9212L007-WES-972

0000010

0044609

ROY F. WESTON, INC.
LIONVILLE ANALYTICAL LABORATORY
ANALYTICAL CASE NARRATIVE

Client: WESTINGHOUSE HANFORD
RFW #: 9212L007

W.O. #: 06168-002-001-9999-00
Date Received: 12-12-92

GC/MS VOLATILE

One (1) soil sample was collected on 12-08-92.

The sample and its associated QC samples were analyzed according to criteria set forth in CLP SOW 03/90 for TCL Volatile target compounds on 12-17,18-92.

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 system monitoring compound (surrogate) recoveries were within EPA QC limits.
3. All matrix spike recoveries were within EPA QC limits.
4. All blank spike recoveries were within EPA QC limits.
5. The laboratory blanks contained the common contaminants Methylene Chloride and Acetone at levels less than 2X the CRQL.
6. All internal standard area and retention time criteria were met.

FEB. 1996
RECEIVED
EDMC

Margaret M. Beaty for
J. Peter Hershey, Ph.D.
Laboratory Manager
Lionville Analytical Laboratory

1/20/93
Date

kls/12-007v.cn

WESTON Analytics Use Only
9212L007

Custody Transfer Record/Lab Work Request

WESTON

Page 1 of 1

Client: Westinghouse-Hanford
Est. Final Proj. Sampling Date:
Work Order #: 0L0L0B-000-001-9999-00
Project Contact/Phone #:
AD Project Manager: Jose Edwards
QC: CLP Del: CLP TAT: 35 day
Date Rec'd: 12/7/92 Date Due: 1/11/93
Account #: WS-Hanford

Refrigerator #		1	6	4		2	4		2	4													
#/Type Container	Liquid																						
	Solid	2x1	1Pg	4		1Pg	4		1Pg	4													
Volume	Liquid																						
	Solid	125	500	4		500	4		500														
Preservatives																							

ANALYSES REQUESTED →

ORGANIC							INORG	
VOA	BNA	Pest/PCB	Herb	TCL ICSOL ICP/MS DIOXIN PH			Metal	CN

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	0L0344	0L0354	0L0084	ICP/MS	TCL ICSOL	DIOXIN		500 Bellwt	1000TO							
001	B07Q97			S	12/6/92		X	X	X		X	X		X	X							
	Metals = ICP + Hg (HSL)																					

FIELD PERSONNEL: COMPLETE ONLY SHADED AREAS

Special Instructions:

Temp = 5.1°C

Run (1) ms/msD

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

WESTON Analytics Use Only

Samples were:
1) Shipped A or Hand Delivered
Airbill # EMERY
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'd Y or N

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

Relinquished by	Received by	Date	Time	Relinquished by	Received by	Date	Time
Emery	Olesko	12/6/92	1530				
		12/7/92					

RFW 21-21-001/A-7/91 ____ L372 ____ L373 ____ L375 ____ L377 ____ L378 Ref# ____ Cooler# Sn-70. 381-596a

000002

0000003

1

Westinghouse Hanford Company	CHAIN OF CUSTODY

Custody Form Initiator: W.V. SETZER

Company Contact: WV SETZER — Telephone: 376-2413

Project Designation/Sampling Locations: 100-NR-1 — Collection Date: 12-8-92

Ice Chest No.: SML 70 — Field Logbook No.: EFL-1062

Bill of Lading/Airbill No.: 2519007627 34 — Offsite Property No.: WP30-0122#3,

Method of Shipment: OVERNIGHT AIR SERVICE

Shipped to: ~~TMA/NORCAL~~ WUS 12-8-92 WESTON

Possible Sample Hazards/Remarks: None detected with field instruments. Maintain at 4C.

Sample Identification

1) 1,250ml aG:CLP;ICP/AA Metals,Hg,Cn
~~1,120ml aG:CLP;VOA~~ WUS 12-8-92
1,950ml aG:CLP;Semi-VOA,~~PCB/PEST,Anions~~ (F,SO4,NO2,NO3)PH
1,1000ml G/P:Gross alpha/beta,Gamma Spec,~~Sr-90,C-14,~~U-235/238,Pu-239/240,Am-241

2) ~~1,250ml~~ aG:CLP;ICP/AA Metals,Hg,Cn
1,120ml ~~aG:CLP;VOA~~ WUS 12-8-92
1,950ml aG:CLP;Semi-VOA,PCB/PEST,~~Anions~~ (F,SO4,NO3)
1,1000ml G:Gross alpha/beta,Gamma Spec,Sr-90,C-14,~~U-235/238~~,Pu-239/240,Am-241

3) B07997 1,250ml aG:CLP;ICP/AA Metals,Hg,Cn
21 1,120ml aG:CLP;VOA
~~1,950ml~~ 500 WUS 12-8-92 aG:CLP;Semi-VOA,PCB/PEST,~~Anions (F,SO4,NO3)NO2,PH~~ WUS 12-8-92
~~1,1000ml G:Gross alpha/beta,Gamma Spec,Sr-90,C-14,U-235/238,Pu-239/240,Am-241~~ WUS 12-8-92
1 500ml aG: ANIONS (IC) F, SO4, NO3, NO2, PH

[] Field Transfer of Custody	Chain of Possession	(Sign and Print Names)
Relinquished by: W.V. Setzer	Received by:	Date/Time:
Relinquished by: Emery	Received by: Susan Rosie	Date/Time: 12/14 SP 12/12/92 4:30 pm
Relinquished by:	Received by:	Date/Time:
Relinquished by:	Received by:	Date/Time:

Final Sample Disposition

Disposal Method:	Disposed by:	Date/Time:

Comments:

Temp: 5.1°C

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

0200004

Westinghouse Hanford Company	SAMPLE ANALYSIS REQUEST

Collector W.V. SETZER Date 12-10-92

Company Contact WV SETZER Telephone (509)376-2413

Sample Number	*	Date Collected	Time Collected	Number and Type of Sample Containers/Analysis Required
				1-250ml aG CLP;ICP/AA Metals,Hg,Cn 1-120ml aG CLP;VOA 1-950ml aG CLP;Semi-VOA,PCB/PEST Anions(F,SO4,NO2,NO3)PH 1-1000ml G Gross alpha/beta,Gamma Spec,Sr-90,C-14 U-235/238,Pu-239/240,Am-241 WVS
				1-250ml aG CLP;ICP/AA Metals,Hg,Cn 1-120ml aG CLP;VOA 1-950ml aG CLP;Semi-VOA,PCB/PEST Anions(F,SO4,NO2,NO3)PH 1-1000ml G Gross alpha/beta,Gamma Spec,Sr-90,C-14 U-235/238,Pu-239/240,Am-241
				1-250ml aG CLP;ICP/AA Metals,~~Hg,Cn~~ 1-120ml aG CLP;VOA 1-950ml aG CLP;Semi-VOA,PCB/PEST Anions(F,SO4,NO2,NO3)PH 1-1000ml G Gross alpha/beta,Gamma Spec,Sr-90,C-14 U-235/238,Pu-239/240,Am-241
B07Q97	S	12-8-92	1015	1-~~120~~ 250ml aG CLP;ICP/AA Metals,Hg,Cn 2,1-120ml aG CLP;VOA 1-~~950~~ 500ml aG CLP;Semi-VOA,PCB/PEST Anions(F,SO4,NO2,NO3)PH ~~1-1000ml G Gross alpha/beta,Gamma Spec,Sr-90,C-14~~ ~~U-235/238,Pu-239/240,Am-241~~ 1 500 ml aG: ANIONS, (IC) F, SO4, NO2, NO3, PH WVS 12-10-92
				WVS

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

Field Information FROM 100-FR-3 Drilling

Special Handling and/or Storage Maintain at 4C

Possible Sample Hazards NA

A-6000-406 (06/91) WEF060

Roy F. Weston, Inc. - Lionville Laboratory
Volatiles by GC/MS, HSL List

Report Date: 01/07/93 10:49

RFW Batch Number: 9212L007 Client: WESTINGHOUSE HANFORD Work Order: 6168-02-0 Page: 1a

	Cust ID:	B07Q97		B07Q97		B07Q97		VBLK		VBLK		VBLK BS	
Sample Information	RFW#:	001		001 MS		001 MSD		92LVX231-MB1		92LVX232-MB1		92LVX232-MB1	
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	D.F.:	0.980		1.00		1.00		1.00		1.00		1.00	
	Units:	UG/KG		UG/KG		UG/KG		UG/KG		UG/KG		UG/KG	
Surrogate Recovery	Toluene-d8	106	%	101	%	104	%	103	%	99	%	98	%
	Bromofluorobenzene	100	%	99	%	100	%	99	%	96	%	98	%
	1,2-Dichloroethane-d4	104	%	103	%	99	%	98	%	98	%	101	%
			fl		fl		fl		fl		fl		fl
Chloromethane		10	U	10	U	10	U	10	U	10	U	10	U
Bromomethane		10	U	10	U	10	U	10	U	10	U	10	U
Vinyl Chloride		10	U	10	U	10	U	10	U	10	U	10	U
Chloroethane		10	U	10	U	10	U	10	U	10	U	10	U
Methylene Chloride		8	JB	5	JB	7	JB	10		6	J	5	JB
Acetone		15	B	25	B	20	B	10		14		10	U
Carbon Disulfide		10	U	10	U	10	U	10	U	10	U	10	U
1,1-Dichloroethene		10	U	96	%	86	%	10	U	10	U	100	%
1,1-Dichloroethane		10	U	10	U	10	U	10	U	10	U	10	U
1,2-Dichloroethene (total)		10	U	10	U	10	U	10	U	10	U	10	U
Chloroform		10	U	10	U	10	U	10	U	10	U	10	U
1,2-Dichloroethane		10	U	10	U	10	U	10	U	10	U	10	U
2-Butanone		10	U	10	U	10	U	10	U	10	U	10	U
1,1,1-Trichloroethane		10	U	10	U	10	U	10	U	10	U	10	U
Carbon Tetrachloride		10	U	10	U	10	U	10	U	10	U	10	U
Bromodichloromethane		10	U	10	U	10	U	10	U	10	U	10	U
1,2-Dichloropropane		10	U	10	U	10	U	10	U	10	U	10	U
cis-1,3-Dichloropropene		10	U	10	U	10	U	10	U	10	U	10	U
Trichloroethene		10	U	106	%	96	%	10	U	10	U	106	%
Dibromochloromethane		10	U	10	U	10	U	10	U	10	U	10	U
1,1,2-Trichloroethane		10	U	10	U	10	U	10	U	10	U	10	U
Benzene		10	U	99	%	95	%	10	U	10	U	100	%
trans-1,3-Dichloropropene		10	U	10	U	10	U	10	U	10	U	10	U
Bromoform		10	U	10	U	10	U	10	U	10	U	10	U
4-Methyl-2-pentanone		10	U	10	U	10	U	10	U	10	U	10	U
2-Hexanone		10	U	10	U	10	U	10	U	10	U	10	U
Tetrachloroethene		10	U	10	U	10	U	10	U	10	U	10	U
1,1,2,2-Tetrachloroethane		10	U	10	U	10	U	10	U	10	U	10	U
Toluene		10	U	104	%	96	%	10	U	10	U	100	%

*= Outside of EPA CLP QC limits.

400010

RFW Batch Number: 9212L007 Client: WESTINGHOUSE HANFORD Work Order: 6168-02-0 Page: 1b

Cust ID:	B07Q97		B07Q97		B07Q97		VBLK		VBLK		VBLK BS	
RFW#:	001		001 MS		001 MSD		92LVX231-MB1		92LVX232-MB1		92LVX232-MB1	
Chlorobenzene	10	U	104	%	95	%	10	U	10	U	99	%
Ethylbenzene	10	U	10	U	10	U	10	U	10	U	10	U
Styrene	10	U	10	U	10	U	10	U	10	U	10	U
Xylene (total)	10	U	10	U	10	U	10	U	10	U	10	U

*= Outside of EPA CLP QC limits.

000008

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

000024

CLIENT SAMPLE NO.

B07Q97

Lab Name: Roy F. Weston, Inc. Work Order: 6168-02-0

Client: WESTINGHOUSE HANFORD

Matrix: (soil/water) SOIL

Lab Sample ID: 9212L007-001

Sample wt/vol: 5.10 (g/mL) G

Lab File ID: AXCH16

Level: (low/med) LOW

Date Received: 12/12/92

% Moisture: not dec. 4

Date Analyzed: 12/17/92

GC Column: DB624 ID: .53(mm)

Dilution Factor: 0.980

Soil Extract Volume: (uL)

Soil Aliquot Volume: (uL)

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

1E

0000025 CLIENT SAMPLE NO.

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

B07Q97

Lab Name: Roy F. Weston, Inc. Work Order: 6168-02-0

Client: WESTINGHOUSE HANFORD

Matrix: (soil/water) SOIL

Lab Sample ID: 9212L007-001

Sample wt/vol: 5.10 (g/mL) G

Lab File ID: AXCH16

Level: (low/med) LOW

Date Received: 12/12/92

% Moisture: not dec. 4

Date Analyzed: 12/17/92

GC Column: DB624 ID: .53(mm)

Dilution Factor: 0.980

Soil Extract Volume: (uL)

Soil Aliquot Volume: (uL)

Number TICs found: 0

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

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

Roy F. Weston, Inc. - Lionville Laboratory
Semivolatiles by GC/MS, HSL List

RFW Batch Number: 9212L007 Client: WESTINGHOUSE HANFORD Work Order: 6168-02-0 Report Date: 01/18/93 09:42 Page: 1a

	Cust ID:	B07Q97		B07Q97		B07Q97		SBLK		SBLK BS	
Sample Information	RFW#:	001		001 MS		001 MSD		92LE2117-MB1		92LE2117-MB1	
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL	
	D.F.:	1.00		1.00		1.00		1.00		1.00	
	Units:	ug/Kg		ug/Kg		ug/Kg		ug/Kg		ug/Kg	
Surrogate Recovery	Nitrobenzene-d5	87	%	71	%	41	%	39	%	67	%
	2-Fluorobiphenyl	96	%	79	%	44	%	44	%	84	%
	Terphenyl-d14	88	%	74	%	52	%	48	%	82	%
	Phenol-d5	102	%	75	%	49	%	45	%	76	%
	2-Fluorophenol	102	%	79	%	49	%	53	%	86	%
	2,4,6-Tribromophenol	83	%	72	%	29	%	44	%	70	%
	2-Chlorophenol-d4	98	%	78	%	43	%	44	%	80	%
	1,2-Dichlorobenzene-d4	83	%	73	%	42	%	37	%	75	%
Phenol		340	U	76	%	48	%	330	U	77	%
bis(2-Chloroethyl)ether		340	U	340	U	340	U	330	U	330	U
2-Chlorophenol		340	U	86	%	46	%	330	U	84	%
1,3-Dichlorobenzene		340	U	340	U	340	U	330	U	330	U
1,4-Dichlorobenzene		340	U	77	%	46	%	330	U	77	%
1,2-Dichlorobenzene		340	U	340	U	340	U	330	U	330	U
2-Methylphenol		340	U	340	U	340	U	330	U	330	U
2,2'-oxybis(1-Chloropropane)		340	U	340	U	340	U	330	U	330	U
4-Methylphenol		340	U	340	U	340	U	330	U	330	U
N-Nitroso-di-n-propylamine		340	U	74	%	41	%	330	U	65	%
Hexachloroethane		340	U	340	U	340	U	330	U	330	U
Nitrobenzene		340	U	340	U	340	U	330	U	330	U
Isophorone		340	U	340	U	340	U	330	U	330	U
2-Nitrophenol		340	U	340	U	340	U	330	U	330	U
2,4-Dimethylphenol		340	U	340	U	340	U	330	U	330	U
bis(2-Chloroethoxy)methane		340	U	340	U	340	U	330	U	330	U
2,4-Dichlorophenol		340	U	340	U	340	U	330	U	330	U
1,2,4-Trichlorobenzene		340	U	86	%	50	%	330	U	89	%
Naphthalene		340	U	340	U	340	U	330	U	330	U
4-Chloroaniline		340	U	340	U	340	U	330	U	330	U
Hexachlorobutadiene		340	U	340	U	340	U	330	U	330	U
4-Chloro-3-methylphenol		340	U	78	%	47	%	330	U	77	%
2-Methylnaphthalene		340	U	340	U	340	U	330	U	330	U
Hexachlorocyclopentadiene		340	U	340	U	340	U	330	U	330	U

*= Outside of EPA CLP QC limits.

000007

RFW Batch Number: 9212L007 Client: WESTINGHOUSE HANFORD Work Order: 6168-02-0 Page: 1b

Cust ID:	B07Q97	B07Q97	B07Q97	SBLK	SBLK BS
RFW#:	001	001 MS	001 MSD	92LE2117-MB1	92LE2117-MB1
2,4,6-Trichlorophenol	340 U	340 U	340 U	330 U	330 U
2,4,5-Trichlorophenol	850 U	860 U	840 U	840 U	840 U
2-Chloronaphthalene	340 U	340 U	340 U	330 U	330 U
2-Nitroaniline	850 U	860 U	840 U	840 U	840 U
Dimethylphthalate	340 U	340 U	190 J	330 U	330 U
Acenaphthylene	340 U	340 U	340 U	330 U	330 U
2,6-Dinitrotoluene	340 U	340 U	340 U	330 U	330 U
3-Nitroaniline	850 U	860 U	840 U	840 U	840 U
Acenaphthene	340 U	82 %	48 %	330 U	79 %
2,4-Dinitrophenol	850 U	860 U	840 U	840 U	840 U
4-Nitrophenol	850 U	93 %	53 %	840 U	74 %
Dibenzofuran	340 U	340 U	340 U	330 U	330 U
2,4-Dinitrotoluene	340 U	92 * %	52 %	330 U	85 %
Diethylphthalate	340 U	340 U	340 U	330 U	330 U
4-Chlorophenyl-phenylether	340 U	340 U	340 U	330 U	330 U
Fluorene	340 U	340 U	340 U	330 U	330 U
4-Nitroaniline	850 U	860 U	840 U	840 U	840 U
4,6-Dinitro-2-methylphenol	850 U	860 U	840 U	840 U	840 U
N-Nitrosodiphenylamine (1)	340 U	340 U	340 U	330 U	330 U
4-Bromophenyl-phenylether	340 U	340 U	340 U	330 U	330 U
Hexachlorobenzene	340 U	340 U	340 U	330 U	330 U
Pentachlorophenol	850 U	85 %	49 %	840 U	87 %
Phenanthrene	340 U	340 U	340 U	330 U	330 U
Anthracene	340 U	340 U	340 U	330 U	330 U
Carbazole	340 U	340 U	340 U	330 U	330 U
Di-n-butylphthalate	68 J	64 J	1100	330 U	26 J
Fluoranthene	340 U	340 U	340 U	330 U	330 U
Pyrene	340 U	80 %	57 %	330 U	82 %
Butylbenzylphthalate	340 U	340 U	340 U	330 U	330 U
3,3'-Dichlorobenzidine	340 U	340 U	340 U	330 U	330 U
Benzo(a)anthracene	340 U	340 U	340 U	330 U	330 U
Chrysene	340 U	340 U	340 U	330 U	330 U
bis(2-Ethylhexyl)phthalate	150 J	340 U	340 U	330 U	330 U
Di-n-octyl phthalate	340 U	340 U	340 U	330 U	330 U
Benzo(b)fluoranthene	340 U	340 U	340 U	330 U	330 U
Benzo(k)fluoranthene	340 U	340 U	340 U	330 U	330 U
Benzo(a)pyrene	340 U	340 U	340 U	330 U	330 U
Indeno(1,2,3-cd)pyrene	340 U	340 U	340 U	330 U	330 U
Dibenz(a,h)anthracene	340 U	340 U	340 U	330 U	330 U
Benzo(g,h,i)perylene	340 U	340 U	340 U	330 U	330 U

(1) - Cannot be separated from Diphenylamine. *= Outside of EPA CLP QC limits.

000068

ROY F. WESTON, INC.
LIONVILLE ANALYTICAL LABORATORY
ANALYTICAL CASE NARRATIVE

Client: WESTINGHOUSE HANFORD
RFW #: 9212L007

W.O. #: 06168-002-001-9999-00
Date Received: 12-12-92

SEMIVOLATILE

One (1) soil sample was collected on 12-08-92.

The sample and its associated QC samples were extracted on 12-18-92 and analyzed according to criteria set forth in CLP SOW 03/90 for TCL Semivolatile target compounds on 01-08,11,12,13-93.

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 detected in these samples.

2. All surrogate recoveries were within EPA QC limits.

3. One (1) of twenty-two (22) matrix spike recoveries was outside EPA QC limits.

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

   The method blank 92LE2117-MB1 was contaminated with Di-n-butylphthalate from an unknown source. A reserve non-GPC'd portion of the extract was analyzed and reported.

5. All internal standard area and retention time criteria were met.

J. Peter Hershey, Ph.D.
Laboratory Manager
Lionville Analytical Laboratory

01. 26. 93
Date

kls/12-007b.cn

0000031

CLIENT SAMPLE NO.

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

B07Q97

Lab Name: Roy F. Weston, Inc. Work Order: 6168-02-0

Client: WESTINGHOUSE HANFORD

Matrix: (soil/water) SOIL

Lab Sample ID: 9212L007-001

Sample wt/vol: 30.6 (g/mL) G

Lab File ID: M011109

Level: (low/med) LOW

Date Received: 12/12/92

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

Date Extracted: 12/18/92

Concentrated Extract Volume: 500(uL)

Date Analyzed: 01/11/93

Injection Volume: 2.0(uL)

Dilution Factor: 1.00

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg	Q
108-95-2	Phenol	340	U
111-44-4	bis(2-Chloroethyl)ether	340	U
95-57-8	2-Chlorophenol	340	U
541-73-1	1,3-Dichlorobenzene	340	U
106-46-7	1,4-Dichlorobenzene	340	U
95-50-1	1,2-Dichlorobenzene	340	U
95-48-7	2-Methylphenol	340	U
108-60-1	2,2'-oxybis(1-Chloropropane)	340	U
106-44-5	4-Methylphenol	340	U
621-64-7	N-Nitroso-di-n-propylamine	340	U
67-72-1	Hexachloroethane	340	U
98-95-3	Nitrobenzene	340	U
78-59-1	Isophorone	340	U
88-75-5	2-Nitrophenol	340	U
105-67-9	2,4-Dimethylphenol	340	U
111-91-1	bis(2-Chloroethoxy)methane	340	U
120-83-2	2,4-Dichlorophenol	340	U
120-82-1	1,2,4-Trichlorobenzene	340	U
91-20-3	Naphthalene	340	U
106-47-8	4-Chloroaniline	340	U
87-68-3	Hexachlorobutadiene	340	U
59-50-7	4-Chloro-3-methylphenol	340	U
91-57-6	2-Methylnaphthalene	340	U
77-47-4	Hexachlorocyclopentadiene	340	U
88-06-2	2,4,6-Trichlorophenol	340	U
95-95-4	2,4,5-Trichlorophenol	850	U
91-58-7	2-Chloronaphthalene	340	U
88-74-4	2-Nitroaniline	850	U
131-11-3	Dimethylphthalate	340	U
208-96-8	Acenaphthylene	340	U
606-20-2	2,6-Dinitrotoluene	340	U
99-09-2	3-Nitroaniline	850	U
83-32-9	Acenaphthene	340	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

B07Q97

Lab Name: Roy F. Weston, Inc. Work Order: 6168-02-0

Client: WESTINGHOUSE HANFORD

Matrix: (soil/water) SOIL

Lab Sample ID: 9212L007-001

Sample wt/vol: 30.6 (g/mL) G

Lab File ID: M011109

Level: (low/med) LOW

Date Received: 12/12/92

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

Date Extracted: 12/18/92

Concentrated Extract Volume: 500(uL)

Date Analyzed: 01/11/93

Injection Volume: 2.0(uL)

Dilution Factor: 1.00

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg	Q
51-28-5	2,4-Dinitrophenol	850	U
100-02-7	4-Nitrophenol	850	U
132-64-9	Dibenzofuran	340	U
121-14-2	2,4-Dinitrotoluene	340	U
84-66-2	Diethylphthalate	340	U
7005-72-3	4-Chlorophenyl-phenylether	340	U
86-73-7	Fluorene	340	U
100-01-6	4-Nitroaniline	850	U
534-52-1	4,6-Dinitro-2-methylphenol	850	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	850	U
85-01-8	Phenanthrene	340	U
120-12-7	Anthracene	340	U
86-74-8	Carbazole	340	U
84-74-2	Di-n-butylphthalate	68	J
206-44-0	Fluoranthene	340	U
129-00-0	Pyrene	340	U
85-68-7	Butylbenzylphthalate	340	U
91-94-1	3,3'-Dichlorobenzidine	340	U
56-55-3	Benzo(a)anthracene	340	U
218-01-9	Chrysene	340	U
117-81-7	bis(2-Ethylhexyl)phthalate	150	J
117-84-0	Di-n-octyl phthalate	340	U
205-99-2	Benzo(b)fluoranthene	340	U
207-08-9	Benzo(k)fluoranthene	340	U
50-32-8	Benzo(a)pyrene	340	U
193-39-5	Indeno(1,2,3-cd)pyrene	340	U
53-70-3	Dibenz(a,h)anthracene	340	U
191-24-2	Benzo(g,h,i)perylene	340	U

(1) - Cannot be separated from Diphenylamine

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

B07Q97

Lab Name: Roy F. Weston, Inc. Work Order: 6168-02-0

Client: WESTINGHOUSE HANFORD

Matrix: (soil/water) SOIL

Lab Sample ID: 9212L007-001

Sample wt/vol: 30.6 (g/mL) G

Lab File ID: M011109

Level: (low/med) LOW

Date Received: 12/12/92

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

Date Extracted: 12/18/92

Concentrated Extract Volume: 500(uL)

Date Analyzed: 01/11/93

Injection Volume: 2.0(uL)

Dilution Factor: 1.00

GPC Cleanup: (Y/N) Y

pH: 7.8

Number TICs found: 6

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	ALDOL CONDNESATE	6.38	600	JAB
2.	ALDOL CONDENSATE	6.88	600	JAB
3.	ALDOL CONDENSATE	7.70	400	JA
4.	ALDOL CONDENSATE	8.03	100	JA
5.	PHTHALATE	19.78	200	JB
6.	UNKNOWN	26.83	100	J

Roy F. Weston, Inc. - Lionville Laboratory
Pesticide/PCBs by GC, CLP List

RFW Batch Number: 9212L007 Client: WESTINGHOUSE HANFORD Work Order: 06168-002-001-9999-00 Report Date: 01/19/93 19:28 Page: 1

	Cust ID:	B07Q97		B07Q97		B07Q97		B07Q97		B07Q97		B07Q97	
Sample Information	RFW#:	001		001		001 MS		001 MS		001 MSD		001 MSD	
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	D.F.:	1.00		1.00		1.00		1.00		1.00		1.00	
	Units:	ug/Kg		ug/Kg		ug/Kg		ug/Kg		ug/Kg		ug/Kg	
				CONFIRM				CONFIRM				CONFIRM	
Surrogate:	Tetrachloro-m-xylene	78	%	78	%	75	%	75	%	78	%	78	%
Surrogate:	Decachlorobiphenyl	88	%	85	%	80	%	82	%	82	%	82	%
			fl		fl		fl		fl		fl		fl
Alpha-BHC		1.7	U	NA		1.7	U	NA		1.7	U	NA	
Beta-BHC		1.7	U	NA		1.7	U	NA		1.7	U	NA	
Delta-BHC		1.7	U	NA		1.7	U	NA		1.7	U	NA	
gamma-BHC (Lindane)		1.7	U	NA		52	%	52	%	64	%	64	%
Heptachlor		1.7	U	NA		70	%	68	%	78	%	76	%
Aldrin		1.7	U	NA		60	%	66	%	70	%	74	%
Heptachlor epoxide		1.7	U	NA		1.7	U	NA		1.7	U	NA	
Endosulfan I		1.7	U	NA		1.7	U	NA		1.7	U	NA	
Dieldrin		3.5	U	NA		52	%	56	%	69	%	73	%
4,4'-DDE		3.5	U	NA		3.5	U	NA		3.5	U	NA	
Endrin		3.5	U	NA		54	%	56	%	70	%	69	%
Endosulfan II		3.5	U	NA		3.5	U	NA		3.5	U	NA	
4,4'-DDD		3.5	U	NA		3.5	U	NA		3.5	U	NA	
Endosulfan sulfate		3.5	U	NA		3.5	U	NA		3.5	U	NA	
4,4'-DDT		3.5	U	NA		57	%	63	%	67	%	70	%
Methoxychlor		17	U	NA		17	U	NA		17	U	NA	
Endrin ketone		3.5	U	NA		3.5	U	NA		3.5	U	NA	
Endrin aldehyde		3.5	U	NA		3.5	U	NA		3.5	U	NA	
alpha-Chlordane		1.7	U	NA		1.7	U	NA		1.7	U	NA	
gamma-Chlordane		1.7	U	NA		1.7	U	NA		1.7	U	NA	
Toxaphene		170	U	NA		170	U	NA		170	U	NA	
Aroclor-1016		35	U	NA		35	U	NA		35	U	NA	
Aroclor-1221		69	U	NA		69	U	NA		69	U	NA	
Aroclor-1232		35	U	NA		35	U	NA		35	U	NA	
Aroclor-1242		35	U	NA		35	U	NA		35	U	NA	
Aroclor-1248		35	U	NA		35	U	NA		35	U	NA	
Aroclor-1254		35	U	NA		35	U	NA		35	U	NA	
Aroclor-1260		35	U	NA		35	U	NA		35	U	NA	

U= Analyzed, not detected. J= Present below detection limit. B= Present in blank. NR= Not requested. NS= Not spiked.
%= Percent recovery. Z= Diluted out. I= Interference. NA= Not Applicable. *= Outside of EPA CLP QC

ROY F. WESTON, INC.
LIONVILLE ANALYTICAL LABORATORY
ANALYTICAL CASE NARRATIVE

Client: WESTINGHOUSE HANFORD
RFW #: 9212L007

W.O. #: 06168-002-001-9999-00
Date Received: 12-12-92

PESTICIDE/PCB

One (1) soil sample was collected on 12-08-92.

The sample and its associated QC samples were extracted on 12-16-92 and analyzed according to criteria set forth in the Contract Laboratory Program 03/90 SOW for Pesticide and PCB target compounds on 01-08,09-93.

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

1. Linearity and breakdown criteria were met for each of the analytical columns.

2. Retention time criteria were met for all compounds on both analytical columns.

3. Resolution of all pesticides in the Resolution Check Standard were within EPA QC limits.

4. The RPDs of the pesticides in the individual mixes analyzed for calibration verification were within 25% for both analytical columns except for Methoxychlor on the DB608 column. Re-analysis was not performed since Methoxychlor was not present on the DB1701 column above the CRQL.

5. The RPDs of the pesticides in the Performance Evaluation Mixes analyzed for calibration verification were within 25% for both analytical columns.

6. All surrogate recoveries were within EPA QC limits.

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

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

9. Recoveries of pesticides for the Florisil Cartridge Check were within EPA QC limits.

10. Recoveries of pesticides for the GPC Calibration Check were within EPA QC limits.

J. Peter Hershey, Ph.D.
Laboratory Manager
Lionville Analytical Laboratory

01.27.93
Date

sma/pcb/12-007pp.cn

1D

0000021 CLIENT SAMPLE NO.

PESTICIDE ORGANICS ANALYSIS DATA SHEET

B07Q97

Lab Name: Roy F. Weston, Inc. Work Order: 06168-002-001-9999-00

Client: WESTINGHOUSE HANFORD

Matrix: (soil/water) SOIL

Lab Sample ID: 9212L007-001

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

Lab File ID: 01089335.08

% Moisture: 3.7 decanted: (Y/N)

Date Received: 12/12/92

Extraction: (SepF/Cont/Sonc) SONC

Date Extracted: 12/16/92

Concentrated Extract Volume: 5000 (uL)

Date Analyzed: 01/09/93

Injection Volume: 0.5 (uL)

Dilution Factor: 1.00

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

Sulfur Cleanup: (Y/N) N

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg	Q
319-84-6	Alpha-BHC	1.7	U
319-85-7	Beta-BHC	1.7	U
319-86-8	Delta-BHC	1.7	U
58-89-9	gamma-BHC (Lindane)	1.7	U
76-44-8	Heptachlor	1.7	U
309-00-2	Aldrin	1.7	U
1024-57-3	Heptachlor epoxide	1.7	U
959-98-8	Endosulfan I	1.7	U
60-57-1	Dieldrin	3.5	U
72-55-9	4,4'-DDE	3.5	U
72-20-8	Endrin	3.5	U
33213-65-9	Endosulfan II	3.5	U
72-54-8	4,4'-DDD	3.5	U
1031-07-8	Endosulfan sulfate	3.5	U
50-29-3	4,4'-DDT	3.5	U
72-43-5	Methoxychlor	17	U
53494-70-5	Endrin ketone	3.5	U
7421-93-4	Endrin aldehyde	3.5	U
5103-71-9	alpha-Chlordane	1.7	U
5103-74-2	gamma-Chlordane	1.7	U
8001-35-2	Toxaphene	170	U
12674-11-2	Aroclor-1016	35	U
11104-28-2	Aroclor-1221	69	U
11141-16-5	Aroclor-1232	35	U
53469-21-9	Aroclor-1242	35	U
12672-29-6	Aroclor-1248	35	U
11097-69-1	Aroclor-1254	35	U
11096-82-5	Aroclor-1260	35	U

B.M 01/22/93

0 0 0 0 0 7

WESTON

ROY F. WESTON, INC.
LIONVILLE ANALYTICAL LABORATORY
ANALYTICAL CASE NARRATIVE

FEB 1993
RECEIVED
OSM DMO

Client : WESTINGHOUSE HANFORD
RFW# : 9212L007

W.O. #: 06168-002-001-9999-00
Date Received: 12-12-92

INORGANIC

The following is a summary of the quality control results and a description of any problems encountered during the analysis of this batch of samples:

1. All sample holding times as required by 40CFR136 were met.

2. All preparation blank results were below the required detection limit.

3. All laboratory control standards (blank spikes) were within the control limits of 80-120%. All %RPD were within the 20% guidance limit.

4. All calibration verification checks were within the required control limits of 90-110%. Calibration verification is performed using independent standards.

5. Matrix spike recoveries are summarized on the Inorganic Accuracy Report contained within this document. All recoveries were within the 75-125% guidance limits. All %RPD were within the 20% guidance limit.

6. Replicate results are summarized on the Inorganic Precision Report contained within this document. All results were within the 20% RPD guidance limit.

7. The analytical methods applied by the laboratory, unless otherwise requested, for all inorganic analyses are derived from the USEPA Method for Chemical Analysis of Water and Wastes (USEPA 600/4-79-020) and Standard Methods for the Examination of Water and Wastewater 16 ed. Methods for the analysis of solid samples are derived from Test Methods for Evaluating Solid Waste (USEPA SW846).

RECORD COPY

J. Peter Hershey, Ph.D.
Laboratory Manager
Lionville Analytical Laboratory

1.18.93
Date

pas/i12-007

3

ROY F. WESTON INC.

INORGANIC DATA SUMMARY REPORT 01/15/93

CLIENT: WESTINGHOUSE HANFORD

WESTON BATCH #: 9212L007

WORK ORDER: 06168-002-001-9999-00

SAMPLE	SITE ID	ANALYTE	RESULT		UNITS	REPORTING LIMIT
-001	B07Q97	% Solids	96.3		%	0.10
		Fluoride by IC	2.6	u	MG/KG	2.6
		Cyanide, Total	1.0	u	MG/KG	1.0
		Sulfate by IC	11.3		MG/KG	1.3
		Nitrate Nitrite	0.52	u	MG-N/KG	0.52
		pH	8.4		PH UNITS	0.010

ROY F. WESTON, INC.
LIONVILLE ANALYTICAL LABORATORY
ANALYTICAL CASE NARRATIVE

Client : WESTINGHOUSE HANFORD
RFW# : 9212L007

W.O. #: 06168-002-001-9999-00
Date Received: 12-12-92

CLP METALS

One (1) soil sample was collected on 12-08-92.

The sample and its associated QC 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 with the exception of silver on batch #93L3032-LC2 which was outside the EPA's control window. However, based on control chart studies of laboratory control standards, internal control limits of 60-120% for water and 50-120% for soil samples were established for this laboratory.

6. All matrix spike recoveries were within the 75-125% control limits with the exception of arsenic. All exceptions are flagged with a "N" on the CLP forms.

7. All duplicate analyses were within the 20% RPD control limit with the exceptions of chromium and silver. All exceptions are flagged with a "*" on the CLP forms.

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, and ICP Interelement Correction Factors for IC3 are included in this package, but do not appear on EDD.

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.

J. Peter Hershey, Ph.D.
Laboratory Manager
Lionville Analytical Laboratory

1.20.92
Date

mlj/clp-met.nar

0100010

ROY F. WESTON, INC.
LIONVILLE ANALYTICAL LABORATORY
ANALYTICAL CASE NARRATIVE

Client: WESTINGHOUSE HANFORD
RFW #: 9212L007

W.O. #: 06168-002-001-9999-00
Date Received: 12-12-92

CLP METALS ADDENDUM

1. Following Exhibit E, Section V, Item 10, page E-23 of the USEPA Statement of Work for Inorganics Analysis, Document Number ILM02.0 ICP Instrument Detection Limits (IDLs) are reported for two (2) ICP instruments. The instrument identification numbers are "IC1" and "IC3". The highest IDL for the two instruments is used for reporting concentration values in this sample data package.

2. A discrepancy exists between raw data and Form XIVs analytical spikes recovery calculations performed for graphite furnace AA analytes. Instrument software calculates spike recoveries based on absolute values below the IDL for sample results. This is hard-coded by the vendor and is currently not correctable. CLP convention (SOW ILM02.0, Exhibit E, Section V, Item 6, page E-20) requires that when values fall below the IDL, the sample result is equal to zero (0) for the purposes of calculating the percent recovery. The Form XIVs contain the correct calculation.

J. Peter Hershey, Ph.D.
Laboratory Manager
Lionville Analytical Laboratory

1.20.92
Date

mlj\clp-met.nar

ROY F. WESTON INC.

INORGANIC DATA SUMMARY REPORT 01/18/93

CLIENT: WESTINGHOUSE HANFORD
WORK ORDER: 06168-002-001-9999-00

WESTON BATCH #: 9212L007

SAMPLE	SITE ID	ANALYTE	RESULT		UNITS	REPORTING LIMIT
-001	B07Q97	Silver, Total	2.5		MG/KG	2.1
		Aluminum, Total	1830		MG/KG	41.5
		Arsenic, Total	2.1	u	MG/KG	2.1
		Barium, Total	41.5	u	MG/KG	41.5
		Beryllium, Total	1.0	u	MG/KG	1.0
		Calcium, Total	3390		MG/KG	1040
		Cadmium, Total	1.0	u	MG/KG	1.0
		Cobalt, Total	10.4	u	MG/KG	10.4
		Chromium, Total	2.1	u	MG/KG	2.1
		Copper, Total	11.0		MG/KG	5.2
		Iron, Total	9820		MG/KG	20.8
		Mercury, Total	0.10	u	MG/KG	0.10
		Potassium, Total	1040	u	MG/KG	1040
		Magnesium, Total	1870		MG/KG	1040
		Manganese, Total	135		MG/KG	3.1
		Sodium, Total	1040	u	MG/KG	1040
		Nickel, Total	8.3	u	MG/KG	8.3
		Lead, Total	1.5		MG/KG	0.62
		Antimony, Total	12.5	u	MG/KG	12.5
		Selenium, Total	1.0	u	MG/KG	1.0
		Thallium, Total	2.1	u	MG/KG	2.1
		Vanadium, Total	10.4	u	MG/KG	10.4
		Zinc, Total	16.2		MG/KG	4.2

U.S. EPA - CLP

1

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

B07Q97

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

Lab Code: WESTON Case No.: WEST SAS No.: SDG No.: CLP007

Matrix (soil/water): SOIL Lab Sample ID: 921200701

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

% Solids: 96.3

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	1830.00			P
7440-36-0	Antimony	12.50	U		P
7440-38-2	Arsenic	.46	B	WN	F
7440-39-3	Barium	26.20	B		P
7440-41-7	Beryllium	.21	U		P
7440-43-9	Cadmium	1.45	U		P
7440-70-2	Calcium	3390.00			P
7440-47-3	Chromium	1.87	U	*	P
7440-48-4	Cobalt	6.10	B		P
7440-50-8	Copper	11.00			P
7439-89-6	Iron	9820.00			P
7439-92-1	Lead	1.50		W	F
7439-95-4	Magnesium	1870.00			P
7439-96-5	Manganese	135.00			P
7439-97-6	Mercury	.05	U		CV
7440-02-0	Nickel	4.15	U		P
7440-09-7	Potassium	278.00	U		P
7782-49-2	Selenium	.42	U	W	F
7440-22-4	Silver	2.50		*	P
7440-23-5	Sodium	161.00	B		P
7440-28-0	Thallium	.42	U	W	F
7440-62-2	Vanadium	7.40	B		P
7440-66-6	Zinc	16.20			P
	Cyanide	1.04	U		C

Color Before: BROWN Clarity Before: Texture: FINE

Color After: BROWN Clarity After: Artifacts:

Comments:

Westinghouse Hanford Company

NONCONFORMANCE REPORT

1. Page 1 of 1

2. Preprinted No. 051934

QA Log No.

3. P. O., W. O., or Job Control No.	4. System/End Use	5. Item/Material	6. Dwg./Spec./Other No.	7. Rev.
N/A	RI/FS	SAMPLES	B07204, B080Q0	N/A

8. Program/Project/Other	9. Safety Class	10. ASME Code Items
100-FR-1/92-213	N/A	☐ Yes ☒ No (If yes, notify authorized inspector)

11. Supplier Name/Address	12. Notification of Potential Occurence Required
ENVIRONMENTAL FIELD SAMPLING SERVICES	☐ Yes ☒ No

13. Code: Lot/Heat/Serial	14. Lot Size	15. Sample	16. Qty. Acc.	17. Inspection Criteria
N/A	2	2	Ø	☐ Dwg. ☐ Spec. ☐ Insp. Plan ☒ Other WHC-CM-7-7, EII 5.1 REV. 0, SEC 6.1

18. Item	19. Description of Nonconformance (list serial no. where applicable)	22. Disposition, Justification, and Instructions
1	AS STATED IN WHC-CM-7-7, EII 5.1Q REV. 0, SEC 6.1, THERE WILL BE ONLY ONE UNIQUE HEIS NUMBER PER SAMPLE TO ASSURE NO MUTIPLE USE OF A SAMPLE NUMBER(S). CONTRARY TO THE ABOVE, THIS SAMPLE NUMBERS-B07204, B080Q0 - WERE ASSIGNED TO TWO DISTINCT SAMPLES. EACH SAMPLE MUST BE ASSIGNED A UNIQUE HEIS NUMBER.	SDLA WILL ISSUE A NEW HEIS NUMBER TO ANY SAMPLE WHICH HAS BEEN GIVEN A PREVIOUSLY USED HEIS ~~NUMBER~~ IDENTIFIER. RCL 1/14/94 THESE SAMPLE NUMBER CHANGES WILL BE ENTERED INTO THE SDLA DATABASE. A MEMO WILL BE TRANSMITTED TO HEIS AND THE ANALYTICAL LABORATORY DATA PACKAGE, OUTLINING CORRECTIONS. SAMPLE NUMBERS WILL BE USED "AS IS" AND REFERENCED IN THE SDLA DATABASE TO MAINTAIN TRACEABILITY.

CONCERN BMC 1/25/94

20. Originator's Signature	Date	23. Design Document Change Required?
R Clayton Smith	1/12/94	☐ Yes, Doc. No. _____ ☐ No
21. Cognizant QA Manager's Signature	**Date**	**24. Corrective Action Required?**
		☐ Yes, No. _____ ☐ No

Disp. App.	25. Cognizant Engineer	Date	26. Technical Rep.	Date	Signature/Org.	Date
	J. M. Hayes					
	QA Engineer	Date	Signature/Org.	Date	Signature/Org.	Date
	G. S. Corrigan					

Close 27. Accept _____ Reject _____ Follow on NCR _____ QA/C Personnel _____ Date

A-7310-104 (10/91)

1/10/94

DUPLICATE HEIS NUMBERS

for Project 100-FR-1

HEIS Samp Number	Client Sample Number	Master DP File Number	DP Sequence Number	Laboratory	Y N	VOA	Y N	SEMI VOA	Y N	PEST/PCB	Y N	WETCHEM	Y N	METALS	COMMENTS	Y N	RADCHEM	Date OSM Rcvd DP
B07204		B07201	229	TMA/NORCAL	Y	9/14/92	N		N		N		N		07/15/92	N		9/14/92
B07204A		9207L013	743	WESTON	Y	9/21/92	N		N		N		N		07/15/92	N		9/21/92
B080Q0		9302L720	1047	WESTON	N		N		N		Y	4/02/93	N		02/25/93	N		4/02/93
B080Q0A		B080Q0	447	TMA/NORCAL	Y	4/08/93	Y	4/08/93	Y	4/08/93	Y	4/08/93	Y	4/08/93	02/25/93	Y	4/27/93	4/27/93

9212L007-WES-972

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET 000024

CLIENT SAMPLE NO.

B07Q97

Lab Name: Roy F. Weston, Inc. Work Order: 6168-02-0

Client: WESTINGHOUSE HANFORD

X02030

Matrix: (soil/water) SOIL

Lab Sample ID: 9212L007-001

Sample wt/vol: 5.10 (g/mL) G

Lab File ID: AXCH16

Level: (low/med) LOW

Date Received: 12/12/92

% Moisture: not dec. 4

Date Analyzed: 12/17/92

GC Column: DB624 ID: .53(mm)

Dilution Factor: 0.980

Soil Extract Volume: (uL)

Soil Aliquot Volume: (uL)

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

4-21-

1E

0000025 CLIENT SAMPLE NO.

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

B07Q97

Lab Name: Roy F. Weston, Inc. Work Order: 6168-02-0

X02030

Client: WESTINGHOUSE HANFORD

Matrix: (soil/water) SOIL

Lab Sample ID: 9212L007-001

Sample wt/vol: 5.10 (g/mL) G

Lab File ID: AXCH16

Level: (low/med) LOW

Date Received: 12/12/92

% Moisture: not dec. 4

Date Analyzed: 12/17/92

GC Column: DB624 ID: .53(mm)

Dilution Factor: 0.980

Soil Extract Volume: (uL)

Soil Aliquot Volume: (uL)

Number TICs found: 0

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

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

4-21-93

1B 0000031

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

B07Q97

X02030

Lab Name: Roy F. Weston, Inc. Work Order: 6168-02-0

Client: WESTINGHOUSE HANFORD

Matrix: (soil/water) SOIL

Lab Sample ID: 9212L007-001

Sample wt/vol: 30.6 (g/mL) G

Lab File ID: M011109

Level: (low/med) LOW

Date Received: 12/12/92

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

Date Extracted: 12/18/92

Concentrated Extract Volume: 500(uL)

Date Analyzed: 01/11/93

Injection Volume: 2.0(uL)

Dilution Factor: 1.00

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg	Q
108-95-2	Phenol	340	U J
111-44-4	bis(2-Chloroethyl)ether	340	U
95-57-8	2-Chlorophenol	340	U
541-73-1	1,3-Dichlorobenzene	340	U
106-46-7	1,4-Dichlorobenzene	340	U
95-50-1	1,2-Dichlorobenzene	340	U
95-48-7	2-Methylphenol	340	U
108-60-1	2,2'-oxybis(1-Chloropropane)	340	U
106-44-5	4-Methylphenol	340	U
621-64-7	N-Nitroso-di-n-propylamine	340	U
67-72-1	Hexachloroethane	340	U
98-95-3	Nitrobenzene	340	U
78-59-1	Isophorone	340	U
88-75-5	2-Nitrophenol	340	U
105-67-9	2,4-Dimethylphenol	340	U
111-91-1	bis(2-Chloroethoxy)methane	340	U
120-83-2	2,4-Dichlorophenol	340	U
120-82-1	1,2,4-Trichlorobenzene	340	U
91-20-3	Naphthalene	340	U
106-47-8	4-Chloroaniline	340	U
87-68-3	Hexachlorobutadiene	340	U
59-50-7	4-Chloro-3-methylphenol	340	U
91-57-6	2-Methylnaphthalene	340	U
77-47-4	Hexachlorocyclopentadiene	340	U
88-06-2	2,4,6-Trichlorophenol	340	U
95-95-4	2,4,5-Trichlorophenol	850	U
91-58-7	2-Chloronaphthalene	340	U
88-74-4	2-Nitroaniline	850	U
131-11-3	Dimethylphthalate	340	U
208-96-8	Acenaphthylene	340	U
606-20-2	2,6-Dinitrotoluene	340	U
99-09-2	3-Nitroaniline	850	U
83-32-9	Acenaphthene	340	U

4-21-93

1C

0000032

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

B07Q97

Lab Name: Roy F. Weston, Inc. Work Order: 6168-02-0

Client: WESTINGHOUSE HANFORD

X02030

Matrix: (soil/water) SOIL

Lab Sample ID: 9212L007-001

Sample wt/vol: 30.6 (g/mL) G

Lab File ID: M011109

Level: (low/med) LOW

Date Received: 12/12/92

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

Date Extracted: 12/18/92

Concentrated Extract Volume: 500(uL)

Date Analyzed: 01/11/93

Injection Volume: 2.0(uL)

Dilution Factor: 1.00

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg	Q
51-28-5	2,4-Dinitrophenol	850	U J
100-02-7	4-Nitrophenol	850	U
132-64-9	Dibenzofuran	340	U
121-14-2	2,4-Dinitrotoluene	340	U
84-66-2	Diethylphthalate	340	U
7005-72-3	4-Chlorophenyl-phenylether	340	U
86-73-7	Fluorene	340	U
100-01-6	4-Nitroaniline	850	U
534-52-1	4,6-Dinitro-2-methylphenol	850	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	850	U
85-01-8	Phenanthrene	340	U
120-12-7	Anthracene	340	U
86-74-8	Carbazole	340	U
84-74-2	Di-n-butylphthalate	68	J
206-44-0	Fluoranthene	340	U J
129-00-0	Pyrene	340	U
85-68-7	Butylbenzylphthalate	340	U
91-94-1	3,3'-Dichlorobenzidine	340	U
56-55-3	Benzo(a)anthracene	340	U
218-01-9	Chrysene	340	U
117-81-7	bis(2-Ethylhexyl)phthalate	150	J
117-84-0	Di-n-octyl phthalate	340	U J
205-99-2	Benzo(b)fluoranthene	340	U
207-08-9	Benzo(k)fluoranthene	340	U
50-32-8	Benzo(a)pyrene	340	U
193-39-5	Indeno(1,2,3-cd)pyrene	340	U
53-70-3	Dibenz(a,h)anthracene	340	U
191-24-2	Benzo(g,h,i)perylene	340	U

(1) - Cannot be separated from Diphenylamine

1F

0000033

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

B07Q97

X02030

Lab Name: Roy F. Weston, Inc. Work Order: 6168-02-0

Client: WESTINGHOUSE HANFORD

Matrix: (soil/water) SOIL

Lab Sample ID: 9212L007-001

Sample wt/vol: 30.6 (g/mL) G

Lab File ID: M011109

Level: (low/med) LOW

Date Received: 12/12/92

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

Date Extracted: 12/18/92

Concentrated Extract Volume: 500(uL)

Date Analyzed: 01/11/93

Injection Volume: 2.0(uL)

Dilution Factor: 1.00

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

Number TICs found: 6

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	ALDOL CONDNESATE	6.38	600	~~JAB~~ U
2.	ALDOL CONDENSATE	6.88	600	~~JAB~~ U
3.	ALDOL CONDENSATE	7.70	400	~~JA~~ N
4.	ALDOL CONDENSATE	8.03	100	~~JA~~ N
5.	PHTHALATE	19.78	200	~~JB~~ U
6.	UNKNOWN	26.83	100	J

H-71-92

1D

0 0 0 0 0 2 1 CLIENT SAMPLE NO.

PESTICIDE ORGANICS ANALYSIS DATA SHEET

B07Q97

Lab Name: Roy F. Weston, Inc. Work Order: 06168-002-001-9999-00

X02030

Client: WESTINGHOUSE HANFORD

Matrix: (soil/water) SOIL

Lab Sample ID: 9212L007-001

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

Lab File ID: 01089335.08

% Moisture: 3.7 decanted: (Y/N)

Date Received: 12/12/92

Extraction: (SepF/Cont/Sonc) SONC

Date Extracted: 12/16/92

Concentrated Extract Volume: 5000(uL)

Date Analyzed: 01/09/93

Injection Volume: 0.5(uL)

Dilution Factor: 1.00

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

Sulfur Cleanup: (Y/N) N

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg	Q
319-84-6	Alpha-BHC	1.7	U J
319-85-7	Beta-BHC	1.7	U
319-86-8	Delta-BHC	1.7	U
58-89-9	gamma-BHC (Lindane)	1.7	U
76-44-8	Heptachlor	1.7	U
309-00-2	Aldrin	1.7	U
1024-57-3	Heptachlor epoxide	1.7	U
959-98-8	Endosulfan I	1.7	U
60-57-1	Dieldrin	3.5	U
72-55-9	4,4'-DDE	3.5	U
72-20-8	Endrin	3.5	U
33213-65-9	Endosulfan II	3.5	U
72-54-8	4,4'-DDD	3.5	U
1031-07-8	Endosulfan sulfate	3.5	U
50-29-3	4,4'-DDT	3.5	U
72-43-5	Methoxychlor	17	U
53494-70-5	Endrin ketone	3.5	U
7421-93-4	Endrin aldehyde	3.5	U
5103-71-9	alpha-Chlordane	1.7	U
5103-74-2	gamma-Chlordane	1.7	U
8001-35-2	Toxaphene	170	U
12674-11-2	Aroclor-1016	35	U
11104-28-2	Aroclor-1221	69	U
11141-16-5	Aroclor-1232	35	U
53469-21-9	Aroclor-1242	35	U
12672-29-6	Aroclor-1248	35	U
11097-69-1	Aroclor-1254	35	U
11096-82-5	Aroclor-1260	35	U

B.M
01/22/93

3

X02030

ROY F. WESTON INC.

INORGANIC DATA SUMMARY REPORT 01/15/93

CLIENT: WESTINGHOUSE HANFORD

WESTON BATCH #: 9212L007

WORK ORDER: 06168-002-001-9999-00

SAMPLE	SITE ID	ANALYTE	RESULT		UNITS	REPORTING LIMIT
-001	B07Q97	% Solids	96.3		%	0.10
		Fluoride by IC	2.6	u	MG/KG	2.6
		Cyanide, Total	1.0	u	MG/KG	1.0
		Sulfate by IC	11.3		MG/KG	1.3
		Nitrate Nitrite	0.52	u	MG-N/KG	0.52
		pH	8.4	J	PH UNITS	0.010

4-21-93
SC

U.S. EPA - CLP 0000020

X02030

EPA SAMPLE NO.

1

INORGANIC ANALYSIS DATA SHEET

B07Q97

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

Lab Code: WESTON Case No.: WEST SAS No.: SDG No.: CLP007

Matrix (soil/water): SOIL Lab Sample ID: 921200701

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

% Solids: 96.3

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	1830.00		J	P
7440-36-0	Antimony	12.50	~~B~~	U	P
7440-38-2	Arsenic	.46	~~B~~	~~W~~N UJ	F
7440-39-3	Barium	26.20	B		P
7440-41-7	Beryllium	.21	~~B~~	U	P
7440-43-9	Cadmium	1.45	~~B~~	U	P
7440-70-2	Calcium	3390.00			P
7440-47-3	Chromium	1.87	~~B~~	* UJ	P
7440-48-4	Cobalt	6.10	B	U	P
7440-50-8	Copper	11.00			P
7439-89-6	Iron	9820.00		J	P
7439-92-1	Lead	1.50		~~W~~UJ	F
7439-95-4	Magnesium	1870.00			P
7439-96-5	Manganese	135.00		J	P
7439-97-6	Mercury	.05	~~B~~	U	CV
7440-02-0	Nickel	4.15	~~B~~	U	P
7440-09-7	Potassium	278.00	~~B~~	U	P
7782-49-2	Selenium	.42	~~B~~	W UJ	F
7440-22-4	Silver	2.50		*UJ	P
7440-23-5	Sodium	161.00	B		P
7440-28-0	Thallium	.42	~~B~~	~~W~~ UJ	F
7440-62-2	Vanadium	7.40	~~B~~	U	P
7440-66-6	Zinc	16.20			P
	Cyanide	1.04	~~B~~	U	C

Color Before: BROWN Clarity Before: Texture: FINE

Color After: BROWN Clarity After: Artifacts:

Comments:

4-21-93 SC