

Chemical Analysis Report

NE-DIST-2023-08-23-01

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

Event Description: **LSJR North 2 2023**
Request ID: **RQ-2023-08-14-34**
Customer: **NE-DIST**
Project ID: **SMP**

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8800 Baymeadows Way West
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Jacksonville, FL 32256
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Certified by: Chris Bowen, Environmental Administrator

Date Certified: 19-SEP-2023 11:05



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: HIGHLANDS CR AT BROWARD RD

Collection Date/Time: 08/22/2023 09:30

Field ID: 20030025

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2433061	EPA 200.7 Rev. 4.4	Calcium	80.1		mg/L	P434294	
		Iron	1.29E+03		ug/L	P434294	
		Magnesium	183		mg/L	P434294	
		Potassium	55		mg/L	P434294	
		Sodium	1.43E+03		mg/L	P434294	
		Strontium	1.26E+03		ug/L	P434294	
		Tin	31	I	ug/L	P434294	
	EPA 200.8 Rev. 5.4	Titanium	14.4		ug/L	P434294	
		Vanadium	4.1	I	ug/L	P434294	
		Zinc	7.1	I	ug/L	P434294	
		Aluminum	815		ug/L	P434294	
		Antimony	0.17	I	ug/L	P434294	
		Arsenic	2.58		ug/L	P434294	
		Barium	25.5		ug/L	P434294	
		Beryllium	0.058		ug/L	P434294	
		Boron	647		ug/L	P434294	
		Cadmium	0.020	U	ug/L	P434294	
		Chromium	1.8		ug/L	P434294	
		Cobalt	0.283		ug/L	P434294	
		Copper	2.31		ug/L	P434294	
		Lead	2.92		ug/L	P434294	
		Manganese	40.2		ug/L	P434294	
		Molybdenum	2.62		ug/L	P434294	
		Nickel	0.79	I	ug/L	P434294	
		Selenium	0.21	I	ug/L	P434294	
		Silver	0.010	I	ug/L	P434294	
		Thallium	0.20	U	ug/L	P434294	
	SM 2340 B-2011	Hardness	952		mg/L	P434294	

Sample Location: BLOCKHOUSE 100M ABV IRMA RD

Collection Date/Time: 08/22/2023 10:00

Field ID: G2NE1159

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2433058	EPA 8270E	Aldrin	0.68	U	ng/L	P434297	
		Alpha-BHC	0.10	U	ng/L	P434297	
		Alpha-Chlordane	0.21	U	ng/L	P434297	
		PCB-1016	2.1	U	ng/L	P434297	
		Beta-BHC	0.10	U	ng/L	P434297	
		PCB-1221	2.1	U	ng/L	P434297	
		Beta-Cyfluthrin	1.3	U	ng/L	P434297	
		PCB-1232	2.1	U	ng/L	P434297	
		Bifenthrin	0.52	U	ng/L	P434297	
		PCB-1242	2.1	U	ng/L	P434297	
		PCB-1248	2.1	U	ng/L	P434297	
		Chlorothalonil	3.8	U	ng/L	P434297	
		PCB-1254	2.1	U	ng/L	P434297	
		Cis-Nonachlor	0.21	U	ng/L	P434297	
		PCB-1260	2.1	U	ng/L	P434297	
		Cypermethrin	1.6	U	ng/L	P434297	
		Dacthal	0.16	U	ng/L	P434297	
		DDD-p,p'	0.53	I	ng/L	P434297	
		DDE-p,p'	0.21	U	ng/L	P434297	
		DDT-p,p'	4.1	IVJ	ng/L	P434297	LCS, MS
		Delta-BHC	0.42	U	ng/L	P434297	
		Deltamethrin	1.3	U	ng/L	P434297	
		Dichlobenil	0.26	U	ng/L	P434297	
		Dicofol	1.3	U	ng/L	P434297	
		Dieldrin	0.42	U	ng/L	P434297	
		Endosulfan I	0.42	U	ng/L	P434297	
		Endosulfan II	0.94	U	ng/L	P434297	
		Endosulfan Sulfate	0.31	U	ng/L	P434297	
		Endrin	0.94	U	ng/L	P434297	
		Endrin Aldehyde	0.78	U	ng/L	P434297	
		Endrin Ketone	0.42	U	ng/L	P434297	
		Esfenvalerate	0.78	U	ng/L	P434297	MS
		Ethalfuralin	0.16	U	ng/L	P434297	
		Fenpropathrin	0.26	U	ng/L	P434297	
		Gamma-BHC	0.13	U	ng/L	P434297	
		Gamma-Chlordane	0.21	U	ng/L	P434297	
		Heptachlor	0.21	U	ng/L	P434297	
		Heptachlor Epoxide	0.26	U	ng/L	P434297	
		Hexachlorobenzene**	1.0	U	ng/L	P434297	
		Kepone	14	U	ng/L	P434297	
		Lambda-Cyhalothrin	0.78	U	ng/L	P434297	
		Methoprene	0.78	U	ng/L	P434297	
		Methoxychlor	0.31	U	ng/L	P434297	
		MGK-264	0.21	U	ng/L	P434297	

Field ID: G2NE1159

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2433058	EPA 8270E	Mirex	0.37	U	ng/L	P434297	
		Oxychlordane	0.31	U	ng/L	P434297	
		Permethrin	1.7	U	ng/L	P434297	
		Phenothrin	0.94	U	ng/L	P434297	
		Piperonyl Butoxide	0.44	I	ng/L	P434297	
		Prallethrin	2.1	UJ	ng/L	P434297	CCV
		Tau-Fluvalinate	0.26	U	ng/L	P434297	MS
		Tetramethrin	0.78	U	ng/L	P434297	
		Trans-Nonachlor	0.21	U	ng/L	P434297	
		Triclosan Methyl	0.16	U	ng/L	P434297	
		Trifluralin	0.21	U	ng/L	P434297	
	EPA 8276	Chlordane	2.1	U	ng/L	P434297	
		Toxaphene	16	U	ng/L	P434297	

Ref. Method and Comment:

EPA 8270E: V - Due to the presence of DDT-p,p' in both the Method Blank and the sample. Refer to the Lab Analysis Report for an explanation of QC Codes.

Sample Location: BLOCKHOUSE CR AT LEONID RD

Collection Date/Time: 08/22/2023 10:45

Field ID: 20030027FLA

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2433057	EPA 8270E	Aldrin	0.66	U	ng/L	P434297	
		Alpha-BHC	0.10	U	ng/L	P434297	
		Alpha-Chlordane	0.20	U	ng/L	P434297	
		PCB-1016	2.0	U	ng/L	P434297	
		Beta-BHC	0.10	U	ng/L	P434297	
		PCB-1221	2.0	U	ng/L	P434297	
		Beta-Cyfluthrin	1.3	U	ng/L	P434297	
		PCB-1232	2.0	U	ng/L	P434297	
		Bifenthrin	0.51	U	ng/L	P434297	
		PCB-1242	2.0	U	ng/L	P434297	
		PCB-1248	2.0	U	ng/L	P434297	
		Chlorothalonil	3.7	U	ng/L	P434297	
		PCB-1254	2.0	U	ng/L	P434297	
		Cis-Nonachlor	0.20	U	ng/L	P434297	
		PCB-1260	2.0	U	ng/L	P434297	
		Cypermethrin	1.5	U	ng/L	P434297	
		Dacthal	0.15	U	ng/L	P434297	
		DDD-p,p'	0.43	I	ng/L	P434297	
		DDE-p,p'	0.20	U	ng/L	P434297	
		DDT-p,p'	4.0	IVJ	ng/L	P434297	LCS, MS
		Delta-BHC	0.41	U	ng/L	P434297	
		Deltamethrin	1.3	U	ng/L	P434297	
		Dichlobenil	0.25	U	ng/L	P434297	
		Dicofol	1.3	U	ng/L	P434297	
		Dieldrin	0.41	U	ng/L	P434297	
		Endosulfan I	0.41	U	ng/L	P434297	
		Endosulfan II	0.92	U	ng/L	P434297	
		Endosulfan Sulfate	0.31	U	ng/L	P434297	
		Endrin	0.92	U	ng/L	P434297	
		Endrin Aldehyde	0.76	U	ng/L	P434297	
		Endrin Ketone	0.41	U	ng/L	P434297	
		Esfenvalerate	0.76	U	ng/L	P434297	MS
		Ethalfuralin	0.15	U	ng/L	P434297	
		Fenpropathrin	0.25	U	ng/L	P434297	
		Gamma-BHC	0.13	U	ng/L	P434297	
		Gamma-Chlordane	0.20	U	ng/L	P434297	
		Heptachlor	0.20	U	ng/L	P434297	
		Heptachlor Epoxide	0.25	U	ng/L	P434297	
		Hexachlorobenzene**	1.0	U	ng/L	P434297	
		Kepone	14	U	ng/L	P434297	
		Lambda-Cyhalothrin	0.76	U	ng/L	P434297	
		Methoprene	0.76	U	ng/L	P434297	
		Methoxychlor	0.31	U	ng/L	P434297	
		MGK-264	0.20	U	ng/L	P434297	

Field ID: 20030027FLA

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2433057	EPA 8270E	Mirex	0.36	U	ng/L	P434297	
		Oxychlordane	0.31	U	ng/L	P434297	
		Permethrin	1.6	U	ng/L	P434297	
		Phenothrin	0.92	U	ng/L	P434297	
		Piperonyl Butoxide	4.5		ng/L	P434297	
		Prallethrin	2.0	UJ	ng/L	P434297	CCV
		Tau-Fluvalinate	0.25	U	ng/L	P434297	MS
		Tetramethrin	0.76	U	ng/L	P434297	
		Trans-Nonachlor	0.20	U	ng/L	P434297	
		Triclosan Methyl	0.15	U	ng/L	P434297	
		Trifluralin	0.20	U	ng/L	P434297	
		Chlordane	2.0	U	ng/L	P434297	
		Toxaphene	15	U	ng/L	P434297	
2433060	EPA 200.7 Rev. 4.4	Calcium	43.3		mg/L	P434294	
		Iron	1.45E+03		ug/L	P434294	
		Magnesium	70.9		mg/L	P434294	
		Potassium	21.6		mg/L	P434294	
		Sodium	546		mg/L	P434294	
		Strontium	550		ug/L	P434294	
		Tin	3.0	U	ug/L	P434294	
		Titanium	7.0		ug/L	P434294	
		Vanadium	2.6	I	ug/L	P434294	
		Zinc	7.1	I	ug/L	P434294	
	EPA 200.8 Rev. 5.4	Aluminum	488		ug/L	P434294	
		Antimony	0.11	I	ug/L	P434294	
		Arsenic	2.02		ug/L	P434294	
		Barium	42.8		ug/L	P434294	
		Beryllium	0.038	I	ug/L	P434294	
		Boron	274		ug/L	P434294	
		Cadmium	0.020	U	ug/L	P434294	
		Chromium	1.3	I	ug/L	P434294	
		Cobalt	0.231		ug/L	P434294	
		Copper	1.84		ug/L	P434294	
		Lead	2.21		ug/L	P434294	
		Manganese	37.6		ug/L	P434294	
		Molybdenum	1.08		ug/L	P434294	
		Nickel	0.64	I	ug/L	P434294	
		Selenium	0.20	U	ug/L	P434294	
		Silver	0.010	U	ug/L	P434294	
		Thallium	0.10	U	ug/L	P434294	
	SM 2340 B-2011	Hardness	400		mg/L	P434294	

Ref. Method and Comment:

EPA 8270E: V - Due to the presence of DDT-p,p' in both the Method Blank and the sample. Refer to the Lab Analysis Report for an explanation of QC Codes.

Sample Location: TERRAPIN CREEK AT ALTA ROAD

Collection Date/Time: 08/22/2023 11:25

Field ID: 20030654

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2433062	EPA 200.7 Rev. 4.4	Calcium	162		mg/L	P434477	
		Iron	590		ug/L	P434477	
		Magnesium	441		mg/L	P434477	
		Potassium	134		mg/L	P434477	
		Sodium	3.66E+03		mg/L	P434477	
		Strontium	2.87E+03		ug/L	P434477	
		Tin	9.0	U	ug/L	P434477	
		Titanium	6.7	I	ug/L	P434477	
		Vanadium	6.0	U	ug/L	P434477	
		Zinc	15	U	ug/L	P434477	
	EPA 200.8 Rev. 5.4	Aluminum	445		ug/L	P434477	
		Antimony	0.20	U	ug/L	P434477	
		Arsenic	2.57		ug/L	P434477	
		Barium	15.7		ug/L	P434477	
		Beryllium	0.041	I	ug/L	P434477	
		Boron	1.42E+03		ug/L	P434477	
		Cadmium	0.080	U	ug/L	P434477	
		Chromium	1.6	U	ug/L	P434477	
		Cobalt	0.46		ug/L	P434477	
		Copper	1.6	U	ug/L	P434477	
		Lead	0.83	I	ug/L	P434477	
		Manganese	30.6		ug/L	P434477	
		Molybdenum	4.9		ug/L	P434477	
		Nickel	2.0	U	ug/L	P434477	
		Selenium	0.80	U	ug/L	P434477	
		Silver	0.040	U	ug/L	P434477	
		Thallium	0.40	U	ug/L	P434477	
	SM 2340 B-2011	Hardness	2.22E+03		mg/L	P434477	

Ref. Method and Comment:

EPA 200.7 Rev. 4.4: Batch matrix spike recoveries for calcium, magnesium, potassium, sodium and strontium are unavailable because of high analyte concentration in the QC sample.

Quality Assurance Report Method Blank Results

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P434294

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 200.7 Rev. 4.4
Batch ID: P434477

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: P434294

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 200.8 Rev. 5.4
Batch ID: P434477

Component	Result	Code	Units
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Quality Assurance Report Method Blank Results

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P434477

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: P434297

Component	Result	Code	Units
Aldrin	0.65	U	ng/L
Aldrin	0.65	U	ng/L
Alpha-BHC	0.10	U	ng/L
Alpha-BHC	0.10	U	ng/L
Alpha-Chlordane	0.20	U	ng/L
Alpha-Chlordane	0.20	U	ng/L
Beta-BHC	0.10	U	ng/L
Beta-BHC	0.10	U	ng/L
Beta-Cyfluthrin	1.2	U	ng/L
Beta-Cyfluthrin	1.2	U	ng/L
Bifenthrin	0.50	U	ng/L
Bifenthrin	0.50	U	ng/L
Chlorothalonil	3.6	U	ng/L
Chlorothalonil	3.6	U	ng/L
Cis-Nonachlor	0.20	U	ng/L
Cis-Nonachlor	0.20	U	ng/L
Cypermethrin	1.5	U	ng/L
Cypermethrin	1.5	U	ng/L
Dacthal	0.15	U	ng/L
Dacthal	0.15	U	ng/L
DDD-p,p'	0.25	U	ng/L
DDD-p,p'	0.25	U	ng/L
DDE-p,p'	0.20	U	ng/L
DDE-p,p'	0.20	U	ng/L
DDT-p,p'	4.2		ng/L
DDT-p,p'	3.9	I	ng/L
Delta-BHC	0.40	U	ng/L
Delta-BHC	0.40	U	ng/L
Deltamethrin	1.2	U	ng/L
Deltamethrin	1.2	U	ng/L

Quality Assurance Report

Method Blank Results

Reference Method: EPA 8270E

Batch ID: P434297

Component	Result	Code	Units
Dichlobenil	0.25	U	ng/L
Dichlobenil	0.25	U	ng/L
Dicofol	1.2	U	ng/L
Dicofol	1.2	U	ng/L
Dieldrin	0.40	U	ng/L
Dieldrin	0.40	U	ng/L
Endosulfan I	0.40	U	ng/L
Endosulfan I	0.40	U	ng/L
Endosulfan II	0.90	U	ng/L
Endosulfan II	0.90	U	ng/L
Endosulfan Sulfate	0.30	U	ng/L
Endosulfan Sulfate	0.30	U	ng/L
Endrin	0.90	U	ng/L
Endrin	0.90	U	ng/L
Endrin Aldehyde	0.75	U	ng/L
Endrin Aldehyde	0.75	U	ng/L
Endrin Ketone	0.40	U	ng/L
Endrin Ketone	0.40	U	ng/L
Esfenvalerate	0.75	U	ng/L
Esfenvalerate	0.75	U	ng/L
Ethalfuralin	0.15	U	ng/L
Ethalfuralin	0.15	U	ng/L
Fenpropathrin	0.25	U	ng/L
Fenpropathrin	0.25	U	ng/L
Gamma-BHC	0.12	U	ng/L
Gamma-BHC	0.12	U	ng/L
Gamma-Chlordane	0.20	U	ng/L
Gamma-Chlordane	0.20	U	ng/L
Heptachlor	0.20	U	ng/L
Heptachlor	0.20	U	ng/L
Heptachlor Epoxide	0.25	U	ng/L
Heptachlor Epoxide	0.25	U	ng/L
Hexachlorobenzene	1.0	U	ng/L
Hexachlorobenzene	1.0	U	ng/L
Kepone	14	U	ng/L
Kepone	14	U	ng/L
Lambda-Cyhalothrin	0.75	U	ng/L
Lambda-Cyhalothrin	0.75	U	ng/L
Methoprene	0.75	U	ng/L
Methoprene	0.75	U	ng/L
Methoxychlor	0.30	U	ng/L
Methoxychlor	0.30	U	ng/L
MGK-264	0.20	U	ng/L
MGK-264	0.20	U	ng/L
Mirex	0.35	U	ng/L
Mirex	0.35	U	ng/L
Oxychlordane	0.30	U	ng/L
Oxychlordane	0.30	U	ng/L
PCB-1016	2.0	U	ng/L
PCB-1016	2.0	U	ng/L
PCB-1221	2.0	U	ng/L
PCB-1221	2.0	U	ng/L

Quality Assurance Report

Method Blank Results

Reference Method: EPA 8270E
Batch ID: P434297

Component	Result	Code	Units
PCB-1232	2.0	U	ng/L
PCB-1232	2.0	U	ng/L
PCB-1242	2.0	U	ng/L
PCB-1242	2.0	U	ng/L
PCB-1248	2.0	U	ng/L
PCB-1248	2.0	U	ng/L
PCB-1254	2.0	U	ng/L
PCB-1254	2.0	U	ng/L
PCB-1260	2.0	U	ng/L
PCB-1260	2.0	U	ng/L
Permethrin	1.6	U	ng/L
Permethrin	1.6	U	ng/L
Phenothrin	0.90	U	ng/L
Phenothrin	0.90	U	ng/L
Piperonyl Butoxide	0.15	U	ng/L
Piperonyl Butoxide	0.15	U	ng/L
Prallethrin	2.0	U	ng/L
Prallethrin	2.0	U	ng/L
Tau-Fluvalinate	0.25	U	ng/L
Tau-Fluvalinate	0.25	U	ng/L
Tetramethrin	0.75	U	ng/L
Tetramethrin	0.75	U	ng/L
Trans-Nonachlor	0.20	U	ng/L
Trans-Nonachlor	0.20	U	ng/L
Triclosan Methyl	0.15	U	ng/L
Triclosan Methyl	0.15	U	ng/L
Trifluralin	0.20	U	ng/L
Trifluralin	0.20	U	ng/L

Reference Method: EPA 8276
Batch ID: P434297

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

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 200.7 Rev. 4.4

Batch ID: P434294

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Calcium	103		P	85 - 115
Iron	105		P	85 - 115
Magnesium	105		P	85 - 115
Potassium	102		P	85 - 115
Sodium	101		P	85 - 115
Strontium	99.7		P	85 - 115
Tin	98.7		P	85 - 115
Titanium	98.9		P	85 - 115
Vanadium	99.5		P	85 - 115
Zinc	99.8		P	85 - 115

Reference Method: EPA 200.7 Rev. 4.4

Batch ID: P434477

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Calcium	100		P	80 - 120
Iron	104		P	80 - 120
Magnesium	102		P	80 - 120
Potassium	102		P	80 - 120
Sodium	102		P	80 - 120
Strontium	101		P	80 - 120
Tin	99.9		P	80 - 120
Titanium	98.4		P	80 - 120
Vanadium	99.9		P	80 - 120
Zinc	101		P	80 - 120

Reference Method: EPA 200.8 Rev. 5.4

Batch ID: P434294

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Aluminum	98.5		P	85 - 115
Antimony	99.9		P	85 - 115
Arsenic	97.9		P	85 - 115
Barium	103		P	85 - 115
Beryllium	94.9		P	85 - 115
Boron	101		P	85 - 115
Cadmium	99.0		P	85 - 115
Chromium	95.3		P	85 - 115
Cobalt	100		P	85 - 115
Copper	98.9		P	85 - 115
Lead	100		P	85 - 115
Manganese	96.0		P	85 - 115
Molybdenum	96.9		P	85 - 115
Nickel	97.6		P	85 - 115
Selenium	99.8		P	85 - 115
Silver	110		P	80 - 120
Thallium	101		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4

Batch ID: P434477

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
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Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 200.8 Rev. 5.4

Batch ID: P434477

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Aluminum	101		P	80 - 120
Antimony	101		P	80 - 120
Arsenic	99.4		P	80 - 120
Barium	102		P	80 - 120
Beryllium	93.2		P	80 - 120
Boron	105		P	80 - 120
Cadmium	100		P	80 - 120
Chromium	97.9		P	80 - 120
Cobalt	99.3		P	80 - 120
Copper	97.6		P	80 - 120
Lead	97.0		P	80 - 120
Manganese	99.2		P	80 - 120
Molybdenum	99.5		P	80 - 120
Nickel	98.3		P	80 - 120
Selenium	99.7		P	80 - 120
Silver	105		P	80 - 120
Thallium	101		P	80 - 120

Reference Method: EPA 8270E

Batch ID: P434297

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Aldrin	55.1		P	30 - 96.0
Alpha-BHC	79.5		P	70 - 109
Alpha-Chlordane	70.3		P	45 - 107
Beta-BHC	71.3		P	64 - 138
Beta-Cyfluthrin	83.6		P	17 - 141
Bifenthrin	69.8		P	10 - 113
Chlorothalonil	81.5		P	26 - 180
Cis-Nonachlor	80.4		P	37 - 102
Cypermethrin	72.0		P	20 - 133
Dacthal	84.7		P	69 - 114
DDD-p,p'	57.4		P	42 - 105
DDE-p,p'	54.4		P	42 - 106
DDT-p,p'	129		F	42 - 107
Delta-BHC	90.9		P	67 - 144
Deltamethrin	110		P	15 - 149
Dichlobenil	72.5		P	46 - 117
Dicofol	71.2		P	34 - 114
Dieldrin	55.7		P	50 - 108
Endosulfan I	70.4		P	55 - 104
Endosulfan II	80.2		P	51 - 111
Endosulfan Sulfate	71.5		P	56 - 121
Endrin	54.7		P	10 - 106
Endrin Aldehyde	51.4		P	34 - 114
Endrin Ketone	70.0		P	63 - 177
Esfenvalerate	138		P	29 - 143
Ethalfuralin	75.2		P	46 - 96.0
Fenpropathrin	67.5		P	28 - 115
Gamma-BHC	81.3		P	65 - 121
Gamma-Chlordane	59.6		P	39 - 103
Heptachlor	72.6		P	39 - 94.0

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 8270E
Batch ID: P434297

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Heptachlor Epoxide	68.0		P	54 - 104
Hexachlorobenzene	76.6		P	36 - 100
Kepone	79.9		P	10 - 225
Lambda-Cyhalothrin	73.0		P	10 - 135
Methoprene	57.5		P	10 - 109
Methoxychlor	68.7		P	52 - 112
MGK-264	84.4		P	44 - 117
Mirex	49.4		P	20 - 90.0
Oxychlordane	94.4		P	44 - 102
PCB-1016	88.0		P	45 - 107
PCB-1260	76.9		P	40 - 118
Permethrin	57.4		P	18 - 135
Phenothrin	75.5		P	10 - 102
Piperonyl Butoxide	109		P	28 - 156
Prallethrin	80.8		P	28 - 113
Tau-Fluvalinate	118		P	10 - 123
Tetramethrin	77.4		P	18 - 158
Trans-Nonachlor	62.3		P	39 - 104
Triclosan Methyl	62.8		P	54 - 108
Trifluralin	78.2		P	46 - 97.0

Reference Method: EPA 8276
Batch ID: P434297

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Chlordane	82.6		P	52 - 117
Toxaphene	90.3		P	44 - 125

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.7 Rev. 4.4

Batch ID: P434294

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2432739	Calcium	103		P	80 - 120
2432739	Iron	106	102	P/P	80 - 120
2432739	Magnesium	106	101	P/P	80 - 120
2432739	Potassium	109	104	P/P	80 - 120
2432739	Sodium	101		P	80 - 120
2432739	Strontium	101	97.5	P/P	80 - 120
2432739	Tin	102	98.2	P/P	80 - 120
2432739	Titanium	100	97.4	P/P	80 - 120
2432739	Vanadium	101	99.2	P/P	80 - 120
2432739	Zinc	100	98.2	P/P	80 - 120
2433112	Calcium	97.5		P	80 - 120
2433112	Iron	108		P	80 - 120
2433112	Magnesium	106		P	80 - 120
2433112	Potassium	110		P	80 - 120
2433112	Sodium	107		P	80 - 120
2433112	Strontium	104		P	80 - 120
2433112	Tin	102		P	80 - 120
2433112	Titanium	104		P	80 - 120
2433112	Vanadium	107		P	80 - 120
2433112	Zinc	102		P	80 - 120

Reference Method: EPA 200.7 Rev. 4.4

Batch ID: P434477

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2432598	Iron	94.4	91.8	P/P	80 - 120
2432598	Tin	90.5	99.7	P/P	80 - 120
2432598	Titanium	95.2	98.5	P/P	80 - 120
2432598	Vanadium	102	104	P/P	80 - 120
2432598	Zinc	98.8	104	P/P	80 - 120

Reference Method: EPA 200.8 Rev. 5.4

Batch ID: P434294

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2432739	Aluminum	97.9	98.3	P/P	80 - 120
2432739	Antimony	99.4	100	P/P	80 - 120
2432739	Arsenic	98.8	98.2	P/P	80 - 120
2432739	Barium	103	104	P/P	80 - 120
2432739	Beryllium	95.0	94.5	P/P	80 - 120
2432739	Boron	103	100	P/P	80 - 120
2432739	Cadmium	102	99.3	P/P	80 - 120
2432739	Chromium	99.4	99.6	P/P	80 - 120
2432739	Cobalt	101	101	P/P	80 - 120
2432739	Copper	99.7	101	P/P	80 - 120
2432739	Lead	101	100	P/P	80 - 120
2432739	Manganese	95.9	96.7	P/P	80 - 120
2432739	Molybdenum	98.4	97.4	P/P	80 - 120
2432739	Nickel	99.7	99.3	P/P	80 - 120
2432739	Selenium	100	97.9	P/P	80 - 120
2432739	Silver	114	116	P/P	80 - 120
2432739	Thallium	101	101	P/P	80 - 120

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.8 Rev. 5.4

Batch ID: P434294

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2433112	Aluminum	97.6		P	80 - 120
2433112	Antimony	102		P	80 - 120
2433112	Arsenic	97.4		P	80 - 120
2433112	Barium	103		P	80 - 120
2433112	Beryllium	94.7		P	80 - 120
2433112	Boron	103		P	80 - 120
2433112	Cadmium	101		P	80 - 120
2433112	Chromium	95.4		P	80 - 120
2433112	Cobalt	99.0		P	80 - 120
2433112	Copper	94.8		P	80 - 120
2433112	Lead	101		P	80 - 120
2433112	Manganese	97.1		P	80 - 120
2433112	Molybdenum	99.2		P	80 - 120
2433112	Nickel	96.5		P	80 - 120
2433112	Selenium	99.4		P	80 - 120
2433112	Silver	116		P	80 - 120
2433112	Thallium	102		P	80 - 120

Reference Method: EPA 200.8 Rev. 5.4

Batch ID: P434477

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2432598	Aluminum	124	126	P/P	70 - 130
2432598	Antimony	122	124	P/P	70 - 130
2432598	Arsenic	107	107	P/P	70 - 130
2432598	Barium	125	127	P/P	70 - 130
2432598	Beryllium	102	106	P/P	70 - 130
2432598	Boron	98.7	106	P/P	70 - 130
2432598	Cadmium	115	119	P/P	70 - 130
2432598	Chromium	119	123	P/P	70 - 130
2432598	Cobalt	122	122	P/P	70 - 130
2432598	Copper	122	124	P/P	70 - 130
2432598	Lead	124	125	P/P	70 - 130
2432598	Manganese	117	120	P/P	70 - 130
2432598	Molybdenum	103	106	P/P	70 - 130
2432598	Nickel	121	123	P/P	70 - 130
2432598	Selenium	126	126	P/P	70 - 130
2432598	Silver	120	122	P/P	70 - 130
2432598	Thallium	128	129	P/P	70 - 130

Reference Method: EPA 8270E

Batch ID: P434297

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2433024	PCB-1016	72.4	68.0	P/P	45 - 107
2433024	PCB-1260	57.9	60.3	P/P	40 - 112
2433175	Aldrin	51.0	50.1	P/P	24 - 81.0
2433175	Alpha-BHC	65.7	67.7	P/P	65 - 110
2433175	Alpha-Chlordane	69.3	68.6	P/P	43 - 119
2433175	Beta-BHC	67.3	60.7	P/P	54 - 165
2433175	Beta-Cyfluthrin	105	117	P/P	27 - 165
2433175	Bifenthrin	103	98.0	P/P	17 - 117

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8270E
Batch ID: P434297

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2433175	Chlorothalonil	86.8	89.9	P/P	10 - 255
2433175	Cis-Nonachlor	69.0	80.0	P/P	34 - 98.0
2433175	Cypermethrin	105	117	P/P	25 - 143
2433175	Dacthal	69.0	62.0	P/P	55 - 139
2433175	DDD-p,p'	68.8	66.9	P/P	30 - 109
2433175	DDE-p,p'	57.0	52.1	P/P	35 - 106
2433175	DDT-p,p'	158	170	F/F	41 - 101
2433175	Delta-BHC	75.7	74.1	P/P	58 - 165
2433175	Deltamethrin	170	191	P/P	10 - 194
2433175	Dichlobenil	40.8	38.7	P/P	22 - 114
2433175	Dicofol	72.5	73.9	P/P	17 - 133
2433175	Dieldrin	54.5	51.3	P/P	45 - 129
2433175	Endosulfan I	70.3	61.5	P/P	49 - 104
2433175	Endosulfan II	53.1	55.0	P/P	37 - 117
2433175	Endosulfan Sulfate	60.4	53.0	P/P	38 - 128
2433175	Endrin	52.3	52.2	P/P	35 - 116
2433175	Endrin Aldehyde	41.4	19.1	P/P	19 - 108
2433175	Endrin Ketone	64.5	53.6	P/P	44 - 134
2433175	Esfenvalerate	165	180	P/F	27 - 176
2433175	Ethalfuralin	71.2	67.3	P/P	49 - 100
2433175	Fenpropathrin	79.8	72.8	P/P	34 - 117
2433175	Gamma-BHC	81.3	80.9	P/P	59 - 129
2433175	Gamma-Chlordane	71.0	65.1	P/P	33 - 107
2433175	Heptachlor	73.2	65.7	P/P	37 - 94.0
2433175	Heptachlor Epoxide	61.1	61.5	P/P	38 - 118
2433175	Hexachlorobenzene	69.0	64.5	P/P	35 - 97.0
2433175	Kepone	55.9	59.9	P/P	10 - 221
2433175	Lambda-Cyhalothrin	107	123	P/P	23 - 190
2433175	Methoprene	79.0	69.8	P/P	21 - 109
2433175	Methoxychlor	61.0	62.2	P/P	46 - 118
2433175	MGK-264	72.1	68.9	P/P	39 - 122
2433175	Mirex	51.1	53.5	P/P	25 - 90.0
2433175	Oxychlordane	85.7	87.5	P/P	42 - 100
2433175	Permethrin	101	91.8	P/P	33 - 181
2433175	Phenothrin	100	83.4	P/P	12 - 125
2433175	Piperonyl Butoxide	112	106	P/P	10 - 178
2433175	Prallethrin	74.4	68.4	P/P	24 - 122
2433175	Tau-Fluvalinate	152	171	F/F	13 - 151
2433175	Tetramethrin	89.1	87.1	P/P	16 - 172
2433175	Trans-Nonachlor	80.8	65.4	P/P	39 - 100
2433175	Triclosan Methyl	61.3	57.6	P/P	43 - 110
2433175	Trifluralin	78.4	71.9	P/P	45 - 94.0

Reference Method: EPA 8276
Batch ID: P434297

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2433024	Chlordane	65.3	63.4	P/P	43 - 123
2433024	Toxaphene	77.4	72.6	P/P	27 - 156

Quality Assurance Report Precision

Reference Method: EPA 200.7 Rev. 4.4

Batch ID: P434294

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2432739	Calcium	3.69	Spike	P	0 - 20
2432739	Iron	3.27	Spike	P	0 - 20
2432739	Magnesium	3.20	Spike	P	0 - 20
2432739	Potassium	4.09	Spike	P	0 - 20
2432739	Sodium	4.25	Spike	P	0 - 20
2432739	Strontium	3.89	Spike	P	0 - 20
2432739	Tin	3.58	Spike	P	0 - 20
2432739	Titanium	2.66	Spike	P	0 - 20
2432739	Vanadium	2.16	Spike	P	0 - 20
2432739	Zinc	2.23	Spike	P	0 - 20

Reference Method: EPA 200.7 Rev. 4.4

Batch ID: P434477

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2432598	Calcium	1.40	Spike	P	0 - 20
2432598	Iron	2.58	Spike	P	0 - 20
2432598	Magnesium	1.43	Spike	P	0 - 20
2432598	Potassium	0.506	Spike	P	0 - 20
2432598	Sodium	2.74	Spike	P	0 - 20
2432598	Strontium	1.65	Spike	P	0 - 20
2432598	Tin	9.63	Spike	P	0 - 20
2432598	Titanium	3.16	Spike	P	0 - 20
2432598	Vanadium	2.03	Spike	P	0 - 20
2432598	Zinc	4.80	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4

Batch ID: P434294

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2432739	Aluminum	0.351	Spike	P	0 - 20
2432739	Antimony	0.895	Spike	P	0 - 20
2432739	Arsenic	0.608	Spike	P	0 - 20
2432739	Barium	1.04	Spike	P	0 - 20
2432739	Beryllium	0.464	Spike	P	0 - 20
2432739	Boron	2.59	Spike	P	0 - 20
2432739	Cadmium	2.23	Spike	P	0 - 20
2432739	Chromium	0.195	Spike	P	0 - 20
2432739	Cobalt	0.0812	Spike	P	0 - 20
2432739	Copper	1.15	Spike	P	0 - 20
2432739	Lead	0.714	Spike	P	0 - 20
2432739	Manganese	0.515	Spike	P	0 - 20
2432739	Molybdenum	0.967	Spike	P	0 - 20
2432739	Nickel	0.453	Spike	P	0 - 20
2432739	Selenium	2.41	Spike	P	0 - 20
2432739	Silver	1.01	Spike	P	0 - 20
2432739	Thallium	0.778	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 200.8 Rev. 5.4

Batch ID: P434477

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2432598	Aluminum	1.51	Spike	P	0 - 20
2432598	Antimony	2.17	Spike	P	0 - 20
2432598	Arsenic	0.157	Spike	P	0 - 20
2432598	Barium	1.04	Spike	P	0 - 20
2432598	Beryllium	3.43	Spike	P	0 - 20
2432598	Boron	1.45	Spike	P	0 - 20
2432598	Cadmium	3.22	Spike	P	0 - 20
2432598	Chromium	2.85	Spike	P	0 - 20
2432598	Cobalt	0.0571	Spike	P	0 - 20
2432598	Copper	1.85	Spike	P	0 - 20
2432598	Lead	0.509	Spike	P	0 - 20
2432598	Manganese	1.99	Spike	P	0 - 20
2432598	Molybdenum	2.44	Spike	P	0 - 20
2432598	Nickel	1.54	Spike	P	0 - 20
2432598	Selenium	0.151	Spike	P	0 - 20
2432598	Silver	1.26	Spike	P	0 - 20
2432598	Thallium	0.504	Spike	P	0 - 20

Reference Method: EPA 8270E

Batch ID: P434297

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2433024	PCB-1016	6.15	Spike	P	0 - 25
2433024	PCB-1260	4.06	Spike	P	0 - 30
2433175	Aldrin	1.75	Spike	P	0 - 41
2433175	Alpha-BHC	2.98	Spike	P	0 - 25
2433175	Alpha-Chlordane	0.985	Spike	P	0 - 32
2433175	Beta-BHC	10.3	Spike	P	0 - 33
2433175	Beta-Cyfluthrin	11.2	Spike	P	0 - 43
2433175	Bifenthrin	4.66	Spike	P	0 - 52
2433175	Chlorothalonil	3.52	Spike	P	0 - 82
2433175	Cis-Nonachlor	14.8	Spike	P	0 - 33
2433175	Cypermethrin	10.7	Spike	P	0 - 51
2433175	Dacthal	10.7	Spike	P	0 - 27
2433175	DDD-p,p'	2.84	Spike	P	0 - 39
2433175	DDE-p,p'	9.06	Spike	P	0 - 31
2433175	DDT-p,p'	4.54	Spike	P	0 - 29
2433175	Delta-BHC	2.10	Spike	P	0 - 35
2433175	Deltamethrin	11.6	Spike	P	0 - 100
2433175	Dichlobenil	5.37	Spike	P	0 - 40
2433175	Dicofol	1.86	Spike	P	0 - 37
2433175	Dieldrin	6.08	Spike	P	0 - 27
2433175	Endosulfan I	13.4	Spike	P	0 - 23
2433175	Endosulfan II	3.55	Spike	P	0 - 34
2433175	Endosulfan Sulfate	13.0	Spike	P	0 - 36
2433175	Endrin	0.280	Spike	P	0 - 45
2433175	Endrin Aldehyde	73.5	Spike	P	0 - 76
2433175	Endrin Ketone	18.5	Spike	P	0 - 43
2433175	Esfenvalerate	8.89	Spike	P	0 - 51
2433175	Ethalfuralin	5.65	Spike	P	0 - 22

Quality Assurance Report Precision

Reference Method: EPA 8270E
Batch ID: P434297

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2433175	Fenpropathrin	9.15	Spike	P	0 - 49
2433175	Gamma-BHC	0.488	Spike	P	0 - 28
2433175	Gamma-Chlordane	8.68	Spike	P	0 - 40
2433175	Heptachlor	10.7	Spike	P	0 - 29
2433175	Heptachlor Epoxide	0.678	Spike	P	0 - 33
2433175	Hexachlorobenzene	6.76	Spike	P	0 - 36
2433175	Kepone	6.85	Spike	P	0 - 85
2433175	Lambda-Cyhalothrin	14.3	Spike	P	0 - 55
2433175	Methoprene	12.4	Spike	P	0 - 53
2433175	Methoxychlor	1.88	Spike	P	0 - 50
2433175	MGK-264	4.64	Spike	P	0 - 43
2433175	Mirex	4.42	Spike	P	0 - 40
2433175	Oxychlordane	2.09	Spike	P	0 - 31
2433175	Permethrin	9.08	Spike	P	0 - 50
2433175	Phenothrin	18.1	Spike	P	0 - 58
2433175	Piperonyl Butoxide	5.28	Spike	P	0 - 100
2433175	Prallethrin	8.34	Spike	P	0 - 39
2433175	Tau-Fluvalinate	11.7	Spike	P	0 - 54
2433175	Tetramethrin	2.27	Spike	P	0 - 51
2433175	Trans-Nonachlor	21.1	Spike	P	0 - 39
2433175	Triclosan Methyl	6.29	Spike	P	0 - 31
2433175	Trifluralin	8.72	Spike	P	0 - 22

Reference Method: EPA 8276
Batch ID: P434297

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2433024	Chlordane	2.96	Spike	P	0 - 28
2433024	Toxaphene	6.44	Spike	P	0 - 27

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

Quality Assurance Report Surrogates

Lab Sample ID: 2433057

Field Sample ID: 20030027FLA

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8270E	Decachlorobiphenyl	99.7	P	37 - 129
EPA 8270E	Decachlorobiphenyl	76.8	P	26 - 115
EPA 8270E	Tetrachloro-m-xylene	52.7	P	30 - 101
EPA 8270E	Tetrachloro-m-xylene	64.9	P	29 - 95.0
EPA 8276	Decachlorobiphenyl	72.5	P	28 - 102
EPA 8276	PCNB	103	P	49 - 115

Lab Sample ID: 2433058

Field Sample ID: G2NE1159

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8270E	Decachlorobiphenyl	98.8	P	37 - 129
EPA 8270E	Decachlorobiphenyl	88.1	P	26 - 115
EPA 8270E	Tetrachloro-m-xylene	53.4	P	30 - 101
EPA 8270E	Tetrachloro-m-xylene	56.6	P	29 - 95.0
EPA 8276	Decachlorobiphenyl	71.2	P	28 - 102
EPA 8276	PCNB	81.1	P	49 - 115

Quality Assurance Report Calibration Verification

Reference Method: EPA 200.7 Rev. 4.4

Run ID: A121267

Included Lab Sample IDs: 2433060, 2433061

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Calcium	101	100	P/P	90 - 110
Iron	103	101	P/P	90 - 110
Magnesium	103	101	P/P	90 - 110
Potassium	99.3	97.7	P/P	90 - 110
Sodium	99.1	99.0	P/P	90 - 110
Strontium	97.4	98.7	P/P	90 - 110
Tin	96.9	99.6	P/P	90 - 110
Titanium	95.9	99.0	P/P	90 - 110
Vanadium	96.5	100	P/P	90 - 110
Zinc	97.6	102	P/P	90 - 110

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A121319

Included Lab Sample IDs: 2433060, 2433061

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Aluminum	96.8	94.4	P/P	90 - 110
Antimony	94.5	94.8	P/P	90 - 110
Arsenic	94.4	91.8	P/P	90 - 110
Barium	96.7	96.8	P/P	90 - 110
Beryllium	93.1	91.6	P/P	90 - 110
Boron	97.4	97.6	P/P	90 - 110
Cadmium	97.3	95.4	P/P	90 - 110
Cobalt	95.2	92.2	P/P	90 - 110
Lead	95.1	95.3	P/P	90 - 110
Manganese	94.4	91.8	P/P	90 - 110
Molybdenum	95.2	92.4	P/P	90 - 110
Selenium	96.8	94.2	P/P	90 - 110
Silver	98.4	96.7	P/P	90 - 110
Thallium	93.9	92.1	P/P	90 - 110

Reference Method: EPA 8276

Run ID: A121343

Included Lab Sample IDs: 2433057, 2433058

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chlordane	95.3		P	80 - 120
Toxaphene	89.5		P	80 - 120

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A121346

Included Lab Sample IDs: 2433060, 2433061, 2433062

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Aluminum	98.4	99.0	P/P	90 - 110
Antimony	95.8	94.4	P/P	90 - 110
Arsenic	99.5	99.8	P/P	90 - 110
Barium	98.4	97.9	P/P	90 - 110
Beryllium	97.2	97.5	P/P	90 - 110
Beryllium	98.3	97.1	P/P	90 - 110
Boron	95.9	99.1	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A121346

Included Lab Sample IDs: 2433060, 2433061, 2433062

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Cadmium	97.8	97.0	P/P	90 - 110
Chromium	97.1	95.4	P/P	90 - 110
Chromium	97.6	97.1	P/P	90 - 110
Cobalt	99.6	99.5	P/P	90 - 110
Copper	98.6	98.7	P/P	90 - 110
Copper	98.8	99.6	P/P	90 - 110
Lead	95.5	94.2	P/P	90 - 110
Manganese	97.4	96.8	P/P	90 - 110
Molybdenum	98.1	96.9	P/P	90 - 110
Nickel	99.4	99.9	P/P	90 - 110
Nickel	99.5	99.6	P/P	90 - 110
Selenium	98.3	97.0	P/P	90 - 110
Silver	95.7	95.0	P/P	90 - 110
Thallium	96.9	95.6	P/P	90 - 110

Reference Method: EPA 200.7 Rev. 4.4

Run ID: A121348

Included Lab Sample IDs: 2433062

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Calcium	102	102	P/P	90 - 110
Iron	101	103	P/P	90 - 110
Magnesium	101	103	P/P	90 - 110
Potassium	99.6	102	P/P	90 - 110
Sodium	101	102	P/P	90 - 110
Strontium	99.1	99.6	P/P	90 - 110
Tin	97.7	98.4	P/P	90 - 110
Titanium	98.0	98.1	P/P	90 - 110
Vanadium	97.9	98.3	P/P	90 - 110
Zinc	97.7	97.4	P/P	90 - 110

Reference Method: EPA 8270E

Run ID: A121366

Included Lab Sample IDs: 2433057, 2433058

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Aldrin	96.7		P	80 - 120
Alpha-BHC	92.8		P	80 - 120
Alpha-Chlordane	105		P	80 - 120
Beta-BHC	116		P	80 - 120
Beta-Cyfluthrin	89.6		P	80 - 120
Bifenthrin	107		P	80 - 120
Chlorothalonil	111		P	80 - 120
Cis-Nonachlor	103		P	80 - 120
Cypermethrin	93.9		P	80 - 120
Dacthal	102		P	80 - 120
DDD-p,p'	99.7		P	80 - 120
DDE-p,p'	96.3		P	80 - 120
DDT-p,p'	92.3		P	80 - 120
Delta-BHC	97.7		P	80 - 120
Deltamethrin	119		P	80 - 120

Quality Assurance Report Calibration Verification

Reference Method: EPA 8270E

Run ID: A121366

Included Lab Sample IDs: 2433057, 2433058

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Dichlobenil	101		P	80 - 120
Dicofol	97.1		P	80 - 120
Dieldrin	94.5		P	80 - 120
Endosulfan I	99.1		P	80 - 120
Endosulfan II	92.7		P	80 - 120
Endosulfan Sulfate	103		P	80 - 120
Endrin	90.8		P	80 - 120
Endrin Aldehyde	110		P	80 - 120
Endrin Ketone	116		P	80 - 120
Esfenvalerate	115		P	80 - 120
Ethalfuralin	101		P	80 - 120
Fenpropathrin	113		P	80 - 120
Gamma-BHC	115		P	80 - 120
Gamma-Chlordane	94.4		P	80 - 120
Heptachlor	87.9		P	80 - 120
Heptachlor Epoxide	110		P	80 - 120
Hexachlorobenzene	99.6		P	80 - 120
Kepone	110		P	80 - 120
Lambda-Cyhalothrin	118		P	80 - 120
Methoprene	104		P	80 - 120
Methoxychlor	95.0		P	80 - 120
MGK-264	104		P	80 - 120
Mirex	92.7		P	80 - 120
Oxychlordane	110		P	80 - 120
Permethrin	87.2		P	80 - 120
Phenothrin	87.2		P	80 - 120
Piperonyl Butoxide	108		P	80 - 120
Prallethrin	122*		F	80 - 120
Tau-Fluvalinate	110		P	80 - 120
Tetramethrin	89.8		P	80 - 120
Trans-Nonachlor	117		P	80 - 120
Triclosan Methyl	95.0		P	80 - 120
Trifluralin	106		P	80 - 120

Reference Method: EPA 8270E

Run ID: A121388

Included Lab Sample IDs: 2433057, 2433058

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
PCB-1016	102		P	80 - 120
PCB-1260	94.5		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			LCS	Precision SMP	MS
EPA 200.7 Rev. 4.4	Calcium	103	103	97.5				3.69
	Calcium	100						1.40
	Iron	105	106	102	108			3.27
	Iron	104	94.4	91.8				2.58
	Magnesium	105	106	101	106			3.20
	Magnesium	102						1.43
	Potassium	102	109	104	110			4.09
	Potassium	102						0.506
	Sodium	101	101	107				4.25
	Sodium	102						2.74
	Strontium	99.7	101	97.5	104			3.89
	Strontium	101						1.65
	Tin	98.7	102	98.2	102			3.58
	Tin	99.9	90.5	99.7				9.63
	Titanium	98.9	100	97.4	104			2.66
	Titanium	98.4	95.2	98.5				3.16
	Vanadium	99.5	101	99.2	107			2.16
	Vanadium	99.9	102	104				2.03
	Zinc	99.8	100	98.2	102			2.23
	Zinc	101	98.8	104				4.80
EPA 200.8 Rev. 5.4	Aluminum	98.5	97.9	98.3	97.6			0.351
	Aluminum	101	124	126				1.51
	Antimony	99.9	99.4	100	102			0.895
	Antimony	101	122	124				2.17
	Arsenic	97.9	98.8	98.2	97.4			0.608
	Arsenic	99.4	107	107				0.157
	Barium	103	103	104	103			1.04
	Barium	102	125	127				1.04
	Beryllium	94.9	95.0	94.5	94.7			0.464
	Beryllium	93.2	102	106				3.43
	Boron	101	103	100	103			2.59
	Boron	105	98.7	106				1.45
	Cadmium	99.0	102	99.3	101			2.23
	Cadmium	100	115	119				3.22
	Chromium	95.3	99.4	99.6	95.4			0.195
	Chromium	97.9	119	123				2.85
	Cobalt	100	101	101	99.0			0.0812
	Cobalt	99.3	122	122				0.0571
	Copper	98.9	99.7	101	94.8			1.15
	Copper	97.6	122	124				1.85
	Lead	100	101	100	101			0.714
	Lead	97.0	124	125				0.509
	Manganese	96.0	95.9	96.7	97.1			0.515
	Manganese	99.2	117	120				1.99
	Molybdenum	96.9	98.4	97.4	99.2			0.967
	Molybdenum	99.5	103	106				2.44
	Nickel	97.6	99.7	99.3	96.5			0.453
	Nickel	98.3	121	123				1.54
	Selenium	99.8	100	97.9	99.4			2.41
	Selenium	99.7	126	126				0.151
	Silver	110	114	116	116			1.01
	Silver	105	120	122				1.26
	Thallium	101	101	101	102			0.778
	Thallium	101	128	129				0.504

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery		LCS	Precision	MS
						SMP	
EPA 8270E	Aldrin	55.1	51.0	50.1			1.75
	Alpha-BHC	79.5	65.7	67.7			2.98
	Alpha-Chlordane	70.3	69.3	68.6			0.985
	Beta-BHC	71.3	67.3	60.7			10.3
	Beta-Cyfluthrin	83.6	105	117			11.2
	Bifenthrin	69.8	103	98.0			4.66
	Chlorothalonil	81.5	86.8	89.9			3.52
	Cis-Nonachlor	80.4	69.0	80.0			14.8
	Cypermethrin	72.0	105	117			10.7
	Dacthal	84.7	69.0	62.0			10.7
	DDD-p,p'	57.4	68.8	66.9			2.84
	DDE-p,p'	54.4	57.0	52.1			9.06
	DDT-p,p'	129	158	170			4.54
	Delta-BHC	90.9	75.7	74.1			2.10
	Deltamethrin	110	170	191			11.6
	Dichlobenil	72.5	40.8	38.7			5.37
	Dicofol	71.2	72.5	73.9			1.86
	Dieldrin	55.7	54.5	51.3			6.08
	Endosulfan I	70.4	70.3	61.5			13.4
	Endosulfan II	80.2	53.1	55.0			3.55
	Endosulfan Sulfate	71.5	60.4	53.0			13.0
	Endrin	54.7	52.3	52.2			0.280
	Endrin Aldehyde	51.4	41.4	19.1			73.5
	Endrin Ketone	70.0	64.5	53.6			18.5
	Esfenvalerate	138	165	180			8.89
	Ethalfuralin	75.2	71.2	67.3			5.65
	Fenpropathrin	67.5	79.8	72.8			9.15
	Gamma-BHC	81.3	81.3	80.9			0.488
	Gamma-Chlordane	59.6	71.0	65.1			8.68
	Heptachlor	72.6	73.2	65.7			10.7
	Heptachlor Epoxide	68.0	61.1	61.5			0.678
	Hexachlorobenzene	76.6	69.0	64.5			6.76
	Kepone	79.9	55.9	59.9			6.85
	Lambda-Cyhalothrin	73.0	107	123			14.3
	Methoprene	57.5	79.0	69.8			12.4
	Methoxychlor	68.7	61.0	62.2			1.88
	MGK-264	84.4	72.1	68.9			4.64
	Mirex	49.4	51.1	53.5			4.42
	Oxychlordane	94.4	85.7	87.5			2.09
	PCB-1016	88.0	72.4	68.0			6.15
	PCB-1260	76.9	57.9	60.3			4.06
	Permethrin	57.4	101	91.8			9.08
	Phenothrin	75.5	100	83.4			18.1
	Piperonyl Butoxide	109	112	106			5.28
	Prallethrin	80.8	74.4	68.4			8.34
	Tau-Fluvalinate	118	152	171			11.7
	Tetramethrin	77.4	89.1	87.1			2.27
	Trans-Nonachlor	62.3	80.8	65.4			21.1
	Triclosan Methyl	62.8	61.3	57.6			6.29
	Trifluralin	78.2	78.4	71.9			8.72
EPA 8276	Chlordane	82.6	65.3	63.4			2.96
	Toxaphene	90.3	77.4	72.6			6.44

Reference Method Descriptions

Method	Description	<u>Associated Samples</u>
EPA 200.7 Rev. 4.4	Total Recoverable Metals analysis using ICP emission spectroscopy for aqueous samples supporting Clean Water Act Projects	2433060, 2433061, 2433062
EPA 200.8 Rev. 5.4	Total Recoverable Metals analysis using ICP-MS for aqueous samples supporting Clean Water Act Projects	2433060, 2433061, 2433062
EPA 8270E	Organochlorine pesticides, pyrethroids and tracers in water matrices by GC/MS/MS	2433057, 2433058
EPA 8270E	PCBs in water matrices by GC/MS/MS	2433057, 2433058
EPA 8276	Chlordane and Toxaphene in water matrices by GC/MS with Negative Chemical Ionization	2433057, 2433058
SM 2340 B-2011	Hardness by calculation, in aqueous matrices, reported as mg/L CaCO ₃	2433060, 2433061, 2433062

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	08/23/2023	08/24/2023 13:25	George D Taylor	08/25/2023 15:34	Samatha Luckman	2433060
	08/23/2023	08/24/2023 13:25	George D Taylor	08/25/2023 15:44	Samatha Luckman	2433060
	08/23/2023	08/24/2023 13:25	George D Taylor	08/25/2023 16:00	Samatha Luckman	2433061
	08/23/2023	08/24/2023 13:25	George D Taylor	08/25/2023 16:09	Samatha Luckman	2433061
	08/23/2023	08/29/2023 12:15	George D Taylor	09/01/2023 19:05	McKinley C Carter	2433062
	08/23/2023	08/29/2023 12:15	George D Taylor	09/01/2023 19:13	McKinley C Carter	2433062
EPA 200.8 Rev. 5.4	08/23/2023	08/24/2023 13:25	George D Taylor	08/29/2023 19:16	Conrad Hartmann	2433060
	08/23/2023	08/24/2023 13:25	George D Taylor	08/29/2023 19:25	Conrad Hartmann	2433061
	08/23/2023	08/24/2023 13:25	George D Taylor	08/29/2023 19:34	Conrad Hartmann	2433061
	08/23/2023	08/24/2023 13:25	George D Taylor	09/01/2023 16:40	Emily M Philpot	2433060
	08/23/2023	08/24/2023 13:25	George D Taylor	09/01/2023 17:09	Emily M Philpot	2433061
	08/23/2023	08/29/2023 12:15	George D Taylor	09/01/2023 20:49	Emily M Philpot	2433062
EPA 8270E	08/23/2023	08/28/2023 08:30	Rasheda Ghaffari	09/05/2023 20:34	Lipi Saha	2433057
	08/23/2023	08/28/2023 08:30	Rasheda Ghaffari	09/05/2023 20:47	Vandana T. Nagar	2433057
	08/23/2023	08/28/2023 08:30	Rasheda Ghaffari	09/05/2023 21:04	Lipi Saha	2433058
	08/23/2023	08/28/2023 08:30	Rasheda Ghaffari	09/05/2023 21:19	Vandana T. Nagar	2433058
EPA 8276	08/23/2023	08/28/2023 08:30	Rasheda Ghaffari	09/02/2023 14:17	Arthur Maknenko	2433057
	08/23/2023	08/28/2023 08:30	Rasheda Ghaffari	09/02/2023 15:13	Arthur Maknenko	2433058
SM 2340 B-2011	08/23/2023			08/25/2023 15:34	Samatha Luckman	2433060
	08/23/2023			08/25/2023 16:09	Samatha Luckman	2433061
	08/23/2023			09/01/2023 19:13	McKinley C Carter	2433062