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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 10 LABORATORY
7411 BEACH DR. EAST
PORT ORCHARD, WASHINGTON 98366

RECEIVED
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Superfund Response & Investigation Branch

October 22, 1992

MEMORANDUM

SUBJECT: Data Review of Avery Railroad Dump and Roundhouse Water Samples for Chlorinated Pesticides/PCBs

FROM: R. H. Rieck, Chemist R. H. Rieck

TO: Monica Rolluda, Project Officer

The Quality Assurance review of four water samples from Avery Railroad Dump and Roundhouse for Chlorinated Pesticides and PCBs has been completed. Extraction and analysis of the samples were performed by EPA Method 8080.

I. Holding Times:

Acceptable. All samples were collected on 08/26/92 and extracted on 09/01/92. Thus all extractions were performed within the seven day holding time for water.

The sample extracts were analyzed on 10/13/92 which is beyond the usually accepted 40 day holding time for extracts. Since we exceeded the holding time for extracts by only two days and all surrogate spikes and matrix spikes were acceptable, no qualifiers were assigned on this basis.

II. Instrument Performance:

A Tracor GC using dual ECD detectors and a DB-608 and a DB-5 column was used for this analysis.

A. DDT Retention Time: DDT eluted later than the 12 minute criteria on both columns.

B. Retention Time Windows: Acceptable. Retention times for the standards were within the windows set by the initial calibration. The retention time windows used were 1.0% of the initial retention time.

C. DDT/Endrin Degradation: Acceptable. The DDT/Endrin degradation was less than 20% on both columns.

D. Surrogate Retention Times: Acceptable. All samples had retention time percent differences less than 1.5% for the surrogates 4,4'-Dibromo-octafluorobiphenyl (DBOB), Dibutylchlorendate (DBC), and Decachlorobiphenyl (DCB).

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III. Calibration:

A. Initial Calibration: Acceptable. For all samples covered by this memo, a six point calibration was used for Aroclor 1242 and 1260. A three point calibration curve was used for the single response pesticides including g-Chlordane. All calibration curves were generated using a quadratic equation and had correlation coefficients of 0.99 or better. Furthermore, a single point calibration was injected for Chlordane (tech), Toxaphene, and the rest of the PCBs (Aroclors 1016, 1221, 1232, 1248, 1254) which were used for the determination of the Practical Quantitation Limit (PQL) and pattern recognition.

B. Analytical Sequence: Acceptable.

C. Continuing Calibration: Acceptable. The continuing calibration standards were within the 15 percent difference criteria for both columns. Therefore, no qualifiers were assigned on this basis.

IV. Method Blank Analysis:

Acceptable. Two blanks were analyzed for the water samples, BW2245 and BW2245D. No target peaks occurred at or above the quantitation limit in either blank. Therefore, no qualifiers were assigned on this basis.

V. Surrogate Recoveries:

Acceptable. The DBOB recoveries ranged from 70%-87%; DBC recoveries ranged from 75%-102%, and the DCB recoveries ranged from 73%-86%. No qualifiers were assigned on this basis.

VI. Matrix Spike/Matrix Spike Duplicate:

Sample 92352352 was spiked in duplicate with Lindane, Heptachlor, Aldrin, g-Chlordane, Endosulfan I, Endrin, DDT, and Methoxychlor. The recoveries were as follows:

	92352352W	92352352X
Lindane	107%	96%
Heptachlor	86%	78%
Aldrin	75%	65%
g-Chlordane	92%	89%
Endosulfan I	101%	99%
Endrin	107%	107%
DDT	98%	97%
Methoxychlor	115%	108%

The recoveries were within the expected range and considered acceptable. Moreover the overall precision was excellent. No qualifiers were assigned on this basis.

VII. Compound Identification/Quantitation:

Chlorinated pesticides/PCBs were not detected in any of the water samples.

VIII. Overall Assessment/Data Use:

Acceptable for use with the qualifiers as assigned in the sections above. The data was evaluated using the guidelines set out in the "Laboratory Data Validation Functional Guidelines for Evaluating Organic Analyses" (Feb. '88).

cc: B. Woods
K. Steward

EPA Region X Lab Management System
Sample/Project Analysis Results

Project: TEC-575A AVERY RR DUMP AND ROUNDHOUSE Officer: MZR Account: FA10PUZZ

Laboratory: EPA, Manchester

Sample No: 92 352351 Description: WAW01 Source: Well (Drinking Water Supply)

Begin Date: 92/08/26 08:37

Pest/PCB - PP Scan	Water-Total Result	Units
4,4'-DDT	0.052U	ug/l
Chlordane (Tech)	0.52U	ug/l
gamma-BHC (Lindane)	0.052U	ug/l
Dieldrin	0.052U	ug/l
Endrin	0.052U	ug/l
Methoxychlor	0.052U	ug/l
4,4'-DDD	0.052U	ug/l
4,4'-DDE	0.052U	ug/l
Heptachlor	0.052U	ug/l
Aldrin	0.052U	ug/l
alpha-BHC	0.052U	ug/l
beta-BHC	0.052U	ug/l
delta-BHC	0.052U	ug/l
Endosulfan I	0.052U	ug/l
Heptachlor Epoxide	0.052U	ug/l
Endosulfan sulfate	0.052U	ug/l
Endrin aldehyde	0.052U	ug/l
Toxaphene	3.0U	ug/l
PCB - 1260	0.52U	ug/l
PCB - 1254	0.52U	ug/l
PCB - 1221	0.52U	ug/l
PCB - 1232	0.52U	ug/l
PCB - 1248	0.52U	ug/l
PCB - 1016	0.52U	ug/l
Endosulfan II	0.052U	ug/l
PCB - 1242	0.52U	ug/l
Endrin Ketone	0.052U	ug/l
DIBUTYLCHLORENDATE (SS)	87	% Recov
DECACHLOROBIPHENYL	86	% Recov
4,4-Dibromooctafluorob+	83	% Recov

(Sample Complete)

Project: TEC-575A AVERY RR DUMP AND ROUNDHOUSE Officer: MZR Account: FA10PUZZ

Laboratory: EPA, Manchester

Sample No: 92 352352 Description: WSW01 Source: Well (Drinking Water Supply)

Begin Date: 92/08/26 09:15

Pest/PCB - PP Scan	Water-Total Result	Units
4,4'-DDT	0.054U	ug/l
Chlordane (Tech)	0.54U	ug/l
gamma-BHC (Lindane)	0.054U	ug/l
Dieldrin	0.054U	ug/l
Endrin	0.054U	ug/l
Methoxychlor	0.054U	ug/l
4,4'-DDD	0.054U	ug/l
4,4'-DDE	0.054U	ug/l
Heptachlor	0.054U	ug/l
Aldrin	0.054U	ug/l
alpha-BHC	0.054U	ug/l
beta-BHC	0.054U	ug/l
delta-BHC	0.054U	ug/l
Endosulfan I	0.054U	ug/l
Heptachlor Epoxide	0.054U	ug/l
Endosulfan sulfate	0.054U	ug/l
Endrin aldehyde	0.054U	ug/l
Toxaphene	3.2U	ug/l
PCB - 1260	0.54U	ug/l
PCB - 1254	0.54U	ug/l
PCB - 1221	0.54U	ug/l
PCB - 1232	0.54U	ug/l
PCB - 1248	0.54U	ug/l
PCB - 1016	0.54U	ug/l
Endosulfan II	0.054U	ug/l
PCB - 1242	0.54U	ug/l
Endrin Ketone	0.054U	ug/l
DIBUTYLCHLORENDATE (SS)	92	% Recov
DECACHLOROBIPHENYL	86	% Recov
4,4-Dibromooctafluorob+	87	% Recov

Pest/PCB - PP Scan Matrix Spike #1	Water-Total Result	Units
4,4'-DDT	98	% Recov
Chlordane (Tech)	92	% Recov
gamma-BHC (Lindane)	107	% Recov
Dieldrin	NAF	% Recov
Endrin	107	% Recov
Methoxychlor	115	% Recov
4,4'-DDD	NAF	% Recov
4,4'-DDE	NAF	% Recov
Heptachlor	86	% Recov
Aldrin	75	% Recov

Pest/PCB - PP Scan *** Continued *** Matrix Spike #1	Water-Total Result	Units
alpha-BHC	NAF	% Recov
beta-BHC	NAF	% Recov
delta-BHC	NAF	% Recov
Endosulfan I	101	% Recov
Heptachlor Epoxide	NAF	% Recov
Endosulfan sulfate	NAF	% Recov
Endrin aldehyde	NAF	% Recov
Toxaphene	NAF	% Recov
PCB - 1260	NAF	% Recov
PCB - 1254	NAF	% Recov
PCB - 1221	NAF	% Recov
PCB - 1232	NAF	% Recov
PCB - 1248	NAF	% Recov
PCB - 1016	NAF	% Recov
Endosulfan II	NAF	% Recov
PCB - 1242	NAF	% Recov
Endrin Ketone	NAF	% Recov
DIBUTYLCHLORENDATE (SS)	102	% Recov
DECACHLOROBIPHENYL	80	% Recov
4,4-Dibromooctafluorob+	71	% Recov

Pest/PCB - PP Scan Matrix Spike #2	Water-Total Result	Units
4,4'-DDT	97	% Recov
Chlordane (Tech)	89	% Recov
gamma-BHC (Lindane)	96	% Recov
Dieldrin	NAF	% Recov
Endrin	107	% Recov
Methoxychlor	108	% Recov
4,4'-DDD	NAF	% Recov
4,4'-DDE	NAF	% Recov
Heptachlor	78	% Recov
Aldrin	65	% Recov
alpha-BHC	NAF	% Recov
beta-BHC	NAF	% Recov
delta-BHC	NAF	% Recov
Endosulfan I	99	% Recov
Heptachlor Epoxide	NAF	% Recov
Endosulfan sulfate	NAF	% Recov
Endrin aldehyde	NAF	% Recov
Toxaphene	NAF	% Recov
PCB - 1260	NAF	% Recov

Pest/PCB - PP Scan *** Continued *** Matrix Spike #2	Water-Total Result	Units
PCB - 1254	NAF	% Recov
PCB - 1221	NAF	% Recov
PCB - 1232	NAF	% Recov
PCB - 1248	NAF	% Recov
PCB - 1016	NAF	% Recov
Endosulfan II	NAF	% Recov
PCB - 1242	NAF	% Recov
Endrin Ketone	NAF	% Recov
DIBUTYLCHLORENDATE (SS)	93	% Recov
DECACHLOROBIPHENYL	81	% Recov
4,4-Dibromooctafluorob+	73	% Recov

(Sample Complete)

Project: TEC-575A AVERY RR DUMP AND ROUNDHOUSE Officer: MZR Account: FA10PUZZ

Laboratory: EPA, Manchester

Sample No: 92 352353 Description: WSW02 Source: Well (Drinking Water Supply)

Begin Date: 92/08/26 09:15

Pest/PCB - PP Scan	Water-Total Result	Units
4,4'-DDT	0.050U	ug/l
Chlordane (Tech)	0.50U	ug/l
gamma-BHC (Lindane)	0.050U	ug/l
Dieldrin	0.050U	ug/l
Endrin	0.050U	ug/l
Methoxychlor	0.050U	ug/l
4,4'-DDD	0.050U	ug/l
4,4'-DDE	0.050U	ug/l
Heptachlor	0.050U	ug/l
Aldrin	0.050U	ug/l
alpha-BHC	0.050U	ug/l
beta-BHC	0.050U	ug/l
delta-BHC	0.050U	ug/l
Endosulfan I	0.050U	ug/l
Heptachlor Epoxide	0.050U	ug/l
Endosulfan sulfate	0.050U	ug/l
Endrin aldehyde	0.050U	ug/l
Toxaphene	3.0U	ug/l
PCB - 1260	0.050U	ug/l
PCB - 1254	0.050U	ug/l
PCB - 1221	0.050U	ug/l
PCB - 1232	0.050U	ug/l
PCB - 1248	0.050U	ug/l
PCB - 1016	0.050U	ug/l
Endosulfan II	0.050U	ug/l
PCB - 1242	0.050U	ug/l
Endrin Ketone	0.050U	ug/l
DIBUTYLCHLORENDATE (SS)	92	% Recov
DECACHLOROBIPHENYL	86	% Recov
4,4-Dibromooctafluorob+	86	% Recov

(Sample Complete)

Project: TEC-575A AVERY RR DUMP AND ROUNDHOUSE Officer: MZR Account: FA10PUZZ

Laboratory: EPA, Manchester

Sample No: 92 352354 Description: WHC01 Source: Well (Test/Observation)

Begin Date: 92/08/26 10:20

Pest/PCB - PP Scan	Water-Total Result	Units
4,4'-DDT	0.051U	ug/l
Chlordane (Tech)	0.51U	ug/l
gamma-BHC (Lindane)	0.051U	ug/l
Dieldrin	0.051U	ug/l
Endrin	0.051U	ug/l
Methoxychlor	0.051U	ug/l
4,4'-DDD	0.051U	ug/l
4,4'-DDE	0.051U	ug/l
Heptachlor	0.051U	ug/l
Aldrin	0.051U	ug/l
alpha-BHC	0.051U	ug/l
beta-BHC	0.051U	ug/l
delta-BHC	0.051U	ug/l
Endosulfan I	0.051U	ug/l
Heptachlor Epoxide	0.051U	ug/l
Endosulfan sulfate	0.051U	ug/l
Endrin aldehyde	0.051U	ug/l
Toxaphene	3.1U	ug/l
PCB - 1260	0.51U	ug/l
PCB - 1254	0.51U	ug/l
PCB - 1221	0.51U	ug/l
PCB - 1232	0.51U	ug/l
PCB - 1248	0.51U	ug/l
PCB - 1016	0.51U	ug/l
Endosulfan II	0.051U	ug/l
PCB - 1242	0.51U	ug/l
Endrin Ketone	0.051U	ug/l
DIBUTYLCHLORENDATE (SS)	75	% Recov
DECACHLOROBIPHENYL	73	% Recov
4,4-Dibromooctafluorob+	77	% Recov

(Sample Complete)

Project: TEC-575A AVERY RR DUMP AND ROUNDHOUSE Officer: MZR Account: FA10PUZZ

Blank ID: BW2245

Pest/PCB - PP Scan Blank #1	Water-Total Result	Units
4,4'-DDT	0.10U	ug/l
Chlordane (Tech)	1.0U	ug/l
gamma-BHC (Lindane)	0.10U	ug/l
Dieldrin	0.10U	ug/l
Endrin	0.10U	ug/l
Methoxychlor	0.10U	ug/l
4,4'-DDD	0.10U	ug/l
4,4'-DDE	0.10U	ug/l
Heptachlor	0.10U	ug/l
Aldrin	0.10U	ug/l
alpha-BHC	0.10U	ug/l
beta-BHC	0.10U	ug/l
delta-BHC	0.10U	ug/l
Endosulfan I	0.10U	ug/l
Heptachlor Epoxide	0.10U	ug/l
Endosulfan sulfate	0.10U	ug/l
Endrin aldehyde	0.10U	ug/l
Toxaphene	6.0U	ug/l
PCB - 1260	1.0U	ug/l
PCB - 1254	1.0U	ug/l
PCB - 1221	1.0U	ug/l
PCB - 1232	1.0U	ug/l
PCB - 1248	1.0U	ug/l
PCB - 1016	1.0U	ug/l
Endosulfan II	0.10U	ug/l
PCB - 1242	1.0U	ug/l
Endrin Ketone	0.10U	ug/l
DIBUTYLCHLORENDATE (SS)	87	% Recov
DECACHLOROBIPHENYL	81	% Recov
4,4-Dibromooctafluorob+	70	% Recov

(Sample Complete)

Project: TEC-575A AVERY RR DUMP AND ROUNDHOUSE Officer: MZR Account: FA10PUZZ

Blank ID: BW2245D

Pest/PCB - PP Scan Blank #2	Water-Total Result	Units
4,4'-DDT	0.10U	ug/l
Chlordane (Tech)	1.0U	ug/l
gamma-BHC (Lindane)	0.10U	ug/l
Dieldrin	0.10U	ug/l
Endrin	0.10U	ug/l
Methoxychlor	0.10U	ug/l
4,4'-DDD	0.10U	ug/l
4,4'-DDE	0.10U	ug/l
Heptachlor	0.10U	ug/l
Aldrin	0.10U	ug/l
alpha-BHC	0.10U	ug/l
beta-BHC	0.10U	ug/l
delta-BHC	0.10U	ug/l
Endosulfan I	0.10U	ug/l
Heptachlor Epoxide	0.10U	ug/l
Endosulfan sulfate	0.10U	ug/l
Endrin aldehyde	0.10U	ug/l
Toxaphene	6.0U	ug/l
PCB - 1260	1.0U	ug/l
PCB - 1254	1.0U	ug/l
PCB - 1221	1.0U	ug/l
PCB - 1232	1.0U	ug/l
PCB - 1248	1.0U	ug/l
PCB - 1016	1.0U	ug/l
Endosulfan II	0.10U	ug/l
PCB - 1242	1.0U	ug/l
Endrin Ketone	0.10U	ug/l
DIBUTYLCHLORENDATE (SS)	84	% Recov
DECACHLOROBIPHENYL	84	% Recov
4,4-Dibromooctafluorob+	65	% Recov

(Sample Complete)