START

9613428.0766

B01BV2-DAT-284

0043952

DATA CHEM

CASE NARRATIVE
VOA FRACTION

CASE NO. WHC33
SDG NO. WHCV33
SAMPLE NO(s). for VOA analysis: B01BX2, B01C22, B01C61, B01BV2, B01C62, B01C27, B01C27MS and B01C27MSD.

EPA-CLP CONTRACT NO. WESTINGHOUSE HANFORD CO. P.O. MBH-SVV-060648
DATACHEM LABS.

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 below. 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.

Thomas J. Masoian

Thomas J. Masoian, Group Leader Date 12-5-91

I. 1. CASE WHC33 DataChem Laboratories received six water samples. This report includes all data for this Case WHC33.

I. 2. VOA Analysis The samples were analyzed as water samples according to EPA SOW 2/88.

All SPCC and CCC criteria were met for both the initial calibration standards and the continuing calibration standards.

I. 3. Matrix Spike and Matrix Spike Duplicate Analyses
The water matrix spike and matrix spike duplicate analyses were performed using sample B01C27.

MAY 1996 RECEIVED EDMC

SALT LAKE OFFICE
960 WEST LeVOY DRIVE
SALT LAKE CITY, UTAH 84123-2547
801 266-7700 FAX 801 268-9992

LEADING ANALYTICAL CHEMISTRY INTO THE 21ST CENTURY

CINCINNATI OFFICE
4388 GLENDALE-MILFORD ROAD
CINCINNATI, OHIO 45242-3706
513 733-5336, FAX 513 733-5347

9613428.0767

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B01BV2

Lab Name: DATACHEM LABS Contract: WHC

Lab Code: DATAC Case No.: WHC33 SAS No.: _____ SDG No.: WHCV33

Matrix: (soil/water) WATER Lab Sample ID: CLP9256

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: LI92CLP9256

Level: (low/med) LOW Date Received: 11/19/91

% Moisture: not dec. ____ Date Analyzed: 11/22/91

Column: (pack/cap) PACK Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	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	5	U
67-64-1	Acetone	8	J
75-15-0	Carbon Disulfide	5	U
75-35-4	1,1-Dichloroethene	5	U
75-35-3	1,1-Dichloroethane	5	U
540-59-0	1,2-Dichloroethene (total)	5	U
67-66-3	Chloroform	5	U
107-06-2	1,2-Dichloroethane	5	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	5	U
56-23-5	Carbon Tetrachloride	5	U
75-27-4	Bromodichloromethane	5	U
78-87-5	1,2-Dichloropropane	5	U
10061-01-5	cis-1,3-Dichloropropene	5	U
79-01-6	Trichloroethene	5	U
124-48-1	Dibromochloromethane	5	U
79-00-5	1,1,2-Trichloroethane	5	U
71-43-2	Benzene	5	U
10061-02-6	Trans-1,3-Dichloropropene	5	U
75-25-2	Bromoform	5	U
108-10-1	4-Methyl-2-Pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	5	U
79-34-5	1,1,2,2-Tetrachloroethane	10	U
108-88-3	Toluene	5	U
108-90-7	Chlorobenzene	5	U
100-41-4	Ethylbenzene	5	U
100-42-5	Styrene	5	U
----------	Total Xylenes	5	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

B01BV2

Lab Name: DATACHEM LABS Contract: WHC

Lab Code: DATAC Case No.: WHC33 SAS No.: _____ SDG No.: WHCV33

Matrix: (soil/water) WATER Lab Sample ID: CLP9256

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: LI92CLP9256

Level: (low/med) LOW Date Received: 11/19/91

% Moisture: not dec. ____ Date Analyzed: 11/22/91

Column (pack/cap) PACK Dilution Factor: 1.0

Number TICs found: 0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

FORM I VOA-TIC

1/87 Rev.

9613428.0769

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B01BX2

Lab Name: DATACHEM LABS Contract: WHC

Lab Code: DATAC Case No.: WHC33 SAS No.: _____ SDG No.: WHCV33

Matrix: (soil/water) WATER Lab Sample ID: CLP9242

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: LI84CLP9242

Level: (low/med) LOW Date Received: 11/16/91

% Moisture: not dec. ____ Date Analyzed: 11/21/91

Column: (pack/cap) PACK Dilution Factor: 1.0

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

9613428.0770

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

B01BX2

Lab Name: DATACHEM LABS Contract: WHC

Lab Code: DATAC Case No.: WHC33 SAS No.: _____ SDG No.: WHCV33

Matrix: (soil/water) WATER Lab Sample ID: CLP9242

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: LI84CLP9242

Level: (low/med) LOW Date Received: 11/16/91

% Moisture: not dec. ____ Date Analyzed: 11/21/91

Column (pack/cap) PACK Dilution Factor: 1.0

Number TICs found: 0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

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9613428.0771

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B01C22

Lab Name: DATACHEM LABS Contract: WHC

Lab Code: DATAC Case No.: WHC33 SAS No.: _____ SDG No.: WHCV33

Matrix: (soil/water) WATER Lab Sample ID: CLP9243

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: LI85CLP9243

Level: (low/med) LOW Date Received: 11/16/91

% Moisture: not dec. ____ Date Analyzed: 11/21/91

Column: (pack/cap) PACK Dilution Factor: 1.0

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

9613428.0772

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

B01C22

Lab Name: DATACHEM LABS Contract: WHC

Lab Code: DATAC Case No.: WHC33 SAS No.: _____ SDG No.: WHCV33

Matrix: (soil/water) WATER Lab Sample ID: CLP9243

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: LI85CLP9243

Level: (low/med) LOW Date Received: 11/16/91

% Moisture: not dec. ____ Date Analyzed: 11/21/91

Column (pack/cap) PACK Dilution Factor: 1.0

Number TICs found: 0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

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9613428.0773

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B01C27

Lab Name: DATACHEM LABS Contract: WHC

Lab Code: DATAC Case No.: WHC33 SAS No.: _____ SDG No.: WHCV33

Matrix: (soil/water) WATER Lab Sample ID: CLP9261

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: LI94CLP9261

Level: (low/med) LOW Date Received: 11/19/91

% Moisture: not dec. ____ Date Analyzed: 11/22/91

Column: (pack/cap) PACK Dilution Factor: 1.0

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

FORM I VOA

1/87 Rev.

9613428.0774

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

B01C27

Lab Name: DATACHEM LABS Contract: WHC

Lab Code: DATAC Case No.: WHC33 SAS No.: _____ SDG No.: WHCV33

Matrix: (soil/water) WATER Lab Sample ID: CLP9261

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: LI94CLP9261

Level: (low/med) LOW Date Received: 11/19/91

% Moisture: not dec. ____ Date Analyzed: 11/22/91

Column (pack/cap) PACK Dilution Factor: 1.0

Number TICs found: 0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

FORM I VOA-TIC

1/87 Rev.

9613428.0775

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B01C61

Lab Name: DATACHEM LABS Contract: WHC

Lab Code: DATAC Case No.: WHC33 SAS No.: _____ SDG No.: WHCV33

Matrix: (soil/water) WATER Lab Sample ID: CLP9251

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: LI86CLP9251

Level: (low/med) LOW Date Received: 11/16/91

% Moisture: not dec. ____ Date Analyzed: 11/21/91

Column: (pack/cap) PACK Dilution Factor: 1.0

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

CAS NO.	COMPOUND		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	5	U
67-64-1	Acetone	10	
75-15-0	Carbon Disulfide	5	U
75-35-4	1,1-Dichloroethene	5	U
75-35-3	1,1-Dichloroethane	5	U
540-59-0	1,2-Dichloroethene (total)	5	U
67-66-3	Chloroform	5	U
107-06-2	1,2-Dichloroethane	5	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	5	U
56-23-5	Carbon Tetrachloride	5	U
75-27-4	Bromodichloromethane	5	U
78-87-5	1,2-Dichloropropane	5	U
10061-01-5	cis-1,3-Dichloropropene	5	U
79-01-6	Trichloroethene	5	U
124-48-1	Dibromochloromethane	5	U
79-00-5	1,1,2-Trichloroethane	5	U
71-43-2	Benzene	5	U
10061-02-6	Trans-1,3-Dichloropropene	5	U
75-25-2	Bromoform	5	U
108-10-1	4-Methyl-2-Pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	5	U
79-34-5	1,1,2,2-Tetrachloroethane	10	U
108-88-3	Toluene	5	U
108-90-7	Chlorobenzene	5	U
100-41-4	Ethylbenzene	5	U
100-42-5	Styrene	5	U
	Total Xylenes	5	U

9613428.0776

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

B01C61

Lab Name: DATACHEM LABS Contract: WHC

Lab Code: DATAC Case No.: WHC33 SAS No.: _____ SDG No.: WHCV33

Matrix: (soil/water) WATER Lab Sample ID: CLP9251

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: LI86CLP9251

Level: (low/med) LOW Date Received: 11/16/91

% Moisture: not dec. ____ Date Analyzed: 11/21/91

Column (pack/cap) PACK Dilution Factor: 1.0

Number TICs found: 0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

FORM I VOA-TIC

1/87 Rev.

9613428.0777

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B01C62

Lab Name: DATACHEM LABS Contract: WHC

Lab Code: DATAC Case No.: WHC33 SAS No.: _____ SDG No.: WHCV33

Matrix: (soil/water) WATER Lab Sample ID: CLP9258

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: LI93CLP9258

Level: (low/med) LOW Date Received: 11/19/91

% Moisture: not dec. ____ Date Analyzed: 11/22/91

Column: (pack/cap) PACK Dilution Factor: 1.0

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

CAS NO.	COMPOUND		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	5	U
67-64-1	Acetone	9	J
75-15-0	Carbon Disulfide	5	U
75-35-4	1,1-Dichloroethene	5	U
75-35-3	1,1-Dichloroethane	5	U
540-59-0	1,2-Dichloroethene (total)	5	U
67-66-3	Chloroform	5	U
107-06-2	1,2-Dichloroethane	5	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	5	U
56-23-5	Carbon Tetrachloride	5	U
75-27-4	Bromodichloromethane	5	U
78-87-5	1,2-Dichloropropane	5	U
10061-01-5	cis-1,3-Dichloropropene	5	U
79-01-6	Trichloroethene	5	U
124-48-1	Dibromochloromethane	5	U
79-00-5	1,1,2-Trichloroethane	5	U
71-43-2	Benzene	5	U
10061-02-6	Trans-1,3-Dichloropropene	5	U
75-25-2	Bromoform	5	U
108-10-1	4-Methyl-2-Pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	5	U
79-34-5	1,1,2,2-Tetrachloroethane	10	U
108-88-3	Toluene	5	U
108-90-7	Chlorobenzene	5	U
100-41-4	Ethylbenzene	5	U
100-42-5	Styrene	5	U
	Total Xylenes	5	U

9613428.0778

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

B01C62

Lab Name: DATACHEM LABS Contract: WHC

Lab Code: DATAC Case No.: WHC33 SAS No.: _____ SDG No.: WHCV33

Matrix: (soil/water) WATER Lab Sample ID: CLP9258

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: LI93CLP9258

Level: (low/med) LOW Date Received: 11/19/91

% Moisture: not dec. ____ Date Analyzed: 11/22/91

Column (pack/cap) PACK Dilution Factor: 1.0

Number TICs found: 0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

CASE NARRATIVE
SEMIVOLATILE FRACTION

CASE NO. WHC33
SDG NO. WHCS33
SAMPLE NO.(s) for semivolatile analysis: B01-BX2, B01-C22, B01-C22MS, B01-C22MSD, B01-C27, B01-C27MS, B01-C27MSD.

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

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

John R. Gumpper, Section Manager date 2-13-92

I. 1. Case WHC33: DataChem Laboratories has received a total of three water samples for Case WHC33. This report includes data for the samples listed above which have been assigned the SDG designation WHCS33. 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 water protocol specified in the SOW 2/88. All of the surrogate recoveries and internal standard area responses met the required QC criteria, with the exception noted below, and all samples were extracted and analyzed within the required holding times. Sample B01-C27MS was apparently double-spiked with surrogate spiking solution. The forms have not been corrected for the error.

I. 3. <u>Matrix Spike and Matrix Spike Duplicate Analyses</u>
The water matrix spike and matrix spike duplicate analyses for the BNA fraction were performed using samples B01-C22 and B01-C27, representing each of two shipments of samples to the laboratory. Recoveries and reproducibility were within expected ranges on most compounds.

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

Case Narrative Authorized by: [signature] date 2-13-97

9613428.0781

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B01-BX2

Lab Name: DATACHEM LABS Contract: 3534E

Lab Code: DATAC Case No.: WHC33 SAS No.: _____ SDG No.: WHCS33

Matrix: (soil/water) WATER Lab Sample ID: CLP9242

Sample wt/vol: 1000 (g/mL) ML Lab File ID: EJ7CLP9242

Level: (low/med) LOW Date Received: 11/16/91

% Moisture: not dec. ____ dec. ____ Date Extracted: 11/21/91

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 12/18/91

GPC Cleanup: (Y/N) N pH: 7.0 Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
108-95-2	Phenol	40	U
111-44-4	bis(2-Chloroethyl)Ether	40	U
95-57-8	2-Chlorophenol	6	J
541-73-1	1,3-Dichlorobenzene	40	U
106-46-7	1,4-Dichlorobenzene	40	U
100-51-6	Benzyl Alcohol	40	U
95-50-1	1,2-Dichlorobenzene	40	U
95-48-7	2-Methylphenol	40	U
39638-32-9	bis(2-Chloroisopropyl)Ether	40	U
106-44-5	4-Methylphenol	40	U
621-64-7	N-Nitroso-Di-n-Propylamine	40	U
67-72-1	Hexachloroethane	40	U
98-95-3	Nitrobenzene	40	U
78-59-1	Isophorone	40	U
88-75-5	2-Nitrophenol	40	U
105-67-9	2,4-Dimethylphenol	40	U
65-85-0	Benzoic Acid	200	U
111-91-1	bis(2-Chloroethoxy)Methane	40	U
120-83-2	2,4-Dichlorophenol	40	U
120-82-1	1,2,4-Trichlorobenzene	40	U
91-20-3	Naphthalene	40	U
106-47-8	4-Chloroaniline	40	U
87-68-3	Hexachlorobutadiene	40	U
59-50-7	4-Chloro-3-Methylphenol	40	U
91-57-6	2-Methylnaphthalene	40	U
77-47-4	Hexachlorocyclopentadiene	40	U
88-06-2	2,4,6-Trichlorophenol	40	U
95-95-4	2,4,5-Trichlorophenol	200	U
91-58-7	2-Chloronaphthalene	40	U
88-74-4	2-Nitroaniline	200	U
208-96-8	Acenaphthylene	40	U
606-20-2	2,6-Dinitrotoluene	40	U

18

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B01-BX2

ab Name: DATACHEM LABS Contract: 3534E

ab Code: DATAC Case No.: WHC33 SAS No.: _____ SDG No.: WHCS33

atrix: (soil/water) WATER Lab Sample ID: CLP9242

ample wt/vol: 1000 (g/mL) ML Lab File ID: EJ7CLP9242

evel: (low/med) LOW Date Received: 11/16/91

Moisture: not dec. ____ dec. ____ Date Extracted: 11/21/91

xtraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 12/18/91

PC Cleanup: (Y/N) N pH: 7.0 Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
99-09-2	3-Nitroaniline	200	U
83-32-9	Acenaphthene	40	U
51-28-5	2,4-Dinitrophenol	200	U
100-02-7	4-Nitrophenol	200	U
132-64-9	Dibenzofuran	40	U
121-14-2	2,4-Dinitrotoluene	40	U
84-66-2	Diethylphthalate	40	U
7005-72-3	4-Chlorophenyl-phenylether	40	U
86-73-7	Fluorene	40	U
100-10-6	4-Nitroaniline	200	U
534-52-1	4,6-Dinitro-2-Methylphenol	200	U
86-30-6	N-Nitrosodiphenylamine (1)	40	U
101-55-3	4-Bromophenyl-phenylether	40	U
118-74-1	Hexachlorobenzene	40	U
87-86-5	Pentachlorophenol	200	U
85-01-8	Phenanthrene	40	U
120-12-7	Anthracene	40	U
84-74-2	Di-n-Butylphthalate	40	U
206-44-0	Fluoranthene	40	U
129-00-0	Pyrene	40	U
85-68-7	Butylbenzylphthalate	40	U
91-94-1	3,3'-Dichlorobenzidine	80	U
56-55-3	Benzo(a)Anthracene	40	U
218-01-9	Chrysene	40	U
117-81-7	bis(2-Ethylhexyl)Phthalate	40	U
117-84-0	Di-n-Octyl Phthalate	40	U
205-99-2	Benzo(b)Fluoranthene	40	U
207-08-9	Benzo(k)Fluoranthene	40	U
50-32-8	Benzo(a)Pyrene	40	U
193-39-5	Indeno(1,2,3-cd)Pyrene	40	U
53-70-3	Dibenz(a,h)Anthracene	40	U
191-24-2	Benzo(g,h,i)Perylene	40	U

(1) - Cannot be separated from Diphenylamine

19

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

B01-BX2

Lab Name: DATACHEM LABS Contract: 3534E

Lab Code: DATAC Case No.: WHC33 SAS No.: _____ SDG No.: WHCS33

Matrix: (soil/water) WATER Lab Sample ID: CLP9242

Sample wt/vol: 1000 (g/mL) ML Lab File ID: EJ7CLP9242

Level: (low/med) LOW Date Received: 11/16/91

% Moisture: not dec. ____ dec. ____ Date Extracted: 11/21/91

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 12/18/91

GPC Cleanup: (Y/N) N pH: 7.0 Dilution Factor: 1.0

Number TICs found: 0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

9613428.0784

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B01-C22

ab Name: DATACHEM LABS Contract: 3534E

ab Code: DATAC Case No.: WHC33 SAS No.: _____ SDG No.: WHCS33

atrix: (soil/water) WATER Lab Sample ID: CLP9243

ample wt/vol: 1000 (g/mL) ML Lab File ID: EI13CLP9243

evel: (low/med) LOW Date Received: 11/16/91

Moisture: not dec. ____ dec. ____ Date Extracted: 11/21/91

xtraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 12/17/91

PC Cleanup: (Y/N) N pH: 7.0 Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
108-95-2	Phenol	40	U
111-44-4	bis(2-Chloroethyl)Ether	40	U
95-57-8	2-Chlorophenol	40	U
541-73-1	1,3-Dichlorobenzene	40	U
106-46-7	1,4-Dichlorobenzene	40	U
100-51-6	Benzyl Alcohol	40	U
95-50-1	1,2-Dichlorobenzene	40	U
95-48-7	2-Methylphenol	40	U
39638-32-9	bis(2-Chloroisopropyl)Ether	40	U
106-44-5	4-Methylphenol	40	U
621-64-7	N-Nitroso-Di-n-Propylamine	40	U
67-72-1	Hexachloroethane	40	U
98-95-3	Nitrobenzene	40	U
78-59-1	Isophorone	40	U
88-75-5	2-Nitrophenol	40	U
105-67-9	2,4-Dimethylphenol	40	U
65-85-0	Benzoic Acid	200	U
111-91-1	bis(2-Chloroethoxy)Methane	40	U
120-83-2	2,4-Dichlorophenol	40	U
120-82-1	1,2,4-Trichlorobenzene	40	U
91-20-3	Naphthalene	40	U
106-47-8	4-Chloroaniline	40	U
87-68-3	Hexachlorobutadiene	40	U
59-50-7	4-Chloro-3-Methylphenol	40	U
91-57-6	2-Methylnaphthalene	40	U
77-47-4	Hexachlorocyclopentadiene	40	U
88-06-2	2,4,6-Trichlorophenol	40	U
95-95-4	2,4,5-Trichlorophenol	200	U
91-58-7	2-Chloronaphthalene	40	U
88-74-4	2-Nitroaniline	200	U
208-96-8	Acenaphthylene	40	U
606-20-2	2,6-Dinitrotoluene	40	U

38

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B01-C22

ab Name: DATACHEM LABS Contract: 3534E

ab Code: DATAC Case No.: WHC33 SAS No.: _____ SDG No.: WHCS33

atrix: (soil/water) WATER Lab Sample ID: CLP9243

ample wt/vol: 1000 (g/mL) ML Lab File ID: EI13CLP9243

evel: (low/med) LOW Date Received: 11/16/91

Moisture: not dec. ____ dec. ____ Date Extracted: 11/21/91

xtraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 12/17/91

PC Cleanup: (Y/N) N pH: 7.0 Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
99-09-2	3-Nitroaniline	200	U
83-32-9	Acenaphthene	40	U
51-28-5	2,4-Dinitrophenol	200	U
100-02-7	4-Nitrophenol	200	U
132-64-9	Dibenzofuran	40	U
121-14-2	2,4-Dinitrotoluene	40	U
84-66-2	Diethylphthalate	40	U
7005-72-3	4-Chlorophenyl-phenylether	40	U
86-73-7	Fluorene	40	U
100-10-6	4-Nitroaniline	200	U
534-52-1	4,6-Dinitro-2-Methylphenol	200	U
86-30-6	N-Nitrosodiphenylamine (1)	40	U
101-55-3	4-Bromophenyl-phenylether	40	U
118-74-1	Hexachlorobenzene	40	U
87-86-5	Pentachlorophenol	200	U
85-01-8	Phenanthrene	40	U
120-12-7	Anthracene	40	U
84-74-2	Di-n-Butylphthalate	40	U
206-44-0	Fluoranthene	40	U
129-00-0	Pyrene	40	U
85-68-7	Butylbenzylphthalate	40	U
91-94-1	3,3'-Dichlorobenzidine	80	U
56-55-3	Benzo(a)Anthracene	40	U
218-01-9	Chrysene	40	U
117-81-7	bis(2-Ethylhexyl)Phthalate	40	U
117-84-0	Di-n-Octyl Phthalate	40	U
205-99-2	Benzo(b)Fluoranthene	40	U
207-08-9	Benzo(k)Fluoranthene	40	U
50-32-8	Benzo(a)Pyrene	40	U
193-39-5	Indeno(1,2,3-cd)Pyrene	40	U
53-70-3	Dibenz(a,h)Anthracene	40	U
191-24-2	Benzo(g,h,i)Perylene	40	U

(1) - Cannot be separated from Diphenylamine

39

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

B01-C22

Lab Name: DATACHEM LABS Contract: 3534E

Lab Code: DATAC Case No.: WHC33 SAS No.: _____ SDG No.: WHCS33

Matrix: (soil/water) WATER Lab Sample ID: CLP9243

Sample wt/vol: 1000 (g/mL) ML Lab File ID: EI13CLP9243

Level: (low/med) LOW Date Received: 11/16/91

% Moisture: not dec. ____ dec. ____ Date Extracted: 11/21/91

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 12/17/91

GPC Cleanup: (Y/N) N pH: 7.0 Dilution Factor: 1.0

Number TICs found: 0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

40

9613428.0787

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B01-C27

ab Name: DATACHEM LABS Contract: 3534E

ab Code: DATAC Case No.: WHC33 SAS No.: _____ SDG No.: WHCS33

atrix: (soil/water) WATER Lab Sample ID: CLP9261

ample wt/vol: 1000 (g/mL) ML Lab File ID: EJ9CLP9261

evel: (low/med) LOW Date Received: 11/19/91

Moisture: not dec. ____ dec. ____ Date Extracted: 11/23/91

xtraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 12/18/91

PC Cleanup: (Y/N) N pH: 7.0 Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
108-95-2	Phenol	40	U
111-44-4	bis(2-Chloroethyl)Ether	40	U
95-57-8	2-Chlorophenol	40	U
541-73-1	1,3-Dichlorobenzene	40	U
106-46-7	1,4-Dichlorobenzene	40	U
100-51-6	Benzyl Alcohol	40	U
95-50-1	1,2-Dichlorobenzene	40	U
95-48-7	2-Methylphenol	40	U
39638-32-9	bis(2-Chloroisopropyl)Ether	40	U
106-44-5	4-Methylphenol	40	U
621-64-7	N-Nitroso-Di-n-Propylamine	40	U
67-72-1	Hexachloroethane	40	U
98-95-3	Nitrobenzene	40	U
78-59-1	Isophorone	40	U
88-75-5	2-Nitrophenol	40	U
105-67-9	2,4-Dimethylphenol	40	U
65-85-0	Benzoic Acid	200	U
111-91-1	bis(2-Chloroethoxy)Methane	40	U
120-83-2	2,4-Dichlorophenol	40	U
120-82-1	1,2,4-Trichlorobenzene	40	U
91-20-3	Naphthalene	40	U
106-47-8	4-Chloroaniline	40	U
87-68-3	Hexachlorobutadiene	40	U
59-50-7	4-Chloro-3-Methylphenol	40	U
91-57-6	2-Methylnaphthalene	40	U
77-47-4	Hexachlorocyclopentadiene	40	U
88-06-2	2,4,6-Trichlorophenol	40	U
95-95-4	2,4,5-Trichlorophenol	200	U
91-58-7	2-Chloronaphthalene	40	U
88-74-4	2-Nitroaniline	200	U
208-96-8	Acenaphthylene	40	U
606-20-2	2,6-Dinitrotoluene	40	U

53

9613428.0788

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B01-C27

b Name: DATACHEM LABS Contract: 3534E

b Code: DATAC Case No.: WHC33 SAS No.: _____ SDG No.: WHCS33

trix: (soil/water) WATER Lab Sample ID: CLP9261

mple wt/vol: 1000 (g/mL) ML Lab File ID: EJ9CLP9261

vel: (low/med) LOW Date Received: 11/19/91

Moisture: not dec. ____ dec. ____ Date Extracted: 11/23/91

traction: (SepF/Cont/Sonc) SEPF Date Analyzed: 12/18/91

C Cleanup: (Y/N) N pH: 7.0 Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
99-09-2	3-Nitroaniline	200	U
83-32-9	Acenaphthene	40	U
51-28-5	2,4-Dinitrophenol	200	U
100-02-7	4-Nitrophenol	200	U
132-64-9	Dibenzofuran	40	U
121-14-2	2,4-Dinitrotoluene	40	U
84-66-2	Diethylphthalate	40	U
7005-72-3	4-Chlorophenyl-phenylether	40	U
86-73-7	Fluorene	40	U
100-10-6	4-Nitroaniline	200	U
534-52-1	4,6-Dinitro-2-Methylphenol	200	U
86-30-6	N-Nitrosodiphenylamine (1)	40	U
101-55-3	4-Bromophenyl-phenylether	40	U
118-74-1	Hexachlorobenzene	40	U
87-86-5	Pentachlorophenol	200	U
85-01-8	Phenanthrene	40	U
120-12-7	Anthracene	40	U
84-74-2	Di-n-Butylphthalate	40	U
206-44-0	Fluoranthene	40	U
129-00-0	Pyrene	40	U
85-68-7	Butylbenzylphthalate	40	U
91-94-1	3,3'-Dichlorobenzidine	80	U
56-55-3	Benzo(a)Anthracene	40	U
218-01-9	Chrysene	40	U
117-81-7	bis(2-Ethylhexyl)Phthalate	40	U
117-84-0	Di-n-Octyl Phthalate	40	U
205-99-2	Benzo(b)Fluoranthene	40	U
207-08-9	Benzo(k)Fluoranthene	40	U
50-32-8	Benzo(a)Pyrene	40	U
193-39-5	Indeno(1,2,3-cd)Pyrene	40	U
53-70-3	Dibenz(a,h)Anthracene	40	U
191-24-2	Benzo(g,h,i)Perylene	40	U

(1) - Cannot be separated from Diphenylamine

54

9613428.0289

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

B01-C27

ab Name: DATACHEM LABS Contract: 3534E

ab Code: DATAC Case No.: WHC33 SAS No.: _____ SDG No.: WHCS33

atrix: (soil/water) WATER Lab Sample ID: CLP9261

ample wt/vol: 1000 (g/mL) ML Lab File ID: EJ9CLP9261

evel: (low/med) LOW Date Received: 11/19/91

Moisture: not dec. ____ dec. ____ Date Extracted: 11/23/91

xtraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 12/18/91

PC Cleanup: (Y/N) N pH: 7.0 Dilution Factor: 1.0

umber TICs found: 0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

55

CASE NARRATIVE
PESTICIDE/PCB ANALYSIS

CASE NO: WHC33
SAS NO:
SDG: WHCP33
SAMPLE No.(s) for Pesticide/PCB analysis:
B01BX2, B01C22, B01C22MS, B01C22MSD

EPA-CLP CONTRACT NO.: Not Applicable
DATACHEM LABORATORIES

I certify that this data package is in compliance with the terms and conditions of the contract both technically and for completeness except for the conditions detailed below. 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 his designee and verified by the following signature.

1-7-92
Jose Danino Ph.D., Section Manager

I. 1. WHC33 DataChem Laboratories received two water samples for WHC33 which were assigned sample delivery group WHCP33.

2. Pesticide/PCB Analysis The Westinghouse Hanford Pesticide/PCB analysis was contracted to be analyzed and reported according to the 2/88 EPA-CLP statement of work. All of the contract requirements for standardization were met on both columns with the exception of percent difference of methoxychlor in two INDA standard solutions for the first column. The analysis was performed using megabore columns. Retention time windows for the analytes were taken from the 3/90 EPA-CLP statement of work.

The surrogate spiking solution used on samples B01BX2, B01C22, B01C22MS, B01C22MSD and PBLKW02 was not the required 2/88 SOW solution. The 3/90 EPA-CLP SOW spiking solution, which does not contain dibutylchlorendate, was inadvertently used. No surrogatre reocvery or retention time shift could be calculated. The injections named ZZZZZ are not required for the deliverables package.

3. Matrix Spike and Matrix Spike Duplicate Analyses The matrix spike and matrix spike duplicate analyses were performed on B01C22.

4. Pesticide Abbreviations The abbreviations used by the computer are summarized below:
Tox= Toxaphene
Hept epox= Heptachlor Epoxide

9613428.0791

Endo I= Endosulfan I
Endo II= Endosulfan II
End Ald= Endrin Aldehyde
G-Chlor= Gamma Chlordane
A-Chlor= Alpha Chlordane
Endo Sulf= Endosulfan Sulfate
End Ket= Endrin Ketone
DBC= Dibutylchlorendate
Methox= Methoxychlor
Hept= Heptachlor
G-BHC= Gamma BHC
A-BHC= Alpha BHC
B-BHC= Beta BHC
D-BHC= Delta BHC

9613428.1092

1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B01BX2

Lab Name: DATACHEM LABS Contract: HANFORD

Lab Code: DATAC Case No.: WHC33 SAS No.: _____ SDG No.: WHCP33

Matrix: (soil/water) WATER Lab Sample ID: CLP9242

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

Level: (low/med) LOW Date Received: 11/16/91

% Moisture: not dec. ____ dec. ____ Date Extracted: 11/21/91

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 12/19/91

GPC Cleanup: (Y/N) N pH: 6.0 Dilution Factor: 1

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
319-84-6	alpha-BHC	0.050	U
319-85-7	beta-BHC	0.050	U
319-86-8	delta-BHC	0.050	U
58-89-9	gamma-BHC (Lindane)	0.050	U
76-44-8	Heptachlor	0.050	U
309-00-2	Aldrin	0.050	U
1024-57-3	Heptachlor epoxide	0.050	U
959-98-8	Endosulfan I	0.050	U
60-57-1	Dieldrin	0.10	U
72-55-9	4,4'-DDE	0.10	U
72-20-8	Endrin	0.10	U
33213-65-9	Endosulfan II	0.10	U
72-54-8	4,4'-DDD	0.10	U
1031-07-8	Endosulfan sulfate	0.10	U
50-29-3	4,4'-DDT	0.10	U
72-43-5	Methoxychlor	0.50	U
53494-70-5	Endrin ketone	0.10	U
5103-71-9	alpha-Chlordane	0.50	U
5103-74-2	gamma-Chlordane	0.50	U
8001-35-2	Toxaphene	1.0	U
12674-11-2	Aroclor-1016	0.50	U
11104-28-2	Aroclor-1221	0.50	U
11141-16-5	Aroclor-1232	0.50	U
53469-21-9	Aroclor-1242	0.50	U
12672-29-6	Aroclor-1248	0.50	U
11097-69-1	Aroclor-1254	1.0	U
11096-82-5	Aroclor-1260	1.0	U

9613428.0795

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B01C22

Lab Name: DATACHEM LABS Contract: HANFORD

Lab Code: DATAC Case No.: WHC33 SAS No.: _____ SDG No.: WHCP33

Matrix: (soil/water) WATER Lab Sample ID: CLP9243

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

Level: (low/med) LOW Date Received: 11/16/91

% Moisture: not dec. ____ dec. ____ Date Extracted: 11/21/91

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 12/19/91

GPC Cleanup: (Y/N) N pH: 6.0 Dilution Factor: 1

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
319-84-6	alpha-BHC	0.050	U
319-85-7	beta-BHC	0.050	U
319-86-8	delta-BHC	0.050	U
58-89-9	gamma-BHC (Lindane)	0.050	U
76-44-8	Heptachlor	0.050	U
309-00-2	Aldrin	0.050	U
1024-57-3	Heptachlor epoxide	0.050	U
959-98-8	Endosulfan I	0.050	U
60-57-1	Dieldrin	0.10	U
72-55-9	4,4'-DDE	0.10	U
72-20-8	Endrin	0.10	U
33213-65-9	Endosulfan II	0.10	U
72-54-8	4,4'-DDD	0.10	U
1031-07-8	Endosulfan sulfate	0.10	U
50-29-3	4,4'-DDT	0.10	U
72-43-5	Methoxychlor	0.50	U
53494-70-5	Endrin ketone	0.10	U
5103-71-9	alpha-Chlordane	0.50	U
5103-74-2	gamma-Chlordane	0.50	U
8001-35-2	Toxaphene	1.0	U
12674-11-2	Aroclor-1016	0.50	U
11104-28-2	Aroclor-1221	0.50	U
11141-16-5	Aroclor-1232	0.50	U
53469-21-9	Aroclor-1242	0.50	U
12672-29-6	Aroclor-1248	0.50	U
11097-69-1	Aroclor-1254	1.0	U
11096-82-5	Aroclor-1260	1.0	U

9613428.0794

DATA CHEM LABORATORIES

ENVIRONMENTAL WATER REPORT

Date _____
Agency Identification Number SF-0995-DH
Account No. 3534C

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

JAN 1992 RECEIVED OSM DMO

Telephone (509) 373-3225

Sampling Collection and Shipment

Sampling Site _____ Date of Collection September 06, 1991

Date Samples Received at DataChem November 16, 1991

Analytical Results

Parameter Name / Analysis Date / Method / Prep Method	Units	Field Number / Lab Number	B01 BX2 CLP 9242	B01 C22 CLP 9243						* Limit of Detection
Total Dissolved Solids 11/21/1991 160.1 [1]	mg/L		220	250						10
Conductivity 11/21/1991 120.1 [1]	µmhos/cm		400	360						1.
Turbidity 11/19/1991 180.1 [1]	NTU		3.5	0.9						0.1
pH 11/19/1991 9040 [2]	pH units		7.5	7.7						± 0.1
Ammonia (NH_3 - N) 11/27/1991 350.1 [1]	mg/L		0.03	ND*						0.02
Nitrates (NO_3-N + NO_2-N) 12/09/1991 353.2 [1]	mg/L		2.1	4.6						0.01
Chemical Oxygen Demand (COD) 12/04/1991 410.4 [1]	mg/L		ND*	ND*						10
Alkalinity ($CaCO_3$) 11/26/1991 310.2 [1]	mg/L		150	140						10

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

Rosemary H. Hanks
Analyst: Rosemary H. Hanks

Dorene A. Kley
Reviewer: Dorene A. Kley

Norman K. Christensen
Laboratory Supervisor: Norman K. Christensen

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

9613428.0795

DATA CHEM LABORATORIES

ENVIRONMENTAL WATER REPORT

Date _____

Agency Identification Number SF-0995-DH

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

[1] EPA-600/4-79-020 "Methods for Chemical Analysis of Water and Wastes", March 1983.

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

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9613428.0796

DATA CHEM LABORATORIES

ENVIRONMENTAL WATER REPORT

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

Date _____
Agency Identification Number SF-0995-JH
Account No. 3534C

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

JAN 1992 RECEIVED OSM DMO

Telephone (509) 373-3225

Sampling Collection and Shipment

Sampling Site _____ Date of Collection November 14, 1991

Date Samples Received at DataChem November 16, 1991

Analytical Results

Parameter Name / Analysis Date / Method / Prep Method	Units	Field Number / Lab Number	B01 BX2 CLP 9242	B01 C22 CLP 9243						* Limit of Detection
Fluoride (F) 11/25/1991 300.0 [1]	mg/L		2.8	3.3						0.1
Chloride (Cl) 11/25/1991 300.0 [1]	mg/L		6.5	5.0						0.2
Nitrite (NO_2-N) 11/25/1991 300.0 [1]	mg/L		**	**						**
Bromide (Br) 11/25/1991 300.0 [1]	mg/L		**	**						**
Nitrate (NO_3-N) 11/25/1991 300.0 [1]	mg/L		2.0	3.5						0.03
Phosphate (PO_4-P) 11/25/1991 300.0 [1]	mg/L		ND*	ND*						0.4
Sulfate (SO_4) 11/25/1991 300.0 [1]	mg/L		2700	3100						0.4

* 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.)

Brian W. Motes
Analyst: Brian W. Motes

Debbie A. Christensen
Reviewer: Debbie A. Christensen

Norman K. Christensen
Laboratory Supervisor: Norman K. Christensen

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

DATA CHEM LABORATORIES

ENVIRONMENTAL WATER REPORT

Date _____

Agency Identification Number SF-0995-JH

General Set Comments

** There was an interference at the retention times of Bromide and Nitrite. Therefore, Bromide and Nitrite could not be quantitated.

The samples analyzed for this set were preserved in sulfuric acid. Therefore, the results for Sulfate are not valid. The non-preserved samples will be analyzed for all anions. The non-preserved samples will be reported as set ID# SF-0995-KH.

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

[1] EPA-600/4-79-020 "Methods for Chemical Analysis of Water and Wastes", March 1983.

9613428.0798

DATA CHEM LABORATORIES

ENVIRONMENTAL WATER REPORT

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

Date _____
Agency Identification Number SF-0995-KH
Account No. 3534C

JAN 1992 RECEIVED OSM DMO

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

Telephone (509) 373-3225

Sampling Collection and Shipment

Sampling Site _____ Date of Collection September 06, 1991

Date Samples Received at DataChem November 16, 1991

Analytical Results

Parameter Name / Analysis Date / Method / Prep Method	Units	Field Number / Lab Number	B01 BX2 CLP 9242	B01 C22 CLP 9243						* Limit of Detection
Chloride (Cl) 01/13/1992 300.0 [1]	mg/L		7.2	11.						0.2
Fluoride (F) 01/13/1992 300.0 [1]	mg/L		0.2	0.3						0.2
Bromide (Br) 01/13/1992 300.0 [1]	mg/L		ND*	ND*						0.2
Nitrate (NO_3-N) 01/13/1992 300.0 [1]	mg/L		2.1	3.8						0.05
Nitrite (NO_2-N) 01/13/1992 300.0 [1]	mg/L		ND*	ND*						0.07
Sulfate (SO_4) 01/13/1992 300.0 [1]	mg/L		17.	33.						0.2
Phosphate (PO_4-P) 01/13/1992 300.0 [1]	mg/L		ND*	ND*						0.7

* 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: Brian W. Motes

Reviewer: Debbie A. Christensen

Laboratory Supervisor: Norman K. Christensen

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

DATA CHEM LABORATORIES

ENVIRONMENTAL WATER REPORT

Date _____

Agency Identification Number SF-0995-KH

General Set Comments

These samples were originally ran as set ID# SF-0995-JH.

The original raw data is with samples CLP 9225-35 set ID# SF-0994-JI.

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

[1] EPA-600/4-79-020 "Methods for Chemical Analysis of Water and Wastes", March 1983.

9613428.0800

DATA CHEM LABORATORIES

ENVIRONMENTAL SOIL REPORT

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

Date _____
Agency Identification Number SF-0995-EH
Account No. 3534C

12-12-91

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

Telephone (509) 373-3225

Sampling Collection and Shipment

Sampling Site _____ Date of Collection September 06, 1991

Date Samples Received at DataChem November 16, 1991

Analytical Results

Parameter Name / Analysis Date / Method / Prep Method	Units	Field Number / Lab Number	B01 1T9 / CLP 9246	B01 1B0 / CLP 9247	B01 1V1 / CLP 9248	B01 1V2 / CLP 9249	B01 1V3 / CLP 9250			* Limit of Detection
Chloride (Cl) 12/02/1991 300.0 [1]	µg/g		2.	3.	3.	4.	11.			1.
Fluoride (F) 12/02/1991 300.0 [1]	µg/g		ND*	ND*	ND*	ND*	ND*			1.
Bromide (Br) 12/02/1991 300.0 [1]	µg/g		ND*	ND*	ND*	ND*	ND*			1.
Nitrate (NO_3-N) 12/02/1991 300.0 [1]	µg/g		ND*	ND*	ND*	ND*	ND*			0.3
Nitrite (NO_2-N) 12/02/1991 300.0 [1]	µg/g		0.5	0.6	0.6	0.7	0.8			0.4
Sulfate (SO_4) 12/02/1991 300.0 [1]	µg/g		31.	8.	28.	37.	37.			1.
Phosphate (PO_4-P) 12/02/1991 300.0 [1]	µg/g		ND*	ND*	ND*	ND*	ND*			2.

* 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.)

Bryan W. Motes
Analyst: Bryan W. Motes

Debbie A. Christensen
Reviewer: Debbie A. Christensen

Norman K. Christensen
Laboratory Supervisor: Norman K. Christensen

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

9613428.0801

DATA CHEM LABORATORIES

ENVIRONMENTAL SOIL REPORT

Date _____

Agency Identification Number SF-0995-EH

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.)

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A Sorenson Company

9613428.0802

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

Westinghouse Hanford

****

Case: WHC33 SDG: WHCM33 SF-0995-AH,BH,CH,IH
SF-0997-AG,BG,CG,DG

Client sample #	EPA Sample #	Lab Sample #
B01BX2	MC9242	CLP9242
B01C22	MC9243	CLP9243
B01BX3	MC9244	CLP9244
B01C23	MC9245	CLP9245
B011T9	MC9246	CLP9246
B011V0	MC9247	CLP9247
B011V1	MC9248	CLP9248
B011V2	MC9249	CLP9249
B011V3	MC9250	CLP9250
B01BV2	MC9256	CLP9256
B01BV3	MC9257	CLP9257
B01BT3	MC9259	CLP9259
B01BT4	MC9260	CLP9260
MATRIX SPIKE (GFAA & Hg)	MC9242S	CLP9242
MATRIX SPIKE (ICP)	MC9243S	CLP9243
MATRIX SPIKE (Hg)	MC9245S	CLP9245
MATRIX SPIKE (GFAA)	MC9246S	CLP9246
MATRIX SPIKE (ICP)	MC9247S	CLP9247
MATRIX SPIKE (Hg)	MC9249S	CLP9249
MATRIX SPIKE (CN)	MC9259S	CLP9259
MATRIX DUPLICATE (GFAA & Hg)	MC9242D	CLP9242
MATRIX DUPLICATE (ICP)	MC9243D	CLP9243
MATRIX DUPLICATE (Hg)	MC9245D	CLP9245
MATRIX DUPLICATE (GFAA)	MC9246D	CLP9246
MATRIX DUPLICATE (ICP)	MC9247D	CLP9247
MATRIX DUPLICATE (Hg)	MC9249D	CLP9249
MATRIX DUPLICATE (CN)	MC9256D	CLP9256

9613428.0803

U.S. EPA - CLP

1

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MC9242

Lab Name: DATACHEM LABORATORIES Contract:

Lab Code: DATAC Case No.: WHC33 SAS No.: SDG No.: WHCM33

Matrix (soil/water): WATER Lab Sample ID: CLP9242

Level (low/med): LOW Date Received: 11/16/91

% Solids: 0.0

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	184	B		P
7440-36-0	Antimony	44.0	U		P
7440-38-2	Arsenic	4.8	B	W	F
7440-39-3	Barium	35.7	B		P
7440-41-7	Beryllium	1.0	U		P
7440-43-9	Cadmium	4.0	U		P
7440-70-2	Calcium	48100			P
7440-47-3	Chromium	41.8			P
7440-48-4	Cobalt	4.0	U		P
7440-50-8	Copper	42.8			P
7439-89-6	Iron	383			P
7439-92-1	Lead	2.6	B	W	F
7439-95-4	Magnesium	9560			P
7439-96-5	Manganese	11.4	B		P
7439-97-6	Mercury	0.20	U		CV
7440-02-0	Nickel	17.0	U		P
7440-09-7	Potassium	4600	B		P
7782-49-2	Selenium	2.0	U		F
7440-22-4	Silver	4.0	U		P
7440-23-5	Sodium	13600			P
7440-28-0	Thallium	1.0	U		F
7440-62-2	Vanadium	13.0	B		P
7440-66-6	Zinc	17.7	B		P
	Cyanide	10.0	U		AS

Color Before: COLORLESS Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

9613428.0804

U.S. EPA - CLP

1

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MC9243

Lab Name: DATACHEM LABORATORIES Contract:

Lab Code: DATAC Case No.: WHC33 SAS No.: SDG No.: WHCM33

Matrix (soil/water): WATER Lab Sample ID: CLP9243

Level (low/med): LOW Date Received: 11/16/91

% Solids: 0.0

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	117	B		P
7440-36-0	Antimony	44.0	U		P
7440-38-2	Arsenic	3.2	B		F
7440-39-3	Barium	51.7	B		P
7440-41-7	Beryllium	1.0	U		P
7440-43-9	Cadmium	4.0	U		P
7440-70-2	Calcium	46800			P
7440-47-3	Chromium	19.8			P
7440-48-4	Cobalt	4.0	U		P
7440-50-8	Copper	19.6	B		P
7439-89-6	Iron	110			P
7439-92-1	Lead	2.0	B		F
7439-95-4	Magnesium	9610			P
7439-96-5	Manganese	44.4			P
7439-97-6	Mercury	0.20	U		CV
7440-02-0	Nickel	17.0	U		P
7440-09-7	Potassium	6600			P
7782-49-2	Selenium	2.0	U	W	F
7440-22-4	Silver	4.0	U		P
7440-23-5	Sodium	21200			P
7440-28-0	Thallium	1.0	U	W	F
7440-62-2	Vanadium	11.6	B		P
7440-66-6	Zinc	8.8	B		P
	Cyanide	10.0	U		AS

Color Before: COLORLESS Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

9613428.0805

U.S. EPA - CLP

1

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MC9244

Lab Name: DATACHEM LABORATORIES Contract:

Lab Code: DATAC Case No.: WHC33 SAS No.: SDG No.: WHCM33

Matrix (soil/water): WATER Lab Sample ID: CLP9244

Level (low/med): LOW Date Received: 11/16/91

% Solids: 0.0

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	78.5	B		P
7440-36-0	Antimony	44.0	U		P
7440-38-2	Arsenic	4.5	B		F
7440-39-3	Barium	35.7	B		P
7440-41-7	Beryllium	1.0	U		P
7440-43-9	Cadmium	4.0	U		P
7440-70-2	Calcium	47800			P
7440-47-3	Chromium	9.4	B		P
7440-48-4	Cobalt	4.0	U		P
7440-50-8	Copper	27.7			P
7439-89-6	Iron	41.1	B		P
7439-92-1	Lead	2.3	B		F
7439-95-4	Magnesium	9440			P
7439-96-5	Manganese	1.0	U		P
7439-97-6	Mercury	0.20	U		CV
7440-02-0	Nickel	17.0	U		P
7440-09-7	Potassium	5030			P
7782-49-2	Selenium	2.0	U	W	F
7440-22-4	Silver	4.0	U		P
7440-23-5	Sodium	13500			P
7440-28-0	Thallium	1.0	U		F
7440-62-2	Vanadium	14.5	B		P
7440-66-6	Zinc	10.6	B		P
	Cyanide				NR

Color Before: COLORLESS Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

9613428.0806

U.S. EPA - CLP

1

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MC9245

Lab Name: DATACHEM LABORATORIES Contract:

Lab Code: DATAC Case No.: WHC33 SAS No.: SDG No.: WHCM33

Matrix (soil/water): WATER Lab Sample ID: CLP9245

Level (low/med): LOW Date Received: 11/16/91

% Solids: 0.0

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	127	B		P
7440-36-0	Antimony	44.0	U		P
7440-38-2	Arsenic	3.2	B		F
7440-39-3	Barium	52.3	B		P
7440-41-7	Beryllium	1.0	U		P
7440-43-9	Cadmium	4.0	U		P
7440-70-2	Calcium	46900			P
7440-47-3	Chromium	10.4			P
7440-48-4	Cobalt	4.0	U		P
7440-50-8	Copper	54.4			P
7439-89-6	Iron	38.6	B		P
7439-92-1	Lead	2.6	B		F
7439-95-4	Magnesium	9580			P
7439-96-5	Manganese	41.3			P
7439-97-6	Mercury	0.20	U		CV
7440-02-0	Nickel	17.0	U		P
7440-09-7	Potassium	6630			P
7782-49-2	Selenium	2.0	U	W	F
7440-22-4	Silver	4.0	U		P
7440-23-5	Sodium	21400			P
7440-28-0	Thallium	1.0	U		F
7440-62-2	Vanadium	7.2	B		P
7440-66-6	Zinc	17.7	B		P
	Cyanide				NR

Color Before: COLORLESS Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

9613428.0807

U.S. EPA - CLP

1

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MC9246

Lab Name: DATACHEM LABORATORIES Contract:

Lab Code: DATAC Case No.: WHC33 SAS No.: SDG No.: WHCM33

Matrix (soil/water): SOIL Lab Sample ID: CLP9246

Level (low/med): LOW Date Received: 11/16/91

% Solids: 99.8

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	7240			P
7440-36-0	Antimony	8.8	U	N	P
7440-38-2	Arsenic	0.24	B	NW	F
7440-39-3	Barium	58.5			P
7440-41-7	Beryllium	0.32	B		P
7440-43-9	Cadmium	0.80	U		P
7440-70-2	Calcium	7380			P
7440-47-3	Chromium	4.2			P
7440-48-4	Cobalt	16.6			P
7440-50-8	Copper	17.1			P
7439-89-6	Iron	27000			P
7439-92-1	Lead	1.6			F
7439-95-4	Magnesium	4000			P
7439-96-5	Manganese	305		N	P
7439-97-6	Mercury	0.10	U		CV
7440-02-0	Nickel	7.6	B		P
7440-09-7	Potassium	643	B		P
7782-49-2	Selenium	0.40	U	N	F
7440-22-4	Silver	0.80	U		P
7440-23-5	Sodium	1320			P
7440-28-0	Thallium	0.46	B	W	F
7440-62-2	Vanadium	78.6		N	P
7440-66-6	Zinc	46.7			P
	Cyanide				NR

Color Before: BROWN Clarity Before: Texture: MEDIUM

Color After: YELLW Clarity After: Artifacts:

Comments:

9613428.0808

U.S. EPA - CLP

1

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MC9247

Lab Name: DATACHEM LABORATORIES Contract:

Lab Code: DATAC Case No.: WHC33 SAS No.: SDG No.: WHCM33

Matrix (soil/water): SOIL Lab Sample ID: CLP9247

Level (low/med): LOW Date Received: 11/16/91

% Solids: 96.8

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	8010			P
7440-36-0	Antimony	9.1	U	N	P
7440-38-2	Arsenic	0.23	B	NW	F
7440-39-3	Barium	55.9			P
7440-41-7	Beryllium	0.46	B		P
7440-43-9	Cadmium	0.83	U		P
7440-70-2	Calcium	8590			P
7440-47-3	Chromium	2.9			P
7440-48-4	Cobalt	16.3			P
7440-50-8	Copper	16.1			P
7439-89-6	Iron	30600			P
7439-92-1	Lead	1.5			F
7439-95-4	Magnesium	4920			P
7439-96-5	Manganese	338		N	P
7439-97-6	Mercury	0.10	U		CV
7440-02-0	Nickel	3.5	U		P
7440-09-7	Potassium	674	B		P
7782-49-2	Selenium	0.41	U	N	F
7440-22-4	Silver	0.83	U		P
7440-23-5	Sodium	1500			P
7440-28-0	Thallium	0.27	B		F
7440-62-2	Vanadium	76.4		N	P
7440-66-6	Zinc	51.6			P
	Cyanide				NR

Color Before: BROWN Clarity Before: Texture: MEDIUM

Color After: YELLW Clarity After: Artifacts:

Comments:

9613428.0809

U.S. EPA - CLP

1

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MC9248

Lab Name: DATACHEM LABORATORIES Contract:

Lab Code: DATAC Case No.: WHC33 SAS No.: SDG No.: WHCM33

Matrix (soil/water): SOIL Lab Sample ID: CLP9248

Level (low/med): LOW Date Received: 11/16/91

% Solids: 95.5

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	9150			P
7440-36-0	Antimony	9.2	U	N	P
7440-38-2	Arsenic	0.21	U	NW	F
7440-39-3	Barium	92.0			P
7440-41-7	Beryllium	0.21	U		P
7440-43-9	Cadmium	0.84	U		P
7440-70-2	Calcium	9580			P
7440-47-3	Chromium	7.0			P
7440-48-4	Cobalt	18.6			P
7440-50-8	Copper	17.7			P
7439-89-6	Iron	32700			P
7439-92-1	Lead	1.7			F
7439-95-4	Magnesium	4920			P
7439-96-5	Manganese	365		N	P
7439-97-6	Mercury	0.10	U		CV
7440-02-0	Nickel	9.3			P
7440-09-7	Potassium	792	B		P
7782-49-2	Selenium	0.42	U	N	F
7440-22-4	Silver	0.84	U		P
7440-23-5	Sodium	1710			P
7440-28-0	Thallium	0.21	U		F
7440-62-2	Vanadium	90.4		N	P
7440-66-6	Zinc	58.0			P
	Cyanide				NR

Color Before: BROWN Clarity Before: Texture: MEDIUM

Color After: YELLW Clarity After: Artifacts:

Comments:

9613428.0810

U.S. EPA - CLP

1

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MC9249

Lab Name: DATACHEM LABORATORIES Contract:

Lab Code: DATAC Case No.: WHC33 SAS No.: SDG No.: WHCM33

Matrix (soil/water): SOIL Lab Sample ID: CLP9249

Level (low/med): LOW Date Received: 11/16/91

% Solids: 96.8

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	8480			P
7440-36-0	Antimony	9.1	U	N	P
7440-38-2	Arsenic	0.21	U	NW	F
7440-39-3	Barium	72.5			P
7440-41-7	Beryllium	0.21	U		P
7440-43-9	Cadmium	0.83	U		P
7440-70-2	Calcium	8710			P
7440-47-3	Chromium	3.0			P
7440-48-4	Cobalt	14.1			P
7440-50-8	Copper	24.3			P
7439-89-6	Iron	24500			P
7439-92-1	Lead	1.6			F
7439-95-4	Magnesium	3700			P
7439-96-5	Manganese	270		N	P
7439-97-6	Mercury	0.10	U		CV
7440-02-0	Nickel	4.8	B		P
7440-09-7	Potassium	474	B		P
7782-49-2	Selenium	0.41	U	N	F
7440-22-4	Silver	0.83	U		P
7440-23-5	Sodium	1410			P
7440-28-0	Thallium	0.21	U		F
7440-62-2	Vanadium	59.2		N	P
7440-66-6	Zinc	41.5			P
	Cyanide				NR

Color Before: BROWN Clarity Before: Texture: MEDIUM

Color After: YELLW Clarity After: Artifacts:

Comments:

11

9613428.0811

U.S. EPA - CLP

1

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MC9250

Lab Name: DATACHEM LABORATORIES Contract:

Lab Code: DATAC Case No.: WHC33 SAS No.: SDG No.: WHCM33

Matrix (soil/water): SOIL Lab Sample ID: CLP9250

Level (low/med): LOW Date Received: 11/16/91

% Solids: 98.6

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	6000			P
7440-36-0	Antimony	8.9	U	N	P
7440-38-2	Arsenic	0.95	B	NW	F
7440-39-3	Barium	64.0			P
7440-41-7	Beryllium	0.20	U		P
7440-43-9	Cadmium	0.81	U		P
7440-70-2	Calcium	2590			P
7440-47-3	Chromium	11.0			P
7440-48-4	Cobalt	5.1	B		P
7440-50-8	Copper	11.4			P
7439-89-6	Iron	11200			P
7439-92-1	Lead	3.1			F
7439-95-4	Magnesium	3260			P
7439-96-5	Manganese	273		N	P
7439-97-6	Mercury	0.10	U		CV
7440-02-0	Nickel	7.7	B		P
7440-09-7	Potassium	903	B		P
7782-49-2	Selenium	0.41	U	N	F
7440-22-4	Silver	0.81	U		P
7440-23-5	Sodium	525	B		P
7440-28-0	Thallium	0.20	U		F
7440-62-2	Vanadium	23.2		N	P
7440-66-6	Zinc	32.1			P
	Cyanide				NR

Color Before: BROWN Clarity Before: Texture: FINE

Color After: YELLW Clarity After: Artifacts:

Comments:

9613428.0812

U.S. EPA - CLP

1

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MC9256

Lab Name: DATACHEM LABORATORIES Contract:

Lab Code: DATAC Case No.: WHC33 SAS No.: SDG No.: WHCM33

Matrix (soil/water): WATER Lab Sample ID: CLP9256

Level (low/med): LOW Date Received: 11/19/91

% Solids: 0.0

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	97.5	B		P
7440-36-0	Antimony	44.0	U		P
7440-38-2	Arsenic	5.4	B		F
7440-39-3	Barium	36.3	B		P
7440-41-7	Beryllium	1.0	U		P
7440-43-9	Cadmium	4.0	U		P
7440-70-2	Calcium	41000			P
7440-47-3	Chromium	9.4	B		P
7440-48-4	Cobalt	4.0	U		P
7440-50-8	Copper	26.6			P
7439-89-6	Iron	58.1	B		P
7439-92-1	Lead	3.4			F
7439-95-4	Magnesium	8600			P
7439-96-5	Manganese	2.3	B		P
7439-97-6	Mercury	0.20	U		CV
7440-02-0	Nickel	17.0	U		P
7440-09-7	Potassium	4970	B		P
7782-49-2	Selenium	2.0	U	W	F
7440-22-4	Silver	4.0	U		P
7440-23-5	Sodium	18800			P
7440-28-0	Thallium	1.0	U		F
7440-62-2	Vanadium	14.0	B		P
7440-66-6	Zinc	10.6	B		P
	Cyanide	10.0	U		AS

Color Before: COLORLESS Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

9613H28.0813

U.S. EPA - CLP

1

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MC9257

Lab Name: DATACHEM LABORATORIES Contract:

Lab Code: DATAC Case No.: WHC33 SAS No.: SDG No.: WHCM33

Matrix (soil/water): WATER Lab Sample ID: CLP9257

Level (low/med): LOW Date Received: 11/19/91

% Solids: 0.0

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	131	B		P
7440-36-0	Antimony	44.0	U		P
7440-38-2	Arsenic	5.7	B		F
7440-39-3	Barium	38.0	B		P
7440-41-7	Beryllium	1.0	U		P
7440-43-9	Cadmium	4.0	U		P
7440-70-2	Calcium	42500			P
7440-47-3	Chromium	7.0	U		P
7440-48-4	Cobalt	4.0	U		P
7440-50-8	Copper	44.6			P
7439-89-6	Iron	8.7	B		P
7439-92-1	Lead	2.5	B		F
7439-95-4	Magnesium	8840			P
7439-96-5	Manganese	1.0	U		P
7439-97-6	Mercury	0.20	U		CV
7440-02-0	Nickel	17.0	U		P
7440-09-7	Potassium	5620			P
7782-49-2	Selenium	2.0	U		F
7440-22-4	Silver	4.0	U		P
7440-23-5	Sodium	19400			P
7440-28-0	Thallium	1.0	U	W	F
7440-62-2	Vanadium	14.0	B		P
7440-66-6	Zinc	8.8	B		P
	Cyanide				NR

Color Before: COLORLESS Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

9613H28.0814

U.S. EPA - CLP

1

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MC9259

Lab Name: DATACHEM LABORATORIES Contract:

Lab Code: DATAC Case No.: WHC33 SAS No.: SDG No.: WHCM33

Matrix (soil/water): WATER Lab Sample ID: CLP9259

Level (low/med): LOW Date Received: 11/19/91

% Solids: 0.0

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	75.0	B		P
7440-36-0	Antimony	44.0	U		P
7440-38-2	Arsenic	4.0	B		F
7440-39-3	Barium	65.0	B		P
7440-41-7	Beryllium	1.0	U		P
7440-43-9	Cadmium	4.0	U		P
7440-70-2	Calcium	87900			P
7440-47-3	Chromium	13.4			P
7440-48-4	Cobalt	4.0	U		P
7440-50-8	Copper	15.2	B		P
7439-89-6	Iron	272			P
7439-92-1	Lead	2.4	B		F
7439-95-4	Magnesium	18500			P
7439-96-5	Manganese	11.7	B		P
7439-97-6	Mercury	0.20	U		CV
7440-02-0	Nickel	134			P
7440-09-7	Potassium	8150			P
7782-49-2	Selenium	2.0	U	W	F
7440-22-4	Silver	4.0	U		P
7440-23-5	Sodium	28900			P
7440-28-0	Thallium	1.0	U	W	F
7440-62-2	Vanadium	16.7	B		P
7440-66-6	Zinc	8.3	B		P
	Cyanide	10.0	U		AS

Color Before: COLORLESS Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

9613428.0815

U.S. EPA - CLP

1

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MC9260

Lab Name: DATACHEM LABORATORIES Contract:

Lab Code: DATAC Case No.: WHC33 SAS No.: SDG No.: WHCM33

Matrix (soil/water): WATER Lab Sample ID: CLP9260

Level (low/med): LOW Date Received: 11/19/91

% Solids: 0.0

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	129	B		P
7440-36-0	Antimony	44.0	U		P
7440-38-2	Arsenic	3.5	B		F
7440-39-3	Barium	64.4	B		P
7440-41-7	Beryllium	1.0	U		P
7440-43-9	Cadmium	4.0	U		P
7440-70-2	Calcium	88700			P
7440-47-3	Chromium	7.0	U		P
7440-48-4	Cobalt	4.0	U		P
7440-50-8	Copper	28.8			P
7439-89-6	Iron	80.3	B		P
7439-92-1	Lead	1.0	U		F
7439-95-4	Magnesium	18600			P
7439-96-5	Manganese	12.5	B		P
7439-97-6	Mercury	0.20	U		CV
7440-02-0	Nickel	96.9			P
7440-09-7	Potassium	8180			P
7782-49-2	Selenium	20.0	U		F
7440-22-4	Silver	4.0	U		P
7440-23-5	Sodium	28900			P
7440-28-0	Thallium	1.0	U	W	F
7440-62-2	Vanadium	16.8	B		P
7440-66-6	Zinc	12.7	B		P
	Cyanide				NR

Color Before: COLORLESS Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

9613428.0816

23

EMERY WORLDWIDE — A CF Company

SIGNATURE AND TALLY RECORD

60029-46 (8/89) Litho USA

DATE: 11-15-91 SHIPMENT NO.: 247425445 3
SHIPPER: WESTINGHOUSE SHIPPING DEPT (509) 376-6665
REFERENCE NO.: W92-0-0035#31

SHIPPER NAME AND ADDRESS	CONSIGNEE NAME AND ADDRESS
WESTINGHOUSE SHIPPING DEPT (509) 376-6665 G2-06 US DEPARTMENT OF ENERGY C/O WESTINGHOUSE HANFORD COMPANY 2355 STEVENS DRIVE 1163 BUILDING PO BOX 1970 RICHLAND WA 99352	ATTN: JIM JOHNSTON DATA-CHEM 960 W. LEVOY DRIVE SALT LAKE CITY UT 84123

Pieces	Weight	Description/Marks	Emery Authorization No.
2	160 LBS	WATER SAMPLES W92-0-0035#31 COOLER ID: 315 82#, DATA CHEM LAB	3 78#

EACH PERSON HANDLING OR TAKING CUSTODY OF THIS SHIPMENT MUST SIGN AND COMPLETE THE INFORMATION BELOW.

Name of Person/Company	Transship Point/Destination	Signature of Person Accepting Custody	Time/Date
1. [illegible]	[illegible]	[illegible]	[illegible]
2. [illegible]	[illegible]	[illegible]	[illegible]
3. [illegible]	[illegible]	[illegible]	[illegible]
4. K Rud- H [illegible]	[illegible]	K [illegible]	[illegible]
5. - SLR	HRY	[illegible]	0430 11/15
6. [illegible]	SLC	[illegible]	1100 11/16
7.			
8.			

SPECIAL HANDLING INSTRUCTIONS

CONSIGNEE COPY

(COPY) ORIGINAL IS FILED IN CSF WHC33 WHCV33

275

9613428.0817

EMERY WORLDWIDE — A CF Company

SIGNATURE AND TALLY RECORD

60029-46 (8/89) Litho USA

DATE: 11-15-91 SHIPMENT NO.: 247425446 4
SHIPPER: WESTINGHOUSE SHIPPING DEPT (509) 376-6665
REFERENCE NO.: W92-0-0035#32

SHIPPER NAME AND ADDRESS	CONSIGNEE NAME AND ADDRESS
WESTINGHOUSE SHIPPING DEPT (509) 376-6665 G2-06 US DEPARTMENT OF ENERGY C/O WESTINGHOUSE HANFORD COMPANY 2355 STEVENS DRIVE 1163 BUILDING PO BOX 1970 RICHLAND WA 99352	ATTN: JIM JOHNSTON DATA-CHEM 960 W. LEVOY DRIVE SALT LAKE CITY UT 84123

Pieces	Weight	Description/Marks	Emery Authorization No.
1 BX	42 LBS	W92-0-0035#32 COOLER ID: 89 DEN SOIL SAMPLES	

EACH PERSON HANDLING OR TAKING CUSTODY OF THIS SHIPMENT MUST SIGN AND COMPLETE THE INFORMATION BELOW

	Name of Person/Company	Transship Point/Destination	Signature of Person Accepting Custody	Time/Date
1.	[illegible]	[illegible]	[illegible]	[illegible]
2.	[illegible]	[illegible]	[illegible]	[illegible]
3.	[illegible]	[illegible]	[illegible]	[illegible]
4.	K Rowe - Hotel	Pasco	K Rowe	[illegible]
5.	[illegible]	[illegible]	[illegible]	[illegible]
6.	Elt Horvey	SLC	Elt	1100 11/15/91
7.				
8.				

SPECIAL HANDLING INSTRUCTIONS

CONSIGNEE COPY

(COPY) ORIGINAL IS FILED IN CSF WHC33 WHCV33

9613428.0818

M. OF PAYMENT

FCCOD

OTH COMAT

s Account Number
281585

EMERY WORLDWIDE

A CF Company

SERVICES

UNITED STATES / CANADA: Same Day; XX AM; PM; Second Day; Saturday Delivery

INTERNATIONAL: Express; Preferred; Standard; Business Documents; Customs Clearance; Delivery

PULL FOR SHPT. NO. TAB

Date	Origin	Shipment Number
11-18-91	PSC	24242543 5 4

OUSE SHIPPING DEPT (509) 376-6665	To: ATTN: JIM JOHNSTON	Tariff Dest. / Gateway
RTMENT OF ENERGY C/O HOUSE HANFORD	DATA-CHEM	Check to Shipper $
LDG 1163 EVENS DRIVE	960 W. LEVOY DRIVE	Hold for Pick Up
WA	SALT LAKE CITY UT	Canada

EMERY WORLDWIDE will collect consignee's check made payable only to the shipper for the value of the goods in the amount shown above.

Shipper's Reference Numbers	Zip		Consignee's Account Number	Zip
D1AT W92-0-0035#33	99352	E		84123

Description	Pcs.	L	W	H	Total Pieces	Total Weight (in Lbs.)
ID: BROOKS 58# 47#; WATER 92-0-0035#33	2	17	16	17	2	105#

FOR INFORMATION OR RATES CALL 1-800 HI EMERY (1-800-443-63

Declared Value

Met ☐ Edit ☐ A B C D E F G H I J K

1 2 3 4 5 6 / 7 8 9 0 1 2

DELIVERY
SECURITY SERVICE

Envelope 9X12 ☒ Pack 12X15 ☒

SLC-A

Commodity Code

Third party Account Number mandatory for Third party billing. E

Third Party Account Number

International Customs Value

International Insurance

Total Transportation Charges

Other Charges/Advance at Origin OC/AO- $

Terms and Conditions on Back

CONSIGNEE — PACKAGE COPY — 4

(COPY) ORIGINAL IS FILED IN CSF WHC33 WHCV33

277

9613428.0819

Westinghouse Hanford Company	CHAIN OF CUSTODY

Custody Form Initiator PH BUTCHER

Company Contact PH BUTCHER

Telephone (509)376-5045

Project Designation/Sampling Locations 1100-EM-1

Collection Date 11/14/91

Ice Chest No. 315

Field Logbook No. WHC-N-370, 2 115

Bill of Lading/Airbill No. 2474254453

Offsite Property No. W92-0-0035-31

Method of Shipment EMERY

Shipped to DATA CHEM

Possible Sample Hazards/Remarks N/A

Sample Identification

B0/BX2
3, 40ml, Gs, WATER, CLP-VOA
4, 2L ~~2, 4L~~, aG, WATER, CLP-SEMI-VOA/PEST, PCB's
4, 500ml ~~2, 1L~~, P, WATER, CLP-CN, NaOH
4, 500ml ~~2, 1L~~, P, WATER, CLP-ICP/AA METALS & Hg, HNO3 (UNFILTERED)
2, 500ml ~~1, 1L~~, P, WATER, ANIONS, TURB, ~~SO4~~, COND, TDS, pH
1, 500ml, P, WATER, NO2/NO3, AMMONIA, COD, H2SO4

B0/BX3
4, 500ml ~~2, 1L~~, P, WATER, CLP-ICP/AA METALS & Hg, HNO3 (FILTERED)

[] Field Transfer of Custody	Chain of Possession	(Sign and Print Names)
Relinquished by:	Received by:	Date/Time: KDL
Relinquished by: K.D. Lee	Received by: PH Butcher PH Butcher	Date/Time: 11/15/91 0700 11/14/91
Relinquished by: PH Butcher PH Butcher	Received by: JOSHUA D. MACMURRAY	Date/Time: 11-15-91 12:30
Relinquished by:	Received by:	Date/Time:

Final Sample Disposition

Disposal Method:	Disposed by:	Date/Time:

Comments:

(COPY) ORIGINAL IS FILED IN CSF WHC33 WHCV33

278

A-6000-407 (12/90) (EF) WEF061
Chain of Custody

9613428.0820

Westinghouse Hanford Company	CHAIN OF CUSTODY

Custody Form Initiator PH BUTCHER

Company Contact PH BUTCHER

Telephone (509)376-5045

Project Designation/Sampling Locations 1100-EM-1

Collection Date 11/14/91

Ice Chest No. Data Chem Labs 3

Field Logbook No. WHC-N-370 p. 114

Bill of Lading/Airbill No. 2474254453

Offsite Property No. W92-0-0035-31

Method of Shipment EMERY

Shipped to DATA CHEM

Possible Sample Hazards/Remarks N/A

Sample Identification

11-14-91

B0/C22

3, 40ml, Gs, WATER, CLP-VOA

4, 2L ~~2, 4L~~, aG, WATER, CLP-SEMI-VOA/PEST, PCB's

4, 500ml ~~2, 1L~~, P, WATER, CLP-CN, NaOH

4, 500ml ~~2, 1L~~, P, WATER, CLP-ICP/AA METALS & Hg, HNO3 (UNFILTERED)

2, 500ml ~~1, 1L~~, P, WATER, ANIONS, TURB, SO4, COND, TDS, pH

1, 500ml, P, WATER, NO2/NO3, AMMONIA, COD, H2SO4

B0 1C23

~~2, 1L~~, P, WATER, CLP-ICP/AA METALS & Hg, HNO3 (FILTERED)

4, 500ml

11-14-91

B01C61

3, 40ml, G, WATER, CLP-VOA

[] Field Transfer of Custody	Chain of Possession	(Sign and Print Names)
Relinquished by: Kirby D. Lee K.D. Lee	Received by: P H Butcher P H Butcher	Date/Time: 11/15/91 0200 11/14/91
Relinquished by: P H Butcher P H Butcher	Received by: Joshua D. McMurray	Date/Time: 11-18-91 12:30
Relinquished by:	Received by:	Date/Time:
Relinquished by:	Received by:	Date/Time:

Final Sample Disposition

Disposal Method:	Disposed by:	Date/Time:

Comments:

(COPY) ORIGINAL IS FILED IN CF WHC33 WHCV33

A-6000-407 (12/90) (EF) WEF061
Chain of Custody

9613428.0821

CHAIN OF CUSTODY

Company Contact	B.H. FORD	Telephone	509-376-6465		
Sample Collected by	WILLIAM C. BRENNAN	Date 09 06 91	09 06 91	Time	1420
Sample Locations	100 N Area - 199-N-72				
Ice Chest No.	RHB 11/15/91 ~~DFF~~ 89DEN	Field Logbook and Page No.	FIELD ACTIVITY REPORT #5		
Remarks	N/A DRIVE BARREL 20.0' SAMPLE				
Bill of Lading No.	2474254464	Offsite Property No.	11/15/91 RHB ~~W91-0481~~ # W92-0-0035-32		
Method of Shipment	EMERY				
Shipped to	DATACHEM				

SAMPLE IDENTIFICATION

B011T9
1, 1L, G, SOIL, ICP-METALS/ANIONS

CHAIN OF POSSESSION

Relinquished by:	Received by:	Date/Time:
William C. Brennan	R.D. Miller	091091 / 1600
R.D. Miller	P.H. Butcher	10/22/91 1100 hrs
P.H. Butcher	Joanna D. McMurray	11-18-91 12:30

9613428.0822

CHAIN OF CUSTODY

Company Contact	B.H. FORD	Telephone	509-376-6465		
Sample Collected by	William C. Brennan	Date	09 09 91	Time	1515
Sample Locations	100 N Area - 199-N-72				
Ice Chest No.	PHB 11/13/91 89DEN	Field Logbook and Page No.	Daily Activity Report #6		
Remarks	N/A Sample Collected w/ Drive Barrel 30.0' Sample				
Bill of Lading No.	247485446 4	Offsite Property No.	PHB 11/13/91 ~~W91-0481~~ # W92-0-0035-32		
Method of Shipment	EMERY				
Shipped to	DATACHEM				

SAMPLE IDENTIFICATION

B011V0
1, 1L, G, SOIL, ICP-METALS/ANIONS

CHAIN OF POSSESSION

Relinquished by: William C. Brennan	Received by: R.D. Miller	Date/Time: 091091 / 1600
Relinquished by: R.D. Miller	Received by: P H Butcher	Date/Time: 10/22/91 1100 hrs.
Relinquished by: P H Butcher	Received by: Terry D. MacMurray	Date/Time: 11-12-91 12:30
Relinquished by:	Received by:	Date/Time:

9613428.0823

CHAIN OF CUSTODY

Company Contact	B.H. FORD	Telephone	509-376-6465		
Sample Collected by	William C. Brennan	Date	09 09 91	Time	1630
Sample Locations	100 N Area - 199-N-72				
Ice Chest No.	PHB 11/15/91 89 DEN	Field Logbook and Page No.	Daily Activity Report #6		
Remarks	N/A Sample Collected w/ Drill Barrel 40.0' Sample				
Bill of Lading No.	2474254464	Offsite Property No.	PHB 11/15/91 ~~W91-0481 #~~ WFD-0-0035-32		
Method of Shipment	EMERY				
Shipped to	DATACHEM				

SAMPLE IDENTIFICATION

B011V1
1, 1L, G, SOIL, ICP-METALS/ANIONS

CHAIN OF POSSESSION

Relinquished by: William C. Brennan	Received by: R.D. Miller	Date/Time: 09/09/91 1630
Relinquished by: R.D. Miller	Received by: P.H. Butcher	Date/Time: 10/22/91 1100hrs
Relinquished by: P.H. Butcher	Received by: Joshua D. MacAthur	Date/Time: 11-18-91 12:30
Relinquished by:	Received by:	Date/Time:

9613428.0824

CHAIN OF CUSTODY

Company Contact	B.H. FORD	Telephone	509-376-6465		
Sample Collected by	William C. Brennan	Date	09 10 91	Time	1100
Sample Locations	100 N Area 199-N-72				
Ice Chest No.	PHB 11/15/91 89DEN	Field Logbook and Page No.	Daily Activity Report #7		
Remarks	N/A Drive Barrel - 50.0' Sample - 199-N-72				
Bill of Lading No.	247425446 4	Offsite Property No.	PHB 11/15/91 ~~W91-0481~~ # W92-0-0035-32		
Method of Shipment	EMERY				
Shipped to	DATACHEM				

SAMPLE IDENTIFICATION

B011V2
1, 1L, G, SOIL, ICP-METALS/ANIONS

CHAIN OF POSSESSION

Relinquished by: William C. Brennan	Received by: R.D. Miller	Date/Time: 09/09/91 1600
Relinquished by: R.D. Miller	Received by: P.H. Butcher	Date/Time: 10/22/91 1100hrs.
Relinquished by: P.H. Butcher	Received by: Joshua D. MacMurray	Date/Time: 11-18-91 12:30
Relinquished by:	Received by:	Date/Time:

9613428.0825

CHAIN OF CUSTODY

Company Contact	B.H. FORD	Telephone	509-376-6465		
Sample Collected by	William C. Brewan Dennis Anderson	Date	09/10/91	Time	1515
Sample Locations	100 N Area - 199-N-72				
Ice Chest No.	PHB 11/15/91 ~~AAF~~ 89DEN	Field Logbook and Page No.	DAILY ACTIVITY Report #7		
Remarks	N/A Drive Barrel - 60.0' sample - 199-N-72				
Bill of Lading No.	3474254464	Offsite Property No.	PHB 11/15/91 ~~W91 0481 #~~ W99-0-0035-32		
Method of Shipment	EMERY				
Shipped to	DATACHEM				

SAMPLE IDENTIFICATION

B011V3
1, 1L, G, SOIL, ICP-METALS/ANIONS

CHAIN OF POSSESSION

Relinquished by: [signature]	Received by: R.D. Miller [signature]	Date/Time: 09/10/91 1600
Relinquished by: R.D. Miller [signature]	Received by: P.H. Butcher [signature]	Date/Time: 10/22/91 1100hrs.
Relinquished by: P.H. Butcher P.H. Butcher	Received by: James D. Wardlaw [signature]	Date/Time: 11-12-91 12:30
Relinquished by:	Received by:	Date/Time:

9613428.0826

Westinghouse Hanford Company	CHAIN OF CUSTODY

Custody Form Initiator PH BUTCHER

Company Contact PH BUTCHER

Telephone (509)376-5045

Project Designation/Sampling Locations 1100-EM-1

Collection Date 11-15-91

Ice Chest No. Brooks

Field Logbook No. WHC-N-370

Bill of Lading/Airbill No. 2474254354

Offsite Property No. W92-0-0035-33

Method of Shipment EMERY

Shipped to DATA CHEM

Possible Sample Hazards/Remarks N/A

Sample Identification

B01BV2

3, 40ml, Gs, WATER, CLP-VOA

1541 4,500ml ~~2, 1L~~, P, WATER, CLP-CN, NaOH

4,500ml ~~2, 1L~~, P, WATER, CLP-ICP/AA METALS & Hg, HNO3 (UNFILTERED)

B01BV3

~~2, 1L~~, P, WATER, CLP-ICP/AA METALS & Hg, HNO3 (FILTERED)

4, 500ml

LW 11-15-91

B01CG2

3, 40 ml, Gs, Water, CLP-VOA

[] Field Transfer of Custody	Chain of Possession	(Sign and Print Names)
Relinquished by: RD Walker	Received by: PH Butcher PH Butcher	Date/Time: 11/18/91 0740 11/15/91 1051
Relinquished by: PH Butcher PH Butcher	Received by: Joshua D MacMillan	Date/Time: 12:00 11-19-91 1300 JDM 11-19-91
Relinquished by:	Received by:	Date/Time:
Relinquished by:	Received by:	Date/Time:

Final Sample Disposition

Disposal Method:	Disposed by:	Date/Time:

Comments:

(COPY) ORIGINAL IS FILED IN CSF WHC33 WHCV33

A-6000-407 (12/90) (EF) WEF061
Chain of Custody

9613428.0827

Westinghouse Hanford Company	CHAIN OF CUSTODY

Custody Form Initiator PH BUTCHER

Company Contact PH BUTCHER

Telephone (509)376-5045

Project Designation/Sampling Locations 1100-EM-1

Collection Date 11-15-91

Ice Chest No. Straight

Field Logbook No. WHC-N-370

Bill of Lading/Airbill No. 2474254354

Offsite Property No. W92-0-0035-33

Method of Shipment EMERY

Shipped to DATA CHEM

Possible Sample Hazards/Remarks N/A

Sample Identification

B0/BT3

4,500ml ~~2, 1L~~, P, WATER, CLP-CN, NaOH

4,500ml ~~2, 1L~~, P, WATER, CLP-ICP/AA METALS & Hg, HNO3 (UNFILTERED)

LW 11-15-91 ~~1, 250ml~~, P, WATER, COND./ALK.

1,500ml LW 11-15-91

B0/BT4

~~2, 1L~~, P, WATER, CLP-ICP METALS & Hg, HNO3 (FILTERED)

4,500ml

LW 11-15-91

[] Field Transfer of Custody	Chain of Possession	(Sign and Print Names)
Relinquished by: L.D. Walker L.D. Walker	Received by: P H Butcher P H Butcher	Date/Time: 11/18/91 0740 11/15/91 1051
Relinquished by: P H Butcher P H Butcher	Received by: Teresa D MacMurray	Date/Time: 12:00 11-19-91 ~~1300~~ TDM 11-19-91
Relinquished by:	Received by:	Date/Time:
Relinquished by:	Received by:	Date/Time:

Final Sample Disposition

Disposal Method:	Disposed by:	Date/Time:

Comments:

A-6000-407 (12/90) (EF) WEF061
Chain of Custody

9613428.0828

SAMPLE LOG-IN SHEET

SF-0994 0995 11-18-91

Lab Name: DataChem Laboratories

Page ____ of ____

Received By (Print Name): JOSHUA MACMURRAY

Log-In Date: 11-18-91

Received By (Signature): [signature]

Case Number: WHC

Sample Delivery Group No.: ____

SAS Number: ____

CIRCLE THE APPROPRIATE RESPONSE:

1. Custody Seal(s) Present/Absent* Intact/Broken*
2. Custody Seal Nos.: NONE
3. Chain-of-Custody Records Present/Absent*
4. Traffic Reports or Packing List Present/Absent*
5. Airbill Airbill/Sticker Present/Absent*
6. Airbill No.: 2474254453, 64
7. Sample Tags Present/Absent* Sample Tag Numbers Listed/Not Listed on Chain-of-Custody
8. Sample Condition: Intact/Broken*/Leaking*
9. Does information on custody records, traffic reports, and sample tags agree? Yes/No*
10. Date Received at Lab: 11-16-91
11. Time Received: 12:00

SAMPLE TRANSFER

Fraction: ALL

Area #: WALKIN

By: JBM

On: 11-18-91

CORRESPONDING				
EPA SAMPLE #	SAMPLE TAG #	ASSIGNED LAB #	MATRIX	REMARKS: CONDITION OF SAMPLE SHIPMENT, ETC.
B01BX2	NA	CLP 9242	W	ACCEPTABLE
C22		9243		1.5 C
BX3		9244		
C23		9245		
1T9		9246	S	
1B0		9247		
1V1		9248		
1V2		9249		
1V3		9250		
C61		9251	W	
		~~9~~ JBM		

11-18-91

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WHC33

WHCV33

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

11/89 Rev.

Reviewed By: [signature]

Date: November 18, 1991

Logbook No.: ____

Logbook Page No.: ____

9613428.0829

SAMPLE LOG-IN SHEET

SF-0997

Lab Name: DataChem Laboratories

Page ____ of ____

Received By (Print Name): JOSHUA D MACMURRAY Log-In Date: 11-19-91

Received By (Signature): [signature]

Case Number: WHC

Sample Delivery Group No.: ____

SAS Number: ____

CIRCLE THE APPROPRIATE RESPONSE:

1. Custody Seal(s) Present/Absent* Intact/Broken*
2. Custody Seal Nos.: NONE
3. Chain-of-Custody Records Present/Absent*
4. Traffic Reports or Packing List Present/Absent*
5. Airbill Airbill/Sticker Present/Absent*
6. Airbill No.: 247 425 435 4
7. Sample Tags Present/Absent*
   Sample Tag Numbers Listed/Not Listed on Chain-of-Custody
8. Sample Condition: Intact/Broken*/Leaking*
9. Does information on custody records, traffic reports, and sample tags agree? Yes/No*
10. Date Received at Lab: 11-19-91
11. Time Received: 12:00

SAMPLE TRANSFER

Fraction: Aq

Area #: WAKIN

By: SDM

On: 11-19-91

EPA SAMPLE #	CORRESPONDING SAMPLE TAG #	CORRESPONDING ASSIGNED LAB #	MATRIX	REMARKS: CONDITION OF SAMPLE SHIPMENT, ETC.
B01 BV2	NA	CLP 9256	W	ACCEPTABLE
BV3		9257		1°C
C62		9258		
BT3		9259		
BT4		9260		
C27		9261		

11-19-91

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

11/89 Rev.

Reviewed By: [signature]

Date: November 19 1991

Logbook No.: ____

Logbook Page No.: ____

FORM DC-1

9613428.0830

Task # 91-092

DATA CHEM LABORATORIES

ANALYTICAL REQUEST FORM

1. ☐ **REGULAR Status**

☐ **RUSH Status Requested - ADDITIONAL CHARGE**

RESULTS REQUIRED BY _____ DATE

CONTACT DATACHEM LABS PRIOR TO SENDING SAMPLES.

2. Date _____ Purchase Order No. _____

3. Company Name Westinghouse Hanford Company

Address P.O. Box 1970 MSIN H4-56

Richland, Washington 99352

Person to Contact P. H. Butcher

Telephone ( ) 376-5045

Fax Telephone (509 376-6476

Billing Address (if different from above)

4. **Sample Collection**

Sampling Site 1100-EM-1

Industrial Process N/A

Date of Collection _____

Time Collected _____

Date of Shipment _____

Chain of Custody No. A-6000-407 (12/90)

5. **REQUEST FOR ANALYSES**

Laboratory Use Only	Client Sample Number	Media Type*	Sample Volume (Liters)	ANALYSES REQUESTED - Use Method Number if Known
	~~B0~~	W	3,40ml,P	CLP-VOA
	B01C22		2,4L,P	CLP-Semi-VOA/PEST, PB's
			2,1L,P	CLP-CN (NaOH)
			2,1L,P	CLP-ICP/AA Metals & Hg (HNO_3) Unfiltered
			1,1L,P	Anions, Turb, SO_4, ALK, Cond, TDS, pH
			1,500m,P	NO_2/NO_3, Ammonia, COD (H_2SO_4)
	~~B0~~	W	2,1L,P	CLP-ICA/AA Metals & Hg (HNO_3) Filtered
	B01C23			
	B01C61	W	3,40ml/6	CLP-VOA

*Specify: Solid sorbent tube, e.g. Charcoal; Filter type; Impinger solution; Bulk Sample; Blood; Urine; Tissue; Soil; Water; Other

6. **Q C REQUIREMENTS**
MUST BE COMPLETED - See General Services Terms and Conditions: QC samples billed at regular sample rate

☐ METHOD QC SAMPLES (Lab QC according to published methods)

☐ PROJECT PLAN QC SAMPLES (Lab QC according to provided QA/QC Plan)

☐ NO QC SAMPLES REQUESTED (May not conform to Agency requirements)

☐ OTHER (as specified below)

CLP-VOA

BOL # 2474254453

OPC # W92-0-0035-31

Comments _____

Possible Contamination and/or Chemical Hazards _____

7. Requested by P H Butcher

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960 West LeVoy Drive / Salt Lake City, UT 84123 800-356-9135 or 801- 266-7700 / FAX: 801-268-9992
4388 Glendale-Milford Road / Cincinnati, OH 45242 800-458-1493 or 513-733-5336 / FAX: 513-733-5347

DATACHEM LABORATORIES - A SORENSON COMPANY

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9615428.0831

Task # 91-092

DATA CHEM LABORATORIES

ANALYTICAL REQUEST FORM

1. ☐ **REGULAR Status**

☐ **RUSH Status Requested - ADDITIONAL CHARGE**

RESULTS REQUIRED BY _____ DATE

CONTACT DATACHEM LABS PRIOR TO SENDING SAMPLES.

2. Date _____ Purchase Order No. _____

3. Company Name Westinghouse Hanford Company

Address P.O. Box 1970 MSIN H4-56

Richland, Washington 99352

Person to Contact P. H. Butcher

Telephone ( ) 376-5045

Fax Telephone (509 376-6476

Billing Address (if different from above)

4. **Sample Collection**

Sampling Site 1100-EM-1

Industrial Process N/A

Date of Collection _____

Time Collected _____

Date of Shipment _____

Chain of Custody No. A-6000-407 (12/90)

5. **REQUEST FOR ANALYSES**

Laboratory Use Only	Client Sample Number	Media Type*	Sample Volume (Liters)	ANALYSES REQUESTED - Use Method Number if Known
	~~B0~~	W	3,40ml,P	CLP-VOA
	B01BX2		2,4L,P	CLP-Semi-VOA/PEST, PB's
			2,1L,P	CLP-CN (NaOH)
			2,1L,P	CLP-ICP/AA Metals & Hg (HNO_3) Unfiltered
			1,1L,P	Anions, Turb, SO_4, ALK, Cond, TDS, pH
			1,500m,1P	NO_2/NO_3, Ammonia, COD (H_2SO_4)
	~~B0~~	W	2,1L,P	CLP-ICA/AA Metals & Hg (HNO_3) Filtered
	B01BX3			

*Specify: Solid sorbent tube, e.g. Charcoal; Filter type; Impinger solution; Bulk Sample; Blood; Urine; Tissue; Soil; Water; Other

6. **Q C REQUIREMENTS**
MUST BE COMPLETED - See General Services Terms and Conditions: QC samples billed at regular sample rate

☐ METHOD QC SAMPLES
(Lab QC according to published methods)

☐ PROJECT PLAN QC SAMPLES
(Lab QC according to provided QA/QC Plan)

☐ NO QC SAMPLES REQUESTED
(May not conform to Agency requirements)

☐ OTHER (as specified below)

CLP-VOA

BOL # 2474854453

OPC # W92-0-0035-31

Comments _____

Possible Contamination and/or Chemical Hazards _____

7. Requested by P H Butcher

(COPY) ORIGINAL IS FILED IN CSF WHC33 WHCV33

960 West LeVoy Drive / Salt Lake City, UT 84123 800-356-9135 or 801- 266-7700 / FAX: 801-268-9992
4388 Glendale-Milford Road / Cincinnati, OH 45242 800-458-1493 or 513-733-5336 / FAX: 513-733-5347

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9613428.0832

Task # 91-092

DATA CHEM LABORATORIES

ANALYTICAL REQUEST FORM

1. ☐ **REGULAR Status**

☐ **RUSH Status Requested - ADDITIONAL CHARGE**

RESULTS REQUIRED BY _____ DATE

CONTACT DATACHEM LABS PRIOR TO SENDING SAMPLES.

2. Date 11/15/91 Purchase Order No. _____

3. Company Name Westinghouse Hanford

Address PO Box 1970

Richland, WA

Person to Contact P H Butcher

Telephone (509) 376-5045

Fax Telephone (509) 376-6476

Billing Address (if different from above)

4. **Sample Collection**

Sampling Site 1100-EM-1

Industrial Process —

Date of Collection 11/15/91

Time Collected _____

Date of Shipment _____

Chain of Custody No. A-6000-407 (12/90)

5. **REQUEST FOR ANALYSES**

Laboratory Use Only	Client Sample Number	Media Type*	Sample Volume (Liters)	ANALYSES REQUESTED - Use Method Number if Known
	B01BV2	W	3, 40ml, G	CLP-VOA
			4, 500ml, P	CLP-CN (NaOH)
			4, 500ml, P	CLP-ICP/AA Metals & Hg (HNO_3) Unfiltered
	B01BV3	W	4, 500ml, P	CLP-ICP/AA Metals & Hg (HNO_3) Filtered
	B01C62	W	3, 40ml, G	CLP-VOA

*Specify: Solid sorbent tube, e.g. Charcoal; Filter type; Impinger solution; Bulk Sample; Blood; Urine; Tissue; Soil; Water; Other

6. **Q C REQUIREMENTS**
MUST BE COMPLETED - See General Services Terms and Conditions: QC samples billed at regular sample rate

☐ METHOD QC SAMPLES (Lab QC according to published methods)

☐ PROJECT PLAN QC SAMPLES (Lab QC according to provided QA/QC Plan)

☐ NO QC SAMPLES REQUESTED (May not conform to Agency requirements)

☐ OTHER (as specified below)

BOC # 2474254354

OPC # W92-0-0035-33

Comments _____

Possible Contamination and/or Chemical Hazards _____

(COPY) ORIGINAL IS FILED IN

7. Requested by _____

WHC33
WHCY33

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4388 Glendale-Milford Road / Cincinnati, OH 45242 800-458-1493 or 513-733-5336 / FAX: 513-733-5347

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Task # 91-092

DATA CHEM LABORATORIES

ANALYTICAL REQUEST FORM

1. ☐ **REGULAR Status**

☐ **RUSH Status Requested - ADDITIONAL CHARGE**

RESULTS REQUIRED BY _____ DATE

CONTACT DATACHEM LABS PRIOR TO SENDING SAMPLES.

2. Date 11/18/91 Purchase Order No. _____

3. Company Name Westinghouse Hanford

Address PO Box 1970

Richland, WA 99301

Person to Contact P H Butcher

Telephone (509) 376-5045

Fax Telephone (509) 376-6476

Billing Address (if different from above)

4. **Sample Collection**

Sampling Site 1100-EM-1

Industrial Process —

Date of Collection 11/15/91

Time Collected _____

Date of Shipment _____

Chain of Custody No. A-6000-407 (12/91

5. **REQUEST FOR ANALYSES**

Laboratory Use Only	Client Sample Number	Media Type*	Sample Volume (Liters)	ANALYSES REQUESTED - Use Method Number if Known
	B01BT3	W	4, 500ml, P	CLP-CN (NaOH)
			4, 500ml, P	CLP-ICP/AA Metals & Hg (HNO3)(Unfiltered)
			1, 500 ml, P	Cond., Alk
	B01BT9	W	4, 500ml, P	CLP-ICP/AA Metals & Hg (HNO3) (Filtered)

*Specify: Solid sorbent tube, e.g. Charcoal; Filter type; Impinger solution; Bulk Sample; Blood; Urine; Tissue; Soil; Water; Other

6. **Q C REQUIREMENTS**
MUST BE COMPLETED - See General Services Terms and Conditions: QC samples billed at regular sample rate

☐ METHOD QC SAMPLES
(Lab QC according to published methods)

☐ PROJECT PLAN QC SAMPLES
(Lab QC according to provided QA/QC Plan)

☐ NO QC SAMPLES REQUESTED
(May not conform to Agency requirements)

☐ OTHER (as specified below)

BOL# 247425435 4

DPC# W92-0-0835-33

Comments _____

Possible Contamination and/or Chemical Hazards _____

7. Requested by _____

960 West LeVoy Drive / Salt Lake City, UT 84123 **800-356-9135 or 801- 266-7700 / FAX: 801-268-9992**
4388 Glendale-Milford Road / Cincinnati, OH 45242 **800-458-1493 or 513-733-5336 / FAX: 513-733-5347**

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DATA CHEM LABORATORIES

ANALYTICAL REQUEST FORM

1. ☐ **REGULAR Status**

☐ **RUSH Status Requested - ADDITIONAL CHARGE**

RESULTS REQUIRED BY _____ DATE

CONTACT DATACHEM LABS PRIOR TO SENDING SAMPLES.

2. Date 11/15/91 Purchase Order No. _____

3. Company Name Westinghouse Hanford

Address PO Box 1970

Richland WA 99352

Person to Contact PH Butcher

Telephone (509) 376-5045

Fax Telephone (509) 376-6476

Billing Address (if different from above)

_____

_____

4. **Sample Collection**

Sampling Site 100N / 199-N-72

Industrial Process —

Date of Collection See COC

Time Collected " "

Date of Shipment 11/15/91

Chain of Custody No. —

5. **REQUEST FOR ANALYSES**

Laboratory Use Only	Client Sample Number	Media Type*	Sample Volume (Liters)	ANALYSES REQUESTED - Use Method Number if Known
	B011T9	W	1, 1L, G	Soil, ICP-Metals, Anions
	B011V0	W	"	" " " "
	B011V1	W	"	" " " "
	B011V2	W	"	" " " "
	B011V3	W	"	" " " "

*Specify: Solid sorbent tube, e.g. Charcoal; Filter type; Impinger solution; Bulk Sample; Blood; Urine; Tissue; Soil; Water; Other

6. **Q C REQUIREMENTS**
MUST BE COMPLETED - See General Services Terms and Conditions: QC samples billed at regular sample rate

☐ METHOD QC SAMPLES
(Lab QC according to published methods)

☐ PROJECT PLAN QC SAMPLES
(Lab QC according to provided QA/QC Plan)

☐ NO QC SAMPLES REQUESTED
(May not conform to Agency requirements)

☐ OTHER (as specified below)

_____

_____

Comments BOL# 2974254464 OPC # W92-0-0035-3

Possible Contamination and/or Chemical Hazards _____

7. Requested by PH Butcher

960 West LeVoy Drive / Salt Lake City, UT 84123 800-356-9135 or 801-266-7700 / FAX: 801-268-9992
4388 Glendale-Milford Road / Cincinnati, OH 45242 800-458-1493 or 513-733-5336 / FAX: 513-733-5347

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