

Westinghouse
Hanford Company

START 8610957 1690

CHAIN OF CUSTODY

B07KR5-DAT-236

0044924

Custody Form Initiator Jonathan G. Lucas
Company Contact Frank W. Gustafson
Project Designation/Sampling Locations North Slope ERA -
H-12-L, H-07H, H-90, 2, 4-D burial site
Ice Chest No. Rm #40
Bill of Lading/Airbill No. 2536953490
Method of Shipment Emery 12-2-93
Shipped to Data Chem Salt Lake City, UT
Possible Sample Hazards/Remarks None

Telephone 376-1736
Collection Date 2-16, 17-93
Field Logbook No. EFL-1031-2
Offsite Property No. W93-0-0285 #6

Sample Identification

<u>B07KR05</u>	<u>B07KR9</u>
<u>B07KR06</u> Soil (1-250ml aG/each)	<u>B07KSD</u> Soil (2-120ml aG/each)
<u>B07KR7</u>	<u>B07KS1</u>
<u>B07KR3</u> Soil (2-120ml aG/each)	<u>B07KS2</u>
<u>B07KR4</u>	
<u>B07KR5</u> Soil (1-120ml aG, 1-250ml aG)	
<u>B07KR6</u> 3-120ml aG	
<u>B07KR8</u>	

[] Field Transfer of Custody Chain of Possession (Sign and Print Names)

Relinquished By	Date	Time	Received By	Date	Time
<u>Jonathan G. Lucas</u> <u>Frank W. Gustafson</u>	<u>2-22-93</u>	<u>1100</u>	<u>[Signature]</u>	<u>2-22-93</u>	<u>1100</u>

Final Sample Disposition

Disposal Method: _____ Disposed by: _____ Date/Time: _____

Comments: _____

RADIOACTIVE
CATEGORY I



9613457.1691



Westinghouse
Hanford Company

SAMPLE ANALYSIS REQUEST

Collector Craig A. Rowley Date 2-18-93
 Company Contact Frank Gustafson Telephone (509) 376-1736

Sample Number	*	Date Collected	Time Collected	Number and Type of Sample Containers/Analysis Requested
B07KR4	S	2-16-93	1530-1540	1- 120ml gS - VOA (CLP)
B07KR6	S	2-16-93	1530-1540	1- 250ml aG - Semi VOA (CLP), PCB/Pests (CLP),
B07KR8	S	2-16-93	1620	Phosphorus Pests (8140), Herbicides (8150)
				1- 250ml ^{2x 2-18-93} 120ml aG - AA metals (As, Pb, Se, Tl-CLP),
				Hg (CLP), ICP metals (CLP)
				1- 120ml aG - Anions (F, Cl, PO ₄ , SO ₄ - EPA 300.0),
				(NO ₂ , NO ₃ - EPA 353.3), Chromium VI (EPA 218.4)
				1- 120ml aG - TPH (EPA 418.1)
				Note: For sample B07KR6, a 1 l aG bottle replaces the 250 ml aG.
B07KR9	S	2-17-93	0950	1- 120ml aG - ICP metals (6010), AA metals (As (7060),
B07KS0	S	2-17-93	0950 ^{2x 2-18-93}	Pb (7420), Se (7740), Tl (7840), Hg (7471)
B07KS1	S	2-17-93	1330	1- 120ml aG - TPH (EPA 418.1)
B07KS2	S	2-17-93	1340	1- 120ml aG - ICP metals (CLP), AA metals (As,
				Pb, Se, Tl - CLP), Hg (CLP)
				1- 120ml aG - TPH (EPA 418.1)

**RADIOACTIVE
CATEGORY I**

*Type of Sample A = Air L = Liquid SE = Sediment T = Tissue X = Other
 DL = Drum Liquids O = Oil SL = Sludge W = Water
 DS = Drum Solids S = Soil SO = Solid WI = Wipe

Field Information _____

 Special Handling and/or Storage Cool 4°C

 Possible Sample Hazards _____



Westinghouse
Hanford Company

SAMPLE ANALYSIS REQUEST

Collector Frank W. Gustafson Date 2-19-93
 Company Contact Frank W. Gustafson Telephone (509) 376-7736

Sample Number	*	Date Collected	Time Collected	Number and Type of Sample Containers/Analysis Requested
B07KQ5	S	2-16-93	1200	1-20-250 ml aG - Semi VOA (CLP), 8140
B07KQ7	S	2-16-93	1315, 1425, 1520	PCB/Pests (CLP), Phosphorus Pests (CLP), Herbicides (8150)
B07KQ6	S	2-17-93	1004, 1102, 1144, 1220	1-250 ml aG - VOA (8240), Semi VOA (8270), PCB/Pests (8080), Phosphorus Pests (8140), Herbicides (8150)
Note: Samples B07KQ6 and B07KQ7 are composite samples. The date and time of actual compositing are 2-19-93 @ 1050 (B07KQ6) and 1059 HRS (B07KQ7)				

**RADIOACTIVE
CATEGORY I**

*Type of Sample A = Air L = Liquid SE = Sediment T = Tissue X = Other
 DL = Drum Liquids O = Oil SL = Sludge W = Water
 DS = Drum Solids S = Soil SO = Solid WI = Wipe

Field Information _____

Special Handling and/or Storage Cool 4°C

Possible Sample Hazards _____



A SORENSON COMPANY

SDG NARRATIVE
VOA FRACTION

CASE NO.: WHC42
SDG NO.: WHCO42
SAMPLE NO(s). for VOA analysis: B07KR5, B07KR6, B07KR8,
B07KR8MS, B07KR8MSD

SAIC PROJECT #: 010138030689017

DATA CHEM LABS.

- I. 1. CASE WHC42 DataChem Laboratories received three soil samples for VOA analysis, which have been assigned the SDG designation WHCO42. This report includes the data for the above samples analyzed.
- I. 2. VOA Analysis The soil samples were analyzed as low level soil samples according to EPA SOW 3/91.
- 2.1 All system monitoring compound and internal standard recoveries were within the required QC limits.
- 2.2 The samples were analyzed within the hold-time limit.
- I. 3. Matrix Spike and Matrix Spike Duplicate Analyses A matrix spike and matrix spike duplicate analyses for the low level soil analyses was performed using sample B07KR8.

SDG Narrative authorized by: _____

Date: _____

Jan J. Embury
3/26/93

**SDG NARRATIVE
SEMIVOLATILE FRACTION**

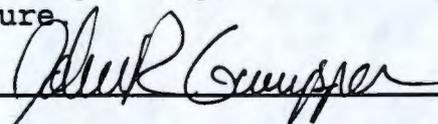
CASE NO. WHC42

SDG NO. WHCO42

SAMPLE NO.(s) for semivolatile analysis: B07KQ5, B07KQ7, B07KR5,
B07KR6, B07KR6MS, B07KR6MSD, B07KR8

Westinhouse-Hanford Corporation
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. Gumper, Section Manager date 3-25-93

- I. 1. Case WHC42: DataChem Laboratories has received a total of five soil samples for Case WHC42. This report includes data for the samples listed above which have been assigned the SDG designation WHCO42. 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 3/90 and the next seven revisions (7/91). All of the surrogate recoveries and internal standard area responses met the required QC criteria. No dilutions were necessary, and all samples were extracted and analyzed within the holding times.

- I. 3. Matrix Spike and Matrix Spike Duplicate Analyses
The matrix spike and matrix spike duplicate analyses were performed on sample B07KR6 according to the protocol listed in the SOW. Recoveries and reproducibility were within the expected ranges with the following exceptions. The reproducibilities for 1,4-dichlorobenzene and 1,2,4-trichlorobenzene were slightly above the stated QC limits.

Case Narrative Authorized by: *John R. Gumpfer* date 3-25-93

**SDG NARRATIVE
PESTICIDE/PCB ANALYSIS**

CASE NUMBER: **WHC42**

SDG: **WHCO42**

SAMPLE NUMBERS FOR PESTICIDE/PCB ANALYSIS:

**B07KQ5, B07KQ7, B07KR5, B07KR6, B07KR8, B07KR6MS,
B07KR6MSD.**

EPA-CLP CONTRACT NO.: **3534**

DATACHEM LABORATORIES

- I. SDG WHCO42. DataChem Laboratories received five soil samples for case WHC42 which were assigned sample delivery group WHCO42.
- 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 both columns.
 3. The instrument blank PIBLKA3, as integrated by the computer, was found to contain endosulfan sulfate at a level greater than half of the CRQL. However, the integrated area did not resemble a peak. The integration for this analyte was altered to include only the area of the peak. The resulting peak area was less than the area reject for the integration method employed. The original and reintegrated chromatograms and data system printouts are provided in this data package, along with some chromatograms in support of the alterations made.
- III. Matrix Spike and Matrix Spike Duplicate Analyses.
1. The soil matrix spike and matrix spike duplicate analyses were performed on sample B07KR6.
 2. The "X" qualifier was used to flag the results of endrin ketone and endrin aldehyde in the spiked samples. The flag indicates that the detection of these analytes may be due to breakdown of the spiked compound endrin and may not have been extracted from the sample matrix.
- IV. Diskette deliverable.
1. A diskette deliverable was prepared containing the analytical data in the "agency standard" format as specified in Exhibit H of the USEPA Statement of Work, OLM01.8.
 2. The diskette deliverable was checked by the Computer Compliance Screening (CCS) software provided by the EPA. Structural and technical defects were corrected. The CCS software still generates defects stating that blank

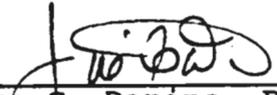
injection times and dates are missing, however, this information is in the files. Because the USEPA uses a different version of this software, some defects may still exist in the deliverable.

- V. 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
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

- VI. 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.



Jose C. Danino, Ph.D. 3-30-97
Pesticide Section Manager Date

9613457.1699

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B07KR5

Lab Name: DATA CHEM LABS Contract: 3534

Lab Code: DATA C Case No.: WHC42 SAS No.: _____ SDG No.: WHCO42

Matrix: (soil/water) SOIL Lab Sample ID: CLP12286

Sample wt/vol: 5.0 (g/mL) G Lab File ID: PZ75CLP286

Level: (low/med) LOW Date Received: 02/22/93

% Moisture: not dec. 9 Date Analyzed: 03/03/93

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

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

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>UG/KG</u>	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	2	BJ
67-64-1	-----Acetone	7	J
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

9613457.1700

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

B07KR5

Lab Name: DATA CHEM LABS Contract: 3534

Lab Code: DATA C Case No.: WHC42 SAS No.: _____ SDG No.: WHCO42

Matrix: (soil/water) SOIL Lab Sample ID: CLP12286

Sample wt/vol: 5.0 (g/mL) G Lab File ID: PZ75CLP286

Level: (low/med) LOW Date Received: 02/22/93

% Moisture: not dec. 9 Date Analyzed: 03/03/93

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
=====	=====	=====	=====	=====

9613457.1701

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B07KR6

Lab Name: DATA CHEM LABS Contract: 3534

Lab Code: DATA C Case No.: WHC42 SAS No.: _____ SDG No.: WHCO42

Matrix: (soil/water) SOIL Lab Sample ID: CLP12287

Sample wt/vol: 5.0 (g/mL) G Lab File ID: PZ76CLP287

Level: (low/med) LOW Date Received: 02/22/93

% Moisture: not dec. 9 Date Analyzed: 03/03/93

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) <u>UG/KG</u>	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	3	BJ
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	0.8	BJ
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

9613457.1702

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

B07KR6

Lab Name: DATA CHEM LABS Contract: 3534

Lab Code: DATA C Case No.: WHC42 SAS No.: _____ SDG No.: WHCO42

Matrix: (soil/water) SOIL Lab Sample ID: CLP12287

Sample wt/vol: 5.0 (g/mL) G Lab File ID: PZ76CLP287

Level: (low/med) LOW Date Received: 02/22/93

% Moisture: not dec. 9 Date Analyzed: 03/03/93

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
=====	=====	=====	=====	=====

9613457.1703

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B07KR8

Lab Name: DATA CHEM LABS Contract: 3534
 Lab Code: DATA C Case No.: WHC42 SAS No.: _____ SDG No.: WHCO42
 Matrix: (soil/water) SOIL Lab Sample ID: CLP12288
 Sample wt/vol: 5.0 (g/mL) G Lab File ID: PZ77CLP288
 Level: (low/med) LOW Date Received: 02/22/93
 % Moisture: not dec. 0 Date Analyzed: 03/03/93
 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	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	3	BJ
67-64-1	Acetone	12	
75-15-0	Carbon Disulfide	10	U
75-35-4	1,1-Dichloroethene	10	U
75-34-3	1,1-Dichloroethane	10	U
540-59-0	1,2-Dichloroethene (total)	10	U
67-66-3	Chloroform	10	U
107-06-2	1,2-Dichloroethane	10	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	10	U
56-23-5	Carbon Tetrachloride	10	U
75-27-4	Bromodichloromethane	10	U
78-87-5	1,2-Dichloropropane	10	U
10061-01-5	cis-1,3-Dichloropropene	10	U
79-01-6	Trichloroethene	10	U
124-48-1	Dibromochloromethane	10	U
79-00-5	1,1,2-Trichloroethane	10	U
71-43-2	Benzene	10	U
10061-02-6	trans-1,3-Dichloropropene	10	U
75-25-2	Bromoform	10	U
108-10-1	4-Methyl-2-Pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	10	U
79-34-5	1,1,2,2-Tetrachloroethane	10	U
108-88-3	Toluene	10	U
108-90-7	Chlorobenzene	10	U
100-41-4	Ethylbenzene	10	U
100-42-5	Styrene	10	U
1330-20-7	Xylene (total)	10	U

9613457.1704

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

B07KR8

Lab Name: DATA CHEM LABS Contract: 3534

Lab Code: DATA C Case No.: WHC42 SAS No.: _____ SDG No.: WHC042

Matrix: (soil/water) SOIL Lab Sample ID: CLP12288

Sample wt/vol: 5.0 (g/mL) G Lab File ID: PZ77CLP288

Level: (low/med) LOW Date Received: 02/22/93

% Moisture: not dec. 0 Date Analyzed: 03/03/93

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
=====	=====	=====	=====	=====

9613457.1705

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B07KQ5

Lab Name: DATA CHEM LABS Contract: 3534

Lab Code: DATA C Case No.: WHC42 SAS No.: _____ SDG No.: WHCO42

Matrix: (soil/water) SOIL Lab Sample ID: CLP12283

Sample wt/vol: 30.0 (g/mL) G Lab File ID: AT7CLP283

Level: (low/med) LOW Date Received: 02/22/93

% Moisture: 3 decanted: (Y/N) N Date Extracted: 02/28/93

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 03/15/93

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 8.0

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

CAS NO.

COMPOUND

Q

108-95-2-----	Phenol	340	U
111-44-4-----	bis(2-Chloroethyl) Ether	340	U
95-57-8-----	2-Chlorophenol	340	U
541-73-1-----	1,3-Dichlorobenzene	340	U
106-46-7-----	1,4-Dichlorobenzene	340	U
95-50-1-----	1,2-Dichlorobenzene	340	U
95-48-7-----	2-Methylphenol	340	U
108-60-1-----	2,2'-oxybis(1-Chloropropane)	340	U
106-44-5-----	4-Methylphenol	340	U
621-64-7-----	N-Nitroso-Di-n-Propylamine	340	U
67-72-1-----	Hexachloroethane	340	U
98-95-3-----	Nitrobenzene	340	U
78-59-1-----	Isophorone	340	U
88-75-5-----	2-Nitrophenol	340	U
105-67-9-----	2,4-Dimethylphenol	340	U
111-91-1-----	bis(2-Chloroethoxy) Methane	340	U
120-83-2-----	2,4-Dichlorophenol	340	U
120-82-1-----	1,2,4-Trichlorobenzene	340	U
91-20-3-----	Naphthalene	340	U
106-47-8-----	4-Chloroaniline	340	U
87-68-3-----	Hexachlorobutadiene	340	U
59-50-7-----	4-Chloro-3-Methylphenol	340	U
91-57-6-----	2-Methylnaphthalene	340	U
77-47-4-----	Hexachlorocyclopentadiene	340	U
88-06-2-----	2,4,6-Trichlorophenol	340	U
95-95-4-----	2,4,5-Trichlorophenol	820	U
91-58-7-----	2-Chloronaphthalene	340	U
88-74-4-----	2-Nitroaniline	820	U
131-11-3-----	Dimethylphthalate	340	U
208-96-8-----	Acenaphthylene	340	U
606-20-2-----	2,6-Dinitrotoluene	340	U
99-09-2-----	3-Nitroaniline	820	U
83-32-9-----	Acenaphthene	340	U

13

9613457.1706

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B07KQ5

Lab Name: DATA CHEM LABS Contract: 3534

Lab Code: DATA C Case No.: WHC42 SAS No.: _____ SDG No.: WHCO42

Matrix: (soil/water) SOIL Lab Sample ID: CLP12283

Sample wt/vol: 30.0 (g/mL) G Lab File ID: AT7CLP283

Level: (low/med) LOW Date Received: 02/22/93

% Moisture: 3 decanted: (Y/N) N Date Extracted: 02/28/93

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 03/15/93

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 8.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>UG/KG</u>	Q
51-28-5	2,4-Dinitrophenol	820	U
100-02-7	4-Nitrophenol	820	U
132-64-9	Dibenzofuran	340	U
121-14-2	2,4-Dinitrotoluene	340	U
84-66-2	Diethylphthalate	340	U
7005-72-3	4-Chlorophenyl-phenylether	340	U
86-73-7	Fluorene	340	U
100-01-6	4-Nitroaniline	820	U
534-52-1	4,6-Dinitro-2-methylphenol	820	U
86-30-6	N-Nitrosodiphenylamine (1)	340	U
101-55-3	4-Bromophenyl-phenylether	340	U
118-74-1	Hexachlorobenzene	340	U
87-86-5	Pentachlorophenol	820	U
85-01-8	Phenanthrene	340	U
120-12-7	Anthracene	340	U
86-74-8	Carbazole	340	U
84-74-2	Di-n-Butylphthalate	340	U
206-44-0	Fluoranthene	340	U
129-00-0	Pyrene	340	U
85-68-7	Butylbenzylphthalate	340	U
91-94-1	3,3'-Dichlorobenzidine	340	U
56-55-3	Benzo (a) Anthracene	340	U
218-01-9	Chrysene	340	U
117-81-7	bis(2-Ethylhexyl) Phthalate	340	U
117-84-0	Di-n-Octyl Phthalate	340	U
205-99-2	Benzo (b) Fluoranthene	340	U
207-08-9	Benzo (k) Fluoranthene	340	U
50-32-8	Benzo (a) Pyrene	340	U
193-39-5	Indeno (1, 2, 3-cd) Pyrene	340	U
53-70-3	Dibenz (a, h) Anthracene	340	U
191-24-2	Benzo (g, h, i) Perylene	340	U

9613457.1707

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

B07KQ5

Lab Name: DATA CHEM LABS Contract: 3534

Lab Code: DATA C Case No.: WHC42 SAS No.: _____ SDG No.: WHCO42

Matrix: (soil/water) SOIL Lab Sample ID: CLP12283

Sample wt/vol: 30.0 (g/mL) G Lab File ID: AT7CLP283

Level: (low/med) LOW Date Received: 02/22/93

% Moisture: 3 decanted: (Y/N) N Date Extracted: 02/28/93

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 03/15/93

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 8.0

Number TICs found: 3 CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	ALDOL CONDENSATION PRODUCT	9.32	280	ABJ
2.	ALDOL CONDENSATION PRODUCT	10.00	450	ABJ
3.	ALKANE @ C29	34.38	120	J

9613457.1708

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B07KQ7

Lab Name: DATA CHEM LABS Contract: 3534

Lab Code: DATA C Case No.: WHC42 SAS No.: _____ SDG No.: WHCO42

Matrix: (soil/water) SOIL Lab Sample ID: CLP12284

Sample wt/vol: 30.0 (g/mL) G Lab File ID: AV8CLP284

Level: (low/med) LOW Date Received: 02/22/93

% Moisture: 4 decanted: (Y/N) N Date Extracted: 02/28/93

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 03/16/93

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 8.5

CONCENTRATION UNITS:

(ug/L or ug/Kg) UG/KG

Q

CAS NO.

COMPOUND

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>UG/KG</u>	Q
108-95-2	Phenol	340	U
111-44-4	bis(2-Chloroethyl) Ether	340	U
95-57-8	2-Chlorophenol	340	U
541-73-1	1,3-Dichlorobenzene	340	U
106-46-7	1,4-Dichlorobenzene	340	U
95-50-1	1,2-Dichlorobenzene	340	U
95-48-7	2-Methylphenol	340	U
108-60-1	2,2'-oxybis(1-Chloropropane)	340	U
106-44-5	4-Methylphenol	340	U
621-64-7	N-Nitroso-Di-n-Propylamine	340	U
67-72-1	Hexachloroethane	340	U
98-95-3	Nitrobenzene	340	U
78-59-1	Isophorone	340	U
88-75-5	2-Nitrophenol	340	U
105-67-9	2,4-Dimethylphenol	340	U
111-91-1	bis(2-Chloroethoxy) Methane	340	U
120-83-2	2,4-Dichlorophenol	340	U
120-82-1	1,2,4-Trichlorobenzene	340	U
91-20-3	Naphthalene	340	U
106-47-8	4-Chloroaniline	340	U
87-68-3	Hexachlorobutadiene	340	U
59-50-7	4-Chloro-3-Methylphenol	340	U
91-57-6	2-Methylnaphthalene	340	U
77-47-4	Hexachlorocyclopentadiene	340	U
88-06-2	2,4,6-Trichlorophenol	340	U
95-95-4	2,4,5-Trichlorophenol	830	U
91-58-7	2-Chloronaphthalene	340	U
88-74-4	2-Nitroaniline	830	U
131-11-3	Dimethylphthalate	340	U
208-96-8	Acenaphthylene	340	U
606-20-2	2,6-Dinitrotoluene	340	U
99-09-2	3-Nitroaniline	830	U
83-32-9	Acenaphthene	340	U

9613457.1709

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B07KQ7

Lab Name: DATA CHEM LABS Contract: 3534

Lab Code: DATA C Case No.: WHC42 SAS No.: _____ SDG No.: WHCO42

Matrix: (soil/water) SOIL Lab Sample ID: CLP12284

Sample wt/vol: 30.0 (g/mL) G Lab File ID: AV8CLP284

Level: (low/med) LOW Date Received: 02/22/93

% Moisture: 4 decanted: (Y/N) N Date Extracted: 02/28/93

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 03/16/93

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 8.5

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>UG/KG</u>	Q
51-28-5	2,4-Dinitrophenol	830	U
100-02-7	4-Nitrophenol	830	U
132-64-9	Dibenzofuran	340	U
121-14-2	2,4-Dinitrotoluene	340	U
84-66-2	Diethylphthalate	340	U
7005-72-3	4-Chlorophenyl-phenylether	340	U
86-73-7	Fluorene	340	U
100-01-6	4-Nitroaniline	830	U
534-52-1	4,6-Dinitro-2-methylphenol	830	U
86-30-6	N-Nitrosodiphenylamine (1)	340	U
101-55-3	4-Bromophenyl-phenylether	340	U
118-74-1	Hexachlorobenzene	340	U
87-86-5	Pentachlorophenol	830	U
85-01-8	Phenanthrene	340	U
120-12-7	Anthracene	340	U
86-74-8	Carbazole	340	U
84-74-2	Di-n-Butylphthalate	340	U
206-44-0	Fluoranthene	340	U
129-00-0	Pyrene	340	U
85-68-7	Butylbenzylphthalate	340	U
91-94-1	3,3'-Dichlorobenzidine	340	U
56-55-3	Benzo (a) Anthracene	340	U
218-01-9	Chrysene	340	U
117-81-7	bis (2-Ethylhexyl) Phthalate	340	U
117-84-0	Di-n-Octyl Phthalate	340	U
205-99-2	Benzo (b) Fluoranthene	340	U
207-08-9	Benzo (k) Fluoranthene	340	U
50-32-8	Benzo (a) Pyrene	340	U
193-39-5	Indeno (1, 2, 3-cd) Pyrene	340	U
53-70-3	Dibenz (a, h) Anthracene	340	U
191-24-2	Benzo (g, h, i) Perylene	340	U

9613457.1710

1F

EPA SAMPLE NO.

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

B07KQ7

Lab Name: DATA CHEM LABS Contract: 3534
 Lab Code: DATA C Case No.: WHC42 SAS No.: _____ SDG No.: WHCO42
 Matrix: (soil/water) SOIL Lab Sample ID: CLP12284
 Sample wt/vol: 30.0 (g/mL) G Lab File ID: AV8CLP284
 Level: (low/med) LOW Date Received: 02/22/93
 % Moisture: 4 decanted: (Y/N) N Date Extracted: 02/28/93
 Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 03/16/93
 Injection Volume: 2.0 (uL) Dilution Factor: 1.0
 GPC Cleanup: (Y/N) Y pH: 8.5

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

Number TICs found: 3

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	ALDOL CONDENSATION PRODUCT	9.22	410	ABJ
2.	ALDOL CONDENSATION PRODUCT	9.92	530	ABJ
3.	UNKNOWN LONG-CHAIN HYDROCARB	33.55	74	J

9613457.1711

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B07KR5

Lab Name: DATA CHEM LABS Contract: 3534

Lab Code: DATA C Case No.: WHC42 SAS No.: _____ SDG No.: WHCO42

Matrix: (soil/water) SOIL Lab Sample ID: CLP12286

Sample wt/vol: 30.0 (g/mL) G Lab File ID: AV9CLP286

Level: (low/med) LOW Date Received: 02/22/93

% Moisture: 9 decanted: (Y/N) N Date Extracted: 02/28/93

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 03/16/93

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 8.0

CONCENTRATION UNITS:

(ug/L or ug/Kg) UG/KG

Q

CAS NO.

COMPOUND

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>UG/KG</u>	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	880	U
91-58-7	2-Chloronaphthalene	360	U
88-74-4	2-Nitroaniline	880	U
131-11-3	Dimethylphthalate	360	U
208-96-8	Acenaphthylene	360	U
606-20-2	2,6-Dinitrotoluene	360	U
99-09-2	3-Nitroaniline	880	U
83-32-9	Acenaphthene	360	U

9613457.1712

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B07KR5

Lab Name: DATA CHEM LABS Contract: 3534

Lab Code: DATA C Case No.: WHC42 SAS No.: _____ SDG No.: WHCO42

Matrix: (soil/water) SOIL Lab Sample ID: CLP12286

Sample wt/vol: 30.0 (g/mL) G Lab File ID: AV9CLP286

Level: (low/med) LOW Date Received: 02/22/93

% Moisture: 9 decanted: (Y/N) N Date Extracted: 02/28/93

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 03/16/93

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 8.0

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

CAS NO.

COMPOUND

Q

51-28-5-----	2,4-Dinitrophenol	880	U
100-02-7-----	4-Nitrophenol	880	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	880	U
534-52-1-----	4,6-Dinitro-2-methylphenol	880	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	880	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

9613457.1713

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

B07KR5

Lab Name: DATA CHEM LABS Contract: 3534

Lab Code: DATA C Case No.: WHC42 SAS No.: _____ SDG No.: WHCO42

Matrix: (soil/water) SOIL Lab Sample ID: CLP12286

Sample wt/vol: 30.0 (g/mL) G Lab File ID: AV9CLP286

Level: (low/med) LOW Date Received: 02/22/93

% Moisture: 9 decanted: (Y/N) N Date Extracted: 02/28/93

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 03/16/93

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 8.0

Number TICs found: 23

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	ALDOL CONDENSATION PRODUCT	9.25	530	ABJ
2.	ALDOL CONDENSATION PRODUCT	9.95	1000	ABJ
3.	ALDOL CONDENSATION PRODUCT	10.17	480	ABJ
4.	ALKANE @ C25	29.73	150	J
5.	UNKNOWN LONG-CHAIN HYDROCARB	29.85	93	J
6.	UNKNOWN LONG-CHAIN HYDROCARB	31.28	100	J
7.	ALKANE @ C27	31.70	150	J
8.	UNKNOWN LONG-CHAIN HYDROCARB	32.00	74	J
9.	UNKNOWN AROMATIC	32.10	110	J
10.	UNKNOWN LONG-CHAIN HYDROCARB	33.13	140	J
11.	UNKNOWN HYDROCARBON	33.17	170	J
12.	UNKNOWN LONG-CHAIN HYDROCARB	33.70	78	J
13.	UNKNOWN LONG-CHAIN HYDROCARB	34.08	220	J
14.	UNKNOWN POLYCYCLIC HYDROCARB	34.25	110	J
15.	ALKANE @ C29	34.40	590	J
16.	UNKNOWN LONG-CHAIN HYDROCARB	34.92	220	J
17.	UNKNOWN HYDROCARBON	35.90	130	J
18.	UNKNOWN LONG-CHAIN HYDROCARB	36.15	170	J
19.	UNKNOWN HYDROCARBON	36.25	130	J
20.	UNKNOWN HYDROCARBON	36.28	80	J
21.	UNKNOWN POLYCYCLIC HYDROCARB	37.38	160	J
22.	UNKNOWN POLYCYCLIC HYDROCARB	37.83	300	J
23.	ALKANE @ C31	38.27	330	J

9613457.1714

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B07KR6

Lab Name: DATA CHEM LABS Contract: 3534

Lab Code: DATA C Case No.: WHC42 SAS No.: _____ SDG No.: WHCO42

Matrix: (soil/water) SOIL Lab Sample ID: CLP12287

Sample wt/vol: 30.0 (g/mL) G Lab File ID: AV10CLP287

Level: (low/med) LOW Date Received: 02/22/93

% Moisture: 9 decanted: (Y/N) N Date Extracted: 02/28/93

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 03/16/93

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

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

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>UG/KG</u>	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	880	U
91-58-7	2-Chloronaphthalene	360	U
88-74-4	2-Nitroaniline	880	U
131-11-3	Dimethylphthalate	360	U
208-96-8	Acenaphthylene	360	U
606-20-2	2,6-Dinitrotoluene	360	U
99-09-2	3-Nitroaniline	880	U
83-32-9	Acenaphthene	360	U

22

9613457.1715

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B07KR6

Lab Name: DATA CHEM LABS Contract: 3534

Lab Code: DATA C Case No.: WHC42 SAS No.: _____ SDG No.: WHCO42

Matrix: (soil/water) SOIL Lab Sample ID: CLP12287

Sample wt/vol: 30.0 (g/mL) G Lab File ID: AV10CLP287

Level: (low/med) LOW Date Received: 02/22/93

% Moisture: 9 decanted: (Y/N) N Date Extracted: 02/28/93

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 03/16/93

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

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

CONCENTRATION UNITS:

CAS NO.

COMPOUND

(ug/L or ug/Kg) UG/KG

Q

51-28-5-----	2,4-Dinitrophenol	880	U
100-02-7-----	4-Nitrophenol	880	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	880	U
534-52-1-----	4,6-Dinitro-2-methylphenol	880	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	880	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

9613457.1716

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

B07KR6

Lab Name: DATA CHEM LABS Contract: 3534

Lab Code: DATA C Case No.: WHC42 SAS No.: _____ SDG No.: WHCO42

Matrix: (soil/water) SOIL Lab Sample ID: CLP12287

Sample wt/vol: 30.0 (g/mL) G Lab File ID: AV10CLP287

Level: (low/med) LOW Date Received: 02/22/93

% Moisture: 9 decanted: (Y/N) N Date Extracted: 02/28/93

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 03/16/93

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

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

Number TICs found: 22

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	ALDOL CONDENSATION PRODUCT	9.22	580	ABJ
2.	ALDOL CONDENSATION PRODUCT	9.92	1300	ABJ
3.	ALKANE @ C25	29.72	250	J
4.	UNKNOWN HYDROCARBON	29.75	82	J
5.	UNKNOWN LONG-CHAIN HYDROCARB	31.68	160	J
6.	ALKANE @ C27	31.98	140	J
7.	UNKNOWN LONG-CHAIN HYDROCARB	32.08	150	J
8.	UNKNOWN AROMATIC	33.13	160	J
9.	UNKNOWN LONG-CHAIN HYDROCARB	33.68	77	J
10.	UNKNOWN LONG-CHAIN HYDROCARB	34.07	150	J
11.	UNKNOWN LONG-CHAIN HYDROCARB	34.23	110	J
12.	UNKNOWN POLYCYCLIC HYDROCARB	34.38	540	J
13.	ALKANE @ C29	34.88	160	J
14.	UNKNOWN LONG-CHAIN HYDROCARB	34.90	130	J
15.	UNKNOWN LONG-CHAIN HYDROCARB	36.13	140	J
16.	UNKNOWN LONG-CHAIN HYDROCARB	36.22	180	J
17.	UNKNOWN LONG-CHAIN HYDROCARB	36.90	81	J
18.	UNKNOWN POLYCYCLIC HYDROCARB	37.37	80	J
19.	UNKNOWN LONG-CHAIN HYDROCARB	37.38	140	J
20.	UNKNOWN POLYCYCLIC HYDROCARB	37.80	250	J
21.	UNKNOWN POLYCYCLIC HYDROCARB	38.23	320	J
22.	ALKANE @ C31	38.85	240	J

9613457.1717

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B07KR8

Lab Name: DATA CHEM LABS Contract: 3534

Lab Code: DATA C Case No.: WHC42 SAS No.: _____ SDG No.: WHCO42

Matrix: (soil/water) SOIL Lab Sample ID: CLP12288

Sample wt/vol: 30.0 (g/mL) G Lab File ID: AW5CLP288

Level: (low/med) LOW Date Received: 02/22/93

% Moisture: 0 decanted: (Y/N) N Date Extracted: 02/28/93

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 03/16/93

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 8.3

CONCENTRATION UNITS:

(ug/L or ug/Kg) UG/KG

Q

CAS NO.

COMPOUND

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>UG/KG</u>	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	Dimethylphthalate	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

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1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B07KR8

Lab Name: DATA CHEM LABS Contract: 3534

Lab Code: DATA C Case No.: WHC42 SAS No.: _____ SDG No.: WHCO42

Matrix: (soil/water) SOIL Lab Sample ID: CLP12288

Sample wt/vol: 30.0 (g/mL) G Lab File ID: AW5CLP288

Level: (low/med) LOW Date Received: 02/22/93

% Moisture: 0 decanted: (Y/N) N Date Extracted: 02/28/93

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 03/16/93

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 8.3

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

CAS NO.

COMPOUND

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	32	BJ
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

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1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

B07KR8

Lab Name: DATA CHEM LABS Contract: 3534
 Lab Code: DATA C Case No.: WHC42 SAS No.: _____ SDG No.: WHCO42
 Matrix: (soil/water) SOIL Lab Sample ID: CLP12288
 Sample wt/vol: 30.0 (g/mL) G Lab File ID: AW5CLP288
 Level: (low/med) LOW Date Received: 02/22/93
 % Moisture: 0 decanted: (Y/N) N Date Extracted: 02/28/93
 Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 03/16/93
 Injection Volume: 2.0 (uL) Dilution Factor: 1.0
 GPC Cleanup: (Y/N) Y pH: 8.3

Number TICs found: 2

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	ALDOL CONDENSATION PRODUCT	9.32	410	ABJ
2.	ALDOL CONDENSATION PRODUCT	10.00	560	ABJ

9613457.1720

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B07KQ5

Lab Name: DATACHEM LABORATORIES Contract: 3534

Lab Code: DATAC Case No. WHC42 SAS No.: SDG No.: WHC042

Matrix: (soil/water) SOIL Lab Sample ID: CLP-12283

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

% Moisture: 3 decanted: (Y/N) N Date Received: 2/22/93

Extraction: (SepF/Cont/Sonc) SONC Date Extracted: 3/01/93

Concentrated Extract Volume: 5000 (uL) Date Analyzed: 3/12/93

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 8.0 Sulfur Cleanup: (Y/N) N

CAS NO.	COMPOUND	CONCENTRATION UNITS (ug/L or ug/Kg) UG/KG	Q
319-84-6	alpha-BHC	1.8	U
319-85-7	beta-BHC	1.8	U
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	U
60-57-1	Dieldrin	3.4	U
72-55-9	4,4'-DDE	3.4	U
72-20-8	Endrin	3.4	U
33213-65-9	Endosulfan II	3.4	U
72-54-8	4,4'-DDD	3.4	U
1031-07-8	Endosulfan sulfate	0.079	JP
50-29-3	4,4'-DDT	3.4	U
72-43-5	Methoxychlor	18.	U
53494-70-5	Endrin ketone	3.4	U
7421-36-3	Endrin aldehyde	3.4	U
5103-71-9	alpha-Chlordane	1.8	U
5103-74-2	gamma-Chlordane	1.8	U
8001-35-2	Toxaphene	180.	U
12674-11-2	Aroclor-1016	34.	U
11104-28-2	Aroclor-1221	69.	U
11141-16-5	Aroclor-1232	34.	U
53469-21-9	Aroclor-1242	34.	U
12672-29-6	Aroclor-1248	34.	U
11097-69-1	Aroclor-1254	34.	U
11096-82-5	Aroclor-1260	34.	U

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1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B07KQ7

Lab Name: DATA CHEM LABORATORIES Contract: 3534

Lab Code: DATAC Case No. WHC42 SAS No.: SDG No.: WHC042

Matrix: (soil/water) SOIL Lab Sample ID: CLP-12284

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

% Moisture: 4 decanted: (Y/N) N Date Received: 2/22/93

Extraction: (SepF/Cont/Sonc) SONC Date Extracted: 3/01/93

Concentrated Extract Volume: 5000 (uL) Date Analyzed: 3/12/93

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 8.5 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	1.8	U
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	U
60-57-1-----	Dieldrin	3.4	U
72-55-9-----	4,4'-DDE	3.4	U
72-20-8-----	Endrin	3.4	U
33213-65-9-----	Endosulfan II	3.4	U
72-54-8-----	4,4'-DDD	3.4	U
1031-07-8-----	Endosulfan sulfate	3.4	U
50-29-3-----	4,4'-DDT	3.4	U
72-43-5-----	Methoxychlor	18.	U
53494-70-5-----	Endrin ketone	3.4	U
7421-36-3-----	Endrin aldehyde	3.4	U
5103-71-9-----	alpha-Chlordane	1.8	U
5103-74-2-----	gamma-Chlordane	1.8	U
8001-35-2-----	Toxaphene	180.	U
12674-11-2-----	Aroclor-1016	34.	U
11104-28-2-----	Aroclor-1221	70.	U
11141-16-5-----	Aroclor-1232	34.	U
53469-21-9-----	Aroclor-1242	34.	U
12672-29-6-----	Aroclor-1248	34.	U
11097-69-1-----	Aroclor-1254	34.	U
11096-82-5-----	Aroclor-1260	34.	U

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1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B07KR5

Lab Name: DATA CHEM LABORATORIES

Contract: 3534

Lab Code: DATA C

Case No. WHC42

SAS No.:

SDG No.: WHC042

Matrix: (soil/water) SOIL

Lab Sample ID: CLP-12286

Sample wt/vol: 30.0 (g/ml) G

Lab File ID:

% Moisture: 9 decanted: (Y/N) N

Date Received: 2/22/93

Extraction: (SepF/Cont/Sonc) SONC

Date Extracted: 3/01/93

Concentrated Extract Volume: 5000 (uL)

Date Analyzed: 3/12/93

Injection Volume: 2.0 (uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 8.0

Sulfur Cleanup: (Y/N) N

CAS NO.	COMPOUND	CONCENTRATION UNITS (ug/L or ug/Kg) UG/KG	Q
319-84-6-----	alpha-BHC	1.9	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	1.6	J
72-55-9-----	4,4'-DDE	0.55	JP
72-20-8-----	Endrin	3.6	U
33213-65-9----	Endosulfan II	3.6	U
72-54-8-----	4,4'-DDD	1.1	P
1031-07-8-----	Endosulfan sulfate	3.6	U
50-29-3-----	4,4'-DDT	3.2	JP
72-43-5-----	Methoxychlor	7.6	J
53494-70-5----	Endrin ketone	3.6	U
7421-36-3-----	Endrin aldehyde	3.6	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	36.	U
11104-28-2----	Aroclor-1221	74.	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.

B07KR6

Lab Name: DATA CHEM LABORATORIES Contract: 3534

Lab Code: DATA C Case No. WHC42 SAS No.: SDG No.: WHCO42

Matrix: (soil/water) SOIL Lab Sample ID: CLP-12287

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

% Moisture: 9 decanted: (Y/N) N Date Received: 2/22/93

Extraction: (SepF/Cont/Sonc) SONC Date Extracted: 3/01/93

Concentrated Extract Volume: 5000 (uL) Date Analyzed: 3/12/93

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	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	1.6	JP
72-55-9	4,4'-DDE	0.55	JP
72-20-8	Endrin	3.6	U
33213-65-9	Endosulfan II	0.57	PB
72-54-8	4,4'-DDD	1.2	P
1031-07-8	Endosulfan sulfate	3.6	U
50-29-3	4,4'-DDT	3.1	J
72-43-5	Methoxychlor	6.4	J
53494-70-5	Endrin ketone	3.6	U
7421-36-3	Endrin aldehyde	3.6	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	36.	U
11104-28-2	Aroclor-1221	74.	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.

B07KR8

Lab Name: DATA CHEM LABORATORIES Contract: 3534

Lab Code: DATAC Case No. WHC42 SAS No.: SDG No.: WHC042

Matrix: (soil/water) SOIL Lab Sample ID: CLP-12288

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

% Moisture: 0 decanted: (Y/N) N Date Received: 2/22/93

Extraction: (SepF/Cont/Sonc) SONC Date Extracted: 3/01/93

Concentrated Extract Volume: 5000 (uL) Date Analyzed: 3/12/93

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 8.3 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	5.5	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

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ANALYTICAL REPORT

Form ARF-AL

Page 1 of 3
Part 1 of 2

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

Date _____
Agency Identification Number SX-0059-GK
Account No. 3534C

Sampling Collection and Shipment

Sampling Site _____ Date of Collection February 16, 1993
Date Samples Received at Laboratory February 22, 1993

Analysis

Method of Analysis EPA 8150
Date(s) of Analysis March 26, 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-2193-1	QC-2193-1	SOIL	950	ND*	470	490	ND*	ND*	ND*	ND*
BL-2193-1	BL-2193-1	SOIL	ND*	ND*	ND*	ND*	ND*	ND*	ND*	ND*
B07KQ5	CLP 12283	SOIL	ND*	ND*	ND*	ND*	ND*	ND*	ND*	ND*
B07KQ7	CLP 12284	SOIL	ND*	ND*	ND*	ND*	ND*	ND*	ND*	ND*
B07KR5	CLP 12286	SOIL	ND*	ND*	ND*	ND*	ND*	ND*	ND*	ND*
B07KR6	CLP 12287	SOIL	ND*	ND*	ND*	ND*	ND*	ND*	ND*	ND*
B07KR6MS	CLP 12287MS	SOIL	920	ND*	460	480	ND*	ND*	ND*	ND*
B07KR6MSD	CLP 12287MSD	SOIL	910	ND*	440	470	ND*	ND*	ND*	ND*
B07KR8	CLP 12288	SOIL	ND*	ND*	ND*	ND*	ND*	ND*	ND*	ND*
* Limit of Detection			100	500	50	50	200	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.

RECORD COPY

Analyst: John Meikle
Reviewer: David R. Fischer
Laboratory Supervisor: Jose C. Danino

9613457.1726



ANALYTICAL REPORT

Form ARF-AL

Page 2 of 3

Part 2 of 2

Date _____
 Agency Identification Number SX-0059-GK
 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 February 16, 1993
 Date Samples Received at Laboratory February 22, 1993

Analysis

Method of Analysis EPA 8150
 Date(s) of Analysis March 26, 1993

Analytical Results

Field Sample Number	Laboratory Number	Sample Type	MCFA µg/kg	MCPP µg/kg	DCAA µg/kg					
QC-2193-1	QC-2193-1	SOIL	ND*	ND*	520					
BL-2193-1	BL-2193-1	SOIL	ND*	ND*	510					
B07KQ5	CLP 12283	SOIL	ND*	ND*	490					
B07KQ7	CLP 12284	SOIL	ND*	ND*	1140					
B07KR5	CLP 12286	SOIL	ND*	ND*	560					
B07KR6	CLP 12287	SOIL	ND*	ND*	550					
B07KR6MS	CLP 12287MS	SOIL	ND*	ND*	540					
B07KR6MSD	CLP 12287MSD	SOIL	ND*	ND*	510					
B07KR8	CLP 12288	SOIL	ND*	ND*	520					
* 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.

9613457.1727



ANALYTICAL REPORT

Form ARF-C

Page 3 of 3

Date _____

Agency Identification Number SX-0059-GK

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-T at 500 µg/kg and 2,4,5-TP at 500 µg/kg.

9613457.1728



ANALYTICAL REPORT

Form ARF-AL

Page 1 of 5

Part 1 of 4

MAR 22 1993

Date _____

Agency Identification Number SX-0059-HK

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 February 16, 1993

Date Samples Received at Laboratory February 22, 1993

Analysis

Method of Analysis EPA 8141

Date(s) of Analysis March 08, 1993

Analytical Results

Field Sample Number	Laboratory Number	Sample Type	Azinphos Methyl µg/g	Bolstar µg/g	Chlorpyrifos µg/g	Coumaphos µg/g	Demeton-S µg/g	Diazinon µg/g	Dichlorvos µg/g	Disulfoton µg/g
QC-2194-1	QC-2194-1	SOIL	ND*	ND*	ND*	ND*	ND*	ND*	ND*	.053
BL-2194-1	BL-2194-1	SOIL	ND*	ND*	ND*	ND*	ND*	ND*	ND*	ND*
B07KQ5	CLP 12283	SOIL	ND*	ND*	ND*	ND*	ND*	ND*	ND*	ND*
B07KQ7	CLP 12284	SOIL	ND*	ND*	ND*	ND*	ND*	ND*	ND*	ND*
B07KR5	CLP 12286	SOIL	ND*	ND*	ND*	ND*	ND*	ND*	ND*	ND*
B07KR6	CLP 12287	SOIL	ND*	ND*	ND*	ND*	ND*	ND*	ND*	ND*
B07KR6MS	CLP 12287MS	SOIL	ND*	ND*	ND*	ND*	ND*	ND*	ND*	.057
B07KR6MSD	CLP 12287MSD	SOIL	ND*	ND*	ND*	ND*	ND*	ND*	ND*	.058
B07KR8	CLP 12288	SOIL	ND*	ND*	ND*	ND*	ND*	ND*	ND*	ND*
Limit of Detection			.01	.01	.01	.01	.01	.01	.01	.01

† 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: Don Wickman
 Laboratory Supervisor: Jose C. Danino

9613457.1729



ANALYTICAL REPORT

Form ARF-AL

Page 2 of 5

Part 2 of 4

Date MAR 22 1993Agency Identification Number SX-0059-HKAccount 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 February 16, 1993Date Samples Received at Laboratory February 22, 1993

Analysis

Method of Analysis EPA 8141Date(s) of Analysis March 08, 1993

Analytical Results

Field Sample Number	Laboratory Number	Sample Type	Ethoprop µg/g	Fensulfothion µg/g	Penthion µg/g	Merphos µg/g	Hevinphos µg/g	Naled µg/g	Parathion methyl µg/g	Phorate µg/g
QC-2194-1	QC-2194-1	SOIL	ND*	ND*	ND*	ND*	ND*	ND*	.061	.051
BL-2194-1	BL-2194-1	SOIL	ND*	ND*	ND*	ND*	ND*	ND*	ND*	ND*
B07KQ5	CLP 12283	SOIL	ND*	ND*	ND*	ND*	ND*	ND*	ND*	ND*
B07KQ7	CLP 12284	SOIL	ND*	ND*	ND*	ND*	ND*	ND*	ND*	ND*
B07KR5	CLP 12286	SOIL	ND*	ND*	ND*	ND*	ND*	ND*	ND*	ND*
B07KR6	CLP 12287	SOIL	ND*	ND*	ND*	ND*	ND*	ND*	ND*	ND*
B07KR6MS	CLP 12287MS	SOIL	ND*	ND*	ND*	ND*	ND*	ND*	.076	.060
B07KR6MSD	CLP 12287MSD	SOIL	ND*	ND*	ND*	ND*	ND*	ND*	.081	.060
B07KR8	CLP 12288	SOIL	ND*	ND*	ND*	ND*	ND*	ND*	ND*	ND*
Limit of Detection			.01	.01	.01	.01	.01	.01	.01	.01

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

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

9613457.1730



ANALYTICAL REPORT

Form ARF-AL

Page 3 of 5

Part 3 of 4

Date MAR 22 1993Agency Identification Number SX-0059-HKAccount 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 February 16, 1993Date Samples Received at Laboratory February 22, 1993

Analysis

Method of Analysis EPA 8141Date(s) of Analysis March 08, 1993

Analytical Results

Field Sample Number	Laboratory Number	Sample Type	Ronnel µg/g	Stirophos µg/g	Dimethoate µg/g	EPN µg/g	Malathion µg/g	Monocrotophos µg/g	Parathion µg/g	SULFOSEP µg/g
QC-2194-1	QC-2194-1	SOIL	ND*	ND*	ND*	ND*	ND*	ND*	ND*	ND*
BL-2194-1	BL-2194-1	SOIL	ND*	ND*	ND*	ND*	ND*	ND*	ND*	ND*
B07KQ5	CLP 12283	SOIL	ND*	ND*	ND*	ND*	ND*	ND*	ND*	ND*
B07KQ7	CLP 12284	SOIL	ND*	ND*	ND*	ND*	ND*	ND*	ND*	ND*
B07KR5	CLP 12286	SOIL	ND*	ND*	ND*	ND*	ND*	ND*	ND*	ND*
B07KR6	CLP 12287	SOIL	ND*	ND*	ND*	ND*	ND*	ND*	ND*	ND*
B07KR6MS	CLP 12287MS	SOIL	ND*	ND*	ND*	ND*	ND*	ND*	ND*	ND*
B07KR6MSD	CLP 12287MSD	SOIL	ND*	ND*	ND*	ND*	ND*	ND*	ND*	ND*
B07KR8	CLP 12288	SOIL	ND*	ND*	ND*	ND*	ND*	ND*	ND*	ND*
Limit of Detection			.01	.01	.01	.01	.01	.01	.01	.01

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

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

9613457.1731



ENVIRONMENTAL SOIL REPORT

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

Date
Agency Identification Number SX-0059-FK
Account No. 3534C

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



Telephone (509) 373-3225

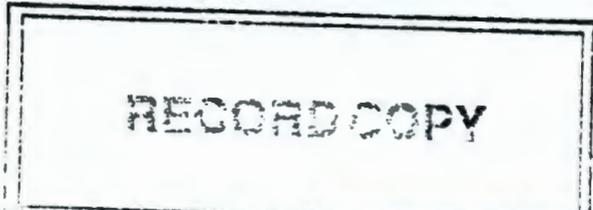
Sampling Collection and Shipment

Sampling Site
Date of Collection February 16, 1993
Date Samples Received at Laboratory February 22, 1993

Analytical Results

Table with columns: Parameter Name, Analysis Date, Units, Method, Field Number, Lab Number, B07KR3, B07KR5, B07KR6, B07KR8, and Limit of Detection. Rows include Fluoride (F), Chloride (Cl), Phosphate (PO4-P), Sulfate (SO4), Nitrate (NO3-N + NO2-N), and Chromium VI.

† 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.)



Analyst: Jennifer K. Richerson
Reviewer: Katherine Kellersberger
Laboratory Supervisor: Michael P. Beesley

9613457.1732



ENVIRONMENTAL SOIL REPORT

Form EPRS-C

Page 2 of 2

Date _____

Agency Identification Number SX-0059-EK

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.

9613457.1733



ENVIRONMENTAL SOIL REPORT

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

Date _____

Agency Identification Number SX-0059-EK

Account No. 3534C

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 _____ of Collection February 16, 1993

Date Samples Received at Laboratory February 22, 1993

Analytical Results

Parameter Name	Field Number	Lab Number	B07KR5	B07KR6	B07KR8	B07KR2	Limit of Detection
Total Petroleum Hydrocarbons							
03/08/1993							
418.1 [1] 3550 [2]			60	60	ND*	1700	10

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

RECORD COPY

Lex J. Pearce
 Analyst: Lex J. Pearce

David W. Thomas
 Reviewer: David W. Thomas

Suzanne W. Bowe for MPE
 Laboratory Supervisor: Michael P. Beasley

9613457.1734



ENVIRONMENTAL SOIL REPORT

Form EPRS-C

Page 2 of 2

Date _____

Agency Identification Number SX-0059-EK

General Set Comments

Additional QC data with SX-0050-EJ and S93-0091-EI.

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.

9613457.1735

**DATA CHEM LABORATORIES
960 WEST LEVOY DRIVE
SALT LAKE CITY, UTAH 84123**

Company: WESTINGHOUSE HANFORD

Case #: WHC42		SDG: WHCI42		DCL SET ID: SX-0059		AK-CK	
Fraction: Inorganic							
Client Sample #	Lab Sample #	EPA Sample #	Matrix	Analyzed for			
B07KR3	CLP 12285	M12171	SOIL	P,F,CV			
MATRIX DUPL	CLP 12285	M12285D	SOIL	P,F,CV			
MATRIX SPIKE	CLP 12285	M12285S	SOIL	P,F,CV			
B07KR5	CLP 12286	M12286	SOIL	P,F,CV			
B07KR6	CLP 12287	M12287	SOIL	P,F,CV			
B07KR8	CLP 12288	M12288	SOIL	P,F,CV			
B07KS2	CLP 12289	M12289	SOIL	P,F,CV			



1

Analysis Key	
P	ICP
F	GFAA
CV	Mercury
AS	Cyanide

Please read this Case Narrative before screening this case

SDG: WHCI42

Case: WHC42

Please note that this case was digested using the Microwave Digestion Procedure found in Exhibit D, Section III,C of ILM01.2. Please note on Form 13 that the weights and volumes are different than those of Conventional Hood Digestion, as per Contract. All method flags using this digestion procedure have "M" added to signify this digestion.

All values in this deliverable are calculated by the computer software. Variations from form to form in the last significant digit by + or - 1, are caused by the computer software. This occurs most often in forms 1, 5a, 5b, 6, 8 and 9.

ENVIROFORMS/INORGANIC CLP

COVER PAGE - INORGANIC ANALYSES DATA PACKAGE

Lab Name: DataChem Laboratories

Contract: WHC

Lab Code: DATAC

Case No.: WHC42

SAS No.:

SDG No.: WHCI42

SOW No.: ILM01.0

Sample No.

Lab Sample ID.

M12285
M12285D
M12285S
M12286
M12287
M12288
M12289

CLP12285
CLP12285
CLP12285
CLP12286
CLP12287
CLP12288
CLP12289

Were ICP interelement corrections applied?

Yes/No YES

Were ICP background corrections applied?
If yes, were raw data generated before
application of background corrections?

Yes/No YES

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: [Handwritten Signature]

Name: Glenn Stephens

Date: March 30, 1975

Title: SECTION MANAGER

ENVIROFORMS/INORGANIC CLP

SAMPLE NO.

1
INORGANIC ANALYSIS DATA SHEET

M12285

Lab Name: DataChem Laboratories

Contract: WHC

Lab Code: DATAC

Case No.: WHC42

SAS No.:

SDG No.: WHCI42

Matrix (soil/water): SOIL

Lab Sample ID: CLP12285

Level (low/med): LOW

Date Received: 02/22/93

% Solids: 95.4

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	7950			P
7440-36-0	Antimony	9.4	U	NS*	P
7440-38-2	Arsenic	2.3			FM
7440-39-3	Barium	71.3			P
7440-41-7	Beryllium	0.39	B		P
7440-43-9	Cadmium	0.63	U		P
7440-70-2	Calcium	4300			P
7440-47-3	Chromium	11.4			P
7440-48-4	Cobalt	7.8	B		P
7440-50-8	Copper	17.3			P
7439-89-6	Iron	16300			P
7439-92-1	Lead	4.7		NS*	FM
7439-95-4	Magnesium	4120			P
7439-96-5	Manganese	267		N	P
7439-97-6	Mercury	0.10	U	N	CV
7440-02-0	Nickel	6.7	B		P
7440-09-7	Potassium	1600			P
7782-49-2	Selenium	0.24	B		FM
7440-22-4	Silver	0.63	U		P
7440-23-5	Sodium	411	B	E	P
7440-28-0	Thallium	0.10	B		FM
7440-62-2	Vanadium	35.2			P
7440-66-6	Zinc	33.6			P
	Cyanide				NR

Color Before: BROWN

Clarity Before:

Texture: FINE

Color After: COLORLESS

Clarity After:

Artifacts:

Comments:

E - ICP SERIAL DILUTION IS OUTSIDE OF CONTROL LIMITS.

ENVIROFORMS/INORGANIC CLP

SAMPLE NO.

1
INORGANIC ANALYSIS DATA SHEET

M12286

Lab Name: DataChem Laboratories

Contract: WHC

Lab Code: DATAC

Case No.: WHC42

SAS No.:

SDG No.: WHCI42

Matrix (soil/water): SOIL

Lab Sample ID: CLP12286

Level (low/med): LOW

Date Received: 02/22/93

% Solids: 90.9

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	11800			P
7440-36-0	Antimony	9.9	U	N*	P
7440-38-2	Arsenic	5.7			FM
7440-39-3	Barium	88.0			P
7440-41-7	Beryllium	0.56	B		P
7440-43-9	Cadmium	1.2			P
7440-70-2	Calcium	11300			P
7440-47-3	Chromium	17.8			P
7440-48-4	Cobalt	10.2	B		P
7440-50-8	Copper	25.4			P
7439-89-6	Iron	20800			P
7439-92-1	Lead	19.7		N*	FM
7439-95-4	Magnesium	6460			P
7439-96-5	Manganese	310		N	P
7439-97-6	Mercury	0.11	U	N	CV
7440-02-0	Nickel	17.0			P
7440-09-7	Potassium	2090			P
7782-49-2	Selenium	0.41	B	S	FM
7440-22-4	Silver	0.95	B		P
7440-23-5	Sodium	413	B	E	P
7440-28-0	Thallium	0.11	U		FM
7440-62-2	Vanadium	41.1			P
7440-66-6	Zinc	92.3			P
	Cyanide				NR

Color Before: BROWN

Clarity Before:

Texture: FINE

Color After: COLORLESS

Clarity After:

Artifacts:

Comments:

E - ICP SERIAL DILUTION IS OUTSIDE OF CONTROL LIMITS.

9613457.1740

ENVIROFORMS/INORGANIC CLP

SAMPLE NO.

1
INORGANIC ANALYSIS DATA SHEET

M12287

Lab Name: DataChem Laboratories

Contract: WHC

Lab Code: DATAC

Case No.: WHC42

SAS No.:

SDG No.: WHCI42

Matrix (soil/water): SOIL

Lab Sample ID: CLP12287

Level (low/med): LOW

Date Received: 02/22/93

% Solids: 90.6

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	11900			P
7440-36-0	Antimony	10.7	B	N*	P
7440-38-2	Arsenic	6.0			FM
7440-39-3	Barium	86.4			P
7440-41-7	Beryllium	0.56	B		P
7440-43-9	Cadmium	1.0	B		P
7440-70-2	Calcium	11000			P
7440-47-3	Chromium	18.4			P
7440-48-4	Cobalt	11.7			P
7440-50-8	Copper	24.4			P
7439-89-6	Iron	20600			P
7439-92-1	Lead	20.5		N*	FM
7439-95-4	Magnesium	6320			P
7439-96-5	Manganese	303		N	P
7439-97-6	Mercury	0.11	U	N	CV
7440-02-0	Nickel	13.4			P
7440-09-7	Potassium	2130			P
7782-49-2	Selenium	0.37	B	W	FM
7440-22-4	Silver	1.1	B		P
7440-23-5	Sodium	412	B	E	P
7440-28-0	Thallium	0.13	B		FM
7440-62-2	Vanadium	39.9			P
7440-66-6	Zinc	88.2			P
	Cyanide				NR

Color Before: BROWN

Clarity Before:

Texture: FINE

Color After: COLORLESS

Clarity After:

Artifacts:

Comments:

E - ICP SERIAL DILUTION IS OUTSIDE OF CONTROL LIMITS.

6

FORM I - IN

9613457.1741

ENVIROFORMS/INORGANIC CLP

SAMPLE NO.

1
INORGANIC ANALYSIS DATA SHEET

M12288

Lab Name: DataChem Laboratories

Contract: WHC

Lab Code: DATAC

Case No.: WHC42

SAS No.:

SDG No.: WHCI42

Matrix (soil/water): SOIL

Lab Sample ID: CLP12288

Level (low/med): LOW

Date Received: 02/22/93

% Solids: 100.0

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	43.6			P
7440-36-0	Antimony	9.0	U	N*	P
7440-38-2	Arsenic	0.18	B		FM
7440-39-3	Barium	0.58	B		P
7440-41-7	Beryllium	0.20	U		P
7440-43-9	Cadmium	0.60	U		P
7440-70-2	Calcium	16.3	B		P
7440-47-3	Chromium	0.80	U		P
7440-48-4	Cobalt	1.2	U		P
7440-50-8	Copper	1.5	B		P
7439-89-6	Iron	320			P
7439-92-1	Lead	0.18	B	N*	FM
7439-95-4	Magnesium	6.1	B		P
7439-96-5	Manganese	0.20	U	N	P
7439-97-6	Mercury	0.10	U	N	CV
7440-02-0	Nickel	3.8	U		P
7440-09-7	Potassium	171	B		P
7782-49-2	Selenium	0.27	B		FM
7440-22-4	Silver	0.77	B		P
7440-23-5	Sodium	18.2	B	E	P
7440-28-0	Thallium	0.10	U		FM
7440-62-2	Vanadium	0.80	U		P
7440-66-6	Zinc	1.2	U		P
	Cyanide				NR

Color Before: WHITE

Clarity Before:

Texture: MEDIUM

Color After: COLORLESS

Clarity After:

Artifacts:

Comments:

E - ICP SERIAL DILUTION IS OUTSIDE OF CONTROL LIMITS.

ENVIROFORMS/INORGANIC CLP

SAMPLE NO.

1
INORGANIC ANALYSIS DATA SHEET

M12289

Lab Name: DataChem Laboratories

Contract: WHC

Lab Code: DATAC

Case No.: WHC42

SAS No.:

SDG No.: WHCI42

Matrix (soil/water): SOIL

Lab Sample ID: CLP12289

Level (low/med): LOW

Date Received: 02/22/93

% Solids: 94.5

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	8450			P
7440-36-0	Antimony	19.9		N*	P
7440-38-2	Arsenic	3.4			FM
7440-39-3	Barium	95.6			P
7440-41-7	Beryllium	0.52	B		P
7440-43-9	Cadmium	0.63	U		P
7440-70-2	Calcium	11000			P
7440-47-3	Chromium	10.2			P
7440-48-4	Cobalt	11.0			P
7440-50-8	Copper	18.2			P
7439-89-6	Iron	20000			P
7439-92-1	Lead	68.5		N*	FM
7439-95-4	Magnesium	4420			P
7439-96-5	Manganese	391		N	P
7439-97-6	Mercury	0.11	U	N	CV
7440-02-0	Nickel	8.8			P
7440-09-7	Potassium	1430			P
7782-49-2	Selenium	0.32	B		FM
7440-22-4	Silver	0.94	B		P
7440-23-5	Sodium	610	B	E	P
7440-28-0	Thallium	0.14	B		FM
7440-62-2	Vanadium	51.5			P
7440-66-6	Zinc	56.5			P
	Cyanide				NR

Color Before: BROWN

Clarity Before:

Texture: MEDIUM

Color After: COLORLESS

Clarity After:

Artifacts:

Comments:

E - ICP SERIAL DILUTION IS OUTSIDE OF CONTROL LIMITS.

9613457.1743

Golder Associates Inc.

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



June 22, 1993

Our ref: 893-1458
WHC/O/381

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 G-93-58, TRANSMITTAL OF
DATA VALIDATION PACKAGES

Dear Ms. Colley:

Enclosed are six complete analytical data packages including associated data validation documentation for a North Slope ERA sample 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:

- B07KQ6-DAT-234
- B07KQ4-DAT-233
- B07KR5-DAT-236
- B07KR4-DAT-232
- B07GM7-DAT-205
- B07GP0-DAT-194

The validation documentation is located at the front of the data package folder.

Please call if you have any questions.

Sincerely,

GOLDER ASSOCIATES INC.

A handwritten signature in black ink, appearing to read 'Kent M. Angelos'.

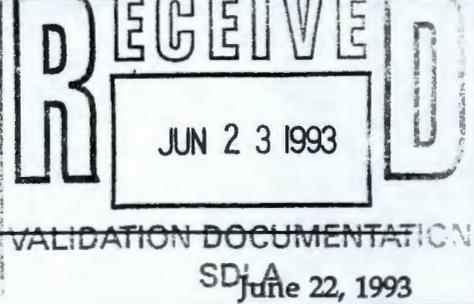
Kent M. Angelos
Project Manager

A handwritten signature in black ink, appearing to read 'Donald M. Caldwell'.

Donald M. Caldwell
Project Director

Enclosures

cc: George Henckel, WHC



MEMORANDUM

TO: North Slope ERA Data Validation Project QA Record

FR: Tom Stapp, Golder Associates Inc. *TS*

RE: Data Validation Summary for Data Package: B07KR5-DAT-236

VALIDATION DOCUMENTATION
SD/A June 22, 1993

INTRODUCTION

This memo presents the results of data validation and verification on data package B07KR5-DAT-236 consisting of seven soil samples submitted for volatile, semivolatile, pesticide/PCB, organochlorine herbicides, organophosphorus pesticides, metals, general chemistry and total recoverable petroleum hydrocarbons analysis. 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
B07KR3	2/16/93	—	—	—	—	—	X	X	—
B07KR5	2/16/93	X	X	X	X	X	X	X	X
B07KR6	2/16/93	X	X	X	X	X	X	X	X
B07KR8	2/16/93	X	X	X	X	X	X	X	X
B07KS2	2/17/93	—	—	—	—	—	X	—	X
B07KQ5	2/16/93	—	X	X	X	X	—	—	—
B07KQ7	2/16/93	—	X	X	X	X	—	—	—

X - denotes sample analyzed for indicated analysis.

Data verification and validation was conducted in accordance with the WHC statement of work (WHC 1993) and validation procedures (Bechtold 1992). Attachment 1 provides copies of the verified laboratory reports and Attachment 2 provides data validation supporting documentation.

DATA QUALITY OBJECTIVES

Sample Result Verification. The data package was complete for all requested items and all results were supported in the raw data. The total phosphate result for samples B07KR5 and B07KR6 were reported incorrectly and have been corrected on the laboratory report form.

MAJOR DEFICIENCIES

No major deficiencies were identified requiring qualification of data.

The semivolatile tentatively identified compounds (TICs) identified as aldol condensation products in samples B07KQ5, B07KQ7, B07KR5, B07KR6 and B07KR8 have been rejected (R) since they are suspected laboratory contaminants.

MINOR DEFICIENCIESVolatile Blanks

Methylene chloride was detected in the laboratory method blank and samples B07KR5, B07KR6, and B07KR8 and toluene in the blank and sample B07KR6. Therefore all associated sample results have been qualified as undetected (U).

Semi-volatile Blanks

Bis(2-ethylhexyl)phthalate was detected in the laboratory method blank and sample B07KR8, therefore, the sample result has been qualified as undetected (U).

Pesticide/PCB Blanks

Endosulfan II was detected in the laboratory method blank and sample B07KR6, therefore, the sample result has been qualified as undetected (U).

Metals Blanks

The following analytes were detected in the laboratory blank and the samples indicated; Silver for samples B07KR5, B07KR6, B07KR8 and B07KS2, selenium for samples B07KR3, B07KR5, B07KR6, B07KR8 and B07KS2, beryllium for samples B07KR5, B07KR6, and B07KS2, and magnesium, potassium, calcium, sodium, lead, and barium for sample B07KR8. The aforementioned analytes for 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

VERIFIED LABORATORY REPORTS

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1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B07KR5

Lab Name: DATA CHEM LABORATORIES Contract: 3534
 Lab Code: DATAC Case No. WHC42 SAS No.: SDG No.: WHCO42
 Matrix: (soil/water) SOIL Lab Sample ID: CLP-12286
 Sample wt/vol: 30.0 (g/ml) G Lab File ID:
 % Moisture: 9 decanted: (Y/N) N Date Received: 2/22/93
 Extraction: (SepF/Cont/Sonc) SONC Date Extracted: 3/01/93
 Concentrated Extract Volume: 5000 (uL) Date Analyzed: 3/12/93
 Injection Volume: 2.0 (uL) Dilution Factor: 1.0
 GPC Cleanup: (Y/N) Y pH: 8.0 Sulfur Cleanup: (Y/N) N

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

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	1.6	J
72-55-9-----	4,4'-DDE	0.55	JP
72-20-8-----	Endrin	3.6	U
33213-65-9----	Endosulfan II	3.6	U
72-54-8-----	4,4'-DDD	1.1	P
1031-07-8-----	Endosulfan sulfate	3.6	U
50-29-3-----	4,4'-DDT	3.2	JP
72-43-5-----	Methoxychlor	7.6	J
53494-70-5----	Endrin ketone	3.6	U
7421-36-3-----	Endrin aldehyde	3.6	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	36.	U
11104-28-2----	Aroclor-1221	74.	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.

B07KQ7

Lab Name: DATA CHEM LABORATORIES

Contract: 3534

Lab Code: DATA C

Case No. WHC42 SAS No.:

SDG No.: WHC042

Matrix: (soil/water) SOIL

Lab Sample ID: CLP-12284

Sample wt/vol: 30.0 (g/ml) G

Lab File ID:

% Moisture: 4 decanted: (Y/N) N

Date Received: 2/22/93

Extraction: (SepF/Cont/Sonc) SONC

Date Extracted: 3/01/93

Concentrated Extract Volume: 5000 (uL)

Date Analyzed: 3/12/93

Injection Volume: 2.0 (uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 8.5

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	1.8	U
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	U
60-57-1-----	Dieldrin	3.4	U
72-55-9-----	4,4'-DDE	3.4	U
72-20-8-----	Endrin	3.4	U
33213-65-9-----	Endosulfan II	3.4	U
72-54-8-----	4,4'-DDD	3.4	U
1031-07-8-----	Endosulfan sulfate	3.4	U
50-29-3-----	4,4'-DDT	3.4	U
72-43-5-----	Methoxychlor	18.	U
53494-70-5-----	Endrin ketone	3.4	U
7421-36-3-----	Endrin aldehyde	3.4	U
5103-71-9-----	alpha-Chlordane	1.8	U
5103-74-2-----	gamma-Chlordane	1.8	U
8001-35-2-----	Toxaphene	180.	U
12674-11-2-----	Aroclor-1016	34.	U
11104-28-2-----	Aroclor-1221	70.	U
11141-16-5-----	Aroclor-1232	34.	U
53469-21-9-----	Aroclor-1242	34.	U
12672-29-6-----	Aroclor-1248	34.	U
11097-69-1-----	Aroclor-1254	34.	U
11096-82-5-----	Aroclor-1260	34.	U

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FORM I PEST

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1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B07KQ5

Lab Name: DATA CHEM LABORATORIES Contract: 3534
 Lab Code: DATAC Case No. WHC42 SAS No.: SDG No.: WHC042
 Matrix: (soil/water) SOIL Lab Sample ID: CLP-12283
 Sample wt/vol: 30.0 (g/ml) G Lab File ID:
 % Moisture: 3 decanted: (Y/N) N Date Received: 2/22/93
 Extraction: (SepF/Cont/Sonc) SONC Date Extracted: 3/01/93
 Concentrated Extract Volume: 5000 (uL) Date Analyzed: 3/12/93
 Injection Volume: 2.0 (uL) Dilution Factor: 1.0
 GPC Cleanup: (Y/N) Y pH: 8.0 Sulfur Cleanup: (Y/N) N

CAS NO.	COMPOUND	CONCENTRATION UNITS (ug/L or ug/Kg) UG/KG	Q
319-84-6	alpha-BHC	1.8	U
319-85-7	beta-BHC	1.8	U
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	U
60-57-1	Dieldrin	3.4	U
72-55-9	4,4'-DDE	3.4	U
72-20-8	Endrin	3.4	U
33213-65-9	Endosulfan II	3.4	U
72-54-8	4,4'-DDD	3.4	U
1031-07-8	Endosulfan sulfate	0.079	JP
50-29-3	4,4'-DDT	3.4	U
72-43-5	Methoxychlor	18.	U
53494-70-5	Endrin ketone	3.4	U
7421-36-3	Endrin aldehyde	3.4	U
5103-71-9	alpha-Chlordane	1.8	U
5103-74-2	gamma-Chlordane	1.8	U
8001-35-2	Toxaphene	180.	U
12674-11-2	Aroclor-1016	34.	U
11104-28-2	Aroclor-1221	69.	U
11141-16-5	Aroclor-1232	34.	U
53469-21-9	Aroclor-1242	34.	U
12672-29-6	Aroclor-1248	34.	U
11097-69-1	Aroclor-1254	34.	U
11096-82-5	Aroclor-1260	34.	U

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1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B07KR6

Lab Name: DATACHEM LABORATORIES

Contract: 3534

Lab Code: DATAC

Case No. WHC42

SAS No.:

SDG No.: WHC042

Matrix: (soil/water) SOIL

Lab Sample ID: CLP-12287

Sample wt/vol: 30.0 (g/ml)G

Lab File ID:

% Moisture: 9 decanted: (Y/N) N

Date Received: 2/22/93

Extraction: (SepF/Cont/Sonc) SONC

Date Extracted: 3/01/93

Concentrated Extract Volume: 5000 (uL)

Date Analyzed: 3/12/93

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	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	1.6	JP
72-55-9-----	4,4'-DDE	0.55	JP
72-20-8-----	Endrin	3.6	U
33213-65-9----	Endosulfan II	0.57	PB
72-54-8-----	4,4'-DDD	1.2	P
1031-07-8-----	Endosulfan sulfate	3.6	U
50-29-3-----	4,4'-DDT	3.1	J
72-43-5-----	Methoxychlor	6.4	J
53494-70-5----	Endrin ketone	3.6	U
7421-36-3-----	Endrin aldehyde	3.6	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	36.	U
11104-28-2----	Aroclor-1221	74.	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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FORM I PEST

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1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B07KR8

Lab Name: DATA CHEM LABORATORIES Contract: 3534

Lab Code: DATA C Case No. WHC42 SAS No.: SDG No.: WHC042

Matrix: (soil/water) SOIL Lab Sample ID: CLP-12288

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

% Moisture: 0 decanted: (Y/N) N Date Received: 2/22/93

Extraction: (SepF/Cont/Sonc) SONC Date Extracted: 3/01/93

Concentrated Extract Volume: 5000 (uL) Date Analyzed: 3/12/93

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 8.3 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	5.5	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

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FORM I PEST

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ANALYTICAL REPORT

Form ARF-AL

Page 1 of 3

Part 1 of 2

Date _____
 Agency Identification Number SX-0059-GK
 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 February 16, 1993
 Date Samples Received at Laboratory February 22, 1993

Analysis

Method of Analysis EPA 8150
 Date(s) of Analysis March 26, 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	2,5-TP (Sivex) µg/kg	Dalapon µg/kg	Dicamba µg/kg	Dichloroprop µg/kg	Dinoseb µg/kg
QC-2193-1	QC-2193-1	SOIL	950	ND*	470	490	ND*	ND*	ND*	ND*
BL-2193-1	BL-2193-1	SOIL	ND*	ND*	ND*	ND*	ND*	ND*	ND*	ND*
B07KQ5	CLP 12283	SOIL	ND*	ND*	ND*	ND*	ND*	ND*	ND*	ND*
B07KQ7	CLP 12284	SOIL	ND*	ND*	ND*	ND*	ND*	ND*	ND*	ND*
B07KR5	CLP 12286	SOIL	ND*	ND*	ND*	ND*	ND*	ND*	ND*	ND*
B07KR6	CLP 12287	SOIL	ND*	ND*	ND*	ND*	ND*	ND*	ND*	ND*
B07KR6MS	CLP 12287MS	SOIL	920	ND*	460	480	ND*	ND*	ND*	ND*
B07KR6MSD	CLP 12287MSD	SOIL	910	ND*	440	470	ND*	ND*	ND*	ND*
B07KR8	CLP 12288	SOIL	ND*	ND*	ND*	ND*	ND*	ND*	ND*	ND*
† Limit of Detection			100	500	50	50	200	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.

6/18/93

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Analyst: John Meikle
 Reviewer: David R. Fischer
 Laboratory Supervisor: Jose C. Danino

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ANALYTICAL REPORT

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Page 2 of 3
Part 2 of 2

Date
Agency Identification Number SX-0059-GK
Account No. 3534C

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MSIN H4-23 345 Hill Street/300 Area
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Sampling Collection and Shipment

Sampling Site Date of Collection February 16, 1993
Date Samples Received at Laboratory February 22, 1993

Analysis

Method of Analysis EPA 8150
Date(s) of Analysis March 26, 1993

Analytical Results

Table with columns: Field Sample Number, Laboratory Number, Sample Type, MCPA µg/kg, MCPP µg/kg, DCAA µg/kg. Rows include sample IDs like QC-2193-1, BL-2193-1, B07KQ5, etc., with values like ND* or 520.

† See comment on last page.
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ANALYTICAL REPORT

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Page 1 of 5

Part 1 of 4

MAR 22 1993

Date _____

Agency Identification Number SX-0059-HK

Accession 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
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Sampling Collection and Shipment

Sampling Site _____ Date of Collection February 16, 1993

Date Samples Received at Laboratory February 22, 1993

Analysis

Method of Analysis EPA 8141

Date(s) of Analysis March 08, 1993

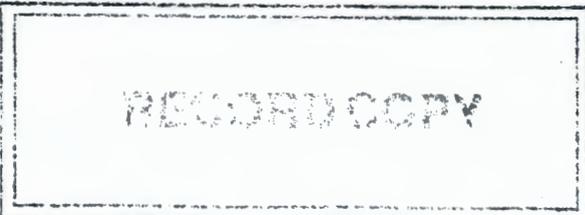
Analytical Results

Field Sample Number	Laboratory Number	Sample Type	Azinphos Methyl µg/g	Bolstar µg/g	Chlorpyrifos µg/g	Coumaphos µg/g	Demeton-S µg/g	Diazinon µg/g	Dichlorvos µg/g	Disulfoton µg/g
QC-2194-1	QC-2194-1	SOIL	ND*	ND*	ND*	ND*	ND*	ND*	ND*	.053
BL-2194-1	BL-2194-1	SOIL	ND*	ND*	ND*	ND*	ND*	ND*	ND*	ND*
B07KQ5	CLP 12283	SOIL	ND*	ND*	ND*	ND*	ND*	ND*	ND*	ND*
B07KQ7	CLP 12284	SOIL	ND*	ND*	ND*	ND*	ND*	ND*	ND*	ND*
B07KR5	CLP 12286	SOIL	ND*	ND*	ND*	ND*	ND*	ND*	ND*	ND*
B07KR6	CLP 12287	SOIL	ND*	ND*	ND*	ND*	ND*	ND*	ND*	ND*
B07KR6MS	CLP 12287MS	SOIL	ND*	ND*	ND*	ND*	ND*	ND*	ND*	.057
B07KR6MSD	CLP 12287MSD	SOIL	ND*	ND*	ND*	ND*	ND*	ND*	ND*	.058
B07KR8	CLP 12288	SOIL	ND*	ND*	ND*	ND*	ND*	ND*	ND*	ND*
* Limit of Detection			.01	.01	.01	.01	.01	.01	.01	.01

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

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Handwritten signature: Kuang C. Tang
 Analyst: Kuang C. Tang
Handwritten signature: Don Wickman
 Reviewer: Don Wickman
Handwritten signature: Jose C. Danino
 Laboratory Supervisor: Jose C. Danino

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ANALYTICAL REPORT

Form ARF-AL

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Part 2 of 4

Date MAR 22 1993Agency Identification Number SX-0059-HKAccount 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 February 16, 1993Date Samples Received at Laboratory February 22, 1993

Analysis

Method of Analysis EPA 8141Date(s) of Analysis March 08, 1993

Analytical Results

Field Sample Number	Laboratory Number	Sample Type	Ethoprop µg/g	Fensulfothion µg/g	Fenthion µg/g	Merphos µg/g	Mevinphos µg/g	Malathion µg/g	Parathion methyl µg/g	Phorate µg/g
QC-2194-1	QC-2194-1	SOIL	ND*	ND*	ND*	ND*	ND*	ND*	.061	.051
BL-2194-1	BL-2194-1	SOIL	ND*	ND*	ND*	ND*	ND*	ND*	ND*	ND*
B07KQ5	CLP 12283	SOIL	ND*	ND*	ND*	ND*	ND*	ND*	ND*	ND*
B07KQ7	CLP 12284	SOIL	ND*	ND*	ND*	ND*	ND*	ND*	ND*	ND*
B07KR5	CLP 12286	SOIL	ND*	ND*	ND*	ND*	ND*	ND*	ND*	ND*
B07KR6	CLP 12287	SOIL	ND*	ND*	ND*	ND*	ND*	ND*	ND*	ND*
B07KR6MS	CLP 12287MS	SOIL	ND*	ND*	ND*	ND*	ND*	ND*	.076	.060
B07KR6MSD	CLP 12287MSD	SOIL	ND*	ND*	ND*	ND*	ND*	ND*	.081	.060
B07KR8	CLP 12288	SOIL	ND*	ND*	ND*	ND*	ND*	ND*	ND*	ND*
* Limit of Detection			.01	.01	.01	.01	.01	.01	.01	.01

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ND Parameter not detected.
NR Parameter not requested.

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() Parameter between LOD and LoQ.

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2/6/18/93

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ANALYTICAL REPORT

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

Date MAR 22 1993
 Agency Identification Number SX-0059-HK
 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 February 16, 1993
 Date Samples Received at Laboratory February 22, 1993

Analysis

Method of Analysis EPA 8141
 Date(s) of Analysis March 08, 1993

Analytical Results

Field Sample Number	Laboratory Number	Sample Type	TEPP µg/g	TPP µg/g						
QC-2194-1	QC-2194-1	SOIL	ND*	.37						
BL-2194-1	BL-2194-1	SOIL	ND*	.37						
B07KQ5	CLP 12283	SOIL	ND*	.33						
B07KQ7	CLP 12284	SOIL	ND*	.37						
B07KR5	CLP 12286	SOIL	ND*	.45						
B07KR6	CLP 12287	SOIL	ND*	.46						
B07KR6MS	CLP 12287MS	SOIL	ND*	.45						
B07KR6MSD	CLP 12287MSD	SOIL	ND*	.46						
B07KR8	CLP 12288	SOIL	ND*	.45						
* Limit of Detection			.01	.01						

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

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

JS 6/18/93

9613457.1757



ANALYTICAL REPORT

Form ARF-AL
Page 3 of 5
Part 3 of 4

Date MAR 22 1993
Agency Identification Number SX-0059-HK
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 February 16, 1993
Date Samples Received at Laboratory February 22, 1993

Analysis

Method of Analysis EPA 8141
Date(s) of Analysis March 08, 1993

Analytical Results

Field Sample Number	Laboratory Number	Sample Type	Ronnel µg/g	stirophos µg/g	Dimethoate µg/g	EPN µg/g	Malathion µg/g	Monocrotophos µg/g	Parathion µg/g	SULFOREP µg/g
QC-2194-1	QC-2194-1	SOIL	ND*	ND*	ND*	ND*	ND*	ND*	ND*	ND*
BL-2194-1	BL-2194-1	SOIL	ND*	ND*	ND*	ND*	ND*	ND*	ND*	ND*
B07KQ5	CLP 12283	SOIL	ND*	ND*	ND*	ND*	ND*	ND*	ND*	ND*
B07KQ7	CLP 12284	SOIL	ND*	ND*	ND*	ND*	ND*	ND*	ND*	ND*
B07KR5	CLP 12286	SOIL	ND*	ND*	ND*	ND*	ND*	ND*	ND*	ND*
B07KR6	CLP 12287	SOIL	ND*	ND*	ND*	ND*	ND*	ND*	ND*	ND*
B07KR6MS	CLP 12287MS	SOIL	ND*	ND*	ND*	ND*	ND*	ND*	ND*	ND*
B07KR6MSD	CLP 12287MSD	SOIL	ND*	ND*	ND*	ND*	ND*	ND*	ND*	ND*
B07KR8	CLP 12288	SOIL	ND*	ND*	ND*	ND*	ND*	ND*	ND*	ND*
* Limit of Detection			.01	.01	.01	.01	.01	.01	.01	.01

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

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

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3/6/18/93

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B07KQ5

Lab Name: DATA CHEM LABS Contract: 3534

Lab Code: DATA C Case No.: WHC42 SAS No.: _____ SDG No.: WHCO42

Matrix: (soil/water) SOIL Lab Sample ID: CLP12283

Sample wt/vol: 30.0 (g/mL) G Lab File ID: AT7CLP283

Level: (low/med) LOW Date Received: 02/22/93

% Moisture: 3 decanted: (Y/N) N Date Extracted: 02/28/93

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 03/15/93

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 8.0

CONCENTRATION UNITS:

CAS NO. COMPOUND (ug/L or ug/Kg) UG/KG Q

108-95-2	Phenol	340	U
111-44-4	bis(2-Chloroethyl) Ether	340	U
95-57-8	2-Chlorophenol	340	U
541-73-1	1,3-Dichlorobenzene	340	U
106-46-7	1,4-Dichlorobenzene	340	U
95-50-1	1,2-Dichlorobenzene	340	U
95-48-7	2-Methylphenol	340	U
108-60-1	2,2'-oxybis(1-Chloropropane)	340	U
106-44-5	4-Methylphenol	340	U
621-64-7	N-Nitroso-Di-n-Propylamine	340	U
67-72-1	Hexachloroethane	340	U
98-95-3	Nitrobenzene	340	U
78-59-1	Isophorone	340	U
88-75-5	2-Nitrophenol	340	U
105-67-9	2,4-Dimethylphenol	340	U
111-91-1	bis(2-Chloroethoxy) Methane	340	U
120-83-2	2,4-Dichlorophenol	340	U
120-82-1	1,2,4-Trichlorobenzene	340	U
91-20-3	Naphthalene	340	U
106-47-8	4-Chloroaniline	340	U
87-68-3	Hexachlorobutadiene	340	U
59-50-7	4-Chloro-3-Methylphenol	340	U
91-57-6	2-Methylnaphthalene	340	U
77-47-4	Hexachlorocyclopentadiene	340	U
88-06-2	2,4,6-Trichlorophenol	340	U
95-95-4	2,4,5-Trichlorophenol	820	U
91-58-7	2-Chloronaphthalene	340	U
88-74-4	2-Nitroaniline	820	U
131-11-3	Dimethylphthalate	340	U
208-96-8	Acenaphthylene	340	U
606-20-2	2,6-Dinitrotoluene	340	U
99-09-2	3-Nitroaniline	820	U
83-32-9	Acenaphthene	340	U

28

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1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B07KQ5

Lab Name: DATA CHEM LABS Contract: 3534

Lab Code: DATA C Case No.: WHC42 SAS No.: _____ SDG No.: WHC042

Matrix: (soil/water) SOIL Lab Sample ID: CLP12283

Sample wt/vol: 30.0 (g/mL) G Lab File ID: AT7CLP283

Level: (low/med) LOW Date Received: 02/22/93

% Moisture: 3 decanted: (Y/N) N Date Extracted: 02/28/93

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 03/15/93

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 8.0

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

CAS NO.	COMPOUND	(ug/L or ug/Kg) UG/KG	Q
51-28-5	2,4-Dinitrophenol	820	U
100-02-7	4-Nitrophenol	820	U
132-64-9	Dibenzofuran	340	U
121-14-2	2,4-Dinitrotoluene	340	U
84-66-2	Diethylphthalate	340	U
7005-72-3	4-Chlorophenyl-phenylether	340	U
86-73-7	Fluorene	340	U
100-01-6	4-Nitroaniline	820	U
534-52-1	4,6-Dinitro-2-methylphenol	820	U
86-30-6	N-Nitrosodiphenylamine (1)	340	U
101-55-3	4-Bromophenyl-phenylether	340	U
118-74-1	Hexachlorobenzene	340	U
87-86-5	Pentachlorophenol	820	U
85-01-8	Phenanthrene	340	U
120-12-7	Anthracene	340	U
86-74-8	Carbazole	340	U
84-74-2	Di-n-Butylphthalate	340	U
206-44-0	Fluoranthene	340	U
129-00-0	Pyrene	340	U
85-68-7	Butylbenzylphthalate	340	U
91-94-1	3,3'-Dichlorobenzidine	340	U
56-55-3	Benzo (a) Anthracene	340	U
218-01-9	Chrysene	340	U
117-81-7	bis (2-Ethylhexyl) Phthalate	340	U
117-84-0	Di-n-Octyl Phthalate	340	U
205-99-2	Benzo (b) Fluoranthene	340	U
207-08-9	Benzo (k) Fluoranthene	340	U
50-32-8	Benzo (a) Pyrene	340	U
193-39-5	Indeno (1,2,3-cd) Pyrene	340	U
53-70-3	Dibenz (a,h) Anthracene	340	U
191-24-2	Benzo (g,h,i) Perylene	340	U

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1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

B07KQ5

Lab Name: DATA CHEM LABS Contract: 3534

Lab Code: DATA C Case No.: WHC42 SAS No.: _____ SDG No.: WHCO42

Matrix: (soil/water) SOIL Lab Sample ID: CLP12283

Sample wt/vol: 30.0 (g/mL) G Lab File ID: AT7CLP283

Level: (low/med) LOW Date Received: 02/22/93

% Moisture: 3 decanted: (Y/N) N Date Extracted: 02/28/93

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 03/15/93

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 8.0

Number TICs found: 3 CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	ALDOL CONDENSATION PRODUCT	9.32	280	ABJ
2.	ALDOL CONDENSATION PRODUCT	10.00	450	ABJ
3.	ALKANE @ C29	34.38	120	J

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*not
6/22/93*

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1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B07KQ7

Lab Name: DATA CHEM LABS Contract: 3534

Lab Code: DATA C Case No.: WHC42 SAS No.: _____ SDG No.: WHCO42

Matrix: (soil/water) SOIL Lab Sample ID: CLP12284

Sample wt/vol: 30.0 (g/mL) G Lab File ID: AV8CLP284

Level: (low/med) LOW Date Received: 02/22/93

% Moisture: 4 decanted: (Y/N) N Date Extracted: 02/28/93

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 03/16/93

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 8.5

CONCENTRATION UNITS:

CAS NO. COMPOUND (ug/L or ug/Kg) UG/KG Q

108-95-2	Phenol	340	U
111-44-4	bis(2-Chloroethyl) Ether	340	U
95-57-8	2-Chlorophenol	340	U
541-73-1	1,3-Dichlorobenzene	340	U
106-46-7	1,4-Dichlorobenzene	340	U
95-50-1	1,2-Dichlorobenzene	340	U
95-48-7	2-Methylphenol	340	U
108-60-1	2,2'-oxybis(1-Chloropropane)	340	U
106-44-5	4-Methylphenol	340	U
621-64-7	N-Nitroso-Di-n-Propylamine	340	U
67-72-1	Hexachloroethane	340	U
98-95-3	Nitrobenzene	340	U
78-59-1	Isophorone	340	U
88-75-5	2-Nitrophenol	340	U
105-67-9	2,4-Dimethylphenol	340	U
111-91-1	bis(2-Chloroethoxy)Methane	340	U
120-83-2	2,4-Dichlorophenol	340	U
120-82-1	1,2,4-Trichlorobenzene	340	U
91-20-3	Naphthalene	340	U
106-47-8	4-Chloroaniline	340	U
87-68-3	Hexachlorobutadiene	340	U
59-50-7	4-Chloro-3-Methylphenol	340	U
91-57-6	2-Methylnaphthalene	340	U
77-47-4	Hexachlorocyclopentadiene	340	U
88-06-2	2,4,6-Trichlorophenol	340	U
95-95-4	2,4,5-Trichlorophenol	830	U
91-58-7	2-Chloronaphthalene	340	U
88-74-4	2-Nitroaniline	830	U
131-11-3	Dimethylphthalate	340	U
208-96-8	Acenaphthylene	340	U
606-20-2	2,6-Dinitrotoluene	340	U
99-09-2	3-Nitroaniline	830	U
83-32-9	Acenaphthene	340	U

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1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B07KQ7

Lab Name: DATA CHEM LABS Contract: 3534

Lab Code: DATA C Case No.: WHC42 SAS No.: _____ SDG No.: WHCO42

Matrix: (soil/water) SOIL Lab Sample ID: CLP12284

Sample wt/vol: 30.0 (g/mL) G Lab File ID: AV8CLP284

Level: (low/med) LOW Date Received: 02/22/93

% Moisture: 4 decanted: (Y/N) N Date Extracted: 02/28/93

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 03/16/93

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 8.5

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>UG/KG</u>	Q
51-28-5	2,4-Dinitrophenol	830	U
100-02-7	4-Nitrophenol	830	U
132-64-9	Dibenzofuran	340	U
121-14-2	2,4-Dinitrotoluene	340	U
84-66-2	Diethylphthalate	340	U
7005-72-3	4-Chlorophenyl-phenylether	340	U
86-73-7	Fluorene	340	U
100-01-6	4-Nitroaniline	830	U
534-52-1	4,6-Dinitro-2-methylphenol	830	U
86-30-6	N-Nitrosodiphenylamine (1)	340	U
101-55-3	4-Bromophenyl-phenylether	340	U
118-74-1	Hexachlorobenzene	340	U
87-86-5	Pentachlorophenol	830	U
85-01-8	Phenanthrene	340	U
120-12-7	Anthracene	340	U
86-74-8	Carbazole	340	U
84-74-2	Di-n-Butylphthalate	340	U
206-44-0	Fluoranthene	340	U
129-00-0	Pyrene	340	U
85-68-7	Butylbenzylphthalate	340	U
91-94-1	3,3'-Dichlorobenzidine	340	U
56-55-3	Benzo (a) Anthracene	340	U
218-01-9	Chrysene	340	U
117-81-7	bis (2-Ethylhexyl) Phthalate	340	U
117-84-0	Di-n-Octyl Phthalate	340	U
205-99-2	Benzo (b) Fluoranthene	340	U
207-08-9	Benzo (k) Fluoranthene	340	U
50-32-8	Benzo (a) Pyrene	340	U
193-39-5	Indeno (1,2,3-cd) Pyrene	340	U
53-70-3	Dibenz (a, h) Anthracene	340	U
191-24-2	Benzo (g, h, i) Perylene	340	U

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1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

B07KQ7

Lab Name: DATA CHEM LABS Contract: 3534

Lab Code: DATA C Case No.: WHC42 SAS No.: _____ SDG No.: WHCO42

Matrix: (soil/water) SOIL Lab Sample ID: CLP12284

Sample wt/vol: 30.0 (g/mL) G Lab File ID: AV8CLP284

Level: (low/med) LOW Date Received: 02/22/93

% Moisture: 4 decanted: (Y/N) N Date Extracted: 02/28/93

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 03/16/93

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 8.5

Number TICs found: 3

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	ALDOL CONDENSATION PRODUCT	9.22	410	ABJ
2.	ALDOL CONDENSATION PRODUCT	9.92	530	ABJ
3.	UNKNOWN LONG-CHAIN HYDROCARB	33.55	74	J

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1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B07KR5

Lab Name: DATA CHEM LABS Contract: 3534

Lab Code: DATA C Case No.: WHC42 SAS No.: _____ SDG No.: WHCO42

Matrix: (soil/water) SOIL Lab Sample ID: CLP12286

Sample wt/vol: 30.0 (g/mL) G Lab File ID: AV9CLP286

Level: (low/med) LOW Date Received: 02/22/93

% Moisture: 9 decanted: (Y/N) N Date Extracted: 02/28/93

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 03/16/93

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 8.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>UG/KG</u>	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	880	U
91-58-7	2-Chloronaphthalene	360	U
88-74-4	2-Nitroaniline	880	U
131-11-3	Dimethylphthalate	360	U
208-96-8	Acenaphthylene	360	U
606-20-2	2,6-Dinitrotoluene	360	U
99-09-2	3-Nitroaniline	880	U
83-32-9	Acenaphthene	360	U

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3/9/93

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B07KR5

Lab Name: DATA CHEM LABS Contract: 3534

Lab Code: DATA C Case No.: WHC42 SAS No.: _____ SDG No.: WHCO42

Matrix: (soil/water) SOIL Lab Sample ID: CLP12286

Sample wt/vol: 30.0 (g/mL) G Lab File ID: AV9CLP286

Level: (low/med) LOW Date Received: 02/22/93

% Moisture: 9 decanted: (Y/N) N Date Extracted: 02/28/93

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 03/16/93

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 8.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>UG/KG</u>	Q
51-28-5	2,4-Dinitrophenol	880	U
100-02-7	4-Nitrophenol	880	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	880	U
534-52-1	4,6-Dinitro-2-methylphenol	880	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	880	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

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2/9/93

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

B07KR5

Lab Name: DATA CHEM LABS Contract: 3534

Lab Code: DATA C Case No.: WHC42 SAS No.: _____ SDG No.: WHCO42

Matrix: (soil/water) SOIL Lab Sample ID: CLP12286

Sample wt/vol: 30.0 (g/mL) G Lab File ID: AV9CLP286

Level: (low/med) LOW Date Received: 02/22/93

% Moisture: 9 decanted: (Y/N) N Date Extracted: 02/28/93

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 03/16/93

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 8.0

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

Number TICs found: 23

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	ALDOL CONDENSATION PRODUCT	9.25	530	ABJ
2.	ALDOL CONDENSATION PRODUCT	9.95	1000	ABJ
3.	ALDOL CONDENSATION PRODUCT	10.17	480	ABJ
4.	ALKANE @ C25	29.73	150	J
5.	UNKNOWN LONG-CHAIN HYDROCARB	29.85	93	J
6.	UNKNOWN LONG-CHAIN HYDROCARB	31.28	100	J
7.	ALKANE @ C27	31.70	150	J
8.	UNKNOWN LONG-CHAIN HYDROCARB	32.00	74	J
9.	UNKNOWN AROMATIC	32.10	110	J
10.	UNKNOWN LONG-CHAIN HYDROCARB	33.13	140	J
11.	UNKNOWN HYDROCARBON	33.17	170	J
12.	UNKNOWN LONG-CHAIN HYDROCARB	33.70	78	J
13.	UNKNOWN LONG-CHAIN HYDROCARB	34.08	220	J
14.	UNKNOWN POLYCYCLIC HYDROCARB	34.25	110	J
15.	ALKANE @ C29	34.40	590	J
16.	UNKNOWN LONG-CHAIN HYDROCARB	34.92	220	J
17.	UNKNOWN HYDROCARBON	35.90	130	J
18.	UNKNOWN LONG-CHAIN HYDROCARB	36.15	170	J
19.	UNKNOWN HYDROCARBON	36.25	130	J
20.	UNKNOWN HYDROCARBON	36.28	80	J
21.	UNKNOWN POLYCYCLIC HYDROCARB	37.38	160	J
22.	UNKNOWN POLYCYCLIC HYDROCARB	37.83	300	J
23.	ALKANE @ C31	38.27	330	J

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Handwritten signature: JG 6/18/93

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1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B07KR6

Lab Name: DATA CHEM LABS Contract: 3534

Lab Code: DATA C Case No.: WHC42 SAS No.: _____ SDG No.: WHCO42

Matrix: (soil/water) SOIL Lab Sample ID: CLP12287

Sample wt/vol: 30.0 (g/mL) G Lab File ID: AV10CLP287

Level: (low/med) LOW Date Received: 02/22/93

% Moisture: 9 decanted: (Y/N) N Date Extracted: 02/28/93

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 03/16/93

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

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

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

CAS NO. COMPOUND 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	880	U
91-58-7	2-Chloronaphthalene	360	U
88-74-4	2-Nitroaniline	880	U
131-11-3	Dimethylphthalate	360	U
208-96-8	Acenaphthylene	360	U
606-20-2	2,6-Dinitrotoluene	360	U
99-09-2	3-Nitroaniline	880	U
83-32-9	Acenaphthene	360	U

2/9/93

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1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B07KR6

Lab Name: DATA CHEM LABS Contract: 3534

Lab Code: DATA C Case No.: WHC42 SAS No.: _____ SDG No.: WHCO42

Matrix: (soil/water) SOIL Lab Sample ID: CLP12287

Sample wt/vol: 30.0 (g/mL) G Lab File ID: AV10CLP287

Level: (low/med) LOW Date Received: 02/22/93

% Moisture: 9 decanted: (Y/N) N Date Extracted: 02/28/93

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 03/16/93

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

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

CONCENTRATION UNITS:

CAS NO. COMPOUND (ug/L or ug/Kg) UG/KG Q

51-28-5	2,4-Dinitrophenol	880	U
100-02-7	4-Nitrophenol	880	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	880	U
534-52-1	4,6-Dinitro-2-methylphenol	880	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	880	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

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02/18/93

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

B07KR6

Lab Name: DATA CHEM LABS Contract: 3534

Lab Code: DATA C Case No.: WHC42 SAS No.: _____ SDG No.: WHCO42

Matrix: (soil/water) SOIL Lab Sample ID: CLP12287

Sample wt/vol: 30.0 (g/mL) G Lab File ID: AV10CLP287

Level: (low/med) LOW Date Received: 02/22/93

% Moisture: 9 decanted: (Y/N) N Date Extracted: 02/28/93

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 03/16/93

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

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

Number TICs found: 22

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	ALDOL CONDENSATION PRODUCT	9.22	580	ABJ
2.	ALDOL CONDENSATION PRODUCT	9.92	1300	ABJ
3.	ALKANE @ C25	29.72	250	J
4.	UNKNOWN HYDROCARBON	29.75	82	J
5.	UNKNOWN LONG-CHAIN HYDROCARB	31.68	160	J
6.	ALKANE @ C27	31.98	140	J
7.	UNKNOWN LONG-CHAIN HYDROCARB	32.08	150	J
8.	UNKNOWN AROMATIC	33.13	160	J
9.	UNKNOWN LONG-CHAIN HYDROCARB	33.68	77	J
10.	UNKNOWN LONG-CHAIN HYDROCARB	34.07	150	J
11.	UNKNOWN LONG-CHAIN HYDROCARB	34.23	110	J
12.	UNKNOWN POLYCYCLIC HYDROCARB	34.38	540	J
13.	ALKANE @ C29	34.88	160	J
14.	UNKNOWN LONG-CHAIN HYDROCARB	34.90	130	J
15.	UNKNOWN LONG-CHAIN HYDROCARB	36.13	140	J
16.	UNKNOWN LONG-CHAIN HYDROCARB	36.22	180	J
17.	UNKNOWN LONG-CHAIN HYDROCARB	36.90	81	J
18.	UNKNOWN POLYCYCLIC HYDROCARB	37.37	80	J
19.	UNKNOWN LONG-CHAIN HYDROCARB	37.38	140	J
20.	UNKNOWN POLYCYCLIC HYDROCARB	37.80	250	J
21.	UNKNOWN POLYCYCLIC HYDROCARB	38.23	320	J
22.	ALKANE @ C31	38.85	240	J

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1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B07KR8

Lab Name: DATA CHEM LABS Contract: 3534

Lab Code: DATA C Case No.: WHC42 SAS No.: _____ SDG No.: WHCO42

Matrix: (soil/water) SOIL Lab Sample ID: CLP12288

Sample wt/vol: 30.0 (g/mL) G Lab File ID: AW5CLP288

Level: (low/med) LOW Date Received: 02/22/93

% Moisture: 0 decanted: (Y/N) N Date Extracted: 02/28/93

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 03/16/93

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 8.3

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>UG/KG</u>	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	Dimethylphthalate	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

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1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B07KR8

Lab Name: DATA CHEM LABS Contract: 3534

Lab Code: DATA C Case No.: WHC42 SAS No.: _____ SDG No.: WHCO42

Matrix: (soil/water) SOIL Lab Sample ID: CLP12288

Sample wt/vol: 30.0 (g/mL) G Lab File ID: AW5CLP288

Level: (low/med) LOW Date Received: 02/22/93

% Moisture: 0 decanted: (Y/N) N Date Extracted: 02/28/93

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 03/16/93

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 8.3

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

CAS NO.	COMPOUND	CONCENTRATION	UNIT
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

330 ~~32~~ ~~DU~~ U

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

B07KR8

Lab Name: DATA CHEM LABS Contract: 3534

Lab Code: DATA C Case No.: WHC42 SAS No.: _____ SDG No.: WHCO42

Matrix: (soil/water) SOIL Lab Sample ID: CLP12288

Sample wt/vol: 30.0 (g/mL) G Lab File ID: AW5CLP288

Level: (low/med) LOW Date Received: 02/22/93

% Moisture: 0 decanted: (Y/N) N Date Extracted: 02/28/93

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 03/16/93

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 8.3

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

Number TICs found: 2

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	ALDOL CONDENSATION PRODUCT	9.32	410	ABJ
2.	ALDOL CONDENSATION PRODUCT	10.00	560	ABJ

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1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B07KR5

Lab Name: DATA CHEM LABS Contract: 3534
 Lab Code: DATA C Case No.: WHC42 SAS No.: _____ SDG No.: WHCO42
 Matrix: (soil/water) SOIL Lab Sample ID: CLP12286
 Sample wt/vol: 5.0 (g/mL) G Lab File ID: PZ75CLP286
 Level: (low/med) LOW Date Received: 02/22/93
 % Moisture: not dec. 9 Date Analyzed: 03/03/93
 GC Column: PACK ID: 2.00 (mm) Dilution Factor: 1.0
 Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>UG/KG</u>	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	7	J
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

11 2 ~~25~~ U

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1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B07KR6

Lab Name: DATA CHEM LABS Contract: 3534
 Lab Code: DATA C Case No.: WHC42 SAS No.: _____ SDG No.: WHCO42
 Matrix: (soil/water) SOIL Lab Sample ID: CLP12287
 Sample wt/vol: 5.0 (g/mL) G Lab File ID: PZ76CLP287
 Level: (low/med) LOW Date Received: 02/22/93
 % Moisture: not dec. 9 Date Analyzed: 03/03/93
 GC Column: PACK ID: 2.00 (mm) Dilution Factor: 1.0
 Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>UG/KG</u>	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

11 ~~3~~ ~~BJ~~ U
 11 ~~0.8~~ ~~BJ~~ U

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1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B07KR8

Lab Name: DATA CHEM LABS Contract: 3534
 Lab Code: DATA C Case No.: WHC42 SAS No.: _____ SDG No.: WHCO42
 Matrix: (soil/water) SOIL Lab Sample ID: CLP12288
 Sample wt/vol: 5.0 (g/mL) G Lab File ID: PZ77CLP288
 Level: (low/med) LOW Date Received: 02/22/93
 % Moisture: not dec. 0 Date Analyzed: 03/03/93
 GC Column: PACK ID: 2.00 (mm) Dilution Factor: 1.0
 Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

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

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

FORM I VOA

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ENVIRONMENTAL SOIL REPORT

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

Date _____
Agency Identification Number SX-0059-FK
Account No. 3534C

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 _____ Date of Collection February 16, 1993

Date Samples Received at Laboratory February 22, 1993

Analytical Results

Parameter Name Analysis Date Units Method Prep Method	Field Number Lab Number	B07KR3 CLP 12285	B07KR5 CLP 12286	B07KR6 CLP 12287	B07KR8 CLP 12288				Limit of Detection
Fluoride (F) 02/26/1993 300.0 [1]	µg/g	15.	ND*	ND*	ND*				1.
Chloride (Cl) 02/26/1993 300.0 [1]	µg/g	55.	7.	10.	7.				1.
Phosphate (PO ₄ -P) 02/26/1993 300.0 [1]	µg/g	ND*	ND* †	ND* †	ND*	RS 6/18/93			1.
Sulfate (SO ₄) 02/26/1993 300.0 [1]	µg/g	31.	28.	26.	5.				1.
Nitrates (NO ₃ -N + NO ₂ -N) 03/08/1993 353.2 [1]	µg/g	1.	14.	14.	ND*				1.
Chromium VI 02/24/1993 7196 [2] 3060 [2]	µg/g	2.	2.	2.	2.				1.

† See comment on last page.
ND Parameter not detected.
NR Parameter not requested.
‡ 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: Jennifer A. Richerson
Reviewer: Katherine Kellersberger
Laboratory Supervisor: Michael P. Beesley

9613457.1777

ENVIROFORMS/INORGANIC CLP

1
INORGANIC ANALYSIS DATA SHEET

SAMPLE NO.

307KR3

M12285

Lab Name: DataChem Laboratories

Contract: WHC

Lab Code: DATAC

Case No.: WHC42

SAS No.:

SDG No.: WHCI42

Matrix (soil/water): SOIL

Lab Sample ID: CLP12285

Level (low/med): LOW

Date Received: 02/22/93

% Solids: 95.4

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	7950			P
7440-36-0	Antimony	9.4	U	N*	P
7440-38-2	Arsenic	2.3			FM
7440-39-3	Barium	71.3			P
7440-41-7	Beryllium	0.39	B		P
7440-43-9	Cadmium	0.63	U		P
7440-70-2	Calcium	4300			P
7440-47-3	Chromium	11.4			P
7440-48-4	Cobalt	7.8	B		P
7440-50-8	Copper	17.3			P
7439-89-6	Iron	16300			P
7439-92-1	Lead	4.7		NS*	FM
7439-95-4	Magnesium	4120			P
7439-96-5	Manganese	267		N	P
7439-97-6	Mercury	0.10	U	N	CV
7440-02-0	Nickel	6.7	B		P
7440-09-7	Potassium	1600			P
7782-49-2	Selenium	0.24	B		FM
7440-22-4	Silver	0.63	U		P
7440-23-5	Sodium	411	B	E	P
7440-28-0	Thallium	0.10	B		FM
7440-62-2	Vanadium	35.2			P
7440-66-6	Zinc	33.6			P
	Cyanide				NR

R 6/18/93

Color Before: BROWN

Clarity Before:

Texture: FINE

Color After: COLORLESS

Clarity After:

Artifacts:

Comments:

E - ICP SERIAL DILUTION IS OUTSIDE OF CONTROL LIMITS.

9613457.1778

ENVIROFORMS/INORGANIC CLP

1
INORGANIC ANALYSIS DATA SHEET

SAMPLE NO.

B07KR5

~~M12286~~

Lab Name: DataChem Laboratories

Contract: WHC

Lab Code: DATAC

Case No.: WHC42

SAS No.:

SDG No.: WHCI42

Matrix (soil/water): SOIL

Lab Sample ID: CLP12286

Level (low/med): LOW

Date Received: 02/22/93

% Solids: 90.9

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	11800			P
7440-36-0	Antimony	9.9	U	N*	P
7440-38-2	Arsenic	5.7			FM
7440-39-3	Barium	88.0			P
7440-41-7	Beryllium	0.56	B		P U
7440-43-9	Cadmium	1.2			P
7440-70-2	Calcium	11300			P
7440-47-3	Chromium	17.8			P
7440-48-4	Cobalt	10.2	B		P
7440-50-8	Copper	25.4			P
7439-89-6	Iron	20800			P
7439-92-1	Lead	19.7		N*	FM
7439-95-4	Magnesium	6460			P
7439-96-5	Manganese	310		N	P
7439-97-6	Mercury	0.11	U	N	CV
7440-02-0	Nickel	17.0			P
7440-09-7	Potassium	2090			P
7782-49-2	Selenium	0.41	B	S	FM U
7440-22-4	Silver	0.95	B		P U
7440-23-5	Sodium	413	B	E	P
7440-28-0	Thallium	0.11	U		FM
7440-62-2	Vanadium	41.1			P
7440-66-6	Zinc	92.3			P
	Cyanide				NR

AC 6/18/93

Color Before: BROWN

Clarity Before:

Texture: FINE

Color After: COLORLESS

Clarity After:

Artifacts:

Comments:

E - ICP SERIAL DILUTION IS OUTSIDE OF CONTROL LIMITS.

9613457.1779

ENVIROFORMS/INORGANIC CLP

1
INORGANIC ANALYSIS DATA SHEETSAMPLE NO.
1307 KR6~~MI2287~~ *AE*

Lab Name: DataChem Laboratories

Contract: WHC

Lab Code: DATAC

Case No.: WHC42

SAS No.:

SDG No.: WHCI42

Matrix (soil/water): SOIL

Lab Sample ID: CLP12287

Level (low/med): LOW

Date Received: 02/22/93

% Solids: 90.6

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	11900			P
7440-36-0	Antimony	10.7	B	N*	P
7440-38-2	Arsenic	6.0			FM
7440-39-3	Barium	86.4			P
7440-41-7	Beryllium	0.56	B		P U
7440-43-9	Cadmium	1.0	B		P
7440-70-2	Calcium	11000			P
7440-47-3	Chromium	18.4			P
7440-48-4	Cobalt	11.7			P
7440-50-8	Copper	24.4			P
7439-89-6	Iron	20600			P
7439-92-1	Lead	20.5		N*	FM
7439-95-4	Magnesium	6320			P
7439-96-5	Manganese	303		N	P
7439-97-6	Mercury	0.11	U	N	CV
7440-02-0	Nickel	13.4			P
7440-09-7	Potassium	2130			P
7782-49-2	Selenium	0.37	B	W	FM U
7440-22-4	Silver	1.1	B		P U
7440-23-5	Sodium	412	B	E	P
7440-28-0	Thallium	0.13	B		FM
7440-62-2	Vanadium	39.9			P
7440-66-6	Zinc	88.2			P
	Cyanide				NR

AE 6/18/93

Color Before: BROWN

Clarity Before:

Texture: FINE

Color After: COLORLESS

Clarity After:

Artifacts:

Comments:

E - ICP SERIAL DILUTION IS OUTSIDE OF CONTROL LIMITS.

6

9613457.1780

ENVIROFORMS/INORGANIC CLP

1
INORGANIC ANALYSIS DATA SHEETSAMPLE NO.
B07KR8~~W12288~~

Lab Name: DataChem Laboratories

Contract: WHC

Lab Code: DATAC

Case No.: WHC42

SAS No.:

SDG No.: WHCI42

Matrix (soil/water): SOIL

Lab Sample ID: CLP12288

Level (low/med): LOW

Date Received: 02/22/93

% Solids: 100.0

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	43.6			P
7440-36-0	Antimony	9.0	U	N*	P
7440-38-2	Arsenic	0.18	B		FM
7440-39-3	Barium	0.58	B		P U
7440-41-7	Beryllium	0.20	U		P
7440-43-9	Cadmium	0.60	U		P
7440-70-2	Calcium	16.3	B		P U
7440-47-3	Chromium	0.80	U		P
7440-48-4	Cobalt	1.2	U		P
7440-50-8	Copper	1.5	B		P
7439-89-6	Iron	320			P
7439-92-1	Lead	0.18	B	N*	FM U
7439-95-4	Magnesium	6.1	B		P U
7439-96-5	Manganese	0.20	U	N	P
7439-97-6	Mercury	0.10	U	N	CV
7440-02-0	Nickel	3.8	U		P
7440-09-7	Potassium	171	B		P U
7782-49-2	Selenium	0.27	B		FM U
7440-22-4	Silver	0.77	B		P U
7440-23-5	Sodium	18.2	B	E	P U
7440-28-0	Thallium	0.10	U		FM
7440-62-2	Vanadium	0.80	U		P
7440-66-6	Zinc	1.2	U		P
	Cyanide				NR

JS 6/18/93

Color Before: WHITE

Clarity Before:

Texture: MEDIUM

Color After: COLORLESS

Clarity After:

Artifacts:

Comments:

E - ICP SERIAL DILUTION IS OUTSIDE OF CONTROL LIMITS.

7

ENVIROFORMS/INORGANIC CLP

1
INORGANIC ANALYSIS DATA SHEET

SAMPLE NO.

B07KS2

~~M12289~~

Lab Name: DataChem Laboratories

Contract: WHC

Lab Code: DATAC

Case No.: WHC42

SAS No.:

SDG No.: WHCI42

Matrix (soil/water): SOIL

Lab Sample ID: CLP12289

Level (low/med): LOW

Date Received: 02/22/93

% Solids: 94.5

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	8450			P
7440-36-0	Antimony	19.9		N*	P
7440-38-2	Arsenic	3.4			FM
7440-39-3	Barium	95.6			P
7440-41-7	Beryllium	0.52	B		P U
7440-43-9	Cadmium	0.63	U		P
7440-70-2	Calcium	11000			P
7440-47-3	Chromium	10.2			P
7440-48-4	Cobalt	11.0			P
7440-50-8	Copper	18.2			P
7439-89-6	Iron	20000			P
7439-92-1	Lead	68.5		N*	FM
7439-95-4	Magnesium	4420			P
7439-96-5	Manganese	391		N	P
7439-97-6	Mercury	0.11	U	N	CV
7440-02-0	Nickel	8.8			P
7440-09-7	Potassium	1430			P
7782-49-2	Selenium	0.32	B		FM U
7440-22-4	Silver	0.94	B		P U
7440-23-5	Sodium	610	B	E	P
7440-28-0	Thallium	0.14	B		FM
7440-62-2	Vanadium	51.5			P
7440-66-6	Zinc	56.5			P
	Cyanide				NR

RS 6/18/93

Color Before: BROWN

Clarity Before:

Texture: MEDIUM

Color After: COLORLESS

Clarity After:

Artifacts:

Comments:

E - ICP SERIAL DILUTION IS OUTSIDE OF CONTROL LIMITS.

9613457.1783

ATTACHMENT 2

DATA VALIDATION SUPPORTING DOCUMENTATION

DATA QUALIFICATION SUMMARY - FORM B-7

B07KR5-DAT-236

SDG: ↓	REVIEWER: TMS	DATE: 6/21/93	PAGE 1 OF 1
COMMENTS: Qualifiers for metals, volatile, semivolatile, and Pest/PCB analyses:			
COMPOUND	QUALIFIER	SAMPLES AFFECTED	REASON
Silver	U	B07KR5, R6, R8, S2	Contaminant in Blank
Magnesium	U	B07KR8	}
Potassium	U		
Calcium	U		
Sodium	U		
Lead	U		
Barium	U	↓	
Selenium	U	B07KR3 B07KR5	
"	U	B07KR6, B07KR8	
"	U	B07KS2	
Beryllium	U	B07KR5	
"	U	B07KR6	}
"	U	B07KS2	
Methylene Chloride	U	B07KR5	
"	U	B07KR6, B07KR8	↓
Toluene	U	B07KR6	↓
bis(2-ethylhexyl)- phthalate	U	B07KR8	Contaminant in Blank
Endosulfan II	U	B07KR6	↓

BLANK AND SAMPLE DATA SUMMARY - FORM B-3

B07KR5-DAT-236

SDG: ↓		REVIEWER: T. Stapp			DATE: 6-18-93			PAGE 1 OF 2	
COMMENTS:									
SAMPLE ID	COMPOUND	RESULT	Q	RT	UNITS	5X RESULT	10X RESULT	SAMPLES AFFECTED	QUALIFIER
Prep. Blank	Silver	1.02			mg/kg	5.1		B07KR5	0.95 u
↓	↓	"			"	"		B07KR6	1.1 u
↓	↓	"			"	"		B07KR8	0.77 u
↓	↓	"			"	"		B07KS2	0.94 u
↓	Magnesium	19.1			"	95.5		B07KR8	6.1 u
↓	Potassium	239.6			"	1198		↓	171 u
↓	Calcium	3.3			"	16.5		↓	16.3 u
↓	Sodium	22.3			"	111.5		↓	18.2 u
Prep. Blnk	Lead	.12			"	0.6		B07KR8	0.18 u
Prep Blank	Selenium	2.5			"	12.5		B07KR8	0.27 u
↓	↓	"			"	"		B07KR3	0.24 u
↓	↓	"			"	"		B07KR5	0.41 u
↓	↓	"			"	"		B07KR6	0.37 u
↓	↓	"			"	"		B07KS2	0.32 u
CCB2	Barium	0.58				2.9		B07KR8	0.58 u
CCB2	Beryllium	0.22				1.1		B07KR5	0.56 u
"	"	"				"		B07KR6	0.56 u

B-3

WHC-SD-EN-SPP-002, Rev. 1

9613457.1785

BLANK AND SAMPLE DATA SUMMARY - FORM B-3

B07KR5-DAT-236

SDG: ↓		REVIEWER: T. Stapp		DATE: 6-18-93				PAGE 2 OF 2	
COMMENTS:									
SAMPLE ID	COMPOUND	RESULT	Q	RT	UNITS	5X RESULT	10X RESULT	SAMPLES AFFECTED	QUALIFIER
CCBZ	Beryllium	0.22			mg/kg	1.1		B07KS2	0.52 U
VBLK 01	Methylene Chloride	2			ug/kg		20	B07KR5	2 U
	↓	"			"		"	B07KR6	3 U
	↓	"			"		"	B07KR8	3 U
	Toluene	0.6			"		6	B07KR6	0.8 U
SBLK 01	bis(2ethylhexyl)- phthalate	65			ug/kg		650	B07KR8	U
PBLK 1S	Endosulfan II	0.6			ug/kg	3.5		B07KR6	U

B-3

6/18
↓

9613457.1786
WHC-SD-EN-SPP-002, Rev. 1