

Chemical Analysis Report

NE-DIST-2023-02-17-02

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

Event Description: **LSJR North 2 2023**
Request ID: **RQ-2023-02-13-13**
Customer: **NE-DIST**
Project ID: **SMP**

Send Reports to:
FL Dept. of Environmental Protection
8800 Baymeadows Way West
Suite 100
Jacksonville, FL 32256
Attn: Jeremy Parrish

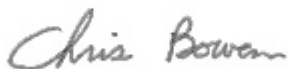
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This Report replaces the previous Report Serial Number: 0143990

Report Comment: The preparation batch ID was corrected for metals silver analysis for field ID 20030025.

Revision certified by: Chris Bowen, Environmental Administrator

Date Certified: 14-MAR-2023 15:57



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: Blockhouse 100m abv Irma rd.

Collection Date/Time: 02/16/2023 10:15

Field ID: G2NE1159

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2388526	EPA 8270E	Aldrin	0.68	U	ng/L	P426119	RPD
		Alpha-BHC	0.10	U	ng/L	P426119	
		Alpha-Chlordane	0.21	UJ	ng/L	P426119	CCV
		PCB-1016	2.1	U	ng/L	P426119	
		Beta-BHC	0.10	U	ng/L	P426119	
		PCB-1221	2.1	U	ng/L	P426119	
		Beta-Cyfluthrin	1.3	U	ng/L	P426119	
		PCB-1232	2.1	U	ng/L	P426119	
		Bifenthrin	0.52	U	ng/L	P426119	
		PCB-1242	2.1	U	ng/L	P426119	
		PCB-1248	2.1	U	ng/L	P426119	
		Chlorothalonil	3.8	U	ng/L	P426119	MS, RPD
		PCB-1254	2.1	U	ng/L	P426119	
		Cis-Nonachlor	0.21	U	ng/L	P426119	
		PCB-1260	2.1	U	ng/L	P426119	
		Cypermethrin	1.6	U	ng/L	P426119	
		Dacthal	0.16	U	ng/L	P426119	
		DDD-p,p'	0.26	U	ng/L	P426119	
		DDE-p,p'	0.21	U	ng/L	P426119	
		DDT-p,p'	0.26	U	ng/L	P426119	
		Delta-BHC	0.42	U	ng/L	P426119	
		Deltamethrin	1.3	U	ng/L	P426119	
		Dichlobenil	0.26	U	ng/L	P426119	
		Dicofol	1.3	U	ng/L	P426119	
		Dieldrin	0.42	U	ng/L	P426119	
		Endosulfan I	0.42	U	ng/L	P426119	
		Endosulfan II	0.42	U	ng/L	P426119	
		Endosulfan Sulfate	0.31	U	ng/L	P426119	
		Endrin	0.42	U	ng/L	P426119	
		Endrin Aldehyde	0.79	U	ng/L	P426119	
		Endrin Ketone	0.42	U	ng/L	P426119	
		Esfenvalerate	0.79	U	ng/L	P426119	
		Ethalfuralin	0.16	U	ng/L	P426119	
		Fenpropathrin	0.26	U	ng/L	P426119	RPD
		Gamma-BHC	0.13	U	ng/L	P426119	
		Gamma-Chlordane	0.24	I	ng/L	P426119	
		Heptachlor	0.21	U	ng/L	P426119	
		Heptachlor Epoxide	0.26	U	ng/L	P426119	MS, RPD
		Hexachlorobenzene**	1.0	U	ng/L	P426119	
		Kepone	5.2	U	ng/L	P426119	
		Lambda-Cyhalothrin	0.79	U	ng/L	P426119	
		Methoprene	0.79	U	ng/L	P426119	
		Methoxychlor	0.31	UJ	ng/L	P426119	LCS, RPD
		MGK-264	0.21	U	ng/L	P426119	MS, RPD

Field ID: G2NE1159

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2388526	EPA 8270E	Mirex	0.37	U	ng/L	P426119	MS, RPD
		Oxychlorane	0.31	U	ng/L	P426119	
		Permethrin	1.7	U	ng/L	P426119	
		Phenothrin	0.94	U	ng/L	P426119	LCS
		Piperonyl Butoxide	0.16	UJ	ng/L	P426119	
		Prallethrin	2.1	U	ng/L	P426119	
		Tau-Fluvalinate	0.26	U	ng/L	P426119	
		Tetramethrin	0.79	U	ng/L	P426119	
		Trans-Nonachlor	0.21	U	ng/L	P426119	
		Triclosan Methyl	0.16	U	ng/L	P426119	
		Trifluralin	0.21	U	ng/L	P426119	
		Chlordane	2.1	U	ng/L	P426119	
		Toxaphene	16	U	ng/L	P426119	MS

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

Sample Location: Blockhouse CR @ Leonid Rd.

Collection Date/Time: 02/16/2023 10:35

Field ID: 20030027FLA

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2388525	EPA 8270E	Aldrin	0.66	U	ng/L	P426119	RPD
		Alpha-BHC	0.10	U	ng/L	P426119	
		Alpha-Chlordane	0.20	UJ	ng/L	P426119	CCV
		PCB-1016	2.0	U	ng/L	P426119	
		Beta-BHC	0.10	I	ng/L	P426119	
		PCB-1221	2.0	U	ng/L	P426119	
		Beta-Cyfluthrin	1.3	U	ng/L	P426119	
		PCB-1232	2.0	U	ng/L	P426119	
		Bifenthrin	0.51	U	ng/L	P426119	
		PCB-1242	2.0	U	ng/L	P426119	
		PCB-1248	2.0	U	ng/L	P426119	
		Chlorothalonil	3.6	U	ng/L	P426119	MS, RPD
		PCB-1254	2.0	U	ng/L	P426119	
		Cis-Nonachlor	0.20	U	ng/L	P426119	
		PCB-1260	2.0	U	ng/L	P426119	
		Cypermethrin	1.5	U	ng/L	P426119	
		Dacthal	0.15	U	ng/L	P426119	
		DDD-p,p'	0.25	U	ng/L	P426119	
		DDE-p,p'	0.20	U	ng/L	P426119	
		DDT-p,p'	0.25	U	ng/L	P426119	
		Delta-BHC	0.40	U	ng/L	P426119	
		Deltamethrin	1.3	U	ng/L	P426119	
		Dichlobenil	0.25	U	ng/L	P426119	
		Dicofol	1.3	U	ng/L	P426119	
		Dieldrin	0.40	U	ng/L	P426119	
		Endosulfan I	0.40	U	ng/L	P426119	
		Endosulfan II	0.40	U	ng/L	P426119	
		Endosulfan Sulfate	0.30	U	ng/L	P426119	
		Endrin	0.40	U	ng/L	P426119	
		Endrin Aldehyde	0.76	U	ng/L	P426119	
		Endrin Ketone	0.40	U	ng/L	P426119	
		Esfenvalerate	0.76	U	ng/L	P426119	
		Ethalfuralin	0.15	U	ng/L	P426119	
		Fenpropathrin	0.25	U	ng/L	P426119	RPD
		Gamma-BHC	0.13	U	ng/L	P426119	
		Gamma-Chlordane	0.22	I	ng/L	P426119	
		Heptachlor	0.20	U	ng/L	P426119	
		Heptachlor Epoxide	0.25	U	ng/L	P426119	MS, RPD
		Hexachlorobenzene**	1.0	U	ng/L	P426119	
		Kepone	5.1	U	ng/L	P426119	
		Lambda-Cyhalothrin	0.76	U	ng/L	P426119	
		Methoprene	0.76	U	ng/L	P426119	
		Methoxychlor	0.30	UJ	ng/L	P426119	LCS, RPD
		MGK-264	0.20	U	ng/L	P426119	MS, RPD

Field ID: 20030027FLA

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2388525	EPA 8270E	Mirex	0.35	U	ng/L	P426119	
		Oxychlordane	0.30	U	ng/L	P426119	MS, RPD
		Permethrin	1.6	U	ng/L	P426119	
		Phenothrin	0.91	U	ng/L	P426119	
		Piperonyl Butoxide	0.15	UJ	ng/L	P426119	LCS
		Prallethrin	2.0	U	ng/L	P426119	
		Tau-Fluvalinate	0.25	U	ng/L	P426119	
		Tetramethrin	0.76	U	ng/L	P426119	
		Trans-Nonachlor	0.20	U	ng/L	P426119	
		Triclosan Methyl	0.15	U	ng/L	P426119	
		Trifluralin	0.20	U	ng/L	P426119	
	EPA 8276	Chlordane	2.0	U	ng/L	P426119	
		Toxaphene	15	UJ	ng/L	P426119	MS
2388527	EPA 200.7 Rev. 4.4	Calcium	36.9		mg/L	P426158	
		Iron	1.26E+03		ug/L	P426158	
		Magnesium	46.7		mg/L	P426158	
		Strontium	398		ug/L	P426158	
		Tin	3.0	U	ug/L	P426158	
		Titanium	7.7		ug/L	P426158	
		Vanadium	2.0	I	ug/L	P426158	
	EPA 200.8 Rev. 5.4	Zinc	5.0	U	ug/L	P426158	
		Aluminum	303		ug/L	P426158	
		Antimony	0.10	I	ug/L	P426158	
		Arsenic	1.04		ug/L	P426158	
		Beryllium	0.036	I	ug/L	P426158	
		Cadmium	0.024	I	ug/L	P426158	
		Chromium	0.81	I	ug/L	P426158	
		Cobalt	0.292		ug/L	P426158	
		Copper	1.26		ug/L	P426158	
		Lead	0.84		ug/L	P426158	
		Manganese	45.5		ug/L	P426158	
		Molybdenum	0.72		ug/L	P426158	
		Nickel	0.55	I	ug/L	P426158	
		Selenium	0.20	U	ug/L	P426158	
		Silver	0.010	U	ug/L	P426328	
		Thallium	0.10	U	ug/L	P426158	

Ref. Method and Comment:

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

EPA 8276: Refer to the Lab Analysis Report for an explanation of QC Codes.

Sample Location: HIGHLANDS CR @ BROWARD RD

Collection Date/Time: 02/16/2023 11:00

Field ID: 20030025

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2388528	EPA 200.7 Rev. 4.4	Calcium	122		mg/L	P426273	
		Iron	650		ug/L	P426273	
		Magnesium	302		mg/L	P426273	
		Strontium	1.99E+03		ug/L	P426273	
		Tin	9.0	U	ug/L	P426273	
		Titanium	12.4		ug/L	P426273	
		Vanadium	6.0	U	ug/L	P426273	
	EPA 200.8 Rev. 5.4	Zinc	15	U	ug/L	P426273	
		Aluminum	238		ug/L	P426273	
		Antimony	0.20	U	ug/L	P426273	
		Arsenic	1.51		ug/L	P426273	
		Beryllium	0.045	I	ug/L	P426273	
		Cadmium	0.080	U	ug/L	P426273	
		Chromium	1.6	U	ug/L	P426273	
		Cobalt	0.19	I	ug/L	P426273	
		Copper	1.6	U	ug/L	P426273	
		Lead	2.0	U	ug/L	P426273	
		Manganese	29.9		ug/L	P426273	
		Molybdenum	3.2		ug/L	P426273	
		Nickel	2.0	U	ug/L	P426273	
		Selenium	0.80	U	ug/L	P426273	
		Silver	0.040	U	ug/L	P426568	
		Thallium	0.40	U	ug/L	P426273	

Ref. Method and Comment:

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

Sample Location: FB

Collection Date/Time: 02/16/2023 10:45

Field ID: FB_02162023

Matrix: W-FIELD-BK

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2388544	EPA 8270E	Aldrin	0.67	U	ng/L	P426119	RPD
		Alpha-BHC	0.10	U	ng/L	P426119	
		Alpha-Chlordane	0.21	UJ	ng/L	P426119	CCV
		PCB-1016	2.1	U	ng/L	P426119	
		Beta-BHC	0.10	U	ng/L	P426119	
		PCB-1221	2.1	U	ng/L	P426119	
		Beta-Cyfluthrin	1.3	U	ng/L	P426119	
		PCB-1232	2.1	U	ng/L	P426119	
		Bifenthrin	0.51	U	ng/L	P426119	
		PCB-1242	2.1	U	ng/L	P426119	
		PCB-1248	2.1	U	ng/L	P426119	
		Chlorothalonil	3.7	U	ng/L	P426119	MS, RPD
		PCB-1254	2.1	U	ng/L	P426119	
		Cis-Nonachlor	0.21	U	ng/L	P426119	
		PCB-1260	2.1	U	ng/L	P426119	
		Cypermethrin	1.5	U	ng/L	P426119	
		Dacthal	0.15	U	ng/L	P426119	
		DDD-p,p'	0.26	U	ng/L	P426119	
		DDE-p,p'	0.21	U	ng/L	P426119	
		DDT-p,p'	0.26	U	ng/L	P426119	
		Delta-BHC	0.41	U	ng/L	P426119	
		Deltamethrin	1.3	U	ng/L	P426119	
		Dichlobenil	0.26	U	ng/L	P426119	
		Dicofol	1.3	U	ng/L	P426119	
		Dieldrin	0.41	U	ng/L	P426119	
		Endosulfan I	0.41	U	ng/L	P426119	
		Endosulfan II	0.41	U	ng/L	P426119	
		Endosulfan Sulfate	0.31	U	ng/L	P426119	
		Endrin	0.41	U	ng/L	P426119	
		Endrin Aldehyde	0.77	U	ng/L	P426119	
		Endrin Ketone	0.41	U	ng/L	P426119	
		Esfenvalerate	0.77	U	ng/L	P426119	
		Ethalfuralin	0.15	U	ng/L	P426119	
		Fenpropathrin	0.26	U	ng/L	P426119	RPD
		Gamma-BHC	0.13	U	ng/L	P426119	
		Gamma-Chlordane	0.21	U	ng/L	P426119	
		Heptachlor	0.21	U	ng/L	P426119	
		Heptachlor Epoxide	0.26	U	ng/L	P426119	MS, RPD
		Hexachlorobenzene**	1.0	U	ng/L	P426119	
		Kepone	5.1	U	ng/L	P426119	
		Lambda-Cyhalothrin	0.77	U	ng/L	P426119	
		Methoprene	0.77	U	ng/L	P426119	
		Methoxychlor	0.31	UJ	ng/L	P426119	LCS, RPD
		MGK-264	0.28	I	ng/L	P426119	MS, RPD

Field ID: FB_02162023

Matrix: W-FIELD-BK

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2388544	EPA 8270E	Mirex	0.36	U	ng/L	P426119	MS, RPD
		Oxychlordane	0.31	U	ng/L	P426119	
		Permethrin	1.6	U	ng/L	P426119	
		Phenothrin	0.93	U	ng/L	P426119	
		Piperonyl Butoxide	0.15	UJ	ng/L	P426119	LCS
		Prallethrin	2.1	U	ng/L	P426119	
		Tau-Fluvalinate	0.26	U	ng/L	P426119	
		Tetramethrin	0.77	U	ng/L	P426119	
		Trans-Nonachlor	0.21	U	ng/L	P426119	MS
		Triclosan Methyl	0.15	U	ng/L	P426119	
		Trifluralin	0.21	U	ng/L	P426119	
		Chlordane	2.1	U	ng/L	P426119	
		Toxaphene	15	U	ng/L	P426119	
2388545	EPA 200.7 Rev. 4.4	Calcium	0.075	U	mg/L	P426158	
		Iron	30	U	ug/L	P426158	
		Magnesium	0.040	U	mg/L	P426158	
		Strontium	2.0	U	ug/L	P426158	
		Tin	3.0	U	ug/L	P426158	
		Titanium	0.75	U	ug/L	P426158	
		Vanadium	2.0	U	ug/L	P426158	
	EPA 200.8 Rev. 5.4	Zinc	5.0	U	ug/L	P426158	
		Aluminum	5.0	U	ug/L	P426158	
		Antimony	0.050	U	ug/L	P426158	
		Arsenic	0.050	U	ug/L	P426158	
		Beryllium	0.010	U	ug/L	P426158	
		Cadmium	0.020	U	ug/L	P426158	
		Chromium	0.40	U	ug/L	P426158	
		Cobalt	0.020	U	ug/L	P426158	
		Copper	0.40	U	ug/L	P426158	
		Lead	0.20	U	ug/L	P426158	
		Manganese	0.10	U	ug/L	P426158	
		Molybdenum	0.15	U	ug/L	P426158	
		Nickel	0.50	U	ug/L	P426158	
		Selenium	0.20	U	ug/L	P426158	
		Silver	0.010	U	ug/L	P426328	
		Thallium	0.10	U	ug/L	P426158	

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

Quality Assurance Report Method Blank Results

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P426158

Component	Result	Code	Units
Calcium	0.075	U	mg/L
Iron	30	U	ug/L
Magnesium	0.040	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: P426273

Component	Result	Code	Units
Calcium	0.075	U	mg/L
Iron	30	U	ug/L
Magnesium	0.040	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: P426158

Component	Result	Code	Units
Aluminum	5.0	U	ug/L
Antimony	0.050	U	ug/L
Arsenic	0.050	U	ug/L
Beryllium	0.010	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
Thallium	0.10	U	ug/L

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P426273

Component	Result	Code	Units
Aluminum	5.0	U	ug/L
Antimony	0.050	U	ug/L
Arsenic	0.050	U	ug/L
Beryllium	0.010	U	ug/L
Cadmium	0.020	U	ug/L
Chromium	0.40	U	ug/L
Cobalt	0.020	U	ug/L

Quality Assurance Report Method Blank Results

Reference Method: EPA 200.8 Rev. 5.4

Batch ID: P426273

Component	Result	Code	Units
Copper	0.60	I	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
Thallium	0.10	U	ug/L

Reference Method: EPA 200.8 Rev. 5.4

Batch ID: P426328

Component	Result	Code	Units
Silver	0.010	U	ug/L

Reference Method: EPA 200.8 Rev. 5.4

Batch ID: P426568

Component	Result	Code	Units
Silver	0.010	U	ug/L

Reference Method: EPA 8270E

Batch ID: P426119

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'	0.25	U	ng/L
DDT-p,p'	0.25	U	ng/L
Delta-BHC	0.40	U	ng/L
Delta-BHC	0.40	U	ng/L

Quality Assurance Report Method Blank Results

Reference Method: EPA 8270E

Batch ID: P426119

Component	Result	Code	Units
Deltamethrin	1.2	U	ng/L
Deltamethrin	1.2	U	ng/L
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	0.40	U	ng/L
Endosulfan II	0.40	U	ng/L
Endosulfan Sulfate	0.30	U	ng/L
Endosulfan Sulfate	0.30	U	ng/L
Endrin	0.40	U	ng/L
Endrin	0.40	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	5.0	U	ng/L
Kepone	5.0	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

Quality Assurance Report Method Blank Results

Reference Method: EPA 8270E
Batch ID: P426119

Component	Result	Code	Units
PCB-1221	2.0	U	ng/L
PCB-1221	2.0	U	ng/L
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: P426119

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: P426158

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Calcium	101		P	85 - 115
Iron	101		P	85 - 115
Magnesium	105		P	85 - 115
Strontium	98.7		P	85 - 115
Tin	102		P	85 - 115
Titanium	101		P	85 - 115
Vanadium	98.6		P	85 - 115
Zinc	106		P	85 - 115

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P426273

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Calcium	105		P	85 - 115
Iron	105		P	85 - 115
Magnesium	105		P	85 - 115
Strontium	101		P	85 - 115
Tin	99.2		P	85 - 115
Titanium	102		P	85 - 115
Vanadium	98.6		P	85 - 115
Zinc	103		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P426158

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Aluminum	96.7		P	85 - 115
Antimony	99.6		P	85 - 115
Arsenic	96.7		P	85 - 115
Beryllium	93.0		P	85 - 115
Cadmium	98.0		P	85 - 115
Chromium	100		P	85 - 115
Cobalt	98.7		P	85 - 115
Copper	97.6		P	85 - 115
Lead	95.5		P	85 - 115
Manganese	99.3		P	85 - 115
Molybdenum	95.6		P	85 - 115
Nickel	99.9		P	85 - 115
Selenium	98.1		P	85 - 115
Thallium	97.9		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P426273

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Aluminum	96.8		P	85 - 115
Antimony	97.1		P	85 - 115
Arsenic	94.1		P	85 - 115
Beryllium	89.0		P	85 - 115
Cadmium	97.2		P	85 - 115
Chromium	95.0		P	85 - 115
Cobalt	97.1		P	85 - 115

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 200.8 Rev. 5.4

Batch ID: P426273

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Copper	94.1		P	85 - 115
Lead	93.3		P	85 - 115
Manganese	95.5		P	85 - 115
Molybdenum	94.4		P	85 - 115
Nickel	94.8		P	85 - 115
Selenium	93.5		P	85 - 115
Thallium	97.8		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4

Batch ID: P426328

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Silver	103		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4

Batch ID: P426568

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Silver	98.5		P	85 - 115

Reference Method: EPA 8270E

Batch ID: P426119

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Aldrin	57.3		P	10 - 92.0
Alpha-BHC	94.7		P	75 - 107
Alpha-Chlordane	62.5		P	50 - 108
Beta-BHC	79.0		P	36 - 138
Beta-Cyfluthrin	73.5		P	20 - 161
Bifenthrin	47.6		P	10 - 119
Chlorothalonil	68.6		P	26 - 186
Cis-Nonachlor	86.5		P	42 - 119
Cypermethrin	73.8		P	22 - 150
Dacthal	82.0		P	72 - 119
DDD-p,p'	65.3		P	45 - 107
DDE-p,p'	80.4		P	48 - 106
DDT-p,p'	60.8		P	48 - 110
Delta-BHC	107		P	54 - 140
Deltamethrin	126		P	22 - 189
Dichlobenil	65.7		P	36 - 117
Dicofol	51.9		P	46 - 155
Dieldrin	81.5		P	54 - 110
Endosulfan I	74.5		P	59 - 105
Endosulfan II	77.0		P	51 - 118
Endosulfan Sulfate	102		P	57 - 121
Endrin	87.7		P	10 - 120
Endrin Aldehyde	82.2		P	34 - 118
Endrin Ketone	104		P	69 - 177
Esfenvalerate	70.2		P	23 - 168
Ethalfuralin	66.7		P	49 - 99.0
Fenpropathrin	59.0		P	34 - 117
Gamma-BHC	103		P	72 - 117

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: EPA 8270E

Batch ID: P426119

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Gamma-Chlordane	58.7		P	43 - 106
Heptachlor	69.8		P	41 - 98.0
Heptachlor Epoxide	84.7		P	57 - 106
Hexachlorobenzene	48.6		P	36 - 99.0
Kepone	86.2		P	16 - 215
Lambda-Cyhalothrin	63.0		P	21 - 177
Methoprene	68.6		P	10 - 119
Methoxychlor	56.1		F	60 - 112
MGK-264	75.5		P	26 - 122
Mirex	72.9		P	10 - 169
Oxychlordane	79.5		P	43 - 105
PCB-1016	74.3		P	48 - 112
PCB-1260	70.9		P	44 - 118
Permethrin	79.4		P	24 - 148
Phenothrin	57.7		P	10 - 106
Piperonyl Butoxide	167		F	10 - 139
Prallethrin	85.8		P	17 - 109
Tau-Fluvalinate	63.8		P	13 - 131
Tetramethrin	81.8		P	10 - 132
Trans-Nonachlor	78.7		P	44 - 106
Triclosan Methyl	67.6		P	59 - 109
Trifluralin	65.5		P	44 - 101

Reference Method: EPA 8276

Batch ID: P426119

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Chlordane	75.6		P	61 - 116
Toxaphene	70.9		P	48 - 124

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.7 Rev. 4.4

Batch ID: P426158

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2388015	Calcium	98.1		P	80 - 120
2388015	Iron	99.9	102	P/P	80 - 120
2388015	Magnesium	103	105	P/P	80 - 120
2388015	Strontium	97.4	98.8	P/P	80 - 120
2388015	Tin	102	102	P/P	80 - 120
2388015	Titanium	103	104	P/P	80 - 120
2388015	Vanadium	100	101	P/P	80 - 120
2388015	Zinc	104	105	P/P	80 - 120
2388431	Calcium	97.2		P	80 - 120
2388431	Iron	100		P	80 - 120
2388431	Magnesium	101		P	80 - 120
2388431	Strontium	96.4		P	80 - 120
2388431	Tin	99.4		P	80 - 120
2388431	Titanium	103		P	80 - 120
2388431	Vanadium	101		P	80 - 120
2388431	Zinc	105		P	80 - 120

Reference Method: EPA 200.7 Rev. 4.4

Batch ID: P426273

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2388189	Iron	102	104	P/P	80 - 120
2388189	Tin	91.3	94.2	P/P	80 - 120
2388189	Titanium	100	104	P/P	80 - 120
2388189	Vanadium	106	110	P/P	80 - 120
2388189	Zinc	103	105	P/P	80 - 120

Reference Method: EPA 200.8 Rev. 5.4

Batch ID: P426158

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2388015	Aluminum	112	95.6	P/P	80 - 120
2388015	Antimony	99.9	99.6	P/P	80 - 120
2388015	Arsenic	96.7	96.1	P/P	80 - 120
2388015	Beryllium	94.6	94.7	P/P	80 - 120
2388015	Cadmium	99.8	96.9	P/P	80 - 120
2388015	Chromium	99.4	99.1	P/P	80 - 120
2388015	Cobalt	97.3	96.5	P/P	80 - 120
2388015	Copper	97.1	95.8	P/P	80 - 120
2388015	Lead	96.7	95.0	P/P	80 - 120
2388015	Manganese	101	98.2	P/P	80 - 120
2388015	Molybdenum	97.1	97.0	P/P	80 - 120
2388015	Nickel	99.2	98.2	P/P	80 - 120
2388015	Selenium	96.7	95.7	P/P	80 - 120
2388015	Thallium	98.7	98.8	P/P	80 - 120
2388431	Aluminum	95.8		P	80 - 120
2388431	Antimony	99.4		P	80 - 120
2388431	Arsenic	94.4		P	80 - 120
2388431	Beryllium	91.0		P	80 - 120
2388431	Cadmium	97.2		P	80 - 120
2388431	Chromium	97.4		P	80 - 120
2388431	Cobalt	94.8		P	80 - 120

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.8 Rev. 5.4

Batch ID: P426158

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2388431	Copper	92.6		P	80 - 120
2388431	Lead	96.0		P	80 - 120
2388431	Manganese	97.1		P	80 - 120
2388431	Molybdenum	94.9		P	80 - 120
2388431	Nickel	97.8		P	80 - 120
2388431	Selenium	95.2		P	80 - 120
2388431	Thallium	97.7		P	80 - 120

Reference Method: EPA 200.8 Rev. 5.4

Batch ID: P426273

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2388189	Aluminum	98.5	99.3	P/P	70 - 130
2388189	Antimony	95.5	96.3	P/P	70 - 130
2388189	Arsenic	104	105	P/P	70 - 130
2388189	Beryllium	89.0	88.3	P/P	70 - 130
2388189	Cadmium	87.3	89.6	P/P	70 - 130
2388189	Chromium	92.0	93.5	P/P	70 - 130
2388189	Cobalt	107	108	P/P	70 - 130
2388189	Copper	96.6	98.5	P/P	70 - 130
2388189	Lead	98.2	102	P/P	70 - 130
2388189	Manganese	88.3	90.8	P/P	70 - 130
2388189	Molybdenum	109	110	P/P	70 - 130
2388189	Nickel	103	104	P/P	70 - 130
2388189	Selenium	90.5	91.9	P/P	70 - 130
2388189	Thallium	106	107	P/P	70 - 130

Reference Method: EPA 200.8 Rev. 5.4

Batch ID: P426328

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2388014	Silver	101	102	P/P	80 - 120
2388432	Silver	102		P	80 - 120

Reference Method: EPA 200.8 Rev. 5.4

Batch ID: P426568

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2390063	Silver	90.7	91.5	P/P	70 - 130

Reference Method: EPA 8270E

Batch ID: P426119

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2388525	PCB-1016	79.6	68.1	P/P	46 - 111
2388525	PCB-1260	66.4	59.3	P/P	45 - 114
2388547	Aldrin	54.7	35.1	P/P	20 - 82.0
2388547	Alpha-BHC	93.6	92.6	P/P	71 - 109
2388547	Alpha-Chlordane	81.3	83.6	P/P	42 - 106
2388547	Beta-BHC	97.6	97.5	P/P	69 - 180
2388547	Beta-Cyfluthrin	99.8	91.3	P/P	18 - 175
2388547	Bifenthrin	55.6	46.0	P/P	21 - 128

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8270E
Batch ID: P426119

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2388547	Chlorothalonil	21.6	5.59	P/F	10 - 300
2388547	Cis-Nonachlor	60.8	64.0	P/P	34 - 106
2388547	Cypermethrin	90.5	84.0	P/P	22 - 158
2388547	Dacthal	96.5	92.3	P/P	54 - 116
2388547	DDD-p,p'	72.3	81.4	P/P	34 - 107
2388547	DDE-p,p'	68.5	67.9	P/P	33 - 110
2388547	DDT-p,p'	62.8	54.8	P/P	50 - 122
2388547	Delta-BHC	124	131	P/P	77 - 193
2388547	Deltamethrin	119	79.4	P/P	10 - 195
2388547	Dichlobenil	57.4	54.8	P/P	25 - 113
2388547	Dicofol	90.3	69.3	P/P	38 - 247
2388547	Dieldrin	70.4	70.0	P/P	45 - 118
2388547	Endosulfan I	70.8	72.7	P/P	51 - 106
2388547	Endosulfan II	93.6	93.2	P/P	37 - 122
2388547	Endosulfan Sulfate	77.7	87.1	P/P	43 - 132
2388547	Endrin	73.5	77.0	P/P	29 - 101
2388547	Endrin Aldehyde	71.9	92.1	P/P	19 - 110
2388547	Endrin Ketone	87.2	92.3	P/P	60 - 140
2388547	Esfenvalerate	104	77.0	P/P	26 - 199
2388547	Ethalfuralin	66.4	56.3	P/P	45 - 99.0
2388547	Fenpropathrin	91.9	65.5	P/P	35 - 120
2388547	Gamma-BHC	107	95.8	P/P	63 - 128
2388547	Gamma-Chlordane	73.5	57.3	P/P	40 - 104
2388547	Heptachlor	63.8	58.1	P/P	36 - 97.0
2388547	Heptachlor Epoxide	65.6	29.7	P/F	49 - 184
2388547	Hexachlorobenzene	53.5	48.6	P/P	39 - 96.0
2388547	Kepone	115	97.5	P/P	10 - 217
2388547	Lambda-Cyhalothrin	95.1	76.1	P/P	21 - 193
2388547	Methoprene	67.8	55.9	P/P	20 - 106
2388547	Methoxychlor	75.0	55.6	P/P	53 - 118
2388547	MGK-264	47.7	30.7	P/F	40 - 118
2388547	Mirex	72.9	56.6	P/P	26 - 92.0
2388547	Oxychlordane	59.6	14.7	P/F	44 - 99.0
2388547	Permethrin	98.8	110	P/P	33 - 182
2388547	Phenothrin	79.3	96.7	P/P	10 - 129
2388547	Piperonyl Butoxide	115	120	P/P	10 - 211
2388547	Prallethrin	75.5	71.2	P/P	24 - 113
2388547	Tau-Fluvalinate	96.7	68.1	P/P	14 - 149
2388547	Tetramethrin	89.4	83.4	P/P	17 - 151
2388547	Trans-Nonachlor	58.2	68.0	P/P	42 - 102
2388547	Triclosan Methyl	66.9	71.3	P/P	48 - 108
2388547	Trifluralin	62.5	64.1	P/P	47 - 96.0

Reference Method: EPA 8276
Batch ID: P426119

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2388525	Chlordane	59.1	60.6	P/P	53 - 126
2388525	Toxaphene	51.8	57.4	F/P	56 - 211

Quality Assurance Report Precision

Reference Method: EPA 200.7 Rev. 4.4

Batch ID: P426158

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2388015	Calcium	0.501	Spike	P	0 - 20
2388015	Iron	1.72	Spike	P	0 - 20
2388015	Magnesium	1.20	Spike	P	0 - 20
2388015	Strontium	1.36	Spike	P	0 - 20
2388015	Tin	0.475	Spike	P	0 - 20
2388015	Titanium	0.653	Spike	P	0 - 20
2388015	Vanadium	0.561	Spike	P	0 - 20
2388015	Zinc	0.557	Spike	P	0 - 20

Reference Method: EPA 200.7 Rev. 4.4

Batch ID: P426273

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2388189	Calcium	1.44	Spike	P	0 - 20
2388189	Iron	1.74	Spike	P	0 - 20
2388189	Magnesium	7.02	Spike	P	0 - 20
2388189	Strontium	1.79	Spike	P	0 - 20
2388189	Tin	2.79	Spike	P	0 - 20
2388189	Titanium	3.17	Spike	P	0 - 20
2388189	Vanadium	3.13	Spike	P	0 - 20
2388189	Zinc	2.42	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4

Batch ID: P426158

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2388015	Aluminum	15.6	Spike	P	0 - 20
2388015	Antimony	0.378	Spike	P	0 - 20
2388015	Arsenic	0.653	Spike	P	0 - 20
2388015	Beryllium	0.118	Spike	P	0 - 20
2388015	Cadmium	3.01	Spike	P	0 - 20
2388015	Chromium	0.334	Spike	P	0 - 20
2388015	Cobalt	0.811	Spike	P	0 - 20
2388015	Copper	1.30	Spike	P	0 - 20
2388015	Lead	1.82	Spike	P	0 - 20
2388015	Manganese	1.44	Spike	P	0 - 20
2388015	Molybdenum	0.127	Spike	P	0 - 20
2388015	Nickel	1.06	Spike	P	0 - 20
2388015	Selenium	0.982	Spike	P	0 - 20
2388015	Thallium	0.113	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4

Batch ID: P426273

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2388189	Aluminum	0.821	Spike	P	0 - 20
2388189	Antimony	0.880	Spike	P	0 - 20
2388189	Arsenic	1.54	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P426273

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2388189	Beryllium	0.805	Spike	P	0 - 20
2388189	Cadmium	2.54	Spike	P	0 - 20
2388189	Chromium	1.58	Spike	P	0 - 20
2388189	Cobalt	1.23	Spike	P	0 - 20
2388189	Copper	2.04	Spike	P	0 - 20
2388189	Lead	3.59	Spike	P	0 - 20
2388189	Manganese	2.37	Spike	P	0 - 20
2388189	Molybdenum	0.775	Spike	P	0 - 20
2388189	Nickel	0.870	Spike	P	0 - 20
2388189	Selenium	1.51	Spike	P	0 - 20
2388189	Thallium	1.15	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P426328

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2388014	Silver	0.206	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P426568

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2390063	Silver	0.874	Spike	P	0 - 20

Reference Method: EPA 8270E
Batch ID: P426119

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2388525	PCB-1016	15.5	Spike	P	0 - 32
2388525	PCB-1260	11.3	Spike	P	0 - 31
2388547	Aldrin	43.6	Spike	F	0 - 41
2388547	Alpha-BHC	1.04	Spike	P	0 - 25
2388547	Alpha-Chlordane	2.80	Spike	P	0 - 33
2388547	Beta-BHC	0.0785	Spike	P	0 - 36
2388547	Beta-Cyfluthrin	8.94	Spike	P	0 - 42
2388547	Bifenthrin	18.9	Spike	P	0 - 53
2388547	Chlorothalonil	118	Spike	F	0 - 71
2388547	Cis-Nonachlor	5.13	Spike	P	0 - 29
2388547	Cypermethrin	7.47	Spike	P	0 - 40
2388547	Dacthal	4.52	Spike	P	0 - 26
2388547	DDD-p,p'	11.8	Spike	P	0 - 39
2388547	DDE-p,p'	0.791	Spike	P	0 - 33
2388547	DDT-p,p'	13.5	Spike	P	0 - 40
2388547	Delta-BHC	5.11	Spike	P	0 - 37
2388547	Deltamethrin	40.3	Spike	P	0 - 100
2388547	Dichlobenil	4.66	Spike	P	0 - 40
2388547	Dicofol	26.3	Spike	P	0 - 31
2388547	Dieldrin	0.577	Spike	P	0 - 27

Quality Assurance Report Precision

Reference Method: EPA 8270E
Batch ID: P426119

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2388547	Endosulfan I	2.62	Spike	P	0 - 23
2388547	Endosulfan II	0.424	Spike	P	0 - 28
2388547	Endosulfan Sulfate	11.4	Spike	P	0 - 38
2388547	Endrin	4.67	Spike	P	0 - 63
2388547	Endrin Aldehyde	24.6	Spike	P	0 - 60
2388547	Endrin Ketone	5.70	Spike	P	0 - 37
2388547	Esfenvalerate	29.3	Spike	P	0 - 52
2388547	Ethalfuralin	16.3	Spike	P	0 - 23
2388547	Fenpropathrin	33.6	Spike	F	0 - 32
2388547	Gamma-BHC	11.4	Spike	P	0 - 17
2388547	Gamma-Chlordane	24.7	Spike	P	0 - 40
2388547	Heptachlor	9.29	Spike	P	0 - 29
2388547	Heptachlor Epoxide	75.4	Spike	F	0 - 25
2388547	Hexachlorobenzene	9.57	Spike	P	0 - 36
2388547	Kepone	16.7	Spike	P	0 - 93
2388547	Lambda-Cyhalothrin	22.1	Spike	P	0 - 55
2388547	Methoprene	19.2	Spike	P	0 - 53
2388547	Methoxychlor	29.7	Spike	F	0 - 29
2388547	MGK-264	43.2	Spike	F	0 - 35
2388547	Mirex	25.2	Spike	P	0 - 46
2388547	Oxychlordane	121	Spike	F	0 - 29
2388547	Permethrin	10.7	Spike	P	0 - 44
2388547	Phenothrin	19.7	Spike	P	0 - 56
2388547	Piperonyl Butoxide	4.02	Spike	P	0 - 100
2388547	Prallethrin	5.93	Spike	P	0 - 42
2388547	Tau-Fluvalinate	34.7	Spike	P	0 - 54
2388547	Tetramethrin	6.86	Spike	P	0 - 51
2388547	Trans-Nonachlor	15.5	Spike	P	0 - 37
2388547	Triclosan Methyl	6.37	Spike	P	0 - 31
2388547	Trifluralin	2.39	Spike	P	0 - 30

Reference Method: EPA 8276
Batch ID: P426119

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2388525	Chlordane	2.48	Spike	P	0 - 25
2388525	Toxaphene	10.2	Spike	P	0 - 26

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

Quality Assurance Report Surrogates

Lab Sample ID: 2388525

Field Sample ID: 20030027FLA

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8270E	Decachlorobiphenyl	69.4	P	29 - 130
EPA 8270E	Decachlorobiphenyl	93.2	P	30 - 118
EPA 8270E	Tetrachloro-m-xylene	49.5	P	29 - 104
EPA 8270E	Tetrachloro-m-xylene	52.3	P	30 - 97.0
EPA 8276	Decachlorobiphenyl	48.8	P	30 - 101
EPA 8276	PCNB	76.9	P	48 - 121

Lab Sample ID: 2388526

Field Sample ID: G2NE1159

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8270E	Decachlorobiphenyl	63.1	P	29 - 130
EPA 8270E	Decachlorobiphenyl	71.7	P	30 - 118
EPA 8270E	Tetrachloro-m-xylene	50.8	P	29 - 104
EPA 8270E	Tetrachloro-m-xylene	40.3	P	30 - 97.0
EPA 8276	Decachlorobiphenyl	45.2	P	30 - 101
EPA 8276	PCNB	71.3	P	48 - 121

Lab Sample ID: 2388544

Field Sample ID: FB_02162023

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8270E	Decachlorobiphenyl	67.9	P	29 - 130
EPA 8270E	Decachlorobiphenyl	66.4	P	30 - 118
EPA 8270E	Tetrachloro-m-xylene	65.6	P	29 - 104
EPA 8270E	Tetrachloro-m-xylene	42.0	P	30 - 97.0
EPA 8276	Decachlorobiphenyl	40.8	P	30 - 101
EPA 8276	PCNB	71.0	P	48 - 121

Quality Assurance Report Calibration Verification

Reference Method: EPA 200.7 Rev. 4.4

Run ID: A117613

Included Lab Sample IDs: 2388527, 2388545

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Calcium	98.6	102	P/P	90 - 110
Calcium	99.8	99.3	P/P	90 - 110
Iron	98.5	102	P/P	90 - 110
Iron	99.5	98.9	P/P	90 - 110
Magnesium	98.7	102	P/P	90 - 110
Magnesium	99.9	99.4	P/P	90 - 110
Strontium	101	100	P/P	90 - 110
Strontium	94.3	100	P/P	90 - 110
Tin	101	102	P/P	90 - 110
Tin	97.3	104	P/P	90 - 110
Titanium	101	102	P/P	90 - 110
Titanium	96.7	103	P/P	90 - 110
Vanadium	101	101	P/P	90 - 110
Vanadium	96.5	103	P/P	90 - 110
Zinc	104	104	P/P	90 - 110
Zinc	99.1	108	P/P	90 - 110

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A117614

Included Lab Sample IDs: 2388527, 2388545

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Aluminum	95.3	96.2	P/P	90 - 110
Aluminum	96.0	95.3	P/P	90 - 110
Antimony	97.9	97.6	P/P	90 - 110
Antimony	98.3	97.9	P/P	90 - 110
Arsenic	93.8	94.0	P/P	90 - 110
Arsenic	96.3	93.8	P/P	90 - 110
Beryllium	93.0	92.2	P/P	90 - 110
Beryllium	96.2	93.0	P/P	90 - 110
Cadmium	95.8	95.8	P/P	90 - 110
Cadmium	95.8	95.0	P/P	90 - 110
Chromium	95.1	94.0	P/P	90 - 110
Chromium	97.3	95.1	P/P	90 - 110
Cobalt	93.1	92.4	P/P	90 - 110
Cobalt	95.3	93.1	P/P	90 - 110
Copper	92.0	92.5	P/P	90 - 110
Copper	92.9	92.0	P/P	90 - 110
Lead	93.4	93.5	P/P	90 - 110
Lead	93.5	92.7	P/P	90 - 110
Manganese	97.1	94.7	P/P	90 - 110
Manganese	98.0	97.1	P/P	90 - 110
Molybdenum	93.9	93.8	P/P	90 - 110
Molybdenum	94.5	93.9	P/P	90 - 110
Nickel	93.2	93.1	P/P	90 - 110
Nickel	94.8	93.2	P/P	90 - 110
Selenium	96.4	96.6	P/P	90 - 110
Selenium	96.9	96.4	P/P	90 - 110
Thallium	96.8	97.1	P/P	90 - 110
Thallium	97.1	96.4	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A117692

Included Lab Sample IDs: 2388528

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Aluminum	93.3	93.5	P/P	90 - 110
Antimony	93.0	92.1	P/P	90 - 110
Arsenic	94.0	94.1	P/P	90 - 110
Beryllium	92.8	92.5	P/P	90 - 110
Cadmium	91.9	91.5	P/P	90 - 110
Chromium	91.6	91.8	P/P	90 - 110
Cobalt	95.7	95.5	P/P	90 - 110
Copper	93.1	93.0	P/P	90 - 110
Lead	90.2	90.1	P/P	90 - 110
Manganese	92.4	92.0	P/P	90 - 110
Molybdenum	92.2	92.2	P/P	90 - 110
Nickel	93.7	93.1	P/P	90 - 110
Selenium	92.3	91.8	P/P	90 - 110
Thallium	93.0	92.9	P/P	90 - 110

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A117720

Included Lab Sample IDs: 2388527, 2388545

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Silver	101	99.2	P/P	90 - 110
Silver	99.2	102	P/P	90 - 110

Reference Method: EPA 8270E

Run ID: A117729

Included Lab Sample IDs: 2388525, 2388526, 2388544

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
PCB-1016	99.2		P	80 - 120
PCB-1260	98.5		P	80 - 120

Reference Method: EPA 8270E

Run ID: A117731

Included Lab Sample IDs: 2388525, 2388526, 2388544

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Aldrin	95.4		P	80 - 120
Alpha-BHC	110		P	80 - 120
Alpha-Chlordane	123*		F	80 - 120
Beta-BHC	105		P	80 - 120
Beta-Cyfluthrin	93.7		P	80 - 120
Bifenthrin	117		P	80 - 120
Chlorothalonil	84.7		P	80 - 120
Cis-Nonachlor	99.1		P	80 - 120
Cypermethrin	96.7		P	80 - 120
Dacthal	97.1		P	80 - 120
DDD-p,p'	104		P	80 - 120
DDE-p,p'	88.0		P	80 - 120
DDT-p,p'	108		P	80 - 120
Delta-BHC	102		P	80 - 120
Deltamethrin	99.4		P	80 - 120

Quality Assurance Report Calibration Verification

Reference Method: EPA 8270E

Run ID: A117731

Included Lab Sample IDs: 2388525, 2388526, 2388544

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Dichlobenil	111		P	80 - 120
Dicofol	109		P	80 - 120
Dieldrin	86.0		P	80 - 120
Endosulfan I	103		P	80 - 120
Endosulfan II	89.1		P	80 - 120
Endosulfan Sulfate	83.6		P	80 - 120
Endrin	83.9		P	80 - 120
Endrin Aldehyde	93.9		P	80 - 120
Endrin Ketone	101		P	80 - 120
Esfenvalerate	92.5		P	80 - 120
Ethalfuralin	97.7		P	80 - 120
Fenpropathrin	111		P	80 - 120
Gamma-BHC	112		P	80 - 120
Gamma-Chlordane	89.4		P	80 - 120
Heptachlor	89.5		P	80 - 120
Heptachlor Epoxide	90.5		P	80 - 120
Hexachlorobenzene	84.1		P	80 - 120
Kepone	112		P	80 - 120
Lambda-Cyhalothrin	98.8		P	80 - 120
Methoprene	91.5		P	80 - 120
Methoxychlor	111		P	80 - 120
MGK-264	105		P	80 - 120
Mirex	107		P	80 - 120
Oxychlordane	90.0		P	80 - 120
Permethrin	108		P	80 - 120
Phenothrin	115		P	80 - 120
Piperonyl Butoxide	93.6		P	80 - 120
Prallethrin	91.7		P	80 - 120
Tau-Fluvalinate	95.0		P	80 - 120
Tetramethrin	117		P	80 - 120
Trans-Nonachlor	98.4		P	80 - 120
Triclosan Methyl	102		P	80 - 120
Trifluralin	90.8		P	80 - 120

Reference Method: EPA 200.7 Rev. 4.4

Run ID: A117742

Included Lab Sample IDs: 2388528

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

Quality Assurance Report Calibration Verification

Reference Method: EPA 8276

Run ID: A117774

Included Lab Sample IDs: 2388525, 2388526, 2388544

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chlordane	88.5		P	80 - 120
Chlordane	98.5		P	80 - 120
Toxaphene	103		P	80 - 120
Toxaphene	82.7		P	80 - 120

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A117811

Included Lab Sample IDs: 2388528

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Silver	95.4	95.5	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			LCS	Precision SMP	MS
EPA 200.7 Rev. 4.4	Calcium	101	98.1	97.2				0.501
	Calcium	105						1.44
	Iron	101	99.9	102	100			1.72
	Iron	105	102	104				1.74
	Magnesium	105	103	105	101			1.20
	Magnesium	105						7.02
	Strontium	98.7	97.4	98.8	96.4			1.36
	Strontium	101						1.79
	Tin	102	102	102	99.4			0.475
	Tin	99.2	91.3	94.2				2.79
	Titanium	101	103	104	103			0.653
	Titanium	102	100	104				3.17
	Vanadium	98.6	100	101	101			0.561
	Vanadium	98.6	106	110				3.13
	Zinc	106	104	105	105			0.557
	Zinc	103	103	105				2.42
EPA 200.8 Rev. 5.4	Aluminum	96.7	112	95.6	95.8			15.6
	Aluminum	96.8	98.5	99.3				0.821
	Antimony	99.6	99.9	99.6	99.4			0.378
	Antimony	97.1	95.5	96.3				0.880
	Arsenic	96.7	96.7	96.1	94.4			0.653
	Arsenic	94.1	104	105				1.54
	Beryllium	93.0	94.6	94.7	91.0			0.118
	Beryllium	89.0	89.0	88.3				0.805
	Cadmium	98.0	99.8	96.9	97.2			3.01
	Cadmium	97.2	87.3	89.6				2.54
	Chromium	100	99.4	99.1	97.4			0.334
	Chromium	95.0	92.0	93.5				1.58
	Cobalt	98.7	97.3	96.5	94.8			0.811
	Cobalt	97.1	107	108				1.23
	Copper	97.6	97.1	95.8	92.6			1.30
	Copper	94.1	96.6	98.5				2.04
	Lead	95.5	96.7	95.0	96.0			1.82
	Lead	93.3	98.2	102				3.59
	Manganese	99.3	101	98.2	97.1			1.44
	Manganese	95.5	88.3	90.8				2.37
	Molybdenum	95.6	97.1	97.0	94.9			0.127
	Molybdenum	94.4	109	110				0.775
	Nickel	99.9	99.2	98.2	97.8			1.06
	Nickel	94.8	103	104				0.870
	Selenium	98.1	96.7	95.7	95.2			0.982
	Selenium	93.5	90.5	91.9				1.51
	Silver	103	102	101	102			0.206
	Silver	98.5	90.7	91.5				0.874
	Thallium	97.9	98.7	98.8	97.7			0.113
	Thallium	97.8	106	107				1.15
EPA 8270E	Aldrin	57.3	54.7	35.1				43.6
	Alpha-BHC	94.7	93.6	92.6				1.04
	Alpha-Chlordane	62.5	81.3	83.6				2.80
	Beta-BHC	79.0	97.6	97.5				0.0785
	Beta-Cyfluthrin	73.5	99.8	91.3				8.94
	Bifenthrin	47.6	55.6	46.0				18.9
	Chlorothalonil	68.6	21.6	5.59				118
	Cis-Nonachlor	86.5	60.8	64.0				5.13

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery		Precision LCS	SMP	MS
EPA 8270E	Cypermethrin	73.8	90.5	84.0			7.47
	Dacthal	82.0	96.5	92.3			4.52
	DDD-p,p'	65.3	72.3	81.4			11.8
	DDE-p,p'	80.4	68.5	67.9			0.791
	DDT-p,p'	60.8	62.8	54.8			13.5
	Delta-BHC	107	124	131			5.11
	Deltamethrin	126	119	79.4			40.3
	Dichlobenil	65.7	57.4	54.8			4.66
	Dicofol	51.9	90.3	69.3			26.3
	Dieldrin	81.5	70.4	70.0			0.577
	Endosulfan I	74.5	70.8	72.7			2.62
	Endosulfan II	77.0	93.6	93.2			0.424
	Endosulfan Sulfate	102	77.7	87.1			11.4
	Endrin	87.7	73.5	77.0			4.67
	Endrin Aldehyde	82.2	71.9	92.1			24.6
	Endrin Ketone	104	87.2	92.3			5.70
	Esfenvalerate	70.2	104	77.0			29.3
	Ethalfuralin	66.7	66.4	56.3			16.3
	Fenpropathrin	59.0	91.9	65.5			33.6
	Gamma-BHC	103	107	95.8			11.4
	Gamma-Chlordane	58.7	73.5	57.3			24.7
	Heptachlor	69.8	63.8	58.1			9.29
	Heptachlor Epoxide	84.7	65.6	29.7			75.4
	Hexachlorobenzene	48.6	53.5	48.6			9.57
	Kepone	86.2	115	97.5			16.7
	Lambda-Cyhalothrin	63.0	95.1	76.1			22.1
	Methoprene	68.6	67.8	55.9			19.2
	Methoxychlor	56.1	75.0	55.6			29.7
	MGK-264	75.5	47.7	30.7			43.2
	Mirex	72.9	72.9	56.6			25.2
	Oxychlordane	79.5	59.6	14.7			121
	PCB-1016	74.3	79.6	68.1			15.5
	PCB-1260	70.9	66.4	59.3			11.3
	Permethrin	79.4	98.8	110			10.7
	Phenothrin	57.7	79.3	96.7			19.7
	Piperonyl Butoxide	167	115	120			4.02
	Prallethrin	85.8	75.5	71.2			5.93
	Tau-Fluvalinate	63.8	96.7	68.1			34.7
	Tetramethrin	81.8	89.4	83.4			6.86
	Trans-Nonachlor	78.7	58.2	68.0			15.5
	Triclosan Methyl	67.6	66.9	71.3			6.37
	Trifluralin	65.5	62.5	64.1			2.39
EPA 8276	Chlordane	75.6	59.1	60.6			2.48
	Toxaphene	70.9	51.8	57.4			10.2

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	2388527, 2388528, 2388545
EPA 200.8 Rev. 5.4	Total Recoverable Metals analysis using ICP-MS for aqueous samples supporting Clean Water Act Projects	2388527, 2388528, 2388545
EPA 8270E	Organochlorine pesticides, pyrethroids and tracers in water matrices by GC/MS/MS	2388525, 2388526, 2388544

Reference Method Descriptions

Method	Description	<u>Associated Samples</u>
EPA 8270E	PCBs in water matrices by GC/MS/MS	2388525, 2388526, 2388544
EPA 8276	Organochlorine pesticides in water matrices by GC/MS with Negative Chemical Ionization	2388525, 2388526, 2388544

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	02/17/2023	02/21/2023 12:40	George D Taylor	02/22/2023 16:40	McKinley C Carter	2388545
	02/17/2023	02/21/2023 12:40	George D Taylor	02/22/2023 20:46	McKinley C Carter	2388527
	02/17/2023	02/23/2023 11:15	Vijayalakshmi Reddy	03/01/2023 21:54	McKinley C Carter	2388528
	02/17/2023	02/23/2023 11:15	Vijayalakshmi Reddy	03/01/2023 22:01	McKinley C Carter	2388528
EPA 200.8 Rev. 5.4	02/17/2023	02/21/2023 12:40	George D Taylor	02/22/2023 15:24	Conrad Hartmann	2388545
	02/17/2023	02/21/2023 12:40	George D Taylor	02/22/2023 17:20	Conrad Hartmann	2388527
	02/17/2023	02/23/2023 11:15	Vijayalakshmi Reddy	02/27/2023 16:03	Emily M Philpot	2388528
	02/17/2023	02/23/2023 11:15	Vijayalakshmi Reddy	02/27/2023 17:29	Emily M Philpot	2388528
	02/17/2023	02/24/2023 10:50	George D Taylor	02/28/2023 12:15	Conrad Hartmann	2388545
	02/17/2023	02/24/2023 10:50	George D Taylor	02/28/2023 14:02	Conrad Hartmann	2388527
	02/17/2023	03/02/2023 10:15	Vijayalakshmi Reddy	03/03/2023 22:00	Emily M Philpot	2388528
EPA 8270E	02/17/2023	02/23/2023 08:00	Fe-Val Siddell	02/27/2023 21:12	Vandana T. Nagar	2388525
	02/17/2023	02/23/2023 08:00	Fe-Val Siddell	02/27/2023 21:41	Vandana T. Nagar	2388526
	02/17/2023	02/23/2023 08:00	Fe-Val Siddell	02/27/2023 22:10	Vandana T. Nagar	2388544
	02/17/2023	02/23/2023 08:00	Fe-Val Siddell	02/28/2023 02:02	Vandana T. Nagar	2388525
	02/17/2023	02/23/2023 08:00	Fe-Val Siddell	02/28/2023 03:32	Vandana T. Nagar	2388526
	02/17/2023	02/23/2023 08:00	Fe-Val Siddell	02/28/2023 04:02	Vandana T. Nagar	2388544
EPA 8276	02/17/2023	02/23/2023 08:00	Fe-Val Siddell	03/02/2023 03:28	Arthur Maknenko	2388525
	02/17/2023	02/23/2023 08:00	Fe-Val Siddell	03/02/2023 08:15	Arthur Maknenko	2388526
	02/17/2023	02/23/2023 08:00	Fe-Val Siddell	03/02/2023 17:48	Arthur Maknenko	2388544