



United States Environmental Protection Agency
Office of Environmental Measurement & Evaluation
11 Technology Drive
North Chelmsford, MA 01863-2431

Laboratory Report

July 11, 2011

Tom Hatzopoulos - Mail Code OSRR02-2
US EPA New England R1

Project Number: 11060033

Project: Former Bendix Property - Greenfield, MA

Analysis: Pesticides and PCBs in Water

Analyst: Paul Carroll

Paul Carroll
7.11.11

Analytical Procedure:

All samples were received and logged in by the laboratory according to the USEPA New England Laboratory SOP for Sample Log-in.

Sample preparation and analysis was done following the EPA Region I SOP, EIASOP-PESWALL6.

The SOP is based on "Methods for Organic Chemical Analysis of Municipal and Industrial Wastewater, Method 608 - Organochlorine Pesticides and PCBs".

The analysis was carried out using high resolution capillary column chromatography. The 30 meter dual capillary system consists of J&W DB-5 and J&W DB-1701 columns both with a 0.25 mm ID.

Date Samples Received by the Laboratory: 06/17/2011

Data were reviewed in accordance with the internal verification procedures described in the EPA New England OEME Chemistry QA Plan.

Results relate only to the items tested or to the samples as received by the Laboratory. This analytical report shall not be reproduced except in full, without written approval of the laboratory.

Report may contain multiple sections and each section will be numbered independently.

If you have any questions please call me at 617-918-8340 .

Sincerely,

Daniel N. Boudreau 7/12/11
Daniel N. Boudreau
Chemistry Team Leader

Qualifiers: RL = Reporting limit
ND = Not Detected above Reporting limit
NA = Not Applicable due to high sample dilutions or sample interferences
J = Estimated value
E = Estimated value exceeds the calibration range
L = Estimated value is below the calibration range
B = Analyte is associated with the lab blank or trip blank contamination. Values are qualified when the observed concentration of the contamination in the sample extract is less than 10 times the concentration in the blank.
P = The confirmation value exceeded 35% difference and is less than 100%. The lower value is reported.
C = The identification has been confirmed by GC/MS.
A = Suspected Aldol condensation product.
N = Tentatively identified compound.
R = No recovery was calculated since the analyte concentration is greater than four times the spike level.

US ENVIRONMENTAL PROTECTION AGENCY
NEW ENGLAND LABORATORY

Former Bendix Property - Greenfield, MA

Pesticides and PCBs in Water

Client Sample ID: 0710-0001
Date of Collection: 6/16/2011
Date of Extraction: 6/20/11
Date of Analysis: 6/29/11
Dry Weight Extracted: N/A
Wet Weight Extracted: N/A
Volume Extracted: 1000 mL

Lab Sample ID: AB18817
Matrix: SW
Final Volume: 5 mL
Percent Solids: N/A
Extract Dilution: 1
pH: 7.0
GPC Factor: 2

CAS Number	Compound	Concentration ug/L	RL ug/L	Qualifier
12674-11-2	Aroclor-1016	ND	1.000	
11104-28-2	Aroclor-1221	ND	1.000	
11141-16-5	Aroclor-1232	ND	1.000	
53469-21-9	Aroclor-1242	ND	1.000	
12672-29-6	Aroclor-1248	ND	1.000	
11097-69-1	Aroclor-1254	ND	1.000	
11096-82-5	Aroclor-1260	ND	1.000	
11100-14-4	Aroclor-1262	ND	1.000	
37324-23-5	Aroclor-1268	ND	1.000	
57-74-9	Technical Chlordane	ND	1.000	
8001-35-2	Toxaphene	ND	1.000	
309-00-2	Aldrin	ND	0.100	
72-54-8	4,4'-DDD	ND	0.050	
72-55-9	4,4'-DDE	ND	0.050	
50-29-3	4,4'-DDT	ND	0.050	
5103-71-9	Alpha Chlordane	ND	0.050	
319-84-6	Alpha-BHC	ND	0.050	
319-85-7	Beta-BHC	ND	0.050	
319-86-8	Delta-BHC	ND	0.050	
60-57-1	Dieldrin	ND	0.050	
959-98-8	Endosulfan I	ND	0.050	
33212-65-9	Endosulfan II	ND	0.050	
1031-07-8	Endosulfan Sulfate	ND	0.050	
72-20-8	Endrin	ND	0.050	
7421-93-4	Endrin Aldehyde	ND	0.050	
53494-70-5	Endrin Ketone	ND	0.050	
5103-74-2	Gamma Chlordane	ND	0.050	
58-89-9	Gamma-BHC	ND	0.050	
76-44-8	Heptachlor	ND	0.050	
1024-57-3	Heptachlor Epoxide	ND	0.050	
72-43-5	Methoxychlor	ND	0.050	

Surrogate Compounds	Recoveries (%)	QC Ranges
2,4,5,6-Tetrachloro-m-xylene	72	42 - 119
Decachlorobiphenyl	81	15 - 146

Comments:

US ENVIRONMENTAL PROTECTION AGENCY
NEW ENGLAND LABORATORY

Former Bendix Property - Greenfield, MA

Pesticides and PCBs in Water

Client Sample ID: 0710-0002
Date of Collection: 6/16/2011
Date of Extraction: 6/20/11
Date of Analysis: 6/29/11
Dry Weight Extracted: N/A
Wet Weight Extracted: N/A
Volume Extracted: 1000 mL

Lab Sample ID: AB18818
Matrix: SW
Final Volume: 5 mL
Percent Solids: N/A
Extract Dilution: 10
pH: 6.9
GPC Factor: 2

CAS Number	Compound	Concentration ug/L	RL ug/L	Qualifier
12674-11-2	Aroclor-1016	ND	10.000	
11104-28-2	Aroclor-1221	ND	10.000	
11141-16-5	Aroclor-1232	ND	10.000	
53469-21-9	Aroclor-1242	ND	10.000	
12672-29-6	Aroclor-1248	ND	10.000	
11097-69-1	Aroclor-1254	ND	10.000	
11096-82-5	Aroclor-1260	ND	10.000	
11100-14-4	Aroclor-1262	ND	10.000	
37324-23-5	Aroclor-1268	ND	10.000	
57-74-9	Technical Chlordane	ND	10.000	
8001-35-2	Toxaphene	ND	10.000	
309-00-2	Aldrin	ND	1.000	
72-54-8	4,4'-DDD	ND	0.500	
72-55-9	4,4'-DDE	ND	0.500	
50-29-3	4,4'-DDT	ND	0.500	
5103-71-9	Alpha Chlordane	ND	0.500	
319-84-6	Alpha-BHC	ND	0.500	
319-85-7	Beta-BHC	ND	0.500	
319-86-8	Delta-BHC	ND	0.500	
60-57-1	Dieldrin	ND	0.500	
959-98-8	Endosulfan I	ND	0.500	
33212-65-9	Endosulfan II	ND	0.500	
1031-07-8	Endosulfan Sulfate	ND	0.500	
72-20-8	Endrin	ND	0.500	
7421-93-4	Endrin Aldehyde	ND	0.500	
53494-70-5	Endrin Ketone	ND	0.500	
5103-74-2	Gamma Chlordane	ND	0.500	
58-89-9	Gamma-BHC	ND	0.500	
76-44-8	Heptachlor	ND	0.500	
1024-57-3	Heptachlor Epoxide	ND	0.500	
72-43-5	Methoxychlor	ND	0.500	

Surrogate Compounds

2,4,5,6-Tetrachloro-m-xylene
Decachlorobiphenyl

Recoveries (%)

83
80

QC Ranges

42 - 119
15 - 146

Comments:

US ENVIRONMENTAL PROTECTION AGENCY
NEW ENGLAND LABORATORY

Former Bendix Property - Greenfield, MA

Pesticides and PCBs in Water

Client Sample ID: 0710-0003
Date of Collection: 6/16/2011
Date of Extraction: 6/20/11
Date of Analysis: 6/29/11
Dry Weight Extracted: N/A
Wet Weight Extracted: N/A
Volume Extracted: 1000 mL

Lab Sample ID: AB18819
Matrix: SW
Final Volume: 5 mL
Percent Solids: N/A
Extract Dilution: 1
pH: 6.9
GPC Factor: 2

CAS Number	Compound	Concentration ug/L	RL ug/L	Qualifier
12674-11-2	Aroclor-1016	ND	1.000	
11104-28-2	Aroclor-1221	ND	1.000	
11141-16-5	Aroclor-1232	ND	1.000	
53469-21-9	Aroclor-1242	ND	1.000	
12672-29-6	Aroclor-1248	ND	1.000	
11097-69-1	Aroclor-1254	ND	1.000	
11096-82-5	Aroclor-1260	ND	1.000	
11100-14-4	Aroclor-1262	ND	1.000	
37324-23-5	Aroclor-1268	ND	1.000	
57-74-9	Technical Chlordane	ND	1.000	
8001-35-2	Toxaphene	ND	1.000	
309-00-2	Aldrin	ND	0.100	
72-54-8	4,4'-DDD	ND	0.050	
72-55-9	4,4'-DDE	ND	0.050	
50-29-3	4,4'-DDT	ND	0.050	
5103-71-9	Alpha Chlordane	ND	0.050	
319-84-6	Alpha-BHC	ND	0.050	
319-85-7	Beta-BHC	ND	0.050	
319-86-8	Delta-BHC	ND	0.050	
60-57-1	Dieldrin	ND	0.050	
959-98-8	Endosulfan I	ND	0.050	
33212-65-9	Endosulfan II	ND	0.050	
1031-07-8	Endosulfan Sulfate	ND	0.050	
72-20-8	Endrin	ND	0.050	
7421-93-4	Endrin Aldehyde	ND	0.050	
53494-70-5	Endrin Ketone	ND	0.050	
5103-74-2	Gamma Chlordane	ND	0.050	
58-89-9	Gamma-BHC	ND	0.050	
76-44-8	Heptachlor	ND	0.050	
1024-57-3	Heptachlor Epoxide	ND	0.050	
72-43-5	Methoxychlor	ND	0.050	

Surrogate Compounds	Recoveries (%)	QC Ranges
2,4,5,6-Tetrachloro-m-xylene	76	42 - 119
Decachlorobiphenyl	69	15 - 146

Comments:

US ENVIRONMENTAL PROTECTION AGENCY
NEW ENGLAND LABORATORY

Former Bendix Property - Greenfield, MA

Pesticides and PCBs in Water

Client Sample ID: 0710-0004
Date of Collection: 6/16/2011
Date of Extraction: 6/20/11
Date of Analysis: 6/29/11
Dry Weight Extracted: N/A
Wet Weight Extracted: N/A
Volume Extracted: 1000 mL

Lab Sample ID: AB18820
Matrix: SW
Final Volume: 5 mL
Percent Solids: N/A
Extract Dilution: 1
pH: 7.0
GPC Factor: 2

CAS Number	Compound	Concentration ug/L	RL ug/L	Qualifier
12674-11-2	Aroclor-1016	ND	1.000	
11104-28-2	Aroclor-1221	ND	1.000	
11141-16-5	Aroclor-1232	ND	1.000	
53469-21-9	Aroclor-1242	ND	1.000	
12672-29-6	Aroclor-1248	ND	1.000	
11097-69-1	Aroclor-1254	ND	1.000	
11096-82-5	Aroclor-1260	ND	1.000	
11100-14-4	Aroclor-1262	ND	1.000	
37324-23-5	Aroclor-1268	ND	1.000	
57-74-9	Technical Chlordane	ND	1.000	
8001-35-2	Toxaphene	ND	1.000	
309-00-2	Aldrin	ND	0.100	
72-54-8	4,4'-DDD	ND	0.050	
72-55-9	4,4'-DDE	ND	0.050	
50-29-3	4,4'-DDT	ND	0.050	
5103-71-9	Alpha Chlordane	ND	0.050	
319-84-6	Alpha-BHC	ND	0.050	
319-85-7	Beta-BHC	ND	0.050	
319-86-8	Delta-BHC	ND	0.050	
60-57-1	Dieldrin	ND	0.050	
959-98-8	Endosulfan I	ND	0.050	
33212-65-9	Endosulfan II	ND	0.050	
1031-07-8	Endosulfan Sulfate	ND	0.050	
72-20-8	Endrin	ND	0.050	
7421-93-4	Endrin Aldehyde	ND	0.050	
53494-70-5	Endrin Ketone	ND	0.050	
5103-74-2	Gamma Chlordane	ND	0.050	
58-89-9	Gamma-BHC	ND	0.050	
76-44-8	Heptachlor	ND	0.050	
1024-57-3	Heptachlor Epoxide	ND	0.050	
72-43-5	Methoxychlor	ND	0.050	

Surrogate Compounds

2,4,5,6-Tetrachloro-m-xylene
Decachlorobiphenyl

Recoveries (%)

87
82

QC Ranges

42 - 119
15 - 146

Comments:

US ENVIRONMENTAL PROTECTION AGENCY
NEW ENGLAND LABORATORY

Former Bendix Property - Greenfield, MA

Laboratory Blank

Client Sample ID:	N/A	Lab Sample ID:	N/A
Date of Collection:	N/A	Matrix	SW
Date of Extraction:	6/20/11	Final Volume:	5 mL
Date of Analysis:	6/29/11	Percent Solids:	N/A
Dry Weight Extracted:	N/A	Extract Dilution:	1
Wet Weight Extracted:	N/A	pH:	6.2
Volume Extracted:	1000 mL	GPC Factor:	2

CAS Number	Compound	Concentration ug/L	RL ug/L	Qualifier
12674-11-2	Aroclor-1016	ND	1.000	
11104-28-2	Aroclor-1221	ND	1.000	
11141-16-5	Aroclor-1232	ND	1.000	
53469-21-9	Aroclor-1242	ND	1.000	
12672-29-6	Aroclor-1248	ND	1.000	
11097-69-1	Aroclor-1254	ND	1.000	
11096-82-5	Aroclor-1260	ND	1.000	
11100-14-4	Aroclor-1262	ND	1.000	
37324-23-5	Aroclor-1268	ND	1.000	
57-74-9	Technical Chlordane	ND	1.000	
8001-35-2	Toxaphene	ND	1.000	
309-00-2	Aldrin	ND	0.100	
50-29-3	4,4'-DDT	ND	0.056	
72-54-8	4,4'-DDD	ND	0.050	
72-55-9	4,4'-DDE	ND	0.050	
5103-71-9	Alpha Chlordane	ND	0.050	
319-84-6	Alpha-BHC	ND	0.050	
319-85-7	Beta-BHC	ND	0.050	
319-86-8	Delta-BHC	ND	0.050	
60-57-1	Dieldrin	ND	0.050	
959-98-8	Endosulfan I	ND	0.050	
33212-65-9	Endosulfan II	ND	0.050	
1031-07-8	Endosulfan Sulfate	ND	0.050	
72-20-8	Endrin	ND	0.050	
7421-93-4	Endrin Aldehyde	ND	0.050	
53494-70-5	Endrin Ketone	ND	0.050	
5103-74-2	Gamma Chlordane	ND	0.050	
58-89-9	Gamma-BHC	ND	0.050	
76-44-8	Heptachlor	ND	0.050	
1024-57-3	Heptachlor Epoxide	ND	0.050	
72-43-5	Methoxychlor	ND	0.050	

Surrogate Compounds	Recoveries (%)	QC Ranges
2,4,5,6-Tetrachloro-m-xylene	68	25 - 123
Decachlorobiphenyl	84	32 - 145

Comments:

US ENVIRONMENTAL PROTECTION AGENCY
NEW ENGLAND LABORATORY

LABORATORY FORTIFIED BLANK (LFB) AND DUPLICATE (LFB Dup) RECOVERY

Former Bendix Property - Greenfield, MA

COMPOUND	SPIKE ADDED ug/L	LFB CONCENTRATION ug/L	LFB RECOVERY %	QC LIMITS (% REC)
4,4'-DDD	0.200	0.197	98.5	59.1 - 144.2
4,4'-DDE	0.200	0.200	100	53.1 - 135.5
4,4'-DDT	0.200	0.210	105	63.6 - 158.9
Aldrin	0.200	0.191	95.5	24.6 - 116.9
Alpha Chlordane	0.200	0.209	104	55.0 - 137.0
Alpha-BHC	0.200	0.221	110	34.2 - 150.5
Aroclor-1016	ND	ND	ND	70.0 - 130.0
Aroclor-1260	ND	ND	ND	70.0 - 130.0
Beta-BHC	0.200	0.229	114	63.6 - 134.1
Delta-BHC	0.200	0.207	104	52.7 - 120.8
Dieldrin	0.200	0.222	111	58.0 - 145.3
Endosulfan I	0.200	0.231	116	60.6 - 139.3
Endosulfan II	0.200	0.223	112	65.1 - 140.5
Endosulfan Sulfate	0.200	0.214	107	59.1 - 144.7
Endrin	0.200	0.204	102	61.1 - 149.1
Endrin Aldehyde	0.200	0.164	82.0	54.6 - 132.1
Endrin Ketone	0.200	0.199	99.5	70.9 - 131.0
Gamma Chlordane	0.200	0.219	110	53.0 - 134.7
Gamma-BHC	0.200	0.217	108	55.3 - 139.0
Heptachlor	0.200	0.186	93.0	43.7 - 120.6
Heptachlor Epoxide	0.200	0.225	112	58.4 - 141.2
Methoxychlor	0.200	0.215	108	73.7 - 145.4
Technical Chlordane	ND	ND	ND	70.0 - 130.0
Toxaphene	ND	ND	ND	70.0 - 130.0

COMPOUND	LFB Dup CONCENTRATION ug/L	LFB Dup RECOVERY %	RPD %	QC LIMITS RPD
4,4'-DDD	0.203	102	3.5	40
4,4'-DDE	0.206	103	3.0	40
4,4'-DDT	0.202	101	3.9	27
Aldrin	0.176	88.0	8.2	22
Alpha Chlordane	0.212	106	1.9	40
Alpha-BHC	0.210	105	4.7	40
Aroclor-1016	ND	ND	ND	40
Aroclor-1260	ND	ND	ND	40
Beta-BHC	0.220	110	3.6	40
Delta-BHC	0.197	98.5	5.4	40
Dieldrin	0.226	113	1.8	18
Endosulfan I	0.226	113	2.6	40
Endosulfan II	0.225	112	0.0	40
Endosulfan Sulfate	0.217	108	0.93	40
Endrin	0.206	103	0.98	21
Endrin Aldehyde	0.159	79.5	3.1	40
Endrin Ketone	0.201	100	0.5	40
Gamma Chlordane	0.218	109	0.91	40
Gamma-BHC	0.198	99.0	8.7	15
Heptachlor	0.167	83.5	11	20
Heptachlor Epoxide	0.225	112	0.0	40
Methoxychlor	0.220	110	1.8	40
Technical Chlordane	ND	ND	ND	40
Toxaphene	ND	ND	ND	40

Samples in Batch: AB18817, AB18818, AB18819, AB18820

Comments:

US ENVIRONMENTAL PROTECTION AGENCY
NEW ENGLAND LABORATORY

Laboratory Duplicate Results

Sample ID: AB18817

PARAMETER	SAMPLE RESULT ug/L	SAMPLE DUPLICATE RESULT ug/L	PRECISION RPD %	QC LIMITS
4,4'-DDD	ND	ND		50
4,4'-DDE	ND	ND		50
4,4'-DDT	ND	ND		50
Aldrin	ND	ND		50
Alpha Chlordane	ND	ND		50
Alpha-BHC	ND	ND		50
Aroclor-1016	ND	ND		50
Aroclor-1221	ND	ND		50
Aroclor-1232	ND	ND		50
Aroclor-1242	ND	ND		50
Aroclor-1248	ND	ND		50
Aroclor-1254	ND	ND		50
Aroclor-1260	ND	ND		50
Aroclor-1262	ND	ND		50
Aroclor-1268	ND	ND		50
Beta-BHC	ND	ND		50
Delta-BHC	ND	ND		50
Dieldrin	ND	ND		50
Endosulfan I	ND	ND		50
Endosulfan II	ND	ND		50
Endosulfan Sulfate	ND	ND		50
Endrin	ND	ND		50
Endrin Aldehyde	ND	ND		50
Endrin Ketone	ND	ND		50
Gamma Chlordane	ND	ND		50
Gamma-BHC	ND	ND		50
Heptachlor	ND	ND		50
Heptachlor Epoxide	ND	ND		50
Methoxychlor	ND	ND		50
Technical Chlordane	ND	ND		50
Toxaphene	ND	ND		50

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No: 1-061611-124356-0008

Contact Name: Tom Hatzopoulos

Lab: OEME

Lab #	Sample #	Location	Analyses	Matrix	Collected	Sample Time	Numb Cont	Container	Preservative	MS/MSD
	0710-0001	SW-01	SVOCs	Surface Water	6/16/2011	10:00	2	1 liter amber	4 C	Y
	0710-0001	SW-01	Pesticides/PCBs	Surface Water	6/16/2011	10:00	2	1 liter amber	4 C	Y
	0710-0001	SW-01	Oil ID	Surface Water	6/16/2011	10:00	2	1 liter amber	4 C	Y
	0710-0001	SW-01	pH	Surface Water	6/16/2011	10:00	2	40 ml VOA	4 C	Y
	0710-0001	SW-01	Metals	Surface Water	6/16/2011	10:00	2	500ml poly	HNO3 pH<2	Y
	0710-0001	SW-01	Cyanide	Surface Water	6/16/2011	10:00	2	500 ml poly	NaOH	Y
	0710-0001	SW-01	VOCs	Surface Water	6/16/2011	10:00	8	40 ml VOA	HCl	Y
	0710-0002	SW-02	SVOCs	Surface Water	6/16/2011	10:30	1	1 liter amber	4 C	N
	0710-0002	SW-02	Pesticides/PCBs	Surface Water	6/16/2011	10:30	1	1 liter amber	4 C	N
	0710-0002	SW-02	Oil ID	Surface Water	6/16/2011	10:30	1	1 liter amber	4 C	N
	0710-0002	SW-02	pH	Surface Water	6/16/2011	10:30	1	40 ml VOA	4 C	N
	0710-0002	SW-02	Metals	Surface Water	6/16/2011	10:30	1	500ml poly	HNO3 pH<2	N
	0710-0002	SW-02	Cyanide	Surface Water	6/16/2011	10:30	1	500 ml poly	NaOH	N
	0710-0002	SW-02	VOCs	Surface Water	6/16/2011	10:30	4	40 ml VOA	HCl	N
	0710-0003	SW-03	SVOCs	Surface Water	6/16/2011	11:00	1	1 liter amber	4 C	N
	0710-0003	SW-03	Pesticides/PCBs	Surface Water	6/16/2011	11:00	1	1 liter amber	4 C	N
	0710-0003	SW-03	Oil ID	Surface Water	6/16/2011	11:00	1	1 liter amber	4 C	N
	0710-0003	SW-03	pH	Surface Water	6/16/2011	11:00	1	40 ml VOA	4 C	N
	0710-0003	SW-03	Metals	Surface Water	6/16/2011	11:00	1	500ml poly	HNO3 pH<2	N
	0710-0003	SW-03	Cyanide	Surface Water	6/16/2011	11:00	1	500 ml poly	NaOH	N

Special instructions:

SAMPLES TRANSFERRED FROM

CHAIN OF CUSTODY #

[illegible]

13/11/2011

Former Bendix Property- Greenfield, MA

Lab: OEME

[illegible]

SAMPLES TRANSFERRED FROM	CHAIN OF CUSTODY #

[illegible]

