START 9613473.2390

83

B07KQ1-DAT-22

0045178

DATA CHEM LABORATORIES

SDG NARRATIVE
VOA FRACTION

CASE NO.: WHC40
SDG NO.: WHCO40
SAMPLE NO(s). for VOA analysis: B07KQ1, B07KQ2, B07KQ3, B07KQ3MS, B07KQ3MSD

WESTINGHOUSE-HANFORD CONTRACT
DATACHEM LABS.

I. 1. CASE WHC40 DataChem Laboratories received three soil samples for VOA analysis which have been assigned the SDG designation WHCO40. This report includes the data for the three samples received for this SDG.

I. 2. VOA Analysis The soil samples were analyzed as soil samples according to EPA SOW 3/91.

2.1 All system monitoring compound and internal standard recoveries were within the required QC limits. All samples were analyzed within hold time limits.

I. 3. Matrix Spike and Matrix Spike Duplicate Analyses The matrix spike and matrix spike duplicate analyses for the soil samples were performed using sample B07KQ3. All matrix spike parameters were within QC limits.

SDG Narrative authorized by: Thomas J. Masson

Date: 1-11-93

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LEADING ANALYTICAL CHEMISTRY INTO THE 21ST CENTURY℠

CASE NARRATIVE
SEMIVOLATILE FRACTION

CASE NO. WHC40
SDG NO. WHCO40
SAMPLE NO.(s) for semivolatile analysis: B07KQ1, B07KQ2, B07KQ3, B07KQ3MS, B07KQ3MSD.

WESTINGHOUSE HANFORD CORP. PURCHASE ORDER NO. MBH-SVV-060648
DATACHEM LABORATORIES

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy data package and in the computer-readable data submitted on diskette has been authorized by the Laboratory Manager or his designee, as verified by the following signature.

John R. Gumpper, Section Manager date 1-22-92

I. 1. Case WHC40: DataChem Laboratories has received a total of three soil samples for Case WHC40. This report includes data for the samples listed above which have been assigned the SDG designation WHCO40. DataChem Laboratories expects to be paid for all analyses listed above.

I. 2. Semivolatile Analysis: All samples in this SDG were analyzed and reported for the BNA fraction using the soil protocol specified in the SOW 2/88. All of the surrogate recoveries and internal standard area responses met the required QC criteria, and all samples were extracted and analyzed within the contract-required holding times. No dilutions or special procedures were required for these analyses.

I. 3. <u>Matrix Spike and Matrix Spike Duplicate Analyses</u>
The soil matrix spike and matrix spike duplicate analyses for the BNA fraction were performed using sample B07KQ3. Recoveries and reproducibility were within expected ranges on all compounds.

No water samples were received with this SDG; therefore, no water matrix spiking data is included in this report.

Case Narrative Authorized by: _____ date 1-22-92

SDG NARRATIVE
PESTICIDE/PCB ANALYSIS

CASE NUMBER: **WHC40**
SDG: WHC040
SAMPLE NUMBERS FOR PESTICIDE/PCB ANALYSIS:

B07KQ1, B07KQ2, B07KQ3, B07KQ2MS, B07KQ2MSD.

EPA-CLP CONTRACT NO.: **N/A**
DATACHEM LABORATORIES

I. SDG WHC040. DataChem Laboratories received five soil samples for case WHC40 which were assigned sample delivery group WHC040.

II. Pesticide/PCB Analysis.
1. The Pesticide/PCB analysis was contracted to be analyzed and reported according to the 3/90 EPA-CLP statement of work.
2. All of the contract requirements for standardization were met on the DB-608 column analyses. Standardization requirements were met on the DB-1701 analyses with the following exceptions:
   A. Relative standard deviation of decachlorobiphenyl exceeded the required 20 percent in initial calibration.
   B. Standard PEMD2: Relative percent difference of alpha-BHC exceeded the required 25 percent.
3. The computer did a poor job of integration for standard INDBMD2 due to negative-response peaks. Integration was adjusted to give a more accurate area for the standard peaks. The data from the reintegration was used to complete form 7E for this analysis. The data from both the original and the reintegrated standard are submitted in the data-pack, along with some 'before and after' chromatograms to support the changes made.

III. Matrix Spike and Matrix Spike Duplicate Analyses.
The matrix spike and matrix spike duplicate analyses were performed on sample B07KQ2. The quantity of endrin ketone reported for the spiked samples is most likely due to breakdown of spiked endrin, and was not extracted from the sample matrix.

IV. Pesticide Abbreviations. The abbreviations used by the computer are summarized below:

TOX for Toxaphene
HEPT EPOX for Heptachlor Epoxide
ENDO 1 for Endosulfan I
ENDO II for Endosulfan II
END ALD for Endrin Aldehyde

IV. Pesticide Abbreviations, continued.

G-CHLOR for Gamma Chlordane
A-CHLOR for Alpha Chlordane
ENDO SULF for Endosulfan Sulfate
END KET for Endrin Ketone
DCB for Decachlorobiphenyl
TCX for Tetrachloro-m-xylene
METHOX for Methoxychlor
HEPTA for Heptachlor
G-BHC for Gamma-BHC
A-BHC for Alpha-BHC
B-BHC for Beta-BHC
D-BHC for Delta-BHC

V. Certification.

I certify that this data package is in compliance with the terms and conditions of the contract both technically and for completeness except for other than the conditions detailed above. Release of the data contained in this hardcopy data package and in the computer-readable data submitted on diskette has been authorized by the Laboratory Manager or his designee and verified by the following signature.

1-20-93

Jose C. Danino, Ph.D. Date
Pesticide Section Manager

9613473.2395

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B07KQ1

Lab Name: DATACHEM LABS Contract: 3534

Lab Code: DATAC Case No.: WHC40 SAS No.: _____ SDG No.: WHC040

Matrix: (soil/water) SOIL Lab Sample ID: CLP11936

Sample wt/vol: 5.0 (g/mL) G Lab File ID: PM68CLP936

Level: (low/med) LOW Date Received: 12/18/92

% Moisture: not dec. 8 Date Analyzed: 12/22/92

GC Column: PACK ID: 2.00 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	11	U
74-83-9	Bromomethane	11	U
75-01-4	Vinyl Chloride	11	U
75-00-3	Chloroethane	11	U
75-09-2	Methylene Chloride	11	U
67-64-1	Acetone	11	U
75-15-0	Carbon Disulfide	11	U
75-35-4	1,1-Dichloroethene	11	U
75-34-3	1,1-Dichloroethane	11	U
540-59-0	1,2-Dichloroethene (total)	11	U
67-66-3	Chloroform	11	U
107-06-2	1,2-Dichloroethane	11	U
78-93-3	2-Butanone	11	U
71-55-6	1,1,1-Trichloroethane	11	U
56-23-5	Carbon Tetrachloride	11	U
75-27-4	Bromodichloromethane	11	U
78-87-5	1,2-Dichloropropane	11	U
10061-01-5	cis-1,3-Dichloropropene	11	U
79-01-6	Trichloroethene	11	U
124-48-1	Dibromochloromethane	11	U
79-00-5	1,1,2-Trichloroethane	11	U
71-43-2	Benzene	11	U
10061-02-6	trans-1,3-Dichloropropene	11	U
75-25-2	Bromoform	11	U
108-10-1	4-Methyl-2-Pentanone	11	U
591-78-6	2-Hexanone	11	U
127-18-4	Tetrachloroethene	11	U
79-34-5	1,1,2,2-Tetrachloroethane	11	U
108-88-3	Toluene	11	U
108-90-7	Chlorobenzene	11	U
100-41-4	Ethylbenzene	11	U
100-42-5	Styrene	11	U
1330-20-7	Xylene (total)	11	U

7

9613473.2396

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B07KQ2

Lab Name: DATACHEM LABS Contract: 3534

Lab Code: DATAC Case No.: WHC40 SAS No.: _____ SDG No.: WHC040

Matrix: (soil/water) SOIL Lab Sample ID: CLP11937

Sample wt/vol: 5.0 (g/mL) G Lab File ID: PM69CLP937

Level: (low/med) LOW Date Received: 12/18/92

% Moisture: not dec. 12 Date Analyzed: 12/22/92

GC Column: PACK ID: 2.00 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	11	U
74-83-9	Bromomethane	11	U
75-01-4	Vinyl Chloride	11	U
75-00-3	Chloroethane	11	U
75-09-2	Methylene Chloride	11	U
67-64-1	Acetone	11	U
75-15-0	Carbon Disulfide	11	U
75-35-4	1,1-Dichloroethene	11	U
75-34-3	1,1-Dichloroethane	11	U
540-59-0	1,2-Dichloroethene (total)	11	U
67-66-3	Chloroform	11	U
107-06-2	1,2-Dichloroethane	11	U
78-93-3	2-Butanone	11	U
71-55-6	1,1,1-Trichloroethane	11	U
56-23-5	Carbon Tetrachloride	11	U
75-27-4	Bromodichloromethane	11	U
78-87-5	1,2-Dichloropropane	11	U
10061-01-5	cis-1,3-Dichloropropene	11	U
79-01-6	Trichloroethene	11	U
124-48-1	Dibromochloromethane	11	U
79-00-5	1,1,2-Trichloroethane	11	U
71-43-2	Benzene	11	U
10061-02-6	trans-1,3-Dichloropropene	11	U
75-25-2	Bromoform	11	U
108-10-1	4-Methyl-2-Pentanone	11	U
591-78-6	2-Hexanone	11	U
127-18-4	Tetrachloroethene	11	U
79-34-5	1,1,2,2-Tetrachloroethane	11	U
108-88-3	Toluene	11	U
108-90-7	Chlorobenzene	11	U
100-41-4	Ethylbenzene	11	U
100-42-5	Styrene	11	U
1330-20-7	Xylene (total)	11	U

9613473.2397

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B07KQ3

Lab Name: DATACHEM LABS Contract: 3534

Lab Code: DATAC Case No.: WHC40 SAS No.: _____ SDG No.: WHC040

Matrix: (soil/water) SOIL Lab Sample ID: CLP11938

Sample wt/vol: 5.0 (g/mL) G Lab File ID: PM70CLP938

Level: (low/med) LOW Date Received: 12/18/92

% Moisture: not dec. 20 Date Analyzed: 12/22/92

GC Column: PACK ID: 2.00 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	12	U
74-83-9	Bromomethane	12	U
75-01-4	Vinyl Chloride	12	U
75-00-3	Chloroethane	12	U
75-09-2	Methylene Chloride	12	U
67-64-1	Acetone	12	U
75-15-0	Carbon Disulfide	12	U
75-35-4	1,1-Dichloroethene	12	U
75-34-3	1,1-Dichloroethane	12	U
540-59-0	1,2-Dichloroethene (total)	12	U
67-66-3	Chloroform	12	U
107-06-2	1,2-Dichloroethane	12	U
78-93-3	2-Butanone	12	U
71-55-6	1,1,1-Trichloroethane	12	U
56-23-5	Carbon Tetrachloride	12	U
75-27-4	Bromodichloromethane	12	U
78-87-5	1,2-Dichloropropane	12	U
10061-01-5	cis-1,3-Dichloropropene	12	U
79-01-6	Trichloroethene	12	U
124-48-1	Dibromochloromethane	12	U
79-00-5	1,1,2-Trichloroethane	12	U
71-43-2	Benzene	12	U
10061-02-6	trans-1,3-Dichloropropene	12	U
75-25-2	Bromoform	12	U
108-10-1	4-Methyl-2-Pentanone	12	U
591-78-6	2-Hexanone	12	U
127-18-4	Tetrachloroethene	12	U
79-34-5	1,1,2,2-Tetrachloroethane	12	U
108-88-3	Toluene	12	U
108-90-7	Chlorobenzene	12	U
100-41-4	Ethylbenzene	12	U
100-42-5	Styrene	12	U
1330-20-7	Xylene (total)	12	U

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

B07KQ1

Lab Name: DATACHEM LABS Contract: 3534

Lab Code: DATAC Case No.: WHC40 SAS No.: _____ SDG No.: WHC040

Matrix: (soil/water) SOIL Lab Sample ID: CLP11936

Sample wt/vol: 5.0 (g/mL) G Lab File ID: PM68CLP936

Level: (low/med) LOW Date Received: 12/18/92

% Moisture: not dec. 8 Date Analyzed: 12/22/92

GC Column: PACK ID: 2.00 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____(uL)

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

9613473.2399

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

B07KQ2

Lab Name: DATACHEM LABS Contract: 3534

Lab Code: DATAC Case No.: WHC40 SAS No.: _____ SDG No.: WHC040

Matrix: (soil/water) SOIL Lab Sample ID: CLP11937

Sample wt/vol: 5.0 (g/mL) G Lab File ID: PM69CLP937

Level: (low/med) LOW Date Received: 12/18/92

% Moisture: not dec. 12 Date Analyzed: 12/22/92

GC Column: PACK ID: 2.00 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____(uL)

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

9613473.2400

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

B07KQ3

Lab Name: DATACHEM LABS Contract: 3534

Lab Code: DATAC Case No.: WHC40 SAS No.: _____ SDG No.: WHC040

Matrix: (soil/water) SOIL Lab Sample ID: CLP11938

Sample wt/vol: 5.0 (g/mL) G Lab File ID: PM70CLP938

Level: (low/med) LOW Date Received: 12/18/92

% Moisture: not dec. 20 Date Analyzed: 12/22/92

GC Column: PACK ID: 2.00 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____(uL)

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

12

9613473.2401

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B07KQ1

Lab Name: DATACHEM LABS Contract: 3534

Lab Code: DATAC Case No.: WHC40 SAS No.: _____ SDG No.: WHC040

Matrix: (soil/water) SOIL Lab Sample ID: CLP11936

Sample wt/vol: 30.0 (g/mL) G Lab File ID: ID8CLP936

Level: (low/med) LOW Date Received: 12/18/92

% Moisture: 8 decanted: (Y/N) N Date Extracted: 12/25/92

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 01/19/93

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 6.7

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol	360	U
111-44-4	bis(2-Chloroethyl)Ether	360	U
95-57-8	2-Chlorophenol	360	U
541-73-1	1,3-Dichlorobenzene	360	U
106-46-7	1,4-Dichlorobenzene	360	U
95-50-1	1,2-Dichlorobenzene	360	U
95-48-7	2-Methylphenol	360	U
108-60-1	2,2'-oxybis(1-Chloropropane)	360	U
106-44-5	4-Methylphenol	360	U
621-64-7	N-Nitroso-Di-n-Propylamine	360	U
67-72-1	Hexachloroethane	360	U
98-95-3	Nitrobenzene	360	U
78-59-1	Isophorone	360	U
88-75-5	2-Nitrophenol	360	U
105-67-9	2,4-Dimethylphenol	360	U
111-91-1	bis(2-Chloroethoxy)Methane	360	U
120-83-2	2,4-Dichlorophenol	360	U
120-82-1	1,2,4-Trichlorobenzene	360	U
91-20-3	Naphthalene	360	U
106-47-8	4-Chloroaniline	360	U
87-68-3	Hexachlorobutadiene	360	U
59-50-7	4-Chloro-3-Methylphenol	360	U
91-57-6	2-Methylnaphthalene	360	U
77-47-4	Hexachlorocyclopentadiene	360	U
88-06-2	2,4,6-Trichlorophenol	360	U
95-95-4	2,4,5-Trichlorophenol	870	U
91-58-7	2-Chloronaphthalene	360	U
88-74-4	2-Nitroaniline	870	U
131-11-3	Dimethyl Phthalate	360	U
208-96-8	Acenaphthylene	360	U
606-20-2	2,6-Dinitrotoluene	360	U
99-09-2	3-Nitroaniline	870	U
83-32-9	Acenaphthene	360	U

9613473.2402

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B07KQ1

Lab Name: DATACHEM LABS Contract: 3534

Lab Code: DATAC Case No.: WHC40 SAS No.: _____ SDG No.: WHC040

Matrix: (soil/water) SOIL Lab Sample ID: CLP11936

Sample wt/vol: 30.0 (g/mL) G Lab File ID: ID8CLP936

Level: (low/med) LOW Date Received: 12/18/92

% Moisture: 8 decanted: (Y/N) N Date Extracted: 12/25/92

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 01/19/93

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 6.7

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
51-28-5	2,4-Dinitrophenol	870	U
100-02-7	4-Nitrophenol	870	U
132-64-9	Dibenzofuran	360	U
121-14-2	2,4-Dinitrotoluene	360	U
84-66-2	Diethylphthalate	360	U
7005-72-3	4-Chlorophenyl-phenylether	360	U
86-73-7	Fluorene	360	U
100-01-6	4-Nitroaniline	870	U
534-52-1	4,6-Dinitro-2-Methylphenol	870	U
86-30-6	N-Nitrosodiphenylamine (1)	360	U
101-55-3	4-Bromophenyl-phenylether	360	U
118-74-1	Hexachlorobenzene	360	U
87-86-5	Pentachlorophenol	870	U
85-01-8	Phenanthrene	360	U
120-12-7	Anthracene	360	U
86-74-8	Carbazole	360	U
84-74-2	Di-n-Butylphthalate	360	U
206-44-0	Fluoranthene	360	U
129-00-0	Pyrene	360	U
85-68-7	Butylbenzylphthalate	360	U
91-94-1	3,3'-Dichlorobenzidine	360	U
56-55-3	Benzo(a)Anthracene	360	U
218-01-9	Chrysene	360	U
117-81-7	bis(2-Ethylhexyl)Phthalate	360	U
117-84-0	Di-n-Octyl Phthalate	360	U
205-99-2	Benzo(b)Fluoranthene	360	U
207-08-9	Benzo(k)Fluoranthene	360	U
50-32-8	Benzo(a)Pyrene	360	U
193-39-5	Indeno(1,2,3-cd)Pyrene	360	U
53-70-3	Dibenz(a,h)Anthracene	360	U
191-24-2	Benzo(g,h,i)Perylene	360	U

(1) - Cannot be separated from Diphenylamine

14

9613473.2403

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

B07KQ1

Lab Name: DATACHEM LABS Contract: 3534

Lab Code: DATAC Case No.: WHC40 SAS No.: _____ SDG No.: WHCO40

Matrix: (soil/water) SOIL Lab Sample ID: CLP11936

Sample wt/vol: 30.0 (g/mL) G Lab File ID: ID8CLP936

Level: (low/med) LOW Date Received: 12/18/92

% Moisture: 8 decanted: (Y/N) N Date Extracted: 12/25/92

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 01/19/93

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 6.7

Number TICs found: 20

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN HYDROCARBON	28.42	1500	J
2.	UNKNOWN HYDROCARBON	28.57	2500	J
3.	UNKNOWN HYDROCARBON	28.76	1100	J
4.	UNKNOWN HYDROCARBON	28.92	630	J
5.	UNKNOWN HYDROCARBON	29.06	1100	J
6.	UNKNOWN HYDROCARBON	29.24	1400	J
7.	UNKNOWN HYDROCARBON	29.34	550	J
8.	UNKNOWN HYDROCARBON	29.37	530	J
9.	UNKNOWN HYDROCARBON	29.52	640	J
10.	UNKNOWN HYDROCARBON	29.66	1800	J
11.	UNKNOWN HYDROCARBON	29.79	1100	J
12.	UNKNOWN HYDROCARBON	29.92	1800	J
13.	UNKNOWN HYDROCARBON	30.02	1200	J
14.	UNKNOWN HYDROCARBON	30.21	720	J
15.	UNKNOWN HYDROCARBON	30.36	1400	J
16.	UNKNOWN HYDROCARBON	30.49	510	J
17.	UNKNOWN HYDROCARBON	30.66	510	J
18.	UNKNOWN HYDROCARBON	31.12	250	J
19.	UNKNOWN HYDROCARBON	31.22	350	J
20.	UNKNOWN HYDROCARBON	31.59	1500	J

9613473.2404

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B07KQ2

Lab Name: DATACHEM LABS Contract: 3534

Lab Code: DATAC Case No.: WHC40 SAS No.: _____ SDG No.: WHC040

Matrix: (soil/water) SOIL Lab Sample ID: CLP11937

Sample wt/vol: 30.0 (g/mL) G Lab File ID: IE10CLP937

Level: (low/med) LOW Date Received: 12/18/92

% Moisture: 12 decanted: (Y/N) N Date Extracted: 12/25/92

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 01/19/93

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 7.2

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol	370	U
111-44-4	bis(2-Chloroethyl)Ether	370	U
95-57-8	2-Chlorophenol	370	U
541-73-1	1,3-Dichlorobenzene	370	U
106-46-7	1,4-Dichlorobenzene	370	U
95-50-1	1,2-Dichlorobenzene	370	U
95-48-7	2-Methylphenol	370	U
108-60-1	2,2'-oxybis(1-Chloropropane)	370	U
106-44-5	4-Methylphenol	370	U
621-64-7	N-Nitroso-Di-n-Propylamine	370	U
67-72-1	Hexachloroethane	370	U
98-95-3	Nitrobenzene	370	U
78-59-1	Isophorone	370	U
88-75-5	2-Nitrophenol	370	U
105-67-9	2,4-Dimethylphenol	370	U
111-91-1	bis(2-Chloroethoxy)Methane	370	U
120-83-2	2,4-Dichlorophenol	370	U
120-82-1	1,2,4-Trichlorobenzene	370	U
91-20-3	Naphthalene	370	U
106-47-8	4-Chloroaniline	370	U
87-68-3	Hexachlorobutadiene	370	U
59-50-7	4-Chloro-3-Methylphenol	370	U
91-57-6	2-Methylnaphthalene	370	U
77-47-4	Hexachlorocyclopentadiene	370	U
88-06-2	2,4,6-Trichlorophenol	370	U
95-95-4	2,4,5-Trichlorophenol	910	U
91-58-7	2-Chloronaphthalene	370	U
88-74-4	2-Nitroaniline	910	U
131-11-3	Dimethyl Phthalate	370	U
208-96-8	Acenaphthylene	370	U
606-20-2	2,6-Dinitrotoluene	370	U
99-09-2	3-Nitroaniline	910	U
83-32-9	Acenaphthene	370	U

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B07KQ2

Lab Name: DATACHEM LABS Contract: 3534

Lab Code: DATAC Case No.: WHC40 SAS No.: _____ SDG No.: WHC040

Matrix: (soil/water) SOIL Lab Sample ID: CLP11937

Sample wt/vol: 30.0 (g/mL) G Lab File ID: IE10CLP937

Level: (low/med) LOW Date Received: 12/18/92

% Moisture: 12 decanted: (Y/N) N Date Extracted: 12/25/92

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 01/19/93

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 7.2

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
51-28-5	2,4-Dinitrophenol	910	U
100-02-7	4-Nitrophenol	910	U
132-64-9	Dibenzofuran	370	U
121-14-2	2,4-Dinitrotoluene	370	U
84-66-2	Diethylphthalate	370	U
7005-72-3	4-Chlorophenyl-phenylether	370	U
86-73-7	Fluorene	370	U
100-01-6	4-Nitroaniline	910	U
534-52-1	4,6-Dinitro-2-Methylphenol	910	U
86-30-6	N-Nitrosodiphenylamine (1)	370	U
101-55-3	4-Bromophenyl-phenylether	370	U
118-74-1	Hexachlorobenzene	370	U
87-86-5	Pentachlorophenol	910	U
85-01-8	Phenanthrene	370	U
120-12-7	Anthracene	370	U
86-74-8	Carbazole	370	U
84-74-2	Di-n-Butylphthalate	39	J
206-44-0	Fluoranthene	370	U
129-00-0	Pyrene	370	U
85-68-7	Butylbenzylphthalate	370	U
91-94-1	3,3'-Dichlorobenzidine	370	U
56-55-3	Benzo(a)Anthracene	370	U
218-01-9	Chrysene	370	U
117-81-7	bis(2-Ethylhexyl)Phthalate	370	U
117-84-0	Di-n-Octyl Phthalate	370	U
205-99-2	Benzo(b)Fluoranthene	370	U
207-08-9	Benzo(k)Fluoranthene	370	U
50-32-8	Benzo(a)Pyrene	370	U
193-39-5	Indeno(1,2,3-cd)Pyrene	370	U
53-70-3	Dibenz(a,h)Anthracene	370	U
191-24-2	Benzo(g,h,i)Perylene	370	U

(1) - Cannot be separated from Diphenylamine

9613473.2406

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

B07KQ2

Lab Name: DATACHEM LABS Contract: 3534

Lab Code: DATAC Case No.: WHC40 SAS No.: _____ SDG No.: WHC040

Matrix: (soil/water) SOIL Lab Sample ID: CLP11937

Sample wt/vol: 30.0 (g/mL) G Lab File ID: IE10CLP937

Level: (low/med) LOW Date Received: 12/18/92

% Moisture: 12 decanted: (Y/N) N Date Extracted: 12/25/92

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 01/19/93

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 7.2

Number TICs found: 21

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	ALDOL CONDENSATION PRODUCT	11.14	1800	AJ
2. 65-85-0	BENZOIC ACID	14.49	580	JN
3.	ALKANE @ C23	28.37	180	J
4.	UNKNOWN HYDROCARBON	28.61	460	J
5.	UNKNOWN HYDROCARBON	28.64	370	J
6.	UNKNOWN HYDROCARBON	28.72	110	J
7.	ALKANE @ C24	29.29	170	J
8.	UNKNOWN PHOSPHORIC ACID ESTE	29.92	150	J
9.	UNKNOWN HYDROCARBON	30.17	410	J
10.	UNKNOWN HYDROCARBON	31.17	180	J
11.	UNKNOWN HYDROCARBON	31.87	190	J
12.	ALKANE @ C27	32.31	560	J
13.	UNKNOWN HYDROCARBON	33.66	210	J
14. 111-02-4	SQUALENE	34.36	140	BJN
15.	ALKANE @ C29	35.29	2000	J
16.	UNKNOWN HYDROCARBON	36.31	250	J
17.	UNKNOWN HYDROCARBON	37.21	200	J
18.	UNKNOWN HYDROCARBON	38.16	120	J
19.	ALKANE @ C31	39.57	1400	J
20.	UNKNOWN HYDROCARBON	40.76	76	J
21.	UNKNOWN HYDROCARBON	45.99	320	J

9613473.2407

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B07KQ3

Lab Name: DATACHEM LABS Contract: 3534

Lab Code: DATAC Case No.: WHC40 SAS No.: _____ SDG No.: WHC040

Matrix: (soil/water) SOIL Lab Sample ID: CLP11938

Sample wt/vol: 30.0 (g/mL) G Lab File ID: IE11CLP938

Level: (low/med) LOW Date Received: 12/18/92

% Moisture: 20 decanted: (Y/N) N Date Extracted: 12/25/92

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 01/19/93

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 7.8

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol	410	U
111-44-4	bis(2-Chloroethyl)Ether	410	U
95-57-8	2-Chlorophenol	410	U
541-73-1	1,3-Dichlorobenzene	410	U
106-46-7	1,4-Dichlorobenzene	410	U
95-50-1	1,2-Dichlorobenzene	410	U
95-48-7	2-Methylphenol	410	U
108-60-1	2,2'-oxybis(1-Chloropropane)	410	U
106-44-5	4-Methylphenol	410	U
621-64-7	N-Nitroso-Di-n-Propylamine	410	U
67-72-1	Hexachloroethane	410	U
98-95-3	Nitrobenzene	410	U
78-59-1	Isophorone	410	U
88-75-5	2-Nitrophenol	410	U
105-67-9	2,4-Dimethylphenol	410	U
111-91-1	bis(2-Chloroethoxy)Methane	410	U
120-83-2	2,4-Dichlorophenol	410	U
120-82-1	1,2,4-Trichlorobenzene	410	U
91-20-3	Naphthalene	410	U
106-47-8	4-Chloroaniline	410	U
87-68-3	Hexachlorobutadiene	410	U
59-50-7	4-Chloro-3-Methylphenol	410	U
91-57-6	2-Methylnaphthalene	410	U
77-47-4	Hexachlorocyclopentadiene	410	U
88-06-2	2,4,6-Trichlorophenol	410	U
95-95-4	2,4,5-Trichlorophenol	1000	U
91-58-7	2-Chloronaphthalene	410	U
88-74-4	2-Nitroaniline	1000	U
131-11-3	Dimethyl Phthalate	410	U
208-96-8	Acenaphthylene	410	U
606-20-2	2,6-Dinitrotoluene	410	U
99-09-2	3-Nitroaniline	1000	U
83-32-9	Acenaphthene	410	U

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1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B07KQ3

Lab Name: DATACHEM LABS Contract: 3534

Lab Code: DATAC Case No.: WHC40 SAS No.: _____ SDG No.: WHC040

Matrix: (soil/water) SOIL Lab Sample ID: CLP11938

Sample wt/vol: 30.0 (g/mL) G Lab File ID: IE11CLP938

Level: (low/med) LOW Date Received: 12/18/92

% Moisture: 20 decanted: (Y/N) N Date Extracted: 12/25/92

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 01/19/93

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 7.8

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
51-28-5	2,4-Dinitrophenol	1000	U
100-02-7	4-Nitrophenol	1000	U
132-64-9	Dibenzofuran	410	U
121-14-2	2,4-Dinitrotoluene	410	U
84-66-2	Diethylphthalate	410	U
7005-72-3	4-Chlorophenyl-phenylether	410	U
86-73-7	Fluorene	410	U
100-01-6	4-Nitroaniline	1000	U
534-52-1	4,6-Dinitro-2-Methylphenol	1000	U
86-30-6	N-Nitrosodiphenylamine (1)	410	U
101-55-3	4-Bromophenyl-phenylether	410	U
118-74-1	Hexachlorobenzene	410	U
87-86-5	Pentachlorophenol	1000	U
85-01-8	Phenanthrene	410	U
120-12-7	Anthracene	410	U
86-74-8	Carbazole	410	U
84-74-2	Di-n-Butylphthalate	410	U
206-44-0	Fluoranthene	410	U
129-00-0	Pyrene	410	U
85-68-7	Butylbenzylphthalate	410	U
91-94-1	3,3'-Dichlorobenzidine	410	U
56-55-3	Benzo(a)Anthracene	410	U
218-01-9	Chrysene	410	U
117-81-7	bis(2-Ethylhexyl)Phthalate	410	U
117-84-0	Di-n-Octyl Phthalate	410	U
205-99-2	Benzo(b)Fluoranthene	410	U
207-08-9	Benzo(k)Fluoranthene	410	U
50-32-8	Benzo(a)Pyrene	410	U
193-39-5	Indeno(1,2,3-cd)Pyrene	410	U
53-70-3	Dibenz(a,h)Anthracene	410	U
191-24-2	Benzo(g,h,i)Perylene	410	U

(1) - Cannot be separated from Diphenylamine

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

B07KQ3

Lab Name: DATACHEM LABS Contract: 3534

Lab Code: DATAC Case No.: WHC40 SAS No.: _____ SDG No.: WHC040

Matrix: (soil/water) SOIL Lab Sample ID: CLP11938

Sample wt/vol: 30.0 (g/mL) G Lab File ID: IE11CLP938

Level: (low/med) LOW Date Received: 12/18/92

% Moisture: 20 decanted: (Y/N) N Date Extracted: 12/25/92

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 01/19/93

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 7.8

Number TICs found: 11

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	ALKANE @ C8	8.55	170	BJ
2.	ALDOL CONDENSATION PRODUCT	9.34	460	ABJ
3.	C10 CYCLIC HYDROCARBON	9.47	190	BJ
4.	ALDOL CONDENSATION PRODUCT	9.70	150	ABJ
5.	ALKENE	9.77	520	BJ
6.	ALDOL CONDENSATION PRODUCT	10.07	1100	ABJ
7.	C4 CYCLOHEXANE	10.25	550	BJ
8.	ALDOL CONDENSATION PRODUCT	10.32	160	AJ
9.	ALDOL CONDENSATION PRODUCT	11.10	500	AJ
10.	ALDOL CONDENSATION PRODUCT	12.35	110	AJ
11. 65-85-0	BENZOIC ACID	14.44	420	JN

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1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B07KQ1

Lab Name:DATACHEM LABORATORIES Contract:N/A

Lab Code:DATAC Case No.WHC40 SAS No.: SDG No.:WHC040

Matrix: (soil/water)SOIL Lab Sample ID: CLP-11936A

Sample wt/vol: 30.0 (g/ml)G Lab File ID:

% Moisture: 8 decanted: (Y/N) N Date Received: 12/18/92

Extraction: (SepF/Cont/Sonc)SONC Date Extracted:12/28/92

Concentrated Extract Volume: 5000 (uL) Date Analyzed: 1/14/93

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N)Y pH: 6.7 Sulfur Cleanup: (Y/N) N

CAS NO.	COMPOUND	CONCENTRATION UNITS (ug/L or ug/Kg)UG/KG	Q
319-84-6	alpha-BHC	1.8	U
319-85-7	beta-BHC	1.9	P
319-86-8	delta-BHC	1.8	U
58-89-9	gamma-BHC(Lindane)	1.8	U
76-44-8	Heptachlor	1.8	U
309-00-2	Aldrin	1.8	U
1024-57-3	Heptachlor epoxide	1.8	U
959-98-8	Endosulfan I	0.13	JP
60-57-1	Dieldrin	0.46	JP
72-55-9	4,4'-DDE	3.6	U
72-20-8	Endrin	3.6	U
33213-65-9	Endosulfan II	3.6	U
72-54-8	4,4'-DDD	3.6	U
1031-07-8	Endosulfan sulfate	1.5	JP
50-29-3	4,4'-DDT	3.6	U
72-43-5	Methoxychlor	1.3	JPB
53494-70-5	Endrin ketone	3.6	U
7421-36-3	Endrin aldehyde	3.6	U
5103-71-9	alpha-Chlordane	0.35	JP
5103-74-2	gamma-Chlordane	1.8	U
8001-35-2	Toxaphene	180.	U
12674-11-2	Aroclor-1016	36.	U
11104-28-2	Aroclor-1221	72.	U
11141-16-5	Aroclor-1232	36.	U
53469-21-9	Aroclor-1242	36.	U
12672-29-6	Aroclor-1248	36.	U
11097-69-1	Aroclor-1254	36.	U
11096-82-5	Aroclor-1260	36.	U

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1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B07KQ2

Lab Name:DATACHEM LABORATORIES Contract:N/A

Lab Code:DATAC Case No.WHC40 SAS No.: SDG No.:WHC040

Matrix: (soil/water) SOIL Lab Sample ID: CLP-11937A

Sample wt/vol: 30.0 (g/ml) G Lab File ID:

% Moisture: 12 decanted: (Y/N) N Date Received: 12/18/92

Extraction: (SepF/Cont/Sonc) SONC Date Extracted:12/28/92

Concentrated Extract Volume: 5000 (uL) Date Analyzed: 1/14/93

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 7.2 Sulfur Cleanup: (Y/N) N

CAS NO.	COMPOUND	CONCENTRATION UNITS (ug/L or ug/Kg) UG/KG	Q
319-84-6	alpha-BHC	1.9	U
319-85-7	beta-BHC	1.9	U
319-86-8	delta-BHC	1.9	U
58-89-9	gamma-BHC (Lindane)	1.9	U
76-44-8	Heptachlor	1.9	U
309-00-2	Aldrin	1.9	U
1024-57-3	Heptachlor epoxide	1.9	U
959-98-8	Endosulfan I	1.9	U
60-57-1	Dieldrin	3.8	U
72-55-9	4,4'-DDE	2.2	J
72-20-8	Endrin	0.88	J
33213-65-9	Endosulfan II	3.8	U
72-54-8	4,4'-DDD	3.8	U
1031-07-8	Endosulfan sulfate	0.19	JP
50-29-3	4,4'-DDT	4.9	
72-43-5	Methoxychlor	2.2	JPB
53494-70-5	Endrin ketone	3.8	U
7421-36-3	Endrin aldehyde	3.8	U
5103-71-9	alpha-Chlordane	1.9	U
5103-74-2	gamma-Chlordane	1.9	U
8001-35-2	Toxaphene	190.	U
12674-11-2	Aroclor-1016	38.	U
11104-28-2	Aroclor-1221	76.	U
11141-16-5	Aroclor-1232	38.	U
53469-21-9	Aroclor-1242	38.	U
12672-29-6	Aroclor-1248	38.	U
11097-69-1	Aroclor-1254	38.	U
11096-82-5	Aroclor-1260	38.	U

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1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B07KQ3

Lab Name:DATACHEM LABORATORIES Contract:N/A

Lab Code:DATAC Case No.WHC40 SAS No.: SDG No.:WHC040

Matrix: (soil/water)SOIL Lab Sample ID: CLP-11938A

Sample wt/vol: 30.0 (g/ml)G Lab File ID:

% Moisture: 20 decanted: (Y/N) N Date Received: 12/18/92

Extraction: (SepF/Cont/Sonc)SONC Date Extracted:12/28/92

Concentrated Extract Volume: 5000 (uL) Date Analyzed: 1/14/93

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N)Y pH: 7.8 Sulfur Cleanup: (Y/N) N

CAS NO.	COMPOUND	CONCENTRATION UNITS (ug/L or ug/Kg)UG/KG	Q
319-84-6	alpha-BHC	2.1	U
319-85-7	beta-BHC	2.1	U
319-86-8	delta-BHC	2.1	U
58-89-9	gamma-BHC(Lindane)	2.1	U
76-44-8	Heptachlor	2.1	U
309-00-2	Aldrin	2.1	U
1024-57-3	Heptachlor epoxide	2.1	U
959-98-8	Endosulfan I	2.1	U
60-57-1	Dieldrin	4.2	U
72-55-9	4,4'-DDE	4.2	U
72-20-8	Endrin	4.2	U
33213-65-9	Endosulfan II	4.2	U
72-54-8	4,4'-DDD	4.2	U
1031-07-8	Endosulfan sulfate	0.21	JP
50-29-3	4,4'-DDT	4.2	U
72-43-5	Methoxychlor	2.0	JB
53494-70-5	Endrin ketone	4.2	U
7421-36-3	Endrin aldehyde	4.2	U
5103-71-9	alpha-Chlordane	2.1	U
5103-74-2	gamma-Chlordane	2.1	U
8001-35-2	Toxaphene	210.	U
12674-11-2	Aroclor-1016	42.	U
11104-28-2	Aroclor-1221	83.	U
11141-16-5	Aroclor-1232	42.	U
53469-21-9	Aroclor-1242	42.	U
12672-29-6	Aroclor-1248	42.	U
11097-69-1	Aroclor-1254	42.	U
11096-82-5	Aroclor-1260	42.	U

9613473.2413

DATA CHEM LABORATORIES

ENVIRONMENTAL SOIL REPORT

Form EPRS-A
Page 1 of 2
Part 1 of 1

Date _____
Agency Identification Number SF-1398-EJ
Account No. 3534C

Westinghouse Hanford Company
2355 Stevens Drive
MSIN T6-08
Richland, WA 99352
Attention: Jeanette Duncan

Telephone (509) 373-3225

JAN 1993 RECEIVED DMO OSM

Sampling Collection and Shipment

Sampling Site _____ Date of Collection December 14, 1992

Date Samples Received at Laboratory December 18, 1992

Analytical Results

Parameter Name / Analysis Date / Units / Method / Prep Method	Field Number / Lab Number	B07KQ1 CLP 11936	B07KQ2 CLP 11937	B07KQ3 CLP 11938					* Limit of Detection
Total Petroleum Hydrocarbons 12/31/1992 µg/g 418.1 [1] 3550 [2]		910	ND*	ND*					10

† See comment on last page.
ND Parameter not detected.
NR Parameter not requested.
1 Analyses completed on or before this date.

** Parameter not analyzed (See comment page).
( ) Parameter between LOD and LOQ.
[ ] Method Reference (See comments page.)

RECORD COPY

Analyst: David W. Thomas

Reviewer: Rosemary H. Hanks

Laboratory Supervisor: Norman K. Christensen

960 West LeVoy Drive / Salt Lake City, Utah 84123-2547 / (801) 266-7700
A Sorenson Company

DATA CHEM LABORATORIES

ENVIRONMENTAL SOIL REPORT

Date _____

Agency Identification Number SF-1398-EJ

Method Index **-- Method Reference --**

[1] EPA-600/4-79-020 "Methods for Chemical Analysis of Water and Wastes", March 1983 (Modified for use with soils.)

[2] SW-846 "Test Methods for Evaluating Solid Waste", 3rd Edition, November 1986.

960 West LeVoy Drive / Salt Lake City, Utah 84123-2547 / (801) 266-7700
A Sorenson Company

9613473.2415

DATA CHEM LABORATORIES

ANALYTICAL REPORT

Date _____
Agency Identification Number SF-1398-HJ
Account No. 3534C

Westinghouse Hanford Company
2355 Stevens Drive
MSIN H4-23 345 Hill Street/300 Area
Richland, WA 99352
Attention: Briana Colley

JAN 1993 RECEIVED OSM DMO

FAX (509) 372-2106
Telephone (509) 373-3225

Sampling Collection and Shipment

Sampling Site _____ Date of Collection December 14, 1992

Date Samples Received at Laboratory December 18, 1992

Analysis

Method of Analysis EPA 8141

Date(s) of Analysis January 13, 1993

Analytical Results

Field Sample Number	Laboratory Number	Sample Type	Azinphos Methyl µg/kg	Bolstar µg/kg	Chlorpyrifos µg/kg	Coumaphos µg/kg	Demeton-S µg/kg	Diazinon µg/kg	Dichlorvos µg/kg	Disulfoton µg/kg
QC-93812-1	QC-93812-1	SOIL	ND*	ND*	ND*	ND*	ND*	ND*	ND*	58.
BL-93812-1	BL-93812-1	SOIL	ND*	ND*	ND*	ND*	ND*	ND*	ND*	ND*
B07KQ1	CLP 11936	SOIL	ND*	ND*	ND*	ND*	ND*	ND*	ND*	ND*
B07KQ2	CLP 11937	SOIL	ND*	ND*	ND*	ND*	ND*	ND*	ND*	ND*
B07KQ3	CLP 11938	SOIL	ND*	ND*	ND*	ND*	ND*	ND*	ND*	ND*
B07KQ3MS	CLP 11938MS	SOIL	ND*	ND*	ND*	ND*	ND*	ND*	ND*	51.
B07KQ3MSD	CLP 11938MSD	SOIL	ND*	ND*	ND*	ND*	ND*	ND*	ND*	69.
* Limit of Detection			67.	67.	33.	167.	33.	33.	17.	17.

† See comment on last page.
ND Parameter not detected.
NR Parameter not requested.

** See comment on last page.
( ) Parameter between LOD and LOQ.

RECORD COPY

Analyst: Kuang C. Tang

Reviewer: Vicki Hoe-Lin Tsai

Laboratory Supervisor: Jose C. Danino

9613473.2416

DATA CHEM LABORATORIES

ANALYTICAL REPORT

Form ARF-AL
Page 2 of 5
Part 2 of 4

Date _____
Agency Identification Number SF-1398-HJ
Account No. 3534C

Westinghouse Hanford Company
2355 Stevens Drive
MSIN H4-23 345 Hill Street/300 Area
Richland, WA 99352
Attention: Briana Colley

FAX (509) 372-2106
Telephone (509) 373-3225

Sampling Collection and Shipment

Sampling Site _____ Date of Collection December 14, 1992

Date Samples Received at Laboratory December 18, 1992

Analysis

Method of Analysis EPA 8141

Date(s) of Analysis January 13, 1993

Analytical Results

Field Sample Number	Laboratory Number	Sample Type	Ethoprop µg/kg	Fensulfothion µg/kg	Fenthion µg/kg	Merphos µg/kg	Mevinphos µg/kg	Naled µg/kg	Parathion methyl µg/kg	Phorate µg/kg
QC-93812-1	QC-93812-1	SOIL	ND*	ND*	ND*	ND*	ND*	ND*	52.	54.
BL-93812-1	BL-93812-1	SOIL	ND*	ND*	ND*	ND*	ND*	ND*	ND*	ND*
B07KQ1	CLP 11936	SOIL	ND*	ND*	ND*	ND*	ND*	ND*	ND*	ND*
B07KQ2	CLP 11937	SOIL	ND*	ND*	ND*	ND*	ND*	ND*	ND*	ND*
B07KQ3	CLP 11938	SOIL	ND*	ND*	ND*	ND*	ND*	ND*	ND*	ND*
B07KQ3MS	CLP 11938MS	SOIL	ND*	ND*	ND*	ND*	ND*	ND*	76.	58.
B07KQ3MSD	CLP 11938MSD	SOIL	ND*	ND*	ND*	ND*	ND*	ND*	71.	63.
* Limit of Detection			333.	167.	67.	67.	67.	33.	17.	17.

† See comment on last page.
ND Parameter not detected.
NR Parameter not requested.
** See comment on last page.
( ) Parameter between LOD and LOQ.

9613473.2417

DATA CHEM LABORATORIES

ANALYTICAL REPORT

Date _____
Agency Identification Number SF-1398-HJ
Account No. 3534C

Westinghouse Hanford Company
2355 Stevens Drive
MSIN H4-23 345 Hill Street/300 Area
Richland, WA 99352
Attention: Briana Colley

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Telephone (509) 373-3225

Sampling Collection and Shipment

Sampling Site _____ Date of Collection December 14, 1992

Date Samples Received at Laboratory December 18, 1992

Analysis

Method of Analysis EPA 8141

Date(s) of Analysis January 13, 1993

Analytical Results

Field Sample Number	Laboratory Number	Sample Type	Ronnel µg/kg	Stirophos µg/kg	Dimethoate µg/kg	EPN µg/kg	Malathion µg/kg	Monocrotophos µg/kg	Parathion µg/kg	SULFOTEP µg/kg
QC-93812-1	QC-93812-1	SOIL	ND*	ND*	ND*	ND*	ND*	ND*	ND*	ND*
BL-93812-1	BL-93812-1	SOIL	ND*	ND*	ND*	ND*	ND*	ND*	ND*	ND*
B07KQ1	CLP 11936	SOIL	ND*	ND*	ND*	ND*	ND*	ND*	ND*	ND*
B07KQ2	CLP 11937	SOIL	ND*	ND*	ND*	ND*	ND*	ND*	ND*	ND*
B07KQ3	CLP 11938	SOIL	ND*	ND*	ND*	ND*	ND*	ND*	ND*	ND*
B07KQ3MS	CLP 11938MS	SOIL	ND*	ND*	ND*	ND*	ND*	ND*	ND*	ND*
B07KQ3MSD	CLP 11938MSD	SOIL	ND*	ND*	ND*	ND*	ND*	ND*	ND*	ND*
* Limit of Detection			33.	33.	167.	33.	67.	17.	17.	333.

† See comment on last page.
ND Parameter not detected.
NR Parameter not requested.
** See comment on last page.
( ) Parameter between LOD and LOQ.

9613473.2418

ANALYTICAL REPORT

Form ARF-AL
Page 4 of 5
Part 4 of 4

Date _____
Agency Identification Number SF-1398-HJ
Account No. 3534C

Westinghouse Hanford Company
2355 Stevens Drive
MSIN H4-23 345 Hill Street/300 Area
Richland, WA 99352
Attention: Briana Colley

FAX (509) 372-2106
Telephone (509) 373-3225

Sampling Collection and Shipment

Sampling Site _____ Date of Collection December 14, 1992

Date Samples Received at Laboratory December 18, 1992

Analysis

Method of Analysis EPA 8141

Date(s) of Analysis January 13, 1993

Analytical Results

Field Sample Number	Laboratory Number	Sample Type	TEPP µg/kg	TPP µg/kg						
QC-93812-1	QC-93812-1	SOIL	ND*	270.						
BL-93812-1	BL-93812-1	SOIL	ND*	280.						
B07KQ1	CLP 11936	SOIL	ND*	300.						
B07KQ2	CLP 11937	SOIL	ND*	310.						
B07KQ3	CLP 11938	SOIL	ND*	350.						
B07KQ3MS	CLP 11938MS	SOIL	ND*	330.						
B07KQ3MSD	CLP 11938MSD	SOIL	ND*	320.						
* Limit of Detection			17.	NA						

† See comment on last page.
ND Parameter not detected.
NR Parameter not requested.
** See comment on last page.
( ) Parameter between LOD and LOQ.

DATA CHEM LABORATORIES

ANALYTICAL REPORT

Date _____

Agency Identification Number SF-1398-HJ

General Set Comments

The samples were spiked with the surrogate triphenyl phosphate (TPP) at 333.0 µg/kg.

The matrix spike, matrix spike duplicate, and Laboratory Control Samples were spiked with phorate, disulfoton, and parathion methyl at 66.0 µg/kg.

9613473.2420

DATACHEM LABORATORIES
960 WEST LEVOY DRIVE
SALT LAKE CITY, UTAH 84123

Company: WESTINGHOUSE HANFORD

Case #: WHC40 SDG: WHCI40 DCL SET ID: SF-1398 AJ-CJ

Fraction: Inorganic

Client Sample #	Lab Sample #	EPA Sample #	Matrix	Analyzed for
B07KQ1	CLP 11936	M11936	SOIL	P,F,CV
MATRIX DUPL	CLP 11936	M11936D	SOIL	P,F,CV
MATRIX SPIKE	CLP 11936	M11936S	SOIL	P,F,CV
B07KQ2	CLP 11937	M11937	SOIL	P,F,CV
B07KQ3	CLP 11938	M11938	SOIL	P,F,CV

Analysis Key
P ICP
F GFAA
CV Mercury
AS Cyanide

ENVIROFORMS/INORGANIC CLP

COVER PAGE - INORGANIC ANALYSES DATA PACKAGE

Lab Name: DataChem Laboratories Contract: WHC

Lab Code: DATAC Case No.: WHC40 SAS No.: SDG No.: WHCI40

SOW No.: ILM01.2

Sample No.	Lab Sample ID.
M11936	CLP11936
M11936D	CLP11936
M11936S	CLP11936
M11937	CLP11937
M11938	CLP11938

Were ICP interelement corrections applied? Yes/No YES

Were ICP background corrections applied? Yes/No YES
If yes, were raw data generated before application of background corrections? Yes/No NO

Comments:

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy data package and in the computer-readable data submitted on floppy diskette has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signature.

Signature: Name: GLENN E. STEPHENS

Date: JANUARY 27, 1993 Title: SECTION MANAGER

ENVIROFORMS/INORGANIC CLP

1

INORGANIC ANALYSIS DATA SHEET

SAMPLE NO.

M11936

Lab Name: DataChem Laboratories Contract: WHC

Lab Code: DATAC Case No.: WHC40 SAS No.: SDG No.: WHCI40

Matrix (soil/water): SOIL Lab Sample ID: CLP11936

Level (low/med): LOW Date Received: 12/18/92

% Solids: 92.2

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	7960			P
7440-36-0	Antimony	13.0	U	N	P
7440-38-2	Arsenic	1.9			FM
7440-39-3	Barium	88.4			P
7440-41-7	Beryllium	0.47	B		P
7440-43-9	Cadmium	1.1	U		P
7440-70-2	Calcium	10800			P
7440-47-3	Chromium	10.4			P
7440-48-4	Cobalt	10.1	B		P
7440-50-8	Copper	21.7			P
7439-89-6	Iron	29700			P
7439-92-1	Lead	48.4			FM
7439-95-4	Magnesium	5930			P
7439-96-5	Manganese	475			P
7439-97-6	Mercury	0.11	U		CV
7440-02-0	Nickel	13.1			P
7440-09-7	Potassium	1120			P
7782-49-2	Selenium	0.11	U	NW	FM
7440-22-4	Silver	0.87	U		P
7440-23-5	Sodium	189	B		P
7440-28-0	Thallium	0.22	U		FM
7440-62-2	Vanadium	70.7			P
7440-66-6	Zinc	65.8			P
	Cyanide				NR

Color Before: BROWN Clarity Before: Texture: FINE

Color After: YELLOW Clarity After: Artifacts:

Comments:

9615473.2423

ENVIROFORMS/INORGANIC CLP

1

INORGANIC ANALYSIS DATA SHEET

SAMPLE NO.

M11937

Lab Name: DataChem Laboratories Contract: WHC

Lab Code: DATAC Case No.: WHC40 SAS No.: SDG No.: WHCI40

Matrix (soil/water): SOIL Lab Sample ID: CLP11937

Level (low/med): LOW Date Received: 12/18/92

% Solids: 89.0

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	11500			P
7440-36-0	Antimony	13.5	U	N	P
7440-38-2	Arsenic	4.3			FM
7440-39-3	Barium	114			P
7440-41-7	Beryllium	0.79	B		P
7440-43-9	Cadmium	1.1	U		P
7440-70-2	Calcium	12400			P
7440-47-3	Chromium	15.5			P
7440-48-4	Cobalt	9.9	B		P
7440-50-8	Copper	37.6			P
7439-89-6	Iron	22100			P
7439-92-1	Lead	28.1			FM
7439-95-4	Magnesium	6130			P
7439-96-5	Manganese	417			P
7439-97-6	Mercury	0.11	U		CV
7440-02-0	Nickel	13.6			P
7440-09-7	Potassium	2540			P
7782-49-2	Selenium	0.11	U	NW	FM
7440-22-4	Silver	0.90	U		P
7440-23-5	Sodium	235	B		P
7440-28-0	Thallium	0.22	U		FM
7440-62-2	Vanadium	48.6			P
7440-66-6	Zinc	92.3			P
	Cyanide				NR

Color Before: BROWN Clarity Before: Texture: FINE

Color After: YELLOW Clarity After: Artifacts:

Comments:

4

9613473.2424

ENVIROFORMS/INORGANIC CLP

1

INORGANIC ANALYSIS DATA SHEET

SAMPLE NO.

M11938

Lab Name: DataChem Laboratories Contract: WHC

Lab Code: DATAC Case No.: WHC40 SAS No.: SDG No.: WHCI40

Matrix (soil/water): SOIL Lab Sample ID: CLP11938

Level (low/med): LOW Date Received: 12/18/92

% Solids: 77.7

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	29800			P
7440-36-0	Antimony	15.4	U	N	P
7440-38-2	Arsenic	6.8			FM
7440-39-3	Barium	41.9	B		P
7440-41-7	Beryllium	1.3			P
7440-43-9	Cadmium	1.3	U		P
7440-70-2	Calcium	113000			P
7440-47-3	Chromium	23.1			P
7440-48-4	Cobalt	8.4	B		P
7440-50-8	Copper	22.8			P
7439-89-6	Iron	23200			P
7439-92-1	Lead	12.0		S	FM
7439-95-4	Magnesium	12100			P
7439-96-5	Manganese	176			P
7439-97-6	Mercury	0.13	U		CV
7440-02-0	Nickel	16.3			P
7440-09-7	Potassium	1510			P
7782-49-2	Selenium	1.3	U	NW	FM
7440-22-4	Silver	1.0	U		P
7440-23-5	Sodium	719	B		P
7440-28-0	Thallium	0.26	U		FM
7440-62-2	Vanadium	97.3			P
7440-66-6	Zinc	55.1			P
	Cyanide				NR

Color Before: BROWN Clarity Before: Texture: FINE

Color After: YELLOW Clarity After: Artifacts:

Comments:

9613473.2425

Westinghouse Hanford Company	CHAIN OF CUSTODY

Custody Form Initiator: J.G. LUCAS

Company Contact: FRANK GUSTAFSON — Telephone: 376-1736

Project Designation/Sampling Locations: NORTH SLOPE ERA — Collection Date: 12-14-92, 12-15-92, 12-16-92

H-06-H (W,E)

Ice Chest No.: # ZEBRA — Field Logbook No.: EFL-1031

Bill of Lading/Airbill No.: 251-900-781-0 — Offsite Property No.:

Method of Shipment: EMERY

Shipped to: DATA CHEM — SALT LAKE CITY, UT.

Possible Sample Hazards/Remarks: NONE

Sample Identification

Soil - B07KQ1, B07KQ2	B07KQ1	CLP	11936
B07KQ3	B07KQ2	↓	11937
1-120ml glass Septum	B07KQ3	↓	11938
1-250ml a G			
3-120ml a G			

COPY ORIGINAL IS FILED IN WHC040 WHC40

☐ Field Transfer of Custody — CHAIN OF POSSESSION (Sign and Print Names)

Relinquished by:	Received by:	Date/Time:
Jonathan G. Lucas (Jonathan G. Lucas)	C.L. Manley	12-17-92 / 9:00
C.L. Manley	Tom Jackson	12-18-92 / 1200
143		

Final Sample Disposition

Disposal Method:	Disposed by:	Date/Time:

Comments:

A-6000-407 (12/90)

9613473.2426

Westinghouse Hanford Company	CHAIN OF CUSTODY

Custody Form Initiator: J.G. LUCAS

Company Contact: FRANK GUSTAFSON — Telephone: 376-1736

Project Designation/Sampling Locations: NORTH SLOPE ERA 4-06-H (W,E) — Collection Date: 12-14-92, 12-15-92, 12-16-92

Ice Chest No. # ZEBRA — Field Logbook No. EFL-1031

Bill of Lading/Airbill No. 251-900-781-0 — Offsite Property No.

Method of Shipment: EMERY

Shipped to: DATA CHEM SALT LAKE CITY, UT

Possible Sample Hazards/Remarks: NONE

Sample Identification

Soil - B07KQ1, B07KQ2	B07KQ1	CLP	11936
B07KQ3	B07KQ2	↓	11937
1-120ml glass Septum	B07KQ3	↓	11938
1-250ml aG			
3-120ml aG			

(COPY) ORIGINAL IS FILED IN C... WHC40 WHC040

☐ Field Transfer of Custody

CHAIN OF POSSESSION (Sign and Print Names)		
Relinquished by: Jonathan G. Lucas	Received by: C.L. Manley	Date/Time: 12-17-92 / 9:00
Relinquished by: C.L. Manley	Received by: Tom Jackson	Date/Time: 12-18-92 / 1200
Relinquished by:	Received by:	Date/Time:
Relinquished by:	Received by:	Date/Time:

144

Final Sample Disposition

Disposal Method:	Disposed by:	Date/Time:

Comments:

A-6000-407 (12/90)

9615473.2427

SAMPLE LOG-IN SHEET

SF-1398

Lab Name: DataChem Laboratories

Page 1 of 1

Received By (Print Name): Tom Jackson

Log-In Date: 12-18-92

Received By (Signature):

Case Number: WHC40

Sample Delivery Group No.: WHC 40

SAS Number:

CIRCLE THE APPROPRIATE RESPONSE:

1. Custody Seal(s) Present/Absent* Intact/Broken*
2. Custody Seal Nos.: None
3. Chain-of-Custody Records Present/Absent*
4. Traffic Reports or Packing List Present/Absent*
5. Airbill Airbill/Sticker Present/Absent*
6. Airbill No.: 2519007810
7. Sample Tags Present/Absent*
   Sample Tag Numbers Listed/Not Listed on Chain-of-Custody
8. Sample Condition: Intact/Broken*/Leaking*
9. Does information on custody records, traffic reports, and sample tags agree? Yes/No*
10. Date Received at Lab: 12-18-92
11. Time Received: 1200

SAMPLE TRANSFER

Fraction: Vols

Area #: Vol Lab

By: TJ

On: 12-18-92

EPA SAMPLE #	CORRESPONDING SAMPLE TAG #	CORRESPONDING ASSIGNED LAB #	MATRIX	REMARKS: CONDITION OF SAMPLE SHIPMENT, ETC.
B07KQ1	N/A	CLP 11936	S	Acceptable
KQ2	↓	11937	↓	↓
KQ3	↓	11938	↓	↓

12-18-92

COPY ORIGINAL IS FILED IN LOT WAC40 WAC040

* If Circled, contact SMO and attach record of resolution.

11/89 Rev.

Reviewed By: Jeffrey Jacobs

Date: 12/28/92

Logbook No.:

Logbook Page No.:

FORM DC-1

9613473.2428

DATA CHEM LABORATORIES

ANALYTICAL REPORT

Form ARF-AL
Page 1 of 3
Part 1 of 2

Date _____
Agency Identification Number SF-1398-GJ
Account No. 3534C

Westinghouse Hanford Company
2355 Stevens Drive
MSIN H4-23 345 Hill Street/300 Area
Richland, WA 99352
Attention: Briana Colley

FEB 1993 RECEIVED OSM DMO

FAX (509) 372-2106
Telephone (509) 373-3225

Sampling Collection and Shipment

Sampling Site _____ Date of Collection December 14, 1992

Date Samples Received at Laboratory December 18, 1992

Analysis

Method of Analysis EPA 8150

Date(s) of Analysis January 13, 1993

Analytical Results

Field Sample Number	Laboratory Number	Sample Type	2,4-D µg/kg	2,4-DB µg/kg	2,4,5-T µg/kg	2,4,5-TP (Silvex) µg/kg	Dalapon µg/kg	Dicamba µg/kg	Dichloroprop µg/kg	Dinoseb µg/kg
QC-93811-1	QC-93811-1	SOIL	648	ND*	253	365	ND*	ND*	ND*	ND*
BL-93811-1	BL-93811-1	SOIL	ND*	ND*	ND*	ND*	ND*	ND*	ND*	ND*
B07KQ1	CLP 11936	SOIL	ND*	ND*	ND*	ND*	ND*	ND*	ND*	ND*
B07KQ1MS	CLP 11936MS	SOIL	534	ND*	210	203	ND*	ND*	ND*	ND*
B07KQ1MSD	CLP 11936MSD	SOIL	1225	ND*	418	426	ND*	ND*	ND*	ND*
B07KQ2	CLP 11937	SOIL	ND*	ND*	ND*	ND*	ND*	ND*	ND*	ND*
B07KQ3	CLP 11938	SOIL	ND*	ND*	ND*	ND*	ND*	ND*	ND*	ND*
* Limit of Detection			100	500	50	50	500	50	100	100

† See comment on last page.
ND Parameter not detected.
NR Parameter not requested.

** See comment on last page.
( ) Parameter between LOD and LOQ.

Analyst: John Meikle

Reviewer: Guangyue Liu

Laboratory Supervisor: Jose C. Danino

960 West LeVoy Drive / Salt Lake City, Utah 84123-2547 / (801) 266-7700
A Sorenson Company

9613473.2429

DATA CHEM LABORATORIES

ANALYTICAL REPORT

Date _____
Agency Identification Number SF-1398-GJ
Account No. 3534C

Westinghouse Hanford Company
2355 Stevens Drive
MSIN H4-23 345 Hill Street/300 Area
Richland, WA 99352
Attention: Briana Colley

FAX (509) 372-2106
Telephone (509) 373-3225

Sampling Collection and Shipment

Sampling Site _____ Date of Collection December 14, 1992

Date Samples Received at Laboratory December 18, 1992

Analysis

Method of Analysis EPA 8150

Date(s) of Analysis January 13, 1993

Analytical Results

Field Sample Number	Laboratory Number	Sample Type	MCPA µg/kg	MCPP µg/kg	DCAA µg/kg					
QC-93811-1	QC-93811-1	SOIL	ND*	ND*	903					
BL-93811-1	BL-93811-1	SOIL	ND*	ND*	1163					
B07KQ1	CLP 11936	SOIL	ND*	ND*	466					
B07KQ1MS	CLP 11936MS	SOIL	ND*	ND*	167					
B07KQ1MSD	CLP 11936MSD	SOIL	ND*	ND*	653					
B07KQ2	CLP 11937	SOIL	ND*	ND*	747					
B07KQ3	CLP 11938	SOIL	ND*	ND*	1165					
* Limit of Detection			25000	25000	SURR					

† See comment on last page.
ND Parameter not detected.
NR Parameter not requested.

** See comment on last page.
( ) Parameter between LOD and LOQ.

DATA CHEM LABORATORIES

ANALYTICAL REPORT

Date _____

Agency Identification Number SF-1398-GJ

General Set Comments

The samples were spiked with the surrogate, 2,4-dichlorophenylacetic acid (DCAA), at 500 µg/kg.

The matrix spike, matrix spike duplicate, and Laboratory Control Samples were spiked with 2,4-D at 1000 µg/kg, 2,4,5-TP at 500 µg/kg, and 2,4,5-T at 500 µg/kg.

The recovery values indicate that sample CLP 11936MSD was probably double spiked with matrix spiking standard.

9613473.2431

DATA CHEM LABORATORIES

ENVIRONMENTAL SOIL REPORT

Form EPRS-A
Page 1 of 2
Part 1 of 1

Date _____
Agency Identification Number SF-1398-DJ
Account No. 3534C

Westinghouse Hanford Company
2355 Stevens Drive
MSIN H4-23 345 Hill Street/300 Area
Richland, WA 99352
Attention: Briana Colley

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Telephone (509) 373-3225

Sampling Collection and Shipment

Sampling Site Post I Date of Collection December 14, 1992

Date Samples Received at Laboratory December 18, 1992

Analytical Results

Parameter Name / Analysis Date / Method / Prep Method	Units	Field Number / Lab Number: B07KQ1 CLP 11936	B07KQ2 CLP 11937	B07KQ3 CLP 11938					Limit of Detection
Fluoride (F) 01/11/1993 300.0 [1]	µg/g	ND*	ND*	4.					1.
Chloride (Cl) 01/11/1993 300.0 [1]	µg/g	3.	6.	2.					1.
Sulfate (SO_4) 01/11/1993 300.0 [1]	µg/g	14.	28.	330					1.
Phosphate (PO_4-P) 01/11/1993 300.0 [1]	µg/g	ND*	8.	ND*					2.
Nitrate/Nitrite 01/11/1993 353.2 [1]	µg/g	5.	77.	3.					1.
Chromium VI 01/14/1993 7196 [2]	µg/g	3.	21.	ND*					1.

† See comment on last page.
ND Parameter not detected.
NR Parameter not requested.
¹ Analyses completed on or before this date.
** Parameter not analyzed (See comment page).
( ) Parameter between LOD and LOQ.
[ ] Method Reference (See comments page.)

Shelly K Myers
Analyst: Shelly Myers

Mark Hix
Reviewer: Mark A. Hixon

Norman K. Christensen
Laboratory Supervisor: Norman K. Christensen

960 West LeVoy Drive / Salt Lake City, Utah 84123-2547 / (801) 266-7700
A Sorenson Company

9613473.2432

DATA CHEM LABORATORIES

ENVIRONMENTAL SOIL REPORT

Form EPRS-A
Page 1 of 2
Part 1 of 1

Date JAN 0 8 1993

Agency Identification Number S92-0859-DJ

Acquisition No. 3534C

JAN 1993 RECEIVED OSM DMO

Westinghouse Hanford Company
2355 Stevens Drive
MSIN H4-23 345 Hill Street/300 Area
Richland, WA 99352
Attention: Briana Colley

Telephone (509) 373-3225

Sampling Collection and Shipment

Sampling Site North Slope ERA Date of Collection October 30, 1992

Date Samples Received at Laboratory November 05, 1992

Analytical Results

Parameter Name / Analysis Date / Method / Prep Method	Units	Field Number / Lab Number	B07GP0 EL 4941	B07GP2 EL 4942	B07GP3 EL 4943	B07KP7 EL 4944	B07KP9 EL 4945	B07KQ0 EL 4946		* Limit of Detection
Fluoride (F) 11/10/1992 300.0 [1]	µg/g		3.	5.	3.	5.	5.	5.		1.
Chloride (Cl) 11/10/1992 300.0 [1]	µg/g		140	75.	78.	9.	4.	28.		1.
Sulfate (SO_4) 11/10/1992 300.0 [1]	µg/g		140	180	120	42.	45.	240		1.
Phosphate (PO_4-P) 11/10/1992 300.0 [1]	µg/g		ND*	ND*	ND*	ND*	ND*	ND*		4.
Nitrates (NO_3-N + NO_2-N) 11/27/1992 353.2 [1]	µg/g		16.	12.	2.	2.	ND*	1.		1.
Chromium VI 11/12/1992 7196 [2] 3060M [2]	µg/g		ND*	ND*	ND*	ND*	ND*	ND*		1.

† See comment on last page.
ND Parameter not detected.
NR Parameter not requested.
¹ Analyses completed on or before this date.
** Parameter not analyzed (See comment page).
( ) Parameter between LOD and LOQ.
[ ] Method Reference (See comments page.)

RECORD COPY

Analyst: Dorene A. Kiley

Reviewer: Michael E. Richmond

Laboratory Supervisor: Michael P. Beesley

960 West LeVoy Drive / Salt Lake City, Utah 84123-2547 / (801) 266-7700
A Sorenson Company

DATA CHEM LABORATORIES

ENVIRONMENTAL SOIL REPORT

Date _____

Agency Identification Number SF-1398-DJ

Method Index -- Method Reference --

[1] EPA-600/4-79-020 "Methods for Chemical Analysis of Water and Wastes", March 1983 (Modified for use with soils.)

[2] SW-846 "Test Methods for Evaluating Solid Waste", 3rd Edition, November 1986.

960 West LeVoy Drive / Salt Lake City, Utah 84123-2547 / (801) 266-7700
A Sorenson Company

9613473.2434

Golder Associates Inc.

4104-148th Avenue, NE
Redmond, WA 98052
Telephone (206) 883-0777
Fax (206) 882-5498

Golder Associates

June 28, 1993

Our ref: 893-1458
WHC/O/383

Westinghouse Hanford Company
Hanford Analytical Services Management
345 Hills, MSIN H4-29
Richland, Washington 99352

ATTENTION: Ms. Brianna Colley

RE: NORTH SLOPE ERA DATA VALIDATION, TASK ORDER G93-58, TRANSMITTAL OF DATA VALIDATION PACKAGES

Dear Ms. Colley:

Enclosed are five analytical data packages including associated data validation documentation for North Slope ERA samples analyzed by the DataChem laboratory for volatile, semivolatile, chlorinated pesticide/PCB, chlorinated herbicide and phosphate pesticide organic compounds, metals, anions, and total petroleum hydrocarbons.

The data packages included in this shipment are listed as follows:

- B07GM6-DAT-193
- B07GM0-DAT-189
- B07GM1-DAT-204
- B07KQ1-DAT-220
- B07GP1-DAT-206

The validation documentation is located at the front of the data package folder. Please call if you have any questions.

Sincerely,

GOLDER ASSOCIATES INC.

Kent M. Angelos
Project Manager

Donald M. Caldwell
Project Director

Enclosures

cc: George Henckel, WHC

9613473.2435

MEMORANDUM

TO: North Slope ERA Data Validation Project QA Record June 25, 1993

FR: Susan Winter, Golder Associates Inc.

RE: DATA VALIDATION SUMMARY FOR DATA PACKAGE: B07KQ1-DAT-220

INTRODUCTION

This memo presents the results of data validation on data package B07KQ1-DAT-220 consisting of three (3) soil samples submitted for volatile, semivolatile, pesticide/PCB, organochlorine herbicides, organophosphorus pesticides, metals, general chemistry and total recoverable petroleum hydrocarbon analyses. The samples were analyzed by the DataChem laboratory using CLP protocols as applicable, and SW-846 methods. The following table describes the samples validated, sample dates and analyses performed.

SAMPLE ID	SAMPLE DATE	VOA	BNA	PEST PCB	HERB	PHOS PEST	METALS	GEN. CHEM	TPH
B07KQ1	12/14/92	X	X	X	X	X	X	X	X
B07KQ2	12/15/92	X	X	X	X	X	X	X	X
B07KQ3	12/16/92	X	X	X	X	X	X	X	X

Data validation was conducted in accordance with the WHC statement of work (WHC 1993) and validation procedures (Bechtold 1992) in which twenty percent (20%) of the samples were assigned for validation. The samples in this data set were verified and blank adjusted as summarized below since they were not selected for full data validation.

Attachments 1 through 3 provide a data qualification summary form, copies of the verified laboratory reports, and associated positive blank results.

DATA QUALITY OBJECTIVES

Sample Result Verification. The data package was complete for all requested items and all results were supported in the raw data.

MAJOR DEFICIENCIES

The following presents a summary of the rejected data.

The semivolatile tentatively identified compounds (TICs) identified as aldol condensation products and squalene have been rejected (R) in samples B07KQ2 and B07KQ3 since they are suspected laboratory contaminants.

MINOR DEFICIENCIES

The following qualifications were required as a result of the blank adjustment.

RECEIVED
JUN 29 1993
VALIDATION DOCUMENTATION
SDLA

Blank Adjustment. The results for all associated blank samples were undetected with the exception of the blanks in the associated parameters listed below.

Semivolatile Organics

- Sample B07KQ3 contained several TIC compounds, four of which were identified as an alkane, a cyclic hydrocarbon, an alkene, and a cyclohexane. These four TIC compounds have been qualified as undetected (U) since they are present in the associated laboratory blank.

Pesticide/PCBs

- Methoxychlor and endosulfan I were detected in the associated laboratory blanks. Therefore, the endosulfan I result in sample B07KQ1 and the methoxychlor results in samples B07KQ1, B07KQ2, and B07KQ3 have been qualified as undetected (U) and the reported value has been corrected to the CRQL.

Metals

- Beryllium was detected in the associated laboratory blank. Therefore, all beryllium results in the associated samples have been qualified as undetected (U).

REFERENCES

WHC, 1993, Westinghouse Hanford Company, North Slope ERA Data Validation, Task Order G-93-01-58. Westinghouse Hanford Company, Richland, Washington.

Bechtold, 1992, Westinghouse Hanford Company, Data Validation Procedures for Chemical Analyses, WHC-SD-EN-SPP-002, Rev. 1, 1992. Westinghouse Hanford Company, Richland, Washington.

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ATTACHMENT 1

DATA QUALIFICATION SUMMARY

DATA QUALIFICATION SUMMARY - FORM B-7

B07KQ1-DAT-220

SDG:	REVIEWER:	DATE: 6/28/93	PAGE 1 OF 1
COMMENTS:			
COMPOUND	QUALIFIER	SAMPLES AFFECTED	REASON
Volatiles - No qualification required			
Semi-Volatiles			
Aldol Condensation Products	R	B07KQ2	Laboratory Contaminant
↓	R	B07KQ3	↓
Squalene	R	B07KQ2	↓
4 Hydrocarbon TIC compounds	U	B07KQ3	Present in blank
Pesticide/PCBs			
Endosulfan I	U	B07KQ1	Present in hexane blank
Methoxychlor	U	B07KQ1	Present in lab & hexane blank
↓	↓	B07KQ2	↓
↓	↓	B07KQ3	↓
O-P Pesticides			
No qualification required			
Metals			
Beryllium	U	All	Present in blank
General Chemistry - No qualification required			
TPH-IR - No qualification required			

9613473.2439

ATTACHMENT 2

VERIFIED DATA SUMMARY

9613473.2440

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B07KQ1

Lab Name: DATACHEM LABS Contract: 3534

Lab Code: DATAC Case No.: WHC40 SAS No.: _____ SDG No.: WHCO40

Matrix: (soil/water) SOIL Lab Sample ID: CLP11936

Sample wt/vol: 5.0 (g/mL) G Lab File ID: PM68CLP936

Level: (low/med) LOW Date Received: 12/18/92

% Moisture: not dec. 8 Date Analyzed: 12/22/92

GC Column: PACK ID: 2.00 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	11	U
74-83-9	Bromomethane	11	U
75-01-4	Vinyl Chloride	11	U
75-00-3	Chloroethane	11	U
75-09-2	Methylene Chloride	11	U
67-64-1	Acetone	11	U
75-15-0	Carbon Disulfide	11	U
75-35-4	1,1-Dichloroethene	11	U
75-34-3	1,1-Dichloroethane	11	U
540-59-0	1,2-Dichloroethene (total)	11	U
67-66-3	Chloroform	11	U
107-06-2	1,2-Dichloroethane	11	U
78-93-3	2-Butanone	11	U
71-55-6	1,1,1-Trichloroethane	11	U
56-23-5	Carbon Tetrachloride	11	U
75-27-4	Bromodichloromethane	11	U
78-87-5	1,2-Dichloropropane	11	U
10061-01-5	cis-1,3-Dichloropropene	11	U
79-01-6	Trichloroethene	11	U
124-48-1	Dibromochloromethane	11	U
79-00-5	1,1,2-Trichloroethane	11	U
71-43-2	Benzene	11	U
10061-02-6	trans-1,3-Dichloropropene	11	U
75-25-2	Bromoform	11	U
108-10-1	4-Methyl-2-Pentanone	11	U
591-78-6	2-Hexanone	11	U
127-18-4	Tetrachloroethene	11	U
79-34-5	1,1,2,2-Tetrachloroethane	11	U
108-88-3	Toluene	11	U
108-90-7	Chlorobenzene	11	U
100-41-4	Ethylbenzene	11	U
100-42-5	Styrene	11	U
1330-20-7	Xylene (total)	11	U

7

No blank adjustment req'd. FORM I VOA Verified [signature] 6/14/93 3/90

9613473.2441

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B07KQ2

Lab Name: DATACHEM LABS Contract: 3534

Lab Code: DATAC Case No.: WHC40 SAS No.: _____ SDG No.: WHC040

Matrix: (soil/water) SOIL Lab Sample ID: CLP11937

Sample wt/vol: 5.0 (g/mL) G Lab File ID: PM69CLP937

Level: (low/med) LOW Date Received: 12/18/92

% Moisture: not dec. 12 Date Analyzed: 12/22/92

GC Column: PACK ID: 2.00 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	11	U
74-83-9	Bromomethane	11	U
75-01-4	Vinyl Chloride	11	U
75-00-3	Chloroethane	11	U
75-09-2	Methylene Chloride	11	U
67-64-1	Acetone	11	U
75-15-0	Carbon Disulfide	11	U
75-35-4	1,1-Dichloroethene	11	U
75-34-3	1,1-Dichloroethane	11	U
540-59-0	1,2-Dichloroethene (total)	11	U
67-66-3	Chloroform	11	U
107-06-2	1,2-Dichloroethane	11	U
78-93-3	2-Butanone	11	U
71-55-6	1,1,1-Trichloroethane	11	U
56-23-5	Carbon Tetrachloride	11	U
75-27-4	Bromodichloromethane	11	U
78-87-5	1,2-Dichloropropane	11	U
10061-01-5	cis-1,3-Dichloropropene	11	U
79-01-6	Trichloroethene	11	U
124-48-1	Dibromochloromethane	11	U
79-00-5	1,1,2-Trichloroethane	11	U
71-43-2	Benzene	11	U
10061-02-6	trans-1,3-Dichloropropene	11	U
75-25-2	Bromoform	11	U
108-10-1	4-Methyl-2-Pentanone	11	U
591-78-6	2-Hexanone	11	U
127-18-4	Tetrachloroethene	11	U
79-34-5	1,1,2,2-Tetrachloroethane	11	U
108-88-3	Toluene	11	U
108-90-7	Chlorobenzene	11	U
100-41-4	Ethylbenzene	11	U
100-42-5	Styrene	11	U
1330-20-7	Xylene (total)	11	U

8 No blank adjustment req'd. FORM I VOA verified 6/14/93 3/90

9613473.2442

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B07KQ3

Lab Name: DATACHEM LABS Contract: 3534

Lab Code: DATAC Case No.: WHC40 SAS No.: _____ SDG No.: WHC040

Matrix: (soil/water) SOIL Lab Sample ID: CLP11938

Sample wt/vol: 5.0 (g/mL) G Lab File ID: PM70CLP938

Level: (low/med) LOW Date Received: 12/18/92

% Moisture: not dec. 20 Date Analyzed: 12/22/92

GC Column: PACK ID: 2.00 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	12	U
74-83-9	Bromomethane	12	U
75-01-4	Vinyl Chloride	12	U
75-00-3	Chloroethane	12	U
75-09-2	Methylene Chloride	12	U
67-64-1	Acetone	12	U
75-15-0	Carbon Disulfide	12	U
75-35-4	1,1-Dichloroethene	12	U
75-34-3	1,1-Dichloroethane	12	U
540-59-0	1,2-Dichloroethene (total)	12	U
67-66-3	Chloroform	12	U
107-06-2	1,2-Dichloroethane	12	U
78-93-3	2-Butanone	12	U
71-55-6	1,1,1-Trichloroethane	12	U
56-23-5	Carbon Tetrachloride	12	U
75-27-4	Bromodichloromethane	12	U
78-87-5	1,2-Dichloropropane	12	U
10061-01-5	cis-1,3-Dichloropropene	12	U
79-01-6	Trichloroethene	12	U
124-48-1	Dibromochloromethane	12	U
79-00-5	1,1,2-Trichloroethane	12	U
71-43-2	Benzene	12	U
10061-02-6	trans-1,3-Dichloropropene	12	U
75-25-2	Bromoform	12	U
108-10-1	4-Methyl-2-Pentanone	12	U
591-78-6	2-Hexanone	12	U
127-18-4	Tetrachloroethene	12	U
79-34-5	1,1,2,2-Tetrachloroethane	12	U
108-88-3	Toluene	12	U
108-90-7	Chlorobenzene	12	U
100-41-4	Ethylbenzene	12	U
100-42-5	Styrene	12	U
1330-20-7	Xylene (total)	12	U

9

No blank adjustment req'd. Verified [illegible] 6/14/93

9613473.2443

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B07KQ1

Lab Name: DATACHEM LABS Contract: 3534

Lab Code: DATAC Case No.: WHC40 SAS No.: _____ SDG No.: WHCO40

Matrix: (soil/water) SOIL Lab Sample ID: CLP11936

Sample wt/vol: 30.0 (g/mL) G Lab File ID: ID8CLP936

Level: (low/med) LOW Date Received: 12/18/92

% Moisture: 8 decanted: (Y/N) N Date Extracted: 12/25/92

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 01/19/93

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 6.7

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol	360	U
111-44-4	bis(2-Chloroethyl)Ether	360	U
95-57-8	2-Chlorophenol	360	U
541-73-1	1,3-Dichlorobenzene	360	U
106-46-7	1,4-Dichlorobenzene	360	U
95-50-1	1,2-Dichlorobenzene	360	U
95-48-7	2-Methylphenol	360	U
108-60-1	2,2'-oxybis(1-Chloropropane)	360	U
106-44-5	4-Methylphenol	360	U
621-64-7	N-Nitroso-Di-n-Propylamine	360	U
67-72-1	Hexachloroethane	360	U
98-95-3	Nitrobenzene	360	U
78-59-1	Isophorone	360	U
88-75-5	2-Nitrophenol	360	U
105-67-9	2,4-Dimethylphenol	360	U
111-91-1	bis(2-Chloroethoxy)Methane	360	U
120-83-2	2,4-Dichlorophenol	360	U
120-82-1	1,2,4-Trichlorobenzene	360	U
91-20-3	Naphthalene	360	U
106-47-8	4-Chloroaniline	360	U
87-68-3	Hexachlorobutadiene	360	U
59-50-7	4-Chloro-3-Methylphenol	360	U
91-57-6	2-Methylnaphthalene	360	U
77-47-4	Hexachlorocyclopentadiene	360	U
88-06-2	2,4,6-Trichlorophenol	360	U
95-95-4	2,4,5-Trichlorophenol	870	U
91-58-7	2-Chloronaphthalene	360	U
88-74-4	2-Nitroaniline	870	U
131-11-3	Dimethyl Phthalate	360	U
208-96-8	Acenaphthylene	360	U
606-20-2	2,6-Dinitrotoluene	360	U
99-09-2	3-Nitroaniline	870	U
83-32-9	Acenaphthene	360	U

13

 6/14/93 verified 3/90

9613473.2444

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B07KQ1

Lab Name: DATACHEM LABS Contract: 3534

Lab Code: DATAC Case No.: WHC40 SAS No.: _____ SDG No.: WHC040

Matrix: (soil/water) SOIL Lab Sample ID: CLP11936

Sample wt/vol: 30.0 (g/mL) G Lab File ID: ID8CLP936

Level: (low/med) LOW Date Received: 12/18/92

% Moisture: 8 decanted: (Y/N) N Date Extracted: 12/25/92

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 01/19/93

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 6.7

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
51-28-5	2,4-Dinitrophenol	870	U
100-02-7	4-Nitrophenol	870	U
132-64-9	Dibenzofuran	360	U
121-14-2	2,4-Dinitrotoluene	360	U
84-66-2	Diethylphthalate	360	U
7005-72-3	4-Chlorophenyl-phenylether	360	U
86-73-7	Fluorene	360	U
100-01-6	4-Nitroaniline	870	U
534-52-1	4,6-Dinitro-2-Methylphenol	870	U
86-30-6	N-Nitrosodiphenylamine (1)	360	U
101-55-3	4-Bromophenyl-phenylether	360	U
118-74-1	Hexachlorobenzene	360	U
87-86-5	Pentachlorophenol	870	U
85-01-8	Phenanthrene	360	U
120-12-7	Anthracene	360	U
86-74-8	Carbazole	360	U
84-74-2	Di-n-Butylphthalate	360	U
206-44-0	Fluoranthene	360	U
129-00-0	Pyrene	360	U
85-68-7	Butylbenzylphthalate	360	U
91-94-1	3,3'-Dichlorobenzidine	360	U
56-55-3	Benzo(a)Anthracene	360	U
218-01-9	Chrysene	360	U
117-81-7	bis(2-Ethylhexyl)Phthalate	360	U
117-84-0	Di-n-Octyl Phthalate	360	U
205-99-2	Benzo(b)Fluoranthene	360	U
207-08-9	Benzo(k)Fluoranthene	360	U
50-32-8	Benzo(a)Pyrene	360	U
193-39-5	Indeno(1,2,3-cd)Pyrene	360	U
53-70-3	Dibenz(a,h)Anthracene	360	U
191-24-2	Benzo(g,h,i)Perylene	360	U

(1) - Cannot be separated from Diphenylamine

Verified 6/14/93

9613473.2445

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

B07KQ1

Lab Name: DATACHEM LABS Contract: 3534

Lab Code: DATAC Case No.: WHC40 SAS No.: _____ SDG No.: WHC040

Matrix: (soil/water) SOIL Lab Sample ID: CLP11936

Sample wt/vol: 30.0 (g/mL) G Lab File ID: ID8CLP936

Level: (low/med) LOW Date Received: 12/18/92

% Moisture: 8 decanted: (Y/N) N Date Extracted: 12/25/92

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 01/19/93

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 6.7

Number TICs found: 20

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN HYDROCARBON	28.42	1500	J
2.	UNKNOWN HYDROCARBON	28.57	2500	J
3.	UNKNOWN HYDROCARBON	28.76	1100	J
4.	UNKNOWN HYDROCARBON	28.92	630	J
5.	UNKNOWN HYDROCARBON	29.06	1100	J
6.	UNKNOWN HYDROCARBON	29.24	1400	J
7.	UNKNOWN HYDROCARBON	29.34	550	J
8.	UNKNOWN HYDROCARBON	29.37	530	J
9.	UNKNOWN HYDROCARBON	29.52	640	J
10.	UNKNOWN HYDROCARBON	29.66	1800	J
11.	UNKNOWN HYDROCARBON	29.79	1100	J
12.	UNKNOWN HYDROCARBON	29.92	1800	J
13.	UNKNOWN HYDROCARBON	30.02	1200	J
14.	UNKNOWN HYDROCARBON	30.21	720	J
15.	UNKNOWN HYDROCARBON	30.36	1400	J
16.	UNKNOWN HYDROCARBON	30.49	510	J
17.	UNKNOWN HYDROCARBON	30.66	510	J
18.	UNKNOWN HYDROCARBON	31.12	250	J
19.	UNKNOWN HYDROCARBON	31.22	350	J
20.	UNKNOWN HYDROCARBON	31.59	1500	J

6/16/93

9613473.2446

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B07KQ2

Lab Name: DATACHEM LABS Contract: 3534

Lab Code: DATAC Case No.: WHC40 SAS No.: _____ SDG No.: WHC040

Matrix: (soil/water) SOIL Lab Sample ID: CLP11937

Sample wt/vol: 30.0 (g/mL) G Lab File ID: IE10CLP937

Level: (low/med) LOW Date Received: 12/18/92

% Moisture: 12 decanted: (Y/N) N Date Extracted: 12/25/92

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 01/19/93

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 7.2

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol	370	U
111-44-4	bis(2-Chloroethyl)Ether	370	U
95-57-8	2-Chlorophenol	370	U
541-73-1	1,3-Dichlorobenzene	370	U
106-46-7	1,4-Dichlorobenzene	370	U
95-50-1	1,2-Dichlorobenzene	370	U
95-48-7	2-Methylphenol	370	U
108-60-1	2,2'-oxybis(1-Chloropropane)	370	U
106-44-5	4-Methylphenol	370	U
621-64-7	N-Nitroso-Di-n-Propylamine	370	U
67-72-1	Hexachloroethane	370	U
98-95-3	Nitrobenzene	370	U
78-59-1	Isophorone	370	U
88-75-5	2-Nitrophenol	370	U
105-67-9	2,4-Dimethylphenol	370	U
111-91-1	bis(2-Chloroethoxy)Methane	370	U
120-83-2	2,4-Dichlorophenol	370	U
120-82-1	1,2,4-Trichlorobenzene	370	U
91-20-3	Naphthalene	370	U
106-47-8	4-Chloroaniline	370	U
87-68-3	Hexachlorobutadiene	370	U
59-50-7	4-Chloro-3-Methylphenol	370	U
91-57-6	2-Methylnaphthalene	370	U
77-47-4	Hexachlorocyclopentadiene	370	U
88-06-2	2,4,6-Trichlorophenol	370	U
95-95-4	2,4,5-Trichlorophenol	910	U
91-58-7	2-Chloronaphthalene	370	U
88-74-4	2-Nitroaniline	910	U
131-11-3	Dimethyl Phthalate	370	U
208-96-8	Acenaphthylene	370	U
606-20-2	2,6-Dinitrotoluene	370	U
99-09-2	3-Nitroaniline	910	U
83-32-9	Acenaphthene	370	U

FORM I SV-1

verified 6/15/93

9613473.2447

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B07KQ2

Lab Name: DATACHEM LABS Contract: 3534

Lab Code: DATAC Case No.: WHC40 SAS No.: _____ SDG No.: WHC040

Matrix: (soil/water) SOIL Lab Sample ID: CLP11937

Sample wt/vol: 30.0 (g/mL) G Lab File ID: IE10CLP937

Level: (low/med) LOW Date Received: 12/18/92

% Moisture: 12 decanted: (Y/N) N Date Extracted: 12/25/92

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 01/19/93

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 7.2

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
51-28-5	2,4-Dinitrophenol	910	U
100-02-7	4-Nitrophenol	910	U
132-64-9	Dibenzofuran	370	U
121-14-2	2,4-Dinitrotoluene	370	U
84-66-2	Diethylphthalate	370	U
7005-72-3	4-Chlorophenyl-phenylether	370	U
86-73-7	Fluorene	370	U
100-01-6	4-Nitroaniline	910	U
534-52-1	4,6-Dinitro-2-Methylphenol	910	U
86-30-6	N-Nitrosodiphenylamine (1)	370	U
101-55-3	4-Bromophenyl-phenylether	370	U
118-74-1	Hexachlorobenzene	370	U
87-86-5	Pentachlorophenol	910	U
85-01-8	Phenanthrene	370	U
120-12-7	Anthracene	370	U
86-74-8	Carbazole	370	U
84-74-2	Di-n-Butylphthalate	39	J
206-44-0	Fluoranthene	370	U
129-00-0	Pyrene	370	U
85-68-7	Butylbenzylphthalate	370	U
91-94-1	3,3'-Dichlorobenzidine	370	U
56-55-3	Benzo(a)Anthracene	370	U
218-01-9	Chrysene	370	U
117-81-7	bis(2-Ethylhexyl)Phthalate	370	U
117-84-0	Di-n-Octyl Phthalate	370	U
205-99-2	Benzo(b)Fluoranthene	370	U
207-08-9	Benzo(k)Fluoranthene	370	U
50-32-8	Benzo(a)Pyrene	370	U
193-39-5	Indeno(1,2,3-cd)Pyrene	370	U
53-70-3	Dibenz(a,h)Anthracene	370	U
191-24-2	Benzo(g,h,i)Perylene	370	U

(1) - Cannot be separated from Diphenylamine

verified 6/15/93

9613473.2448

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

B07KQ2

Lab Name: DATACHEM LABS Contract: 3534

Lab Code: DATAC Case No.: WHC40 SAS No.: _____ SDG No.: WHC040

Matrix: (soil/water) SOIL Lab Sample ID: CLP11937

Sample wt/vol: 30.0 (g/mL) G Lab File ID: IE10CLP937

Level: (low/med) LOW Date Received: 12/18/92

% Moisture: 12 decanted: (Y/N) N Date Extracted: 12/25/92

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 01/19/93

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 7.2

Number TICs found: 21

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
~~1.~~	~~ALDOL CONDENSATION PRODUCT~~	~~11.14~~	~~1800~~	~~AJ~~ R
2. 65-85-0	BENZOIC ACID	14.49	580	JN
3.	ALKANE @ C23	28.37	180	J
4.	UNKNOWN HYDROCARBON	28.61	460	J
5.	UNKNOWN HYDROCARBON	28.64	370	J
6.	UNKNOWN HYDROCARBON	28.72	110	J
7.	ALKANE @ C24	29.29	170	J
8.	UNKNOWN PHOSPHORIC ACID ESTE	29.92	150	J
9.	UNKNOWN HYDROCARBON	30.17	410	J
10.	UNKNOWN HYDROCARBON	31.17	180	J
11.	UNKNOWN HYDROCARBON	31.87	190	J
12.	ALKANE @ C27	32.31	560	J
13.	UNKNOWN HYDROCARBON	33.66	210	J
~~14. 111-02-4~~	~~SQUALENE~~	~~34.36~~	~~140~~	~~BJN~~ UKR
15.	ALKANE @ C29	35.29	2000	J
16.	UNKNOWN HYDROCARBON	36.31	250	J
17.	UNKNOWN HYDROCARBON	37.21	200	J
18.	UNKNOWN HYDROCARBON	38.16	120	J
19.	ALKANE @ C31	39.57	1400	J
20.	UNKNOWN HYDROCARBON	40.76	76	J
21.	UNKNOWN HYDROCARBON	45.99	320	J

6/16/93

6/16/93

9613473.2449

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B07KQ3

Lab Name: DATACHEM LABS Contract: 3534

Lab Code: DATAC Case No.: WHC40 SAS No.: _____ SDG No.: WHC040

Matrix: (soil/water) SOIL Lab Sample ID: CLP11938

Sample wt/vol: 30.0 (g/mL) G Lab File ID: IE11CLP938

Level: (low/med) LOW Date Received: 12/18/92

% Moisture: 20 decanted: (Y/N) N Date Extracted: 12/25/92

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 01/19/93

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 7.8

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol	410	U
111-44-4	bis(2-Chloroethyl)Ether	410	U
95-57-8	2-Chlorophenol	410	U
541-73-1	1,3-Dichlorobenzene	410	U
106-46-7	1,4-Dichlorobenzene	410	U
95-50-1	1,2-Dichlorobenzene	410	U
95-48-7	2-Methylphenol	410	U
108-60-1	2,2'-oxybis(1-Chloropropane)	410	U
106-44-5	4-Methylphenol	410	U
621-64-7	N-Nitroso-Di-n-Propylamine	410	U
67-72-1	Hexachloroethane	410	U
98-95-3	Nitrobenzene	410	U
78-59-1	Isophorone	410	U
88-75-5	2-Nitrophenol	410	U
105-67-9	2,4-Dimethylphenol	410	U
111-91-1	bis(2-Chloroethoxy)Methane	410	U
120-83-2	2,4-Dichlorophenol	410	U
120-82-1	1,2,4-Trichlorobenzene	410	U
91-20-3	Naphthalene	410	U
106-47-8	4-Chloroaniline	410	U
87-68-3	Hexachlorobutadiene	410	U
59-50-7	4-Chloro-3-Methylphenol	410	U
91-57-6	2-Methylnaphthalene	410	U
77-47-4	Hexachlorocyclopentadiene	410	U
88-06-2	2,4,6-Trichlorophenol	410	U
95-95-4	2,4,5-Trichlorophenol	1000	U
91-58-7	2-Chloronaphthalene	410	U
88-74-4	2-Nitroaniline	1000	U
131-11-3	Dimethyl Phthalate	410	U
208-96-8	Acenaphthylene	410	U
606-20-2	2,6-Dinitrotoluene	410	U
99-09-2	3-Nitroaniline	1000	U
83-32-9	Acenaphthene	410	U

19

verified 6/15/93

9615473.2460

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B07KQ3

Lab Name: DATACHEM LABS Contract: 3534

Lab Code: DATAC Case No.: WHC40 SAS No.: _____ SDG No.: WHC040

Matrix: (soil/water) SOIL Lab Sample ID: CLP11938

Sample wt/vol: 30.0 (g/mL) G Lab File ID: IE11CLP938

Level: (low/med) LOW Date Received: 12/18/92

% Moisture: 20 decanted: (Y/N) N Date Extracted: 12/25/92

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 01/19/93

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 7.8

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
51-28-5	2,4-Dinitrophenol	1000	U
100-02-7	4-Nitrophenol	1000	U
132-64-9	Dibenzofuran	410	U
121-14-2	2,4-Dinitrotoluene	410	U
84-66-2	Diethylphthalate	410	U
7005-72-3	4-Chlorophenyl-phenylether	410	U
86-73-7	Fluorene	410	U
100-01-6	4-Nitroaniline	1000	U
534-52-1	4,6-Dinitro-2-Methylphenol	1000	U
86-30-6	N-Nitrosodiphenylamine (1)	410	U
101-55-3	4-Bromophenyl-phenylether	410	U
118-74-1	Hexachlorobenzene	410	U
87-86-5	Pentachlorophenol	1000	U
85-01-8	Phenanthrene	410	U
120-12-7	Anthracene	410	U
86-74-8	Carbazole	410	U
84-74-2	Di-n-Butylphthalate	410	U
206-44-0	Fluoranthene	410	U
129-00-0	Pyrene	410	U
85-68-7	Butylbenzylphthalate	410	U
91-94-1	3,3'-Dichlorobenzidine	410	U
56-55-3	Benzo(a)Anthracene	410	U
218-01-9	Chrysene	410	U
117-81-7	bis(2-Ethylhexyl)Phthalate	410	U
117-84-0	Di-n-Octyl Phthalate	410	U
205-99-2	Benzo(b)Fluoranthene	410	U
207-08-9	Benzo(k)Fluoranthene	410	U
50-32-8	Benzo(a)Pyrene	410	U
193-39-5	Indeno(1,2,3-cd)Pyrene	410	U
53-70-3	Dibenz(a,h)Anthracene	410	U
191-24-2	Benzo(g,h,i)Perylene	410	U

(1) - Cannot be separated from Diphenylamine

verified 6/15/93

9613473.2451

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

B07KQ3

Lab Name: DATACHEM LABS Contract: 3534

Lab Code: DATAC Case No.: WHC40 SAS No.: _____ SDG No.: WHC040

Matrix: (soil/water) SOIL Lab Sample ID: CLP11938

Sample wt/vol: 30.0 (g/mL) G Lab File ID: IE11CLP938

Level: (low/med) LOW Date Received: 12/18/92

% Moisture: 20 decanted: (Y/N) N Date Extracted: 12/25/92

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 01/19/93

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 7.8

Number TICs found: 11

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q	Q
1.	ALKANE @ C8	8.55	170	~~BJ~~	J
~~2.~~	~~ALDOL CONDENSATION PRODUCT~~	~~9.34~~	~~460~~	~~ABJ~~	R
3.	C10 CYCLIC HYDROCARBON	9.47	190	~~BJ~~	J
~~4.~~	~~ALDOL CONDENSATION PRODUCT~~	~~9.70~~	~~150~~	~~ABJ~~	R
5.	ALKENE	9.77	520	~~BJ~~	J
~~6.~~	~~ALDOL CONDENSATION PRODUCT~~	~~10.07~~	~~1100~~	~~ABJ~~	R
7.	C4 CYCLOHEXANE	10.25	550	~~BJ~~	J
~~8.~~	~~ALDOL CONDENSATION PRODUCT~~	~~10.32~~	~~160~~	~~AJ~~	R
~~9.~~	~~ALDOL CONDENSATION PRODUCT~~	~~11.10~~	~~500~~	~~AJ~~	R
~~10.~~	~~ALDOL CONDENSATION PRODUCT~~	~~12.35~~	~~110~~	~~AJ~~	R
11. 65-85-0	BENZOIC ACID	14.44	420	JN	

6/16/93

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1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B07KQ1

Lab Name:DATACHEM LABORATORIES Contract:N/A

Lab Code:DATAC Case No.WHC40 SAS No.: SDG No.:WHC040

Matrix: (soil/water)SOIL Lab Sample ID: CLP-11936A

Sample wt/vol: 30.0 (g/ml)G Lab File ID:

% Moisture: 8 decanted: (Y/N) N Date Received: 12/18/92

Extraction: (SepF/Cont/Sonc)SONC Date Extracted:12/28/92

Concentrated Extract Volume: 5000 (uL) Date Analyzed: 1/14/93

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N)Y pH: 6.7 Sulfur Cleanup: (Y/N) N

CAS NO.	COMPOUND	CONCENTRATION UNITS (ug/L or ug/Kg)UG/KG	Q	Q
319-84-6	alpha-BHC	1.8	U	
319-85-7	beta-BHC	1.9	P	
319-86-8	delta-BHC	1.8	U	
58-89-9	gamma-BHC(Lindane)	1.8	U	
76-44-8	Heptachlor	1.8	U	
309-00-2	Aldrin	1.8	U	
1024-57-3	Heptachlor epoxide	1.8	U	
959-98-8	Endosulfan I	1.8 ~~0.13~~	~~JP~~	U
60-57-1	Dieldrin	0.46	JP	
72-55-9	4,4'-DDE	3.6	U	
72-20-8	Endrin	3.6	U	
33213-65-9	Endosulfan II	3.6	U	
72-54-8	4,4'-DDD	3.6	U	
1031-07-8	Endosulfan sulfate	1.5	JP	
50-29-3	4,4'-DDT	3.6	U	
72-43-5	Methoxychlor	18. ~~1.3~~	~~JPB~~	U
53494-70-5	Endrin ketone	3.6	U	
7421-36-3	Endrin aldehyde	3.6	U	
5103-71-9	alpha-Chlordane	0.35	JP	
5103-74-2	gamma-Chlordane	1.8	U	
8001-35-2	Toxaphene	180.	U	
12674-11-2	Aroclor-1016	36.	U	
11104-28-2	Aroclor-1221	72.	U	
11141-16-5	Aroclor-1232	36.	U	
53469-21-9	Aroclor-1242	36.	U	
12672-29-6	Aroclor-1248	36.	U	
11097-69-1	Aroclor-1254	36.	U	
11096-82-5	Aroclor-1260	36.	U	

verified
Blank adjusted
6/16/93

9613473.2453

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B07KQ2

Lab Name:DATACHEM LABORATORIES Contract:N/A

Lab Code:DATAC Case No.WHC40 SAS No.: SDG No.:WHC040

Matrix: (soil/water)SOIL Lab Sample ID: CLP-11937A

Sample wt/vol: 30.0 (g/ml)G Lab File ID:

% Moisture: 12 decanted: (Y/N) N Date Received: 12/18/92

Extraction: (SepF/Cont/Sonc)SONC Date Extracted:12/28/92

Concentrated Extract Volume: 5000 (uL) Date Analyzed: 1/14/93

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N)Y pH: 7.2 Sulfur Cleanup: (Y/N) N

CAS NO.	COMPOUND	CONCENTRATION UNITS (ug/L or ug/Kg)UG/KG	Q	Q
319-84-6	alpha-BHC	1.9	U	
319-85-7	beta-BHC	1.9	U	
319-86-8	delta-BHC	1.9	U	
58-89-9	gamma-BHC(Lindane)	1.9	U	
76-44-8	Heptachlor	1.9	U	
309-00-2	Aldrin	1.9	U	
1024-57-3	Heptachlor epoxide	1.9	U	
959-98-8	Endosulfan I	1.9	U	
60-57-1	Dieldrin	3.8	U	
72-55-9	4,4'-DDE	2.2	J	
72-20-8	Endrin	0.88	J	
33213-65-9	Endosulfan II	3.8	U	
72-54-8	4,4'-DDD	3.8	U	
1031-07-8	Endosulfan sulfate	0.19	JP	
50-29-3	4,4'-DDT	4.9		
72-43-5	Methoxychlor	19. ~~2.2~~	~~JPB~~	u
53494-70-5	Endrin ketone	3.8	U	
7421-36-3	Endrin aldehyde	3.8	U	
5103-71-9	alpha-Chlordane	1.9	U	
5103-74-2	gamma-Chlordane	1.9	U	
8001-35-2	Toxaphene	190.	U	
12674-11-2	Aroclor-1016	38.	U	
11104-28-2	Aroclor-1221	76.	U	
11141-16-5	Aroclor-1232	38.	U	
53469-21-9	Aroclor-1242	38.	U	
12672-29-6	Aroclor-1248	38.	U	
11097-69-1	Aroclor-1254	38.	U	
11096-82-5	Aroclor-1260	38.	U	

Verified
Blank adjusted

6/16/93

9613473.2454

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B07KQ3

Lab Name:DATACHEM LABORATORIES Contract:N/A

Lab Code:DATAC Case No.WHC40 SAS No.: SDG No.:WHC040

Matrix: (soil/water)SOIL Lab Sample ID: CLP-11938A

Sample wt/vol: 30.0 (g/ml)G Lab File ID:

% Moisture: 20 decanted: (Y/N) N Date Received: 12/18/92

Extraction: (SepF/Cont/Sonc)SONC Date Extracted:12/28/92

Concentrated Extract Volume: 5000 (uL) Date Analyzed: 1/14/93

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N)Y pH: 7.8 Sulfur Cleanup: (Y/N) N

CAS NO.	COMPOUND	CONCENTRATION UNITS (ug/L or ug/Kg)UG/KG	Q
319-84-6	alpha-BHC	2.1	U
319-85-7	beta-BHC	2.1	U
319-86-8	delta-BHC	2.1	U
58-89-9	gamma-BHC(Lindane)	2.1	U
76-44-8	Heptachlor	2.1	U
309-00-2	Aldrin	2.1	U
1024-57-3	Heptachlor epoxide	2.1	U
959-98-8	Endosulfan I	2.1	U
60-57-1	Dieldrin	4.2	U
72-55-9	4,4'-DDE	4.2	U
72-20-8	Endrin	4.2	U
33213-65-9	Endosulfan II	4.2	U
72-54-8	4,4'-DDD	4.2	U
1031-07-8	Endosulfan sulfate	0.21	JP
50-29-3	4,4'-DDT	4.2	U
72-43-5	Methoxychlor	21. ~~2.0~~	~~JB~~ U
53494-70-5	Endrin ketone	4.2	U
7421-36-3	Endrin aldehyde	4.2	U
5103-71-9	alpha-Chlordane	2.1	U
5103-74-2	gamma-Chlordane	2.1	U
8001-35-2	Toxaphene	210.	U
12674-11-2	Aroclor-1016	42.	U
11104-28-2	Aroclor-1221	83.	U
11141-16-5	Aroclor-1232	42.	U
53469-21-9	Aroclor-1242	42.	U
12672-29-6	Aroclor-1248	42.	U
11097-69-1	Aroclor-1254	42.	U
11096-82-5	Aroclor-1260	42.	U

Verified
Blank adjusted

6/16/93

FORM I PEST 3/90

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9613473.2455

DATA CHEM LABORATORIES

ANALYTICAL REPORT

Form ARF-AL
Page 1 of 3
Part 1 of 2

Date _____
Agency Identification Number SF-1398-GJ
Account No. 3534C

Westinghouse Hanford Company
2355 Stevens Drive
MSIN H4-23 345 Hill Street/300 Area
Richland, WA 99352
Attention: Briana Colley

FEB 1993 RECEIVED OSM DMO

FAX (509) 372-2106
Telephone (509) 373-3225

Sampling Collection and Shipment

Sampling Site _____ Date of Collection December 14, 1992

Date Samples Received at Laboratory December 18, 1992

Analysis

Method of Analysis EPA 8150

Date(s) of Analysis January 13, 1993

RECORD COPY

Analytical Results

Field Sample Number	Laboratory Number	Sample Type	2,4-D µg/kg	2,4-DB µg/kg	2,4,5-T µg/kg	2,4,5-TP (Silvex) µg/kg	Dalapon µg/kg	Dicamba µg/kg	Dichloroprop µg/kg	Dinoseb µg/kg
QC-93811-1	QC-93811-1	SOIL	648	ND*	253	365	ND*	ND*	ND*	ND*
BL-93811-1	BL-93811-1	SOIL	ND*	ND*	ND*	ND*	ND*	ND*	ND*	ND*
B07KQ1	CLP 11936	SOIL	ND*	ND*	ND*	ND*	ND*	ND*	ND*	ND*
B07KQ1MS	CLP 11936MS	SOIL	534	ND*	210	203	ND*	ND*	ND*	ND*
B07KQ1MSD	CLP 11936MSD	SOIL	1225	ND*	418	426	ND*	ND*	ND*	ND*
B07KQ2	CLP 11937	SOIL	ND*	ND*	ND*	ND*	ND*	ND*	ND*	ND*
B07KQ3	CLP 11938	SOIL	ND*	ND*	ND*	ND*	ND*	ND*	ND*	ND*
* Limit of Detection			100	500	50	50	500	50	100	100

† See comment on last page.
ND Parameter not detected.
NR Parameter not requested.

** See comment on last page.
( ) Parameter between LOD and LOQ.

Verified 6/25/93

No blank adjustment required.

Analyst: John Meikle

Reviewer: Guangyue Liu

Laboratory Supervisor: Jose C. Danino

960 West LeVoy Drive / Salt Lake City, Utah 84123-2547 / (801) 266-7700
A Sorenson Company

9613473.2456

DATA CHEM LABORATORIES

ANALYTICAL REPORT

Form ARF-AL
Page 2 of 3
Part 2 of 2

Date _____
Agency Identification Number SF-1398-GJ
Account No. 3534C

Westinghouse Hanford Company
2355 Stevens Drive
MSIN H4-23 345 Hill Street/300 Area
Richland, WA 99352
Attention: Briana Colley

FAX (509) 372-2106
Telephone (509) 373-3225

Sampling Collection and Shipment

Sampling Site _____ Date of Collection December 14, 1992

Date Samples Received at Laboratory December 18, 1992

Analysis

Method of Analysis EPA 8150

Date(s) of Analysis January 13, 1993

Analytical Results

Field Sample Number	Laboratory Number	Sample Type	MCPA µg/kg ✓	MCPP µg/kg ✓	DCAA µg/kg ✓						
QC-93811-1	QC-93811-1	SOIL	ND*	ND*	903						
BL-93811-1	BL-93811-1	SOIL	ND*	ND*	1163						
B07KQ1	CLP 11936	SOIL	ND*	ND*	466						
B07KQ1MS	CLP 11936MS	SOIL	ND*	ND*	167						
B07KQ1MSD	CLP 11936MSD	SOIL	ND*	ND*	653						
B07KQ2	CLP 11937	SOIL	ND*	ND*	747						
B07KQ3	CLP 11938	SOIL	ND*	ND*	1165						
* Limit of Detection			25000	25000	SURR						

† See comment on last page.
ND Parameter not detected.
NR Parameter not requested.

** See comment on last page.
( ) Parameter between LOD and LOQ.

No blank adjustment required

Verified 6/25/93

9613473.2457

DATA CHEM LABORATORIES

ANALYTICAL REPORT

Form ARF-AL
Page 1 of 5
Part 1 of 4

Date _____
Agency Identification Number SF-1398-HJ
Account No. 3534C

Westinghouse Hanford Company
2355 Stevens Drive
MSIN H4-23 345 Hill Street/300 Area
Richland, WA 99352
Attention: Briana Colley

FAX (509) 372-2106
Telephone (509) 373-3225

JAN 1993 RECEIVED OSM DMO

Sampling Collection and Shipment

Sampling Site _____ Date of Collection December 14, 1992

Date Samples Received at Laboratory December 18, 1992

Analysis

Method of Analysis EPA 8141

Date(s) of Analysis January 13, 1993

Analytical Results

Field Sample Number	Laboratory Number	Sample Type	Azinphos Methyl µg/kg	Bolstar µg/kg	Chlorpyrifos µg/kg	Coumaphos µg/kg	Demeton-S µg/kg	Diazinon µg/kg	Dichlorvos µg/kg	Disulfoton µg/kg
QC-93812-1	QC-93812-1	SOIL	ND*	ND*	ND*	ND*	ND*	ND*	ND*	58.
BL-93812-1	BL-93812-1	SOIL	ND*	ND*	ND*	ND*	ND*	ND*	ND*	ND*
B07KQ1	CLP 11936	SOIL	ND*	ND*	ND*	ND*	ND*	ND*	ND*	ND*
B07KQ2	CLP 11937	SOIL	ND*	ND*	ND*	ND*	ND*	ND*	ND*	ND*
B07KQ3	CLP 11938	SOIL	ND*	ND*	ND*	ND*	ND*	ND*	ND*	ND*
B07KQ3MS	CLP 11938MS	SOIL	ND*	ND*	ND*	ND*	ND*	ND*	ND*	51.
B07KQ3MSD	CLP 11938MSD	SOIL	ND*	ND*	ND*	ND*	ND*	ND*	ND*	69.
* Limit of Detection			67.	67.	33.	167.	33.	33.	17.	17.

† See comment on last page.
ND Parameter not detected.
NR Parameter not requested.

** See comment on last page.
( ) Parameter between LOD and LOQ.

Verified 6/1/93

Analyst: Kuang C. Tang

Reviewer: Vicki Hoe-Lin Tsai

Laboratory Supervisor: Jose C. Danino

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960 West LeVoy Drive / Salt Lake City, Utah 84123-2547 / (801) 266-7700
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9613473.2468

DATA CHEM LABORATORIES

ANALYTICAL REPORT

Date _____
Agency Identification Number SF-1398-HJ
Account No. 3534C

Westinghouse Hanford Company
2355 Stevens Drive
MSIN H4-23 345 Hill Street/300 Area
Richland, WA 99352
Attention: Briana Colley

FAX (509) 372-2106
Telephone (509) 373-3225

Sampling Collection and Shipment

Sampling Site _____ Date of Collection December 14, 1992

Date Samples Received at Laboratory December 18, 1992

Analysis

Method of Analysis EPA 8141

Date(s) of Analysis January 13, 1993

Analytical Results

Field Sample Number	Laboratory Number	Sample Type	Ethoprop µg/kg	Fensulfothion µg/kg	Fenthion µg/kg	Merphos µg/kg	Mevinphos µg/kg	Naled µg/kg	Parathion methyl µg/kg	Phorate µg/kg
QC-93812-1	QC-93812-1	SOIL	ND*	ND*	ND*	ND*	ND*	ND*	52.	54.
BL-93812-1	BL-93812-1	SOIL	ND*	ND*	ND*	ND*	ND*	ND*	ND*	ND*
B07KQ1	CLP 11936	SOIL	ND*	ND*	ND*	ND*	ND*	ND*	ND*	ND*
B07KQ2	CLP 11937	SOIL	ND*	ND*	ND*	ND*	ND*	ND*	ND*	ND*
B07KQ3	CLP 11938	SOIL	ND*	ND*	ND*	ND*	ND*	ND*	ND*	ND*
B07KQ3MS	CLP 11938MS	SOIL	ND*	ND*	ND*	ND*	ND*	ND*	76.	58.
B07KQ3MSD	CLP 11938MSD	SOIL	ND*	ND*	ND*	ND*	ND*	ND*	71.	63.
* Limit of Detection			333.	167.	67.	67.	67.	33.	17.	17.

† See comment on last page.
ND Parameter not detected.
NR Parameter not requested.

** See comment on last page.
( ) Parameter between LOD and LOQ.

Verified [signature] 6/14/93

9613473.2459

DATA CHEM LABORATORIES

ANALYTICAL REPORT

Date _____
Agency Identification Number SF-1398-HJ
Account No. 3534C

Westinghouse Hanford Company
2355 Stevens Drive
MSIN H4-23 345 Hill Street/300 Area
Richland, WA 99352
Attention: Briana Colley

FAX (509) 372-2106
Telephone (509) 373-3225

Sampling Collection and Shipment

Sampling Site _____ Date of Collection December 14, 1992

Date Samples Received at Laboratory December 18, 1992

Analysis

Method of Analysis EPA 8141

Date(s) of Analysis January 13, 1993

Analytical Results

Field Sample Number	Laboratory Number	Sample Type	Ronnel µg/kg	Stirophos µg/kg	Dimethoate µg/kg	EPN µg/kg	Malathion µg/kg	Monocrotophos µg/kg	Parathion µg/kg	SULFOTEP µg/kg
QC-93812-1	QC-93812-1	SOIL	ND*	ND*	ND*	ND*	ND*	ND*	ND*	ND*
BL-93812-1	BL-93812-1	SOIL	ND*	ND*	ND*	ND*	ND*	ND*	ND*	ND*
B07KQ1	CLP 11936	SOIL	ND*	ND*	ND*	ND*	ND*	ND*	ND*	ND*
B07KQ2	CLP 11937	SOIL	ND*	ND*	ND*	ND*	ND*	ND*	ND*	ND*
B07KQ3	CLP 11938	SOIL	ND*	ND*	ND*	ND*	ND*	ND*	ND*	ND*
B07KQ3MS	CLP 11938MS	SOIL	ND*	ND*	ND*	ND*	ND*	ND*	ND*	ND*
B07KQ3MSD	CLP 11938MSD	SOIL	ND*	ND*	ND*	ND*	ND*	ND*	ND*	ND*
* Limit of Detection			33.	33.	167.	33.	67.	17.	17.	333.

† See comment on last page.
ND Parameter not detected.
NR Parameter not requested.
** See comment on last page.
( ) Parameter between LOD and LOQ.

verified
6/14/93

9613473.2460

DATA CHEM LABORATORIES

ANALYTICAL REPORT

Form ARF-AL
Page 4 of 5
Part 4 of 4

Date _____
Agency Identification Number SF-1398-HJ
Account No. 3534C

Westinghouse Hanford Company
2355 Stevens Drive
MSIN H4-23 345 Hill Street/300 Area
Richland, WA 99352
Attention: Briana Colley

FAX (509) 372-2106
Telephone (509) 373-3225

Sampling Collection and Shipment

Sampling Site _____ Date of Collection December 14, 1992

Date Samples Received at Laboratory December 18, 1992

Analysis

Method of Analysis EPA 8141

Date(s) of Analysis January 13, 1993

Analytical Results

Field Sample Number	Laboratory Number	Sample Type	TEPP µg/kg	TPP µg/kg						
QC-93812-1	QC-93812-1	SOIL	ND*	270.						
BL-93812-1	BL-93812-1	SOIL	ND*	280.						
B07KQ1	CLP 11936	SOIL	ND*	300.						
B07KQ2	CLP 11937	SOIL	ND*	310.						
B07KQ3	CLP 11938	SOIL	ND*	350.						
B07KQ3MS	CLP 11938MS	SOIL	ND*	330.						
B07KQ3MSD	CLP 11938MSD	SOIL	ND*	320.						
* Limit of Detection			17.	NA						

† See comment on last page.
ND Parameter not detected.
NR Parameter not requested.

** See comment on last page.
( ) Parameter between LOD and LOQ.

verified
6/14/93

9613473.2461

ENVIROFORMS/INORGANIC CLP

1

INORGANIC ANALYSIS DATA SHEET

SAMPLE NO.
B07K91

M11936

Lab Name: DataChem Laboratories Contract: WHC

Lab Code: DATAC Case No.: WHC40 SAS No.: SDG No.: WHCI40

Matrix (soil/water): SOIL Lab Sample ID: CLP11936

Level (low/med): LOW Date Received: 12/18/92

% Solids: 92.2

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum +	7960			P
7440-36-0	Antimony +	13.0	U	N	P
7440-38-2	Arsenic +	1.9			FM
7440-39-3	Barium +	88.4			P
7440-41-7	Beryllium +	0.47	~~B~~		P u
7440-43-9	Cadmium +	1.1	U		P
7440-70-2	Calcium +	10800			P
7440-47-3	Chromium +	10.4			P
7440-48-4	Cobalt +	10.1	B		P
7440-50-8	Copper +	21.7			P
7439-89-6	Iron +	29700			P
7439-92-1	Lead +	48.4			FM
7439-95-4	Magnesium +	5930			P
7439-96-5	Manganese +	475			P
7439-97-6	Mercury +	0.11	U		CV
7440-02-0	Nickel +	13.1			P
7440-09-7	Potassium +	1120			P
7782-49-2	Selenium +	0.11	U	NW	FM
7440-22-4	Silver +	0.87	U		P
7440-23-5	Sodium +	189	B		P
7440-28-0	Thallium +	0.22	U		FM
7440-62-2	Vanadium +	70.7			P
7440-66-6	Zinc +	65.8			P
	Cyanide				NR

Color Before: BROWN Clarity Before: Texture: FINE

Color After: YELLOW Clarity After: Artifacts:

Comments: Verified
Blank adjusted [signature] 6/14/93

FORM I - IN

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ENVIROFORMS/INORGANIC CLP

1

INORGANIC ANALYSIS DATA SHEET

SAMPLE NO.
B07K02
M11937

Lab Name: DataChem Laboratories Contract: WHC

Lab Code: DATAC Case No.: WHC40 SAS No.: SDG No.: WHCI40

Matrix (soil/water): SOIL Lab Sample ID: CLP11937

Level (low/med): LOW Date Received: 12/18/92

% Solids: 89.0

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	11500			P
7440-36-0	Antimony	13.5	U	N	P
7440-38-2	Arsenic	4.3			FM
7440-39-3	Barium	114			P
7440-41-7	Beryllium	0.79	B		P
7440-43-9	Cadmium	1.1	U		P
7440-70-2	Calcium	12400			P
7440-47-3	Chromium	15.5			P
7440-48-4	Cobalt	9.9	B		P
7440-50-8	Copper	37.6			P
7439-89-6	Iron	22100			P
7439-92-1	Lead	28.1			FM
7439-95-4	Magnesium	6130			P
7439-96-5	Manganese	417			P
7439-97-6	Mercury	0.11	U		CV
7440-02-0	Nickel	13.6			P
7440-09-7	Potassium	2540			P
7782-49-2	Selenium	0.11	U	NW	FM
7440-22-4	Silver	0.90	U		P
7440-23-5	Sodium	235	B		P
7440-28-0	Thallium	0.22	U		FM
7440-62-2	Vanadium	48.6			P
7440-66-6	Zinc	92.3			P
	Cyanide				NR

Color Before: BROWN Clarity Before: Texture: FINE

Color After: YELLOW Clarity After: Artifacts:

Comments: verified
Blank adjusted [signature] 6/14/93

4

FORM I - IN

9613473.2463

ENVIROFORMS/INORGANIC CLP

1

INORGANIC ANALYSIS DATA SHEET

SAMPLE NO.
B07KQ3
M11938

Lab Name: DataChem Laboratories Contract: WHC

Lab Code: DATAC Case No.: WHC40 SAS No.: SDG No.: WHCI40

Matrix (soil/water): SOIL Lab Sample ID: CLP11938

Level (low/med): LOW Date Received: 12/18/92

% Solids: 77.7

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum +	29800			P
7440-36-0	Antimony +	15.4	U	N	P
7440-38-2	Arsenic +	6.8			FM
7440-39-3	Barium +	41.9	B		P
7440-41-7	Beryllium +	1.3	/		P
7440-43-9	Cadmium +	1.3	U		P
7440-70-2	Calcium +	113000			P
7440-47-3	Chromium +	23.1			P
7440-48-4	Cobalt +	8.4	B		P
7440-50-8	Copper +	22.8			P
7439-89-6	Iron +	23200			P
7439-92-1	Lead +	12.0		S	FM
7439-95-4	Magnesium +	12100			P
7439-96-5	Manganese +	176			P
7439-97-6	Mercury +	0.13	U		CV
7440-02-0	Nickel +	16.3			P
7440-09-7	Potassium +	1510			P
7782-49-2	Selenium +	1.3	U	NW	FM
7440-22-4	Silver +	1.0	U		P
7440-23-5	Sodium +	719	B		P
7440-28-0	Thallium +	0.26	U		FM
7440-62-2	Vanadium +	97.3			P
7440-66-6	Zinc +	55.1			P
	Cyanide				NR

u

Color Before: BROWN Clarity Before: Texture: FINE

Color After: YELLOW Clarity After: Artifacts:

Comments: Verified
Blank adjusted [illegible] 6/14/93

5

FORM I - IN

9613473.2464

DATA CHEM LABORATORIES

ENVIRONMENTAL SOIL REPORT

Form EPRS-A
Page 1 of 2
Part 1 of 1

Date _____
Agency Identification Number SF-1398-DJ
Account No. 3534C

Westinghouse Hanford Company
2355 Stevens Drive
MSIN H4-23 345 Hill Street/300 Area
Richland, WA 99352
Attention: Briana Colley

FEB 1993 RECEIVED OSM DMO

Telephone (509) 373-3225

Sampling Collection and Shipment

Sampling Site Post I Date of Collection December 14, 1992

Date Samples Received at Laboratory December 18, 1992

Analytical Results

Parameter Name / Analysis Date / Method / Prep Method	Units	Field Number / Lab Number	B07KQ1 CLP 11936	B07KQ2 CLP 11937	B07KQ3 CLP 11938					Limit of Detection
Fluoride (F) 01/11/1993 300.0 [1]	µg/g		ND*	ND*	4.					1.
Chloride (Cl) 01/11/1993 300.0 [1]	µg/g		3.	6.	2.					1.
Sulfate (SO_4) 01/11/1993 300.0 [1]	µg/g		14.	28.	330					1.
Phosphate (PO_4-P) 01/11/1993 300.0 [1]	µg/g		ND*	8.	ND*					2.
Nitrate/Nitrite 01/11/1993 353.2 [1]	µg/g		5.	77.	3.					1.
Chromium VI 01/14/1993 7196 [2]	µg/g		3.	21.	ND*					1.

† See comment on last page.
ND Parameter not detected.
NR Parameter not requested.
1 Analyses completed on or before this date.

** Parameter not analyzed (See comment page).
( ) Parameter between LOD and LOQ.
[ ] Method Reference (See comments page.)

Shelly K Myers
Analyst: Shelly Myers

Mark Hix
Reviewer: Mark A. Hixon

Norman K. Christensen
Laboratory Supervisor: Norman K. Christensen

Verified 6/15/93

No blank adjustment req'd.

960 West LeVoy Drive / Salt Lake City, Utah 84123-2547 / (801) 266-7700
A Sorenson Company

9613473.2465

DATA CHEM LABORATORIES

ENVIRONMENTAL SOIL REPORT

Form EPRS-A
Page 1 of 2
Part 1 of 1

Date _____
Agency Identification Number SF-1398-EJ
Account No. 3534C

Westinghouse Hanford Company
2355 Stevens Drive
MSIN T6-08
Richland, WA 99352
Attention: Jeanette Duncan

Telephone (509) 373-3225

JAN 1993 RECEIVED OSM DMO

Sampling Collection and Shipment

Sampling Site _____ Date of Collection December 14, 1992

Date Samples Received at Laboratory December 18, 1992

Analytical Results

Parameter Name / Analysis Date / Units / Method / Prep Method	Field Number / Lab Number	B07KQ1 CLP 11936	B07KQ2 CLP 11937	B07KQ3 CLP 11938					* Limit of Detection
Total Petroleum Hydrocarbons 12/31/1992 µg/g 418.1 [1] 3550 [2]		910	ND*	ND*					10

† See comment on last page.
ND Parameter not detected.
NR Parameter not requested.
1 Analyses completed on or before this date.

** Parameter not analyzed (See comment page).
( ) Parameter between LOD and LOQ.
[ ] Method Reference (See comments page.

RECORD COPY

Analyst: David W. Thomas

Reviewer: Rosemary H. Hanks

Laboratory Supervisor: Norman K. Christensen

Suzanne W. Bowe for NKC 6/15/93

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A Sorenson Company

9613473.2466

ATTACHMENT 3

ASSOCIATED BLANK DATA SUMMARY

9613473.2467

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SBLK01

Lab Name: DATACHEM LABS Contract: 3534

Lab Code: DATAC Case No.: WHC40 SAS No.: _____ SDG No.: WHC040

Matrix: (soil/water) SOIL Lab Sample ID: CLPBK1225

Sample wt/vol: 30.0 (g/mL) G Lab File ID: IE8BK1225

Level: (low/med) LOW Date Received: _____

% Moisture: _____ decanted: (Y/N) N Date Extracted: 12/25/92

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 01/19/93

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: _____

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol	330	U
111-44-4	bis(2-Chloroethyl)Ether	330	U
95-57-8	2-Chlorophenol	330	U
541-73-1	1,3-Dichlorobenzene	330	U
106-46-7	1,4-Dichlorobenzene	330	U
95-50-1	1,2-Dichlorobenzene	330	U
95-48-7	2-Methylphenol	330	U
108-60-1	2,2'-oxybis(1-Chloropropane)	330	U
106-44-5	4-Methylphenol	330	U
621-64-7	N-Nitroso-Di-n-Propylamine	330	U
67-72-1	Hexachloroethane	330	U
98-95-3	Nitrobenzene	330	U
78-59-1	Isophorone	330	U
88-75-5	2-Nitrophenol	330	U
105-67-9	2,4-Dimethylphenol	330	U
111-91-1	bis(2-Chloroethoxy)Methane	330	U
120-83-2	2,4-Dichlorophenol	330	U
120-82-1	1,2,4-Trichlorobenzene	330	U
91-20-3	Naphthalene	330	U
106-47-8	4-Chloroaniline	330	U
87-68-3	Hexachlorobutadiene	330	U
59-50-7	4-Chloro-3-Methylphenol	330	U
91-57-6	2-Methylnaphthalene	330	U
77-47-4	Hexachlorocyclopentadiene	330	U
88-06-2	2,4,6-Trichlorophenol	330	U
95-95-4	2,4,5-Trichlorophenol	800	U
91-58-7	2-Chloronaphthalene	330	U
88-74-4	2-Nitroaniline	800	U
131-11-3	Dimethyl Phthalate	330	U
208-96-8	Acenaphthylene	330	U
606-20-2	2,6-Dinitrotoluene	330	U
99-09-2	3-Nitroaniline	800	U
83-32-9	Acenaphthene	330	U

6/16/93

9613473.2460

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SBLK01

Lab Name: DATACHEM LABS Contract: 3534

Lab Code: DATAC Case No.: WHC40 SAS No.: _____ SDG No.: WHC040

Matrix: (soil/water) SOIL Lab Sample ID: CLPBK1225

Sample wt/vol: 30.0 (g/mL) G Lab File ID: IE8BK1225

Level: (low/med) LOW Date Received: _____

% Moisture: _____ decanted: (Y/N) N Date Extracted: 12/25/92

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 01/19/93

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: _____

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
51-28-5	2,4-Dinitrophenol	800	U
100-02-7	4-Nitrophenol	800	U
132-64-9	Dibenzofuran	330	U
121-14-2	2,4-Dinitrotoluene	330	U
84-66-2	Diethylphthalate	330	U
7005-72-3	4-Chlorophenyl-phenylether	330	U
86-73-7	Fluorene	330	U
100-01-6	4-Nitroaniline	800	U
534-52-1	4,6-Dinitro-2-Methylphenol	800	U
86-30-6	N-Nitrosodiphenylamine (1)	330	U
101-55-3	4-Bromophenyl-phenylether	330	U
118-74-1	Hexachlorobenzene	330	U
87-86-5	Pentachlorophenol	800	U
85-01-8	Phenanthrene	330	U
120-12-7	Anthracene	330	U
86-74-8	Carbazole	330	U
84-74-2	Di-n-Butylphthalate	330	U
206-44-0	Fluoranthene	330	U
129-00-0	Pyrene	330	U
85-68-7	Butylbenzylphthalate	330	U
91-94-1	3,3'-Dichlorobenzidine	330	U
56-55-3	Benzo(a)Anthracene	330	U
218-01-9	Chrysene	330	U
117-81-7	bis(2-Ethylhexyl)Phthalate	330	U
117-84-0	Di-n-Octyl Phthalate	330	U
205-99-2	Benzo(b)Fluoranthene	330	U
207-08-9	Benzo(k)Fluoranthene	330	U
50-32-8	Benzo(a)Pyrene	330	U
193-39-5	Indeno(1,2,3-cd)Pyrene	330	U
53-70-3	Dibenz(a,h)Anthracene	330	U
191-24-2	Benzo(g,h,i)Perylene	330	U

(1) - Cannot be separated from Diphenylamine

6/16/93

9613473.2469

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

SBLK01

Lab Name: DATACHEM LABS Contract: 3534

Lab Code: DATAC Case No.: WHC40 SAS No.: _____ SDG No.: WHC040

Matrix: (soil/water) SOIL Lab Sample ID: CLPBK1225

Sample wt/vol: 30.0 (g/mL) G Lab File ID: IE8BK1225

Level: (low/med) LOW Date Received: _____

% Moisture: _____ decanted: (Y/N) N Date Extracted: 12/25/92

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 01/19/93

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: _____

Number TICs found: 9

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q	Q
1.	ALKENE @ C8	8.85	140	J	
~~2.~~	~~ALDOL CONDENSATION PRODUCT~~	~~9.55~~	~~340~~	~~AJ~~	R
3.	C10 CYCLIC HYDROCARBON	9.69	170	J	
~~4.~~	~~ALDOL CONDENSATION PRODUCT~~	~~9.90~~	~~120~~	~~AJ~~	R
5.	ALKENE	9.97	420	J	
~~6.~~	~~ALDOL CONDENSATION PRODUCT~~	~~10.25~~	~~420~~	~~AJ~~	R
7.	C4 CYCLOHEXANE	10.42	660	J	
~~8.~~	~~ALDOL CONDENSATION PRODUCT~~	~~10.45~~	~~660~~	~~AJ~~	R
~~9. 111-02-4~~	~~SQUALENE~~	~~34.34~~	~~69~~	~~JN~~	R

6/6/93

BLANK AND SAMPLE DATA SUMMARY - FORM B-3

B07KQ1 - DAT-220

SDG:	REVIEWER:	DATE: 6/16/93	PAGE 1 OF 1
COMMENTS: Pesticide/PCBs			

SAMPLE ID	COMPOUND	RESULT (ug/L)	Q	~~RT~~ Sample Dark Units	~~UNITS~~ Result in ug/kg (ug/kg)	5X RESULT	Sample ~~10X~~ RESULT	SAMPLES AFFECTED	QUALIFIER
Hexane Blank	Beta BHC	0.0084		0.92	0.30	1.5	1.9	B07KQ1	None
PIBLK02	Endosulfan I	0.0066		0.92	0.24	1.2	0.13	B07KQ1	u
	Methoxychlor	0.12		0.92	0.43	2.15	1.3	B07KQ1	u
	Methoxychlor	0.12		0.88	0.45	2.25	2.2	B07KQ2	u
	Methoxychlor	0.12		0.80 ~~0.8~~	0.50	2.50	2.0	B07KQ3	u
PBLKA5	Methoxychlor	—		—	3.7 ug/kg	18.5	1.3	B07KQ1	u
							2.2	B07KQ2	u
							2.0	B07KQ3	u

9413472170

9615473.2471

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

PIBLKD2

Lab Name:DATACHEM LABORATORIES Contract:N/A

Lab Code:DATAC Case No.WHC40 SAS No.: SDG No.:WHC040

Matrix: (soil/water)WATER Lab Sample ID: PIBLK-D2

Sample wt/vol: 1000 (g/ml)ML Lab File ID:

% Moisture: decanted: (Y/N) Date Received: / /

Extraction: (SepF/Cont/Sonc)SONC Date Extracted: / /

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 1/14/93

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N)Y pH: 0.0 Sulfur Cleanup: (Y/N) N

CAS NO.	COMPOUND	CONCENTRATION UNITS (ug/L or ug/Kg)UG/L	Q
319-84-6	alpha-BHC	0.05	U
319-85-7	beta-BHC	0.0084	J
319-86-8	delta-BHC	0.05	U
58-89-9	gamma-BHC(Lindane)	0.05	U
76-44-8	Heptachlor	0.05	U
309-00-2	Aldrin	0.05	U
1024-57-3	Heptachlor epoxide	0.05	U
959-98-8	Endosulfan I	0.0066	J
60-57-1	Dieldrin	0.10	U
72-55-9	4,4'-DDE	0.10	U
72-20-8	Endrin	0.10	U
33213-65-9	Endosulfan II	0.024	J
72-54-8	4,4'-DDD	0.029	J
1031-07-8	Endosulfan sulfate	0.10	U
50-29-3	4,4'-DDT	0.0082	J
72-43-5	Methoxychlor	0.012	J
53494-70-5	Endrin ketone	0.10	U
7421-36-3	Endrin aldehyde	0.10	U
5103-71-9	alpha-Chlordane	0.05	U
5103-74-2	gamma-Chlordane	0.05	U
8001-35-2	Toxaphene	5.0	U
12674-11-2	Aroclor-1016	1.0	U
11104-28-2	Aroclor-1221	2.0	U
11141-16-5	Aroclor-1232	1.0	U
53469-21-9	Aroclor-1242	1.0	U
12672-29-6	Aroclor-1248	1.0	U
11097-69-1	Aroclor-1254	1.0	U
11096-82-5	Aroclor-1260	1.0	U

6/16/93

9613473.2472

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

PBLKAS

Lab Name:DATACHEM LABORATORIES Contract:N/A

Lab Code:DATAC Case No.WHC40 SAS No.: SDG No.:WHC040

Matrix: (soil/water)SOIL Lab Sample ID: SF-1398-SBKA

Sample wt/vol: 30.0 (g/ml)G Lab File ID:

% Moisture: 0 decanted: (Y/N) N Date Received: / /

Extraction: (SepF/Cont/Sonc)SONC Date Extracted:12/28/92

Concentrated Extract Volume: 5000 (uL) Date Analyzed: 1/14/93

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N)Y pH: 5.0 Sulfur Cleanup: (Y/N) N

CAS NO.	COMPOUND	CONCENTRATION UNITS (ug/L or ug/Kg)UG/KG	Q
319-84-6	alpha-BHC	1.7	U
319-85-7	beta-BHC	1.7	U
319-86-8	delta-BHC	1.7	U
58-89-9	gamma-BHC(Lindane)	1.7	U
76-44-8	Heptachlor	1.7	U
309-00-2	Aldrin	1.7	U
1024-57-3	Heptachlor epoxide	1.7	U
959-98-8	Endosulfan I	1.7	U
60-57-1	Dieldrin	3.3	U
72-55-9	4,4'-DDE	3.3	U
72-20-8	Endrin	3.3	U
33213-65-9	Endosulfan II	3.3	U
72-54-8	4,4'-DDD	3.3	U
1031-07-8	Endosulfan sulfate	3.3	U
50-29-3	4,4'-DDT	3.3	U
72-43-5	Methoxychlor	3.7	J
53494-70-5	Endrin ketone	3.3	U
7421-36-3	Endrin aldehyde	3.3	U
5103-71-9	alpha-Chlordane	1.7	U
5103-74-2	gamma-Chlordane	1.7	U
8001-35-2	Toxaphene	170.	U
12674-11-2	Aroclor-1016	33.	U
11104-28-2	Aroclor-1221	67.	U
11141-16-5	Aroclor-1232	33.	U
53469-21-9	Aroclor-1242	33.	U
12672-29-6	Aroclor-1248	33.	U
11097-69-1	Aroclor-1254	33.	U
11096-82-5	Aroclor-1260	33.	U

565

FORM I PEST

6/16/93

3/90

BLANK AND SAMPLE DATA SUMMARY - FORM B-3

SDG:	REVIEWER: [illegible]	DATE: 6/14/93	PAGE 1 OF 1

COMMENTS:

SAMPLE ID	COMPOUND	RESULT	Q	RT	UNITS	5X RESULT	10X RESULT	SAMPLES AFFECTED	QUALIFIER
CCB	Beryllium	0.65	—	—	mg/kg	3.26	—	M11936	0.47 U
								M11937	0.79 U
								M11938	1.3 U

9413472.2173

9613473.2474

ENVIROFORMS/INORGANIC CLP

3
BLANKS

Lab Name: DataChem Laboratories Contract: WHC

Lab Code: DATAC Case No.: WHC40 SAS No.: SDG No.: WHCI40

Preparation Blank Matrix (soil/water): SOIL

Preparation Blank Concentration Units (ug/L or mg/kg): MG/KG

Analyte	Initial Calib. Blank (ug/L)	C	Continuing Calibration Blank (ug/L) 1	C	2	C	3	C	Prepa-ration Blank	C	M
	5x				5x		5x				
Aluminum	42.0	U	42.0	U	42.0	U	42.0	U	42.000	U	P
Antimony	60.0	U	60.0	U	60.0	U	60.0	U	60.000	U	P
Arsenic	1.0	U	1.0	U	1.0	U	1.0	U	0.100	U	FM
Barium	6.0	U	6.0	U	6.0	U	6.0	U	6.000	U	P
Beryllium	2.0	U	2.0	U	14 2.8	B	14 2.8	B	2.000	U	P
Cadmium	5.0	U	5.0	U	5.0	U	5.0		5.000	U	P
Calcium	28.0	U	28.0	U	28.0	U	28.0	U	28.000	U	P
Chromium	9.0	U	9.0	U	9.0	U	9.0	U	9.000	U	P
Cobalt	11.0	U	11.0	U	11.0	U	11.0	U	11.000	U	P
Copper	7.0	U	7.0	U	15.1	B	12.7	B	7.000	U	P
Iron	~~73.9~~ 14.7	B	10.0	U	20.3	B	-35.0	B	-75.051	B	P
Lead	1.0	U	1.0	U	1.0	U	1.0	U	0.100	U	FM
Magnesium	64.0	U	64.0	U	64.0	U	64.0	U	64.000	U	P
Manganese	2.0	U	2.4	B	4.2	B	3.6	B	2.000	U	P
Mercury	0.2	U	0.2	U	0.2	U			0.100	U	CV
Nickel	29.0	U	29.0	U	29.0	U	29.0	U	29.000	U	P
Potassium	1030.0	U	1030.0	U	1030.0	U	1030.0	U	1030.000	U	P
Selenium	1.0	U	1.0	U	1.0	U	1.0	U	0.100	U	FM
Silver	4.0	U	4.0	U	4.0	U	4.0	U	4.000	U	P
Sodium	29.0	U	29.0	U	29.0	U	29.0	U	42.906	B	P
Thallium	2.0	U	2.0	U	2.0	U	2.0	U	0.200	U	FM
Vanadium	10.0	U	10.0	U	10.0	U	10.0	U	10.000	U	P
Zinc	9.0	U	9.0	U	9.0	U	9.0	U	9.000	U	P
Cyanide											NR

6/14/93

FORM III - IN