike	P	0 - 33
2469168	Cypermethrin	11.0	Spike	P	0 - 51
2469168	Dacthal	6.88	Spike	P	0 - 27
2469168	DDD-p,p'	3.77	Spike	P	0 - 39
2469168	DDE-p,p'	7.58	Spike	P	0 - 31

Quality Assurance Report

Precision

Reference Method: EPA 8270E
Batch ID: P441759

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2469168	DDT-p,p'	3.57	Spike	P	0 - 29
2469168	Delta-BHC	3.50	Spike	P	0 - 35
2469168	Deltamethrin	38.7	Spike	P	0 - 100
2469168	Dichlobenil	13.2	Spike	P	0 - 40
2469168	Dicofol	2.70	Spike	P	0 - 37
2469168	Dieldrin	5.10	Spike	P	0 - 27
2469168	Endosulfan I	6.87	Spike	P	0 - 23
2469168	Endosulfan II	4.35	Spike	P	0 - 34
2469168	Endosulfan Sulfate	4.70	Spike	P	0 - 36
2469168	Endrin	9.78	Spike	P	0 - 45
2469168	Endrin Aldehyde	8.10	Spike	P	0 - 76
2469168	Endrin Ketone	13.2	Spike	P	0 - 43
2469168	Esfenvalerate	0.640	Spike	P	0 - 51
2469168	Ethalfuralin	7.55	Spike	P	0 - 22
2469168	Fenpropathrin	0.125	Spike	P	0 - 49
2469168	Gamma-BHC	8.89	Spike	P	0 - 28
2469168	Gamma-Chlordane	0.0898	Spike	P	0 - 40
2469168	Heptachlor	16.9	Spike	P	0 - 29
2469168	Heptachlor Epoxide	11.5	Spike	P	0 - 33
2469168	Hexachlorobenzene	4.15	Spike	P	0 - 36
2469168	Kepone	17.9	Spike	P	0 - 85
2469168	Lambda-Cyhalothrin	10.8	Spike	P	0 - 55
2469168	Methoprene	2.55	Spike	P	0 - 53
2469168	Methoxychlor	3.69	Spike	P	0 - 50
2469168	MGK-264	3.61	Spike	P	0 - 43
2469168	Mirex	0.635	Spike	P	0 - 40
2469168	Oxychlordane	1.88	Spike	P	0 - 31
2469168	Permethrin	5.41	Spike	P	0 - 50
2469168	Phenothrin	9.13	Spike	P	0 - 58
2469168	Piperonyl Butoxide	5.38	Spike	P	0 - 100
2469168	Prallethrin	2.54	Spike	P	0 - 39
2469168	Tau-Fluvalinate	9.09	Spike	P	0 - 54
2469168	Tetramethrin	0.226	Spike	P	0 - 51
2469168	Trans-Nonachlor	7.71	Spike	P	0 - 39
2469168	Triclosan Methyl	5.63	Spike	P	0 - 31
2469168	Trifluralin	7.56	Spike	P	0 - 22
2469632	PCB-1016	6.76	Spike	P	0 - 25
2469632	PCB-1260	1.84	Spike	P	0 - 30

Reference Method: EPA 8276
Batch ID: P441759

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2469632	Chlordane	0.0846	Spike	P	0 - 28
2469632	Toxaphene	14.1	Spike	P	0 - 27

Quality Assurance Report Precision

Reference Method: EPA 8321B
Batch ID: P441572

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2469167	Acesulfame K	2.03	Spike	P	0 - 30
2469167	AMPA	1.84	Spike	P	0 - 30
2469167	Endothall	0.677	Spike	P	0 - 30
2469167	Glufosinate	0.169	Spike	P	0 - 30
2469167	Glyphosate	2.08	Spike	P	0 - 30
2469167	Sucralose	3.62	Spike	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P441664

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2469574	2,4-D	2.74	Spike	P	0 - 30
2469574	2,4,5-T	0.775	Spike	P	0 - 30
2469574	Acetaminophen	15.7	Spike	P	0 - 30
2469574	Acetamiprid	13.9	Spike	P	0 - 30
2469574	Afidopyropen	3.01	Spike	P	0 - 30
2469574	Bentazon	0.184	Spike	P	0 - 30
2469574	Benzovindiflupyr	6.87	Spike	P	0 - 30
2469574	Carbamazepine	5.28	Spike	P	0 - 30
2469574	Clothianidin	0.270	Spike	P	0 - 30
2469574	Dinotefuran	14.2	Spike	P	0 - 30
2469574	Diuron	0.519	Spike	P	0 - 30
2469574	Fenuron	1.83	Spike	P	0 - 30
2469574	Fluridone	7.22	Spike	P	0 - 30
2469574	Hydrocodone	4.96	Spike	P	0 - 30
2469574	Ibuprofen	11.0	Spike	P	0 - 30
2469574	Imazapyr	7.22	Spike	P	0 - 30
2469574	Imidacloprid	1.49	Spike	P	0 - 30
2469574	Linuron	5.58	Spike	P	0 - 30
2469574	Mandestrobin	4.87	Spike	P	0 - 30
2469574	MCPP	6.92	Spike	P	0 - 30
2469574	Naproxen	16.0	Spike	P	0 - 30
2469574	Primidone	3.64	Spike	P	0 - 30
2469574	Pyraclostrobin	5.06	Spike	P	0 - 30
2469574	Silvex	2.39	Spike	P	0 - 30
2469574	Thiamethoxam	3.72	Spike	P	0 - 30
2469574	Tolfenpyrad	9.71	Spike	P	0 - 30
2469574	Triclopyr	1.11	Spike	P	0 - 30

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

Quality Assurance Report

Surrogates

Lab Sample ID: 2469570

Field Sample ID: G1SE0025

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8270E	Decachlorobiphenyl	60.7	P	37 - 129
EPA 8270E	Decachlorobiphenyl	63.5	P	26 - 115
EPA 8270E	Tetrachloro-m-xylene	45.9	P	30 - 101
EPA 8270E	Tetrachloro-m-xylene	51.8	P	29 - 95.0
EPA 8276	Decachlorobiphenyl	71.7	P	23 - 110
EPA 8276	PCNB	110	P	51 - 130

Lab Sample ID: 2469574

Field Sample ID: G1SE0031

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Endothall-d6	98.0	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	97.8	P	30 - 160
EPA 8321B	Sucralose-d6	119	P	30 - 160

Lab Sample ID: 2469575

Field Sample ID: FB_02152024

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	84.6	P	30 - 160
EPA 8321B	Acetaminophen-d4	75.1	P	30 - 160
EPA 8321B	Carbamazepine-d10	82.7	P	30 - 160
EPA 8321B	Diuron-d6	86.4	P	30 - 160
EPA 8321B	Endothall-d6	89.6	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	108	P	30 - 160
EPA 8321B	Ibuprofen-d3	60.9	P	30 - 160
EPA 8321B	Primidone-d5	81.4	P	30 - 160
EPA 8321B	Sucralose-d6	114	P	30 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B

Run ID: A124278

Included Lab Sample IDs: 2469574, 2469575

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acesulfame K	148	142	P/P	60 - 160
Sucralose	107	104	P/P	60 - 160

Reference Method: EPA 8321B

Run ID: A124279

Included Lab Sample IDs: 2469574, 2469575

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
AMPA	99.1	105	P/P	60 - 160
Endothall	84.8	85.0	P/P	60 - 160
Glufosinate	88.2	91.8	P/P	60 - 160
Glyphosate	97.7	102	P/P	60 - 160

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A124313

Included Lab Sample IDs: 2469576, 2469577

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Aluminum	95.8	96.0	P/P	90 - 110
Antimony	97.5	96.1	P/P	90 - 110
Arsenic	96.5	93.0	P/P	90 - 110
Barium	96.8	96.3	P/P	90 - 110
Beryllium	97.6	95.7	P/P	90 - 110
Boron	94.8	96.3	P/P	90 - 110
Cadmium	95.4	94.5	P/P	90 - 110
Chromium	94.8	93.6	P/P	90 - 110
Cobalt	94.0	91.4	P/P	90 - 110
Copper	93.9	90.8	P/P	90 - 110
Lead	91.2	90.1	P/P	90 - 110
Manganese	94.7	93.2	P/P	90 - 110
Molybdenum	96.9	94.4	P/P	90 - 110
Nickel	94.2	91.6	P/P	90 - 110
Selenium	97.7	96.7	P/P	90 - 110
Silver	96.8	94.5	P/P	90 - 110
Thallium	96.3	94.8	P/P	90 - 110

Reference Method: EPA 8276

Run ID: A124430

Included Lab Sample IDs: 2469570

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chlordane	90.8		P	80 - 120
Toxaphene	86.0		P	80 - 120

Reference Method: EPA 8270E

Run ID: A124470

Included Lab Sample IDs: 2469570

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
PCB-1016	102		P	80 - 120
PCB-1260	104		P	80 - 120

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B

Run ID: A124488

Included Lab Sample IDs: 2469574, 2469575

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	114	110	P/P	50 - 150
2,4,5-T	97.4	114	P/P	50 - 150
Acetaminophen	106	106	P/P	60 - 160
Acetamiprid	112	113	P/P	50 - 150
Afidopyropen	121	106	P/P	50 - 150
Bentazon	111	112	P/P	50 - 160
Benzovindiflupyr	103	105	P/P	50 - 150
Carbamazepine	112	120	P/P	60 - 150
Clothianidin	105	104	P/P	60 - 150
Dinotefuran	110	110	P/P	50 - 150
Diuron	111	126	P/P	60 - 160
Fenuron	108	108	P/P	60 - 150
Fluridone	113	116	P/P	60 - 160
Hydrocodone	105	106	P/P	60 - 150
Ibuprofen	99.3	148	P/P	50 - 160
Imazapyr	108	99.3	P/P	50 - 150
Imidacloprid	105	105	P/P	60 - 150
Linuron	98.4	101	P/P	60 - 150
Mandestrobin	96.5	103	P/P	50 - 150
MCPP	96.2	90.8	P/P	50 - 150
Naproxen	104	91.3	P/P	50 - 160
Primidone	102	103	P/P	60 - 150
Pyraclostrobin	114	111	P/P	60 - 150
Silvex	119	105	P/P	50 - 150
Thiamethoxam	109	111	P/P	50 - 150
Tolfenpyrad	95.4	109	P/P	60 - 150
Triclopyr	98.5	90.9	P/P	50 - 150

Reference Method: EPA 8270E

Run ID: A124554

Included Lab Sample IDs: 2469570

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Aldrin	98.4		P	80 - 120
Alpha-BHC	102		P	80 - 120
Alpha-Chlordane	110		P	80 - 120
Beta-BHC	105		P	80 - 120
Beta-Cyfluthrin	96.6		P	80 - 120
Bifenthrin	104		P	80 - 120
Chlorothalonil	97.9		P	80 - 120
Cis-Nonachlor	109		P	80 - 120
Cypermethrin	99.5		P	80 - 120
Dacthal	105		P	80 - 120
DDD-p,p'	97.8		P	80 - 120
DDE-p,p'	102		P	80 - 120
DDT-p,p'	99.4		P	80 - 120
Delta-BHC	101		P	80 - 120
Deltamethrin	100		P	80 - 120
Dichlobenil	112		P	80 - 120
Dicofol	99.3		P	80 - 120
Dieldrin	97.7		P	80 - 120

Quality Assurance Report Calibration Verification

Reference Method: EPA 8270E
Run ID: A124554
Included Lab Sample IDs: 2469570

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Endosulfan I	98.9		P	80 - 120
Endosulfan II	96.5		P	80 - 120
Endosulfan Sulfate	98.2		P	80 - 120
Endrin	97.6		P	80 - 120
Endrin Aldehyde	99.1		P	80 - 120
Endrin Ketone	102		P	80 - 120
Esfenvalerate	101		P	80 - 120
Ethalfuralin	95.5		P	80 - 120
Fenpropathrin	106		P	80 - 120
Gamma-BHC	101		P	80 - 120
Gamma-Chlordane	111		P	80 - 120
Heptachlor	101		P	80 - 120
Heptachlor Epoxide	115		P	80 - 120
Hexachlorobenzene	99.3		P	80 - 120
Kepone	101		P	80 - 120
Lambda-Cyhalothrin	99.0		P	80 - 120
Methoprene	97.4		P	80 - 120
Methoxychlor	98.7		P	80 - 120
MGK-264	107		P	80 - 120
Mirex	107		P	80 - 120
Oxychlordane	109		P	80 - 120
Permethrin	100		P	80 - 120
Phenothrin	102		P	80 - 120
Piperonyl Butoxide	102		P	80 - 120
Prallethrin	97.4		P	80 - 120
Tau-Fluvalinate	96.0		P	80 - 120
Tetramethrin	98.5		P	80 - 120
Trans-Nonachlor	108		P	80 - 120
Triclosan Methyl	112		P	80 - 120
Trifluralin	99.9		P	80 - 120

Reference Method: EPA 200.7 Rev. 4.4
Run ID: A124583
Included Lab Sample IDs: 2469576, 2469577

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Calcium	103	102	P/P	90 - 110
Iron	103	101	P/P	90 - 110
Magnesium	102	101	P/P	90 - 110
Potassium	103	102	P/P	90 - 110
Sodium	103	102	P/P	90 - 110
Strontium	103	102	P/P	90 - 110
Tin	100	100	P/P	90 - 110
Titanium	99.7	99.0	P/P	90 - 110
Vanadium	101	100	P/P	90 - 110
Zinc	103	102	P/P	90 - 110

* 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	102	99.8			0.150
	Iron	113	111	110	110		0.329
	Magnesium	113	109	108	103		0.607
	Potassium	105	103	101	102		0.968
	Sodium	106	104	102			0.113
	Strontium	103	100	101	99.3		0.539
	Tin	99.1	94.4	94.2	95.2		0.191
	Titanium	102	98.0	99.1	97.9		1.05
	Vanadium	101	100	99.4	99.3		0.612
	Zinc	102	99.6	100	97.0		0.803
EPA 200.8 Rev. 5.4	Aluminum	97.5	94.5	94.8	97.0		0.347
	Antimony	99.9	99.3	99.2	99.6		0.0518
	Arsenic	98.4	97.1	96.9	96.9		0.156
	Barium	101	99.0	98.3	97.9		0.607
	Beryllium	93.6	96.7	95.3	89.7		1.46
	Boron	97.0	96.7	99.0	98.0		1.92
	Cadmium	99.4	98.2	97.2	94.9		0.980
	Chromium	102	101	99.8	103		1.10
	Cobalt	97.9	97.1	95.7	96.5		1.44
	Copper	95.9	94.3	93.2	94.1		1.18
	Lead	92.7	93.1	92.3	91.3		0.910
	Manganese	97.9	94.9	94.0	90.5		0.824
	Molybdenum	97.4	98.1	97.3	96.3		0.779
	Nickel	97.6	96.9	95.6	96.3		1.31
	Selenium	99.0	97.6	97.8	99.5		0.183
	Silver	96.3	91.9	92.1	90.6		0.147
	Thallium	95.8	97.9	97.3	96.6		0.644
	Aldrin	49.1	73.9	71.5			3.29
	Alpha-BHC	88.9	89.3	92.6			3.58
	Alpha-Chlordane	79.6	110	101			8.15
EPA 8270E	Beta-BHC	84.9	91.2	93.3			2.30
	Beta-Cyfluthrin	65.4	106	93.4			13.0
	Bifenthrin	52.9	116	118			2.37
	Chlorothalonil	64.5	112	139			21.3
	Cis-Nonachlor	72.0	83.8	97.8			15.4
	Cypermethrin	60.0	90.3	80.9			11.0
	Dacthal	95.8	123	115			6.88
	DDD-p,p'	59.8	73.1	70.4			3.77
	DDE-p,p'	60.1	75.5	70.0			7.58
	DDT-p,p'	77.3	83.1	79.3			3.57
	Delta-BHC	90.2	118	114			3.50
	Deltamethrin	83.0	96.4	143			38.7
	Dichlobenil	81.5	63.8	55.8			13.2
	Dicofol	70.3	82.3	80.2			2.70
	Dieldrin	61.0	75.3	71.5			5.10
	Endosulfan I	64.3	74.2	69.2			6.87
	Endosulfan II	65.1	74.3	71.1			4.35
	Endosulfan Sulfate	88.5	84.3	80.4			4.70
	Endrin	69.8	80.7	73.2			9.78
	Endrin Aldehyde	70.9	46.8	43.2			8.10
	Endrin Ketone	74.2	82.5	72.3			13.2
	Esfenvalerate	71.4	130	129			0.640
	Ethalfuralin	71.3	82.8	76.8			7.55
	Fenpropathrin	78.3	113	113			0.125

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery		LCS	Precision	MS
						SMP	
EPA 8270E	Gamma-BHC	94.7	95.1	104			8.89
	Gamma-Chlordane	77.5	104	104			0.0898
	Heptachlor	68.3	82.1	97.2			16.9
	Heptachlor Epoxide	95.0	116	103			11.5
	Hexachlorobenzene	65.1	80.8	77.5			4.15
	Kepone	70.9	77.9	65.1			17.9
	Lambda-Cyhalothrin	27.3	57.0	51.2			10.8
	Methoprene	42.3	79.6	81.7			2.55
	Methoxychlor	77.8	91.2	94.7			3.69
	MGK-264	83.1	102	106			3.61
	Mirex	54.7	79.5	80.0			0.635
	Oxychlordane	79.2	132	130			1.88
	PCB-1016	72.7	82.1	76.8			6.76
	PCB-1260	87.4	95.9	94.1			1.84
	Permethrin	66.3	89.1	94.1			5.41
	Phenothrin	41.2	114	125			9.13
	Piperonyl Butoxide	86.4	79.9	84.8			5.38
	Prallethrin	56.7	61.7	63.3			2.54
	Tau-Fluvalinate	53.5	102	112			9.09
	Tetramethrin	82.7	126	126			0.226
	Trans-Nonachlor	74.3	78.3	84.6			7.71
	Triclosan Methyl	89.4	104	110			5.63
	Trifluralin	72.2	79.7	73.9			7.56
EPA 8276	Chlordane	72.3	78.2	78.3			0.0846
	Toxaphene	70.5	72.1	83.1			14.1
	2,4-D	111	71.9	73.9			2.74
EPA 8321B	2,4,5-T	98.6	75.2	74.6			0.775
	Acesulfame K	124	122	124			2.03
	Acetaminophen	81.5	62.4	73.0			15.7
	Acetamiprid	73.9	43.8	50.3			13.9
	Afidopyropen	58.5	56.1	57.8			3.01
	AMPA	103	101	103			1.84
	Bentazon	103	51.7	51.6			0.184
	Benzovindiflupyr	82.2	85.4	79.7			6.87
	Carbamazepine	84.4	67.9	64.4			5.28
	Clothianidin	88.0	61.2	61.3			0.270
	Dinotefuran	97.3	53.4	61.5			14.2
	Diuron	88.5	65.2	65.5			0.519
	Endothall	87.1	93.4	94.0			0.677
	Fenuron	91.1	53.4	54.4			1.83
	Fluridone	92.9	76.4	71.1			7.22
	Glufosinate	90.3	88.5	88.6			0.169
	Glyphosate	99.3	97.9	95.9			2.08
	Hydrocodone	88.2	52.1	54.8			4.96
	Ibuprofen	63.5	65.8	59.0			11.0
	Imazapyr	101	95.5	87.2			7.22
	Imidacloprid	87.7	67.1	68.1			1.49
	Linuron	84.9	71.2	67.3			5.58
	Mandestrobin	75.9	78.8	75.0			4.87
	MCPP	90.2	75.0	70.0			6.92
	Naproxen	101	89.5	76.3			16.0
	Primidone	82.9	72.5	75.2			3.64
	Pyraclostrobin	82.4	82.5	78.4			5.06
	Silvex	100	79.0	77.2			2.39

Quality Assurance Report

Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery		Precision	MS
					SMP	
EPA 8321B	Sucralose	98.4	102	106		3.62
	Thiamethoxam	86.7	53.3	55.4		3.72
	Tolfenpyrad	51.2	46.4	51.1		9.71
	Triclopyr	103	75.0	74.2		1.11

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	2469576, 2469577
EPA 200.8 Rev. 5.4	Total Recoverable Metals analysis using ICP-MS for aqueous samples supporting Clean Water Act Projects	2469576, 2469577
EPA 8270E	Organochlorine pesticides, pyrethroids and tracers in water matrices by GC/MS/MS	2469570
EPA 8270E	PCBs in water matrices by GC/MS/MS	2469570
EPA 8276	Chlordane and Toxaphene in water matrices by GC/MS with Negative Chemical Ionization	2469570
EPA 8321B	Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS	2469574, 2469575
SM 2340 B-2011	Hardness by calculation, in aqueous matrices, reported as mg/L CaCO3	2469576, 2469577

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	02/16/2024	02/19/2024 13:45	George D Taylor	03/06/2024 21:42	Conrad Hartmann	2469576
	02/16/2024	02/19/2024 13:45	George D Taylor	03/06/2024 21:48	Conrad Hartmann	2469577
EPA 200.8 Rev. 5.4	02/16/2024	02/19/2024 13:45	George D Taylor	02/21/2024 15:45	Emily M Philpot	2469576
	02/16/2024	02/19/2024 13:45	George D Taylor	02/21/2024 15:55	Emily M Philpot	2469577
EPA 8270E	02/16/2024	02/21/2024 08:30	Rasheda Ghaffari	02/29/2024 03:22	Lipi Saha	2469570
	02/16/2024	02/21/2024 08:30	Rasheda Ghaffari	03/05/2024 01:35	Julie Wi	2469570
EPA 8276	02/16/2024	02/21/2024 08:30	Rasheda Ghaffari	02/27/2024 17:00	Arthur Maknenko	2469570
EPA 8321B	02/16/2024	02/20/2024 08:00	Hana Lee	02/20/2024 11:51	Hana Lee	2469574
	02/16/2024	02/20/2024 08:00	Hana Lee	02/20/2024 12:05	Hana Lee	2469575
	02/16/2024	02/20/2024 08:00	Hana Lee	02/20/2024 14:11	Hana Lee	2469574
	02/16/2024	02/20/2024 08:00	Hana Lee	02/20/2024 14:25	Hana Lee	2469575
	02/16/2024	02/22/2024 09:00	Hoor Shaik	02/29/2024 21:25	Juyoung Kim	2469574
SM 2340 B-2011	02/16/2024	02/22/2024 09:00	Hoor Shaik	02/29/2024 22:00	Juyoung Kim	2469575
	02/16/2024			03/06/2024 21:42	Conrad Hartmann	2469576
	02/16/2024			03/06/2024 21:48	Conrad Hartmann	2469577