9106L749-WES-089

0000009

0043572

ROY F. WESTON, INC.
Lionville Laboratory

CLIENT: WESTINGHOUSE HANFORD **SAMPLES RECEIVED:** 05-31-91
RFW #: 9106L749, GC/MS VOLATILE
W.O. #: 6168-02-01

NARRATIVE

The set of samples consisted of six (6) soil samples collected on 05-28-91.

The samples were analyzed according to criteria set forth in CLP SOW 02/88 (Rev. 05/89) for TCL Volatile target compounds on 06-03,05-91.

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

1. Non-target compounds were detected in these samples.

2. The following samples required dilution and medium level analysis because they contained high levels of both target and non-target compounds:

Sample ID	Dilution Factor
B00YC1	5
B00YC4	5
B00YC2, MS, MSD	Medium
B00YC5	Medium

3. All surrogate recoveries were within EPA QC limits.

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

5. The laboratory blanks contained the common contaminants acetone and methylene chloride at levels less than 3x the CRQL.

6. Internal standard area and retention time criteria were met for samples and blanks.

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

6.13.91
Date

FEB 1996

WESTON Analytics Use Only
9106L749

Custody Transfer Record/Lab Work Request

WESTON

Page 1 of 1

Client: WESTINGHOUSE Hanford
Est. Final Proj. Sampling Date:
Work Order #: 6168-02-01
Project Contact/Phone #: Sorie King
AD Project Manager:
QC: CLP Del: CLP TAT: 10 day
Date Rec'd: 5/28/91 Date Due: 6/7/91
Account #: 5/31/91 WS-HANFORD 6/10/91
WS-HANFORD

Refrigerator #																	
#/Type Container	Liquid	3/G									1/P			1/P			
	Solid		1/G	→							1/G	1/G	1/G	1/G			
Volume	Liquid	1	250														
	Solid	125	125	→							125	125	125	125			
Preservatives																	
ANALYSES REQUESTED →		ORGANIC									INORG						
		VOA	BNA	Pest/PCB	Herb						Metal	CN	Radio chem	Tempo			
		0624	0625	OPCB							See Below		TSUB	See below			

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 (✓)	Matrix	Date Collected	VOA	BNA	Pest/PCB	Herb			Metal	CN	Radio chem	Tempo
001	BOOYB8		S	5/28/91	✓	✓	✓				✓		✓	✓
2	BOOYC0													
3	BOOYC1													
4	BOOYC2													
5	BOOYC4													
6	BOOYC5		✓	✓	✓	✓	✓				✓		✓	✓

ANION = ICCL, ICNO2, ICNO3, IC SO4, IC PO4, IC FL
* Radiochem = gamma scan, total U+, Isotopic U

Special Instructions:
Metals - Westinghouse ICP

BEST AVAILABLE COPY

DATE/REVISIONS:
6/11/91 1. NOT Radioactive
2.
3.
4.
5.
6.

WESTON Analytics Use Only

Samples were:
1) Shipped ✓ or Hand Delivered ___
Airbill # ___
2) Ambient or Chilled
3) Received in Good Condition (Y) or N
4) 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

Relinquished by	Received by	Date	Time	Relinquished by	Received by	Date	Time
Emery	Pfleger	5/31/91	4:30 pm				

Discrepancies Between Samples Labels and COC Record? (Y) or N
NOTES: Date collected not defined

RFW 21 21 001A 8 90 1372 1373 1375 1377 1378 Rel# Na Cooler# 1/a 381 5961

007

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

Report Date: 06/11/91 12:23

RFW Batch Number: 9106L749 Client: WESTINGHOUSE HANFORD Work Order: 6168-02-01-0000 Page: 1a

	Cust ID:	BOOYB8		BOOYC0		BOOYC1		BOOYC2		BOOYC2		BOOYC2	
Sample Information	RFW#:	001		002		003		004		004 MS		004 MSD	
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	D.F.:	1.00		1.00		5.00		1.25		1.25		1.25	
	Units:	ug/Kg		ug/Kg		ug/Kg		ug/Kg		ug/Kg		ug/Kg	
	Level:	LOW		LOW		LOW		MED		MED		MED	
Surrogate Recovery	Toluene-d8	96	%	108	%	101	%	101	%	100	%	98	%
	Bromofluorobenzene	87	%	87	%	105	%	93	%	98	%	98	%
	1,2-Dichloroethane-d4	88	%	95	%	111	%	87	%	89	%	89	%
			fl		fl		fl		fl		fl		fl
Chloromethane		10	U	10	U	51	U	1300	U	1300	U	1300	U
Bromomethane		10	U	10	U	51	U	1300	U	1300	U	1300	U
Vinyl Chloride		10	U	10	U	51	U	1300	U	1300	U	1300	U
Chloroethane		10	U	10	U	51	U	1300	U	1300	U	1300	U
Methylene Chloride		19	B	26	B	130	B	2300	B	5100	B	6200	B
Acetone		23	B	42	B	280	B	680	JB	3600	B	4600	B
Carbon Disulfide		5	U	5	U	26	U	650	U	650	U	650	U
1,1-Dichloroethene		5	U	5	U	26	U	650	U	118	%	117	%
1,1-Dichloroethane		5	U	5	U	26	U	650	U	650	U	650	U
1,2-Dichloroethene (total)		5	U	5	U	26	U	650	U	650	U	650	U
Chloroform		5	U	5	U	26	U	650	U	650	U	650	U
1,2-Dichloroethane		5	U	5	U	26	U	650	U	650	U	650	U
2-Butanone		10	U	10	U	51	U	1300	U	1300	U	1300	U
1,1,1-Trichloroethane		5	U	5	U	26	U	650	U	650	U	650	U
Carbon Tetrachloride		5	U	5	U	26	U	650	U	650	U	650	U
Vinyl Acetate		10	U	10	U	51	U	1300	U	1300	U	1300	U
Bromodichloromethane		5	U	5	U	26	U	650	U	650	U	650	U
1,2-Dichloropropane		5	U	5	U	26	U	650	U	650	U	650	U
cis-1,3-Dichloropropene		5	U	5	U	26	U	650	U	650	U	650	U
Trichloroethene		2	J	5	U	26	U	650	U	107	%	114	%
Dibromochloromethane		5	U	5	U	26	U	650	U	650	U	650	U
1,1,2-Trichloroethane		5	U	5	U	26	U	650	U	650	U	650	U
Benzene		5	U	5	U	26	U	650	U	114	%	115	%
Trans-1,3-Dichloropropene		5	U	5	U	26	U	650	U	650	U	650	U
Bromoform		5	U	5	U	26	U	650	U	650	U	650	U
4-Methyl-2-pentanone		10	U	10	U	51	U	1300	U	1300	U	1300	U
2-Hexanone		10	U	10	U	51	U	1300	U	1300	U	1300	U
Tetrachloroethene		4	J	27		24	J	320	J	160	J	650	U
1,1,2,2-Tetrachloroethane		1	J	8		31		650	U	650	U	650	U

*= Outside of EPA CLP QC limits.

Cust ID:	BOOYB8		BOOYC0		BOOYC1		BOOYC2		BOOYC2		BOOYC2	
RFW#:	001		002		003		004		004 MS		004 MSD	
Level:	LOW		LOW		LOW		MED		MED		MED	
Toluene	5	U	2	J	26	U	650	U	108	%	106	%
Chlorobenzene	5	U	5	U	26	U	650	U	105	%	103	%
Ethylbenzene	5	U	5	U	26	U	650	U	650	U	650	U
Styrene	5	U	5	U	26	U	650	U	650	U	650	U
Xylene (total)	5	U	5	U	26	U	650	U	650	U	650	U

*= Outside of EPA CLP QC limits.

000005

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

Report Date: 06/11/91 12:23

RFW Batch Number: 9106L749 Client: WESTINGHOUSE HANFORD Work Order: 6168-02-01-0000 Page: 2a

	Cust ID:	BOOYC4	BOOYC5	VBLK	VBLK	VBLK
Sample Information	RFW#:	005	006	91LVY111-MB1	91LVB310-MB1	91LVX097-MB1
	Matrix:	SOIL	SOIL	SOIL	SOIL	SOIL
	D.F.:	5.00	1.25	1.00	1.00	1.25
	Units:	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg
	Level:	LOW	MED	LOW	LOW	MED

	Toluene-d8	105	%	96	%	100	%	106	%	104	%	
Surrogate	Bromofluorobenzene	103	%	91	%	98	%	102	%	98	%	
Recovery	1,2-Dichloroethane-d4	106	%	93	%	92	%	110	%	96	%	
			fl		fl		fl		fl		fl	fl
Chloromethane		52	U	1300	U	10	U	10	U	1200	U	
Bromomethane		52	U	1300	U	10	U	10	U	1200	U	
Vinyl Chloride		52	U	1300	U	10	U	10	U	1200	U	
Chloroethane		52	U	1300	U	10	U	10	U	1200	U	
Methylene Chloride		140	B	1800	B	7		11		1200		
Acetone		190	B	1300	U	7	J	10		2500		
Carbon Disulfide		26	U	660	U	5	U	5	U	620	U	
1,1-Dichloroethene		26	U	660	U	5	U	5	U	620	U	
1,1-Dichloroethane		26	U	660	U	5	U	5	U	620	U	
1,2-Dichloroethene (total)		26	U	660	U	5	U	5	U	620	U	
Chloroform		26	U	660	U	5	U	5	U	620	U	
1,2-Dichloroethane		26	U	660	U	5	U	5	U	620	U	
2-Butanone		52	U	1300	U	10	U	10	U	1200	U	
1,1,1-Trichloroethane		26	U	660	U	5	U	5	U	620	U	
Carbon Tetrachloride		26	U	660	U	5	U	5	U	620	U	
Vinyl Acetate		52	U	1300	U	10	U	10	U	1200	U	
Bromodichloromethane		26	U	660	U	5	U	5	U	620	U	
1,2-Dichloropropane		26	U	660	U	5	U	5	U	620	U	
cis-1,3-Dichloropropene		26	U	660	U	5	U	5	U	620	U	
Trichloroethene		26	U	660	U	5	U	5	U	620	U	
Dibromochloromethane		26	U	660	U	5	U	5	U	620	U	
1,1,2-Trichloroethane		26	U	660	U	5	U	5	U	620	U	
Benzene		26	U	660	U	5	U	5	U	620	U	
Trans-1,3-Dichloropropene		26	U	660	U	5	U	5	U	620	U	
Bromoform		26	U	660	U	5	U	5	U	620	U	
4-Methyl-2-pentanone		52	U	1300	U	10	U	10	U	1200	U	
2-Hexanone		52	U	1300	U	10	U	10	U	1200	U	
Tetrachloroethene		100		920		5	U	5	U	620	U	
1,1,2,2-Tetrachloroethane		41		660	U	5	U	5	U	620	U	

*= Outside of EPA CLP QC limits.

Cust ID:	BOOYC4		BOOYC5		VBLK		VBLK		VBLK	
RFW#:	005		006		91LVY111-MB1		91LVB310-MB1		91LVX097-MB1	
Level:	LOW		MED		LOW		LOW		MED	
Toluene	26	U	660	U	5	U	5	U	620	U
Chlorobenzene	26	U	660	U	5	U	5	U	620	U
Ethylbenzene	26	U	660	U	5	U	5	U	620	U
Styrene	26	U	660	U	5	U	5	U	620	U
Xylene (total)	26	U	660	U	5	U	5	U	620	U

*= Outside of EPA CLP QC limits.

000007

1A
VOLATILE ORGANICS ANALYSIS SHEET 0000025

CLIENT SAMPLE NO.

BOOYB8

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

Client: WESTINGHOUSE HANFORD

Matrix: SOIL

Lab Sample ID: 9106L749-001

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

Lab File ID: Y060310

Level: (low/med) LOW

Date Received: 05/31/91

% Moisture: not dec. 2

Date Analyzed: 06/03/91

Column: (pack/cap) PACK

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	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	19	B
67-64-1	Acetone	23	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	2	J
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	1	J
108-88-3	Toluene	5	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

1E

VOLATILE ORGANICS ANALYSIS SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

0000026

CLIENT SAMPLE NO.

BOOYB8

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

Client: WESTINGHOUSE HANFORD

Matrix: SOIL

Lab Sample ID: 9106L749-001

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

Lab File ID: Y060310

Level: (low/med) LOW

Date Received: 05/31/91

% Moisture: not dec. 2

Date Analyzed: 06/03/91

Column: (pack/cap) PACK

Dilution Factor: 1.00

Number TICs found: 1

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN	26.03	20	J

1A
VOLATILE ORGANICS ANALYSIS SHEET 0000042

CLIENT SAMPLE NO.

BOOYCO

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

Client: WESTINGHOUSE HANFORD

Matrix: SOIL

Lab Sample ID: 9106L749-002

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

Lab File ID: Y060314

Level: (low/med) LOW

Date Received: 05/31/91

% Moisture: not dec. 3

Date Analyzed: 06/03/91

Column: (pack/cap) PACK

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	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	26	B
67-64-1	Acetone	42	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	27	
79-34-5	1,1,2,2-Tetrachloroethane	8	
108-88-3	Toluene	2	J
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

1E

VOLATILE ORGANICS ANALYSIS SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

0000043

CLIENT SAMPLE NO.

BOOYCO

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

Client: WESTINGHOUSE HANFORD

Matrix: SOIL

Lab Sample ID: 9106L749-002

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

Lab File ID: Y060314

Level: (low/med) LOW

Date Received: 05/31/91

% Moisture: not dec. 3

Date Analyzed: 06/03/91

Column: (pack/cap) PACK

Dilution Factor: 1.00

Number TICs found: 2

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	HEXACHLOROETHANE	20.13	30	J
2.	UNKNOWN	25.90	40	J

1A
VOLATILE ORGANICS ANALYSIS SHEET

0000060

CLIENT SAMPLE NO.

BOOYC1

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

Client: WESTINGHOUSE HANFORD

Matrix: SOIL

Lab Sample ID: 9106L749-003

Sample wt/vol: 1.00 (g/mL) G

Lab File ID: B060512

Level: (low/med) LOW

Date Received: 05/31/91

% Moisture: not dec. 3

Date Analyzed: 06/05/91

Column: (pack/cap) CAP

Dilution Factor: 5.00

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

CAS NO.	COMPOUND		
74-87-3	Chloromethane	51	U
74-83-9	Bromomethane	51	U
75-01-4	Vinyl Chloride	51	U
75-00-3	Chloroethane	51	U
75-09-2	Methylene Chloride	130	B
67-64-1	Acetone	280	B
75-15-0	Carbon Disulfide	26	U
75-35-4	1,1-Dichloroethene	26	U
75-34-3	1,1-Dichloroethane	26	U
540-59-0	1,2-Dichloroethene (total)	26	U
67-66-3	Chloroform	26	U
107-06-2	1,2-Dichloroethane	26	U
78-93-3	2-Butanone	51	U
71-55-6	1,1,1-Trichloroethane	26	U
56-23-5	Carbon Tetrachloride	26	U
108-05-4	Vinyl Acetate	51	U
75-27-4	Bromodichloromethane	26	U
78-87-5	1,2-Dichloropropane	26	U
10061-01-5	cis-1,3-Dichloropropene	26	U
79-01-6	Trichloroethene	26	U
124-48-1	Dibromochloromethane	26	U
79-00-5	1,1,2-Trichloroethane	26	U
71-43-2	Benzene	26	U
10061-02-6	Trans-1,3-Dichloropropene	26	U
75-25-2	Bromoform	26	U
108-10-1	4-Methyl-2-pentanone	51	U
591-78-6	2-Hexanone	51	U
127-18-4	Tetrachloroethene	24	J
79-34-5	1,1,2,2-Tetrachloroethane	31	
108-88-3	Toluene	26	U
108-90-7	Chlorobenzene	26	U
100-41-4	Ethylbenzene	26	U
100-42-5	Styrene	26	U
1330-20-7	Xylene (total)	26	U

1E

VOLATILE ORGANICS ANALYSIS SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

0000061

CLIENT SAMPLE NO.

BOOYC1

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

Client: WESTINGHOUSE HANFORD

Matrix: SOIL

Lab Sample ID: 9106L749-003

Sample wt/vol: 1.00 (g/mL) G

Lab File ID: B060512

Level: (low/med) LOW

Date Received: 05/31/91

% Moisture: not dec. 3

Date Analyzed: 06/05/91

Column: (pack/cap) CAP

Dilution Factor: 5.00

Number TICs found: 10

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	HEXACHLOROETHANE	24.95	1000	J
2.	UNKNOWN	25.72	1000	J
3.	AROMATIC HYDROCARBON	26.28	800	J
4.	ALKANE	26.42	3000	J
5.	HYDROCARBON	26.55	3000	J
6.	HYDROCARBON	27.15	4000	J
7.	ALKANE	27.38	6000	J
8.	ALKENE	27.63	2000	J
9.	UNKNOWN	27.87	1000	J
10.	ALKENE	28.18	3000	J

1A

VOLATILE ORGANICS ANALYSIS SHEET 0000084

CLIENT SAMPLE NO.

BOOYC2

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

Client: WESTINGHOUSE HANFORD

Matrix: SOIL

Lab Sample ID: 9106L749-004

Sample wt/vol: 4.00 (g/mL) G

Lab File ID: AX6506

Level: (low/med) MED

Date Received: 05/31/91

% Moisture: not dec. 4

Date Analyzed: 06/05/91

Column: (pack/cap) CAP

Dilution Factor: 1.25

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

CAS NO.	COMPOUND		
74-87-3	Chloromethane	1300	U
74-83-9	Bromomethane	1300	U
75-01-4	Vinyl Chloride	1300	U
75-00-3	Chloroethane	1300	U
75-09-2	Methylene Chloride	2300	B
67-64-1	Acetone	680	JB
75-15-0	Carbon Disulfide	650	U
75-35-4	1,1-Dichloroethene	650	U
75-34-3	1,1-Dichloroethane	650	U
540-59-0	1,2-Dichloroethene (total)	650	U
67-66-3	Chloroform	650	U
107-06-2	1,2-Dichloroethane	650	U
78-93-3	2-Butanone	1300	U
71-55-6	1,1,1-Trichloroethane	650	U
56-23-5	Carbon Tetrachloride	650	U
108-05-4	Vinyl Acetate	1300	U
75-27-4	Bromodichloromethane	650	U
78-87-5	1,2-Dichloropropane	650	U
10061-01-5	cis-1,3-Dichloropropene	650	U
79-01-6	Trichloroethene	650	U
124-48-1	Dibromochloromethane	650	U
79-00-5	1,1,2-Trichloroethane	650	U
71-43-2	Benzene	650	U
10061-02-6	Trans-1,3-Dichloropropene	650	U
75-25-2	Bromoform	650	U
108-10-1	4-Methyl-2-pentanone	1300	U
591-78-6	2-Hexanone	1300	U
127-18-4	Tetrachloroethene	320	J
79-34-5	1,1,2,2-Tetrachloroethane	650	U
108-88-3	Toluene	650	U
108-90-7	Chlorobenzene	650	U
100-41-4	Ethylbenzene	650	U
100-42-5	Styrene	650	U
1330-20-7	Xylene (total)	650	U

FORM 1 V-1 12/88 Rev.

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1E

VOLATILE ORGANICS ANALYSIS SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

0000085

CLIENT SAMPLE NO.

BOOYC2

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

Client: WESTINGHOUSE HANFORD

Matrix: SOIL

Lab Sample ID: 9106L749-004

Sample wt/vol: 4.00 (g/mL) G

Lab File ID: AX6506

Level: (low/med) MED

Date Received: 05/31/91

% Moisture: not dec. 4

Date Analyzed: 06/05/91

Column: (pack/cap) CAP

Dilution Factor: 1.25

Number TICs found: 2

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	CYCLIC HYDROCARBON	23.79	1000	J
2.	HEXACHLOROETHANE	24.58	8000	J

1A

VOLATILE ORGANICS ANALYSIS SHEET 0000095

CLIENT SAMPLE NO.

BOOYC4

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

Client: WESTINGHOUSE HANFORD

Matrix: SOIL

Lab Sample ID: 9106L749-005

Sample wt/vol: 1.00 (g/mL) G

Lab File ID: B060513

Level: (low/med) LOW

Date Received: 05/31/91

% Moisture: not dec. 3

Date Analyzed: 06/05/91

Column: (pack/cap) CAP

Dilution Factor: 5.00

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

CAS NO.	COMPOUND		
74-87-3	Chloromethane	52	U
74-83-9	Bromomethane	52	U
75-01-4	Vinyl Chloride	52	U
75-00-3	Chloroethane	52	U
75-09-2	Methylene Chloride	140	B
67-64-1	Acetone	190	B
75-15-0	Carbon Disulfide	26	U
75-35-4	1,1-Dichloroethene	26	U
75-34-3	1,1-Dichloroethane	26	U
540-59-0	1,2-Dichloroethene (total)	26	U
67-66-3	Chloroform	26	U
107-06-2	1,2-Dichloroethane	26	U
78-93-3	2-Butanone	52	U
71-55-6	1,1,1-Trichloroethane	26	U
56-23-5	Carbon Tetrachloride	26	U
108-05-4	Vinyl Acetate	52	U
75-27-4	Bromodichloromethane	26	U
78-87-5	1,2-Dichloropropane	26	U
10061-01-5	cis-1,3-Dichloropropene	26	U
79-01-6	Trichloroethene	26	U
124-48-1	Dibromochloromethane	26	U
79-00-5	1,1,2-Trichloroethane	26	U
71-43-2	Benzene	26	U
10061-02-6	Trans-1,3-Dichloropropene	26	U
75-25-2	Bromoform	26	U
108-10-1	4-Methyl-2-pentanone	52	U
591-78-6	2-Hexanone	52	U
127-18-4	Tetrachloroethene	100	
79-34-5	1,1,2,2-Tetrachloroethane	41	
108-88-3	Toluene	26	U
108-90-7	Chlorobenzene	26	U
100-41-4	Ethylbenzene	26	U
100-42-5	Styrene	26	U
1330-20-7	Xylene (total)	26	U

1E

VOLATILE ORGANICS ANALYSIS SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

0000096

CLIENT SAMPLE NO.

BOOYC4

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

Client: WESTINGHOUSE HANFORD

Matrix: SOIL

Lab Sample ID: 9106L749-005

Sample wt/vol: 1.00 (g/mL) G

Lab File ID: B060513

Level: (low/med) LOW

Date Received: 05/31/91

% Moisture: not dec. 3

Date Analyzed: 06/05/91

Column: (pack/cap) CAP

Dilution Factor: 5.00

Number TICs found: 10

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

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.		HEXACHLOROETHANE	24.92	2000	J
2.		ALKANE	26.15	4000	J
3.		AROMATIC HYDROCARBON	26.25	2000	J
4.		ALKANE	26.38	4000	J
5.		HYDROCARBON	26.52	3000	J
6.		HYDROCARBON	27.12	5000	J
7.		ALKANE	27.35	5000	J
8.		ALKENE	27.60	2000	J
9.		UNKNOWN	27.83	3000	J
10.		ALKENE	28.15	2000	J

1A

VOLATILE ORGANICS ANALYSIS SHEET 0000119

CLIENT SAMPLE NO.

BOOYC5

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

Client: WESTINGHOUSE HANFORD

Matrix: SOIL Lab Sample ID: 9106L749-006

Sample wt/vol: 4.00 (g/mL) G Lab File ID: AX6508

Level: (low/med) MED Date Received: 05/31/91

% Moisture: not dec. 5 Date Analyzed: 06/05/91

Column: (pack/cap) CAP Dilution Factor: 1.25

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

CAS NO.	COMPOUND		
74-87-3	Chloromethane	1300	U
74-83-9	Bromomethane	1300	U
75-01-4	Vinyl Chloride	1300	U
75-00-3	Chloroethane	1300	U
75-09-2	Methylene Chloride	1800	B
67-64-1	Acetone	1300	U
75-15-0	Carbon Disulfide	660	U
75-35-4	1,1-Dichloroethene	660	U
75-34-3	1,1-Dichloroethane	660	U
540-59-0	1,2-Dichloroethene (total)	660	U
67-66-3	Chloroform	660	U
107-06-2	1,2-Dichloroethane	660	U
78-93-3	2-Butanone	1300	U
71-55-6	1,1,1-Trichloroethane	660	U
56-23-5	Carbon Tetrachloride	660	U
108-05-4	Vinyl Acetate	1300	U
75-27-4	Bromodichloromethane	660	U
78-87-5	1,2-Dichloropropane	660	U
10061-01-5	cis-1,3-Dichloropropene	660	U
79-01-6	Trichloroethene	660	U
124-48-1	Dibromochloromethane	660	U
79-00-5	1,1,2-Trichloroethane	660	U
71-43-2	Benzene	660	U
10061-02-6	Trans-1,3-Dichloropropene	660	U
75-25-2	Bromoform	660	U
108-10-1	4-Methyl-2-pentanone	1300	U
591-78-6	2-Hexanone	1300	U
127-18-4	Tetrachloroethene	920	
79-34-5	1,1,2,2-Tetrachloroethane	660	U
108-88-3	Toluene	660	U
108-90-7	Chlorobenzene	660	U
100-41-4	Ethylbenzene	660	U
100-42-5	Styrene	660	U
1330-20-7	Xylene (total)	660	U

1E

VOLATILE ORGANICS ANALYSIS SHEET 0000120

TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

BOOYC5

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

Client: WESTINGHOUSE HANFORD

Matrix: SOIL

Lab Sample ID: 9106L749-006

Sample wt/vol: 4.00 (g/mL) G

Lab File ID: AX6508

Level: (low/med) MED

Date Received: 05/31/91

% Moisture: not dec. 5

Date Analyzed: 06/05/91

Column: (pack/cap) CAP

Dilution Factor: 1.25

Number TICs found: 6

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN	21.29	700	J
2.	UNKNOWN	22.09	2000	J
3.	ALKANE	22.58	1000	J
4.	UNKNOWN	23.38	1000	J
5.	UNKNOWN	23.77	4000	J
6.	HEXACHLOROETHANE	24.59	30000	J

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

RFW Batch Number: 9106L749 Client: WESTINGHOUSE HANFORD Work Order: 6168-02-01-0000 Report Date: 06/12/91 17:08 Page: 1a

	Cust ID:	BOOYB8		BOOYB8		BOOYB8		BOOYC0		BOOYC1		BOOYC2	
Sample Information	RFW#:	001		001 MS		001 MSD		002		003		004	
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	D.F.:	5.00		5.00		5.00		10.0		1.00		1.00	
	Units:	ug/Kg		ug/Kg		ug/Kg		ug/Kg		ug/Kg		ug/Kg	
Surrogate Recovery	Nitrobenzene-d5	40	%	53	%	51	%	91	%	65	%	79	%
	2-Fluorobiphenyl	83	%	80	%	80	%	81	%	90	%	86	%
	p-Terphenyl-d14	102	%	81	%	78	%	102	%	95	%	97	%
	Phenol-d5	75	%	55	%	53	%	110	%	95	%	31	%
	2-Fluorophenol	103	%	55	%	53	%	102	%	115	%	96	%
	2,4,6-Tribromophenol	59	%	48	%	41	%	67	%	59	%	62	%
		fl		fl		fl		fl		fl		fl	
Phenol		1700	U	D	%	D	%	3400	U	340	U	350	U
bis(2-Chloroethyl)ether		1700	U	1700	U	1700	U	3400	U	340	U	350	U
2-Chlorophenol		1700	U	D	%	D	%	3400	U	340	U	350	U
1,3-Dichlorobenzene		1700	U	1700	U	1700	U	3400	U	340	U	350	U
1,4-Dichlorobenzene		1700	U	D	%	D	%	3400	U	340	U	350	U
Benzyl alcohol		1700	U	1700	U	1700	U	3400	U	340	U	350	U
1,2-Dichlorobenzene		1700	U	1700	U	1700	U	3400	U	340	U	350	U
2-Methylphenol		1700	U	1700	U	1700	U	3400	U	340	U	350	U
bis(2-Chloroisopropyl)ether		1700	U	1700	U	1700	U	3400	U	340	U	350	U
4-Methylphenol		1700	U	1700	U	1700	U	3400	U	340	U	350	U
N-Nitroso-Di-n-propylamine		1700	U	D	%	D	%	3400	U	340	U	350	U
Hexachloroethane		1700	U	1700	U	1700	U	3400	U	110	J	3300	
Nitrobenzene		1700	U	1700	U	1700	U	3400	U	340	U	350	U
Isophorone		1700	U	1700	U	1700	U	3400	U	340	U	350	U
2-Nitrophenol		1700	U	1700	U	1700	U	3400	U	340	U	350	U
2,4-Dimethylphenol		1700	U	1700	U	1700	U	3400	U	340	U	350	U
Benzoic acid		8400	U	8500	U	8600	U	17000	U	1700	U	1700	U
bis(2-Chloroethoxy)methane		1700	U	1700	U	1700	U	3400	U	340	U	350	U
2,4-Dichlorophenol		1700	U	1700	U	1700	U	3400	U	340	U	350	U
1,2,4-Trichlorobenzene		1700	U	D	%	D	%	3400	U	340	U	350	U
Naphthalene		1700	U	1700	U	1700	U	3400	U	340	U	350	U
4-Chloroaniline		1700	U	1700	U	1700	U	3400	U	340	U	350	U
exachlorobutadiene		1700	U	1700	U	1700	U	3400	U	120	J	760	
oro-3-methylphenol		1700	U	D	%	D	%	3400	U	340	U	350	U
naphthalene		1700	U	1700	U	1700	U	3400	U	340	U	350	U
/clopentadiene		1700	U	1700	U	1700	U	3400	U	340	U	350	U

of EPA CLP QC limits.

Cust ID:	BOOYB8		BOOYB8		BOOYB8		BOOYC0		BOOYC1		BOOYC2	
RFW#:	001		001 MS		001 MSD		002		003		004	
2,4,6-Trichlorophenol	1700	U	1700	U	1700	U	3400	U	340	U	350	U
2,4,5-Trichlorophenol	8400	U	8500	U	8600	U	17000	U	1700	U	1700	U
2-Chloronaphthalene	1700	U	1700	U	1700	U	3400	U	340	U	350	U
2-Nitroaniline	8400	U	8500	U	8600	U	17000	U	1700	U	1700	U
Dimethylphthalate	1700	U	1700	U	1700	U	3400	U	340	U	350	U
Acenaphthylene	1700	U	1700	U	1700	U	3400	U	340	U	350	U
2,6-Dinitrotoluene	1700	U	1700	U	1700	U	3400	U	340	U	350	U
3-Nitroaniline	8400	U	8500	U	8600	U	17000	U	1700	U	1700	U
Acenaphthene	1700	U	D	%	D	%	3400	U	340	U	350	U
2,4-Dinitrophenol	8400	U	8500	U	8600	U	17000	U	1700	U	1700	U
4-Nitrophenol	8400	U	D	%	D	%	17000	U	1700	U	1700	U
Dibenzofuran	1700	U	1700	U	1700	U	3400	U	340	U	350	U
2,4-Dinitrotoluene	1700	U	D	%	D	%	3400	U	340	U	350	U
Diethylphthalate	1700	U	1700	U	1700	U	3400	U	340	U	350	U
4-Chlorophenyl-phenylether	1700	U	1700	U	1700	U	3400	U	340	U	350	U
Fluorene	1700	U	1700	U	1700	U	3400	U	340	U	350	U
4-Nitroaniline	8400	U	8500	U	8600	U	17000	U	1700	U	1700	U
4,6-Dinitro-2-methylphenol	8400	U	8500	U	8600	U	17000	U	1700	U	1700	U
N-Nitrosodiphenylamine (1)	1700	U	1700	U	1700	U	3400	U	340	U	350	U
4-Bromophenyl-phenylether	1700	U	1700	U	1700	U	3400	U	340	U	350	U
Hexachlorobenzene	1700	U	1700	U	1700	U	3400	U	340	U	350	U
Pentachlorophenol	8400	U	D	%	D	%	17000	U	1700	U	1700	U
Phenanthrene	1700	U	1700	U	1700	U	3400	U	340	U	350	U
Anthracene	1700	U	1700	U	1700	U	3400	U	340	U	350	U
Di-n-Butylphthalate	3300		1800		1200	J	1700	J	4200		5300	
Fluoranthene	1700	U	1700	U	1700	U	3400	U	340	U	350	U
Pyrene	1700	U	D	%	D	%	3400	U	340	U	350	U
Butylbenzylphthalate	810	J	2300		1200	J	2600	J	850		530	
3,3'-Dichlorobenzidine	3400	U	3400	U	3400	U	6800	U	690	U	700	U
Benzo(a)anthracene	1700	U	1700	U	1700	U	3400	U	340	U	350	U
Chrysene	1700	U	1700	U	1700	U	3400	U	340	U	350	U
bis(2-Ethylhexyl)phthalate	1700	U	1700	U	1700	U	5200		340	U	350	U
Di-n-Octyl phthalate	1700	U	1700	U	1700	U	3400	U	340	U	350	U
Benzo(b)fluoranthene	1700	U	1700	U	1700	U	3400	U	340	U	350	U
Benzo(k)fluoranthene	1700	U	1700	U	1700	U	3400	U	340	U	350	U
Benzo(a)pyrene	1700	U	1700	U	1700	U	3400	U	340	U	350	U
Indeno(1,2,3-cd)pyrene	1700	U	1700	U	1700	U	3400	U	340	U	350	U
Dibenzo(a,h)anthracene	1700	U	1700	U	1700	U	3400	U	340	U	350	U
Benzo(g,h,i)perylene	1700	U	1700	U	1700	U	3400	U	340	U	350	U

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

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

RFW Batch Number: 9106L749 Client: WESTINGHOUSE HANFORD Work Order: 6168-02-01-0000 Report Date: 06/12/91 17:08 Page: 2a

	Cust ID:	BOOYC4		BOOYC5		SBLK		SBLK BS	
Sample Information	RFW#:	005		006		91LE0719-MB1		91LE0719-MB1	
	Matrix:	SOIL		SOIL		SOIL		SOIL	
	D.F.:	1.00		10.0		1.00		1.00	
	Units:	ug/Kg		ug/Kg		ug/Kg		ug/Kg	
Surrogate Recovery	Nitrobenzene-d5	89	%	71	%	84	%	82	%
	2-Fluorobiphenyl	80	%	88	%	80	%	86	%
	p-Terphenyl-d14	94	%	81	%	107	%	121	%
	Phenol-d5	96	%	33	%	106	%	101	%
	2-Fluorophenol	116	%	45	%	105	%	102	%
	2,4,6-Tribromophenol	57	%	64	%	57	%	50	%
Phenol		350	U	3500	U	330	U	96 *	%
bis(2-Chloroethyl)ether		350	U	3500	U	330	U	330	U
2-Chlorophenol		350	U	3500	U	330	U	82	%
1,3-Dichlorobenzene		350	U	3500	U	330	U	330	U
1,4-Dichlorobenzene		350	U	3500	U	330	U	67	%
Benzyl alcohol		350	U	3500	U	330	U	330	U
1,2-Dichlorobenzene		350	U	3500	U	330	U	330	U
2-Methylphenol		350	U	3500	U	330	U	330	U
bis(2-Chloroisopropyl)ether		350	U	3500	U	330	U	330	U
4-Methylphenol		350	U	3500	U	330	U	330	U
N-Nitroso-Di-n-propylamine		350	U	3500	U	330	U	63	%
Hexachloroethane		720		17000		330	U	330	U
Nitrobenzene		350	U	3500	U	330	U	330	U
Isophorone		350	U	3500	U	330	U	330	U
2-Nitrophenol		350	U	3500	U	330	U	330	U
2,4-Dimethylphenol		350	U	3500	U	330	U	330	U
Benzoic acid		1700	U	17000	U	1700	U	1700	U
bis(2-Chloroethoxy)methane		350	U	3500	U	330	U	330	U
2,4-Dichlorophenol		350	U	3500	U	330	U	330	U
1,2,4-Trichlorobenzene		350	U	3500	U	330	U	66	%
Naphthalene		350	U	3500	U	330	U	330	U
4-Chloroaniline		350	U	3500	U	330	U	330	U
Hexachlorobutadiene		270	J	3500	U	330	U	330	U
4-Chloro-3-methylphenol		350	U	3500	U	330	U	89	%
2-Methylnaphthalene		350	U	3500	U	330	U	330	U
Hexachlorocyclopentadiene		350	U	3500	U	330	U	330	U

*= Outside of EPA CLP QC limits.

Cust ID:	BOOYC4		BOOYC5		SBLK		SBLK BS	
RFW#:	005		006		91LE0719-MB1		91LE0719-MB1	
2,4,6-Trichlorophenol	350	U	3500	U	330	U	330	U
2,4,5-Trichlorophenol	1700	U	17000	U	1700	U	1700	U
2-Chloronaphthalene	350	U	3500	U	330	U	330	U
2-Nitroaniline	1700	U	17000	U	1700	U	1700	U
Dimethylphthalate	350	U	3500	U	330	U	330	U
Acenaphthylene	350	U	3500	U	330	U	330	U
2,6-Dinitrotoluene	350	U	3500	U	330	U	330	U
3-Nitroaniline	1700	U	17000	U	1700	U	1700	U
Acenaphthene	350	U	3500	U	330	U	94	%
2,4-Dinitrophenol	1700	U	17000	U	1700	U	1700	U
4-Nitrophenol	1700	U	17000	U	1700	U	90	%
Dibenzofuran	350	U	3500	U	330	U	330	U
2,4-Dinitrotoluene	350	U	3500	U	330	U	92 *	%
Diethylphthalate	350	U	3500	U	330	U	330	U
4-Chlorophenyl-phenylether	350	U	3500	U	330	U	330	U
Fluorene	350	U	3500	U	330	U	330	U
4-Nitroaniline	1700	U	17000	U	1700	U	1700	U
4,6-Dinitro-2-methylphenol	1700	U	17000	U	1700	U	1700	U
N-Nitrosodiphenylamine (1)	350	U	3500	U	330	U	330	U
4-Bromophenyl-phenylether	350	U	3500	U	330	U	330	U
Hexachlorobenzene	350	U	3500	U	330	U	330	U
Pentachlorophenol	1700	U	17000	U	1700	U	52	%
Phenanthrene	350	U	3500	U	330	U	330	U
Anthracene	350	U	3500	U	330	U	330	U
Di-n-Butylphthalate	3800		1700	J	330	U	330	U
Fluoranthene	350	U	3500	U	330	U	330	U
Pyrene	350	U	3500	U	330	U	106	%
Butylbenzylphthalate	2700		1100	J	330	U	330	U
3,3'-Dichlorobenzidine	690	U	7000	U	670	U	670	U
Benzo(a)anthracene	350	U	3500	U	330	U	330	U
Chrysene	350	U	3500	U	330	U	330	U
bis(2-Ethylhexyl)phthalate	350	U	3500	U	330	U	330	U
Di-n-Octyl phthalate	350	U	3500	U	330	U	330	U
Benzo(b)fluoranthene	350	U	3500	U	330	U	330	U
Benzo(k)fluoranthene	350	U	3500	U	330	U	330	U
Benzo(a)pyrene	350	U	3500	U	330	U	330	U
Indeno(1,2,3-cd)pyrene	350	U	3500	U	330	U	330	U
Dibenzo(a,h)anthracene	350	U	3500	U	330	U	330	U
Benzo(g,h,i)perylene	350	U	3500	U	330	U	330	U

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

009007

ROY F. WESTON, INC.
Lionville Laboratory

CLIENT: WESTINGHOUSE HANFORD **SAMPLES RECEIVED:** 05-31-91
RFW #: 9106L749, SEMIVOLATILE
W.O. #: 6168-02-01

NARRATIVE

The set of samples consisted of six (6) soil samples collected on 05-28-91.

The samples were extracted on 06-03-91 and analyzed according to criteria set forth in CLP SOW 02/88 (Rev. 05/89) for TCL Semivolatile target compounds on 06-06,07,11-91.

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

1. Non-target compounds were detected in these samples.

2. The following samples required dilution because they contained high levels of both target and non-target compounds:

Sample ID	Dilution Factor
B00YB8, MS, MSD	5
B00YC0	10
B00YC5	10

3. All surrogate recoveries were within EPA QC limits.

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

5. Matrix spike recoveries could not be obtained due to the dilutions required for analysis.

6. Internal standard area and retention time criteria were met for all samples and blanks.

6.17.91

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

Date

1B

SEMIVOLATILE ORGANICS ANALYSIS SHEET

0000020

CLIENT SAMPLE NO.

BOOYB8

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

Client: WESTINGHOUSE HANFORD

Matrix: SOIL Lab Sample ID: 9106L749-001

Sample wt/vol: 30.6 (g/mL) G Lab File ID: L060614

Level: (low/med) LOW Date Received: 05/31/91

% Moisture: not dec. 3 dec. Date Extracted: 06/03/91

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 06/07/91

GPC Cleanup: (Y/N) N pH: 6.6 Dilution Factor: 5.00

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

CAS NO.	COMPOUND		
108-95-2	Phenol	1700	U
111-44-4	bis(2-Chloroethyl)ether	1700	U
95-57-8	2-Chlorophenol	1700	U
541-73-1	1,3-Dichlorobenzene	1700	U
106-46-7	1,4-Dichlorobenzene	1700	U
100-51-6	Benzyl alcohol	1700	U
95-50-1	1,2-Dichlorobenzene	1700	U
95-48-7	2-Methylphenol	1700	U
108-60-1	bis(2-Chloroisopropyl)ether	1700	U
106-44-5	4-Methylphenol	1700	U
621-64-7	N-Nitroso-Di-n-propylamine	1700	U
67-72-1	Hexachloroethane	1700	U
98-95-3	Nitrobenzene	1700	U
78-59-1	Isophorone	1700	U
88-75-5	2-Nitrophenol	1700	U
105-67-9	2,4-Dimethylphenol	1700	U
65-85-0	Benzoic acid	8400	U
111-91-1	bis(2-Chloroethoxy)methane	1700	U
120-83-2	2,4-Dichlorophenol	1700	U
120-82-1	1,2,4-Trichlorobenzene	1700	U
91-20-3	Naphthalene	1700	U
106-47-8	4-Chloroaniline	1700	U
87-68-3	Hexachlorobutadiene	1700	U
59-50-7	4-Chloro-3-methylphenol	1700	U
91-57-6	2-Methylnaphthalene	1700	U
77-47-4	Hexachlorocyclopentadiene	1700	U
88-06-2	2,4,6-Trichlorophenol	1700	U
95-95-4	2,4,5-Trichlorophenol	8400	U
91-58-7	2-Chloronaphthalene	1700	U
88-74-4	2-Nitroaniline	8400	U
131-11-3	Dimethylphthalate	1700	U
208-96-8	Acenaphthylene	1700	U
606-20-2	2,6-Dinitrotoluene	1700	U

1C

SEMIVOLATILE ORGANICS ANALYSIS SHEET 0000021

CLIENT SAMPLE NO.

BOOYB8

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

Client: WESTINGHOUSE HANFORD

Matrix: SOIL Lab Sample ID: 9106L749-001

Sample wt/vol: 30.6 (g/mL) G Lab File ID: L060614

Level: (low/med) LOW Date Received: 05/31/91

% Moisture: not dec. 3 dec. Date Extracted: 06/03/91

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 06/07/91

GPC Cleanup: (Y/N) N pH: 6.6 Dilution Factor: 5.00

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

CAS NO.	COMPOUND		
99-09-2	3-Nitroaniline	8400	U
83-32-9	Acenaphthene	1700	U
51-28-5	2,4-Dinitrophenol	8400	U
100-02-7	4-Nitrophenol	8400	U
132-64-9	Dibenzofuran	1700	U
121-14-2	2,4-Dinitrotoluene	1700	U
84-66-2	Diethylphthalate	1700	U
7005-72-3	4-Chlorophenyl-phenylether	1700	U
86-73-7	Fluorene	1700	U
100-01-6	4-Nitroaniline	8400	U
534-52-1	4,6-Dinitro-2-methylphenol	8400	U
86-30-6	N-Nitrosodiphenylamine (1)	1700	U
101-55-3	4-Bromophenyl-phenylether	1700	U
118-74-1	Hexachlorobenzene	1700	U
87-86-5	Pentachlorophenol	8400	U
85-01-8	Phenanthrene	1700	U
120-12-7	Anthracene	1700	U
84-74-2	Di-n-Butylphthalate	3300	
206-44-0	Fluoranthene	1700	U
129-00-0	Pyrene	1700	U
85-68-7	Butylbenzylphthalate	810	J
91-94-1	3,3'-Dichlorobenzidine	3400	U
56-55-3	Benzo(a)anthracene	1700	U
218-01-9	Chrysene	1700	U
117-81-7	bis(2-Ethylhexyl)phthalate	1700	U
117-84-0	Di-n-Octyl phthalate	1700	U
205-99-2	Benzo(b)fluoranthene	1700	U
207-08-9	Benzo(k)fluoranthene	1700	U
50-32-8	Benzo(a)pyrene	1700	U
193-39-5	Indeno(1,2,3-cd)pyrene	1700	U
53-70-3	Dibenzo(a,h)anthracene	1700	U
191-24-2	Benzo(g,h,i)perylene	1700	U

(1) - Cannot be separated from Diphenylamine

1F

SEMIVOLATILE ORGANICS ANALYSIS SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

0000022

CLIENT SAMPLE NO.

BOOYB8

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

Client: WESTINGHOUSE HANFORD

Matrix: SOIL Lab Sample ID: 9106L749-001

Sample wt/vol: 30.6 (g/mL) G Lab File ID: L060614

Level: (low/med) LOW Date Received: 05/31/91

% Moisture: not dec. 3 dec. Date Extracted: 06/03/91

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 06/07/91

GPC Cleanup: (Y/N) N pH: 6.6 Dilution Factor: 5.00

Number TICs found: 13

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	ALKANE	9.67	1000	J
2.	ALKANE	10.57	4000	J
3.	ALKENE	10.85	1000	J
4.	ALKANE	10.95	3000	J
5.	ALKANE	11.70	700	J
6.	UNKNOWN	11.88	500	J
7.	ALKANE	12.07	3000	J
8.	HYDROCARBON	12.38	2000	J
9.	ALKANE	13.23	800	J
10.	PHOSPHORIC ACID	15.70	100000	J
11.	PHOSPHORIC ACID	17.38	5000	J
12.	UNKNOWN	17.68	50000	J
13.	UNKNOWN	18.40	1000	J

1B

SEMIVOLATILE ORGANICS ANALYSIS SHEET 0000046

CLIENT SAMPLE NO.

BOOYCO

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

Client: WESTINGHOUSE HANFORD

Matrix: SOIL Lab Sample ID: 9106L749-002

Sample wt/vol: 30.3 (g/mL) G Lab File ID: L061109

Level: (low/med) LOW Date Received: 05/31/91

% Moisture: not dec. 4 dec. Date Extracted: 06/03/91

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 06/11/91

GPC Cleanup: (Y/N) N pH: 6.9 Dilution Factor: 10.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg	
108-95-2	Phenol	3400	U
111-44-4	bis(2-Chloroethyl)ether	3400	U
95-57-8	2-Chlorophenol	3400	U
541-73-1	1,3-Dichlorobenzene	3400	U
106-46-7	1,4-Dichlorobenzene	3400	U
100-51-6	Benzyl alcohol	3400	U
95-50-1	1,2-Dichlorobenzene	3400	U
95-48-7	2-Methylphenol	3400	U
108-60-1	bis(2-Chloroisopropyl)ether	3400	U
106-44-5	4-Methylphenol	3400	U
621-64-7	N-Nitroso-Di-n-propylamine	3400	U
67-72-1	Hexachloroethane	3400	U
98-95-3	Nitrobenzene	3400	U
78-59-1	Isophorone	3400	U
88-75-5	2-Nitrophenol	3400	U
105-67-9	2,4-Dimethylphenol	3400	U
65-85-0	Benzoic acid	17000	U
111-91-1	bis(2-Chloroethoxy)methane	3400	U
120-83-2	2,4-Dichlorophenol	3400	U
120-82-1	1,2,4-Trichlorobenzene	3400	U
91-20-3	Naphthalene	3400	U
106-47-8	4-Chloroaniline	3400	U
87-68-3	Hexachlorobutadiene	3400	U
59-50-7	4-Chloro-3-methylphenol	3400	U
91-57-6	2-Methylnaphthalene	3400	U
77-47-4	Hexachlorocyclopentadiene	3400	U
88-06-2	2,4,6-Trichlorophenol	3400	U
95-95-4	2,4,5-Trichlorophenol	17000	U
91-58-7	2-Chloronaphthalene	3400	U
88-74-4	2-Nitroaniline	17000	U
131-11-3	Dimethylphthalate	3400	U
208-96-8	Acenaphthylene	3400	U
606-20-2	2,6-Dinitrotoluene	3400	U

1C

SEMIVOLATILE ORGANICS ANALYSIS SHEET 0000047

CLIENT SAMPLE NO.

BOOYCO

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

Client: WESTINGHOUSE HANFORD

Matrix: SOIL Lab Sample ID: 9106L749-002

Sample wt/vol: 30.3 (g/mL) G Lab File ID: L061109

Level: (low/med) LOW Date Received: 05/31/91

% Moisture: not dec. 4 dec. Date Extracted: 06/03/91

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 06/11/91

GPC Cleanup: (Y/N) N pH: 6.9 Dilution Factor: 10.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg	
99-09-2	3-Nitroaniline	17000	U
83-32-9	Acenaphthene	3400	U
51-28-5	2,4-Dinitrophenol	17000	U
100-02-7	4-Nitrophenol	17000	U
132-64-9	Dibenzofuran	3400	U
121-14-2	2,4-Dinitrotoluene	3400	U
84-66-2	Diethylphthalate	3400	U
7005-72-3	4-Chlorophenyl-phenylether	3400	U
86-73-7	Fluorene	3400	U
100-01-6	4-Nitroaniline	17000	U
534-52-1	4,6-Dinitro-2-methylphenol	17000	U
86-30-6	N-Nitrosodiphenylamine (1)	3400	U
101-55-3	4-Bromophenyl-phenylether	3400	U
118-74-1	Hexachlorobenzene	3400	U
87-86-5	Pentachlorophenol	17000	U
85-01-8	Phenanthrene	3400	U
120-12-7	Anthracene	3400	U
84-74-2	Di-n-Butylphthalate	1700	J
206-44-0	Fluoranthene	3400	U
129-00-0	Pyrene	3400	U
85-68-7	Butylbenzylphthalate	2600	J
91-94-1	3,3'-Dichlorobenzidine	6800	U
56-55-3	Benzo(a)anthracene	3400	U
218-01-9	Chrysene	3400	U
117-81-7	bis(2-Ethylhexyl)phthalate	5200	
117-84-0	Di-n-Octyl phthalate	3400	U
205-99-2	Benzo(b)fluoranthene	3400	U
207-08-9	Benzo(k)fluoranthene	3400	U
50-32-8	Benzo(a)pyrene	3400	U
193-39-5	Indeno(1,2,3-cd)pyrene	3400	U
53-70-3	Dibenzo(a,h)anthracene	3400	U
191-24-2	Benzo(g,h,i)perylene	3400	U

(1) - Cannot be separated from Diphenylamine

1F

SEMIVOLATILE ORGANICS ANALYSIS SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

0000048

CLIENT SAMPLE NO.

BOOYC0

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

Client: WESTINGHOUSE HANFORD

Matrix: SOIL

Lab Sample ID: 9106L749-002

Sample wt/vol: 30.3 (g/mL) G

Lab File ID: L061109

Level: (low/med) LOW

Date Received: 05/31/91

% Moisture: not dec. 4 dec.

Date Extracted: 06/03/91

Extraction: (SepF/Cont/Sonc) SONC

Date Analyzed: 06/11/91

GPC Cleanup: (Y/N) N pH: 6.9

Dilution Factor: 10.0

Number TICs found: 21

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	ALKANE	9.52	4000	J
2.	CYCLOALKANE	9.83	1000	J
3.	CYCLOALKANE	10.02	1000	J
4.	HYDROCARBON	10.18	2000	J
5.	HYDROCARBON	10.25	1000	J
6.	ALKANE	10.40	10000	J
7.	HYDROCARBON	10.67	3000	J
8.	ALKANE	10.78	6000	J
9.	ALKANE	10.95	2000	J
10.	ALKANE	11.05	2000	J
11.	HYDROCARBON	11.28	2000	J
12.	HYDROCARBON	11.52	2000	J
13.	UNKNOWN	11.70	2000	J
14.	ALKANE	11.88	10000	J
15.	ALKANE	12.20	8000	J
16.	ALKANE	13.05	4000	J
17.	ALKANE	13.55	2000	J
18.	PHOSPHORIC ACID	15.47	30000	J
19.	PHOSPHORIC ACID	17.48	3000	J
20.	HYDROCARBON	21.23	1000	J
21.	PHOSPHORIC ACID	22.17	4000	J

1B

SEMIVOLATILE ORGANICS ANALYSIS SHEET 0000084

CLIENT SAMPLE NO.

BOOYC1

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

Client: WESTINGHOUSE HANFORD

Matrix: SOIL Lab Sample ID: 9106L749-003

Sample wt/vol: 30.0 (g/mL) G Lab File ID: L060610

Level: (low/med) LOW Date Received: 05/31/91

% Moisture: not dec. 3 dec. Date Extracted: 06/03/91

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 06/06/91

GPC Cleanup: (Y/N) N pH: 6.9 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	110	J
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	120	J
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

1C

SEMIVOLATILE ORGANICS ANALYSIS SHEET 0000085

CLIENT SAMPLE NO.

BOOYC1

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

Client: WESTINGHOUSE HANFORD

Matrix: SOIL

Lab Sample ID: 9106L749-003

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

Lab File ID: L060610

Level: (low/med) LOW

Date Received: 05/31/91

% Moisture: not dec. 3 dec.

Date Extracted: 06/03/91

Extraction: (SepF/Cont/Sonc) SONC

Date Analyzed: 06/06/91

GPC Cleanup: (Y/N) N pH: 6.9

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	340	U
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	4200	
206-44-0	Fluoranthene	340	U
129-00-0	Pyrene	340	U
85-68-7	Butylbenzylphthalate	850	
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

1F

SEMIVOLATILE ORGANICS ANALYSIS SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

0000086

CLIENT SAMPLE NO.

BOOYC1

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

Client: WESTINGHOUSE HANFORD

Matrix: SOIL

Lab Sample ID: 9106L749-003

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

Lab File ID: L060610

Level: (low/med) LOW

Date Received: 05/31/91

% Moisture: not dec. 3 dec.

Date Extracted: 06/03/91

Extraction: (SepF/Cont/Sonc) SONC

Date Analyzed: 06/06/91

GPC Cleanup: (Y/N) N pH: 6.9

Dilution Factor: 1.00

Number TICs found: 22

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	ALKANE	9.68	2000	J
2.	CYCLOALKANE	10.02	700	J
3.	CYCLOALKANE	10.20	800	J
4.	HYDROCARBON	10.37	800	J
5.	UNKNOWN	10.43	500	J
6.	ALKANE	10.58	5000	J
7.	HYDROCARBON	10.87	500	J
8.	ALKANE	10.97	600	J
9.	HYDROCARBON	11.13	600	J
10.	ALKANE	11.23	800	J
11.	UNKNOWN	11.72	2000	J
12.	ALKANE	11.82	600	J
13.	ALKANE	12.08	6000	J
14.	HYDROCARBON	12.38	3000	J
15.	ALKANE	13.23	2000	J
16.	ALKANE	13.73	600	J
17.	PHOSPHORIC ACID	15.80	200000	J
18.	PHOSPHORIC ACID	17.40	8000	J
19.	UNKNOWN	17.72	40000	J
20.	UNKNOWN	18.42	3000	J
21.	UNKNOWN	19.28	600	J
22.	PHTHALATE	23.08	300	J

1B
SEMIVOLATILE ORGANICS ANALYSIS SHEET 000125

CLIENT SAMPLE NO.

BOOYC2

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

Client: WESTINGHOUSE HANFORD

Matrix: SOIL Lab Sample ID: 9106L749-004

Sample wt/vol: 30.1 (g/mL) G Lab File ID: L060611

Level: (low/med) LOW Date Received: 05/31/91

% Moisture: not dec. 5 dec. Date Extracted: 06/03/91

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 06/06/91

GPC Cleanup: (Y/N) N pH: 7.0 Dilution Factor: 1.00

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

CAS NO.	COMPOUND		
108-95-2	Phenol	350	U
111-44-4	bis(2-Chloroethyl)ether	350	U
95-57-8	2-Chlorophenol	350	U
541-73-1	1,3-Dichlorobenzene	350	U
106-46-7	1,4-Dichlorobenzene	350	U
100-51-6	Benzyl alcohol	350	U
95-50-1	1,2-Dichlorobenzene	350	U
95-48-7	2-Methylphenol	350	U
108-60-1	bis(2-Chloroisopropyl)ether	350	U
106-44-5	4-Methylphenol	350	U
621-64-7	N-Nitroso-Di-n-propylamine	350	U
67-72-1	Hexachloroethane	3300	
98-95-3	Nitrobenzene	350	U
78-59-1	Isophorone	350	U
88-75-5	2-Nitrophenol	350	U
105-67-9	2,4-Dimethylphenol	350	U
65-85-0	Benzoic acid	1700	U
111-91-1	bis(2-Chloroethoxy)methane	350	U
120-83-2	2,4-Dichlorophenol	350	U
120-82-1	1,2,4-Trichlorobenzene	350	U
91-20-3	Naphthalene	350	U
106-47-8	4-Chloroaniline	350	U
87-68-3	Hexachlorobutadiene	760	
59-50-7	4-Chloro-3-methylphenol	350	U
91-57-6	2-Methylnaphthalene	350	U
77-47-4	Hexachlorocyclopentadiene	350	U
88-06-2	2,4,6-Trichlorophenol	350	U
95-95-4	2,4,5-Trichlorophenol	1700	U
91-58-7	2-Chloronaphthalene	350	U
88-74-4	2-Nitroaniline	1700	U
131-11-3	Dimethylphthalate	350	U
208-96-8	Acenaphthylene	350	U
606-20-2	2,6-Dinitrotoluene	350	U

1C

SEMIVOLATILE ORGANICS ANALYSIS SHEET 0000126

CLIENT SAMPLE NO.

BOOYC2

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

Client: WESTINGHOUSE HANFORD

Matrix: SOIL Lab Sample ID: 9106L749-004

Sample wt/vol: 30.1 (g/mL) G Lab File ID: L060611

Level: (low/med) LOW Date Received: 05/31/91

% Moisture: not dec. 5 dec. Date Extracted: 06/03/91

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 06/06/91

GPC Cleanup: (Y/N) N pH: 7.0 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	350	U
51-28-5	2,4-Dinitrophenol	1700	U
100-02-7	4-Nitrophenol	1700	U
132-64-9	Dibenzofuran	350	U
121-14-2	2,4-Dinitrotoluene	350	U
84-66-2	Diethylphthalate	350	U
7005-72-3	4-Chlorophenyl-phenylether	350	U
86-73-7	Fluorene	350	U
100-01-6	4-Nitroaniline	1700	U
534-52-1	4,6-Dinitro-2-methylphenol	1700	U
86-30-6	N-Nitrosodiphenylamine (1)	350	U
101-55-3	4-Bromophenyl-phenylether	350	U
118-74-1	Hexachlorobenzene	350	U
87-86-5	Pentachlorophenol	1700	U
85-01-8	Phenanthrene	350	U
120-12-7	Anthracene	350	U
84-74-2	Di-n-Butylphthalate	5300	
206-44-0	Fluoranthene	350	U
129-00-0	Pyrene	350	U
85-68-7	Butylbenzylphthalate	530	
91-94-1	3,3'-Dichlorobenzidine	700	U
56-55-3	Benzo(a)anthracene	350	U
218-01-9	Chrysene	350	U
117-81-7	bis(2-Ethylhexyl)phthalate	350	U
117-84-0	Di-n-Octyl phthalate	350	U
205-99-2	Benzo(b)fluoranthene	350	U
207-08-9	Benzo(k)fluoranthene	350	U
50-32-8	Benzo(a)pyrene	350	U
193-39-5	Indeno(1,2,3-cd)pyrene	350	U
53-70-3	Dibenzo(a,h)anthracene	350	U
191-24-2	Benzo(g,h,i)perylene	350	U

(1) - Cannot be separated from Diphenylamine

1F

SEMIVOLATILE ORGANICS ANALYSIS SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

000127

CLIENT SAMPLE NO.

BOOYC2

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

Client: WESTINGHOUSE HANFORD

Matrix: SOIL

Lab Sample ID: 9106L749-004

Sample wt/vol: 30.1 (g/mL) G

Lab File ID: L060611

Level: (low/med) LOW

Date Received: 05/31/91

% Moisture: not dec. 5 dec.

Date Extracted: 06/03/91

Extraction: (SepF/Cont/Sonc) SONC

Date Analyzed: 06/06/91

GPC Cleanup: (Y/N) N pH: 7.0

Dilution Factor: 1.00

Number TICs found: 19

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN	8.55	5000	J
2.	ALKANE	9.70	20000	J
3.	CYCLOALKANE	10.20	10000	J
4.	HYDROCARBON	10.37	10000	J
5.	ALKANE	10.60	60000	J
6.	ALKANE	10.97	20000	J
7.	ALKANE	11.13	10000	J
8.	ALKANE	11.25	10000	J
9.	UNKNOWN	11.72	2000	J
10.	ALKANE	12.10	10000	J
11.	ALKANE	12.38	7000	J
12.	ALKANE	13.23	5000	J
13.	ALKANE	13.73	1000	J
14.	PHOSPHORIC ACID	15.93	600000	J
15.	PHOSPHORIC ACID	17.42	40000	J
16.	UNKNOWN	17.75	100000	J
17.	UNKNOWN	18.42	20000	J
18.	UNKNOWN	18.83	1000	J
19.	UNKNOWN	19.25	6000	J

1B

SEMIVOLATILE ORGANICS ANALYSIS SHEET 0000163

CLIENT SAMPLE NO.

BOOYC4

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

Client: WESTINGHOUSE HANFORD

Matrix: SOIL Lab Sample ID: 9106L749-005

Sample wt/vol: 30.2 (g/mL) G Lab File ID: L060612

Level: (low/med) LOW Date Received: 05/31/91

% Moisture: not dec. 4 dec. Date Extracted: 06/03/91

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 06/06/91

GPC Cleanup: (Y/N) N pH: 7.1 Dilution Factor: 1.00

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

CAS NO.	COMPOUND		
108-95-2	Phenol	350	U
111-44-4	bis(2-Chloroethyl)ether	350	U
95-57-8	2-Chlorophenol	350	U
541-73-1	1,3-Dichlorobenzene	350	U
106-46-7	1,4-Dichlorobenzene	350	U
100-51-6	Benzyl alcohol	350	U
95-50-1	1,2-Dichlorobenzene	350	U
95-48-7	2-Methylphenol	350	U
108-60-1	bis(2-Chloroisopropyl)ether	350	U
106-44-5	4-Methylphenol	350	U
621-64-7	N-Nitroso-Di-n-propylamine	350	U
67-72-1	Hexachloroethane	720	
98-95-3	Nitrobenzene	350	U
78-59-1	Isophorone	350	U
88-75-5	2-Nitrophenol	350	U
105-67-9	2,4-Dimethylphenol	350	U
65-85-0	Benzoic acid	1700	U
111-91-1	bis(2-Chloroethoxy)methane	350	U
120-83-2	2,4-Dichlorophenol	350	U
120-82-1	1,2,4-Trichlorobenzene	350	U
91-20-3	Naphthalene	350	U
106-47-8	4-Chloroaniline	350	U
87-68-3	Hexachlorobutadiene	270	J
59-50-7	4-Chloro-3-methylphenol	350	U
91-57-6	2-Methylnaphthalene	350	U
77-47-4	Hexachlorocyclopentadiene	350	U
88-06-2	2,4,6-Trichlorophenol	350	U
95-95-4	2,4,5-Trichlorophenol	1700	U
91-58-7	2-Chloronaphthalene	350	U
88-74-4	2-Nitroaniline	1700	U
131-11-3	Dimethylphthalate	350	U
208-96-8	Acenaphthylene	350	U
606-20-2	2,6-Dinitrotoluene	350	U

1C

SEMIVOLATILE ORGANICS ANALYSIS SHEET

0000164

CLIENT SAMPLE NO.

BOOYC4

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

Client: WESTINGHOUSE HANFORD

Matrix: SOIL Lab Sample ID: 9106L749-005

Sample wt/vol: 30.2 (g/mL) G Lab File ID: L060612

Level: (low/med) LOW Date Received: 05/31/91

% Moisture: not dec. 4 dec. Date Extracted: 06/03/91

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 06/06/91

GPC Cleanup: (Y/N) N pH: 7.1 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	350	U
51-28-5	2,4-Dinitrophenol	1700	U
100-02-7	4-Nitrophenol	1700	U
132-64-9	Dibenzofuran	350	U
121-14-2	2,4-Dinitrotoluene	350	U
84-66-2	Diethylphthalate	350	U
7005-72-3	4-Chlorophenyl-phenylether	350	U
86-73-7	Fluorene	350	U
100-01-6	4-Nitroaniline	1700	U
534-52-1	4,6-Dinitro-2-methylphenol	1700	U
86-30-6	N-Nitrosodiphenylamine (1)	350	U
101-55-3	4-Bromophenyl-phenylether	350	U
118-74-1	Hexachlorobenzene	350	U
87-86-5	Pentachlorophenol	1700	U
85-01-8	Phenanthrene	350	U
120-12-7	Anthracene	350	U
84-74-2	Di-n-Butylphthalate	3800	
206-44-0	Fluoranthene	350	U
129-00-0	Pyrene	350	U
85-68-7	Butylbenzylphthalate	2700	
91-94-1	3,3'-Dichlorobenzidine	690	U
56-55-3	Benzo(a)anthracene	350	U
218-01-9	Chrysene	350	U
117-81-7	bis(2-Ethylhexyl)phthalate	350	U
117-84-0	Di-n-Octyl phthalate	350	U
205-99-2	Benzo(b)fluoranthene	350	U
207-08-9	Benzo(k)fluoranthene	350	U
50-32-8	Benzo(a)pyrene	350	U
193-39-5	Indeno(1,2,3-cd)pyrene	350	U
53-70-3	Dibenzo(a,h)anthracene	350	U
191-24-2	Benzo(g,h,i)perylene	350	U

(1) - Cannot be separated from Diphenylamine

1F

SEMIVOLATILE ORGANICS ANALYSIS SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

000165

CLIENT SAMPLE NO.

BOOYC4

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

Client: WESTINGHOUSE HANFORD

Matrix: SOIL

Lab Sample ID: 9106L749-005

Sample wt/vol: 30.2 (g/mL) G

Lab File ID: L060612

Level: (low/med) LOW

Date Received: 05/31/91

% Moisture: not dec. 4 dec.

Date Extracted: 06/03/91

Extraction: (SepF/Cont/Sonc) SONC

Date Analyzed: 06/06/91

GPC Cleanup: (Y/N) N pH: 7.1

Dilution Factor: 1.00

Number TICs found: 20

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN	8.57	8000	J
2.	HYDROCARBON	8.92	8000	J
3.	ALKANE	9.48	30000	J
4.	ALKANE	9.72	40000	J
5.	CYCLOALKANE	10.03	10000	J
6.	CYCLOALKANE	10.22	20000	J
7.	ALKANE	10.62	80000	J
8.	ALKANE	11.02	50000	J
9.	ALKANE	11.27	10000	J
10.	HYDROCARBON	11.73	4000	J
11.	ALKANE	12.12	10000	J
12.	ALKANE	12.43	10000	J
13.	ALKANE	13.25	4000	J
14.	ALKANE	13.75	3000	J
15.	ALKANE	15.02	300	J
16.	PHOSPHORIC ACID	15.77	30000	J
17.	PHOSPHORIC ACID	17.40	2000	J
18.	UNKNOWN	17.70	20000	J
19.	UNKNOWN	18.42	1000	J
20.	PHTHALATE	23.07	300	J

1B
SEMIVOLATILE ORGANICS ANALYSIS SHEET

0000202

CLIENT SAMPLE NO.

BOOYC5

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

Client: WESTINGHOUSE HANFORD

Matrix: SOIL Lab Sample ID: 9106L749-006

Sample wt/vol: 30.0 (g/mL) G Lab File ID: S060707

Level: (low/med) LOW Date Received: 05/31/91

% Moisture: not dec. 5 dec. Date Extracted: 06/03/91

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 06/07/91

GPC Cleanup: (Y/N) N pH: 7.2 Dilution Factor: 10.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg	
108-95-2	Phenol	3500	U
111-44-4	bis(2-Chloroethyl)ether	3500	U
95-57-8	2-Chlorophenol	3500	U
541-73-1	1,3-Dichlorobenzene	3500	U
106-46-7	1,4-Dichlorobenzene	3500	U
100-51-6	Benzyl alcohol	3500	U
95-50-1	1,2-Dichlorobenzene	3500	U
95-48-7	2-Methylphenol	3500	U
108-60-1	bis(2-Chloroisopropyl)ether	3500	U
106-44-5	4-Methylphenol	3500	U
621-64-7	N-Nitroso-Di-n-propylamine	3500	U
67-72-1	Hexachloroethane	17000	
98-95-3	Nitrobenzene	3500	U
78-59-1	Isophorone	3500	U
88-75-5	2-Nitrophenol	3500	U
105-67-9	2,4-Dimethylphenol	3500	U
65-85-0	Benzoic acid	17000	U
111-91-1	bis(2-Chloroethoxy)methane	3500	U
120-83-2	2,4-Dichlorophenol	3500	U
120-82-1	1,2,4-Trichlorobenzene	3500	U
91-20-3	Naphthalene	3500	U
106-47-8	4-Chloroaniline	3500	U
87-68-3	Hexachlorobutadiene	3500	U
59-50-7	4-Chloro-3-methylphenol	3500	U
91-57-6	2-Methylnaphthalene	3500	U
77-47-4	Hexachlorocyclopentadiene	3500	U
88-06-2	2,4,6-Trichlorophenol	3500	U
95-95-4	2,4,5-Trichlorophenol	17000	U
91-58-7	2-Chloronaphthalene	3500	U
88-74-4	2-Nitroaniline	17000	U
131-11-3	Dimethylphthalate	3500	U
208-96-8	Acenaphthylene	3500	U
606-20-2	2,6-Dinitrotoluene	3500	U

1C

SEMIVOLATILE ORGANICS ANALYSIS SHEET

0000203

CLIENT SAMPLE NO.

BOOYC5

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

Client: WESTINGHOUSE HANFORD

Matrix: SOIL Lab Sample ID: 9106L749-006

Sample wt/vol: 30.0 (g/mL) G Lab File ID: S060707

Level: (low/med) LOW Date Received: 05/31/91

% Moisture: not dec. 5 dec. Date Extracted: 06/03/91

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 06/07/91

GPC Cleanup: (Y/N) N pH: 7.2 Dilution Factor: 10.0

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

CAS NO.	COMPOUND		
99-09-2	3-Nitroaniline	17000	U
83-32-9	Acenaphthene	3500	U
51-28-5	2,4-Dinitrophenol	17000	U
100-02-7	4-Nitrophenol	17000	U
132-64-9	Dibenzofuran	3500	U
121-14-2	2,4-Dinitrotoluene	3500	U
84-66-2	Diethylphthalate	3500	U
7005-72-3	4-Chlorophenyl-phenylether	3500	U
86-73-7	Fluorene	3500	U
100-01-6	4-Nitroaniline	17000	U
534-52-1	4,6-Dinitro-2-methylphenol	17000	U
86-30-6	N-Nitrosodiphenylamine (1)	3500	U
101-55-3	4-Bromophenyl-phenylether	3500	U
118-74-1	Hexachlorobenzene	3500	U
87-86-5	Pentachlorophenol	17000	U
85-01-8	Phenanthrene	3500	U
120-12-7	Anthracene	3500	U
84-74-2	Di-n-Butylphthalate	1700	J
206-44-0	Fluoranthene	3500	U
129-00-0	Pyrene	3500	U
85-68-7	Butylbenzylphthalate	1100	J
91-94-1	3,3'-Dichlorobenzidine	7000	U
56-55-3	Benzo(a)anthracene	3500	U
218-01-9	Chrysene	3500	U
117-81-7	bis(2-Ethylhexyl)phthalate	3500	U
117-84-0	Di-n-Octyl phthalate	3500	U
205-99-2	Benzo(b)fluoranthene	3500	U
207-08-9	Benzo(k)fluoranthene	3500	U
50-32-8	Benzo(a)pyrene	3500	U
193-39-5	Indeno(1,2,3-cd)pyrene	3500	U
53-70-3	Dibenzo(a,h)anthracene	3500	U
191-24-2	Benzo(g,h,i)perylene	3500	U

(1) - Cannot be separated from Diphenylamine

1F

SEMIVOLATILE ORGANICS ANALYSIS SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

0000204

CLIENT SAMPLE NO.

BOOYC5

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

Client: WESTINGHOUSE HANFORD

Matrix: SOIL

Lab Sample ID: 9106L749-006

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

Lab File ID: S060707

Level: (low/med) LOW

Date Received: 05/31/91

% Moisture: not dec. 5 dec.

Date Extracted: 06/03/91

Extraction: (SepF/Cont/Sonc) SONC

Date Analyzed: 06/07/91

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

Dilution Factor: 10.0

Number TICs found: 20

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN	8.48	20000	J
2.	ALKANE	8.85	20000	J
3.	ALKANE	9.42	100000	J
4.	ALKANE	9.63	200000	J
5.	ALKENE	9.95	40000	J
6.	UNKNOWN	10.05	10000	J
7.	UNKNOWN	10.13	50000	J
8.	ALKANE	10.53	300000	J
9.	ALKENE	10.78	40000	J
10.	ALKANE	10.93	300000	J
11.	HYDROCARBON	11.40	40000	J
12.	HYDROCARBON	11.65	2000	J
13.	ALKANE	12.03	70000	J
14.	ALKANE	12.35	80000	J
15.	ALKANE	13.18	20000	J
16.	ALKANE	13.68	10000	J
17.	PHOSPHORIC ACID	15.75	2000000	J
18.	PHOSPHORIC ACID	17.33	90000	J
19.	UNKNOWN	17.63	300000	J
20.	UNKNOWN	18.37	40000	J

Roy F. Weston, Inc. - Lionville Laboratory
PCBs by GC

RFW Batch Number: 9106L749 Client: WESTINGHOUSE HANFORD Work Order: 6168-02-01-0000 Report Date: 06/10/91 11:39 Page: 1

	Cust ID:	BOOYB8	BOOYB8	BOOYB8	BOOYC0	BOOYC1	BOOYC2
Sample Information	RFW#:	001	001 MS	001 MSD	002	003	004
	Matrix:	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	D.F.:	25.0	25.0	25.0	25.0	5.00	50.0
	Units:	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg
Surrogate: Di-n-butylchlorendate		D %	D %	D %	D %	96 %	D %
Aroclor-1016		2100 U	2000 U	2000 U	2100 U	410 U	3900 U
Aroclor-1221		2100 U	2000 U	2000 U	2100 U	410 U	3900 U
Aroclor-1232		2100 U	2000 U	2000 U	2100 U	410 U	3900 U
Aroclor-1242		2100 U	2000 U	2000 U	2100 U	410 U	3900 U
Aroclor-1248		2100 U	2000 U	2000 U	2100 U	410 U	3900 U
Aroclor-1254		4200 U	D %	D %	4200 U	820 U	7800 U
Aroclor-1260		4200 U	4000 U	3900 U	4200 U	820 U	7800 U

	Cust ID:	BOOYC4	BOOYC5	PBLK	PBLK BS
Sample Information	RFW#:	005	006	91LE0715-MB1	91LE0715-MB1
	Matrix:	SOIL	SOIL	SOIL	SOIL
	D.F.:	2.50	25.0	0.500	0.500
	Units:	ug/Kg	ug/Kg	ug/Kg	ug/Kg
Surrogate: Di-n-butylchlorendate		117 %	D %	98 %	93 %
Aroclor-1016		210 U	1900 U	40 U	40 U
Aroclor-1221		210 U	1900 U	40 U	40 U
Aroclor-1232		210 U	1900 U	40 U	40 U
Aroclor-1242		210 U	1900 U	40 U	40 U
Aroclor-1248		210 U	1900 U	40 U	40 U
Aroclor-1254		410 U	3900 U	80 U	91 %
Aroclor-1260		410 U	3900 U	80 U	80 U

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

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5A

ROY F. WESTON, INC.
Lionville Laboratory

CLIENT: WESTINGHOUSE HANFORD **SAMPLES RECEIVED:** 05-31-91
RFW #: 9106L749, PEST/PCB
W.O. #: 6168-02-01

NARRATIVE

The set of samples consisted of six (6) soil samples collected on 05-28-91.

The samples were extracted on 06-03-91 and analyzed according to criteria set forth in the Contract Laboratory Program for Pesticide and PCB target compounds on 06-07,08-91.

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

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

2. For continuing calibration standards analyzed prior to the sample extracts, the criteria were exceeded for the following non-target compounds:

Compound	Column	Date/Time of Analysis
Beta-BHC	SP2250/2401	06-07-91 at 08:27
Endrin	SP2250/2401	06-07-91 at 08:27
Endrin	SP2250/2401	06-07-91 at 18:55
Endrin	SP2100	06-07-91 at 08:30

3. Retention time criteria were met for all compounds on both the primary and confirmation columns.

4. All obtainable surrogate recoveries were within EPA QC limits. Several surrogate recoveries could not be obtained due to the dilution required for analyses.

5. The blank spike recovery was within EPA QC limits.

6. The matrix spike recoveries could not be obtained due to the dilutions required for analyses.

WESTON

7. The following samples required dilution because they contained high levels of non-target compounds:

Sample ID	Dilution Factor
B00YB8, MS, MSD	50
B00YC0	50
B00YC1	10
B00YC2	100
B00YC4	5
B00YC5	50

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

6/14/91
Date

1D

PESTICIDE ORGANICS ANALYSIS SHEET

0000013

CLIENT SAMPLE NO.

BOOYB8

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

Client: WESTINGHOUSE HANFORD

Matrix: SOIL

Lab Sample ID: 9106L749-001

Sample wt/vol: 29.8 (g/mL) G

Lab File ID: 06069103.54

Level: (low/med) LOW

Date Received: 05/31/91

% Moisture: not dec. 3 dec.

Date Extracted: 06/03/91

Extraction: (SepF/Cont/Sonc) SONC

Date Analyzed: 06/07/91

GPC Cleanup: (Y/N) N pH: 6.6

Dilution Factor: 25.0

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

CAS NO.	COMPOUND		
12674-11-2	Aroclor-1016	2100	U
11104-28-2	Aroclor-1221	2100	U
11141-16-5	Aroclor-1232	2100	U
53469-21-9	Aroclor-1242	2100	U
12672-29-6	Aroclor-1248	2100	U
11097-69-1	Aroclor-1254	4200	U
11096-82-5	Aroclor-1260	4200	U

6/10/91

FORM 1 PEST

12/88 Rev.

1D
PESTICIDE ORGANICS ANALYSIS SHEET

0000020

CLIENT SAMPLE NO.

BOOYCO

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

Client: WESTINGHOUSE HANFORD

Matrix: SOIL

Lab Sample ID: 9106L749-002

Sample wt/vol: 29.5 (g/mL) G

Lab File ID: 06069103.55

Level: (low/med) LOW

Date Received: 05/31/91

% Moisture: not dec. 4 dec.

Date Extracted: 06/03/91

Extraction: (SepF/Cont/Sonc) SONC

Date Analyzed: 06/08/91

GPC Cleanup: (Y/N) N pH: 6.8

Dilution Factor: 25.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg	
12674-11-2	Aroclor-1016	2100	U
11104-28-2	Aroclor-1221	2100	U
11141-16-5	Aroclor-1232	2100	U
53469-21-9	Aroclor-1242	2100	U
12672-29-6	Aroclor-1248	2100	U
11097-69-1	Aroclor-1254	4200	U
11096-82-5	Aroclor-1260	4200	U

6/10/91

FORM 1 PEST 12/88 Rev.

1D
PESTICIDE ORGANICS ANALYSIS SHEET 0000027

CLIENT SAMPLE NO.

BOOYC1

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

Client: WESTINGHOUSE HANFORD

Matrix: SOIL

Lab Sample ID: 9106L749-003

Sample wt/vol: 30.2 (g/mL) G

Lab File ID: 06069103.56

Level: (low/med) LOW

Date Received: 05/31/91

% Moisture: not dec. 3 dec.

Date Extracted: 06/03/91

Extraction: (SepF/Cont/Sonc) SONC

Date Analyzed: 06/08/91

GPC Cleanup: (Y/N) N pH: 4.6

Dilution Factor: 5.00

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

CAS NO.	COMPOUND		
12674-11-2	Aroclor-1016	410	U
11104-28-2	Aroclor-1221	410	U
11141-16-5	Aroclor-1232	410	U
53469-21-9	Aroclor-1242	410	U
12672-29-6	Aroclor-1248	410	U
11097-69-1	Aroclor-1254	820	U
11096-82-5	Aroclor-1260	820	U

6/10/91

FORM 1 PEST 12/88 Rev.

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PESTICIDE ORGANICS ANALYSIS SHEET 0000032

CLIENT SAMPLE NO.

BOOYC2

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

Client: WESTINGHOUSE HANFORD

Matrix: SOIL

Lab Sample ID: 9106L749-004

Sample wt/vol: 32.1 (g/mL) G

Lab File ID: 06069103.41

Level: (low/med) LOW

Date Received: 05/31/91

% Moisture: not dec. 5 dec.

Date Extracted: 06/03/91

Extraction: (SepF/Cont/Sonc) SONC

Date Analyzed: 06/07/91

GPC Cleanup: (Y/N) N pH: 4.6

Dilution Factor: 50.0

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

CAS NO.	COMPOUND		
12674-11-2	Aroclor-1016	3900	U
11104-28-2	Aroclor-1221	3900	U
11141-16-5	Aroclor-1232	3900	U
53469-21-9	Aroclor-1242	3900	U
12672-29-6	Aroclor-1248	3900	U
11097-69-1	Aroclor-1254	7800	U
11096-82-5	Aroclor-1260	7800	U

6/10/91

FORM 1 PEST 12/88 Rev.

1D
PESTICIDE ORGANICS ANALYSIS SHEET 0000037

CLIENT SAMPLE NO.

BOOYC4

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

Client: WESTINGHOUSE HANFORD

Matrix: SOIL

Lab Sample ID: 9106L749-005

Sample wt/vol: 30.3 (g/mL) G

Lab File ID: 06069103.60

Level: (low/med) LOW

Date Received: 05/31/91

% Moisture: not dec. 4 dec.

Date Extracted: 06/03/91

Extraction: (SepF/Cont/Sonc) SONC

Date Analyzed: 06/08/91

GPC Cleanup: (Y/N) N pH: 5.1

Dilution Factor: 2.50

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

CAS NO.	COMPOUND		
12674-11-2	Aroclor-1016	210	U
11104-28-2	Aroclor-1221	210	U
11141-16-5	Aroclor-1232	210	U
53469-21-9	Aroclor-1242	210	U
12672-29-6	Aroclor-1248	210	U
11097-69-1	Aroclor-1254	410	U
11096-82-5	Aroclor-1260	410	U

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6/10/91

FORM 1 PEST 12/88 Rev.

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PESTICIDE ORGANICS ANALYSIS SHEET

0000044

CLIENT SAMPLE NO.

BOOYC5

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

Client: WESTINGHOUSE HANFORD

Matrix: SOIL

Lab Sample ID: 9106L749-006

Sample wt/vol: 32.4 (g/mL) G

Lab File ID: 06069103.61

Level: (low/med) LOW

Date Received: 05/31/91

% Moisture: not dec. 5 dec.

Date Extracted: 06/03/91

Extraction: (SepF/Cont/Sonc) SONC

Date Analyzed: 06/08/91

GPC Cleanup: (Y/N) N pH: 5.8

Dilution Factor: 25.0

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

CAS NO.	COMPOUND		
12674-11-2	Aroclor-1016	1900	U
11104-28-2	Aroclor-1221	1900	U
11141-16-5	Aroclor-1232	1900	U
53469-21-9	Aroclor-1242	1900	U
12672-29-6	Aroclor-1248	1900	U
11097-69-1	Aroclor-1254	3900	U
11096-82-5	Aroclor-1260	3900	U

M 6/10/91

FORM 1 PEST 12/88 Rev.

ROY F. WESTON, INC.
Lionville Laboratory

CLIENT: WESTINGHOUSE HANFORD **SAMPLES RECEIVED:** 05-31-91
RFW #: 9106L749
W.O. #: 6168-02-01

INORGANIC NARRATIVE

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 for water samples.

2. Preparation blanks were analyzed below the required detection limit with the exception of chloride.

3. Laboratory control standards (blank spikes) were within the control limits of 80-120% with the exception of sulfate.

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 in the Inorganics Accuracy Report contained within this document. All recoveries were within the 75-125% guidance limit.

5. Replicate results are summarized on the Inorganic Precision report contained within this document. Results were within the 20% RPD guidance limit with the exception of nitrate and sulfate.

6. 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).

JUN 1991 RECEIVED DATA RECEIPT

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

6.17.91
Date

pas.21\16-749

1-26-97-43

ROY F. WESTON INC.

INORGANICS DATA SUMMARY REPORT 06/17/91

CLIENT: WESTINGHOUSE HANFORD
WORK ORDER: 6168-02-01-0000

WESTON BATCH #: 9106L749

SAMPLE	SITE ID	ANALYTE	RESULT		UNITS	REPORTING LIMIT
-001	BOOYB8	% Solids	98.4		%	0.10
		Chloride by IC	81.0		mg/kg	1.3
		Fluoride by IC	2.6	u	mg/kg	2.6
		Nitrite by IC	1.3	u	mg/kg	1.3
		Nitrate by IC	9.8		mg/kg	1.3
		Phosphate by IC	13.8		mg/kg	1.3
		Sulfate by IC	25.3		mg/kg	1.3
-002	BOOYC0	% Solids	96.7		%	0.10
		Chloride by IC	82.0		mg/kg	1.3
		Fluoride by IC	2.6	u	mg/kg	2.6
		Nitrite by IC	1.3	u	mg/kg	1.3
		Nitrate by IC	26.3		mg/kg	1.3
		Phosphate by IC	17.1		mg/kg	1.3
		Sulfate by IC	94.7		mg/kg	1.3
-003	BOOYC1	% Solids	97.3		%	0.10
		Chloride by IC	196		mg/kg	13.2
		Fluoride by IC	2.6	u	mg/kg	2.6
		Nitrite by IC	1.3	u	mg/kg	1.3
		Nitrate by IC	1.3	u	mg/kg	1.3
		Phosphate by IC	1.3	u	mg/kg	1.3
		Sulfate by IC	1.3	u	mg/kg	1.3
-004	BOOYC2	% Solids	95.9		%	0.10
		Chloride by IC	384		mg/kg	13.1
		Fluoride by IC	2.6	u	mg/kg	2.6
		Nitrite by IC	1.3	u	mg/kg	1.3
		Nitrate by IC	1.3	u	mg/kg	1.3
		Phosphate by IC	1.3	u	mg/kg	1.3
		Sulfate by IC	1.3	u	mg/kg	1.3
-005	BOOYC4	% Solids	97.0		%	0.10
		Chloride by IC	678		mg/kg	13.4
		Fluoride by IC	2.7	u	mg/kg	2.7
		Nitrite by IC	1.3	u	mg/kg	1.3
		Nitrate by IC	1.3	u	mg/kg	1.3
		Phosphate by IC	1.3	u	mg/kg	1.3
		Sulfate by IC	1.7		mg/kg	1.3
-006	BOOYC5	% Solids	95.2		%	0.10

ROY F. WESTON INC.

INORGANICS DATA SUMMARY REPORT 06/17/91

CLIENT: WESTINGHOUSE HANFORD
WORK ORDER: 6168-02-01-0000

WESTON BATCH #: 9106L749

SAMPLE	SITE ID	ANALYTE	RESULT		UNITS	REPORTING LIMIT
-006	BOOYC5	Chloride by IC	189		mg/kg	13.4
		Fluoride by IC	2.7	u	mg/kg	2.7
		Nitrite by IC	1.3	u	mg/kg	1.3
		Nitrate by IC	1.3	u	mg/kg	1.3
		Phosphate by IC	2.8		mg/kg	1.3
		Sulfate by IC	1.3	u	mg/kg	1.3

~~to SEP 9-7-94~~ fmw 9-8-94

9106L748

RADIOACTIVE SAMPLE EVALUATION

0000012 [redacted] 1 758

I. Sample Custodian: C. PIPER **RFW Batch #** _____ **DATE:** 5-31-91

Package received from:

Client: WESTINGHOUSE Location: Hanford, Wa

Mode of Transport: __ UPS __ Fed EX X Other Emery Worldwide

DOT labels: __ Radioactive White I __ Radioactive Yellow II __ Radioactive Yellow III __ Other _____

Transport Index: 2470249558 **Security Seal:** X Yes __ No

II. Package Survey:

Gamma instrument make, model, serial #: LUDLUM MODEL 19 444415
Calibration date: 2-26-90

Source response check: Th-228
Source type and ID #: 3644-2 Response 160 microR/hr

Package Survey: (microR/hr) max. reading: 5 **Background:** 3

III. Sample Container Measurements:

Alpha instrument make, model, serial #: LUDLUM MODEL 43-5 58660
Calibration Date: [illegible] Efficiency factor: 9.42 dpm/cpm

Source Response Check: Th-230
Source type and ID #: [illegible] Response: 2400 cpm

Gamma instrument make, model, serial #: LUDLUM MODEL 19 58099
Calibration Date: [illegible] Gamma Background = 4 microR/hr

Source Response Check:
Source type and ID#: [illegible] 018590 Response: 800 microR/hr

Sample ID	Form (liq or sol)	RFW ID Batch	Gamma microR/hr	Alpha cpm	Alpha eff. fact	Alpha dpm	uCi/g	Mass (g)	uCi
300797	SOL		4	0			.0356		
98			4	0			.0165		
99			4	0			.0258		
B3			4	0			.0317		
B4			4	0			.0132		
B5			4	0			.0168		
B6			4	0			.0165		
B8			4	0			.0226		
B9			4	0			.0197		
C0			4	0			.0323		
C1			4	0			.0227		

RFW 21-21-013/A-05/91

NOT RADIOACTIVE CSP 5-31-91

91061748

RADIOACTIVE SAMPLE EVALUATION

750

I. Sample Custodian: C Piper RFW Batch # 00000013 DATE: 5-31-91

Package received from:

Client: Westinghouse Location: Hanford, Wa

Mode of Transport: __ UPS __ Fed EX X Other Emery Worldwide

DOT labels: __ Radioactive White I __ Radioactive Yellow II
__ Radioactive Yellow III __ Other _____

Transport Index: 2[illegible]9558 Security Seal: X Yes __ No

II. Package Survey:

Gamma instrument make, model, serial #: LUDLUM MODEL 19 44415
Calibration date: [illegible]

Source response check: Th-228
Source type and ID #: 3644-2 Response 160 microR/hr

Package Survey: (microR/hr) max. reading: 5 Background: 3

III. Sample Container Measurements:

Alpha instrument make, model, serial #: LUDLUM MODEL 43-5 58660
Calibration Date: [illegible] Efficiency factor: 9.42 dpm/cpm

Source Response Check: Th-230
Source type and ID #: [illegible] Response: 2400 cpm

Gamma instrument make, model, serial #: LUDLUM MODEL 19 58099
Calibration Date: [illegible] Gamma Background = 4 microR/hr

Source Response Check:
Source type and ID#: [illegible] 6018500 Response: 800 microR/hr

Sample ID	Form (liq or sol)	RFW ID Batch	Gamma microR/hr	Alpha cpm	Alpha eff. fact	Alpha dpm	nCi/g	Mass (g)	nCi
B00CC2	COC		4	0			.0427		
C3			4	0			.0097		
C4			4	0			.0032		
C5			4	0			.0221		
C6			4	0			0.0		
C7			4	0			.0201		
C8			4	0			.0063		
C9			4	0			.0197		
D0			4	0			.0158		
B0			4	0			0.0		
B1			4	0			.0168		

RFW 31-21-013/A-05/91

NOT RADIOACTIVE CSP 5-31-91

9106L748

RADIOACTIVE SAMPLE EVALUATION

000014

I. Sample Custodian: C. PIPER RFW Batch # _____ DATE: 5-31-91

Package received from:

Client: WESTINGHOUSE Location: HANFORD, WA

Mode of Transport: __ UPS __ Fed EX X Other EMERY WAREHOUSE

DOT labels: __ Radioactive White I __ Radioactive Yellow II
__ Radioactive Yellow III __ Other _____

Transport Index: 242 424 9558 Security Seal: X Yes __ No

II. Package Survey:

Gamma instrument make, model, serial #: LUDLUM MODEL 19 44415
Calibration date: 8-28-90

Source response check: Th-228
Source type and ID #: 3644-2 Response 160 microR/hr

Package Survey: (microR/hr) max. reading: 5 Background: 3

III. Sample Container Measurements:

Alpha instrument make, model, serial #: LUDLUM MODEL 43-558660
Calibration Date: [illegible] Efficiency factor: 9.42 dpm/cpm

Source Response Check: Th-230
Source type and ID #: Sn-10959 Response: 2400 cpm

Gamma instrument make, model, serial #: LUDLUM MODEL 19 58099
Calibration Date: [illegible] Gamma Background = 4 microR/hr

Source Response Check:
Source type and ID#: Cs-137-401800 Response: 800 microR/hr

Sample ID	Form (liq or sol)	RFW ID Batch	Gamma microR/hr	Alpha cpm	Alpha eff. fact	Alpha dpm	nCi/g	Meas. (g)	nCi
B00Y32	SOL		4	0			.0342		
B00X54	LIQ		4	0			0		
Q9			4	0			.0010		
S1			4	0			.0003		
R8			4	0			0		

CSP 5-31-91

RFW 21-21-013/X-03/91

NOT RADIOACTIVE CSP 5-31-91

WESTON

Roy F. Weston, INC.
Lionville Laboratory

CLIENT:WESTINGHOUSE HANFORD **SAMPLES RECEIVED:5/31/91**
RFW #:9106L749
W.O.#:6168-02-01

METALS NARRATIVE

The set of samples consisted of (6) soil samples collected on 5/28/91.

The samples were analyzed according to criteria set forth in CLP SOW 7/87.

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.

   Note: The USEPA has dropped control limits for antimony and silver due to documented difficulties in obtaining reliable results. WESTON Analytics has adopted the same policy.

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

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

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

Date

1

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

BOOYB8

Lab Name:Roy F. Weston, Inc. Contract:6168-02-01

Lab Code:WESTON Case No:WEST SAS No.: SDG No.:CLP749

Matrix (soil/water):SOIL Lab Sample ID:9106749001

Level (low/med): LOW Date Received:05/31/91

% Solids: 98.4

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	3000		E	P
7440-36-0	Antimony	3.80	U	N	P
7440-38-2	Arsenic				
7440-39-3	Barium	59.3		E	P
7440-41-7	Beryllium	0.200	B		P
7440-43-9	Cadmium	0.799	U		P
7440-70-2	Calcium	3310		E	P
7440-47-3	Chromium	0.599	U		P
7440-48-4	Cobalt	6.40	B		P
7440-50-8	Copper	8.90			P
7439-89-6	Iron	11800		E	P
7439-92-1	Lead				
7439-95-4	Magnesium	2110		E	P
7439-96-5	Manganese	229		E	P
7439-97-6	Mercury				
7440-02-0	Nickel	6.10	B		P
7440-09-7	Potassium	703	B		P
7782-49-2	Selenium				
7440-22-4	Silver	3.10			P
7440-23-5	Sodium	71.3	B		P
7440-28-0	Thallium				
7440-62-2	Vanadium	9.90	B		P
7440-66-6	Zinc	42.8			P
	Cyanide				

Color Before:BROWN Clarity Before: Texture:FINE

Color After: BROWN Clarity After: Artifacts:

Comments:

U.S. EPA - CLP

1

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

BOOYCO

Lab Name:Roy F. Weston, Inc. Contract:6168-02-01

Lab Code:WESTON Case No:WEST SAS No.: SDG No.:CLP749

Matrix (soil/water):SOIL Lab Sample ID:9106749002

Level (low/med): LOW Date Received:05/31/91

% Solids: 96.7

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	3300		E	P
7440-36-0	Antimony	3.65	U	N	P
7440-38-2	Arsenic				
7440-39-3	Barium	62.6		E	P
7440-41-7	Beryllium	0.192	U		P
7440-43-9	Cadmium	0.769	U		P
7440-70-2	Calcium	3560		E	P
7440-47-3	Chromium	0.577	U		P
7440-48-4	Cobalt	7.20	B		P
7440-50-8	Copper	13.0			P
7439-89-6	Iron	13200		E	P
7439-92-1	Lead				
7439-95-4	Magnesium	2330		E	P
7439-96-5	Manganese	251		E	P
7439-97-6	Mercury				
7440-02-0	Nickel	8.90			P
7440-09-7	Potassium	867	B		P
7782-49-2	Selenium				
7440-22-4	Silver	2.50			P
7440-23-5	Sodium	80.9	B		P
7440-28-0	Thallium				
7440-62-2	Vanadium	11.0			P
7440-66-6	Zinc	63.1			P
	Cyanide				

Color Before:BROWN Clarity Before: Texture:FINE

Color After: BROWN Clarity After: Artifacts:

Comments:

FORM I - IN

U.S. EPA - CLP

1

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

BOOYC1

Lab Name:Roy F. Weston, Inc. Contract:6168-02-01

Lab Code:WESTON Case No:WEST SAS No.: SDG No.:CLP749

Matrix (soil/water):SOIL Lab Sample ID:9106749003

Level (low/med): LOW Date Received:05/31/91

% Solids: 97.3

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	1400		E	P
7440-36-0	Antimony	3.32	U	N	P
7440-38-2	Arsenic				
7440-39-3	Barium	21.9	B	E	P
7440-41-7	Beryllium	0.175	U		P
7440-43-9	Cadmium	0.700	U		P
7440-70-2	Calcium	2680		E	P
7440-47-3	Chromium	0.525	U		P
7440-48-4	Cobalt	3.60	B		P
7440-50-8	Copper	6.10			P
7439-89-6	Iron	11500		E	P
7439-92-1	Lead				
7439-95-4	Magnesium	1190		E	P
7439-96-5	Manganese	82.1		E	P
7439-97-6	Mercury				
7440-02-0	Nickel	2.30	B		P
7440-09-7	Potassium	176	U		P
7782-49-2	Selenium				
7440-22-4	Silver	2.50			P
7440-23-5	Sodium	67.4	B		P
7440-28-0	Thallium				
7440-62-2	Vanadium	1.90	B		P
7440-66-6	Zinc	12.6			P
	Cyanide				

Color Before:BROWN Clarity Before: Texture:FINE

Color After: BROWN Clarity After: Artifacts:

Comments:

U.S. EPA - CLP

1

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

BOOYC2

Lab Name:Roy F. Weston, Inc. Contract:6168-02-01

Lab Code:WESTON Case No:WEST SAS No.: SDG No.:CLP749

Matrix (soil/water):SOIL Lab Sample ID:9106749004

Level (low/med): LOW Date Received:05/31/91

% Solids: 95.9

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	1460		E	P
7440-36-0	Antimony	3.91	U	N	P
7440-38-2	Arsenic				
7440-39-3	Barium	21.0	B	E	P
7440-41-7	Beryllium	0.206	U		P
7440-43-9	Cadmium	0.822	U		P
7440-70-2	Calcium	2260		E	P
7440-47-3	Chromium	0.617	U		P
7440-48-4	Cobalt	3.60	B		P
7440-50-8	Copper	6.10			P
7439-89-6	Iron	9360		E	P
7439-92-1	Lead				
7439-95-4	Magnesium	1150		E	P
7439-96-5	Manganese	81.8		E	P
7439-97-6	Mercury				
7440-02-0	Nickel	3.00	B		P
7440-09-7	Potassium	226	B		P
7782-49-2	Selenium				
7440-22-4	Silver	2.30			P
7440-23-5	Sodium	72.2	B		P
7440-28-0	Thallium				
7440-62-2	Vanadium	2.80	B		P
7440-66-6	Zinc	10.7			P
	Cyanide				

Color Before:BROWN Clarity Before: Texture:FINE

Color After: BROWN Clarity After: Artifacts:

Comments:

U.S. EPA - CLP

1

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

BOOYC4

Lab Name:Roy F. Weston, Inc. Contract:6168-02-01

Lab Code:WESTON Case No:WEST SAS No.: SDG No.:CLP749

Matrix (soil/water):SOIL Lab Sample ID:9106749005

Level (low/med): LOW Date Received:05/31/91

% Solids: 97.0

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	1900		E	P
7440-36-0	Antimony	3.03	U	N	P
7440-38-2	Arsenic				
7440-39-3	Barium	28.8	B	E	P
7440-41-7	Beryllium	0.159	U		P
7440-43-9	Cadmium	0.638	U		P
7440-70-2	Calcium	2970		E	P
7440-47-3	Chromium	0.478	U		P
7440-48-4	Cobalt	4.60	B		P
7440-50-8	Copper	7.80			P
7439-89-6	Iron	9490		E	P
7439-92-1	Lead				
7439-95-4	Magnesium	1590		E	P
7439-96-5	Manganese	111		E	P
7439-97-6	Mercury				
7440-02-0	Nickel	3.80	B		P
7440-09-7	Potassium	300	B		P
7782-49-2	Selenium				
7440-22-4	Silver	2.20			P
7440-23-5	Sodium	79.3	B		P
7440-28-0	Thallium				
7440-62-2	Vanadium	5.70	B		P
7440-66-6	Zinc	13.7			P
	Cyanide				

Color Before:BROWN Clarity Before: Texture:FINE

Color After: BROWN Clarity After: Artifacts:

Comments:

U.S. EPA - CLP

1

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

BOOYC5

Lab Name:Roy F. Weston, Inc. Contract:6168-02-01

Lab Code:WESTON Case No:WEST SAS No.: SDG No.:CLP749

Matrix (soil/water):SOIL Lab Sample ID:9106749006

Level (low/med): LOW Date Received:05/31/91

% Solids: 95.2

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	2050		E	P
7440-36-0	Antimony	3.32	U	N	P
7440-38-2	Arsenic				
7440-39-3	Barium	39.3		E	P
7440-41-7	Beryllium	0.175	U		P
7440-43-9	Cadmium	0.698	U		P
7440-70-2	Calcium	3430		E	P
7440-47-3	Chromium	0.524	U		P
7440-48-4	Cobalt	5.70	B		P
7440-50-8	Copper	8.30			P
7439-89-6	Iron	8810		E	P
7439-92-1	Lead				
7439-95-4	Magnesium	1720		E	P
7439-96-5	Manganese	152		E	P
7439-97-6	Mercury				
7440-02-0	Nickel	4.10	B		P
7440-09-7	Potassium	282	B		P
7782-49-2	Selenium				
7440-22-4	Silver	1.50	B		P
7440-23-5	Sodium	83.1	B		P
7440-28-0	Thallium				
7440-62-2	Vanadium	7.50	B		P
7440-66-6	Zinc	19.5			P
	Cyanide				

Color Before:BROWN Clarity Before: Texture:FINE

Color After: BROWN Clarity After: Artifacts:

Comments:

Roy F. Weston, INC.
Lionville Laboratory

CLIENT: WESTINGHOUSE HANFORD **SAMPLES RECEIVED:** 5/31/91
RFW #: 9106L749
W.O. #: 6168-02-01

METALS NARRATIVE

The set of samples consisted of six (6) soil samples collected on 5/28/91.

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 Sb. All corresponding samples were flagged with an "N" according to CLP protocol.
7. All duplicate analyses were within the 20% RPD control limit.
8. Quarterly Detection Limits for IC2 are included in this package.

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

10.22.91.
Date

pas\ clp-met.nar

1

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

BOOYB8

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

Lab Code: WESTON Case No.: WEST SAS No.: SDG No.: CLP749

Matrix (soil/water): SOIL Lab Sample ID: 910674901

Level (low/med): LOW Date Received: 5/31/91

% Solids: 98.4

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	3000.00		E	P
7440-36-0	Antimony	3.80	U	N	P
7440-38-2	Arsenic				NR
7440-39-3	Barium	59.30		E	P
7440-41-7	Beryllium	.20	B		P
7440-43-9	Cadmium	.80	U		P
7440-70-2	Calcium	3310.00		E	P
7440-47-3	Chromium	.60	U		P
7440-48-4	Cobalt	6.40	B		P
7440-50-8	Copper	8.90			P
7439-89-6	Iron	-11800.00		E	P
7439-92-1	Lead				NR
7439-95-4	Magnesium	2110.00		E	P
7439-96-5	Manganese	229.00		E	P
7439-97-6	Mercury				NR
7440-02-0	Nickel	6.10	B		P
7440-09-7	Potassium	703.00	B		P
7782-49-2	Selenium				NR
7440-22-4	Silver	3.10			P
7440-23-5	Sodium	71.30	B		P
7440-28-0	Thallium				NR
7440-62-2	Vanadium	9.90	B		P
7440-66-6	Zinc	42.80			P
	Cyanide				NR

Color Before: BROWN Clarity Before: Texture: FINE

Color After: BROWN Clarity After: Artifacts:

Comments:

BEST AVAILABLE COPY

EPA SAMPLE NO.

1

INORGANIC ANALYSIS DATA SHEET

BOOYC0-

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

Lab Code: WESTON Case No.: WEST SAS No.: SDG No.: CLP749

Matrix (soil/water): SOIL Lab Sample ID: 910674902

Level (low/med): LOW Date Received: 5/31/91

% Solids: 96.7

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	3300.00		E	P
7440-36-0	Antimony	3.65	U	N	P
7440-38-2	Arsenic				NR
7440-39-3	Barium	62.60		E	P
7440-41-7	Beryllium	.19	U		P
7440-43-9	Cadmium	.77	U		P
7440-70-2	Calcium	3560.00		E	P
7440-47-3	Chromium	.58	U		P
7440-48-4	Cobalt	7.20	B		P
7440-50-8	Copper	13.00			P
7439-89-6	Iron	13200.00		E	P
7439-92-1	Lead				NR
7439-95-4	Magnesium	2330.00		E	P
7439-96-5	Manganese	251.00		E	P
7439-97-6	Mercury				NR
7440-02-0	Nickel	8.90			P
7440-09-7	Potassium	867.00	B		P
7782-49-2	Selenium				NR
7440-22-4	Silver	2.50			P
7440-23-5	Sodium	80.90	B		P
7440-28-0	Thallium				NR
7440-62-2	Vanadium	11.00			P
7440-66-6	Zinc	63.10			P
	Cyanide				NR

Color Before: BROWN Clarity Before: Texture: FINE

Color After: BROWN Clarity After: Artifacts:

Comments:

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1

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

BOOYC1

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

Lab Code: WESTON Case No.: WEST SAS No.: SDG No.: CLP749

Matrix (soil/water): SOIL Lab Sample ID: 910674903

Level (low/med): LOW Date Received: 5/31/91

% Solids: 97.3

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	1400.00		E	P
7440-36-0	Antimony	3.32	U	N	P
7440-38-2	Arsenic				NR
7440-39-3	Barium	21.90	B	E	P
7440-41-7	Beryllium	.18	U		P
7440-43-9	Cadmium	.70	U		P
7440-70-2	Calcium	2680.00		E	P
7440-47-3	Chromium	.52	U		P
7440-48-4	Cobalt	3.60	B		P
7440-50-8	Copper	6.10			P
7439-89-6	Iron	11500.00		E	P
7439-92-1	Lead				NR
7439-95-4	Magnesium	1190.00		E	P
7439-96-5	Manganese	82.10		E	P
7439-97-6	Mercury				NR
7440-02-0	Nickel	2.30	B		P
7440-09-7	Potassium	176.00	U		P
7782-49-2	Selenium				NR
7440-22-4	Silver	2.50			P
7440-23-5	Sodium	67.40	B		P
7440-28-0	Thallium				NR
7440-62-2	Vanadium	1.90	B		P
7440-66-6	Zinc	12.60			P
	Cyanide				NR

Color Before: BROWN Clarity Before: Texture: FINE

Color After: BROWN Clarity After: Artifacts:

Comments:

BEST AVAILABLE COPY

U.S. EPA - CLP

1

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

BOOYC2

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

Lab Code: WESTON Case No.: WEST SAS No.: SDG No.: CLP749

Matrix (soil/water): SOIL Lab Sample ID: 910674904

Level (low/med): LOW Date Received: 5/31/91

% Solids: 95.9

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	1460.00		E	P
7440-36-0	Antimony	3.91	U	N	P
7440-38-2	Arsenic				NR
7440-39-3	Barium	21.00	B	E	P
7440-41-7	Beryllium	.21	U		P
7440-43-9	Cadmium	.82	U		P
7440-70-2	Calcium	2260.00		E	P
7440-47-3	Chromium	.62	U		P
7440-48-4	Cobalt	3.60	B		P
7440-50-8	Copper	6.10			P
7439-89-6	Iron	9360.00		E	P
7439-92-1	Lead				NR
7439-95-4	Magnesium	1150.00		E	P
7439-96-5	Manganese	81.80		E	P
7439-97-6	Mercury				NR
7440-02-0	Nickel	3.00	B		P
7440-09-7	Potassium	226.00	B		P
7782-49-2	Selenium				NR
7440-22-4	Silver	2.30			P
7440-23-5	Sodium	72.20	B		P
7440-28-0	Thallium				NR
7440-62-2	Vanadium	2.80	B		P
7440-66-6	Zinc	10.70			P
	Cyanide				NR

Color Before: BROWN Clarity Before: Texture: FINE

Color After: BROWN Clarity After: Artifacts:

Comments:

BEST AVAILABLE COPY

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1

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

BOOYC4 -

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

Lab Code: WESTON Case No.: WEST SAS No.: SDG No.: CLP749

Matrix (soil/water): SOIL Lab Sample ID: 910674905

Level (low/med): LOW Date Received: 5/31/91

% Solids: 97.0

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	1900.00		E	P
7440-36-0	Antimony	3.03	U	N	P
7440-38-2	Arsenic				NR
7440-39-3	Barium	28.80	B	E	P
7440-41-7	Beryllium	.16	U		P
7440-43-9	Cadmium	.64	U		P
7440-70-2	Calcium	2970.00		E	P
7440-47-3	Chromium	.48	U		P
7440-48-4	Cobalt	4.60	B		P
7440-50-8	Copper	7.80			P
7439-89-6	Iron	9490.00		E	P
7439-92-1	Lead				NR
7439-95-4	Magnesium	1590.00		E	P
7439-96-5	Manganese	111.00		E	P
7439-97-6	Mercury				NR
7440-02-0	Nickel	3.80	B		P
7440-09-7	Potassium	300.00	B		P
7782-49-2	Selenium				NR
7440-22-4	Silver	2.20			P
7440-23-5	Sodium	79.30	B		P
7440-28-0	Thallium				NR
7440-62-2	Vanadium	5.70	B		P
7440-66-6	Zinc	13.70			P
	Cyanide				NR

Color Before: BROWN Clarity Before: Texture: FINE

Color After: BROWN Clarity After: Artifacts:

Comments:

U.S. EPA - CLP

1

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

BOOYC5

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

Lab Code: WESTON Case No.: WEST SAS No.: SDG No.: CLP749

Matrix (soil/water): SOIL Lab Sample ID: 910674906

Level (low/med): LOW Date Received: 5/31/91

% Solids: 95.2

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	2050.00		E	P
7440-36-0	Antimony	3.32	U	N	P
7440-38-2	Arsenic				NR
7440-39-3	Barium	39.30		E	P
7440-41-7	Beryllium	.18	U		P
7440-43-9	Cadmium	.70	U		P
7440-70-2	Calcium	3430.00		E	P
7440-47-3	Chromium	.52	U		P
7440-48-4	Cobalt	5.70	B		P
7440-50-8	Copper	8.30			P
7439-89-6	Iron	8810.00		E	P
7439-92-1	Lead				NR
7439-95-4	Magnesium	1720.00		E	P
7439-96-5	Manganese	152.00		E	P
7439-97-6	Mercury				NR
7440-02-0	Nickel	4.10	B		P
7440-09-7	Potassium	282.00	B		P
7782-49-2	Selenium				NR
7440-22-4	Silver	1.50	B		P
7440-23-5	Sodium	83.10	B		P
7440-28-0	Thallium				NR
7440-62-2	Vanadium	7.50	B		P
7440-66-6	Zinc	19.50			P
	Cyanide				NR

Color Before: BROWN Clarity Before: Texture: FINE

Color After: BROWN Clarity After: Artifacts:

Comments:

VALIDATION SUMMARY

9106L749-WES-089

Westinghouse
Hanford Company

OSM INORGANIC DATA ASSESSMENT

DATE 7-1-91

REVIEWED BY C.J. Simile

LABORATORY Roy F Weston

CASE #

SDG # 9106L749

SAMPLES/MATRIX B00YB8 B00YC5 - Soils

B00YC0

B00YC1

B00YC2

B00YC4

DATA ASSESSMENT SUMMARY

	ICP	AA	Hg	CN
1. Calibrations (Form II)	X			
2. Blanks (III)	X			
3. ICS (IV)	X			
4. Matrix Spike (V)	O			
5. Duplicate Analysis (VI)	O			
6. LCS (VII)	O			
7. Serial Dilution (IX)	X			
8. GFAA				
9. Holding Times (XIV)	O			
10. Other QC	N/A			

O = data had no problems
X = data qualified due to minor problems
M = data qualified due to major problems/some data may be unusable

OVERALL ASSESSSMENT: Few QC problems in data package, data is good overall.

NOTES: Instrument Run Log and one LCS run not provided with data package.

o Refer to the corresponding attachments for explanation of any problems.

U.S. EPA - CLP 0000007

1

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

BOOYB8

Lab Name:Roy F. Weston, Inc. Contract:6168-02-01

Lab Code:WESTON Case No:WEST SAS No.: SDG No.:CLP749

Matrix (soil/water):SOIL Lab Sample ID:9106749001

Level (low/med): LOW Date Received:05/31/91

% Solids: 98.4

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	3000		E J	P
7440-36-0	Antimony	3.80	U	N	P
7440-38-2	Arsenic				
7440-39-3	Barium	59.3		E J	P
7440-41-7	Beryllium	0.200	B		P
7440-43-9	Cadmium	0.799	U		P
7440-70-2	Calcium	3310		E J	P
7440-47-3	Chromium	0.599	U		P
7440-48-4	Cobalt	6.40	B		P
7440-50-8	Copper	8.90			P
7439-89-6	Iron	11800		E J	P
7439-92-1	Lead				
7439-95-4	Magnesium	2110		E J	P
7439-96-5	Manganese	229		E J	P
7439-97-6	Mercury				
7440-02-0	Nickel	6.10	B	U	P
7440-09-7	Potassium	703	B		P
7782-49-2	Selenium				
7440-22-4	Silver	3.10		U	P
7440-23-5	Sodium	71.3	B		P
7440-28-0	Thallium				
7440-62-2	Vanadium	9.90	B		P
7440-66-6	Zinc	42.8			P
	Cyanide				

7-1-91
CW Sampels

Color Before:BROWN Clarity Before: Texture:FINE

Color After: BROWN Clarity After: Artifacts:

Comments:

FORM I - IN

0000008

U.S. EPA - CLP

1

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

BOOYCO

Lab Name:Roy F. Weston, Inc. Contract:6168-02-01

Lab Code:WESTON Case No:WEST SAS No.: SDG No.:CLP749

Matrix (soil/water):SOIL Lab Sample ID:9106749002

Level (low/med): LOW Date Received:05/31/91

% Solids: 96.7

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	3300		E J	P
7440-36-0	Antimony	3.65	U	N	P
7440-38-2	Arsenic				
7440-39-3	Barium	62.6		E J	P
7440-41-7	Beryllium	0.192	U		P
7440-43-9	Cadmium	0.769	U		P
7440-70-2	Calcium	3560		E J	P
7440-47-3	Chromium	0.577	U		P
7440-48-4	Cobalt	7.20	B		P
7440-50-8	Copper	13.0			P
7439-89-6	Iron	13200		E J	P
7439-92-1	Lead				
7439-95-4	Magnesium	2330		E J	P
7439-96-5	Manganese	251		E J	P
7439-97-6	Mercury				
7440-02-0	Nickel	8.90		U	P
7440-09-7	Potassium	867	B		P
7782-49-2	Selenium				
7440-22-4	Silver	2.50		U	P
7440-23-5	Sodium	80.9	B		P
7440-28-0	Thallium				
7440-62-2	Vanadium	11.0			P
7440-66-6	Zinc	63.1			P
	Cyanide				

7-1-91
CS Simpkins

Color Before:BROWN Clarity Before: Texture:FINE

Color After: BROWN Clarity After: Artifacts:

Comments:

FORM I - IN

0000009

U.S. EPA - CLP

1

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

BOOYC1

Lab Name:Roy F. Weston, Inc. Contract:6168-02-01

Lab Code:WESTON Case No:WEST SAS No.: SDG No.:CLP749

Matrix (soil/water):SOIL Lab Sample ID:9106749003

Level (low/med): LOW Date Received:05/31/91

% Solids: 97.3

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	1400		E J	P
7440-36-0	Antimony	3.32	U	N	P
7440-38-2	Arsenic				
7440-39-3	Barium	21.9	B	E J	P
7440-41-7	Beryllium	0.175	U		P
7440-43-9	Cadmium	0.700	U		P
7440-70-2	Calcium	2680		E J	P
7440-47-3	Chromium	0.525	U		P
7440-48-4	Cobalt	3.60	B		P
7440-50-8	Copper	6.10			P
7439-89-6	Iron	11500		E J	P
7439-92-1	Lead				
7439-95-4	Magnesium	1190		E J	P
7439-96-5	Manganese	82.1		E J	P
7439-97-6	Mercury				
7440-02-0	Nickel	2.30	B	U	P
7440-09-7	Potassium	176	U		P
7782-49-2	Selenium				
7440-22-4	Silver	2.50		U	P
7440-23-5	Sodium	67.4	B		P
7440-28-0	Thallium				
7440-62-2	Vanadium	1.90	B		P
7440-66-6	Zinc	12.6			P
	Cyanide				

7-1-91
[illegible]

Color Before:BROWN Clarity Before: Texture:FINE

Color After: BROWN Clarity After: Artifacts:

Comments:

FORM I - IN

0000010

U.S. EPA - CLP

1

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

BOOYC2

Lab Name:Roy F. Weston, Inc. Contract:6168-02-01

Lab Code:WESTON Case No:WEST SAS No.: SDG No.:CLP749

Matrix (soil/water):SOIL Lab Sample ID:9106749004

Level (low/med): LOW Date Received:05/31/91

% Solids: 95.9

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	1460		EJ	P
7440-36-0	Antimony	3.91	U	N	P
7440-38-2	Arsenic				
7440-39-3	Barium	21.0	B	EJ	P
7440-41-7	Beryllium	0.206	U		P
7440-43-9	Cadmium	0.822	U		P
7440-70-2	Calcium	2260		EJ	P
7440-47-3	Chromium	0.617	U		P
7440-48-4	Cobalt	3.60	B		P
7440-50-8	Copper	6.10			P
7439-89-6	Iron	9360		EJ	P
7439-92-1	Lead				
7439-95-4	Magnesium	1150		EJ	P
7439-96-5	Manganese	81.8		EJ	P
7439-97-6	Mercury				
7440-02-0	Nickel	3.00	B	U	P
7440-09-7	Potassium	226	B		P
7782-49-2	Selenium				
7440-22-4	Silver	2.30		U	P
7440-23-5	Sodium	72.2	B		P
7440-28-0	Thallium				
7440-62-2	Vanadium	2.80	B		P
7440-66-6	Zinc	10.7			P
	Cyanide				

7-1-91
U Surrogate

Color Before:BROWN Clarity Before: Texture:FINE

Color After: BROWN Clarity After: Artifacts:

Comments:

FORM I - IN

0000011

U.S. EPA - CLP

1

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

BOOYC4

Lab Name:Roy F. Weston, Inc. Contract:6168-02-01

Lab Code:WESTON Case No:WEST SAS No.: SDG No.:CLP749

Matrix (soil/water):SOIL Lab Sample ID:9106749005

Level (low/med): LOW Date Received:05/31/91

% Solids: 97.0

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	1900		E J	P
7440-36-0	Antimony	3.03	U	N	P
7440-38-2	Arsenic				
7440-39-3	Barium	28.8	B	E J	P
7440-41-7	Beryllium	0.159	U		P
7440-43-9	Cadmium	0.638	U		P
7440-70-2	Calcium	2970		E J	P
7440-47-3	Chromium	0.478	U		P
7440-48-4	Cobalt	4.60	B		P
7440-50-8	Copper	7.80			P
7439-89-6	Iron	9490		E J	P
7439-92-1	Lead				
7439-95-4	Magnesium	1590		E J	P
7439-96-5	Manganese	111		E J	P
7439-97-6	Mercury				
7440-02-0	Nickel	3.80	B	U	P
7440-09-7	Potassium	300	B		P
7782-49-2	Selenium				
7440-22-4	Silver	2.20		U	P
7440-23-5	Sodium	79.3	B		P
7440-28-0	Thallium				
7440-62-2	Vanadium	5.70	B		P
7440-66-6	Zinc	13.7			P
	Cyanide				

7-1-91
W Simpson

Color Before:BROWN Clarity Before: Texture:FINE

Color After: BROWN Clarity After: Artifacts:

Comments:

FORM I - IN

0000012

U.S. EPA - CLP

1

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

BOOYC5

Lab Name:Roy F. Weston, Inc. Contract:6168-02-01

Lab Code:WESTON Case No:WEST SAS No.: SDG No.:CLP749

Matrix (soil/water):SOIL Lab Sample ID:9106749006

Level (low/med): LOW Date Received:05/31/91

% Solids: 95.2

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	2050		E J	P
7440-36-0	Antimony	3.32	U	N	P
7440-38-2	Arsenic				
7440-39-3	Barium	39.3		E J	P
7440-41-7	Beryllium	0.175	U		P
7440-43-9	Cadmium	0.698	U		P
7440-70-2	Calcium	3430		E J	P
7440-47-3	Chromium	0.524	U		P
7440-48-4	Cobalt	5.70	B		P
7440-50-8	Copper	8.30			P
7439-89-6	Iron	8810		E J	P
7439-92-1	Lead				
7439-95-4	Magnesium	1720		E J	P
7439-96-5	Manganese	152		E J	P
7439-97-6	Mercury				
7440-02-0	Nickel	4.10	B	U	P
7440-09-7	Potassium	282	B		P
7782-49-2	Selenium				
7440-22-4	Silver	1.50	B	U	P
7440-23-5	Sodium	83.1	B		P
7440-28-0	Thallium				
7440-62-2	Vanadium	7.50	B		P
7440-66-6	Zinc	19.5			P
	Cyanide				

7-1-91
CJ Simpkins

Color Before:BROWN Clarity Before: Texture:FINE

Color After: BROWN Clarity After: Artifacts:

Comments:

FORM I - IN

INORGANIC QC - Calibrations

Name C.J. Simiele Date 7-1-91

COMMENTS: All initial and continuing calibration are with in required control limits. No instrument run log provided with data package.

ACTION: None-note, without instrument run log can not determine what sequence analysis was preformed in.

sample #	constituent	value/qual	sample #	constituent	value/qual

INORGANIC QC - Blanks

Name C. J. Simiele Date 7-1-91

COMMENTS: Contaminants detected above the IDL for: Sb(43.2), Ni (9.6); Ag 4.6

ACTION: Qualify associated samples as per OSM guidelines

sample #	constituent	value/qual
BOOYB8	Ni	6.1 u
BOOYB8	Ag	3.1 u
BOOYC0	Ni	8.9 u
↓	Ag	2.5 u
BOOYC1	Ni	2.3 u
↓	Ag	2.5 u
BOOYC2	Ni	3.0 u
↓	Ag	2.3 u
BOOYC4	Ni	3.8 u
↓	Ag	2.2 u
BOOYC5	Ni	4.1 u
↓	Ag	1.5 u

sample #	constituent	value/qual

INORGANIC QC - ICS

Name C.J. Simiele Date 7-1-91

COMMENTS: All results (% recoveries) are within ±20% control limits, but no ICS was provided at the end of the analysis run.

ACTION: None, note that ICS was not provided to bracket analysis.

sample #	constituent	value/qual	sample #	constituent	value/qual

INORGANIC QC - Matrix Spike

Name C.J. Simiele Date 7-1-91

COMMENTS: All matrix spike % recoveries are with in required ±25% control limits with the exception of Sb (106.3%). Sb post digestion % recoveries are with in ±25% control limits

ACTION: None

sample #	constituent	value/qual	sample #	constituent	value/qual

INORGANIC QC - Duplicate Analysis

Name C.J. Simiele Date 7-1-91

COMMENTS: All duplicate RPD results are within ±20% control limits.

ACTION: None

sample #	constituent	value/qual	sample #	constituent	value/qual

INORGANIC QC - LCS

Name C.J. Simiele Date 7-1-91

COMMENTS: All LCS % recovery results are with in ±20% control limits.

ACTION: None

sample #	constituent	value/qual	sample #	constituent	value/qual

INORGANIC QC - Serial Dilution

Name C.J. Simiele Date 7-1-91

COMMENTS: The following have % differences greater than the ±10% control limits: Al (12%), Ba (12.4%); Ca (10.7%); Fe (11.3%); Mg (13.7%) & Mn (11.3%).

ACTION: Qualify all associated samples as per OSM guidelines.

sample #	constituent	value/qual
B00YB8	Al	3000 J
	Ba	59.3 J
	Ca	3310 J
	Fe	11800 J
	Mg	2110 J
	Mn	229 J
00YC0	Al	3300 J
	Ba	62.6 J
	Ca	3560 J
	Fe	13200 J
	Mg	2330 J
	Mn	251 J
00YC1	Al	1400 J
	Ba	21.9 J
	Ca	2680 J
	Fe	11500 J
	Mg	11900 J
	Mn	82.1 J
00YC2	Al	1460 J
	Ba	21 J
	Ca	2260 J
	Fe	9360 J
	Mg	1150 J
	Mn	81.8 J

sample #	constituent	value/qual
B00YC4	Al	1900 J
	Ba	28.8 J
	Ca	2970 J
	Fe	9490 J
	Mg	1590 J
	Mn	111 J
B00YC5	Al	2050 J
	Ba	39.3 J
	Ca	3430 J
	Fe	8810 J
	Mg	1720 J
	Mn	152 J

INORGANIC QC - Holding Times

Name C.J. Simiele Date 7-1-91

COMMENTS: Analysis performed 13 days after sampling, (holding time = 6 months)

ACTION: None

sample #	constituent	value/qual	sample #	constituent	value/qual

INORGANIC QC - GFAA

Name CJ Simiele Date 7-1-91

COMMENTS: None

ACTION: N/A

sample #	constituent	value/qual	sample #	constituent	value/qual

INORGANIC QC - other

Name C.J. Simiele Date 7-1-91

COMMENTS: None

ACTION:

sample #	constituent	value/qual	sample #	constituent	value/qual

Westinghouse
Hanford Company

OSM RCRA LEVEL C DATA ASSESSMENT

DATE 7-1-91

SAMPLES/MATRIX B00YB8 B00YC5 - SOILS

REVIEWED BY C. J. Simiele

B00YC0

LABORATORY Bay E. Weston

B00YC1

CASE #

B00YC2

SDG # 91016L749

B00YC4

DATA ASSESSMENT SUMMARY

QUALITY CONTROL CHECK	ANALYSIS	IC	N/A	N/A
1. Requested vs. Reported		O		
2. Holding Time		O		
3. Matrix Spike		O		
4. Duplicate		X		
5. Analytical Blank		O		
6. Calibration		M		
7. LCS		X		
8.				
9.				
10.				

O = data had no problems
X = data qualified due to minor problems
M = data qualified due to major problems/some data may be unusable

OVERALL ASSESSSMENT: Data Appears to be good, but user should be aware that calibration data was not provided with data package.

NOTES:

o Refer to the corresponding attachments for explanation of any problems.

0000002

ROY F. WESTON INC.

INORGANICS DATA SUMMARY REPORT 06/17/91

CLIENT: WESTINGHOUSE HANFORD
WORK ORDER: 6168-02-01-0000

WESTON BATCH #: 9106L749

SAMPLE	SITE ID	ANALYTE	RESULT		UNITS	REPORTING LIMIT
-001	BOOYB8	% Solids	98.4		%	0.10
		Chloride by IC	81.0		mg/kg	1.3
		Fluoride by IC	2.6	u	mg/kg	2.6
		Nitrite by IC	1.3	u	mg/kg	1.3
		Nitrate by IC	9.8	J	mg/kg	1.3
		Phosphate by IC	13.8		mg/kg	1.3
		Sulfate by IC	25.3	J	mg/kg	1.3
-002	BOOYC0	% Solids	96.7		%	0.10
		Chloride by IC	82.0		mg/kg	1.3
		Fluoride by IC	2.6	u	mg/kg	2.6
		Nitrite by IC	1.3	u	mg/kg	1.3
		Nitrate by IC	26.3	J	mg/kg	1.3
		Phosphate by IC	17.1		mg/kg	1.3
		Sulfate by IC	94.7	J	mg/kg	1.3
-003	BOOYC1	% Solids	97.3		%	0.10
		Chloride by IC	196		mg/kg	13.2
		Fluoride by IC	2.6	u	mg/kg	2.6
		Nitrite by IC	1.3	u	mg/kg	1.3
		Nitrate by IC	1.3	uJ	mg/kg	1.3
		Phosphate by IC	1.3	u	mg/kg	1.3
		Sulfate by IC	1.3	uJ	mg/kg	1.3
-004	BOOYC2	% Solids	95.9		%	0.10
		Chloride by IC	384		mg/kg	13.1
		Fluoride by IC	2.6	u	mg/kg	2.6
		Nitrite by IC	1.3	u	mg/kg	1.3
		Nitrate by IC	1.3	uJ	mg/kg	1.3
		Phosphate by IC	1.3	u	mg/kg	1.3
		Sulfate by IC	1.3	uJ	mg/kg	1.3
-005	BOOYC4	% Solids	97.0		%	0.10
		Chloride by IC	678		mg/kg	13.4
		Fluoride by IC	2.7	u	mg/kg	2.7
		Nitrite by IC	1.3	u	mg/kg	1.3
		Nitrate by IC	1.3	uJ	mg/kg	1.3
		Phosphate by IC	1.3	u	mg/kg	1.3
		Sulfate by IC	1.7	J	mg/kg	1.3
-006	BOOYC5	% Solids	95.2		%	0.10

7-1-91
CJSingelly

0000003

ROY F. WESTON INC.

INORGANICS DATA SUMMARY REPORT 06/17/91

CLIENT: WESTINGHOUSE HANFORD
WORK ORDER: 6168-02-01-0000

WESTON BATCH #: 9106L749

SAMPLE	SITE ID	ANALYTE	RESULT		UNITS	REPORTING LIMIT
-006	BOOYC5	Chloride by IC	189		mg/kg	13.4
		Fluoride by IC	2.7	u	mg/kg	2.7
		Nitrite by IC	1.3	u	mg/kg	1.3
		Nitrate by IC	1.3	uJ	mg/kg	1.3
		Phosphate by IC	2.8		mg/kg	1.3
		Sulfate by IC	1.3	uJ	mg/kg	1.3

7-1-91
L J Sinzuelo

ROY F. WESTON INC.

INORGANICS METHOD BLANK DATA SUMMARY PAGE 06/17/91

CLIENT: WESTINGHOUSE HANFORD
WORK ORDER: 6168-02-01-0000

WESTON BATCH #: 9106L749

SAMPLE	SITE ID	ANALYTE	RESULT		UNITS	REPORTING LIMIT
BLANK1	91LIC89-MB1	Chloride by IC	2.2		mg/kg	1.2
		Fluoride by IC	2.5	u	mg/kg	2.5
		Nitrite by IC	1.2	u	mg/kg	1.2
		Nitrate by IC	1.2	u	mg/kg	1.2
		Phosphate by IC	1.2	u	mg/kg	1.2
		Sulfate by IC	1.2	u	mg/kg	1.2

ROY F. WESTON INC.

INORGANICS ACCURACY REPORT 06/17/91

CLIENT: WESTINGHOUSE HANFORD
WORK ORDER: 6168-02-01-0000

WESTON BATCH #: 9106L749

SAMPLE	SITE ID	ANALYTE	SPIKED SAMPLE	INITIAL RESULT	SPIKED AMOUNT	%RECOV
-001	BOOYB8	Chloride by IC	128	81.0	53.8	87.8
		Fluoride by IC	159	2.6 u	190	83.5
		Nitrite by IC	49.7	1.3 u	53.8	92.3
		Nitrate by IC	56.5	9.8	53.8	86.8
		Phosphate by IC	61.9	13.8	53.8	89.5
		Sulfate by IC	80.7	25.3	53.8	103
BLANK1	91LIC89-MB1	Chloride by IC	61.2	2.2	50.0	118
		Fluoride by IC	163	2.5 u	176	92.2
		Nitrite by IC	42.7	1.2 u	50.0	85.3
		Nitrate by IC	40.6	1.2 u	50.0	81.2
		Phosphate by IC	46.4	1.2 u	50.0	92.9
		Sulfate by IC	25.3	1.2 u	50.0	50.6

ROY F. WESTON INC.

INORGANICS PRECISION REPORT 06/17/91

CLIENT: WESTINGHOUSE HANFORD
WORK ORDER: 6168-02-01-0000

WESTON BATCH #: 9106L749

SAMPLE	SITE ID	ANALYTE	INITIAL RESULT	REPLICATE	% DIFF
-001REP	BOOYB8	Chloride by IC	81.0	68.8	16.2
		Fluoride by IC	2.6 u	2.7 u	NC
		Nitrite by IC	1.3 u	1.3 u	NC
		Nitrate by IC	9.8	7.3	29.1
		Phosphate by IC	13.8	12.6	8.9
		Sulfate by IC	25.3	19.5	25.9

RCRA LEVEL C QC

Name C.J. Simiele Date 7-1-91

QC Check: Requested vs. Reported Analysis

COMMENTS: Analysis requested i anions, analysis performed i anions.

ACTION: None

sample #	constituent	value/qual	sample #	constituent	value/qual

___ of ___

RCRA LEVEL C QC

Name C.J. Simiele Date 7-1-91

QC Check: Holding Time

COMMENTS: Samples analyzed seven days after pulled.

ACTION: None

sample #	constituent	value/qual	sample #	constituent	value/qual

___ of ___

RCRA LEVEL C QC

Name C.J. Simiele Date 7-1-91

QC Check: Matrix Spike

COMMENTS: All matrix spike % recoveries are within required ±25% control limits

ACTION: None

sample #	constituent	value/qual	sample #	constituent	value/qual

___ of ___

RCRA LEVEL C QC

Name C. J. Simiele Date 7-1-91

QC Check: Duplicate

COMMENTS: Duplicate RPD's are out of required ±20% control limits for NO_3 (29%) and SO_4 (216%).

ACTION: Qualify associated samples as per OSM guidelines

sample #	constituent	value/qual
B00YB8	NO_3	9.8 J
↓	SO_4	25.3 J
B00YC0	NO_3	26.3 J
↓	SO_4	94.7 J
B00YC1	NO_3	1.3 UJ
↓	SO_4	1.3 UJ
B00YC2	NO_3	1.3 UJ
↓	SO_4	1.3 UJ
B00YC4	NO_3	1.3 UJ
↓	SO_4	1.7 J
B00YC5	NO_3	1.3 UJ
↓	SO_4	1.3 UJ

sample #	constituent	value/qual

___ of ___

RCRA LEVEL C QC

Name C. A. Simiele Date 7-1-91

QC Check: Analytical Blank

COMMENTS: Potential contaminants detected in preparation blank (91LL089-MB1) for Cl (2.2 mg/kg) above the IDL.

ACTION: None, all samples contain Cl at a concentration above 5x contaminant level in preparation blank

sample #	constituent	value/qual	sample #	constituent	value/qual

___ of ___

RCRA LEVEL C QC

Name C. J. Simiele Date 7-1-91

QC Check: Calibration

COMMENTS: Summary states that initial & continuing calibration are with in required control limits, but no calibration data is provided with data package.

ACTION: Qualify none, suggest using data for information only due to absence of calibration data.

sample #	constituent	value/qual	sample #	constituent	value/qual

___ of ___

Westinghouse
Hanford Company

OSM ORGANIC DATA ASSESSMENT

DATE 7-1-91 SAMPLES/MATRIX B00YB8 B00YC5-Soil

REVIEWED BY C.J. Simiele (C.J. Simiele) B00YC0

LABORATORY Bay F. Weston B00YC1

CASE # B00YC2

SDG # 91061749 B00YC4

DATA ASSESSMENT SUMMARY

	VOA	ABN	PEST
1. Holding Times (Form I)	O	O	O
2. Surrogate Recovery (II)	O	O	X
3. Matrix Spike/ MSD (III)	CJS 7-1-91 O	O	X
4. Blanks (IV)	X	O	O
5. GC/MS Tune (V)	O	O	
6. Calibration (VI-VII; VIII pest)	O	X	X
7. Internal Standards (VIII)	O	O	
8. Instr. Perform. (IX pest)			M
9. Other ( )	N/A	N/A	N/A

O = data had no problems
X = data qualified due to minor problems
M = data qualified due to major problems, some data may be unusable

OVERALL ASSESSMENT: Good - minor QC problems in data package.

NOTES :

Refer to the corresponding attachments for explanation of any problems.

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

Report Date: 06/11/91 12:23

RFW Batch Number: 9106L749 Client: WESTINGHOUSE HANFORD Work Order: 6168-02-01-0000 Page: 1a

	Cust ID:	BOOYB8		BOOYC0		BOOYC1		BOOYC2		BOOYC2		BOOYC2	
Sample Information	RFW#:	001		002		003		004		004 MS		004 MSD	
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	D.F.:	1.00		1.00		5.00		1.25		1.25		1.25	
	Units:	ug/Kg		ug/Kg		ug/Kg		ug/Kg		ug/Kg		ug/Kg	
	Level:	LOW		LOW		LOW		MED		MED		MED	
Surrogate Recovery	Toluene-d8	96	%	108	%	101	%	101	%	100	%	98	%
	Bromofluorobenzene	87	%	87	%	105	%	93	%	98	%	98	%
	1,2-Dichloroethane-d4	88	%	95	%	111	%	87	%	89	%	89	%
			fl		fl		fl		fl		fl		fl
Chloromethane		10	U	10	U	51	U	1300	U	1300	U	1300	U
Bromomethane		10	U	10	U	51	U	1300	U	1300	U	1300	U
Vinyl Chloride		10	U	10	U	51	U	1300	U	1300	U	1300	U
Chloroethane		10	U	10	U	51	U	1300	U	1300	U	1300	U
Methylene Chloride		19	B u	26	B u	130	B	2300	B	5100	B	6200	B
Acetone		23	B u	42	B u	280	B	680	JB	3600	B	4600	B
Carbon Disulfide		5	U	5	U	26	U	650	U	650	U	650	U
1,1-Dichloroethene		5	U	5	U	26	U	650	U	118	%	117	%
1,1-Dichloroethane		5	U	5	U	26	U	650	U	650	U	650	U
1,2-Dichloroethene (total)		5	U	5	U	26	U	650	U	650	U	650	U
Chloroform		5	U	5	U	26	U	650	U	650	U	650	U
1,2-Dichloroethane		5	U	5	U	26	U	650	U	650	U	650	U
2-Butanone		10	U	10	U	51	U	1300	U	1300	U	1300	U
1,1,1-Trichloroethane		5	U	5	U	26	U	650	U	650	U	650	U
Carbon Tetrachloride		5	U	5	U	26	U	650	U	650	U	650	U
Vinyl Acetate		10	U	10	U	51	U	1300	U	1300	U	1300	U
Bromodichloromethane		5	U	5	U	26	U	650	U	650	U	650	U
1,2-Dichloropropane		5	U	5	U	26	U	650	U	650	U	650	U
cis-1,3-Dichloropropene		5	U	5	U	26	U	650	U	650	U	650	U
Trichloroethene		2	J	5	U	26	U	650	U	107	%	114	%
Dibromochloromethane		5	U	5	U	26	U	650	U	650	U	650	U
1,1,2-Trichloroethane		5	U	5	U	26	U	650	U	650	U	650	U
Benzene		5	U	5	U	26	U	650	U	114	%	115	%
Trans-1,3-Dichloropropene		5	U	5	U	26	U	650	U	650	U	650	U
Bromoform		5	U	5	U	26	U	650	U	650	U	650	U
4-Methyl-2-pentanone		10	U	10	U	51	U	1300	U	1300	U	1300	U
2-Hexanone		10	U	10	U	51	U	1300	U	1300	U	1300	U
Tetrachloroethene		4	J	27		24	J	320	J	160	J	650	U
1,1,2,2-Tetrachloroethane		1	J	8		31		650	U	650	U	650	U

*= Outside of EPA CLP QC limits.

7-1-91 1 Sample

RFW Batch Number: 9106L749 Client: WESTINGHOUSE HANFORD Work Order: 6168-02-01-0000

Cust ID:	BOOYB8	BOOYC0	BOOYC1	BOOYC2	BOOYC2	BOOYC2
RFW#:	001	002	003	004	004 MS	004 MSD
Level:	LOW	LOW	LOW	MED	MED	MED
Toluene	5 U	2 J	26 U	650 U	108 %	106 %
Chlorobenzene	5 U	5 U	26 U	650 U	105 %	103 %
Ethylbenzene	5 U	5 U	26 U	650 U	650 U	650 U
Styrene	5 U	5 U	26 U	650 U	650 U	650 U
Xylene (total)	5 U	5 U	26 U	650 U	650 U	650 U

*= Outside of EPA CLP QC limits.

000005

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

Report Date: 06/11/91 12:23

RFW Batch Number: 9106L749 Client: WESTINGHOUSE HANFORD Work Order: 6168-02-01-0000

	Cust ID:	BOOYC4		BOOYC5		VBLK		VBLK		VBLK	
Sample Information	RFW#:	005		006		91LVY111-MB1		91LVB310-MB1		91LVX097-MB1	
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL	
	D.F.:	5.00		1.25		1.00		1.00		1.25	
	Units:	ug/Kg		ug/Kg		ug/Kg		ug/Kg		ug/Kg	
	Level:	LOW		MED		LOW		LOW		MED	
Surrogate Recovery	Toluene-d8	105	%	96	%	100	%	106	%	104	%
	Bromofluorobenzene	103	%	91	%	98	%	102	%	98	%
	1,2-Dichloroethane-d4	106	%	93	%	92	%	110	%	96	%
Chloromethane		52	U	1300	U	10	U	10	U	1200	U
Bromomethane		52	U	1300	U	10	U	10	U	1200	U
Vinyl Chloride		52	U	1300	U	10	U	10	U	1200	U
Chloroethane		52	U	1300	U	10	U	10	U	1200	U
Methylene Chloride		140	B	1800	B u	7		11		1200	
Acetone		190	B	1300	U	7	J	10		2500	
Carbon Disulfide		26	U	660	U	5	U	5	U	620	U
1,1-Dichloroethene		26	U	660	U	5	U	5	U	620	U
1,1-Dichloroethane		26	U	660	U	5	U	5	U	620	U
1,2-Dichloroethene (total)		26	U	660	U	5	U	5	U	620	U
Chloroform		26	U	660	U	5	U	5	U	620	U
1,2-Dichloroethane		26	U	660	U	5	U	5	U	620	U
2-Butanone		52	U	1300	U	10	U	10	U	1200	U
1,1,1-Trichloroethane		26	U	660	U	5	U	5	U	620	U
Carbon Tetrachloride		26	U	660	U	5	U	5	U	620	U
Vinyl Acetate		52	U	1300	U	10	U	10	U	1200	U
Bromodichloromethane		26	U	660	U	5	U	5	U	620	U
1,2-Dichloropropane		26	U	660	U	5	U	5	U	620	U
cis-1,3-Dichloropropene		26	U	660	U	5	U	5	U	620	U
Trichloroethene		26	U	660	U	5	U	5	U	620	U
Dibromochloromethane		26	U	660	U	5	U	5	U	620	U
1,1,2-Trichloroethane		26	U	660	U	5	U	5	U	620	U
Benzene		26	U	660	U	5	U	5	U	620	U
Trans-1,3-Dichloropropene		26	U	660	U	5	U	5	U	620	U
Bromoform		26	U	660	U	5	U	5	U	620	U
4-Methyl-2-pentanone		52	U	1300	U	10	U	10	U	1200	U
2-Hexanone		52	U	1300	U	10	U	10	U	1200	U
Tetrachloroethene		100		920		5	U	5	U	620	U
1,1,2,2-Tetrachloroethane		41		660	U	5	U	5	U	620	U

*= Outside of EPA CLP QC limits.

7-1-91 CJ Simpell

Cust ID:	BOOYC4	BOOYC5	VBLK	VBLK	VBLK
RFW#:	005	006	91LVY111-MB1	91LVB310-MB1	91LVX097-MB1
Level:	LOW	MED	LOW	LOW	MED
Toluene	26 U	660 U	5 U	5 U	620 U
Chlorobenzene	26 U	660 U	5 U	5 U	620 U
Ethylbenzene	26 U	660 U	5 U	5 U	620 U
Styrene	26 U	660 U	5 U	5 U	620 U
Xylene (total)	26 U	660 U	5 U	5 U	620 U

*= Outside of EPA CLP QC limits.

000007

1A

VOLATILE ORGANICS ANALYSIS SHEET 0000025

CLIENT SAMPLE NO.

BOOYB8

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

Client: WESTINGHOUSE HANFORD

Matrix: SOIL

Lab Sample ID: 9106L749-001

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

Lab File ID: Y060310

Level: (low/med) LOW

Date Received: 05/31/91

% Moisture: not dec. 2

Date Analyzed: 06/03/91

Column: (pack/cap) PACK

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	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	19	B U
67-64-1	Acetone	23	B U
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	2	J
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	1	J
108-88-3	Toluene	5	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

7-1-91
GS Surgeley

1E

VOLATILE ORGANICS ANALYSIS SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

0000026

CLIENT SAMPLE NO.

B00YB8

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

Client: WESTINGHOUSE HANFORD

Matrix: SOIL

Lab Sample ID: 9106L749-001

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

Lab File ID: Y060310

Level: (low/med) LOW

Date Received: 05/31/91

% Moisture: not dec. 2

Date Analyzed: 06/03/91

Column: (pack/cap) PACK

Dilution Factor: 1.00

Number TICs found: 1

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN	26.03	20	J

1E

VOLATILE ORGANICS ANALYSIS SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

0000043

CLIENT SAMPLE NO.

BOOYCO

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

Client: WESTINGHOUSE HANFORD

Matrix: SOIL

Lab Sample ID: 9106L749-002

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

Lab File ID: Y060314

Level: (low/med) LOW

Date Received: 05/31/91

% Moisture: not dec. 3

Date Analyzed: 06/03/91

Column: (pack/cap) PACK

Dilution Factor: 1.00

Number TICs found: 2

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	HEXACHLOROETHANE	20.13	30	J
2.	UNKNOWN	25.90	40	J

1A
VOLATILE ORGANICS ANALYSIS SHEET

0000060

CLIENT SAMPLE NO.

BOOYC1

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

Client: WESTINGHOUSE HANFORD

Matrix: SOIL

Lab Sample ID: 9106L749-003

Sample wt/vol: 1.00 (g/mL) G

Lab File ID: B060512

Level: (low/med) LOW

Date Received: 05/31/91

% Moisture: not dec. 3

Date Analyzed: 06/05/91

Column: (pack/cap) CAP

Dilution Factor: 5.00

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

CAS NO.	COMPOUND		
74-87-3	Chloromethane	51	U
74-83-9	Bromomethane	51	U
75-01-4	Vinyl Chloride	51	U
75-00-3	Chloroethane	51	U
75-09-2	Methylene Chloride	130	B
67-64-1	Acetone	280	B
75-15-0	Carbon Disulfide	26	U
75-35-4	1,1-Dichloroethene	26	U
75-34-3	1,1-Dichloroethane	26	U
540-59-0	1,2-Dichloroethene (total)	26	U
67-66-3	Chloroform	26	U
107-06-2	1,2-Dichloroethane	26	U
78-93-3	2-Butanone	51	U
71-55-6	1,1,1-Trichloroethane	26	U
56-23-5	Carbon Tetrachloride	26	U
108-05-4	Vinyl Acetate	51	U
75-27-4	Bromodichloromethane	26	U
78-87-5	1,2-Dichloropropane	26	U
10061-01-5	cis-1,3-Dichloropropene	26	U
79-01-6	Trichloroethene	26	U
124-48-1	Dibromochloromethane	26	U
79-00-5	1,1,2-Trichloroethane	26	U
71-43-2	Benzene	26	U
10061-02-6	Trans-1,3-Dichloropropene	26	U
75-25-2	Bromoform	26	U
108-10-1	4-Methyl-2-pentanone	51	U
591-78-6	2-Hexanone	51	U
127-18-4	Tetrachloroethene	24	J
79-34-5	1,1,2,2-Tetrachloroethane	31	
108-88-3	Toluene	26	U
108-90-7	Chlorobenzene	26	U
100-41-4	Ethylbenzene	26	U
100-42-5	Styrene	26	U
1330-20-7	Xylene (total)	26	U

1E

VOLATILE ORGANICS ANALYSIS SHEET

TENTATIVELY IDENTIFIED COMPOUNDS 0000061

CLIENT SAMPLE NO.

BOOYC1

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

Client: WESTINGHOUSE HANFORD

Matrix: SOIL

Lab Sample ID: 9106L749-003

Sample wt/vol: 1.00 (g/mL) G

Lab File ID: B060512

Level: (low/med) LOW

Date Received: 05/31/91

% Moisture: not dec. 3

Date Analyzed: 06/05/91

Column: (pack/cap) CAP

Dilution Factor: 5.00

Number TICs found: 10

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	HEXACHLOROETHANE	24.95	1000	J
2.	UNKNOWN	25.72	1000	J
3.	AROMATIC HYDROCARBON	26.28	800	J
4.	ALKANE	26.42	3000	J
5.	HYDROCARBON	26.55	3000	J
6.	HYDROCARBON	27.15	4000	J
7.	ALKANE	27.38	6000	J
8.	ALKENE	27.63	2000	J
9.	UNKNOWN	27.87	1000	J
10.	ALKENE	28.18	3000	J

1A
VOLATILE ORGANICS ANALYSIS SHEET 0000084

CLIENT SAMPLE NO.

BOOYC2

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

Client: WESTINGHOUSE HANFORD

Matrix: SOIL

Lab Sample ID: 9106L749-004

Sample wt/vol: 4.00 (g/mL) G

Lab File ID: AX6506

Level: (low/med) MED

Date Received: 05/31/91

% Moisture: not dec. 4

Date Analyzed: 06/05/91

Column: (pack/cap) CAP

Dilution Factor: 1.25

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

CAS NO.	COMPOUND		
74-87-3	Chloromethane	1300	U
74-83-9	Bromomethane	1300	U
75-01-4	Vinyl Chloride	1300	U
75-00-3	Chloroethane	1300	U
75-09-2	Methylene Chloride	2300	B
67-64-1	Acetone	680	JB
75-15-0	Carbon Disulfide	650	U
75-35-4	1,1-Dichloroethene	650	U
75-34-3	1,1-Dichloroethane	650	U
540-59-0	1,2-Dichloroethene (total)	650	U
67-66-3	Chloroform	650	U
107-06-2	1,2-Dichloroethane	650	U
78-93-3	2-Butanone	1300	U
71-55-6	1,1,1-Trichloroethane	650	U
56-23-5	Carbon Tetrachloride	650	U
108-05-4	Vinyl Acetate	1300	U
75-27-4	Bromodichloromethane	650	U
78-87-5	1,2-Dichloropropane	650	U
10061-01-5	cis-1,3-Dichloropropene	650	U
79-01-6	Trichloroethene	650	U
124-48-1	Dibromochloromethane	650	U
79-00-5	1,1,2-Trichloroethane	650	U
71-43-2	Benzene	650	U
10061-02-6	Trans-1,3-Dichloropropene	650	U
75-25-2	Bromoform	650	U
108-10-1	4-Methyl-2-pentanone	1300	U
591-78-6	2-Hexanone	1300	U
127-18-4	Tetrachloroethene	320	J
79-34-5	1,1,2,2-Tetrachloroethane	650	U
108-88-3	Toluene	650	U
108-90-7	Chlorobenzene	650	U
100-41-4	Ethylbenzene	650	U
100-42-5	Styrene	650	U
1330-20-7	Xylene (total)	650	U

1E

VOLATILE ORGANICS ANALYSIS SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

0000085

CLIENT SAMPLE NO.

BOOYC2

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

Client: WESTINGHOUSE HANFORD

Matrix: SOIL

Lab Sample ID: 9106L749-004

Sample wt/vol: 4.00 (g/mL) G

Lab File ID: AX6506

Level: (low/med) MED

Date Received: 05/31/91

% Moisture: not dec. 4

Date Analyzed: 06/05/91

Column: (pack/cap) CAP

Dilution Factor: 1.25

Number TICs found: 2

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	CYCLIC HYDROCARBON	23.79	1000	J
2.	HEXACHLOROETHANE	24.58	8000	J

1A
VOLATILE ORGANICS ANALYSIS SHEET 0000095

CLIENT SAMPLE NO.

BOOYC4

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

Client: WESTINGHOUSE HANFORD

Matrix: SOIL Lab Sample ID: 9106L749-005

Sample wt/vol: 1.00 (g/mL) G Lab File ID: B060513

Level: (low/med) LOW Date Received: 05/31/91

% Moisture: not dec. 3 Date Analyzed: 06/05/91

Column: (pack/cap) CAP Dilution Factor: 5.00

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

CAS NO.	COMPOUND		
74-87-3	Chloromethane	52	U
74-83-9	Bromomethane	52	U
75-01-4	Vinyl Chloride	52	U
75-00-3	Chloroethane	52	U
75-09-2	Methylene Chloride	140	B
67-64-1	Acetone	190	B
75-15-0	Carbon Disulfide	26	U
75-35-4	1,1-Dichloroethene	26	U
75-34-3	1,1-Dichloroethane	26	U
540-59-0	1,2-Dichloroethene (total)	26	U
67-66-3	Chloroform	26	U
107-06-2	1,2-Dichloroethane	26	U
78-93-3	2-Butanone	52	U
71-55-6	1,1,1-Trichloroethane	26	U
56-23-5	Carbon Tetrachloride	26	U
108-05-4	Vinyl Acetate	52	U
75-27-4	Bromodichloromethane	26	U
78-87-5	1,2-Dichloropropane	26	U
10061-01-5	cis-1,3-Dichloropropene	26	U
79-01-6	Trichloroethene	26	U
124-48-1	Dibromochloromethane	26	U
79-00-5	1,1,2-Trichloroethane	26	U
71-43-2	Benzene	26	U
10061-02-6	Trans-1,3-Dichloropropene	26	U
75-25-2	Bromoform	26	U
108-10-1	4-Methyl-2-pentanone	52	U
591-78-6	2-Hexanone	52	U
127-18-4	Tetrachloroethene	100	
79-34-5	1,1,2,2-Tetrachloroethane	41	
108-88-3	Toluene	26	U
108-90-7	Chlorobenzene	26	U
100-41-4	Ethylbenzene	26	U
100-42-5	Styrene	26	U
1330-20-7	Xylene (total)	26	U

1E

VOLATILE ORGANICS ANALYSIS SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

0000096

CLIENT SAMPLE NO.

B00YC4

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

Client: WESTINGHOUSE HANFORD

Matrix: SOIL

Lab Sample ID: 9106L749-005

Sample wt/vol: 1.00 (g/mL) G

Lab File ID: B060513

Level: (low/med) LOW

Date Received: 05/31/91

% Moisture: not dec. 3

Date Analyzed: 06/05/91

Column: (pack/cap) CAP

Dilution Factor: 5.00

Number TICs found: 10

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	HEXACHLOROETHANE	24.92	2000	J
2.	ALKANE	26.15	4000	J
3.	AROMATIC HYDROCARBON	26.25	2000	J
4.	ALKANE	26.38	4000	J
5.	HYDROCARBON	26.52	3000	J
6.	HYDROCARBON	27.12	5000	J
7.	ALKANE	27.35	5000	J
8.	ALKENE	27.60	2000	J
9.	UNKNOWN	27.83	3000	J
10.	ALKENE	28.15	2000	J

1A

VOLATILE ORGANICS ANALYSIS SHEET 0000119

CLIENT SAMPLE NO.

BOOYC5

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

Client: WESTINGHOUSE HANFORD

Matrix: SOIL

Lab Sample ID: 9106L749-006

Sample wt/vol: 4.00 (g/mL) G

Lab File ID: AX6508

Level: (low/med) MED

Date Received: 05/31/91

% Moisture: not dec. 5

Date Analyzed: 06/05/91

Column: (pack/cap) CAP

Dilution Factor: 1.25

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

CAS NO.	COMPOUND		
74-87-3	Chloromethane	1300	U
74-83-9	Bromomethane	1300	U
75-01-4	Vinyl Chloride	1300	U
75-00-3	Chloroethane	1300	U
75-09-2	Methylene Chloride	1800	BU
67-64-1	Acetone	1300	U
75-15-0	Carbon Disulfide	660	U
75-35-4	1,1-Dichloroethene	660	U
75-34-3	1,1-Dichloroethane	660	U
540-59-0	1,2-Dichloroethene (total)	660	U
67-66-3	Chloroform	660	U
107-06-2	1,2-Dichloroethane	660	U
78-93-3	2-Butanone	1300	U
71-55-6	1,1,1-Trichloroethane	660	U
56-23-5	Carbon Tetrachloride	660	U
108-05-4	Vinyl Acetate	1300	U
75-27-4	Bromodichloromethane	660	U
78-87-5	1,2-Dichloropropane	660	U
10061-01-5	cis-1,3-Dichloropropene	660	U
79-01-6	Trichloroethene	660	U
124-48-1	Dibromochloromethane	660	U
79-00-5	1,1,2-Trichloroethane	660	U
71-43-2	Benzene	660	U
10061-02-6	Trans-1,3-Dichloropropene	660	U
75-25-2	Bromoform	660	U
108-10-1	4-Methyl-2-pentanone	1300	U
591-78-6	2-Hexanone	1300	U
127-18-4	Tetrachloroethene	920	
79-34-5	1,1,2,2-Tetrachloroethane	660	U
108-88-3	Toluene	660	U
108-90-7	Chlorobenzene	660	U
100-41-4	Ethylbenzene	660	U
100-42-5	Styrene	660	U
1330-20-7	Xylene (total)	660	U

7-1-91
CJSimpiel

1E

VOLATILE ORGANICS ANALYSIS SHEET 0000120
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

BOOYC5

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

Client: WESTINGHOUSE HANFORD

Matrix: SOIL

Lab Sample ID: 9106L749-006

Sample wt/vol: 4.00 (g/mL) G

Lab File ID: AX6508

Level: (low/med) MED

Date Received: 05/31/91

% Moisture: not dec. 5

Date Analyzed: 06/05/91

Column: (pack/cap) CAP

Dilution Factor: 1.25

Number TICs found: 6

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN	21.29	700	J
2.	UNKNOWN	22.09	2000	J
3.	ALKANE	22.58	1000	J
4.	UNKNOWN	23.38	1000	J
5.	UNKNOWN	23.77	4000	J
6.	HEXACHLOROETHANE	24.59	30000	J

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

Report Date: 06/12/91 17:08

RFW Batch Number: 9106L749 Client: WESTINGHOUSE HANFORD Work Order: 6168-02-01-0000 Page: 1a

	Cust ID:	BOOYB8		BOOYB8		BOOYB8		BOOYC0		BOOYC1		BOOYC2	
Sample Information	RFW#:	001		001 MS		001 MSD		002		003		004	
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	D.F.:	5.00		5.00		5.00		10.0		1.00		1.00	
	Units:	ug/Kg		ug/Kg		ug/Kg		ug/Kg		ug/Kg		ug/Kg	
Surrogate Recovery	Nitrobenzene-d5	40	%	53	%	51	%	91	%	65	%	79	%
	2-Fluorobiphenyl	83	%	80	%	80	%	81	%	90	%	86	%
	p-Terphenyl-d14	102	%	81	%	78	%	102	%	95	%	97	%
	Phenol-d5	75	%	55	%	53	%	110	%	95	%	31	%
	2-Fluorophenol	103	%	55	%	53	%	102	%	115	%	96	%
	2,4,6-Tribromophenol	59	%	48	%	41	%	67	%	59	%	62	%
			fl		fl		fl		fl		fl		fl
Phenol		1700	U	D	%	D	%	3400	U	340	U	350	U
bis(2-Chloroethyl)ether		1700	U	1700	U	1700	U	3400	U	340	U	350	U
2-Chlorophenol		1700	U	D	%	D	%	3400	U	340	U	350	U
1,3-Dichlorobenzene		1700	U	1700	U	1700	U	3400	U	340	U	350	U
1,4-Dichlorobenzene		1700	U	D	%	D	%	3400	U	340	U	350	U
Benzyl alcohol		1700	U	1700	U	1700	U	3400	U	340	U	350	U
1,2-Dichlorobenzene		1700	U	1700	U	1700	U	3400	U	340	U	350	U
2-Methylphenol		1700	U	1700	U	1700	U	3400	U	340	U	350	U
bis(2-Chloroisopropyl)ether		1700	U	1700	U	1700	U	3400	U	340	U	350	U
4-Methylphenol		1700	U	1700	U	1700	U	3400	U	340	U	350	U
N-Nitroso-Di-n-propylamine		1700	U	D	%	D	%	3400	U	340	U	350	U
Hexachloroethane		1700	U	1700	U	1700	U	3400	U	110	J	3300	
Nitrobenzene		1700	U	1700	U	1700	U	3400	U	340	U	350	U
Isophorone		1700	U	1700	U	1700	U	3400	U	340	U	350	U
2-Nitrophenol		1700	U	1700	U	1700	U	3400	U	340	U	350	U
2,4-Dimethylphenol		1700	U	1700	U	1700	U	3400	U	340	U	350	U
Benzoic acid		8400	U	8500	U	8600	U	17000	U	1700	U	1700	U
bis(2-Chloroethoxy)methane		1700	U	1700	U	1700	U	3400	U	340	U	350	U
2,4-Dichlorophenol		1700	U	1700	U	1700	U	3400	U	340	U	350	U
1,2,4-Trichlorobenzene		1700	U	D	%	D	%	3400	U	340	U	350	U
Naphthalene		1700	U	1700	U	1700	U	3400	U	340	U	350	U
4-Chloroaniline		1700	U	1700	U	1700	U	3400	U	340	U	350	U
Hexachlorobutadiene		1700	U	1700	U	1700	U	3400	U	120	J	760	
Chloro-3-methylphenol		1700	U	D	%	D	%	3400	U	340	U	350	U
Naphthalene		1700	U	1700	U	1700	U	3400	U	340	U	350	U
Cyclopentadiene		1700	U	1700	U	1700	U	3400	U	340	U	350	U

of EPA CLP QC limits.

400001

1A

VOLATILE ORGANICS ANALYSIS SHEET 0000042

CLIENT SAMPLE NO.

BOOYCO

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

Client: WESTINGHOUSE HANFORD

Matrix: SOIL

Lab Sample ID: 9106L749-002

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

Lab File ID: Y060314

Level: (low/med) LOW

Date Received: 05/31/91

% Moisture: not dec. 3

Date Analyzed: 06/03/91

Column: (pack/cap) PACK

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	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	26	B U
67-64-1	Acetone	42	B U
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	27	
79-34-5	1,1,2,2-Tetrachloroethane	8	
108-88-3	Toluene	2	J
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

7-1-91 [illegible]

RFW Batch Number: 9106L749 Client: WESTINGHOUSE HANFORD Work Order: 6168-02-01-0000

Cust ID:	BOOYB8		BOOYB8		BOOYB8		BOOYC0		BOOYC1		BOOYC2	
RFW#:	001		001 MS		001 MSD		002		003		004	
2,4,6-Trichlorophenol	1700	U	1700	U	1700	U	3400	U	340	U	350	U
2,4,5-Trichlorophenol	8400	U	8500	U	8600	U	17000	U	1700	U	1700	U
2-Chloronaphthalene	1700	U	1700	U	1700	U	3400	U	340	U	350	U
2-Nitroaniline	8400	U	8500	U	8600	U	17000	U	1700	U	1700	U
Dimethylphthalate	1700	U	1700	U	1700	U	3400	U	340	U	350	U
Acenaphthylene	1700	U	1700	U	1700	U	3400	U	340	U	350	U
2,6-Dinitrotoluene	1700	U	1700	U	1700	U	3400	U	340	U	350	U
3-Nitroaniline	8400	U	8500	U	8600	U	17000	U	1700	U	1700	U
Acenaphthene	1700	U	D	%	D	%	3400	U	340	U	350	U
2,4-Dinitrophenol	8400	U	8500	U	8600	U	17000	U	1700	U	1700	U
4-Nitrophenol	8400	U	D	%	D	%	17000	U	1700	U	1700	U
Dibenzofuran	1700	U	1700	U	1700	U	3400	U	340	U	350	U
2,4-Dinitrotoluene	1700	U	D	%	D	%	3400	U	340	U	350	U
Diethylphthalate	1700	U	1700	U	1700	U	3400	U	340	U	350	U
4-Chlorophenyl-phenylether	1700	U	1700	U	1700	U	3400	U	340	U	350	U
Fluorene	1700	U	1700	U	1700	U	3400	U	340	U	350	U
4-Nitroaniline	8400	U	8500	U	8600	U	17000	U	1700	U	1700	U
4,6-Dinitro-2-methylphenol	8400	U	8500	U	8600	U	17000	U	1700	U	1700	U
N-Nitrosodiphenylamine (1)	1700	U	1700	U	1700	U	3400	U	340	U	350	U
4-Bromophenyl-phenylether	1700	U	1700	U	1700	U	3400	U	340	U	350	U
Hexachlorobenzene	1700	U	1700	U	1700	U	3400	U	340	U	350	U
Pentachlorophenol	8400	U	D	%	D	%	17000	U	1700	U	1700	U
Phenanthrene	1700	U	1700	U	1700	U	3400	U	340	U	350	U
Anthracene	1700	U	1700	U	1700	U	3400	U	340	U	350	U
Di-n-Butylphthalate	3300		1800		1200	J	1700	J	4200		5300	
Fluoranthene	1700	U	1700	U	1700	U	3400	U	340	U	350	U
Pyrene	1700	U	D	%	D	%	3400	U	340	U	350	U
Butylbenzylphthalate	810	J	2300		1200	J	2600	J	850		530	
3,3'-Dichlorobenzidine	3400	U	3400	U	3400	U	6800	U	690	U	700	U
Benzo(a)anthracene	1700	U	1700	U	1700	U	3400	U	340	U	350	U
Chrysene	1700	U	1700	U	1700	U	3400	U	340	U	350	U
bis(2-Ethylhexyl)phthalate	1700	U	1700	U	1700	U	5200		340	U	350	U
Di-n-Octyl phthalate	1700	U	1700	U	1700	U	3400	U	340	U	350	U
Benzo(b)fluoranthene	1700	U	1700	U	1700	U	3400	U	340	U	350	U
Benzo(k)fluoranthene	1700	U	1700	U	1700	U	3400	U	340	U	350	U
Benzo(a)pyrene	1700	U	1700	U	1700	U	3400	U	340	U	350	U
Indeno(1,2,3-cd)pyrene	1700	U	1700	U	1700	U	3400	U	340	U	350	U
Dibenzo(a,h)anthracene	1700	U	1700	U	1700	U	3400	U	340	U	350	U
Benzo(g,h,i)perylene	1700	U	1700	U	1700	U	3400	U	340	U	350	U

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

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

Report Date: 06/12/91 17:08

RFW Batch Number: 9106L749 Client: WESTINGHOUSE HANFORD Work Order: 6168-02-01-0000

	Cust ID:	BOOYC4		BOOYC5		SBLK		SBLK BS	
Sample Information	RFW#:	005		006		91LE0719-MB1		91LE0719-MB1	
	Matrix:	SOIL		SOIL		SOIL		SOIL	
	D.F.:	1.00		10.0		1.00		1.00	
	Units:	ug/Kg		ug/Kg		ug/Kg		ug/Kg	
Surrogate Recovery	Nitrobenzene-d5	89	%	71	%	84	%	82	%
	2-Fluorobiphenyl	80	%	88	%	80	%	86	%
	p-Terphenyl-d14	94	%	81	%	107	%	121	%
	Phenol-d5	96	%	33	%	106	%	101	%
	2-Fluorophenol	116	%	45	%	105	%	102	%
	2,4,6-Tribromophenol	57	%	64	%	57	%	50	%
Phenol		350	U	3500	U	330	U	96 *	%
bis(2-Chloroethyl)ether		350	U	3500	U	330	U	330	U
2-Chlorophenol		350	U	3500	U	330	U	82	%
1,3-Dichlorobenzene		350	U	3500	U	330	U	330	U
1,4-Dichlorobenzene		350	U	3500	U	330	U	67	%
Benzyl alcohol		350	U	3500	U	330	U	330	U
1,2-Dichlorobenzene		350	U	3500	U	330	U	330	U
2-Methylphenol		350	U	3500	U	330	U	330	U
bis(2-Chloroisopropyl)ether		350	U	3500	U	330	U	330	U
4-Methylphenol		350	U	3500	U	330	U	330	U
N-Nitroso-Di-n-propylamine		350	U	3500	U	330	U	63	%
Hexachloroethane		720		17000		330	U	330	U
Nitrobenzene		350	U	3500	U	330	U	330	U
Isophorone		350	U	3500	U	330	U	330	U
2-Nitrophenol		350	U	3500	U	330	U	330	U
2,4-Dimethylphenol		350	U	3500	U	330	U	330	U
Benzoic acid		1700	U	17000	U	1700	U	1700	U
bis(2-Chloroethoxy)methane		350	U	3500	U	330	U	330	U
2,4-Dichlorophenol		350	U	3500	U	330	U	330	U
1,2,4-Trichlorobenzene		350	U	3500	U	330	U	66	%
Naphthalene		350	U	3500	U	330	U	330	U
4-Chloroaniline		350	U	3500	U	330	U	330	U
Hexachlorobutadiene		270	J	3500	U	330	U	330	U
4-Chloro-3-methylphenol		350	U	3500	U	330	U	89	%
2-Methylnaphthalene		350	U	3500	U	330	U	330	U
Hexachlorocyclopentadiene		350	U	3500	U	330	U	330	U

*= Outside of EPA CLP QC limits.

Cust ID:	BOOYC4		BOOYC5		SBLK		SBLK BS	
RFW#:	005		006		91LE0719-MB1		91LE0719-MB1	
2,4,6-Trichlorophenol	350	U	3500	U	330	U	330	U
2,4,5-Trichlorophenol	1700	U	17000	U	1700	U	1700	U
2-Chloronaphthalene	350	U	3500	U	330	U	330	U
2-Nitroaniline	1700	U	17000	U	1700	U	1700	U
Dimethylphthalate	350	U	3500	U	330	U	330	U
Acenaphthylene	350	U	3500	U	330	U	330	U
2,6-Dinitrotoluene	350	U	3500	U	330	U	330	U
3-Nitroaniline	1700	U	17000	U	1700	U	1700	U
Acenaphthene	350	U	3500	U	330	U	94	%
2,4-Dinitrophenol	1700	U	17000	U	1700	U	1700	U
4-Nitrophenol	1700	U	17000	U	1700	U	90	%
Dibenzofuran	350	U	3500	U	330	U	330	U
2,4-Dinitrotoluene	350	U	3500	U	330	U	92 *	%
Diethylphthalate	350	U	3500	U	330	U	330	U
4-Chlorophenyl-phenylether	350	U	3500	U	330	U	330	U
Fluorene	350	U	3500	U	330	U	330	U
4-Nitroaniline	1700	U	17000	U	1700	U	1700	U
4,6-Dinitro-2-methylphenol	1700	U	17000	U	1700	U	1700	U
N-Nitrosodiphenylamine (1)	350	U	3500	U	330	U	330	U
4-Bromophenyl-phenylether	350	U	3500	U	330	U	330	U
Hexachlorobenzene	350	U	3500	U	330	U	330	U
Pentachlorophenol	1700	U	17000	U	1700	U	52	%
Phenanthrene	350	U	3500	U	330	U	330	U
Anthracene	350	U	3500	U	330	U	330	U
Di-n-Butylphthalate	3800		1700	J	330	U	330	U
Fluoranthene	350	U	3500	U	330	U	330	U
Pyrene	350	U	3500	U	330	U	106	%
Butylbenzylphthalate	2700		1100	J	330	U	330	U
3,3'-Dichlorobenzidine	690	U	7000	U	670	U	670	U
Benzo(a)anthracene	350	U	3500	U	330	U	330	U
Chrysene	350	U	3500	U	330	U	330	U
bis(2-Ethylhexyl)phthalate	350	U	3500	U	330	U	330	U
Di-n-Octyl phthalate	350	U	3500	U	330	U	330	U
Benzo(b)fluoranthene	350	U	3500	U	330	U	330	U
Benzo(k)fluoranthene	350	U	3500	U	330	U	330	U
Benzo(a)pyrene	350	U	3500	U	330	U	330	U
Indeno(1,2,3-cd)pyrene	350	U	3500	U	330	U	330	U
Dibenzo(a,h)anthracene	350	U	3500	U	330	U	330	U
Benzo(g,h,i)perylene	350	U	3500	U	330	U	330	U

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

0000007

1B

SEMIVOLATILE ORGANICS ANALYSIS SHEET

0000020

CLIENT SAMPLE NO.

BOOYB8

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

Client: WESTINGHOUSE HANFORD

Matrix: SOIL Lab Sample ID: 9106L749-001

Sample wt/vol: 30.6 (g/mL) G Lab File ID: L060614

Level: (low/med) LOW Date Received: 05/31/91

% Moisture: not dec. 3 dec. Date Extracted: 06/03/91

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 06/07/91

GPC Cleanup: (Y/N) N pH: 6.6 Dilution Factor: 5.00

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

CAS NO.	COMPOUND		
108-95-2	Phenol	1700	U
111-44-4	bis(2-Chloroethyl)ether	1700	U
95-57-8	2-Chlorophenol	1700	U
541-73-1	1,3-Dichlorobenzene	1700	U
106-46-7	1,4-Dichlorobenzene	1700	U
100-51-6	Benzyl alcohol	1700	U
95-50-1	1,2-Dichlorobenzene	1700	U
95-48-7	2-Methylphenol	1700	U
108-60-1	bis(2-Chloroisopropyl)ether	1700	U
106-44-5	4-Methylphenol	1700	U
621-64-7	N-Nitroso-Di-n-propylamine	1700	U
67-72-1	Hexachloroethane	1700	U
98-95-3	Nitrobenzene	1700	U
78-59-1	Isophorone	1700	U
88-75-5	2-Nitrophenol	1700	U
105-67-9	2,4-Dimethylphenol	1700	U
65-85-0	Benzoic acid	8400	U
111-91-1	bis(2-Chloroethoxy)methane	1700	U
120-83-2	2,4-Dichlorophenol	1700	U
120-82-1	1,2,4-Trichlorobenzene	1700	U
91-20-3	Naphthalene	1700	U
106-47-8	4-Chloroaniline	1700	U
87-68-3	Hexachlorobutadiene	1700	U
59-50-7	4-Chloro-3-methylphenol	1700	U
91-57-6	2-Methylnaphthalene	1700	U
77-47-4	Hexachlorocyclopentadiene	1700	U
88-06-2	2,4,6-Trichlorophenol	1700	U
95-95-4	2,4,5-Trichlorophenol	8400	U
91-58-7	2-Chloronaphthalene	1700	U
88-74-4	2-Nitroaniline	8400	U
131-11-3	Dimethylphthalate	1700	U
208-96-8	Acenaphthylene	1700	U
606-20-2	2,6-Dinitrotoluene	1700	U

1C

SEMIVOLATILE ORGANICS ANALYSIS SHEET 0000021

CLIENT SAMPLE NO.

BOOYB8

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

Client: WESTINGHOUSE HANFORD

Matrix: SOIL Lab Sample ID: 9106L749-001

Sample wt/vol: 30.6 (g/mL) G Lab File ID: L060614

Level: (low/med) LOW Date Received: 05/31/91

% Moisture: not dec. 3 dec. Date Extracted: 06/03/91

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 06/07/91

GPC Cleanup: (Y/N) N pH: 6.6 Dilution Factor: 5.00

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

CAS NO.	COMPOUND		
99-09-2	3-Nitroaniline	8400	U
83-32-9	Acenaphthene	1700	U
51-28-5	2,4-Dinitrophenol	8400	U
100-02-7	4-Nitrophenol	8400	U
132-64-9	Dibenzofuran	1700	U
121-14-2	2,4-Dinitrotoluene	1700	U
84-66-2	Diethylphthalate	1700	U
7005-72-3	4-Chlorophenyl-phenylether	1700	U
86-73-7	Fluorene	1700	U
100-01-6	4-Nitroaniline	8400	U
534-52-1	4,6-Dinitro-2-methylphenol	8400	U
86-30-6	N-Nitrosodiphenylamine (1)	1700	U
101-55-3	4-Bromophenyl-phenylether	1700	U
118-74-1	Hexachlorobenzene	1700	U
87-86-5	Pentachlorophenol	8400	U
85-01-8	Phenanthrene	1700	U
120-12-7	Anthracene	1700	U
84-74-2	Di-n-Butylphthalate	3300	
206-44-0	Fluoranthene	1700	U
129-00-0	Pyrene	1700	U
85-68-7	Butylbenzylphthalate	810	J
91-94-1	3,3'-Dichlorobenzidine	3400	U
56-55-3	Benzo(a)anthracene	1700	U
218-01-9	Chrysene	1700	U
117-81-7	bis(2-Ethylhexyl)phthalate	1700	U
117-84-0	Di-n-Octyl phthalate	1700	U
205-99-2	Benzo(b)fluoranthene	1700	U
207-08-9	Benzo(k)fluoranthene	1700	U
50-32-8	Benzo(a)pyrene	1700	U
193-39-5	Indeno(1,2,3-cd)pyrene	1700	U
53-70-3	Dibenzo(a,h)anthracene	1700	U
191-24-2	Benzo(g,h,i)perylene	1700	U

(1) - Cannot be separated from Diphenylamine

1F

SEMIVOLATILE ORGANICS ANALYSIS SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

0000022

CLIENT SAMPLE NO.

BOOYB8

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

Client: WESTINGHOUSE HANFORD

Matrix: SOIL

Lab Sample ID: 9106L749-001

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

Lab File ID: L060614

Level: (low/med) LOW

Date Received: 05/31/91

% Moisture: not dec. 3 dec.

Date Extracted: 06/03/91

Extraction: (SepF/Cont/Sonc) SONC

Date Analyzed: 06/07/91

GPC Cleanup: (Y/N) N pH: 6.6

Dilution Factor: 5.00

Number TICs found: 13

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	ALKANE	9.67	1000	J
2.	ALKANE	10.57	4000	J
3.	ALKENE	10.85	1000	J
4.	ALKANE	10.95	3000	J
5.	ALKANE	11.70	700	J
6.	UNKNOWN	11.88	500	J
7.	ALKANE	12.07	3000	J
8.	HYDROCARBON	12.38	2000	J
9.	ALKANE	13.23	800	J
10.	PHOSPHORIC ACID	15.70	100000	J
11.	PHOSPHORIC ACID	17.38	5000	J
12.	UNKNOWN	17.68	50000	J
13.	UNKNOWN	18.40	1000	J

1B

SEMIVOLATILE ORGANICS ANALYSIS SHEET 0000046

CLIENT SAMPLE NO.

BOOYCO

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

Client: WESTINGHOUSE HANFORD

Matrix: SOIL

Lab Sample ID: 9106L749-002

Sample wt/vol: 30.3 (g/mL) G

Lab File ID: L061109

Level: (low/med) LOW

Date Received: 05/31/91

% Moisture: not dec. 4 dec.

Date Extracted: 06/03/91

Extraction: (SepF/Cont/Sonc) SONC

Date Analyzed: 06/11/91

GPC Cleanup: (Y/N) N pH: 6.9

Dilution Factor: 10.0

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

CAS NO.	COMPOUND		
108-95-2	Phenol	3400	U
111-44-4	bis(2-Chloroethyl)ether	3400	U
95-57-8	2-Chlorophenol	3400	U
541-73-1	1,3-Dichlorobenzene	3400	U
106-46-7	1,4-Dichlorobenzene	3400	U
100-51-6	Benzyl alcohol	3400	U
95-50-1	1,2-Dichlorobenzene	3400	U
95-48-7	2-Methylphenol	3400	U
108-60-1	bis(2-Chloroisopropyl)ether	3400	U
106-44-5	4-Methylphenol	3400	U
621-64-7	N-Nitroso-Di-n-propylamine	3400	U
67-72-1	Hexachloroethane	3400	U
98-95-3	Nitrobenzene	3400	U
78-59-1	Isophorone	3400	U
88-75-5	2-Nitrophenol	3400	U
105-67-9	2,4-Dimethylphenol	3400	U
65-85-0	Benzoic acid	17000	U
111-91-1	bis(2-Chloroethoxy)methane	3400	U
120-83-2	2,4-Dichlorophenol	3400	U
120-82-1	1,2,4-Trichlorobenzene	3400	U
91-20-3	Naphthalene	3400	U
106-47-8	4-Chloroaniline	3400	U
87-68-3	Hexachlorobutadiene	3400	U
59-50-7	4-Chloro-3-methylphenol	3400	U
91-57-6	2-Methylnaphthalene	3400	U
77-47-4	Hexachlorocyclopentadiene	3400	U
88-06-2	2,4,6-Trichlorophenol	3400	U
95-95-4	2,4,5-Trichlorophenol	17000	U
91-58-7	2-Chloronaphthalene	3400	U
88-74-4	2-Nitroaniline	17000	U
131-11-3	Dimethylphthalate	3400	U
208-96-8	Acenaphthylene	3400	U
606-20-2	2,6-Dinitrotoluene	3400	U

1C

SEMIVOLATILE ORGANICS ANALYSIS SHEET 0000047

CLIENT SAMPLE NO.

BOOYCO

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

Client: WESTINGHOUSE HANFORD

Matrix: SOIL Lab Sample ID: 9106L749-002

Sample wt/vol: 30.3 (g/mL) G Lab File ID: L061109

Level: (low/med) LOW Date Received: 05/31/91

% Moisture: not dec. 4 dec. Date Extracted: 06/03/91

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 06/11/91

GPC Cleanup: (Y/N) N pH: 6.9 Dilution Factor: 10.0

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

CAS NO.	COMPOUND		
99-09-2	3-Nitroaniline	17000	U
83-32-9	Acenaphthene	3400	U
51-28-5	2,4-Dinitrophenol	17000	U
100-02-7	4-Nitrophenol	17000	U
132-64-9	Dibenzofuran	3400	U
121-14-2	2,4-Dinitrotoluene	3400	U
84-66-2	Diethylphthalate	3400	U
7005-72-3	4-Chlorophenyl-phenylether	3400	U
86-73-7	Fluorene	3400	U
100-01-6	4-Nitroaniline	17000	U
534-52-1	4,6-Dinitro-2-methylphenol	17000	U
86-30-6	N-Nitrosodiphenylamine (1)	3400	U
101-55-3	4-Bromophenyl-phenylether	3400	U
118-74-1	Hexachlorobenzene	3400	U
87-86-5	Pentachlorophenol	17000	U
85-01-8	Phenanthrene	3400	U
120-12-7	Anthracene	3400	U
84-74-2	Di-n-Butylphthalate	1700	J
206-44-0	Fluoranthene	3400	U
129-00-0	Pyrene	3400	U
85-68-7	Butylbenzylphthalate	2600	J
91-94-1	3,3'-Dichlorobenzidine	6800	U
56-55-3	Benzo(a)anthracene	3400	U
218-01-9	Chrysene	3400	U
117-81-7	bis(2-Ethylhexyl)phthalate	5200	
117-84-0	Di-n-Octyl phthalate	3400	U
205-99-2	Benzo(b)fluoranthene	3400	U
207-08-9	Benzo(k)fluoranthene	3400	U
50-32-8	Benzo(a)pyrene	3400	U
193-39-5	Indeno(1,2,3-cd)pyrene	3400	U
53-70-3	Dibenzo(a,h)anthracene	3400	U
191-24-2	Benzo(g,h,i)perylene	3400	U

(1) - Cannot be separated from Diphenylamine

1F

SEMIVOLATILE ORGANICS ANALYSIS SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

0000048

CLIENT SAMPLE NO.

BOOYCO

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

Client: WESTINGHOUSE HANFORD

Matrix: SOIL

Lab Sample ID: 9106L749-002

Sample wt/vol: 30.3 (g/mL) G

Lab File ID: L061109

Level: (low/med) LOW

Date Received: 05/31/91

% Moisture: not dec. 4 dec.

Date Extracted: 06/03/91

Extraction: (SepF/Cont/Sonc) SONC

Date Analyzed: 06/11/91

GPC Cleanup: (Y/N) N pH: 6.9

Dilution Factor: 10.0

Number TICs found: 21

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	ALKANE	9.52	4000	J
2.	CYCLOALKANE	9.83	1000	J
3.	CYCLOALKANE	10.02	1000	J
4.	HYDROCARBON	10.18	2000	J
5.	HYDROCARBON	10.25	1000	J
6.	ALKANE	10.40	10000	J
7.	HYDROCARBON	10.67	3000	J
8.	ALKANE	10.78	6000	J
9.	ALKANE	10.95	2000	J
10.	ALKANE	11.05	2000	J
11.	HYDROCARBON	11.28	2000	J
12.	HYDROCARBON	11.52	2000	J
13.	UNKNOWN	11.70	2000	J
14.	ALKANE	11.88	10000	J
15.	ALKANE	12.20	8000	J
16.	ALKANE	13.05	4000	J
17.	ALKANE	13.55	2000	J
18.	PHOSPHORIC ACID	15.47	30000	J
19.	PHOSPHORIC ACID	17.48	3000	J
20.	HYDROCARBON	21.23	1000	J
21.	PHOSPHORIC ACID	22.17	4000	J

1B

SEMIVOLATILE ORGANICS ANALYSIS SHEET

0000084

CLIENT SAMPLE NO.

BOOYC1

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

Client: WESTINGHOUSE HANFORD

Matrix: SOIL Lab Sample ID: 9106L749-003

Sample wt/vol: 30.0 (g/mL) G Lab File ID: L060610

Level: (low/med) LOW Date Received: 05/31/91

% Moisture: not dec. 3 dec. Date Extracted: 06/03/91

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 06/06/91

GPC Cleanup: (Y/N) N pH: 6.9 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	110	J
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	120	J
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

1C

SEMIVOLATILE ORGANICS ANALYSIS SHEET

0000085

CLIENT SAMPLE NO.

BOOYC1

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

Client: WESTINGHOUSE HANFORD

Matrix: SOIL Lab Sample ID: 9106L749-003

Sample wt/vol: 30.0 (g/mL) G Lab File ID: L060610

Level: (low/med) LOW Date Received: 05/31/91

% Moisture: not dec. 3 dec. Date Extracted: 06/03/91

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 06/06/91

GPC Cleanup: (Y/N) N pH: 6.9 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	340	U
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	4200	
206-44-0	Fluoranthene	340	U
129-00-0	Pyrene	340	U
85-68-7	Butylbenzylphthalate	850	
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

1F

SEMIVOLATILE ORGANICS ANALYSIS SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

0000086

CLIENT SAMPLE NO.

BOOYC1

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

Client: WESTINGHOUSE HANFORD

Matrix: SOIL

Lab Sample ID: 9106L749-003

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

Lab File ID: L060610

Level: (low/med) LOW

Date Received: 05/31/91

% Moisture: not dec. 3 dec.

Date Extracted: 06/03/91

Extraction: (SepF/Cont/Sonc) SONC

Date Analyzed: 06/06/91

GPC Cleanup: (Y/N) N pH: 6.9

Dilution Factor: 1.00

Number TICs found: 22

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	ALKANE	9.68	2000	J
2.	CYCLOALKANE	10.02	700	J
3.	CYCLOALKANE	10.20	800	J
4.	HYDROCARBON	10.37	800	J
5.	UNKNOWN	10.43	500	J
6.	ALKANE	10.58	5000	J
7.	HYDROCARBON	10.87	500	J
8.	ALKANE	10.97	600	J
9.	HYDROCARBON	11.13	600	J
10.	ALKANE	11.23	800	J
11.	UNKNOWN	11.72	2000	J
12.	ALKANE	11.82	600	J
13.	ALKANE	12.08	6000	J
14.	HYDROCARBON	12.38	3000	J
15.	ALKANE	13.23	2000	J
16.	ALKANE	13.73	600	J
17.	PHOSPHORIC ACID	15.80	200000	J
18.	PHOSPHORIC ACID	17.40	8000	J
19.	UNKNOWN	17.72	40000	J
20.	UNKNOWN	18.42	3000	J
21.	UNKNOWN	19.28	600	J
22.	PHTHALATE	23.08	300	J

1B
SEMIVOLATILE ORGANICS ANALYSIS SHEET

0000125

CLIENT SAMPLE NO.

BOOYC2

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

Client: WESTINGHOUSE HANFORD

Matrix: SOIL Lab Sample ID: 9106L749-004

Sample wt/vol: 30.1 (g/mL) G Lab File ID: L060611

Level: (low/med) LOW Date Received: 05/31/91

% Moisture: not dec. 5 dec. Date Extracted: 06/03/91

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 06/06/91

GPC Cleanup: (Y/N) N pH: 7.0 Dilution Factor: 1.00

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

CAS NO.	COMPOUND		
108-95-2	Phenol	350	U
111-44-4	bis(2-Chloroethyl)ether	350	U
95-57-8	2-Chlorophenol	350	U
541-73-1	1,3-Dichlorobenzene	350	U
106-46-7	1,4-Dichlorobenzene	350	U
100-51-6	Benzyl alcohol	350	U
95-50-1	1,2-Dichlorobenzene	350	U
95-48-7	2-Methylphenol	350	U
108-60-1	bis(2-Chloroisopropyl)ether	350	U
106-44-5	4-Methylphenol	350	U
621-64-7	N-Nitroso-Di-n-propylamine	350	U
67-72-1	Hexachloroethane	3300	
98-95-3	Nitrobenzene	350	U
78-59-1	Isophorone	350	U
88-75-5	2-Nitrophenol	350	U
105-67-9	2,4-Dimethylphenol	350	U
65-85-0	Benzoic acid	1700	U
111-91-1	bis(2-Chloroethoxy)methane	350	U
120-83-2	2,4-Dichlorophenol	350	U
120-82-1	1,2,4-Trichlorobenzene	350	U
91-20-3	Naphthalene	350	U
106-47-8	4-Chloroaniline	350	U
87-68-3	Hexachlorobutadiene	760	
59-50-7	4-Chloro-3-methylphenol	350	U
91-57-6	2-Methylnaphthalene	350	U
77-47-4	Hexachlorocyclopentadiene	350	U
88-06-2	2,4,6-Trichlorophenol	350	U
95-95-4	2,4,5-Trichlorophenol	1700	U
91-58-7	2-Chloronaphthalene	350	U
88-74-4	2-Nitroaniline	1700	U
131-11-3	Dimethylphthalate	350	U
208-96-8	Acenaphthylene	350	U
606-20-2	2,6-Dinitrotoluene	350	U

1C

SEMIVOLATILE ORGANICS ANALYSIS SHEET

0000126

CLIENT SAMPLE NO.

BOOYC2

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

Client: WESTINGHOUSE HANFORD

Matrix: SOIL Lab Sample ID: 9106L749-004

Sample wt/vol: 30.1 (g/mL) G Lab File ID: L060611

Level: (low/med) LOW Date Received: 05/31/91

% Moisture: not dec. 5 dec. Date Extracted: 06/03/91

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 06/06/91

GPC Cleanup: (Y/N) N pH: 7.0 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	350	U
51-28-5	2,4-Dinitrophenol	1700	U
100-02-7	4-Nitrophenol	1700	U
132-64-9	Dibenzofuran	350	U
121-14-2	2,4-Dinitrotoluene	350	U
84-66-2	Diethylphthalate	350	U
7005-72-3	4-Chlorophenyl-phenylether	350	U
86-73-7	Fluorene	350	U
100-01-6	4-Nitroaniline	1700	U
534-52-1	4,6-Dinitro-2-methylphenol	1700	U
86-30-6	N-Nitrosodiphenylamine (1)	350	U
101-55-3	4-Bromophenyl-phenylether	350	U
118-74-1	Hexachlorobenzene	350	U
87-86-5	Pentachlorophenol	1700	U
85-01-8	Phenanthrene	350	U
120-12-7	Anthracene	350	U
84-74-2	Di-n-Butylphthalate	5300	
206-44-0	Fluoranthene	350	U
129-00-0	Pyrene	350	U
85-68-7	Butylbenzylphthalate	530	
91-94-1	3,3'-Dichlorobenzidine	700	U
56-55-3	Benzo(a)anthracene	350	U
218-01-9	Chrysene	350	U
117-81-7	bis(2-Ethylhexyl)phthalate	350	U
117-84-0	Di-n-Octyl phthalate	350	U
205-99-2	Benzo(b)fluoranthene	350	U
207-08-9	Benzo(k)fluoranthene	350	U
50-32-8	Benzo(a)pyrene	350	U
193-39-5	Indeno(1,2,3-cd)pyrene	350	U
53-70-3	Dibenzo(a,h)anthracene	350	U
191-24-2	Benzo(g,h,i)perylene	350	U

(1) - Cannot be separated from Diphenylamine

1F

SEMIVOLATILE ORGANICS ANALYSIS SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

0000127

CLIENT SAMPLE NO.

BOOYC2

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

Client: WESTINGHOUSE HANFORD

Matrix: SOIL

Lab Sample ID: 9106L749-004

Sample wt/vol: 30.1 (g/mL) G

Lab File ID: L060611

Level: (low/med) LOW

Date Received: 05/31/91

% Moisture: not dec. 5 dec.

Date Extracted: 06/03/91

Extraction: (SepF/Cont/Sonc) SONC

Date Analyzed: 06/06/91

GPC Cleanup: (Y/N) N pH: 7.0

Dilution Factor: 1.00

Number TICs found: 19

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN	8.55	5000	J
2.	ALKANE	9.70	20000	J
3.	CYCLOALKANE	10.20	10000	J
4.	HYDROCARBON	10.37	10000	J
5.	ALKANE	10.60	60000	J
6.	ALKANE	10.97	20000	J
7.	ALKANE	11.13	10000	J
8.	ALKANE	11.25	10000	J
9.	UNKNOWN	11.72	2000	J
10.	ALKANE	12.10	10000	J
11.	ALKANE	12.38	7000	J
12.	ALKANE	13.23	5000	J
13.	ALKANE	13.73	1000	J
14.	PHOSPHORIC ACID	15.93	600000	J
15.	PHOSPHORIC ACID	17.42	40000	J
16.	UNKNOWN	17.75	100000	J
17.	UNKNOWN	18.42	20000	J
18.	UNKNOWN	18.83	1000	J
19.	UNKNOWN	19.25	6000	J

1B

SEMIVOLATILE ORGANICS ANALYSIS SHEET

0000163

CLIENT SAMPLE NO.

BOOYC4

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

Client: WESTINGHOUSE HANFORD

Matrix: SOIL Lab Sample ID: 9106L749-005

Sample wt/vol: 30.2 (g/mL) G Lab File ID: L060612

Level: (low/med) LOW Date Received: 05/31/91

% Moisture: not dec. 4 dec. Date Extracted: 06/03/91

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 06/06/91

GPC Cleanup: (Y/N) N pH: 7.1 Dilution Factor: 1.00

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

CAS NO.	COMPOUND		
108-95-2	Phenol	350	U
111-44-4	bis(2-Chloroethyl)ether	350	U
95-57-8	2-Chlorophenol	350	U
541-73-1	1,3-Dichlorobenzene	350	U
106-46-7	1,4-Dichlorobenzene	350	U
100-51-6	Benzyl alcohol	350	U
95-50-1	1,2-Dichlorobenzene	350	U
95-48-7	2-Methylphenol	350	U
108-60-1	bis(2-Chloroisopropyl)ether	350	U
106-44-5	4-Methylphenol	350	U
621-64-7	N-Nitroso-Di-n-propylamine	350	U
67-72-1	Hexachloroethane	720	
98-95-3	Nitrobenzene	350	U
78-59-1	Isophorone	350	U
88-75-5	2-Nitrophenol	350	U
105-67-9	2,4-Dimethylphenol	350	U
65-85-0	Benzoic acid	1700	U
111-91-1	bis(2-Chloroethoxy)methane	350	U
120-83-2	2,4-Dichlorophenol	350	U
120-82-1	1,2,4-Trichlorobenzene	350	U
91-20-3	Naphthalene	350	U
106-47-8	4-Chloroaniline	350	U
87-68-3	Hexachlorobutadiene	270	J
59-50-7	4-Chloro-3-methylphenol	350	U
91-57-6	2-Methylnaphthalene	350	U
77-47-4	Hexachlorocyclopentadiene	350	U
88-06-2	2,4,6-Trichlorophenol	350	U
95-95-4	2,4,5-Trichlorophenol	1700	U
91-58-7	2-Chloronaphthalene	350	U
88-74-4	2-Nitroaniline	1700	U
131-11-3	Dimethylphthalate	350	U
208-96-8	Acenaphthylene	350	U
606-20-2	2,6-Dinitrotoluene	350	U

1C

SEMIVOLATILE ORGANICS ANALYSIS SHEET

0000164

CLIENT SAMPLE NO.

BOOYC4

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

Client: WESTINGHOUSE HANFORD

Matrix: SOIL Lab Sample ID: 9106L749-005

Sample wt/vol: 30.2 (g/mL) G Lab File ID: L060612

Level: (low/med) LOW Date Received: 05/31/91

% Moisture: not dec. 4 dec. Date Extracted: 06/03/91

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 06/06/91

GPC Cleanup: (Y/N) N pH: 7.1 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	350	U
51-28-5	2,4-Dinitrophenol	1700	U
100-02-7	4-Nitrophenol	1700	U
132-64-9	Dibenzofuran	350	U
121-14-2	2,4-Dinitrotoluene	350	U
84-66-2	Diethylphthalate	350	U
7005-72-3	4-Chlorophenyl-phenylether	350	U
86-73-7	Fluorene	350	U
100-01-6	4-Nitroaniline	1700	U
534-52-1	4,6-Dinitro-2-methylphenol	1700	U
86-30-6	N-Nitrosodiphenylamine (1)	350	U
101-55-3	4-Bromophenyl-phenylether	350	U
118-74-1	Hexachlorobenzene	350	U
87-86-5	Pentachlorophenol	1700	U
85-01-8	Phenanthrene	350	U
120-12-7	Anthracene	350	U
84-74-2	Di-n-Butylphthalate	3800	
206-44-0	Fluoranthene	350	U
129-00-0	Pyrene	350	U
85-68-7	Butylbenzylphthalate	2700	
91-94-1	3,3'-Dichlorobenzidine	690	U
56-55-3	Benzo(a)anthracene	350	U
218-01-9	Chrysene	350	U
117-81-7	bis(2-Ethylhexyl)phthalate	350	U
117-84-0	Di-n-Octyl phthalate	350	U
205-99-2	Benzo(b)fluoranthene	350	U
207-08-9	Benzo(k)fluoranthene	350	U
50-32-8	Benzo(a)pyrene	350	U
193-39-5	Indeno(1,2,3-cd)pyrene	350	U
53-70-3	Dibenzo(a,h)anthracene	350	U
191-24-2	Benzo(g,h,i)perylene	350	U

(1) - Cannot be separated from Diphenylamine

1F

SEMIVOLATILE ORGANICS ANALYSIS SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

000165

CLIENT SAMPLE NO.

BOOYC4

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

Client: WESTINGHOUSE HANFORD

Matrix: SOIL

Lab Sample ID: 9106L749-005

Sample wt/vol: 30.2 (g/mL) G

Lab File ID: L060612

Level: (low/med) LOW

Date Received: 05/31/91

% Moisture: not dec. 4 dec.

Date Extracted: 06/03/91

Extraction: (SepF/Cont/Sonc) SONC

Date Analyzed: 06/06/91

GPC Cleanup: (Y/N) N pH: 7.1

Dilution Factor: 1.00

Number TICs found: 20

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN	8.57	8000	J
2.	HYDROCARBON	8.92	8000	J
3.	ALKANE	9.48	30000	J
4.	ALKANE	9.72	40000	J
5.	CYCLOALKANE	10.03	10000	J
6.	CYCLOALKANE	10.22	20000	J
7.	ALKANE	10.62	80000	J
8.	ALKANE	11.02	50000	J
9.	ALKANE	11.27	10000	J
10.	HYDROCARBON	11.73	4000	J
11.	ALKANE	12.12	10000	J
12.	ALKANE	12.43	10000	J
13.	ALKANE	13.25	4000	J
14.	ALKANE	13.75	3000	J
15.	ALKANE	15.02	300	J
16.	PHOSPHORIC ACID	15.77	30000	J
17.	PHOSPHORIC ACID	17.40	2000	J
18.	UNKNOWN	17.70	20000	J
19.	UNKNOWN	18.42	1000	J
20.	PHTHALATE	23.07	300	J

1B

SEMIVOLATILE ORGANICS ANALYSIS SHEET

0000202

CLIENT SAMPLE NO.

BOOYC5

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

Client: WESTINGHOUSE HANFORD

Matrix: SOIL Lab Sample ID: 9106L749-006

Sample wt/vol: 30.0 (g/mL) G Lab File ID: S060707

Level: (low/med) LOW Date Received: 05/31/91

% Moisture: not dec. 5 dec. Date Extracted: 06/03/91

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 06/07/91

GPC Cleanup: (Y/N) N pH: 7.2 Dilution Factor: 10.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg	
108-95-2	Phenol	3500	U
111-44-4	bis(2-Chloroethyl)ether	3500	U
95-57-8	2-Chlorophenol	3500	U
541-73-1	1,3-Dichlorobenzene	3500	U
106-46-7	1,4-Dichlorobenzene	3500	U
100-51-6	Benzyl alcohol	3500	U
95-50-1	1,2-Dichlorobenzene	3500	U
95-48-7	2-Methylphenol	3500	U
108-60-1	bis(2-Chloroisopropyl)ether	3500	U
106-44-5	4-Methylphenol	3500	U
621-64-7	N-Nitroso-Di-n-propylamine	3500	U
67-72-1	Hexachloroethane	17000	
98-95-3	Nitrobenzene	3500	U
78-59-1	Isophorone	3500	U
88-75-5	2-Nitrophenol	3500	U
105-67-9	2,4-Dimethylphenol	3500	U
65-85-0	Benzoic acid	17000	U
111-91-1	bis(2-Chloroethoxy)methane	3500	U
120-83-2	2,4-Dichlorophenol	3500	U
120-82-1	1,2,4-Trichlorobenzene	3500	U
91-20-3	Naphthalene	3500	U
106-47-8	4-Chloroaniline	3500	U
87-68-3	Hexachlorobutadiene	3500	U
59-50-7	4-Chloro-3-methylphenol	3500	U
91-57-6	2-Methylnaphthalene	3500	U
77-47-4	Hexachlorocyclopentadiene	3500	U
88-06-2	2,4,6-Trichlorophenol	3500	U
95-95-4	2,4,5-Trichlorophenol	17000	U
91-58-7	2-Chloronaphthalene	3500	U
88-74-4	2-Nitroaniline	17000	U
131-11-3	Dimethylphthalate	3500	U
208-96-8	Acenaphthylene	3500	U
606-20-2	2,6-Dinitrotoluene	3500	U

1C

SEMIVOLATILE ORGANICS ANALYSIS SHEET

0000203

CLIENT SAMPLE NO.

BOOYC5

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

Client: WESTINGHOUSE HANFORD

Matrix: SOIL Lab Sample ID: 9106L749-006

Sample wt/vol: 30.0 (g/mL) G Lab File ID: S060707

Level: (low/med) LOW Date Received: 05/31/91

% Moisture: not dec. 5 dec. Date Extracted: 06/03/91

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 06/07/91

GPC Cleanup: (Y/N) N pH: 7.2 Dilution Factor: 10.0

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

CAS NO.	COMPOUND		
99-09-2	3-Nitroaniline	17000	U
83-32-9	Acenaphthene	3500	U
51-28-5	2,4-Dinitrophenol	17000	U
100-02-7	4-Nitrophenol	17000	U
132-64-9	Dibenzofuran	3500	U
121-14-2	2,4-Dinitrotoluene	3500	U
84-66-2	Diethylphthalate	3500	U
7005-72-3	4-Chlorophenyl-phenylether	3500	U
86-73-7	Fluorene	3500	U
100-01-6	4-Nitroaniline	17000	U
534-52-1	4,6-Dinitro-2-methylphenol	17000	U
86-30-6	N-Nitrosodiphenylamine (1)	3500	U
101-55-3	4-Bromophenyl-phenylether	3500	U
118-74-1	Hexachlorobenzene	3500	U
87-86-5	Pentachlorophenol	17000	U
85-01-8	Phenanthrene	3500	U
120-12-7	Anthracene	3500	U
84-74-2	Di-n-Butylphthalate	1700	J
206-44-0	Fluoranthene	3500	U
129-00-0	Pyrene	3500	U
85-68-7	Butylbenzylphthalate	1100	J
91-94-1	3,3'-Dichlorobenzidine	7000	U
56-55-3	Benzo(a)anthracene	3500	U
218-01-9	Chrysene	3500	U
117-81-7	bis(2-Ethylhexyl)phthalate	3500	U
117-84-0	Di-n-Octyl phthalate	3500	U
205-99-2	Benzo(b)fluoranthene	3500	U
207-08-9	Benzo(k)fluoranthene	3500	U
50-32-8	Benzo(a)pyrene	3500	U
193-39-5	Indeno(1,2,3-cd)pyrene	3500	U
53-70-3	Dibenzo(a,h)anthracene	3500	U
191-24-2	Benzo(g,h,i)perylene	3500	U

(1) - Cannot be separated from Diphenylamine

1F

SEMIVOLATILE ORGANICS ANALYSIS SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

0000204

CLIENT SAMPLE NO.

BOOYC5

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

Client: WESTINGHOUSE HANFORD

Matrix: SOIL

Lab Sample ID: 9106L749-006

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

Lab File ID: S060707

Level: (low/med) LOW

Date Received: 05/31/91

% Moisture: not dec. 5 dec.

Date Extracted: 06/03/91

Extraction: (SepF/Cont/Sonc) SONC

Date Analyzed: 06/07/91

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

Dilution Factor: 10.0

Number TICs found: 20

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN	8.48	20000	J
2.	ALKANE	8.85	20000	J
3.	ALKANE	9.42	100000	J
4.	ALKANE	9.63	200000	J
5.	ALKENE	9.95	40000	J
6.	UNKNOWN	10.05	10000	J
7.	UNKNOWN	10.13	50000	J
8.	ALKANE	10.53	300000	J
9.	ALKENE	10.78	40000	J
10.	ALKANE	10.93	300000	J
11.	HYDROCARBON	11.40	40000	J
12.	HYDROCARBON	11.65	2000	J
13.	ALKANE	12.03	70000	J
14.	ALKANE	12.35	80000	J
15.	ALKANE	13.18	20000	J
16.	ALKANE	13.68	10000	J
17.	PHOSPHORIC ACID	15.75	2000000	J
18.	PHOSPHORIC ACID	17.33	90000	J
19.	UNKNOWN	17.63	300000	J
20.	UNKNOWN	18.37	40000	J

Roy F. Weston, Inc. - Lionville Laboratory
PCBs by GC

RFW Batch Number: 9106L749 Client: WESTINGHOUSE HANFORD Work Order: 6168-02-01-0000 Report Date: 06/10/91 11:39 Page: 1

	Cust ID:	BOOYB8	BOOYB8	BOOYB8	BOOYC0	BOOYC1	BOOYC2
Sample Information	RFW#:	001	001 MS	001 MSD	002	003	004
	Matrix:	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	D.F.:	25.0	25.0	25.0	25.0	5.00	50.0
	Units:	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg
Surrogate: Di-n-butylchlorendate		D %	D %	D %	D %	96 %	D %
		fl	fl	fl	fl	fl	fl
Aroclor-1016		2100 U	2000 U	2000 U	2100 U	410 U	3900 U
Aroclor-1221		2100 U	2000 U	2000 U	2100 U	410 U	3900 U
Aroclor-1232		2100 U	2000 U	2000 U	2100 U	410 U	3900 U
Aroclor-1242		2100 U	2000 U	2000 U	2100 U	410 U	3900 U
Aroclor-1248		2100 U	2000 U	2000 U	2100 U	410 U	3900 U
Aroclor-1254		4200 U	D %	D %	4200 U	820 U	7800 U
Aroclor-1260		4200 U	4000 U	3900 U	4200 U	820 U	7800 U

	Cust ID:	BOOYC4	BOOYC5	PBLK	PBLK BS
Sample Information	RFW#:	005	006	91LE0715-MB1	91LE0715-MB1
	Matrix:	SOIL	SOIL	SOIL	SOIL
	D.F.:	2.50	25.0	0.500	0.500
	Units:	ug/Kg	ug/Kg	ug/Kg	ug/Kg
Surrogate: Di-n-butylchlorendate		117 %	D %	98 %	93 %
		fl	fl	fl	fl
Aroclor-1016		210 U	1900 ~~U~~ R	40 U	40 U
Aroclor-1221		210 U	1900 ~~U~~ R	40 U	40 U
Aroclor-1232		210 U	1900 ~~U~~ R	40 U	40 U
Aroclor-1242		210 U	1900 ~~U~~ R	40 U	40 U
Aroclor-1248		210 U	1900 ~~U~~ R	40 U	40 U
Aroclor-1254		410 U	3900 ~~U~~ R	80 U	91 %
Aroclor-1260		410 U	3900 ~~U~~ R	80 U	80 U

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

7-1-91 [illegible]

1D

PESTICIDE ORGANICS ANALYSIS SHEET 0000013

CLIENT SAMPLE NO.

BOOYB8

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

Client: WESTINGHOUSE HANFORD

Matrix: SOIL Lab Sample ID: 9106L749-001

Sample wt/vol: 29.8 (g/mL) G Lab File ID: 06069103.54

Level: (low/med) LOW Date Received: 05/31/91

% Moisture: not dec. 3 dec. Date Extracted: 06/03/91

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 06/07/91

GPC Cleanup: (Y/N) N pH: 6.6 Dilution Factor: 25.0

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

CAS NO.	COMPOUND		
12674-11-2	Aroclor-1016	2100	U
11104-28-2	Aroclor-1221	2100	U
11141-16-5	Aroclor-1232	2100	U
53469-21-9	Aroclor-1242	2100	U
12672-29-6	Aroclor-1248	2100	U
11097-69-1	Aroclor-1254	4200	U
11096-82-5	Aroclor-1260	4200	U

6/10/91

FORM 1 PEST 12/88 Rev.

1D

PESTICIDE ORGANICS ANALYSIS SHEET

0000020

CLIENT SAMPLE NO.

BOOYCO

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

Client: WESTINGHOUSE HANFORD

Matrix: SOIL

Lab Sample ID: 9106L749-002

Sample wt/vol: 29.5 (g/mL) G

Lab File ID: 06069103.55

Level: (low/med) LOW

Date Received: 05/31/91

% Moisture: not dec. 4 dec.

Date Extracted: 06/03/91

Extraction: (SepF/Cont/Sonc) SONC

Date Analyzed: 06/08/91

GPC Cleanup: (Y/N) N pH: 6.8

Dilution Factor: 25.0

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

CAS NO.	COMPOUND		
12674-11-2	Aroclor-1016	2100	U
11104-28-2	Aroclor-1221	2100	U
11141-16-5	Aroclor-1232	2100	U
53469-21-9	Aroclor-1242	2100	U
12672-29-6	Aroclor-1248	2100	U
11097-69-1	Aroclor-1254	4200	U
11096-82-5	Aroclor-1260	4200	U

6/10/91

FORM 1 PEST 12/88 Rev.

1D
PESTICIDE ORGANICS ANALYSIS SHEET 0000027

CLIENT SAMPLE NO.

BOOYC1

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

Client: WESTINGHOUSE HANFORD

Matrix: SOIL Lab Sample ID: 9106L749-003

Sample wt/vol: 30.2 (g/mL) G Lab File ID: 06069103.56

Level: (low/med) LOW Date Received: 05/31/91

% Moisture: not dec. 3 dec. Date Extracted: 06/03/91

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 06/08/91

GPC Cleanup: (Y/N) N pH: 4.6 Dilution Factor: 5.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg	
12674-11-2	Aroclor-1016	410	U
11104-28-2	Aroclor-1221	410	U
11141-16-5	Aroclor-1232	410	U
53469-21-9	Aroclor-1242	410	U
12672-29-6	Aroclor-1248	410	U
11097-69-1	Aroclor-1254	820	U
11096-82-5	Aroclor-1260	820	U

AM 6/10/91

FORM 1 PEST 12/88 Rev.

1D

PESTICIDE ORGANICS ANALYSIS SHEET 0000032

CLIENT SAMPLE NO.

BOOYC2

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

Client: WESTINGHOUSE HANFORD

Matrix: SOIL

Lab Sample ID: 9106L749-004

Sample wt/vol: 32.1 (g/mL) G

Lab File ID: 06069103.41

Level: (low/med) LOW

Date Received: 05/31/91

% Moisture: not dec. 5 dec.

Date Extracted: 06/03/91

Extraction: (SepF/Cont/Sonc) SONC

Date Analyzed: 06/07/91

GPC Cleanup: (Y/N) N pH: 4.6

Dilution Factor: 50.0

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

CAS NO.	COMPOUND		
12674-11-2	Aroclor-1016	3900	U
11104-28-2	Aroclor-1221	3900	U
11141-16-5	Aroclor-1232	3900	U
53469-21-9	Aroclor-1242	3900	U
12672-29-6	Aroclor-1248	3900	U
11097-69-1	Aroclor-1254	7800	U
11096-82-5	Aroclor-1260	7800	U

6/10/91

FORM 1 PEST 12/88 Rev.

1D

PESTICIDE ORGANICS ANALYSIS SHEET 0000037

CLIENT SAMPLE NO.

BOOYC4

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

Client: WESTINGHOUSE HANFORD

Matrix: SOIL

Lab Sample ID: 9106L749-005

Sample wt/vol: 30.3 (g/mL) G

Lab File ID: 06069103.60

Level: (low/med) LOW

Date Received: 05/31/91

% Moisture: not dec. 4 dec.

Date Extracted: 06/03/91

Extraction: (SepF/Cont/Sonc) SONC

Date Analyzed: 06/08/91

GPC Cleanup: (Y/N) N pH: 5.1

Dilution Factor: 2.50

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

CAS NO.	COMPOUND		
12674-11-2	Aroclor-1016	210	U
11104-28-2	Aroclor-1221	210	U
11141-16-5	Aroclor-1232	210	U
53469-21-9	Aroclor-1242	210	U
12672-29-6	Aroclor-1248	210	U
11097-69-1	Aroclor-1254	410	U
11096-82-5	Aroclor-1260	410	U

1Y 6/10/91

FORM 1 PEST 12/88 Rev.

1D

PESTICIDE ORGANICS ANALYSIS SHEET

0000047

CLIENT SAMPLE NO.

BOOYC5

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

Client: WESTINGHOUSE HANFORD

Matrix: SOIL

Lab Sample ID: 9106L749-006

Sample wt/vol: 32.4 (g/mL) G

Lab File ID: 06069103.61

Level: (low/med) LOW

Date Received: 05/31/91

% Moisture: not dec. 5 dec.

Date Extracted: 06/03/91

Extraction: (SepF/Cont/Sonc) SONC

Date Analyzed: 06/08/91

GPC Cleanup: (Y/N) N pH: 5.8

Dilution Factor: 25.0

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

CAS NO.	COMPOUND		
12674-11-2	Aroclor-1016	1900	U R
11104-28-2	Aroclor-1221	1900	U
11141-16-5	Aroclor-1232	1900	U
53469-21-9	Aroclor-1242	1900	U
12672-29-6	Aroclor-1248	1900	U
11097-69-1	Aroclor-1254	3900	U
11096-82-5	Aroclor-1260	3900	U

M 6/10/91

FORM 1 PEST 12/88 Rev.

7-1-91 as Surrogate

ORGANIC QC - Holding Times

Name C.J. Simiele Date 7-1-91

COMMENTS: VOA-(14 day holding time) samples analyzed 1 and 8 days after sampling.
BNA-(extract. 7 days/analysis 40 days from extr) extracted 10 days after sampling, analysis 4 days after extraction.
PCB's-(extract-7 days/analysis 40 days from extr.) extracted 10 days after sampling, analysis performed 4 and 5 days after extract.

ACTION: None

sample #	constituent	value/qual	sample #	constituent	value/qual

ORGANIC QC - Surrogate Recovery

Name C. J. Simiele Date 7-1-91

COMMENTS: VOA- surrogate recoveries are all within required control limits.

BNA- surrogate recoveries are all with in required control limits

PCB's- All obtainable surrogate recoveries are with in req. control limits. Several surrogates were not recovered due to significant dilutions required.

ACTION: None

sample #	constituent	value/qual	sample #	constituent	value/qual

ORGANIC QC - MS/MSD

Name C. J. Simiele Date 7-1-91

COMMENTS: VOA - % recoveries & % RPD's are all within required control limits.

BNA - % rec's and RPD's are in required control limits, Blank Spike had 2 compounds out of required control limits.

PCB's - matrix spike % recoveries could not be obtained due to significant dilutions to perform analysis

ACTION: None

sample #	constituent	value/qual	sample #	constituent	value/qual

ORGANIC QC - Blanks

Name C.J. Simiele Date 7-1-91

COMMENTS: VOA- common contaminants (acetone, methylene chloride) detected in all three blanks, frequency met
BNA- no contaminants detected in method blank, blank frequency met
PCB'S - no contaminants detected in blank samples.

ACTION: VOA-qualify all associated samples as per OSM guidelines

sample #	constituent	value/qual
A: B00YC5	methylene Cl	U
↓	acetone	U
B00YB8	methylene Cl	U
↓	acetone	U
B00YC0	methylene Cl	U
↓	acetone	U

sample #	constituent	value/qual

ORGANIC QC - GC/MS Tune

Name C.J. Simiele Date 7-1-91

COMMENTS: VOA- BFB % relative abundance criteria control limits met; tune frequency met
BNA- DFTPP % relative abundance control limits met; tune frequency met

ACTION: None

sample #	constituent	value/qual	sample #	constituent	value/qual

ORGANIC QC - Calibrations

Name C.J. Simiele Date 7-1-91

COMMENTS: VOA- all initial & continuing calibration are with in required control limits; frequency met.
BNA- initial calibration is with in required control limits, no continuing calibration provided for (6-7-91) day analysis was preformed.
PCB'S - Continuing calib out of control limits for i Beta-BHC & Endrin (non-target compounds) all other calib. criteria met

ACTION: BNA- Note that continuing calibration data was not supplied with data package (no qualification)

sample #	constituent	value/qual	sample #	constituent	value/qual

ORGANIC QC - Internal Standards

Name C.J. Simiele Date 7-1-91

COMMENTS: VOA- all area counts & retention times are with in required control limits; frequency met
BNA- all area counts & retention times are with in required control limits; frequency met.

ACTION: None

sample #	constituent	value/qual	sample #	constituent	value/qual

ORGANIC QC - Instrument Performance (pest)

Name C.J. Simicle Date 7-1-91

COMMENTS: PCB- Retention time shift of DBC exceeds ctrol limits for BOOYC5.

ACTION: Qualify associated sample as per OSM guidelines

sample #	constituent	value/qual
BOOYC5	Aroclor-1016	1900 R
	Aroclor-1221	1900 R
	Aroclor-1232	1900 R
	Aroclor-1242	1900 R
	Aroclor-1248	1900 R
	Aroclor-1254	3900 R
	Aroclor-1260	3900 R

sample #	constituent	value/qual

ORGANIC QC - Other

Name C.J. Simiela Date 7-1-91

COMMENTS: None

ACTION:

sample #	constituent	value/qual	sample #	constituent	value/qual