START 9713506.2131 9202L452-WES-337

0045862

ROY F. WESTON, INC.
Lionville Laboratory

CLIENT: WESTINGHOUSE HANFORD **SAMPLES RECEIVED:** 02-24-92
RFW #: 9202L452, GC/MS VOLATILE
W.O. #: 6168-02-01

NARRATIVE

The set of samples consisted of two (2) soil samples collected on 02-20-92.

The samples were analyzed according to criteria set forth in CLP SOW 02/88 (Rev. 05/89) for TCL Volatile target compounds on 02-25-92.

The following is a summary of the QC results accompanying these sample results and a description of any problems encountered during their analyses:

1. Non-target compounds were not detected in these samples.

2. All surrogate recoveries were within EPA QC limits.

3. All matrix spike recoveries were within EPA QC limits.

4. The laboratory blank contained the common contaminants methylene chloride and acetone and the target compound toluene at levels less than the CRQL.

5. Internal standard areas were outside QC limits for sample B01T38. The associated matrix spike and spike duplicate analyses of this sample fulfilled its re-analysis requirement.

NOV 1996 RECEIVED EDMC

03.26.92

Jack R. Tuschall, Ph.D. Date
Laboratory Manager
Lionville Analytical Laboratory

RECORD OF DISPOSITION ROD-92-00031

DATE: 1/17/92 | LABORATORY: WESTON 100-DR-1

SAMPLE IDENTIFICATION NUMBERS

Project Wide

DISPOSITION OF SAMPLES

☐ CANCELLED (REASON)

☐ DAMAGED SAMPLE CONTAINER. ANALYSIS CANCELLED

☐ BROKEN GLASS CONTAMINATING SAMPLE. ANALYSIS CANCELLED

☒ OTHER SEE ATTACHED DSI.

APPROVED [signature] 1/17/92
PROJECT COORDINATOR DATE

[signature] 1/23/92
TECHNICAL REPRESENTATIVE DATE

9713506.2132

From: WHC127, L M Erskee at WHC170, Daniel L Edwards
Subject: Alpha Spec.

9713506.2133

---------- Message Contents ----------

Jon,

Weston would like to have you put the radionuclides for the alpha spec analysis on the chain of custody. The alpha spec can be used for several radionuclide determinations. If they are listed on the COC then Weston will know exactly what to perform for alpha spec.

The isotopes on the list that was provided to me for the 100-DR-1 project for alpha spec were:

Uranium-235,238
Plutonium-239/240
Americium-241

Thanks.

Dan Edwards

DON'T SAY IT - WRITE IT

DATE: January 15, 1992

TO: Josie King, Weston Laboratories FROM: Dan Edwards, WHC OSM

cc: Karl Pool
Jeff Lerch
Jeanette Duncan

SUBJECT: 100-DR-1 ANALYSIS, ALPHA SPECTROSCOPY

Alpha Spectroscopy has been requested on samples from the 100-DR-1 Vadose project (OSM project number 91-003).

Alpha spectroscopy is to be performed on all 100-DR-1 Vadose samples that have this analysis indicated on the Sample Analysis Request Form. The isotopes of concern for the alpha spectroscopy are Uranium-235, Uranium-238, Plutonium-239/240, and Americium-241.

The letter written by M. A. Beck (dated October 23, 1991) concerning alpha/beta spectroscopy will not apply for this project.

1A

VOLATILE ORGANICS ANALYSIS SHEET

CLIENT SAMPLE NO.

B01T37

Lab Name: Roy F. Weston, Inc. Work Order: 6168-02-01-0000

Client: WESTINGHOUSE HANFORD

Matrix: SOIL

Lab Sample ID: 9202L452-001

Sample wt/vol: 5.00 (g/mL) G

Lab File ID: B022507

Level: (low/med) LOW

Date Received: 02/24/92

% Moisture: not dec. 5

Date Analyzed: 02/25/92

Column: (pack/cap) CAP

Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg	
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	15	B
67-64-1	Acetone	12	B
75-15-0	Carbon Disulfide	5	U
75-35-4	1,1-Dichloroethene	5	U
75-34-3	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
108-05-4	Vinyl Acetate	10	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	5	U
108-88-3	Toluene	4	JB
108-90-7	Chlorobenzene	5	U
100-41-4	Ethylbenzene	5	U
100-42-5	Styrene	5	U
1330-20-7	Xylene (total)	5	U

VOLATILE ORGANICS ANALYSIS SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

B01T37

Lab Name: Roy F. Weston, Inc. Work Order: 6168-02-01-0000

Client: WESTINGHOUSE HANFORD

Matrix: SOIL

Lab Sample ID: 9202L452-001

Sample wt/vol: 5.00 (g/mL) G

Lab File ID: B022507

Level: (low/med) LOW

Date Received: 02/24/92

% Moisture: not dec. 5

Date Analyzed: 02/25/92

Column: (pack/cap) CAP

Dilution Factor: 1.00

Number TICs found: 0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.				

9213506.2137 0000029

VOLATILE ORGANICS ANALYSIS SHEET

CLIENT SAMPLE NO.

BO1T38

Lab Name: Roy F. Weston, Inc. Work Order: 6168-02-01-0000

Client: WESTINGHOUSE HANFORD

Matrix: SOIL Lab Sample ID: 9202L452-002

Sample wt/vol: 5.00 (g/mL) G Lab File ID: B022508

Level: (low/med) LOW Date Received: 02/24/92

% Moisture: not dec. 7 Date Analyzed: 02/25/92

Column: (pack/cap) CAP Dilution Factor: 1.00

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

CAS NO.	COMPOUND		
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	9	B
67-64-1	Acetone	10	JB
75-15-0	Carbon Disulfide	6	U
75-35-4	1,1-Dichloroethene	6	U
75-34-3	1,1-Dichloroethane	6	U
540-59-0	1,2-Dichloroethene (total)	6	U
67-66-3	Chloroform	6	U
107-06-2	1,2-Dichloroethane	6	U
78-93-3	2-Butanone	11	U
71-55-6	1,1,1-Trichloroethane	6	U
56-23-5	Carbon Tetrachloride	6	U
108-05-4	Vinyl Acetate	11	U
75-27-4	Bromodichloromethane	6	U
78-87-5	1,2-Dichloropropane	6	U
10061-01-5	cis-1,3-Dichloropropene	6	U
79-01-6	Trichloroethene	6	U
124-48-1	Dibromochloromethane	6	U
79-00-5	1,1,2-Trichloroethane	6	U
71-43-2	Benzene	6	U
10061-02-6	Trans-1,3-Dichloropropene	6	U
75-25-2	Bromoform	6	U
108-10-1	4-Methyl-2-pentanone	11	U
591-78-6	2-Hexanone	11	U
127-18-4	Tetrachloroethene	6	U
79-34-5	1,1,2,2-Tetrachloroethane	6	U
108-88-3	Toluene	5	JB
108-90-7	Chlorobenzene	6	U
100-41-4	Ethylbenzene	6	U
100-42-5	Styrene	6	U
1330-20-7	Xylene (total)	6	U

9215506.2138 0000030

1E

VOLATILE ORGANICS ANALYSIS SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

BO1T38

Lab Name: Roy F. Weston, Inc. Work Order: 6168-02-01-0000

Client: WESTINGHOUSE HANFORD

Matrix: SOIL

Lab Sample ID: 9202L452-002

Sample wt/vol: 5.00 (g/mL) G

Lab File ID: B022508

Level: (low/med) LOW

Date Received: 02/24/92

% Moisture: not dec. 7

Date Analyzed: 02/25/92

Column: (pack/cap) CAP

Dilution Factor: 1.00

Number TICs found: 0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.				

9713506.2139 0000000

WESTON

ROY F. WESTON, INC.
Lionville Laboratory

CLIENT: WESTINGHOUSE HANFORD **SAMPLES RECEIVED:** 02-24-92
RFW #: 9202L452, SEMIVOLATILE
W.O. #: 6168-02-01

NARRATIVE

One (1) soil sample was collected on 02-20-92.

The sample and its associated QC samples were extracted on 03-02-92 and analyzed according to criteria set forth in CLP SOW 02/88 (Rev. 05/89) for TCL Semivolatile target compounds on 03-06,13-92.

The following is a summary of the QC results accompanying these sample results and a description of any problems encountered during their analyses:

1. A non-target compound was detected in the method blank 92LE0319-MB1.

2. One (1) of thirty (30) surrogate recoveries was outside EPA QC limits; however, EPA CLP surrogate recovery criteria was met [i.e., no more than one outlier per fraction (acid and base neutral) and no recoveries less than 10%].

3. Two (2) of eleven (11) blank spike recoveries were outside EPA QC limits.

4. Seven (7) of twenty-two (22) matrix spike recoveries were outside EPA QC limits.

   Poor recoveries for the matrix spike appear to have resulted from over concentration during extraction.

5. Internal standard areas were outside QC limits for the method blank 92LE0319-MB1 BS. The original analysis fulfilled its re-analysis requirement.

Margaret M. Seaty 4/1/92

Jack R. Tuschall, Ph.D. Date
Laboratory Manager
Lionville Analytical Laboratory

SEMIVOLATILE ORGANICS ANALYSIS SHEET

CLIENT SAMPLE NO.

B01T37

Lab Name: Roy F. Weston, Inc. Work Order: 6168-02-01-0000

Client: WESTINGHOUSE HANFORD

Matrix: SOIL Lab Sample ID: 9202L452-001

Sample wt/vol: 30.5 (g/mL) G Lab File ID: S030612

Level: (low/med) LOW Date Received: 02/24/92

% Moisture: not dec. 5 dec. Date Extracted: 03/02/92

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 03/06/92

GPC Cleanup: (Y/N) N pH: 7.5 Dilution Factor: 1.00

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

CAS NO.	COMPOUND		
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
100-51-6	Benzyl alcohol	340	U
95-50-1	1,2-Dichlorobenzene	340	U
95-48-7	2-Methylphenol	340	U
108-60-1	bis(2-Chloroisopropyl)ether	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
65-85-0	Benzoic acid	1700	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	1700	U
91-58-7	2-Chloronaphthalene	340	U
88-74-4	2-Nitroaniline	1700	U
131-11-3	Dimethylphthalate	340	U
208-96-8	Acenaphthylene	340	U
606-20-2	2,6-Dinitrotoluene	340	U

SEMIVOLATILE ORGANICS ANALYSIS SHEET

CLIENT SAMPLE NO.

B01T37

Lab Name: Roy F. Weston, Inc. Work Order: 6168-02-01-0000

Client: WESTINGHOUSE HANFORD

Matrix: SOIL Lab Sample ID: 9202L452-001

Sample wt/vol: 30.5 (g/mL) G Lab File ID: S030612

Level: (low/med) LOW Date Received: 02/24/92

% Moisture: not dec. 5 dec. Date Extracted: 03/02/92

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 03/06/92

GPC Cleanup: (Y/N) N pH: 7.5 Dilution Factor: 1.00

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

CAS NO.	COMPOUND		
99-09-2	3-Nitroaniline	1700	U
83-32-9	Acenaphthene	340	U
51-28-5	2,4-Dinitrophenol	1700	U
100-02-7	4-Nitrophenol	1700	U
132-64-9	Dibenzofuran	340	U
121-14-2	2,4-Dinitrotoluene	340	U
84-66-2	Diethylphthalate	100	J
7005-72-3	4-Chlorophenyl-phenylether	340	U
86-73-7	Fluorene	340	U
100-01-6	4-Nitroaniline	1700	U
534-52-1	4,6-Dinitro-2-methylphenol	1700	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	1700	U
85-01-8	Phenanthrene	340	U
120-12-7	Anthracene	340	U
84-74-2	Di-n-Butylphthalate	4300	
206-44-0	Fluoranthene	340	U
129-00-0	Pyrene	340	U
85-68-7	Butylbenzylphthalate	590	
91-94-1	3,3'-Dichlorobenzidine	690	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	Dibenzo(a,h)anthracene	340	U
191-24-2	Benzo(g,h,i)perylene	340	U

(1) - Cannot be separated from Diphenylamine

9713506.2142 0000026

CLIENT SAMPLE NO.

BO1T37

SEMIVOLATILE ORGANICS ANALYSIS SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Lab Name: Roy F. Weston, Inc. Work Order: 6168-02-01-0000

Client: WESTINGHOUSE HANFORD

Matrix: SOIL Lab Sample ID: 9202L452-001

Sample wt/vol: 30.5 (g/mL) G Lab File ID: S030612

Level: (low/med) LOW Date Received: 02/24/92

% Moisture: not dec. 5 dec. Date Extracted: 03/02/92

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 03/06/92

GPC Cleanup: (Y/N) N pH: 7.5 Dilution Factor: 1.00

Number TICs found: 0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.				

9213506.2143 7A

ROY F. WESTON, INC.
Lionville Laboratory

CLIENT: WESTINGHOUSE HANFORD **SAMPLES RECEIVED:** 02-24-92
RFW #: 9202L452, PEST/PCB
W.O. #: 6168-02-01

NARRATIVE

One (1) soil sample was collected on 02-20-92.

The sample and its associated QC samples were extracted on 02-27-92 and analyzed according to criteria set forth in the Contract Laboratory Program for Pesticide and PCB target compounds on 03-14-92.

The following is a summary of the QC results accompanying these sample results and a description of any problems encountered during their analyses:

1. Linearity and breakdown criteria were met on the primary column.

2. For continuing calibration standards analyzed prior to the sample extracts, the 15% criteria for calibration factors were exceeded for endrin on the SP2250/2401 column on 03-13-92 at 23:57. The data reflected an increase in instrument response for endrin so the ability to identify the target compound was not impaired. Quantitation was not required; therefore, the data should not be impacted.

3. Retention time criteria were met for all compounds on the primary column.

4. All surrogate recoveries were within EPA QC limits.

5. All matrix spike recoveries were within EPA QC limits.

6. All blank spike recoveries were within EPA QC limits.

7. The blank spike and matrix spike samples required two-fold dilutions to maintain the pesticide concentrations within the linear range of the instrument.

WESTON

8. Target compounds were not identified in the sample extracts; therefore, a confirmation analysis was not required.

Jack R. Tuschall, Ph.D.
Laboratory Manager
Lionville Analytical Laboratory

03.26.92
Date

9213986.2145 0005515

PESTICIDE ORGANICS ANALYSIS SHEET

CLIENT SAMPLE NO.

B01T37

Lab Name: Roy F. Weston, Inc. Work Order: 6168-02-01-0000

Client: WESTINGHOUSE HANFORD

Matrix: SOIL Lab Sample ID: 9202L452-001

Sample wt/vol: 29.9 (g/mL) G Lab File ID: 03139213.43

Level: (low/med) LOW Date Received: 02/24/92

% Moisture: not dec. 5 dec. Date Extracted: 02/27/92

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 03/14/92

GPC Cleanup: (Y/N) Y pH: 8.7 Dilution Factor: 1.00

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

CAS NO.	COMPOUND		
319-84-6	Alpha-BHC	8.4	U
319-85-7	Beta-BHC	8.4	U
319-86-8	Delta-BHC	8.4	U
58-89-9	gamma-BHC (Lindane)	8.4	U
76-44-8	Heptachlor	8.4	U
309-00-2	Aldrin	8.4	U
1024-57-3	Heptachlor epoxide	8.4	U
959-98-8	Endosulfan I	8.4	U
60-57-1	Dieldrin	17	U
72-55-9	4,4'-DDE	17	U
72-20-8	Endrin	17	U
33213-65-9	Endosulfan II	17	U
72-54-8	4,4'-DDD	17	U
1031-07-8	Endosulfan sulfate	17	U
50-29-3	4,4'-DDT	17	U
72-43-5	Methoxychlor	84	U
53494-70-5	Endrin ketone	17	U
5103-71-9	alpha-Chlordane	84	U
5103-74-2	gamma-Chlordane	84	U
8001-35-2	Toxaphene	170	U
12674-11-2	Aroclor-1016	84	U
11104-28-2	Aroclor-1221	84	U
11141-16-5	Aroclor-1232	84	U
53469-21-9	Aroclor-1242	84	U
12672-29-6	Aroclor-1248	84	U
11097-69-1	Aroclor-1254	170	U
11096-82-5	Aroclor-1260	170	U

DOR 3/20/92

Roy F. Weston, INC.
Lionville Laboratory

CLIENT: WESTINGHOUSE HANFORD **SAMPLES RECEIVED:** 02/24/92
RFW #: 9202L452
W.O. #: 6168-02-01

METALS NARRATIVE

The set of samples consisted of one (1) soil sample collected on 02/20/92.

The samples were analyzed according to criteria set forth in CLP SOW 3/90.

The following is a summary of the QC results accompanying these sample results and a description of any problems encountered during their analysis:

1. ICVs, CCVs, and LCSs stock standards were purchased from Inorganic Ventures Laboratory.

2. All ICV and CCV values were within control limits.

3. All ICB and CCB values were within control limits.

4. All preparation blank values were within control limits.

5. All LCS results were within the 80-120% control limits.

6. All matrix spike recoveries were within the 75-125% control limits with the exception of Cd, Mn, Sb, Tl, and Ag. All corresponding samples were flagged with an "N" according to CLP protocol.

7. All duplicate analyses were within the 20% RPD control limit.

8. The code CV is currently in use by the laboratory for both mercury instruments in operation (HG1 and HG2). HG1 is complete with autosampler and software, but still requires manual digestion; HG2 is operated by the analyst, produces a strip chart and also requires manual digestion.

WESTON

9. HG1 requires less total volume of digestate due to the autosampler analysis. Sample volumes and reagents for mercury determinations in water and soil have been proportionally scaled down to adapt to this semi-automated technique. The sample volume used for water analysis is 33 ml. For soils, 0.1 gram of sample is taken to a final volume of 50 ml (including all reagents).

10. Quarterly Detection Limits for IC3 are included in this package.

11. The graphite furnace time that appears on FORM XIV is the time of the first injection. The time that appears on the data is the print time.

Jack R. Tuschall, Ph.D.
Laboratory Manager
Lionville Analytical Laboratories

03.26.92
Date

mlj\ clp-met.nar

EPA SAMPLE NO.

1

INORGANIC ANALYSIS DATA SHEET

B01T38

Lab Name: ROY F. WESTON, INC - L372 Contract: 6168-02-01

Lab Code: WESTON Case No.: WEST SAS No.: SDG No.: CLP452

Matrix (soil/water): SOIL Lab Sample ID: 920245202

Level (low/med): LOW Date Received: 2/24/92

% Solids: 93.4

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	2450.00			P
7440-36-0	Antimony	4.93	U	N	P
7440-38-2	Arsenic	.69	B		F
7440-39-3	Barium	53.40			P
7440-41-7	Beryllium	.30	B		P
7440-43-9	Cadmium	.64	U	N	P
7440-70-2	Calcium	4970.00		E	P
7440-47-3	Chromium	5.20			P
7440-48-4	Cobalt	7.30	B		P
7440-50-8	Copper	10.50			P
7439-89-6	Iron	13900.00		E	P
7439-92-1	Lead	2.30			F
7439-95-4	Magnesium	2650.00			P
7439-96-5	Manganese	207.00		NE	P
7439-97-6	Mercury	.05	U		CV
7440-02-0	Nickel	7.20	B		P
7440-09-7	Potassium	527.00	B		P
7782-49-2	Selenium	.43	U		F
7440-22-4	Silver	1.60	B	N	P
7440-23-5	Sodium	200.00	B		P
7440-28-0	Thallium	.43	U	NW	F
7440-62-2	Vanadium	16.70			P
7440-66-6	Zinc	26.00			P
	Cyanide	1.07	U		C

Color Before: BROWN Clarity Before: Texture: FINE

Color After: BROWN Clarity After: Artifacts:

Comments:

WESTON Analytics Use Only

9202L452

Custody Transfer Record/Lab Work Request

WESTON

Page 1 of 1

Client Westinghouse Hanford Company
Est. Final Proj. Sampling Date
Work Order # ~~91-083~~ 2-24-92 6168-02-01-0000
Project Contact/Phone # J.D. Fancher (509) 376-2081
AD Project Manager Josie King
QC CLP Del CLP TAT 35
Date Rec'd 2-24-92 Date Due 3-30-92
Account # WS-HANFORD

Refrigerator #		1				6	SUB		4	4								
#/Type Container	Liquid																	
	Solid	16				1AG	16		16	16								
Volume	Liquid																	
	Solid	125mL				1L	1L		250	250	250							
Preservatives		—				—			ml	ml	ml							
ANALYSES REQUESTED →		ORGANIC							INORG									
		VOA	BNA	Pest/PCB	Herb	BNA PAT/PCB	Cyclic Ham		Metal	CN								

CL 2-20-92

WESTON Analytics Use Only

MATRIX CODES:
S - Soil
SE - Sediment
SO - Solid
SL - Sludge
W - Water
O - Oil
A - Air
DS - Drum Solids
DL - Drum Liquids
L - EP/TCLP Leachate
WI - Wipe
X - Other
F - Fish

Lab ID	Client ID/Description	Matrix QC Chosen (✓) MS	MSD	Matrix	Date Collected	Time Collected	1 0624H				2 0625H 0608H	3 ISUB		4 MHEL70S	5 ZBN70						
001	B01T37			S	2-20-92	0930	✓				✓										
002	B01T38			S	2-20-92	1024	✓					✓		✓	✓						

Pad info to follow.

CL 2-20-92

FIELD PERSONNEL: COMPLETE ONLY SHADED AREAS

Special Instructions: From 100 area drilling project. See WHC chain of custody.
Analysis Requested: (1) CLP; VOA. (2) CLP; semi-VOA, PCB/PEST. (3) Gross Alpha, Gross Beta, Gamma Spec., ~~U-234~~ CL 2-20-92/235/238, Pu-239/240, Am-241, Sr-90, Tc-99, C-14. (4) CLP ICP/AA Metals, Hg. (5) CLP; CN.
(1) MS/MSD Required

DATE/REVISIONS:
1.
2.
3.
4.
5.
6.

Relinquished by	Received by	Date	Time	Relinquished by	Received by	Date	Time
Emery	[signature]	2-24-92	13:30				
	JK 2-24-92				JK 2-24-92		

WESTON Analytics Use Only

Samples were:
1) Shipped ✓ or Hand Delivered
Airbill # 2509466788
2) Ambient or Chilled
3) Received in Good Condition Y or N
4) Labels Indicate Properly Preserved Y or N
5) Received Within Holding Times Y or N

COC Tape was:
1) Present on Outer Package Y or N
2) Unbroken on Outer Package Y or N
3) Present on Sample Y or N
4) Unbroken on Sample Y or N
COC Record Present Upon Sample Rec't Y or N

Discrepancies Between Samples Labels and COC Record? Y or N
NOTES:

RFW 21-21-001/A-7/91 ___ L372 ___ L373 ___ L375 ___ L377 ___ L378 Ref# N/A Cooler# SML-160 381-596a

9713506 2149

0000002

Westinghouse Hanford Company 9713506.2150

0005303

CHAIN OF CUSTODY

RFW 9202L452

Custody Form Initiator CM Chance

Company Contact JD FANCHER

Telephone (509)376-2081

Project Designation/Sampling Locations 100 Areas Sampling 100DR-1 BH 132-D-3

Collection Date 2-20-92

Ice Chest No. SML-16D

Field Logbook No. WHC-N-560

Bill of Lading/Airbill No.

Offsite Property No. W92-D-0023

Method of Shipment Overnight Air Delivery

Shipped to Roy F. Weston 208 Welsh Pool Rd. Lionville Pa. 19341-1313

Possible Sample Hazards/Remarks Maintain at 4 C

Sample Identification

B01T37	B01T38
(1)1000ml G bottle(Gross alpha/beta Gamma Spec. U-235/238 Pu-239/240,Am-241,Sr-90Tc-99,C-14 CC 2-20-92	(1)1000ml G bottle(Gross alpha/beta Gamma Spec U-235/238 Pu-239/240,Am-241,Sr-90,Tc-99,C-14
(1)500ml aG bottle(Semi-Voa,PCB/PEST)	~~(1)500ml aG bottle(Semi-Voa,PCB/PEST)~~ CC 2-20-92
(1)250ml G bottle(ICP/AA metals,Hg) CC 2-20-92	(1)250ml G bottle(ICP/AA metals,Hg)
(1)250ml G bottle(Cn)	(1)250ml G bottle(Cn)
(1)125ml G bottle(VOA)	(1)125ml G bottle(VOA)
~~(1)250ml aG bottle(Cr+6)~~ CC 2-20-92	~~(1)250ml aG bottle(Cr+6)~~ CC 2-20-92

☐ Field Transfer of Custody

CHAIN OF POSSESSION (Sign and Print Names)

Relinquished by:	Received by:	Date/Time:
CM Chance Cory Chance		
Relinquished by: Emery	Received by:	Date/Time: 2-24-92 1330
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 (12/9

RFW9202L452

FORM OF PAYMENT

Check ☐ GBL ☐ FCCOD ☐

Bill to Shipper ☒ Bill to Consignee ☐ Third Party Billing ☐

EMERY WORLDWIDE — A CF Company

SERVICES

UNITED STATES / CANADA: Same Day ☐ AM ☐ PM ☐ Second Day ☐ Saturday Delivery ☒

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

Shipper's Account Number: E 850281585

Date: 02-21-92 | Origin: PSC | Shipment Number: 250986678 8

From:
WESTINGHOUSE SHIPPING DEPT (509) 376-6665
US DEPARTMENT OF ENERGY C/O
WESTINGHOUSE HANFORD
BLDG 1163
2355 STEVENS DRIVE
RICHLAND WA
Canada ☐

To:
PEG BEATY
roy F. WESTON INC
208 WELSH POOL ROAD
LIONVILLE PA
Hold for Pick Up ☐
Canada ☐

Tariff Dest. | Gateway

Check to Shipper $

EMERY WORLDWIDE will accept Consignee's check with all risks being assumed by Shipper, including but not limited to non-payment, fraud and misrepresentation.

Customer's Reference Numbers: PB213 W: 2410 W92-0-0023#47

Zip: 99352

E Consignee's Account Number

Zip: 19341-1313

Description	Pos.	L	W	H	Total Pieces	Total Weight (lbs)
1 COOLER SML-160 SOIL SAMPLES B01T37, B01T38 W92-0-0023 #47	1				1	50

FOR INFORMATION OR RATES CALL 1-800 44 EMERY (1-800-443-6379)

Declared Value $

250986678 8

Remarks: SATURDAY DELIVERY

Zip Ship ☐ — For shipments within the 50 United States Shipper has the option to check this box and, by checking, agrees that the Zip Ship conditions, described in the area to the right, apply.

Mark if Emery Packaging is used: Urgent Letter 9X12 ☐ Urgent Pack 12X15 ☐

Shipper's Signature: X 2/21

International Shipments: Final Domicile ☐ Commodity Code

Third Party Account Number mandatory for Third Party Billing: E Third Party Account Number

Base Charge

International Customs Value | International Insurance

Total Transportation Charges | Other Charges/Advance at Origin ☐ OC/AC $

3-PHL-SA

Terms and Conditions on Back

0 7 2 5 0 6 2 1 1

0 0 9 0 0 0 4

9213506.2152 0000019

VOLATILE ORGANICS ANALYSIS SHEET

CLIENT SAMPLE NO.

B01T37

Lab Name: Roy F. Weston, Inc. Work Order: 6168-02-01-0000

Client: WESTINGHOUSE HANFORD

Matrix: SOIL

Lab Sample ID: 9202L452-001

Sample wt/vol: 5.00 (g/mL) G

Lab File ID: B022507

Level: (low/med) LOW

Date Received: 02/24/92

% Moisture: not dec. 5

Date Analyzed: 02/25/92

Column: (pack/cap) CAP

Dilution Factor: 1.00

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

CAS NO.	COMPOUND		
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	UJ
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	UJ
75-09-2	Methylene Chloride	15	~~B~~ UJ
67-64-1	Acetone	12	~~B~~ UJ
75-15-0	Carbon Disulfide	5	U
75-35-4	1,1-Dichloroethene	5	U
75-34-3	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
108-05-4	Vinyl Acetate	10	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	5	U
108-88-3	Toluene	~~4~~ 5	~~JB~~ U
108-90-7	Chlorobenzene	5	U
100-41-4	Ethylbenzene	5	U
100-42-5	Styrene	5	U
1330-20-7	Xylene (total)	5	U

8-11-92 MM

9213506.2153 0000019

1E

VOLATILE ORGANICS ANALYSIS SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

B01T37

Lab Name: Roy F. Weston, Inc. Work Order: 6168-02-01-0000

Client: WESTINGHOUSE HANFORD

Matrix: SOIL

Lab Sample ID: 9202L452-001

Sample wt/vol: 5.00 (g/mL) G

Lab File ID: B022507

Level: (low/med) LOW

Date Received: 02/24/92

% Moisture: not dec. 5

Date Analyzed: 02/25/92

Column: (pack/cap) CAP

Dilution Factor: 1.00

Number TICs found: 0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.				

8-11-92
my

9213506.2154 0000029

1A

VOLATILE ORGANICS ANALYSIS SHEET

CLIENT SAMPLE NO.

B01T38

Lab Name: Roy F. Weston, Inc. Work Order: 6168-02-01-0000

Client: WESTINGHOUSE HANFORD

Matrix: SOIL

Lab Sample ID: 9202L452-002

Sample wt/vol: 5.00 (g/mL) G

Lab File ID: B022508

Level: (low/med) LOW

Date Received: 02/24/92

% Moisture: not dec. 7

Date Analyzed: 02/25/92

Column: (pack/cap) CAP

Dilution Factor: 1.00

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

CAS NO.	COMPOUND		
74-87-3	Chloromethane	11	UJ
74-83-9	Bromomethane	11	UJ
75-01-4	Vinyl Chloride	11	U
75-00-3	Chloroethane	11	U
75-09-2	Methylene Chloride	~~8~~ 11	~~BU~~
67-64-1	Acetone	10	~~JBU~~
75-15-0	Carbon Disulfide	6	U
75-35-4	1,1-Dichloroethene	6	U
75-34-3	1,1-Dichloroethane	6	U
540-59-0	1,2-Dichloroethene (total)	6	U
67-66-3	Chloroform	6	U
107-06-2	1,2-Dichloroethane	6	U
78-93-3	2-Butanone	11	U
71-55-6	1,1,1-Trichloroethane	6	U
56-23-5	Carbon Tetrachloride	6	U
108-05-4	Vinyl Acetate	11	U
75-27-4	Bromodichloromethane	6	U
78-87-5	1,2-Dichloropropane	6	U
10061-01-5	cis-1,3-Dichloropropene	6	U
79-01-6	Trichloroethene	6	U
124-48-1	Dibromochloromethane	6	U
79-00-5	1,1,2-Trichloroethane	6	U
71-43-2	Benzene	6	U
10061-02-6	Trans-1,3-Dichloropropene	6	U
75-25-2	Bromoform	6	U
108-10-1	4-Methyl-2-pentanone	11	U
591-78-6	2-Hexanone	11	U
127-18-4	Tetrachloroethene	6	U
79-34-5	1,1,2,2-Tetrachloroethane	6	U
108-88-3	Toluene	~~8~~ 6	~~JBU~~ J
108-90-7	Chlorobenzene	6	U
100-41-4	Ethylbenzene	6	U
100-42-5	Styrene	6	U
1330-20-7	Xylene (total)	6	U

8-11-92 MM

9213506.2155 0005030

VOLATILE ORGANICS ANALYSIS SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

B01T38

Lab Name: Roy F. Weston, Inc. Work Order: 6168-02-01-0000

Client: WESTINGHOUSE HANFORD

Matrix: SOIL

Lab Sample ID: 9202L452-002

Sample wt/vol: 5.00 (g/mL) G

Lab File ID: B022508

Level: (low/med) LOW

Date Received: 02/24/92

% Moisture: not dec. 7

Date Analyzed: 02/25/92

Column: (pack/cap) CAP

Dilution Factor: 1.00

Number TICs found: 0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.				

8-11-92

FORM 1 VOA-TIC 12/88 Rev.

9213506.2156 0000024

SEMIVOLATILE ORGANICS ANALYSIS SHEET

CLIENT SAMPLE NO.

B01T37

Lab Name: Roy F. Weston, Inc. Work Order: 6168-02-01-0000

Client: WESTINGHOUSE HANFORD

Matrix: SOIL Lab Sample ID: 9202L452-001

Sample wt/vol: 30.5 (g/mL) G Lab File ID: S030612

Level: (low/med) LOW Date Received: 02/24/92

% Moisture: not dec. 5 dec. Date Extracted: 03/02/92

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 03/06/92

GPC Cleanup: (Y/N) N pH: 7.5 Dilution Factor: 1.00

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

CAS NO.	COMPOUND		
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
100-51-6	Benzyl alcohol	340	U
95-50-1	1,2-Dichlorobenzene	340	U
95-48-7	2-Methylphenol	340	U
108-60-1	bis(2-Chloroisopropyl)ether	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
65-85-0	Benzoic acid	1700	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	1700	U
91-58-7	2-Chloronaphthalene	340	U
88-74-4	2-Nitroaniline	1700	U
131-11-3	Dimethylphthalate	340	U
208-96-8	Acenaphthylene	340	U
606-20-2	2,6-Dinitrotoluene	340	U

8-11-92 MM

9216506.2157 0000025

SEMIVOLATILE ORGANICS ANALYSIS SHEET

CLIENT SAMPLE NO.

B01T37

Lab Name: Roy F. Weston, Inc. Work Order: 6168-02-01-0000

Client: WESTINGHOUSE HANFORD

Matrix: SOIL Lab Sample ID: 9202L452-001

Sample wt/vol: 30.5 (g/mL) G Lab File ID: S030612

Level: (low/med) LOW Date Received: 02/24/92

% Moisture: not dec. 5 dec. Date Extracted: 03/02/92

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 03/06/92

GPC Cleanup: (Y/N) N pH: 7.5 Dilution Factor: 1.00

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

CAS NO.	COMPOUND		
99-09-2	3-Nitroaniline	1700	U
83-32-9	Acenaphthene	340	U
51-28-5	2,4-Dinitrophenol	1700	U
100-02-7	4-Nitrophenol	1700	U
132-64-9	Dibenzofuran	340	U
121-14-2	2,4-Dinitrotoluene	340	U
84-66-2	Diethylphthalate	100	J
7005-72-3	4-Chlorophenyl-phenylether	340	U
86-73-7	Fluorene	340	U
100-01-6	4-Nitroaniline	1700	U
534-52-1	4,6-Dinitro-2-methylphenol	1700	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	1700	U
85-01-8	Phenanthrene	340	U
120-12-7	Anthracene	340	U
84-74-2	Di-n-Butylphthalate	4300	
206-44-0	Fluoranthene	340	U
129-00-0	Pyrene	340	U
85-68-7	Butylbenzylphthalate	590	
91-94-1	3,3'-Dichlorobenzidine	690	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	Dibenzo(a,h)anthracene	340	U
191-24-2	Benzo(g,h,i)perylene	340	U

8-11-92 MM

(1) - Cannot be separated from Diphenylamine

9213506.2158 0000026

CLIENT SAMPLE NO.

B01T37

SEMIVOLATILE ORGANICS ANALYSIS SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Lab Name: Roy F. Weston, Inc. Work Order: 6168-02-01-0000

Client: WESTINGHOUSE HANFORD

Matrix: SOIL

Lab Sample ID: 9202L452-001

Sample wt/vol: 30.5 (g/mL) G

Lab File ID: S030612

Level: (low/med) LOW

Date Received: 02/24/92

% Moisture: not dec. 5 dec.

Date Extracted: 03/02/92

Extraction: (SepF/Cont/Sonc) SONC

Date Analyzed: 03/06/92

GPC Cleanup: (Y/N) N pH: 7.5

Dilution Factor: 1.00

Number TICs found: 0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.				

8-11-92
MM

9213506.2159 0005515

PESTICIDE ORGANICS ANALYSIS SHEET

CLIENT SAMPLE NO.

BO1T37

Lab Name: Roy F. Weston, Inc. Work Order: 6168-02-01-0000

Client: WESTINGHOUSE HANFORD

Matrix: SOIL

Lab Sample ID: 9202L452-001

Sample wt/vol: 29.9 (g/mL) G

Lab File ID: 03139213.43

Level: (low/med) LOW

Date Received: 02/24/92

% Moisture: not dec. 5 dec.

Date Extracted: 02/27/92

Extraction: (SepF/Cont/Sonc) SONC

Date Analyzed: 03/14/92

GPC Cleanup: (Y/N) Y pH: 8.7

Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg	
319-84-6	Alpha-BHC	8.4	U
319-85-7	Beta-BHC	8.4	U
319-86-8	Delta-BHC	8.4	U
58-89-9	gamma-BHC (Lindane)	8.4	U
76-44-8	Heptachlor	8.4	~~U~~ R
309-00-2	Aldrin	8.4	U
1024-57-3	Heptachlor epoxide	8.4	U
959-98-8	Endosulfan I	8.4	U
60-57-1	Dieldrin	17	U
72-55-9	4,4'-DDE	17	U
72-20-8	Endrin	17	U
33213-65-9	Endosulfan II	17	U
72-54-8	4,4'-DDD	17	U
1031-07-8	Endosulfan sulfate	17	U
50-29-3	4,4'-DDT	17	U
72-43-5	Methoxychlor	84	U
53494-70-5	Endrin ketone	17	U
5103-71-9	alpha-Chlordane	84	U
5103-74-2	gamma-Chlordane	84	U
8001-35-2	Toxaphene	170	U
12674-11-2	Aroclor-1016	84	U
11104-28-2	Aroclor-1221	84	U
11141-16-5	Aroclor-1232	84	U
53469-21-9	Aroclor-1242	84	U
12672-29-6	Aroclor-1248	84	U
11097-69-1	Aroclor-1254	170	U
11096-82-5	Aroclor-1260	170	U

8-12-92 MM

DOR 3/20/92

FORM 1 PEST 12/88 Rev.

U.S. EPA - CLP

1

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

B01T38

Lab Name: ROY F. WESTON, INC - L372 Contract: 6168-02-01

Lab Code: WESTON Case No.: WEST SAS No.: SDG No.: CLP452

Matrix (soil/water): SOIL Lab Sample ID: 920245202

Level (low/med): LOW Date Received: 2/24/92

% Solids: 93.4

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	2450.00			P
7440-36-0	Antimony	4.93	U	N	P
7440-38-2	Arsenic	.69	B		F
7440-39-3	Barium	53.40			P
7440-41-7	Beryllium	.30	B		P
7440-43-9	Cadmium	.64	U	N	P
7440-70-2	Calcium	4970.00		E	P
7440-47-3	Chromium	5.20			P
7440-48-4	Cobalt	7.30	B		P
7440-50-8	Copper	10.50			P
7439-89-6	Iron	13900.00		E	P
7439-92-1	Lead	2.30			F
7439-95-4	Magnesium	2650.00			P
7439-96-5	Manganese	207.00		NE	P
7439-97-6	Mercury	.05	U		CV
7440-02-0	Nickel	7.20	B		P
7440-09-7	Potassium	527.00	B		P
7782-49-2	Selenium	.43	U		F
7440-22-4	Silver	1.60	B	N	P
7440-23-5	Sodium	200.00	B		P
7440-28-0	Thallium	.43	U	NW	F
7440-62-2	Vanadium	16.70			P
7440-66-6	Zinc	26.00			P
	Cyanide	1.07	U		C

Color Before: BROWN Clarity Before: Texture: FINE

Color After: BROWN Clarity After: Artifacts:

Comments: