9104L167-WES-03

0043163

WESTON
MANAGERS DESIGNERS/CONSULTANTS
208 WELSH POOL ROAD
PICKERING CREEK INDUSTRIAL PARK
LIONVILLE, PA 19341-1313
PHONE: (215) 524-7360
TELEX: 83-5348

OCT 1991
RECEIVED
DATA RECEIPT

10 October 1991

Ms. Jeanette Duncan
Westinghouse-Hanford
2355 Stevens Drive
200 W/MO-346/T6-08
Richland, WA 99352

Dear Jeanette:

Enclosed you will find the final data packages for the following batches:

RFW Number	Parameters
9104L167	Metals (New 90-SOW)
9103L118	Metals (New 90-SOW)
9103L300	Metals (New 90-SOW)
9108L374	VOA, PCB, Inorganics, Metals
9107L223	VOA, PCB, Inorganics, Metals
9107L291	VOA, PCB, Inorganics, Metals
9108L351	VOA, PCB, Inorganics, Metals

Please do not hesitate to call me if you have any questions.

Very truly yours,

ROY F. WESTON, INC.

Josie King

Josie King
Project Information Analyst
Analytics Division

/clk

Enclosure:

FEB 1996
RECEIVED
FDMC

Custody Transfer Record/Lab Work Request

WESTON

WESTON Analytics Use Only
9104L ~~164~~ 167

Client: Westinghouse Hanford /B.E.Innis
Work Order: ~~EN52C~~ 6168-02-01
Date Rec'd.: 4/4/91 Date Due: ~~As specified~~ 5/9/91 per SOW
RFW Contact: Peg Beatty
Client Contact/Phone: B.E. Innis (509)376-7690

Refrigerator#										
#/Type Container	2-90 Amber 80	Amber Glass								
Volume		950 ml						500 ml		
Preservative	Ice				Ice				Ice	
ANALYSES REQUESTED	VOA Hexane Bzdo	Semi VOA TCL (8270)	Kanaan PCBs (8080)	KPWHS (Non Radioactive)	Flash-point (1010)	Total Alkalinity (Method 310.1)	Gamma Scan (Method 901.1)	Total Uranium (Method 7500-U)	Isotopic Uranium (Method 907-RC)	
	0624*	0625*	0626*	See Below	1FLSH	ISUB				

WA Use Only Lab ID	Client ID/Description	Matrix	Date Collected	VOA Hexane Bzdo	Semi VOA TCL (8270)	Kanaan PCBs (8080)	KPWHS (Non Radioactive)	Flash-point (1010)	Total Alkalinity (Method 310.1)	Gamma Scan (Method 901.1)	Total Uranium (Method 7500-U)	Isotopic Uranium (Method 907-RC)
0003	B0QJQ2	DL	4-2-91	✓	✓	✓	✓	✓	✓	✓	✓	✓
0004	B0QJQ5	DL	4-2-91	✓	✓	✓	✓	✓	✓	✓	✓	✓

QC/DU=CLP
TAT 35day

625H-BNA Including Phenols
GCSC=VOA 8015 Kanaan Including 1,2,3,7
(Washes) Metals-Washes ICP-AG,AL,B,BA,BE,CA,CO,CR,CU,FE,K,MG,MN,NA,NI,P,V,ZN
Anions-ICCL,ICFL,ICSO4,ICPO4,ICNO3,ICNO2

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

Special Instructions: Please call to confirm receipt and condition of sample shipment

Item/Reason	Relinquished by	Received by	Date	Time	Item/Reason	Relinquished by	Received by	Date	Time
		SEE WHC C OF C							

WESTON Analytics Use Only

Samples Were:
1 Shipped or Hand-Delivered
NOTES:

2 Ambient or Chilled
NOTES:

3 Received Broken/Leaking (Improperly Sealed) Y N
NOTES:

4 Properly Preserved Y N
NOTES:

5 Properly Vented Y N
NOTES:

6 Chain of Custody Tape Was
1 Intact on Cooler/Lab Pkg Y N
2 Unbroken on Outer Pkg Y N
3 Present on Sample Y N
4 Unbroken on Sample Y N
NOTES:

COC Record Was:
1 Present Upon Receipt of Samples Y N

Discrepancies Between Sample Labels and COC Record? Y N
NOTES:

RFW 21-21-001/A-12/88

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

RFW Batch Number: 9104L167 Client: WESTINGHOUSE HANFORD Work Order: 6168-02-01-0000 Report Date: 04/15/91 09:59 Page: 1a

	Cust ID:	B00J02		B00J02		B00J05		B00J05		VBLK	
Sample Information	RFW#:	001		001 DL		002		002 DL		91LVX054-MB1	
	Matrix:	DRUM		DRUM		DRUM		DRUM		SOIL	
	D.F.:	31200		62500		12500		50000		1.25	
	Units:	ug/Kg		ug/Kg		ug/Kg		ug/Kg		ug/Kg	
	Level:	MED		MED		MED		MED		MED	
Surrogate Recovery	Toluene-d8	D	%	D	%	D	%	D	%	99	%
	Bromofluorobenzene	D	%	D	%	D	%	D	%	95	%
	1,2-Dichloroethane-d4	D	%	D	%	D	%	D	%	93	%
			fl		fl		fl		fl		fl
Chloromethane		0.31E+08	U	NA		0.12E+08	U	NA		1200	U
Bromomethane		0.31E+08	U	NA		0.12E+08	U	NA		1200	U
Vinyl Chloride		0.31E+08	U	NA		0.12E+08	U	NA		1200	U
Chloroethane		0.31E+08	U	NA		0.12E+08	U	NA		1200	U
Methylene Chloride		0.64E+08	B	NA		0.12E+08	B	NA		780	
Acetone		0.25E+09	B	NA		0.16E+08	B	NA		2000	
Carbon Disulfide		0.16E+08	U	NA		6200000	U	NA		620	U
1,1-Dichloroethene		0.16E+08	U	NA		6200000	U	NA		620	U
1,1-Dichloroethane		0.16E+08	U	NA		6200000	U	NA		620	U
1,2-Dichloroethene (total)		0.16E+08	U	NA		6200000	U	NA		620	U
Chloroform		0.16E+08	U	NA		6200000	U	NA		620	U
1,2-Dichloroethane		0.16E+08	U	NA		6200000	U	NA		620	U
2-Butanone		0.31E+08	U	NA		0.12E+08	U	NA		1200	U
1,1,1-Trichloroethane		0.16E+08	U	NA		6200000	U	NA		620	U
Carbon Tetrachloride		0.16E+08	U	NA		6200000	U	NA		620	U
Vinyl Acetate		0.31E+08	U	NA		0.12E+08	U	NA		1200	U
Bromodichloromethane		0.16E+08	U	NA		6200000	U	NA		620	U
1,2-Dichloropropane		0.16E+08	U	NA		6200000	U	NA		620	U
cis-1,3-Dichloropropene		0.16E+08	U	NA		6200000	U	NA		620	U
Trichloroethene		0.16E+08	U	NA		6200000	U	NA		620	U
Dibromochloromethane		0.16E+08	U	NA		6200000	U	NA		620	U
1,1,2-Trichloroethane		0.16E+08	U	NA		6200000	U	NA		620	U
Benzene		0.16E+08	U	NA		6200000	U	NA		620	U
Trans-1,3-Dichloropropene		0.16E+08	U	NA		6200000	U	NA		620	U
Bromoform		0.16E+08	U	NA		6200000	U	NA		620	U
4-Methyl-2-pentanone			E	0.86E+09			E	0.80E+09		1200	U
2-Hexanone		0.31E+08	U	NA		0.12E+08	U	NA		1200	U
Tetrachloroethene		0.16E+08	U	NA		6200000	U	NA		620	U
1,1,2,2-Tetrachloroethane		0.16E+08	U	NA		6200000	U	NA		620	U

*= Outside of EPA CLP QC limits.

000004

Cust ID:	B00J02	B00J02	B00J05	B00J05	VBLK
RFW#:	001	001 DL	002	002 DL	91LVX054-MB1
Level:	MED	MED	MED	MED	MED
Toluene	0.16E+08 U	NA	6200000 U	NA	620 U
Chlorobenzene	0.16E+08 U	NA	6200000 U	NA	620 U
Ethylbenzene	0.16E+08 U	NA	6200000 U	NA	620 U
Styrene	0.16E+08 U	NA	6200000 U	NA	620 U
Xylene (total)	0.16E+08 U	NA	6200000 U	NA	620 U

*= Outside of EPA CLP QC limits.

0 ++

ROY F. WESTON, INC.
Lionville Laboratory

CLIENT: WESTINGHOUSE HANFORD **SAMPLES RECEIVED:** 04-04-91
RFW #: 9104L167, GC/MS VOLATILE
W.O. #: 6168-02-01

NARRATIVE

The set of samples consisted of two (2) drum samples collected on 04-02-91.

The samples were analyzed according to criteria set forth in CLP SOW 02/88 (Rev. 05/89) for TCL Volatile target compounds on 04-09-91.

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 not detected in these samples.

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

Sample ID	Dilution Factor
B00J02	25,000 & 50,000/medium
B00J05	10,000 & 40,000/medium

3. All obtainable surrogate recoveries were within EPA QC limits. Surrogate recoveries could not be obtained for samples which required dilution.

4. Matrix spike and spike duplicate samples are associated with RFW lot 9103L121.

5. The laboratory blanks contained the common contaminants acetone and methylene chloride at levels less than 2x 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

5.8.91
Date

1A

VOLATILE ORGANICS ANALYSIS SHEET 0000015

CLIENT SAMPLE NO.

B00J02

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

Client: WESTINGHOUSE HANFORD

Matrix: DRUM

Lab Sample ID: 9104L167-001

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

Lab File ID: AX4907

Level: (low/med) MED

Date Received: 04/04/91

% Moisture: not dec. 0

Date Analyzed: 04/09/91

Column: (pack/cap) CAP

Dilution Factor: 31200

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

CAS NO.	COMPOUND		
74-87-3	Chloromethane	0.31E+08	U
74-83-9	Bromomethane	0.31E+08	U
75-01-4	Vinyl Chloride	0.31E+08	U
75-00-3	Chloroethane	0.31E+08	U
75-09-2	Methylene Chloride	0.64E+08	B
67-64-1	Acetone	0.25E+09	B
75-15-0	Carbon Disulfide	0.16E+08	U
75-35-4	1,1-Dichloroethene	0.16E+08	U
75-34-3	1,1-Dichloroethane	0.16E+08	U
540-59-0	1,2-Dichloroethene (total)	0.16E+08	U
67-66-3	Chloroform	0.16E+08	U
107-06-2	1,2-Dichloroethane	0.16E+08	U
78-93-3	2-Butanone	0.31E+08	U
71-55-6	1,1,1-Trichloroethane	0.16E+08	U
56-23-5	Carbon Tetrachloride	0.16E+08	U
108-05-4	Vinyl Acetate	0.31E+08	U
75-27-4	Bromodichloromethane	0.16E+08	U
78-87-5	1,2-Dichloropropane	0.16E+08	U
10061-01-5	cis-1,3-Dichloropropene	0.16E+08	U
79-01-6	Trichloroethene	0.16E+08	U
124-48-1	Dibromochloromethane	0.16E+08	U
79-00-5	1,1,2-Trichloroethane	0.16E+08	U
71-43-2	Benzene	0.16E+08	U
10061-02-6	Trans-1,3-Dichloropropene	0.16E+08	U
75-25-2	Bromoform	0.16E+08	U
108-10-1	4-Methyl-2-pentanone		E
591-78-6	2-Hexanone	0.31E+08	U
127-18-4	Tetrachloroethene	0.16E+08	U
79-34-5	1,1,2,2-Tetrachloroethane	0.16E+08	U
108-88-3	Toluene	0.16E+08	U
108-90-7	Chlorobenzene	0.16E+08	U
100-41-4	Ethylbenzene	0.16E+08	U
100-42-5	Styrene	0.16E+08	U
1330-20-7	Xylene (total)	0.16E+08	U

1E

VOLATILE ORGANICS ANALYSIS SHEET 0000016

TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

B00J02

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

Client: WESTINGHOUSE HANFORD

Matrix: DRUM

Lab Sample ID: 9104L167-001

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

Lab File ID: AX4907

Level: (low/med) MED

Date Received: 04/04/91

% Moisture: not dec. 0

Date Analyzed: 04/09/91

Column: (pack/cap) CAP

Dilution Factor: 31200

Number TICs found: 0

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

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

1A
VOLATILE ORGANICS ANALYSIS SHEET 0000023

CLIENT SAMPLE NO.

BOOJ02DL

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

Client: WESTINGHOUSE HANFORD

Matrix: DRUM

Lab Sample ID: 9104L167-001 DL

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

Lab File ID: AX4909

Level: (low/med) MED

Date Received: 04/04/91

% Moisture: not dec. 0

Date Analyzed: 04/09/91

Column: (pack/cap) CAP

Dilution Factor: 62500

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

CAS NO.	COMPOUND		
74-87-3	Chloromethane	NA	
74-83-9	Bromomethane	NA	
75-01-4	Vinyl Chloride	NA	
75-00-3	Chloroethane	NA	
75-09-2	Methylene Chloride	NA	
67-64-1	Acetone	NA	
75-15-0	Carbon Disulfide	NA	
75-35-4	1,1-Dichloroethene	NA	
75-34-3	1,1-Dichloroethane	NA	
540-59-0	1,2-Dichloroethene (total)	NA	
67-66-3	Chloroform	NA	
107-06-2	1,2-Dichloroethane	NA	
78-93-3	2-Butanone	NA	
71-55-6	1,1,1-Trichloroethane	NA	
56-23-5	Carbon Tetrachloride	NA	
108-05-4	Vinyl Acetate	NA	
75-27-4	Bromodichloromethane	NA	
78-87-5	1,2-Dichloropropane	NA	
10061-01-5	cis-1,3-Dichloropropene	NA	
79-01-6	Trichloroethene	NA	
124-48-1	Dibromochloromethane	NA	
79-00-5	1,1,2-Trichloroethane	NA	
71-43-2	Benzene	NA	
10061-02-6	Trans-1,3-Dichloropropene	NA	
75-25-2	Bromoform	NA	
108-10-1	4-Methyl-2-pentanone	0.86E+09	
591-78-6	2-Hexanone	NA	
127-18-4	Tetrachloroethene	NA	
79-34-5	1,1,2,2-Tetrachloroethane	NA	
108-88-3	Toluene	NA	
108-90-7	Chlorobenzene	NA	
100-41-4	Ethylbenzene	NA	
100-42-5	Styrene	NA	
1330-20-7	Xylene (total)	NA	

1A
VOLATILE ORGANICS ANALYSIS SHEET 0000036

CLIENT SAMPLE NO.

BOOJ05DL

Lab Name: Roy F. Weston, Inc. Work Order: 5168-02-01-0000

Client: WESTINGHOUSE HANFORD

Matrix: DRUM

Lab Sample ID: 9104L167-002 DL

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

Lab File ID: AX4908

Level: (low/med) MED

Date Received: 04/04/91

% Moisture: not dec. 0

Date Analyzed: 04/09/91

Column: (pack/cap) CAP

Dilution Factor: 50000

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

CAS NO.	COMPOUND		
74-87-3	Chloromethane	NA	
74-83-9	Bromomethane	NA	
75-01-4	Vinyl Chloride	NA	
75-00-3	Chloroethane	NA	
75-09-2	Methylene Chloride	NA	
67-64-1	Acetone	NA	
75-15-0	Carbon Disulfide	NA	
75-35-4	1,1-Dichloroethene	NA	
75-34-3	1,1-Dichloroethane	NA	
540-59-0	1,2-Dichloroethene (total)	NA	
67-66-3	Chloroform	NA	
107-06-2	1,2-Dichloroethane	NA	
78-93-3	2-Butanone	NA	
71-55-6	1,1,1-Trichloroethane	NA	
56-23-5	Carbon Tetrachloride	NA	
108-05-4	Vinyl Acetate	NA	
75-27-4	Bromodichloromethane	NA	
78-87-5	1,2-Dichloropropane	NA	
10061-01-5	cis-1,3-Dichloropropene	NA	
79-01-6	Trichloroethene	NA	
124-48-1	Dibromochloromethane	NA	
79-00-5	1,1,2-Trichloroethane	NA	
71-43-2	Benzene	NA	
10061-02-6	Trans-1,3-Dichloropropene	NA	
75-25-2	Bromoform	NA	
108-10-1	4-Methyl-2-pentanone	0.80E+09	
591-78-6	2-Hexanone	NA	
127-18-4	Tetrachloroethene	NA	
79-34-5	1,1,2,2-Tetrachloroethane	NA	
108-88-3	Toluene	NA	
108-90-7	Chlorobenzene	NA	
100-41-4	Ethylbenzene	NA	
100-42-5	Styrene	NA	
1330-20-7	Xylene (total)	NA	

1A
VOLATILE ORGANICS ANALYSIS SHEET 0000028

CLIENT SAMPLE NO.

B00J05

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

Client: WESTINGHOUSE HANFORD

Matrix: DRUM

Lab Sample ID: 9104L167-002

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

Lab File ID: AX4906

Level: (low/med) MED

Date Received: 04/04/91

% Moisture: not dec. 0

Date Analyzed: 04/09/91

Column: (pack/cap) CAP

Dilution Factor: 12500

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

CAS NO.	COMPOUND		
74-87-3	Chloromethane	0.12E+08	U
74-83-9	Bromomethane	0.12E+08	U
75-01-4	Vinyl Chloride	0.12E+08	U
75-00-3	Chloroethane	0.12E+08	U
75-09-2	Methylene Chloride	0.12E+08	B
67-64-1	Acetone	0.16E+08	B
75-15-0	Carbon Disulfide	6200000	U
75-35-4	1,1-Dichloroethene	6200000	U
75-34-3	1,1-Dichloroethane	6200000	U
540-59-0	1,2-Dichloroethene (total)	6200000	U
67-66-3	Chloroform	6200000	U
107-06-2	1,2-Dichloroethane	6200000	U
78-93-3	2-Butanone	0.12E+08	U
71-55-6	1,1,1-Trichloroethane	6200000	U
56-23-5	Carbon Tetrachloride	6200000	U
108-05-4	Vinyl Acetate	0.12E+08	U
75-27-4	Bromodichloromethane	6200000	U
78-87-5	1,2-Dichloropropane	6200000	U
10061-01-5	cis-1,3-Dichloropropene	6200000	U
79-01-6	Trichloroethene	6200000	U
124-48-1	Dibromochloromethane	6200000	U
79-00-5	1,1,2-Trichloroethane	6200000	U
71-43-2	Benzene	6200000	U
10061-02-6	Trans-1,3-Dichloropropene	6200000	U
75-25-2	Bromoform	6200000	U
108-10-1	4-Methyl-2-pentanone		E
591-78-6	2-Hexanone	0.12E+08	U
127-18-4	Tetrachloroethene	6200000	U
79-34-5	1,1,2,2-Tetrachloroethane	6200000	U
108-88-3	Toluene	6200000	U
108-90-7	Chlorobenzene	6200000	U
100-41-4	Ethylbenzene	6200000	U
100-42-5	Styrene	6200000	U
1330-20-7	Xylene (total)	6200000	U

1E

VOLATILE ORGANICS ANALYSIS SHEET 0000029

TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

BOOJ05

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

Client: WESTINGHOUSE HANFORD

Matrix: DRUM

Lab Sample ID: 9104L167-002

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

Lab File ID: AX4906

Level: (low/med) MED

Date Received: 04/04/91

% Moisture: not dec. 0

Date Analyzed: 04/09/91

Column: (pack/cap) CAP

Dilution Factor: 12500

Number TICs found: 0

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

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

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

RFW Batch Number: 9104L167 Client: WESTINGHOUSE HANFORD Work Order: 6168-02-01-0000 Report Date: 05/14/91 14:16 Page: 1a

	Cust ID:	B00J02	B00J02	B00J02	B00J02	B00J05	B00J05
Sample Information	RFW#:	001	001	001 MS	001 MSD	002	002
	Matrix:	DRUM	DRUM	DRUM	DRUM	DRUM	DRUM
	D.F.:	100	100	100	100	100	100
	Units:	ug/Kg	ug/Kg REPREP	ug/Kg	ug/Kg	ug/Kg	ug/Kg REPREP
Surrogate Recovery	Nitrobenzene-d5	78 %	84 %	84 %	84 %	73 %	90 %
	2-Fluorobiphenyl	94 %	76 %	95 %	98 %	81 %	78 %
	p-Terphenyl-d14	128 %	80 %	133 %	142 * %	111 %	83 %
	Phenol-d5	83 %	71 %	91 %	90 %	80 %	76 %
	2-Fluorophenol	96 %	66 %	103 %	104 %	76 %	72 %
	2,4,6-Tribromophenol	64 %	63 %	72 %	66 %	57 %	62 %
		fl	fl	fl	fl	fl	fl
Phenol		0.0 NR	1000000 U	103 * %	109 * %	0.0 NR	1000000 U
bis(2-Chloroethyl)ether		1200000 U	1000000 U	1200000 U	1200000 U	1200000 U	1000000 U
2-Chlorophenol		0.0 NR	1000000 U	92 %	97 %	0.0 NR	1000000 U
1,3-Dichlorobenzene		1200000 U	1000000 U	1200000 U	1200000 U	1200000 U	1000000 U
1,4-Dichlorobenzene		0.0 NR	1000000 U	97 %	101 %	0.0 NR	1000000 U
Benzyl alcohol		1200000 U	1000000 U	1200000 U	1200000 U	1200000 U	1000000 U
1,2-Dichlorobenzene		1200000 U	1000000 U	1200000 U	1200000 U	1200000 U	1000000 U
2-Methylphenol		1200000 U	1000000 U	1200000 U	1200000 U	1200000 U	1000000 U
bis(2-Chloroisopropyl)ether		1200000 U	1000000 U	1200000 U	1200000 U	1200000 U	1000000 U
4-Methylphenol		1200000 U	1000000 U	1200000 U	1200000 U	1200000 U	1000000 U
N-Nitroso-Di-n-propylamine		0.0 NR	1000000 U	76 %	78 %	0.0 NR	1000000 U
Hexachloroethane		1200000 U	1000000 U	1200000 U	1200000 U	1200000 U	1000000 U
Nitrobenzene		1200000 U	1000000 U	1200000 U	1200000 U	1200000 U	1000000 U
Isophorone		1200000 U	1000000 U	1200000 U	1200000 U	1200000 U	1000000 U
2-Nitrophenol		1200000 U	1000000 U	1200000 U	1200000 U	1200000 U	1000000 U
2,4-Dimethylphenol		1200000 U	1000000 U	1200000 U	1200000 U	1200000 U	1000000 U
Benzoic acid		6200000 U	5000000 U	6200000 U	6200000 U	6200000 U	5000000 U
bis(2-Chloroethoxy)methane		1200000 U	1000000 U	1200000 U	1200000 U	1200000 U	1000000 U
2,4-Dichlorophenol		1200000 U	1000000 U	1200000 U	1200000 U	1200000 U	1000000 U
1,2,4-Trichlorobenzene		0.0 NR	1000000 U	101 %	106 %	0.0 NR	1000000 U
Naphthalene		1200000 U	1000000 U	1200000 U	1200000 U	1200000 U	1000000 U
4-Chloroaniline		1200000 U	1000000 U	1200000 U	1200000 U	1200000 U	1000000 U
Hexachlorobutadiene		1200000 U	1000000 U	1200000 U	1200000 U	1200000 U	1000000 U
4-Chloro-3-methylphenol		0.0 NR	1000000 U	85 %	88 %	0.0 NR	1000000 U
2-Methylnaphthalene		1200000 U	1000000 U	1200000 U	1200000 U	1200000 U	1000000 U
Hexachlorocyclopentadiene		1200000 U	1000000 U	1200000 U	1200000 U	1200000 U	1000000 U

*= Outside of EPA CLP QC limits.

Cust ID:	BOOJ02	BOOJ02	BOOJ02	BOOJ02	BOOJ05	BOOJ05
RFW#:	001	001 REPREP	001 MS	001 MSD	002	002 REPREP
2,4,6-Trichlorophenol	1200000 U	1000000 U	1200000 U	1200000 U	1200000 U	1000000 U
2,4,5-Trichlorophenol	6200000 U	5000000 U	6200000 U	6200000 U	6200000 U	5000000 U
2-Chloronaphthalene	1200000 U	1000000 U	1200000 U	1200000 U	1200000 U	1000000 U
2-Nitroaniline	6200000 U	5000000 U	6200000 U	6200000 U	6200000 U	5000000 U
Dimethylphthalate	1200000 U	1000000 U	1200000 U	1200000 U	1200000 U	1000000 U
Acenaphthylene	1200000 U	1000000 U	1200000 U	1200000 U	1200000 U	1000000 U
2,6-Dinitrotoluene	1200000 U	1000000 U	1200000 U	1200000 U	1200000 U	1000000 U
3-Nitroaniline	6200000 U	5000000 U	6200000 U	6200000 U	6200000 U	5000000 U
Acenaphthene	0.0 NR	1000000 U	102 %	108 %	0.0 NR	1000000 U
2,4-Dinitrophenol	6200000 U	5000000 U	6200000 U	6200000 U	6200000 U	5000000 U
4-Nitrophenol	6200000 U	5000000 U	67 %	69 %	0.0 NR	5000000 U
Dibenzofuran	1200000 U	1000000 U	1200000 U	1200000 U	1200000 U	1000000 U
2,4-Dinitrotoluene	0.0 NR	1000000 U	92 * %	93 * %	0.0 NR	1000000 U
Diethylphthalate	1200000 U	1000000 U	1200000 U	1200000 U	1200000 U	1000000 U
4-Chlorophenyl-phenylether	1200000 U	1000000 U	1200000 U	1200000 U	1200000 U	1000000 U
Fluorene	1200000 U	1000000 U	1200000 U	1200000 U	1200000 U	1000000 U
4-Nitroaniline	6200000 U	5000000 U	6200000 U	6200000 U	6200000 U	5000000 U
4,6-Dinitro-2-methylphenol	6200000 U	5000000 U	6200000 U	6200000 U	6200000 U	5000000 U
N-Nitrosodiphenylamine (1)	1200000 U	1000000 U	1200000 U	1200000 U	1200000 U	1000000 U
4-Bromophenyl-phenylether	1200000 U	1000000 U	1200000 U	1200000 U	1200000 U	1000000 U
Hexachlorobenzene	1200000 U	1000000 U	1200000 U	1200000 U	1200000 U	1000000 U
Pentachlorophenol	0.0 NR	5000000 U	107 %	108 %	0.0 NR	5000000 U
Phenanthrene	1200000 U	1000000 U	1200000 U	1200000 U	1200000 U	1000000 U
Anthracene	1200000 U	1000000 U	1200000 U	1200000 U	1200000 U	1000000 U
Di-n-Butylphthalate	1200000 U	1000000 U	1200000 U	1200000 U	1200000 U	1000000 U
Fluoranthene	1200000 U	1000000 U	1200000 U	1200000 U	1200000 U	1000000 U
Pyrene	0.0 NR	1000000 U	151 * %	160 * %	0.0 NR	1000000 U
Butylbenzylphthalate	1200000 U	1000000 U	1200000 U	1200000 U	1200000 U	1000000 U
3,3'-Dichlorobenzidine	2500000 U	2000000 U	2500000 U	2500000 U	2500000 U	2000000 U
Benzo(a)anthracene	1200000 U	1000000 U	1200000 U	1200000 U	1200000 U	1000000 U
Chrysene	1200000 U	1000000 U	1200000 U	1200000 U	1200000 U	1000000 U
bis(2-Ethylhexyl)phthalate	1200000 U	1000000 U	1200000 U	1200000 U	1200000 U	1000000 U
Di-n-Octyl phthalate	1200000 U	1000000 U	1200000 U	1200000 U	1200000 U	1000000 U
Benzo(b)fluoranthene	1200000 U	1000000 U	1200000 U	1200000 U	1200000 U	1000000 U
Benzo(k)fluoranthene	1200000 U	1000000 U	1200000 U	1200000 U	1200000 U	1000000 U
Benzo(a)pyrene	1200000 U	1000000 U	1200000 U	1200000 U	1200000 U	1000000 U
Indeno(1,2,3-cd)pyrene	1200000 U	1000000 U	1200000 U	1200000 U	1200000 U	1000000 U
Dibenzo(a,h)anthracene	1200000 U	1000000 U	1200000 U	1200000 U	1200000 U	1000000 U
Benzo(g,h,i)perylene	1200000 U	1000000 U	1200000 U	1200000 U	1200000 U	1000000 U
Tributylphosphate	1200000 U	1000000 U	1200000 U	1200000 U	1200000 U	1000000 U

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

WESTON

ROY F. WESTON, INC.
Lionville Laboratory

CLIENT: WESTINGHOUSE HANFORD **SAMPLES RECEIVED:** 04-04-91
RFW #: 9104L167, SEMIVOLATILE
W.O. #: 6168-02-01

NARRATIVE

The set of samples consisted of two (2) drum liquid samples collected on 04-02-91.

The samples were extracted on 04-08-91 and 05-06-91 using Waste dilution protocols and analyzed according to criteria set forth in CLP SOW 2/88 (rev 5/89) for TCL Semivolatile target compounds and tributylphosphate on 05-03,06,10-91.

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

1. All samples were re-extracted outside of holding time established for soil samples (holding times have not been established for drum samples).

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

3. All drum samples were extracted by waste dilution methods which resulted in dilutions and high detection limits.

4. One (1) of sixty-six (66) surrogate recoveries were within EPA QC limits; however, EPA CLP surrogate recovery criteria were met (i.e., no more than one outlier per fraction {acid and base neutral} and no recoveries less than 10%).

5. Six (6) of twenty-two (22) matrix spike recoveries were outside soil EPA QC limits. These limits did not apply to drum samples. High recoveries were due to the use of the waste dilution extraction method.

6. One (1) of thirty-three (33) blank spike recoveries were outside soil EPA QC limits.

7. Internal standard area criteria were not met for all samples B00J02, B00J02 MSD, B00J02 RE, 91LE0588-MB1 BS, and B00J05 RE. The associated original analysis of each sample fulfilled the re-analysis requirements.

WESTON

8. All samples and the associated method blank (91LE0441-MB1) were inadvertently contaminated with matrix spike compounds. It is the analyst's opinion that this contamination was intrcduced with the addition of the surrogate solution. These compounds were flagged NR (not reported). These samples were re-extracted and re-analyzed. Re-analysis results are included.

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

5.20.91
Date

1C
SEMIVOLATILE ORGANICS ANALYSIS SHEET 0000027

CLIENT SAMPLE NO.

BOOJ02

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

Client: WESTINGHOUSE HANFORD

Matrix: DRUM Lab Sample ID: 9104L167-001

Sample wt/vol: 0.800 (g/mL) G Lab File ID: M050313

Level: (low/med) LOW Date Received: 04/04/91

% Moisture: not dec. 100 dec. Date Extracted: 04/08/91

Extraction: (SepF/Cont/Sonc) N/A Date Analyzed: 05/03/91

GPC Cleanup: (Y/N) N pH: 7.0 Dilution Factor: 100

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

CAS NO.	COMPOUND		
99-09-2	3-Nitroaniline	6200000	U
83-32-9	Acenaphthene	0.0	NR
51-28-5	2,4-Dinitrophenol	6200000	U
100-02-7	4-Nitrophenol	6200000	U
132-64-9	Dibenzofuran	1200000	U
121-14-2	2,4-Dinitrotoluene	0.0	NR
84-66-2	Diethylphthalate	1200000	U
7005-72-3	4-Chlorophenyl-phenylether	1200000	U
86-73-7	Fluorene	1200000	U
100-01-6	4-Nitroaniline	6200000	U
534-52-1	4,6-Dinitro-2-methylphenol	6200000	U
86-30-6	N-Nitrosodiphenylamine (1)	1200000	U
101-55-3	4-Bromophenyl-phenylether	1200000	U
118-74-1	Hexachlorobenzene	1200000	U
87-86-5	Pentachlorophenol	0.0	NR
85-01-8	Phenanthrene	1200000	U
120-12-7	Anthracene	1200000	U
84-74-2	Di-n-Butylphthalate	1200000	U
206-44-0	Fluoranthene	1200000	U
129-00-0	Pyrene	0.0	NR
85-68-7	Butylbenzylphthalate	1200000	U
91-94-1	3,3'-Dichlorobenzidine	2500000	U
56-55-3	Benzo(a)anthracene	1200000	U
218-01-9	Chrysene	1200000	U
117-81-7	bis(2-Ethylhexyl)phthalate	1200000	U
117-84-0	Di-n-Octyl phthalate	1200000	U
205-99-2	Benzo(b)fluoranthene	1200000	U
207-08-9	Benzo(k)fluoranthene	1200000	U
50-32-8	Benzo(a)pyrene	1200000	U
193-39-5	Indeno(1,2,3-cd)pyrene	1200000	U
53-70-3	Dibenzo(a,h)anthracene	1200000	U
191-24-2	Benzo(g,h,i)perylene	1200000	U

(1) - Cannot be separated from Diphenylamine

1D
SEMIVOLATILE ORGANICS ANALYSIS SHEET 0000028

CLIENT SAMPLE NO.

B00J02

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

Client: WESTINGHOUSE HANFORD

Matrix: DRUM

Lab Sample ID: 9104L167-001

Sample wt/vol: 0.800 (g/mL) G

Lab File ID: M050313

Level: (low/med) LOW

Date Received: 04/04/91

% Moisture: not dec. 100 dec.

Date Extracted: 04/08/91

Extraction: (SepF/Cont/Sonc) N/A

Date Analyzed: 05/03/91

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

Dilution Factor: 100

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg	
126-73-8	Tributylphosphate	1200000	U

FORM 1 SV-3

12/88 Rev.

1F

SEMIVOLATILE ORGANICS ANALYSIS SHEET 0000029

TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

BOOJ02

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

Client: WESTINGHOUSE HANFORD

Matrix: DRUM

Lab Sample ID: 9104L167-001

Sample wt/vol: 0.800 (g/mL) G

Lab File ID: M050313

Level: (low/med) LOW

Date Received: 04/04/91

% Moisture: not dec. 100 dec.

Date Extracted: 04/08/91

Extraction: (SepF/Cont/Sonc) N/A

Date Analyzed: 05/03/91

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

Dilution Factor: 100

Number TICs found: 1

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN	11.02	200000	J

1B

SEMIVOLATILE ORGANICS ANALYSIS SHEET 000038

CLIENT SAMPLE NO.

BOOJ02RE

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

Client: WESTINGHOUSE HANFORD

Matrix: DRUM Lab Sample ID: 9104L167-001

Sample wt/vol: 1.00 (g/mL) G Lab File ID: M051013

Level: (low/med) LOW Date Received: 04/04/91

% Moisture: not dec. 0 dec. Date Extracted: 05/06/91

Extraction: (SepF/Cont/Sonc) N/A Date Analyzed: 05/10/91

GPC Cleanup: (Y/N) N pH: 7.0 Dilution Factor: 100

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

CAS NO.	COMPOUND		
108-95-2	Phenol	1000000	U
111-44-4	bis(2-Chloroethyl)ether	1000000	U
95-57-8	2-Chlorophenol	1000000	U
541-73-1	1,3-Dichlorobenzene	1000000	U
106-46-7	1,4-Dichlorobenzene	1000000	U
100-51-6	Benzyl alcohol	1000000	U
95-50-1	1,2-Dichlorobenzene	1000000	U
95-48-7	2-Methylphenol	1000000	U
108-60-1	bis(2-Chloroisopropyl)ether	1000000	U
106-44-5	4-Methylphenol	1000000	U
621-64-7	N-Nitroso-Di-n-propylamine	1000000	U
67-72-1	Hexachloroethane	1000000	U
98-95-3	Nitrobenzene	1000000	U
78-59-1	Isophorone	1000000	U
88-75-5	2-Nitrophenol	1000000	U
105-67-9	2,4-Dimethylphenol	1000000	U
65-85-0	Benzoic acid	5000000	U
111-91-1	bis(2-Chloroethoxy)methane	1000000	U
120-83-2	2,4-Dichlorophenol	1000000	U
120-82-1	1,2,4-Trichlorobenzene	1000000	U
91-20-3	Naphthalene	1000000	U
106-47-8	4-Chloroaniline	1000000	U
87-68-3	Hexachlorobutadiene	1000000	U
59-50-7	4-Chloro-3-methylphenol	1000000	U
91-57-6	2-Methylnaphthalene	1000000	U
77-47-4	Hexachlorocyclopentadiene	1000000	U
88-06-2	2,4,6-Trichlorophenol	1000000	U
95-95-4	2,4,5-Trichlorophenol	5000000	U
91-58-7	2-Chloronaphthalene	1000000	U
88-74-4	2-Nitroaniline	5000000	U
131-11-3	Dimethylphthalate	1000000	U
208-96-8	Acenaphthylene	1000000	U
606-20-2	2,6-Dinitrotoluene	1000000	U

1C

SEMIVOLATILE ORGANICS ANALYSIS SHEET 0000039

CLIENT SAMPLE NO.

BOOJ02RE

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

Client: WESTINGHOUSE HANFORD

Matrix: DRUM Lab Sample ID: 9104L167-001

Sample wt/vol: 1.00 (g/mL) G Lab File ID: M051013

Level: (low/med) LOW Date Received: 04/04/91

% Moisture: not dec. 0 dec. Date Extracted: 05/06/91

Extraction: (SepF/Cont/Sonc) N/A Date Analyzed: 05/10/91

GPC Cleanup: (Y/N) N pH: 7.0 Dilution Factor: 100

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

CAS NO.	COMPOUND		
99-09-2	3-Nitroaniline	5000000	U
83-32-9	Acenaphthene	1000000	U
51-28-5	2,4-Dinitrophenol	5000000	U
100-02-7	4-Nitrophenol	5000000	U
132-64-9	Dibenzofuran	1000000	U
121-14-2	2,4-Dinitrotoluene	1000000	U
84-66-2	Diethylphthalate	1000000	U
7005-72-3	4-Chlorophenyl-phenylether	1000000	U
86-73-7	Fluorene	1000000	U
100-01-6	4-Nitroaniline	5000000	U
534-52-1	4,6-Dinitro-2-methylphenol	5000000	U
86-30-6	N-Nitrosodiphenylamine (1)	1000000	U
101-55-3	4-Bromophenyl-phenylether	1000000	U
118-74-1	Hexachlorobenzene	1000000	U
87-86-5	Pentachlorophenol	5000000	U
85-01-8	Phenanthrene	1000000	U
120-12-7	Anthracene	1000000	U
84-74-2	Di-n-Butylphthalate	1000000	U
206-44-0	Fluoranthene	1000000	U
129-00-0	Pyrene	1000000	U
85-68-7	Butylbenzylphthalate	1000000	U
91-94-1	3,3'-Dichlorobenzidine	2000000	U
56-55-3	Benzo(a)anthracene	1000000	U
218-01-9	Chrysene	1000000	U
117-81-7	bis(2-Ethylhexyl)phthalate	1000000	U
117-84-0	Di-n-Octyl phthalate	1000000	U
205-99-2	Benzo(b)fluoranthene	1000000	U
207-08-9	Benzo(k)fluoranthene	1000000	U
50-32-8	Benzo(a)pyrene	1000000	U
193-39-5	Indeno(1,2,3-cd)pyrene	1000000	U
53-70-3	Dibenzo(a,h)anthracene	1000000	U
191-24-2	Benzo(g,h,i)perylene	1000000	U

(1) - Cannot be separated from Diphenylamine

1D

SEMIVOLATILE ORGANICS ANALYSIS SHEET 000040

CLIENT SAMPLE NO.

BOOJ02RE

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

Client: WESTINGHOUSE HANFORD

Matrix: DRUM

Lab Sample ID: 9104L167-001

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

Lab File ID: M051013

Level: (low/med) LOW

Date Received: 04/04/91

% Moisture: not dec. 0 dec.

Date Extracted: 05/06/91

Extraction: (SepF/Cont/Sonc) N/A

Date Analyzed: 05/10/91

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

Dilution Factor: 100

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

CAS NO.	COMPOUND		
126-73-8	Tributylphosphate	1000000	U

FORM 1 SV-3

12/88 Rev.

1F

SEMIVOLATILE ORGANICS ANALYSIS SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

000041

CLIENT SAMPLE NO.

B00J02RE

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

Client: WESTINGHOUSE HANFORD

Matrix: DRUM

Lab Sample ID: 9104L167-001

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

Lab File ID: M051013

Level: (low/med) LOW

Date Received: 04/04/91

% Moisture: not dec. 0 dec.

Date Extracted: 05/06/91

Extraction: (SepF/Cont/Sonc) N/A

Date Analyzed: 05/10/91

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

Dilution Factor: 100

Number TICs found: 2

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN	10.58	100000	J
2.	UNKNOWN	11.00	300000	J

1B

SEMIVOLATILE ORGANICS ANALYSIS SHEET 000051

CLIENT SAMPLE NO.

BOOJ05

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

Client: WESTINGHOUSE HANFORD

Matrix: DRUM

Lab Sample ID: 9104L167-002

Sample wt/vol: 0.800 (g/mL) G

Lab File ID: M050606

Level: (low/med) LOW

Date Received: 04/04/91

% Moisture: not dec. 0 dec.

Date Extracted: 04/08/91

Extraction: (SepF/Cont/Sonc) N/A

Date Analyzed: 05/06/91

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

Dilution Factor: 100

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

CAS NO.	COMPOUND		
108-95-2	Phenol	0.0	NR
111-44-4	bis(2-Chloroethyl)ether	1200000	U
95-57-8	2-Chlorophenol	0.0	NR
541-73-1	1,3-Dichlorobenzene	1200000	U
106-46-7	1,4-Dichlorobenzene	0.0	NR
100-51-6	Benzyl alcohol	1200000	U
95-50-1	1,2-Dichlorobenzene	1200000	U
95-48-7	2-Methylphenol	1200000	U
108-60-1	bis(2-Chloroisopropyl)ether	1200000	U
106-44-5	4-Methylphenol	1200000	U
621-64-7	N-Nitroso-Di-n-propylamine	0.0	NR
67-72-1	Hexachloroethane	1200000	U
98-95-3	Nitrobenzene	1200000	U
78-59-1	Isophorone	1200000	U
88-75-5	2-Nitrophenol	1200000	U
105-67-9	2,4-Dimethylphenol	1200000	U
65-85-0	Benzoic acid	6200000	U
111-91-1	bis(2-Chloroethoxy)methane	1200000	U
120-83-2	2,4-Dichlorophenol	1200000	U
120-82-1	1,2,4-Trichlorobenzene	0.0	NR
91-20-3	Naphthalene	1200000	U
106-47-8	4-Chloroaniline	1200000	U
87-68-3	Hexachlorobutadiene	1200000	U
59-50-7	4-Chloro-3-methylphenol	0.0	NR
91-57-6	2-Methylnaphthalene	1200000	U
77-47-4	Hexachlorocyclopentadiene	1200000	U
88-06-2	2,4,6-Trichlorophenol	1200000	U
95-95-4	2,4,5-Trichlorophenol	6200000	U
91-58-7	2-Chloronaphthalene	1200000	U
88-74-4	2-Nitroaniline	6200000	U
131-11-3	Dimethylphthalate	1200000	U
208-96-8	Acenaphthylene	1200000	U
606-20-2	2,6-Dinitrotoluene	1200000	U

1C

SEMIVOLATILE ORGANICS ANALYSIS SHEET 0000052

CLIENT SAMPLE NO.

B00J05

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

Client: WESTINGHOUSE HANFORD

Matrix: DRUM

Lab Sample ID: 9104L167-002

Sample wt/vol: 0.800 (g/mL) G

Lab File ID: M050606

Level: (low/med) LOW

Date Received: 04/04/91

% Moisture: not dec. 0 dec.

Date Extracted: 04/08/91

Extraction: (SepF/Cont/Sonc) N/A

Date Analyzed: 05/06/91

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

Dilution Factor: 100

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

CAS NO.	COMPOUND		
99-09-2	3-Nitroaniline	6200000	U
83-32-9	Acenaphthene	0.0	NR
51-28-5	2,4-Dinitrophenol	6200000	U
100-02-7	4-Nitrophenol	0.0	NR
132-64-9	Dibenzofuran	1200000	U
121-14-2	2,4-Dinitrotoluene	0.0	NR
84-66-2	Diethylphthalate	1200000	U
7005-72-3	4-Chlorophenyl-phenylether	1200000	U
86-73-7	Fluorene	1200000	U
100-01-6	4-Nitroaniline	6200000	U
534-52-1	4,6-Dinitro-2-methylphenol	6200000	U
86-30-6	N-Nitrosodiphenylamine (1)	1200000	U
101-55-3	4-Bromophenyl-phenylether	1200000	U
118-74-1	Hexachlorobenzene	1200000	U
87-86-5	Pentachlorophenol	0.0	NR
85-01-8	Phenanthrene	1200000	U
120-12-7	Anthracene	1200000	U
84-74-2	Di-n-Butylphthalate	1200000	U
206-44-0	Fluoranthene	1200000	U
129-00-0	Pyrene	0.0	NR
85-68-7	Butylbenzylphthalate	1200000	U
91-94-1	3,3'-Dichlorobenzidine	2500000	U
56-55-3	Benzo(a)anthracene	1200000	U
218-01-9	Chrysene	1200000	U
117-81-7	bis(2-Ethylhexyl)phthalate	1200000	U
117-84-0	Di-n-Octyl phthalate	1200000	U
205-99-2	Benzo(b)fluoranthene	1200000	U
207-08-9	Benzo(k)fluoranthene	1200000	U
50-32-8	Benzo(a)pyrene	1200000	U
193-39-5	Indeno(1,2,3-cd)pyrene	1200000	U
53-70-3	Dibenzo(a,h)anthracene	1200000	U
191-24-2	Benzo(g,h,i)perylene	1200000	U

(1) - Cannot be separated from Diphenylamine

1D

SEMIVOLATILE ORGANICS ANALYSIS SHEET 000053

CLIENT SAMPLE NO.

BOOJ05

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

Client: WESTINGHOUSE HANFORD

Matrix: DRUM

Lab Sample ID: 9104L167-002

Sample wt/vol: 0.800 (g/mL) G

Lab File ID: M050606

Level: (low/med) LOW

Date Received: 04/04/91

% Moisture: not dec. 0 dec.

Date Extracted: 04/08/91

Extraction: (SepF/Cont/Sonc) N/A

Date Analyzed: 05/06/91

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

Dilution Factor: 100

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg	
126-73-8	Tributylphosphate	1200000	U

FORM 1 SV-3

12/88 Rev.

1F

SEMIVOLATILE ORGANICS ANALYSIS SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

000054

CLIENT SAMPLE NO.

B00J05

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

Client: WESTINGHOUSE HANFORD

Matrix: DRUM

Lab Sample ID: 9104L167-002

Sample wt/vol: 0.800 (g/mL) G

Lab File ID: M050606

Level: (low/med) LOW

Date Received: 04/04/91

% Moisture: not dec. 0 dec.

Date Extracted: 04/08/91

Extraction: (SepF/Cont/Sonc) N/A

Date Analyzed: 05/06/91

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

Dilution Factor: 100

Number TICs found: 6

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	ALKANE	10.22	400000	J
2.	ALKANE	11.05	1000000	J
3.	ALKANE	12.50	500000	J
4.	ALKANE	12.80	500000	J
5.	ALKANE	13.62	400000	J
6.	ALKANE	14.10	200000	J

SEMIVOLATILE ORGANICS ANALYSIS SHEET 000068

CLIENT SAMPLE NO.

BOOJO5RE

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

Client: WESTINGHOUSE HANFORD

Matrix: DRUM Lab Sample ID: 9104L167-002

Sample wt/vol: 1.00 (g/mL) G Lab File ID: M051014

Level: (low/med) LOW Date Received: 04/04/91

% Moisture: not dec. 0 dec. Date Extracted: 05/06/91

Extraction: (SepF/Cont/Sonc) N/A Date Analyzed: 05/10/91

GPC Cleanup: (Y/N) N pH: 7.0 Dilution Factor: 100

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

CAS NO.	COMPOUND		
108-95-2	Phenol	1000000	U
111-44-4	bis(2-Chloroethyl)ether	1000000	U
95-57-8	2-Chlorophenol	1000000	U
541-73-1	1,3-Dichlorobenzene	1000000	U
106-46-7	1,4-Dichlorobenzene	1000000	U
100-51-6	Benzyl alcohol	1000000	U
95-50-1	1,2-Dichlorobenzene	1000000	U
95-48-7	2-Methylphenol	1000000	U
108-60-1	bis(2-Chloroisopropyl)ether	1000000	U
106-44-5	4-Methylphenol	1000000	U
621-64-7	N-Nitroso-Di-n-propylamine	1000000	U
67-72-1	Hexachloroethane	1000000	U
98-95-3	Nitrobenzene	1000000	U
78-59-1	Isophorone	1000000	U
88-75-5	2-Nitrophenol	1000000	U
105-67-9	2,4-Dimethylphenol	1000000	U
65-85-0	Benzoic acid	5000000	U
111-91-1	bis(2-Chloroethoxy)methane	1000000	U
120-83-2	2,4-Dichlorophenol	1000000	U
120-82-1	1,2,4-Trichlorobenzene	1000000	U
91-20-3	Naphthalene	1000000	U
106-47-8	4-Chloroaniline	1000000	U
87-68-3	Hexachlorobutadiene	1000000	U
59-50-7	4-Chloro-3-methylphenol	1000000	U
91-57-6	2-Methylnaphthalene	1000000	U
77-47-4	Hexachlorocyclopentadiene	1000000	U
88-06-2	2,4,6-Trichlorophenol	1000000	U
95-95-4	2,4,5-Trichlorophenol	5000000	U
91-58-7	2-Chloronaphthalene	1000000	U
88-74-4	2-Nitroaniline	5000000	U
131-11-3	Dimethylphthalate	1000000	U
208-96-8	Acenaphthylene	1000000	U
606-20-2	2,6-Dinitrotoluene	1000000	U

1C

SEMIVOLATILE ORGANICS ANALYSIS SHEET 000069

BOOJ05RE

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

Client: WESTINGHOUSE HANFORD

Matrix: DRUM Lab Sample ID: 9104L167-002

Sample wt/vol: 1.00 (g/mL) G Lab File ID: M051014

Level: (low/med) LOW Date Received: 04/04/91

% Moisture: not dec. 0 dec. Date Extracted: 05/06/91

Extraction: (SepF/Cont/Sonc) N/A Date Analyzed: 05/10/91

GPC Cleanup: (Y/N) N pH: 7.0 Dilution Factor: 100

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

CAS NO.	COMPOUND		
99-09-2	3-Nitroaniline	5000000	U
83-32-9	Acenaphthene	1000000	U
51-28-5	2,4-Dinitrophenol	5000000	U
100-02-7	4-Nitrophenol	5000000	U
132-64-9	Dibenzofuran	1000000	U
121-14-2	2,4-Dinitrotoluene	1000000	U
84-66-2	Diethylphthalate	1000000	U
7005-72-3	4-Chlorophenyl-phenylether	1000000	U
86-73-7	Fluorene	1000000	U
100-01-6	4-Nitroaniline	5000000	U
534-52-1	4,6-Dinitro-2-methylphenol	5000000	U
86-30-6	N-Nitrosodiphenylamine (1)	1000000	U
101-55-3	4-Bromophenyl-phenylether	1000000	U
118-74-1	Hexachlorobenzene	1000000	U
87-86-5	Pentachlorophenol	5000000	U
85-01-8	Phenanthrene	1000000	U
120-12-7	Anthracene	1000000	U
84-74-2	Di-n-Butylphthalate	1000000	U
206-44-0	Fluoranthene	1000000	U
129-00-0	Pyrene	1000000	U
85-68-7	Butylbenzylphthalate	1000000	U
91-94-1	3,3'-Dichlorobenzidine	2000000	U
56-55-3	Benzo(a)anthracene	1000000	U
218-01-9	Chrysene	1000000	U
117-81-7	bis(2-Ethylhexyl)phthalate	1000000	U
117-84-0	Di-n-Octyl phthalate	1000000	U
205-99-2	Benzo(b)fluoranthene	1000000	U
207-08-9	Benzo(k)fluoranthene	1000000	U
50-32-8	Benzo(a)pyrene	1000000	U
193-39-5	Indeno(1,2,3-cd)pyrene	1000000	U
53-70-3	Dibenzo(a,h)anthracene	1000000	U
191-24-2	Benzo(g,h,i)perylene	1000000	U

(1) - Cannot be separated from Diphenylamine

1D

SEMIVOLATILE ORGANICS ANALYSIS SHEET 000070

CLIENT SAMPLE NO.

BOOJ05RE

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

Client: WESTINGHOUSE HANFORD

Matrix: DRUM

Lab Sample ID: 9104L167-002

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

Lab File ID: M051014

Level: (low/med) LOW

Date Received: 04/04/91

% Moisture: not dec. 0 dec.

Date Extracted: 05/06/91

Extraction: (SepF/Cont/Sonc) N/A

Date Analyzed: 05/10/91

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

Dilution Factor: 100

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg	
126-73-8	Tributylphosphate	1000000	U

FORM 1 SV-3

12/88 Rev.

1F

SEMIVOLATILE ORGANICS ANALYSIS SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

000071

CLIENT SAMPLE NO.

B00J05RE

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

Client: WESTINGHOUSE HANFORD

Matrix: DRUM

Lab Sample ID: 9104L167-002

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

Lab File ID: M051014

Level: (low/med) LOW

Date Received: 04/04/91

% Moisture: not dec. 0 dec.

Date Extracted: 05/06/91

Extraction: (SepF/Cont/Sonc) N/A

Date Analyzed: 05/10/91

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

Dilution Factor: 100

Number TICs found: 16

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	ALKANE	6.85	300000	J
2.	ALKANE	8.45	400000	J
3.	UNKNOWN	9.17	200000	J
4.	ALKANE	9.97	900000	J
5.	ALKANE	10.18	800000	J
6.	UNKNOWN	10.58	300000	J
7.	CYCLOALKANE	10.70	300000	J
8.	HYDROCARBON	10.90	200000	J
9.	ALKANE	11.02	2000000	J
10.	ALKANE	11.42	1000000	J
11.	ALKANE	11.57	200000	J
12.	CYCLOALKANE	12.17	200000	J
13.	ALKANE	12.47	700000	J
14.	ALKANE	12.77	1000000	J
15.	ALKANE	13.58	500000	J
16.	ALKANE	14.07	300000	J

ROY F. WESTON, INC.
Lionville Laboratory

CLIENT: WESTINGHOUSE HANFORD **SAMPLES RECEIVED:** 04-04-91
RFW #: 9104L167
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. All preparation blanks were analyzed below the required detection limit.

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

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

5. Matrix spike recoveries are summarized on the Inorganics Accuracy Report contained within this document. Recoveries were within the 75-125% guidance limit with the exception of nitrite.

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

7. The analytical methods applied by the laboratory, unless otherwise requested, for all inorganic analyses are derived from the USEPA Method for Chemical Analysis of Water and Wastes (USEPA 600/4-79-020), and Standard Methods for the Examination of Water and Wastewater 16 ed. Methods for the analysis of solid samples are derived from Test Methods for Evaluating Solid Waste (USEPA SW846). Some samples have been analyzed by Method 300 modified for the analysis of organic liquids.

Jack R. Tuschall, Ph.D. 5.6.91
Date
Laboratory Manager
Lionville Analytical Laboratory

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ROY F. WESTON
INORGANICS DATA SUMMARY REPORT
PHYSICAL TESTING OBSERVATIONS

CLIENT: WESTINGHOUSE HANFORD **SAMPLES RECEIVED:** 04-04-91
RFW #: 9104L167 -001 thru -005
W.O. #: 6168-02-01

Analyte:	**Observation:**
Flashpoint (IFLSH)	Vapors began to burn at: 55.94° for sample -001 55.94° for sample -001R 56.94° for sample -002 Xylene was used to determine the accuracy of the flashpoint apparatus. The xylene will flash at 77°F. For this test, the xylene flashed at 76.94°F.

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ROY F. WESTON INC.

INORGANICS DATA SUMMARY REPORT 05/03/91

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

WESTON BATCH #: 9104L167

SAMPLE	SITE ID	ANALYTE	RESULT	UNITS	REPORTING LIMIT
-001	BOOJ02	Chloride by IC	0.50 u	mg/L	0.50
		Fluoride by IC	20.3	mg/L	1.0
		Nitrite by IC	0.50 u	mg/L	0.50
		Nitrate by IC	1.5	mg/L	0.50
		Phosphate by IC	0.50 u	mg/L	0.50
		Sulfate by IC	0.50 u	mg/L	0.50
		Flash Point	55.9	DEG/F	20.0
-002	BOOJ05	Chloride by IC	0.50 u	mg/L	0.50
		Fluoride by IC	7.3	mg/L	1.0
		Nitrite by IC	0.50 u	mg/L	0.50
		Nitrate by IC	0.50 u	mg/L	0.50
		Phosphate by IC	0.50 u	mg/L	0.50
		Sulfate by IC	0.50 u	mg/L	0.50
		Flash Point	56.9	DEG/F	20.0

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

Report Date: 05/09/91 11:42

RFW Batch Number: 9104L167 Client: WESTINGHOUSE HANFORD Work Order: 6168-02-01-0000 Page: 1

	Cust ID:	BOOJ02	BOOJ02	BOOJ02	BOOJ05	PBLK	PBLK BS
Sample Information	RFW#:	001	001 MS	001 MSD	002	91LE0450-MB1	91LE0450-MB1
	Matrix:	DRUM	DRUM	DRUM	DRUM	SOIL	SOIL
	D.F.:	0.500	0.500	0.500	0.500	0.500	0.500
	Units:	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg
Surrogate: Di-n-butylchlorendate		84 %	77 %	79 %	84 %	79 %	91 %
		fl	fl	fl	fl	fl	fl
Aroclor-1016		12000 U	12000 U	12000 U	12000 U	12000 U	12000 U
Aroclor-1221		12000 U	12000 U	12000 U	12000 U	12000 U	12000 U
Aroclor-1232		12000 U	12000 U	12000 U	12000 U	12000 U	12000 U
Aroclor-1242		12000 U	12000 U	12000 U	12000 U	12000 U	12000 U
Aroclor-1248		12000 U	12000 U	12000 U	12000 U	12000 U	12000 U
Aroclor-1254		24000 U	73 %	74 %	24000 U	24000 U	82 %
Aroclor-1260		24000 U	24000 U	24000 U	24000 U	24000 U	24000 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

WESTON

ROY F. WESTON, INC.
Lionville Laboratory

CLIENT: WESTINGHOUSE HANFORD **SAMPLES RECEIVED:** 04-04-91
RFW #: 9104L167, PCB
W.O. #: 6168-02-01

NARRATIVE

The set of samples consisted of two (2) drum liquid samples collected on 04-02-91.

The samples were extracted on 04-05-91 and analyzed according to criteria set forth in the Contract Laboratory Program for PCB target compounds on 05-07,08-91.

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 for the primary column.

2. Continuing calibration criteria were met for all compounds on both columns in standards analyzed prior to sample extracts.

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

4. All surrogate recoveries were within EPA QC limits.

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

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

Linda A Hayhurst 5.13.91

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

1D
PESTICIDE ORGANICS ANALYSIS SHEET 0000014

CLIENT SAMPLE NO.

B00J02

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

Client: WESTINGHOUSE HANFORD

Matrix: DRUM

Lab Sample ID: 9104L167-001

Sample wt/vol: 0.100 (g/mL) G

Lab File ID: 05079113.13

Level: (low/med) LOW

Date Received: 04/04/91

% Moisture: not dec. 100 dec.

Date Extracted: 04/05/91

Extraction: (SepF/Cont/Sonc) SONC

Date Analyzed: 05/07/91

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

Dilution Factor: 0.500

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

CAS NO.	COMPOUND		
12674-11-2	Aroclor-1016	12000	U
11104-28-2	Aroclor-1221	12000	U
11141-16-5	Aroclor-1232	12000	U
53469-21-9	Aroclor-1242	12000	U
12672-29-6	Aroclor-1248	12000	U
11097-69-1	Aroclor-1254	24000	U
11096-82-5	Aroclor-1260	24000	U

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PESTICIDE ORGANICS ANALYSIS SHEET

CLIENT SAMPLE NO.

BOOJ05

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

Client: WESTINGHOUSE HANFORD

Matrix: DRUM

Lab Sample ID: 9104L167-002

Sample wt/vol: 0.100 (g/mL) G

Lab File ID: 05079113.14

Level: (low/med) LOW

Date Received: 04/04/91

% Moisture: not dec. 100 dec.

Date Extracted: 04/05/91

Extraction: (SepF/Cont/Sonc) SONC

Date Analyzed: 05/08/91

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

Dilution Factor: 0.500

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

CAS NO.	COMPOUND			
12674-11-2	Aroclor-1016	12000	U	
11104-28-2	Aroclor-1221	12000	U	
11141-16-5	Aroclor-1232	12000	U	
53469-21-9	Aroclor-1242	12000	U	
12672-29-6	Aroclor-1248	12000	U	
11097-69-1	Aroclor-1254	24000	U	
11096-82-5	Aroclor-1260	24000	U	

5/9/9

WESTON

Roy F. Weston, INC.
Lionville Laboratory

CLIENT:WESTINGHOUSE HANFORD SAMPLES RECEIVED:4/4/91
RFW #:9104L167 METALS
W.O.#:6168-02-01

METALS NARRATIVE

The set of samples consisted of (2) drum liquid samples collected on 4/2/91.

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 duplicate and spike analyses were performed on another RFW# within the same digestion batch. Please refer to 9103L121 in digestion batch, 91L0813.

7. First quarter linear range data are applicable to this data set. A few days from the first quarter will extend into the second quarter. Second quarter determinations are in progress.

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

5.10.91
Date

ROY F. WESTON INC.

INORGANICS DATA SUMMARY REPORT 05/09/91

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

WESTON BATCH #: 9104L167

SAMPLE	SITE ID	ANALYTE	RESULT		UNITS	REPORTING LIMIT
-001	BOOJ02	Silver, Total	10.0	u	UG/L	10.0
		Aluminum, Total	200	u	UG/L	200
		Barium, Total	200	u	UG/L	200
		Beryllium, Total	5.0	u	UG/L	5.0
		Calcium, Total	5000	u	UG/L	5000
		Cadmium, Total	5.0	u	UG/L	5.0
		Cobalt, Total	50.0	u	UG/L	50.0
		Chromium, Total	10.0	u	UG/L	10.0
		Copper, Total	92.2		UG/L	25.0
		Iron, Total	104		UG/L	100
		Potassium, Total	5000	u	UG/L	5000
		Magnesium, Total	5000	u	UG/L	5000
		Manganese, Total	15.0	u	UG/L	15.0
		Sodium, Total	5000	u	UG/L	5000
		Nickel, Total	40.0	u	UG/L	40.0
		Antimony, Total	60.0	u	UG/L	60.0
		Vanadium, Total	50.0	u	UG/L	50.0
		Zinc, Total	90.4		UG/L	20.0

ROY F. WESTON INC.

INORGANICS DATA SUMMARY REPORT 05/09/91

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

WESTON BATCH #: 9104L167

SAMPLE	SITE ID	ANALYTE	RESULT		UNITS	REPORTING LIMIT
-002	BOOJ05	Silver, Total	10.0	u	UG/L	10.0
		Aluminum, Total	200	u	UG/L	200
		Barium, Total	200	u	UG/L	200
		Beryllium, Total	5.0	u	UG/L	5.0
		Calcium, Total	5000	u	UG/L	5000
		Cadmium, Total	5.0	u	UG/L	5.0
		Cobalt, Total	50.0	u	UG/L	50.0
		Chromium, Total	10.0	u	UG/L	10.0
		Copper, Total	40.9		UG/L	25.0
		Iron, Total	100	u	UG/L	100
		Potassium, Total	5000	u	UG/L	5000
		Magnesium, Total	5000	u	UG/L	5000
		Manganese, Total	15.0	u	UG/L	15.0
		Sodium, Total	5000	u	UG/L	5000
		Nickel, Total	40.0	u	UG/L	40.0
		Antimony, Total	60.0	u	UG/L	60.0
		Vanadium, Total	50.0	u	UG/L	50.0
		Zinc, Total	22.8		UG/L	20.0

U.S. EPA - CLP

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INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

BOOJ02

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

Lab Code:WESTON Case No:WEST SAS No.: SDG No.:CLP167

Matrix (soil/water):WATER Lab Sample ID:9104167001

Level (low/med): LOW Date Received:04/04/91

% Solids:

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	77.0	U		P
7440-36-0	Antimony	19.0	U		P
7440-38-2	Arsenic				
7440-39-3	Barium	5.00	U		P
7440-41-7	Beryllium	1.00	U		P
7440-43-9	Cadmium	4.00	U		P
7440-70-2	Calcium	92.0	U		P
7440-47-3	Chromium	5.00	B		P
7440-48-4	Cobalt	4.80	B		P
7440-50-8	Copper	92.2			P
7439-89-6	Iron	104			P
7439-92-1	Lead				
7439-95-4	Magnesium	84.0	U		P
7439-96-5	Manganese	2.60	B		P
7439-97-6	Mercury				
7440-02-0	Nickel	7.00	U		P
7440-09-7	Potassium	1010	U		P
7782-49-2	Selenium				
7440-22-4	Silver	4.00	U		P
7440-23-5	Sodium	71.0	U		P
7440-28-0	Thallium				
7440-62-2	Vanadium	8.00	U		P
7440-66-6	Zinc	90.4			P
	Cyanide				

Color Before:COLORLESS Clarity Before:CLEAR Texture:

Color After:COLORLESS Clarity After:CLEAR Artifacts:

Comments:

FORM I - IN

U.S. EPA - CLP

1

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

BOOJ05

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

Lab Code:WESTON Case No:WEST SAS No.: SDG No.:CLP167

Matrix (soil/water):WATER Lab Sample ID:9104167002

Level (low/med): LOW Date Received:04/04/91

% Solids:

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	77.0	U		P
7440-36-0	Antimony	29.6	B		P
7440-38-2	Arsenic				
7440-39-3	Barium	5.00	U		P
7440-41-7	Beryllium	1.00	U		P
7440-43-9	Cadmium	4.00	U		P
7440-70-2	Calcium	92.0	U		P
7440-47-3	Chromium	3.60	B		P
7440-48-4	Cobalt	4.00	U		P
7440-50-8	Copper	40.9			P
7439-89-6	Iron	37.0	U		P
7439-92-1	Lead				
7439-95-4	Magnesium	84.0	U		P
7439-96-5	Manganese	2.00	U		P
7439-97-6	Mercury				
7440-02-0	Nickel	7.00	U		P
7440-09-7	Potassium	1010	U		P
7782-49-2	Selenium				
7440-22-4	Silver	4.00	U		P
7440-23-5	Sodium	71.0	U		P
7440-28-0	Thallium				
7440-62-2	Vanadium	8.00	U		P
7440-66-6	Zinc	22.8			P
	Cyanide				

Color Before:COLORLESS Clarity Before:CLEAR Texture:

Color After:COLORLESS Clarity After:CLEAR Artifacts:

Comments:

FORM I - IN

Roy F. Weston, INC.
Lionville Laboratory

CLIENT: WESTINGHOUSE HANFORD **SAMPLES RECEIVED:** 4/4/91
RFW #: 9104L167
W.O. #: 6168-02-01

METALS NARRATIVE

The set of samples consisted of two (2) water samples collected on 4/2/91.

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 and duplicate analyses were performed on a different RFW# within the same digestion batch, as a result there are no corresponding Forms 5, 6 or 9. The associated forms have been reported with RFW lot 9103L121.

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. 8. 91.
Date

pas\ clp-met.nar

ROY F. WESTON INC.

INORGANICS DATA SUMMARY REPORT 05/09/91

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

WESTON BATCH #: 9104L167

SAMPLE	SITE ID	ANALYTE	RESULT		UNITS	REPORTING LIMIT
-001	BOOJ02	Silver, Total	10.0	u	UG/L	10.0
		Aluminum, Total	200	u	UG/L	200
		Barium, Total	200	u	UG/L	200
		Beryllium, Total	5.0	u	UG/L	5.0
		Calcium, Total	5000	u	UG/L	5000
		Cadmium, Total	5.0	u	UG/L	5.0
		Cobalt, Total	50.0	u	UG/L	50.0
		Chromium, Total	10.0	u	UG/L	10.0
		Copper, Total	92.2		UG/L	25.0
		Iron, Total	104		UG/L	100
		Potassium, Total	5000	u	UG/L	5000
		Magnesium, Total	5000	u	UG/L	5000
		Manganese, Total	15.0	u	UG/L	15.0
		Sodium, Total	5000	u	UG/L	5000
		Nickel, Total	40.0	u	UG/L	40.0
		Antimony, Total	60.0	u	UG/L	60.0
		Vanadium, Total	50.0	u	UG/L	50.0
		Zinc, Total	90.4		UG/L	20.0

ROY F. WESTON INC.

INORGANICS DATA SUMMARY REPORT 05/09/91

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

WESTON BATCH #: 9104L167

SAMPLE	SITE ID	ANALYTE	RESULT		UNITS	REPORTING LIMIT
-002	BOOJ05	Silver, Total	10.0	u	UG/L	10.0
		Aluminum, Total	200	u	UG/L	200
		Barium, Total	200	u	UG/L	200
		Beryllium, Total	5.0	u	UG/L	5.0
		Calcium, Total	5000	u	UG/L	5000
		Cadmium, Total	5.0	u	UG/L	5.0
		Cobalt, Total	50.0	u	UG/L	50.0
		Chromium, Total	10.0	u	UG/L	10.0
		Copper, Total	40.9		UG/L	25.0
		Iron, Total	100	u	UG/L	100
		Potassium, Total	5000	u	UG/L	5000
		Magnesium, Total	5000	u	UG/L	5000
		Manganese, Total	15.0	u	UG/L	15.0
		Sodium, Total	5000	u	UG/L	5000
		Nickel, Total	40.0	u	UG/L	40.0
		Antimony, Total	60.0	u	UG/L	60.0
		Vanadium, Total	50.0	u	UG/L	50.0
		Zinc, Total	22.8		UG/L	20.0

U.S. EPA - CLP

1

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

BOOJ02

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

Lab Code: WESTON Case No.: WEST SAS No.: SDG No.: CLP167

Matrix (soil/water): WATER Lab Sample ID: 910416701

Level (low/med): LOW Date Received: 4/04/91

% Solids:

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	77.00	U		P
7440-36-0	Antimony	19.00	U		P
7440-38-2	Arsenic				NR
7440-39-3	Barium	5.00	U		P
7440-41-7	Beryllium	1.00	U		P
7440-43-9	Cadmium	4.00	U		P
7440-70-2	Calcium	92.00	U		P
7440-47-3	Chromium	5.00	B		P
7440-48-4	Cobalt	4.80	B		P
7440-50-8	Copper	92.20			P
7439-89-6	Iron	104.00			P
7439-92-1	Lead				NR
7439-95-4	Magnesium	84.00	U		P
7439-96-5	Manganese	2.60	B		P
7439-97-6	Mercury				NR
7440-02-0	Nickel	7.00	U		P
7440-09-7	Potassium	1010.00	U		P
7782-49-2	Selenium				NR
7440-22-4	Silver	4.00	U		P
7440-23-5	Sodium	71.00	U		P
7440-28-0	Thallium				NR
7440-62-2	Vanadium	8.00	U		P
7440-66-6	Zinc	90.40			P
	Cyanide				

Color Before: COLORLESS Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

U.S. EPA - CLP

1

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

BOOJ05

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

Lab Code: WESTON Case No.: WEST SAS No.: SDG No.: CLP167

Matrix (soil/water): WATER Lab Sample ID: 910416702

Level (low/med): LOW Date Received: 4/04/91

% Solids:

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	77.00	U		P
7440-36-0	Antimony	29.60	B		P
7440-38-2	Arsenic				NR
7440-39-3	Barium	5.00	U		P
7440-41-7	Beryllium	1.00	U		P
7440-43-9	Cadmium	4.00	U		P
7440-70-2	Calcium	92.00	U		P
7440-47-3	Chromium	3.60	B		P
7440-48-4	Cobalt	4.00	U		P
7440-50-8	Copper	40.90			P
7439-89-6	Iron	37.00	U		P
7439-92-1	Lead				NR
7439-95-4	Magnesium	84.00	U		P
7439-96-5	Manganese	2.00	U		P
7439-97-6	Mercury				NR
7440-02-0	Nickel	7.00	U		P
7440-09-7	Potassium	1010.00	U		P
7782-49-2	Selenium				NR
7440-22-4	Silver	4.00	U		P
7440-23-5	Sodium	71.00	U		P
7440-28-0	Thallium				NR
7440-62-2	Vanadium	8.00	U		P
7440-66-6	Zinc	22.80			P
	Cyanide				

Color Before: COLORLESS Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

WESTON

ROY F. WESTON, INC.
Lionville Laboratory

CLIENT: WESTINGHOUSE SAMPLES RECEIVED: 04/04/91
RFW #: 9104L167 GC SCAN (HYDROCARBON FINGERPRINT)
W.O. #: 6168-02-01-0000

NARRATIVE

This set of samples consisted of two drum liquid samples collected on April 02, 1991.

The liquids were diluted to the proper analytical range and then analyzed by Direct Injection - GC/FID for Hydrocarbons, and MIBK (Methyl iso-Butyl Ketone) on April 19, 1991. Dilutions were made by adding 100 ul of sample to 9.9 ml CS2 (carbon disulfide) to yield a 1:100 dilution. Then 100 ul of the 1:100 dilution was added to 4.9 ml CS2 to yield a 1:5000 dilution which was used in the analysis.

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

1. An SP5-30M .53mm ID GC capillary column was utilized in these analyses. The initial temperature was 35 C, which was held for 5 minutes. The temperature was then ramped at a rate of 8 C/minute to a final temperature of 300 C, where it was held for 16 minutes. The injection volume was 1 ul.

2. Results for MIBK, and hydrocarbons were obtained by External Standard Quantification Method using the average calibration factor from the initial calibration.

3. The method blank was free of contamination.

4. All continuing calibration recoveries were within laboratory control limits. Due to the almost pure organic content of the samples, four continuing calibrations were analyzed in place of blank spikes or matrix spikes.

for Ian Daniels 4/29/91
J. Michael Taylor Date
Project Director
Lionville Analytical Laboratory
WEST167.CN

Roy F. Weston, Inc.- Lionville Laboratory

Hydrocarbon Fingerprinting

Client :Westinghouse
RFW# :9104L167-001
Client ID :B00J02
Matrix :Drum Liquid
Run Batch :91DGC334
Init. Cal.:04/18/91

Sample Collected:04/02/91
Sample Received :04/04/91
Sample Prepared :04/18/91
Sample Analyzed :04/19/91

Qualitative Identification

Sample consisted of an organic liquid which had an odor of MIBK (Methyl Iso-Butyl Ketone). The sample chromatogram had one major peak with a retention time which matched MIBK.

Degree of Matching = Excellent

Quantitative Report

Total MIBK = .79 G/ML

Approximate measured density = .80 G/ML

Theoretical density of MIBK = .80 G/ML

Sample quantified versus = MIBK

Roy F. Weston, Inc.- Lionville Laboratory

Hydrocarbon Fingerprinting

Client	:Westinghouse	Sample Collected	:04/02/91
RFW#	:9104L167-002	Sample Received	:04/04/91
Client ID	:BOOJ05	Sample Prepared	:04/18/91
Matrix	:Drum Liquid	Sample Analyzed	:04/19/91
Run Batch	:91DGC334		
Init. Cal.	:04/18/91		

Qualitative Identification

Sample consisted of an organic liquid which had an odor of MIBK (Methyl Iso-Butyl Ketone). The sample chromatogram had one major peak with a retention time which matched MIBK.

Degree of Matching = Excellent

Quantitative Report

Total MIBK = .76 G/ML

Approximate measured density = .81 G/ML

Theoretical density of MIBK = .80 G/ML

Sample quantified versus = MIBK

9104467 WES 035

Westinghouse
Hanford Company

OSM ORGANIC DATA ASSESSMENT

DATE 7-27-91 SAMPLES/MATRIX B00J02 - drum organic

REVIEWED BY C.V. Simpole B00J05 liquids

LABORATORY Roy F. Weston

CASE #

SDG # 9104L167

DATA ASSESSMENT SUMMARY

	VOA	ABN 7-27-91 LJS	~~PEST~~/PCB
1. Holding Times (Form I)	O	~~O~~ X	O
2. Surrogate Recovery (II)	X	O	O
3. Matrix Spike/ MSD (III)	O	X	O
4. Blanks (IV)	X	O	O
5. GC/MS Tune (V)	O	O	
6. Calibration (VI-VII; VIII pest)	O	O	O
7. Internal Standards (VIII)	O	X	
8. Instr. Perform. (IX pest)			O
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, large dilutions were performed on samples to complete VOA analysis causing some problems with QC analysis recoveries.

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: 04/15/91 09:59

RFW Batch Number: 9104L167 Client: WESTINGHOUSE HANFORD Work Order: 6168-02-01-0000

	Cust ID:	BOOJ02	BOOJ02	BOOJ05	BOOJ05	VBLK
Sample Information	RFW#:	001	001 DL	002	002 DL	91LVX054-MB1
	Matrix:	DRUM	DRUM	DRUM	DRUM	SOIL
	D.F.:	31200	62500	12500	50000	1.25
	Units:	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg
	Level:	MED	MED	MED	MED	MED

	Toluene-d8	D	%	D	%	D	%	D	%	99	%
Surrogate	Bromofluorobenzene	D	%	D	%	D	%	D	%	95	%
Recovery	1,2-Dichloroethane-d4	D	%	D	%	D	%	D	%	93	%

Chloromethane	0.31E+08	U	NA		0.12E+08	U	NA		1200	U
Bromomethane	0.31E+08	U	NA		0.12E+08	U	NA		1200	U
Vinyl Chloride	0.31E+08	U	NA		0.12E+08	U	NA		1200	U
Chloroethane	0.31E+08	U	NA		0.12E+08	U	NA		1200	U
Methylene Chloride	0.64E+08	B	NA		0.12E+08	B	NA		780	
Acetone	0.25E+09	B	NA		0.16E+08	B	NA		2000	
Carbon Disulfide	0.16E+08	U	NA		6200000	U	NA		620	U
1,1-Dichloroethene	0.16E+08	U	NA		6200000	U	NA		620	U
1,1-Dichloroethane	0.16E+08	U	NA		6200000	U	NA		620	U
1,2-Dichloroethene (total)	0.16E+08	U	NA		6200000	U	NA		620	U
Chloroform	0.16E+08	U	NA		6200000	U	NA		620	U
1,2 Dichloroethane	0.16E+08	U	NA		6200000	U	NA		620	U
2-Butanone	0.31E+08	U	NA		0.12E+08	U	NA		1200	U
1,1,1-Trichloroethane	0.16E+08	U	NA		6200000	U	NA		620	U
Carbon Tetrachloride	0.16E+08	U	NA		6200000	U	NA		620	U
Vinyl Acetate	0.31E+08	U	NA		0.12E+08	U	NA		1200	U
Bromodichloromethane	0.16E+08	U	NA		6200000	U	NA		620	U
1,2-Dichloropropane	0.16E+08	U	NA		6200000	U	NA		620	U
cis-1,3-Dichloropropene	0.16E+08	U	NA		6200000	U	NA		620	U
Trichloroethene	0.16E+08	U	NA		6200000	U	NA		620	U
Dibromochloromethane	0.16E+08	U	NA		6200000	U	NA		620	U
1,1,2-Trichloroethane	0.16E+08	U	NA		6200000	U	NA		620	U
Benzene	0.16E+08	U	NA		6200000	U	NA		620	U
Trans-1,3-Dichloropropene	0.16E+08	U	NA		6200000	U	NA		620	U
Bromoform	0.16E+08	U	NA		6200000	U	NA		620	U
4-Methyl-2-pentanone		E	0.86E+09			E	0.80E+09		1200	U
2-Hexanone	0.31E+08	U	NA		0.12E+08	U	NA		1200	U
Tetrachloroethene	0.16E+08	U	NA		6200000	U	NA		620	U
1,1,2,2-Tetrachloroethane	0.16E+08	U	NA		6200000	U	NA		620	U

*= Outside of EPA CLP QC limits.

Cust ID:	BOOJ02	BOOJ02	BOOJ05	BOOJ05	VBLK
RFW#:	001	001 DL	002	002 DL	91LVX054-MB1
Level:	MED	MED	MED	MED	MED
Toluene	0.16E+08 U	NA	6200000 U	NA	620 U
Chlorobenzene	0.16E+08 U	NA	6200000 U	NA	620 U
Ethylbenzene	0.16E+08 U	NA	6200000 U	NA	620 U
Styrene	0.16E+08 U	NA	6200000 U	NA	620 U
Xylene (total)	0.16E+08 U	NA	6200000 U	NA	620 U

*= Outside of EPA CLP QC limits.

1A
VOLATILE ORGANICS ANALYSIS SHEET 0000015

CLIENT SAMPLE NO.

BOOJ02

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

Client: WESTINGHOUSE HANFORD

Matrix: DRUM

Lab Sample ID: 9104L167-001

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

Lab File ID: AX4907

Level: (low/med) MED

Date Received: 04/04/91

% Moisture: not dec. 0

Date Analyzed: 04/09/91

Column: (pack/cap) CAP

Dilution Factor: 31200

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

CAS NO.	COMPOUND		
74-87-3	Chloromethane	0.31E+08	U
74-83-9	Bromomethane	0.31E+08	U
75-01-4	Vinyl Chloride	0.31E+08	U
75-00-3	Chloroethane	0.31E+08	U
75-09-2	Methylene Chloride	0.64E+08	B
67-64-1	Acetone	0.25E+09	B
75-15-0	Carbon Disulfide	0.16E+08	U
75-35-4	1,1-Dichloroethene	0.16E+08	U
75-34-3	1,1-Dichloroethane	0.16E+08	U
540-59-0	1,2-Dichloroethene (total)	0.16E+08	U
67-66-3	Chloroform	0.16E+08	U
107-06-2	1,2-Dichloroethane	0.16E+08	U
78-93-3	2-Butanone	0.31E+08	U
71-55-6	1,1,1-Trichloroethane	0.16E+08	U
56-23-5	Carbon Tetrachloride	0.16E+08	U
108-05-4	Vinyl Acetate	0.31E+08	U
75-27-4	Bromodichloromethane	0.16E+08	U
78-87-5	1,2-Dichloropropane	0.16E+08	U
10061-01-5	cis-1,3-Dichloropropene	0.16E+08	U
79-01-6	Trichloroethene	0.16E+08	U
124-48-1	Dibromochloromethane	0.16E+08	U
79-00-5	1,1,2-Trichloroethane	0.16E+08	U
71-43-2	Benzene	0.16E+08	U
10061-02-6	Trans-1,3-Dichloropropene	0.16E+08	U
75-25-2	Bromoform	0.16E+08	U
108-10-1	4-Methyl-2-pentanone		E
591-78-6	2-Hexanone	0.31E+08	U
127-18-4	Tetrachloroethene	0.16E+08	U
79-34-5	1,1,2,2-Tetrachloroethane	0.16E+08	U
108-88-3	Toluene	0.16E+08	U
108-90-7	Chlorobenzene	0.16E+08	U
100-41-4	Ethylbenzene	0.16E+08	U
100-42-5	Styrene	0.16E+08	U
1330-20-7	Xylene (total)	0.16E+08	U

1E

VOLATILE ORGANICS ANALYSIS SHEET 0000016

TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

BOOJ02

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

Client: WESTINGHOUSE HANFORD

Matrix: DRUM

Lab Sample ID: 9104L167-001

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

Lab File ID: AX4907

Level: (low/med) MED

Date Received: 04/04/91

% Moisture: not dec. 0

Date Analyzed: 04/09/91

Column: (pack/cap) CAP

Dilution Factor: 31200

Number TICs found: 0

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

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

1A
VOLATILE ORGANICS ANALYSIS SHEET 0000028

CLIENT SAMPLE NO.

BOOJ05

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

Client: WESTINGHOUSE HANFORD

Matrix: DRUM

Lab Sample ID: 9104L167-002

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

Lab File ID: AX4906

Level: (low/med) MED

Date Received: 04/04/91

% Moisture: not dec. 0

Date Analyzed: 04/09/91

Column: (pack/cap) CAP

Dilution Factor: 12500

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

CAS NO.	COMPOUND		
74-87-3	Chloromethane	0.12E+08	U
74-83-9	Bromomethane	0.12E+08	U
75-01-4	Vinyl Chloride	0.12E+08	U
75-00-3	Chloroethane	0.12E+08	U
75-09-2	Methylene Chloride	0.12E+08	B
67-64-1	Acetone	0.16E+08	B
75-15-0	Carbon Disulfide	6200000	U
75-35-4	1,1-Dichloroethene	6200000	U
75-34-3	1,1-Dichloroethane	6200000	U
540-59-0	1,2-Dichloroethene (total)	6200000	U
67-66-3	Chloroform	6200000	U
107-06-2	1,2-Dichloroethane	6200000	U
78-93-3	2-Butanone	0.12E+08	U
71-55-6	1,1,1-Trichloroethane	6200000	U
56-23-5	Carbon Tetrachloride	6200000	U
108-05-4	Vinyl Acetate	0.12E+08	U
75-27-4	Bromodichloromethane	6200000	U
78-87-5	1,2-Dichloropropane	6200000	U
10061-01-5	cis-1,3-Dichloropropene	6200000	U
79-01-6	Trichloroethene	6200000	U
124-48-1	Dibromochloromethane	6200000	U
79-00-5	1,1,2-Trichloroethane	6200000	U
71-43-2	Benzene	6200000	U
10061-02-6	Trans-1,3-Dichloropropene	6200000	U
75-25-2	Bromoform	6200000	U
108-10-1	4-Methyl-2-pentanone		E
591-78-6	2-Hexanone	0.12E+08	U
127-18-4	Tetrachloroethene	6200000	U
79-34-5	1,1,2,2-Tetrachloroethane	6200000	U
108-88-3	Toluene	6200000	U
108-90-7	Chlorobenzene	6200000	U
100-41-4	Ethylbenzene	6200000	U
100-42-5	Styrene	6200000	U
1330-20-7	Xylene (total)	6200000	U

1E

VOLATILE ORGANICS ANALYSIS SHEET 0000029

TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

BOOJ05

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

Client: WESTINGHOUSE HANFORD

Matrix: DRUM

Lab Sample ID: 9104L167-002

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

Lab File ID: AX4906

Level: (low/med) MED

Date Received: 04/04/91

% Moisture: not dec. 0

Date Analyzed: 04/09/91

Column: (pack/cap) CAP

Dilution Factor: 12500

Number TICs found: 0

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

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

1A
VOLATILE ORGANICS ANALYSIS SHEET 0000036

CLIENT SAMPLE NO.

BOOJ05DL

Lab Name: Roy F. Weston, Inc. Work Order: 5168-02-01-0000

Client: WESTINGHOUSE HANFORD

Matrix: DRUM

Lab Sample ID: 9104L167-002 DL

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

Lab File ID: AX4908

Level: (low/med) MED

Date Received: 04/04/91

% Moisture: not dec. 0

Date Analyzed: 04/09/91

Column: (pack/cap) CAP

Dilution Factor: 50000

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

CAS NO.	COMPOUND		
74-87-3	Chloromethane	NA	
74-83-9	Bromomethane	NA	
75-01-4	Vinyl Chloride	NA	
75-00-3	Chloroethane	NA	
75-09-2	Methylene Chloride	NA	
67-64-1	Acetone	NA	
75-15-0	Carbon Disulfide	NA	
75-35-4	1,1-Dichloroethene	NA	
75-34-3	1,1-Dichloroethane	NA	
540-59-0	1,2-Dichloroethene (total)	NA	
67-66-3	Chloroform	NA	
107-06-2	1,2-Dichloroethane	NA	
78-93-3	2-Butanone	NA	
71-55-6	1,1,1-Trichloroethane	NA	
56-23-5	Carbon Tetrachloride	NA	
108-05-4	Vinyl Acetate	NA	
75-27-4	Bromodichloromethane	NA	
78-87-5	1,2-Dichloropropane	NA	
10061-01-5	cis-1,3-Dichloropropene	NA	
79-01-6	Trichloroethene	NA	
124-48-1	Dibromochloromethane	NA	
79-00-5	1,1,2-Trichloroethane	NA	
71-43-2	Benzene	NA	
10061-02-6	Trans-1,3-Dichloropropene	NA	
75-25-2	Bromoform	NA	
108-10-1	4-Methyl-2-pentanone	0.80E+09	
591-78-6	2-Hexanone	NA	
127-18-4	Tetrachloroethene	NA	
79-34-5	1,1,2,2-Tetrachloroethane	NA	
108-88-3	Toluene	NA	
108-90-7	Chlorobenzene	NA	
100-41-4	Ethylbenzene	NA	
100-42-5	Styrene	NA	
1330-20-7	Xylene (total)	NA	

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

RFW Batch Number: 9104L167 Client: WESTINGHOUSE HANFORD Work Order: 6168-02-01-0000 Report Date: 05/14/91 14:16 Page: 1a

	Cust ID:	BOOJ02	BOOJ02	BOOJ02	BOOJ02	BOOJ05	BOOJ05
Sample Information	RFW#:	001	001	001 MS	001 MSD	002	002
	Matrix:	DRUM	DRUM	DRUM	DRUM	DRUM	DRUM
	D.F.:	100	100	100	100	100	100
	Units:	ug/Kg	ug/Kg REPREP	ug/Kg	ug/Kg	ug/Kg	ug/Kg REPREP
Surrogate Recovery	Nitrobenzene-d5	78 %	84 %	84 %	84 %	73 %	90 %
	2-Fluorobiphenyl	94 %	76 %	95 %	98 %	81 %	78 %
	p-Terphenyl-d14	128 %	80 %	133 %	142 * %	111 %	83 %
	Phenol-d5	83 %	71 %	91 %	90 %	80 %	76 %
	2-Fluorophenol	96 %	66 %	103 %	104 %	76 %	72 %
	2,4,6-Tribromophenol	64 %	63 %	72 %	66 %	57 %	62 %
		fl	fl	fl	fl	fl	fl
Phenol		0.0 NR	1000000 ~~U~~UJ	103 * %	109 * %	0.0 NR	1000000 ~~U~~UJ
bis(2-Chloroethyl)ether		1200000 U	1000000 U	1200000 U	1200000 U	1200000 U	1000000 U
2-Chlorophenol		0.0 NR	1000000 ~~U~~UJ	92 %	97 %	0.0 NR	1000000 ~~U~~UJ
1,3-Dichlorobenzene		1200000 U	1000000 U	1200000 U	1200000 U	1200000 U	1000000 U
1,4-Dichlorobenzene		0.0 NR	1000000 ~~U~~UJ	97 %	101 %	0.0 NR	1000000 ~~U~~UJ
Benzyl alcohol		1200000 U	1000000 U	1200000 U	1200000 U	1200000 U	1000000 U
1,2-Dichlorobenzene		1200000 U	1000000 U	1200000 U	1200000 U	1200000 U	1000000 U
2-Methylphenol		1200000 U	1000000 U	1200000 U	1200000 U	1200000 U	1000000 U
bis(2-Chloroisopropyl)ether		1200000 U	1000000 U	1200000 U	1200000 U	1200000 U	1000000 U
4-Methylphenol		1200000 U	1000000 U	1200000 U	1200000 U	1200000 U	1000000 U
N-Nitroso-Di-n-propylamine		0.0 NR	1000000 ~~U~~UJ	76 %	78 %	0.0 NR	1000000 ~~U~~UJ
Hexachloroethane		1200000 U	1000000 U	1200000 U	1200000 U	1200000 U	1000000 U
Nitrobenzene		1200000 U	1000000 U	1200000 U	1200000 U	1200000 U	1000000 U
Isophorone		1200000 U	1000000 U	1200000 U	1200000 U	1200000 U	1000000 U
2-Nitrophenol		1200000 U	1000000 U	1200000 U	1200000 U	1200000 U	1000000 U
2,4-Dimethylphenol		1200000 U	1000000 U	1200000 U	1200000 U	1200000 U	1000000 U
Benzoic acid		6200000 U	5000000 U	6200000 U	6200000 U	6200000 U	5000000 U
bis(2-Chloroethoxy)methane		1200000 U	1000000 U	1200000 U	1200000 U	1200000 U	1000000 U
2,4-Dichlorophenol		1200000 U	1000000 U	1200000 U	1200000 U	1200000 U	1000000 U
1,2,4-Trichlorobenzene		0.0 NR	1000000 ~~U~~UJ	101 %	106 %	0.0 NR	1000000 ~~U~~UJ
Naphthalene		1200000 U	1000000 U	1200000 U	1200000 U	1200000 U	1000000 U
4-Chloroaniline		1200000 U	1000000 U	1200000 U	1200000 U	1200000 U	1000000 U
Hexachlorobutadiene		1200000 U	1000000 U	1200000 U	1200000 U	1200000 U	1000000 U
4-Chloro-3-methylphenol		0.0 NR	1000000 ~~U~~UJ	85 %	88 %	0.0 NR	1000000 ~~U~~UJ
2-Methylnaphthalene		1200000 U	1000000 U	1200000 U	1200000 U	1200000 U	1000000 U
Hexachlorocyclopentadiene		1200000 U	1000000 U	1200000 U	1200000 U	1200000 U	1000000 U

*= Outside of EPA CLP QC limits.

7-27-91
[illegible]

000003

RFW Batch Number: 9104L167 Client: WESTINGHOUSE HANFORD Work Order: 6168-02-01-0000 Page: 1b

Cust ID:	BOOJ02	BOOJ02	BOOJ02	BOOJ02	BOOJ05	BOOJ05
RFW#:	001	001 REPREP	001 MS	001 MSD	002	002 REPREP
2,4,6-Trichlorophenol	1200000 U J	1000000 U	1200000 U	1200000 U	1200000 U	1000000 U
2,4,5-Trichlorophenol	6200000 U	5000000 U	6200000 U	6200000 U	6200000 U	5000000 U
2-Chloronaphthalene	1200000 U	1000000 U	1200000 U	1200000 U	1200000 U	1000000 U
2-Nitroaniline	6200000 U	5000000 U	6200000 U	6200000 U	6200000 U	5000000 U
Dimethylphthalate	1200000 U	1000000 U	1200000 U	1200000 U	1200000 U	1000000 U
Acenaphthylene	1200000 U	1000000 U	1200000 U	1200000 U	1200000 U	1000000 U
2,6-Dinitrotoluene	1200000 U	1000000 U	1200000 U	1200000 U	1200000 U	1000000 U
3-Nitroaniline	6200000 U	5000000 U	6200000 U	6200000 U	6200000 U	5000000 U
Acenaphthene	0.0 NR	1000000 ~~U~~ UJ	102 %	108 %	0.0 NR	1000000 ~~U~~ UJ
2,4-Dinitrophenol	6200000 U	5000000 U	6200000 U	6200000 U	6200000 U	5000000 U
4-Nitrophenol	6200000 U	5000000 U	67 %	69 %	0.0 NR	5000000 ~~U~~ UJ
Dibenzofuran	1200000 U	1000000 U	1200000 U	1200000 U	1200000 U	1000000 U
2,4-Dinitrotoluene	0.0 NR	1000000 ~~U~~ UJ	92 * %	93 * %	0.0 NR	1000000 ~~U~~ UJ
Diethylphthalate	1200000 U	1000000 U	1200000 U	1200000 U	1200000 U	1000000 U
4-Chlorophenyl-phenylether	1200000 U	1000000 U	1200000 U	1200000 U	1200000 U	1000000 U
Fluorene	1200000 U	1000000 U	1200000 U	1200000 U	1200000 U	1000000 U
4-Nitroaniline	6200000 U	5000000 U	6200000 U	6200000 U	6200000 U	5000000 U
4,6-Dinitro-2-methylphenol	6200000 U	5000000 U	6200000 U	6200000 U	6200000 U	5000000 U
N-Nitrosodiphenylamine (1)	1200000 U	1000000 U	1200000 U	1200000 U	1200000 U	1000000 U
4-Bromophenyl-phenylether	1200000 U	1000000 U	1200000 U	1200000 U	1200000 U	1000000 U
Hexachlorobenzene	1200000 U	1000000 U	1200000 U	1200000 U	1200000 U	1000000 U
Pentachlorophenol	0.0 NR	5000000 ~~U~~ UJ	107 %	108 %	0.0 NR	5000000 ~~U~~ UJ
Phenanthrene	1200000 U	1000000 U	1200000 U	1200000 U	1200000 U	1000000 U
Anthracene	1200000 U	1000000 U	1200000 U	1200000 U	1200000 U	1000000 U
Di-n-Butylphthalate	1200000 U	1000000 U	1200000 U	1200000 U	1200000 U	1000000 U
Fluoranthene	1200000 U	1000000 U	1200000 U	1200000 U	1200000 U	1000000 U
Pyrene	0.0 NR	1000000 ~~U~~ UJ	151 * %	160 * %	0.0 NR	1000000 ~~U~~ UJ
Butylbenzylphthalate	1200000 U	1000000 U	1200000 U	1200000 U	1200000 U	1000000 U
3,3'-Dichlorobenzidine	2500000 U	2000000 U	2500000 U	2500000 U	2500000 U	2000000 U
Benzo(a)anthracene	1200000 U	1000000 U	1200000 U	1200000 U	1200000 U	1000000 U
Chrysene	1200000 U	1000000 U	1200000 U	1200000 U	1200000 U	1000000 U
bis(2-Ethylhexyl)phthalate	1200000 U	1000000 U	1200000 U	1200000 U	1200000 U	1000000 U
Di-n-Octyl phthalate	1200000 U	1000000 U	1200000 U	1200000 U	1200000 U	1000000 U
Benzo(b)fluoranthene	1200000 U	1000000 U	1200000 U	1200000 U	1200000 U	1000000 U
Benzo(k)fluoranthene	1200000 U	1000000 U	1200000 U	1200000 U	1200000 U	1000000 U
Benzo(a)pyrene	1200000 U	1000000 U	1200000 U	1200000 U	1200000 U	1000000 U
Indeno(1,2,3-cd)pyrene	1200000 U	1000000 U	1200000 U	1200000 U	1200000 U	1000000 U
Dibenzo(a,h)anthracene	1200000 U	1000000 U	1200000 U	1200000 U	1200000 U	1000000 U
Benzo(g,h,i)perylene	1200000 U	1000000 U	1200000 U	1200000 U	1200000 U	1000000 U
Tributylphosphate	1200000 U	1000000 U	1200000 U	1200000 U	1200000 U	1000000 U

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

7-27-91 [illegible]

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

RFW Batch Number: 9104L167 Client: WESTINGHOUSE HANFORD Work Order: 6168-02-01-0000 Report Date: 05/14/91 14:16 Page: 2a

	Cust ID:	SBLK		SBLK BS		SBLK BSD		SBLK		SBLK BS	
Sample Information	RFW#:	91LE0588-MB1		91LE0588-MB1		91LE0588-MB1		91LE0457-MB1		91LE0457-MB1	
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL	
	D.F.:	100		100		100		100		100	
	Units:	ug/Kg		ug/Kg		ug/Kg		ug/Kg		ug/Kg	
Surrogate Recovery	Nitrobenzene-d5	73	%	87	%	91	%	72	%	65	%
	2-Fluorobiphenyl	72	%	76	%	81	%	73	%	77	%
	p-Terphenyl-d14	82	%	88	%	93	%	102	%	92	%
	Phenol-d5	77	%	75	%	79	%	74	%	69	%
	2-Fluorophenol	71	%	70	%	75	%	81	%	66	%
	2,4,6-Tribromophenol	59	%	75	%	85	%	75	%	83	%
Phenol		1000000	U	65	%	68	%	0.0	NR	87	%
bis(2-Chloroethyl)ether		1000000	U	1000000	U	1000000	U	1000000	U	1000000	U
2-Chlorophenol		1000000	U	67	%	71	%	0.0	NR	77	%
1,3-Dichlorobenzene		1000000	U	1000000	U	1000000	U	1000000	U	1000000	U
1,4-Dichlorobenzene		1000000	U	75	%	80	%	0.0	NR	81	%
Benzyl alcohol		1000000	U	1000000	U	1000000	U	1000000	U	1000000	U
1,2-Dichlorobenzene		1000000	U	1000000	U	1000000	U	1000000	U	1000000	U
2-Methylphenol		1000000	U	1000000	U	1000000	U	1000000	U	1000000	U
bis(2-Chloroisopropyl)ether		1000000	U	1000000	U	1000000	U	1000000	U	1000000	U
4-Methylphenol		1000000	U	1000000	U	1000000	U	1000000	U	1000000	U
N-Nitroso-Di-n-propylamine		1000000	U	62	%	70	%	0.0	NR	71	%
Hexachloroethane		1000000	U	1000000	U	1000000	U	1000000	U	1000000	U
Nitrobenzene		1000000	U	1000000	U	1000000	U	1000000	U	1000000	U
Isophorone		1000000	U	1000000	U	1000000	U	1000000	U	1000000	U
2-Nitrophenol		1000000	U	1000000	U	1000000	U	1000000	U	1000000	U
2,4-Dimethylphenol		1000000	U	1000000	U	1000000	U	1000000	U	1000000	U
Benzoic acid		5000000	U	5000000	U	5000000	U	5000000	U	5000000	U
bis(2-Chloroethoxy)methane		1000000	U	1000000	U	1000000	U	1000000	U	1000000	U
2,4-Dichlorophenol		1000000	U	1000000	U	1000000	U	1000000	U	1000000	U
1,2,4-Trichlorobenzene		1000000	U	87	%	89	%	0.0	NR	93	%
Naphthalene		1000000	U	1000000	U	1000000	U	1000000	U	1000000	U
4-Chloroaniline		1000000	U	1000000	U	1000000	U	1000000	U	1000000	U
Hexachlorobutadiene		1000000	U	1000000	U	1000000	U	1000000	U	1000000	U
4-Chloro-3-methylphenol		1000000	U	68	%	71	%	0.0	NR	73	%
2-Methylnaphthalene		1000000	U	1000000	U	1000000	U	1000000	U	1000000	U
Hexachlorocyclopentadiene		1000000	U	1000000	U	1000000	U	1000000	U	1000000	U

*= Outside of EPA CLP QC limits.

000005

Cust ID:	SBLK	SBLK BS	SBLK BSD	SBLK	SBLK BS
RFW#:	91LE0588-MB1	91LE0588-MB1	91LE0588-MB1	91LE0457-MB1	91LE0457-MB1
2,4,6-Trichlorophenol	1000000 U	1000000 U	1000000 U	1000000 U	1000000 U
2,4,5-Trichlorophenol	5000000 U	5000000 U	5000000 U	5000000 U	5000000 U
2-Chloronaphthalene	1000000 U	1000000 U	1000000 U	1000000 U	1000000 U
2-Nitroaniline	5000000 U	5000000 U	5000000 U	5000000 U	5000000 U
Dimethylphthalate	1000000 U	1000000 U	1000000 U	1000000 U	1000000 U
Acenaphthylene	1000000 U	1000000 U	1000000 U	1000000 U	1000000 U
2,6-Dinitrotoluene	1000000 U	1000000 U	1000000 U	1000000 U	1000000 U
3-Nitroaniline	5000000 U	5000000 U	5000000 U	5000000 U	5000000 U
Acenaphthene	1000000 U	83 %	87 %	0.0 NR	74 %
2,4-Dinitrophenol	5000000 U	5000000 U	5000000 U	5000000 U	5000000 U
4-Nitrophenol	5000000 U	54 %	61 %	0.0 NR	63 %
Dibenzofuran	1000000 U	1000000 U	1000000 U	1000000 U	1000000 U
2,4-Dinitrotoluene	1000000 U	72 %	80 %	0.0 NR	72 %
Diethylphthalate	1000000 U	1000000 U	1000000 U	1000000 U	1000000 U
4-Chlorophenyl-phenylether	1000000 U	1000000 U	1000000 U	1000000 U	1000000 U
Fluorene	1000000 U	1000000 U	1000000 U	1000000 U	1000000 U
4-Nitroaniline	5000000 U	5000000 U	5000000 U	5000000 U	5000000 U
4,6-Dinitro-2-methylphenol	5000000 U	5000000 U	5000000 U	5000000 U	5000000 U
N-Nitrosodiphenylamine (1)	1000000 U	1000000 U	1000000 U	1000000 U	1000000 U
4-Bromophenyl-phenylether	1000000 U	1000000 U	1000000 U	1000000 U	1000000 U
Hexachlorobenzene	1000000 U	1000000 U	1000000 U	1000000 U	1000000 U
Pentachlorophenol	5000000 U	68 %	73 %	0.0 NR	115 * %
Phenanthrene	1000000 U	1000000 U	1000000 U	1000000 U	1000000 U
Anthracene	1000000 U	1000000 U	1000000 U	1000000 U	1000000 U
Di-n-Butylphthalate	1000000 U	1000000 U	1000000 U	1000000 U	1000000 U
Fluoranthene	1000000 U	1000000 U	1000000 U	1000000 U	1000000 U
Pyrene	1000000 U	86 %	92 %	0.0 NR	94 %
Butylbenzylphthalate	1000000 U	1000000 U	1000000 U	1000000 U	1000000 U
3,3'-Dichlorobenzidine	2000000 U	2000000 U	2000000 U	2000000 U	2000000 U
Benzo(a)anthracene	1000000 U	1000000 U	1000000 U	1000000 U	1000000 U
Chrysene	1000000 U	1000000 U	1000000 U	1000000 U	1000000 U
bis(2-Ethylhexyl)phthalate	1000000 U	1000000 U	1000000 U	1000000 U	1000000 U
Di-n-Octyl phthalate	1000000 U	1000000 U	1000000 U	1000000 U	1000000 U
Benzo(b)fluoranthene	1000000 U	1000000 U	1000000 U	1000000 U	1000000 U
Benzo(k)fluoranthene	1000000 U	1000000 U	1000000 U	1000000 U	1000000 U
Benzo(a)pyrene	1000000 U	1000000 U	1000000 U	1000000 U	1000000 U
Indeno(1,2,3-cd)pyrene	1000000 U	1000000 U	1000000 U	1000000 U	1000000 U
Dibenzo(a,h)anthracene	1000000 U	1000000 U	1000000 U	1000000 U	1000000 U
Benzo(g,h,i)perylene	1000000 U	1000000 U	1000000 U	1000000 U	1000000 U
Tributylphosphate	1000000 U	1000000 U	1000000 U	1000000 U	1000000 U

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

1B
SEMIVOLATILE ORGANICS ANALYSIS SHEET 0 0 0 0 2 6

CLIENT SAMPLE NO.

BOOJ02

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

Client: WESTINGHOUSE HANFORD

Matrix: DRUM Lab Sample ID: 9104L167-001

Sample wt/vol: 0.800 (g/mL) G Lab File ID: M050313

Level: (low/med) LOW Date Received: 04/04/91

% Moisture: not dec. 100 dec. Date Extracted: 04/08/91

Extraction: (SepF/Cont/Sonc) N/A Date Analyzed: 05/03/91

GPC Cleanup: (Y/N) N pH: 7.0 Dilution Factor: 100

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

CAS NO.	COMPOUND		
108-95-2	Phenol	0.0	NR
111-44-4	bis(2-Chloroethyl)ether	1200000	U J
95-57-8	2-Chlorophenol	0.0	NR
541-73-1	1,3-Dichlorobenzene	1200000	U J
106-46-7	1,4-Dichlorobenzene	0.0	NR
100-51-6	Benzyl alcohol	1200000	U J
95-50-1	1,2-Dichlorobenzene	1200000	U
95-48-7	2-Methylphenol	1200000	U
108-60-1	bis(2-Chloroisopropyl)ether	1200000	U
106-44-5	4-Methylphenol	1200000	U
621-64-7	N-Nitroso-Di-n-propylamine	0.0	NR
67-72-1	Hexachloroethane	1200000	U J
98-95-3	Nitrobenzene	1200000	U
78-59-1	Isophorone	1200000	U
88-75-5	2-Nitrophenol	1200000	U
105-67-9	2,4-Dimethylphenol	1200000	U
65-85-0	Benzoic acid	6200000	U
111-91-1	bis(2-Chloroethoxy)methane	1200000	U
120-83-2	2,4-Dichlorophenol	1200000	U
120-82-1	1,2,4-Trichlorobenzene	0.0	NR
91-20-3	Naphthalene	1200000	U J
106-47-8	4-Chloroaniline	1200000	U
87-68-3	Hexachlorobutadiene	1200000	U
59-50-7	4-Chloro-3-methylphenol	0.0	NR
91-57-6	2-Methylnaphthalene	1200000	U J
77-47-4	Hexachlorocyclopentadiene	1200000	U
88-06-2	2,4,6-Trichlorophenol	1200000	U
95-95-4	2,4,5-Trichlorophenol	6200000	U
91-58-7	2-Chloronaphthalene	1200000	U
88-74-4	2-Nitroaniline	6200000	U
131-11-3	Dimethylphthalate	1200000	U
208-96-8	Acenaphthylene	1200000	U
606-20-2	2,6-Dinitrotoluene	1200000	U

7-27-91

1C
SEMIVOLATILE ORGANICS ANALYSIS SHEET 0000027

CLIENT SAMPLE NO.

BOOJ02

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

Client: WESTINGHOUSE HANFORD

Matrix: DRUM Lab Sample ID: 9104L167-001

Sample wt/vol: 0.800 (g/mL) G Lab File ID: M050313

Level: (low/med) LOW Date Received: 04/04/91

% Moisture: not dec. 100 dec. Date Extracted: 04/08/91

Extraction: (SepF/Cont/Sonc) N/A Date Analyzed: 05/03/91

GPC Cleanup: (Y/N) N pH: 7.0 Dilution Factor: 100

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

CAS NO.	COMPOUND		
99-09-2	3-Nitroaniline	6200000	U J
83-32-9	Acenaphthene	0.0	NR
51-28-5	2,4-Dinitrophenol	6200000	U J
100-02-7	4-Nitrophenol	6200000	U
132-64-9	Dibenzofuran	1200000	U
121-14-2	2,4-Dinitrotoluene	0.0	NR
84-66-2	Diethylphthalate	1200000	U J
7005-72-3	4-Chlorophenyl-phenylether	1200000	U
86-73-7	Fluorene	1200000	U
100-01-6	4-Nitroaniline	6200000	U
534-52-1	4,6-Dinitro-2-methylphenol	6200000	U
86-30-6	N-Nitrosodiphenylamine (1)	1200000	U
101-55-3	4-Bromophenyl-phenylether	1200000	U
118-74-1	Hexachlorobenzene	1200000	U
87-86-5	Pentachlorophenol	0.0	NR
85-01-8	Phenanthrene	1200000	U J
120-12-7	Anthracene	1200000	U
84-74-2	Di-n-Butylphthalate	1200000	U
206-44-0	Fluoranthene	1200000	U
129-00-0	Pyrene	0.0	NR
85-68-7	Butylbenzylphthalate	1200000	U J
91-94-1	3,3'-Dichlorobenzidine	2500000	U
56-55-3	Benzo(a)anthracene	1200000	U
218-01-9	Chrysene	1200000	U
117-81-7	bis(2-Ethylhexyl)phthalate	1200000	U
117-84-0	Di-n-Octyl phthalate	1200000	U
205-99-2	Benzo(b)fluoranthene	1200000	U
207-08-9	Benzo(k)fluoranthene	1200000	U
50-32-8	Benzo(a)pyrene	1200000	U
193-39-5	Indeno(1,2,3-cd)pyrene	1200000	U
53-70-3	Dibenzo(a,h)anthracene	1200000	U
191-24-2	Benzo(g,h,i)perylene	1200000	U

7-27-91
WSimel

(1) - Cannot be separated from Diphenylamine

1D
SEMIVOLATILE ORGANICS ANALYSIS SHEET 0 0 0 0 2 8

CLIENT SAMPLE NO.

BOOJ02

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

Client: WESTINGHOUSE HANFORD

Matrix: DRUM

Lab Sample ID: 9104L167-001

Sample wt/vol: 0.800 (g/mL) G

Lab File ID: M050313

Level: (low/med) LOW

Date Received: 04/04/91

% Moisture: not dec. 100 dec.

Date Extracted: 04/08/91

Extraction: (SepF/Cont/Sonc) N/A

Date Analyzed: 05/03/91

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

Dilution Factor: 100

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg	
126-73-8	Tributylphosphate	1200000	U

FORM 1 SV-3

12/88 Rev.

1F

SEMIVOLATILE ORGANICS ANALYSIS SHEET 0000029

TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

BOOJ02

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

Client: WESTINGHOUSE HANFORD

Matrix: DRUM

Lab Sample ID: 9104L167-001

Sample wt/vol: 0.800 (g/mL) G

Lab File ID: M050313

Level: (low/med) LOW

Date Received: 04/04/91

% Moisture: not dec. 100 dec.

Date Extracted: 04/08/91

Extraction: (SepF/Cont/Sonc) N/A

Date Analyzed: 05/03/91

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

Dilution Factor: 100

Number TICs found: 1

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN	11.02	200000	J

1B
SEMIVOLATILE ORGANICS ANALYSIS SHEET 0000038

CLIENT SAMPLE NO.

BOOJ02RE

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

Client: WESTINGHOUSE HANFORD

Matrix: DRUM Lab Sample ID: 9104L167-001

Sample wt/vol: 1.00 (g/mL) G Lab File ID: M051013

Level: (low/med) LOW Date Received: 04/04/91

% Moisture: not dec. 0 dec. Date Extracted: 05/06/91

Extraction: (SepF/Cont/Sonc) N/A Date Analyzed: 05/10/91

GPC Cleanup: (Y/N) N pH: 7.0 Dilution Factor: 100

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

CAS NO.	COMPOUND		
108-95-2	Phenol	1000000	~~U~~UJ
111-44-4	bis(2-Chloroethyl)ether	1000000	U
95-57-8	2-Chlorophenol	1000000	~~U~~UJ
541-73-1	1,3-Dichlorobenzene	1000000	U
106-46-7	1,4-Dichlorobenzene	1000000	~~U~~UJ
100-51-6	Benzyl alcohol	1000000	U
95-50-1	1,2-Dichlorobenzene	1000000	U
95-48-7	2-Methylphenol	1000000	U
108-60-1	bis(2-Chloroisopropyl)ether	1000000	U
106-44-5	4-Methylphenol	1000000	U
621-64-7	N-Nitroso-Di-n-propylamine	1000000	~~U~~UJ
67-72-1	Hexachloroethane	1000000	U
98-95-3	Nitrobenzene	1000000	U
78-59-1	Isophorone	1000000	U
88-75-5	2-Nitrophenol	1000000	U
105-67-9	2,4-Dimethylphenol	1000000	U
65-85-0	Benzoic acid	5000000	U
111-91-1	bis(2-Chloroethoxy)methane	1000000	U
120-83-2	2,4-Dichlorophenol	1000000	U
120-82-1	1,2,4-Trichlorobenzene	1000000	~~U~~UJ
91-20-3	Naphthalene	1000000	U
106-47-8	4-Chloroaniline	1000000	U
87-68-3	Hexachlorobutadiene	1000000	U
59-50-7	4-Chloro-3-methylphenol	1000000	~~U~~UJ
91-57-6	2-Methylnaphthalene	1000000	U
77-47-4	Hexachlorocyclopentadiene	1000000	U
88-06-2	2,4,6-Trichlorophenol	1000000	U
95-95-4	2,4,5-Trichlorophenol	5000000	U
91-58-7	2-Chloronaphthalene	1000000	U
88-74-4	2-Nitroaniline	5000000	U
131-11-3	Dimethylphthalate	1000000	U
208-96-8	Acenaphthylene	1000000	~~U~~UJ
606-20-2	2,6-Dinitrotoluene	1000000	U

7-27-91
U Simply

1C

SEMIVOLATILE ORGANICS ANALYSIS SHEET 0000039

CLIENT SAMPLE NO.

BOOJ02RE

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

Client: WESTINGHOUSE HANFORD

Matrix: DRUM Lab Sample ID: 9104L167-001

Sample wt/vol: 1.00 (g/mL) G Lab File ID: M051013

Level: (low/med) LOW Date Received: 04/04/91

% Moisture: not dec. 0 dec. Date Extracted: 05/06/91

Extraction: (SepF/Cont/Sonc) N/A Date Analyzed: 05/10/91

GPC Cleanup: (Y/N) N pH: 7.0 Dilution Factor: 100

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

CAS NO.	COMPOUND		
99-09-2	3-Nitroaniline	5000000	U
83-32-9	Acenaphthene	1000000	U
51-28-5	2,4-Dinitrophenol	5000000	U
100-02-7	4-Nitrophenol	5000000	U
132-64-9	Dibenzofuran	1000000	U
121-14-2	2,4-Dinitrotoluene	1000000	~~U~~ UJ
84-66-2	Diethylphthalate	1000000	U
7005-72-3	4-Chlorophenyl-phenylether	1000000	U
86-73-7	Fluorene	1000000	U
100-01-6	4-Nitroaniline	5000000	U
534-52-1	4,6-Dinitro-2-methylphenol	5000000	U
86-30-6	N-Nitrosodiphenylamine (1)	1000000	U
101-55-3	4-Bromophenyl-phenylether	1000000	U
118-74-1	Hexachlorobenzene	1000000	U
87-86-5	Pentachlorophenol	5000000	~~U~~ UJ
85-01-8	Phenanthrene	1000000	U
120-12-7	Anthracene	1000000	U
84-74-2	Di-n-Butylphthalate	1000000	U
206-44-0	Fluoranthene	1000000	U
129-00-0	Pyrene	1000000	~~U~~ UJ
85-68-7	Butylbenzylphthalate	1000000	U
91-94-1	3,3'-Dichlorobenzidine	2000000	U
56-55-3	Benzo(a)anthracene	1000000	U
218-01-9	Chrysene	1000000	U
117-81-7	bis(2-Ethylhexyl)phthalate	1000000	U
117-84-0	Di-n-Octyl phthalate	1000000	U
205-99-2	Benzo(b)fluoranthene	1000000	U
207-08-9	Benzo(k)fluoranthene	1000000	U
50-32-8	Benzo(a)pyrene	1000000	U
193-39-5	Indeno(1,2,3-cd)pyrene	1000000	U
53-70-3	Dibenzo(a,h)anthracene	1000000	U
191-24-2	Benzo(g,h,i)perylene	1000000	U

7-27-91 WSimpel

(1) - Cannot be separated from Diphenylamine

1D
SEMIVOLATILE ORGANICS ANALYSIS SHEET 000040

CLIENT SAMPLE NO.

BOOJ02RE

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

Client: WESTINGHOUSE HANFORD

Matrix: DRUM Lab Sample ID: 9104L167-001

Sample wt/vol: 1.00 (g/mL) G Lab File ID: M051013

Level: (low/med) LOW Date Received: 04/04/91

% Moisture: not dec. 0 dec. Date Extracted: 05/06/91

Extraction: (SepF/Cont/Sonc) N/A Date Analyzed: 05/10/91

GPC Cleanup: (Y/N) N pH: 7.0 Dilution Factor: 100

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

CAS NO.	COMPOUND		
126-73-8	Tributylphosphate	1000000	U

FORM 1 SV-3 12/88 Rev.

1F

SEMIVOLATILE ORGANICS ANALYSIS SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

000041

CLIENT SAMPLE NO.

BOOJ02RE

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

Client: WESTINGHOUSE HANFORD

Matrix: DRUM

Lab Sample ID: 9104L167-001

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

Lab File ID: M051013

Level: (low/med) LOW

Date Received: 04/04/91

% Moisture: not dec. 0 dec.

Date Extracted: 05/06/91

Extraction: (SepF/Cont/Sonc) N/A

Date Analyzed: 05/10/91

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

Dilution Factor: 100

Number TICs found: 2

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN	10.58	100000	J
2.	UNKNOWN	11.00	300000	J

1B

SEMIVOLATILE ORGANICS ANALYSIS SHEET 000005 1

CLIENT SAMPLE NO.

BOOJ05

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

Client: WESTINGHOUSE HANFORD

Matrix: DRUM Lab Sample ID: 9104L167-002

Sample wt/vol: 0.800 (g/mL) G Lab File ID: M050606

Level: (low/med) LOW Date Received: 04/04/91

% Moisture: not dec. 0 dec. Date Extracted: 04/08/91

Extraction: (SepF/Cont/Sonc) N/A Date Analyzed: 05/06/91

GPC Cleanup: (Y/N) N pH: 7.0 Dilution Factor: 100

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

CAS NO.	COMPOUND		
108-95-2	Phenol	0.0	NR
111-44-4	bis(2-Chloroethyl)ether	1200000	U
95-57-8	2-Chlorophenol	0.0	NR
541-73-1	1,3-Dichlorobenzene	1200000	U
106-46-7	1,4-Dichlorobenzene	0.0	NR
100-51-6	Benzyl alcohol	1200000	U
95-50-1	1,2-Dichlorobenzene	1200000	U
95-48-7	2-Methylphenol	1200000	U
108-60-1	bis(2-Chloroisopropyl)ether	1200000	U
106-44-5	4-Methylphenol	1200000	U
621-64-7	N-Nitroso-Di-n-propylamine	0.0	NR
67-72-1	Hexachloroethane	1200000	U
98-95-3	Nitrobenzene	1200000	U
78-59-1	Isophorone	1200000	U
88-75-5	2-Nitrophenol	1200000	U
105-67-9	2,4-Dimethylphenol	1200000	U
65-85-0	Benzoic acid	6200000	U
111-91-1	bis(2-Chloroethoxy)methane	1200000	U
120-83-2	2,4-Dichlorophenol	1200000	U
120-82-1	1,2,4-Trichlorobenzene	0.0	NR
91-20-3	Naphthalene	1200000	U
106-47-8	4-Chloroaniline	1200000	U
87-68-3	Hexachlorobutadiene	1200000	U
59-50-7	4-Chloro-3-methylphenol	0.0	NR
91-57-6	2-Methylnaphthalene	1200000	U
77-47-4	Hexachlorocyclopentadiene	1200000	U
88-06-2	2,4,6-Trichlorophenol	1200000	U
95-95-4	2,4,5-Trichlorophenol	6200000	U
91-58-7	2-Chloronaphthalene	1200000	U
88-74-4	2-Nitroaniline	6200000	U
131-11-3	Dimethylphthalate	1200000	U
208-96-8	Acenaphthylene	1200000	U
606-20-2	2,6-Dinitrotoluene	1200000	U

1C

SEMIVOLATILE ORGANICS ANALYSIS SHEET 0000052

CLIENT SAMPLE NO.

BOOJ05

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

Client: WESTINGHOUSE HANFORD

Matrix: DRUM Lab Sample ID: 9104L167-002

Sample wt/vol: 0.800 (g/mL) G Lab File ID: M050606

Level: (low/med) LOW Date Received: 04/04/91

% Moisture: not dec. 0 dec. Date Extracted: 04/08/91

Extraction: (SepF/Cont/Sonc) N/A Date Analyzed: 05/06/91

GPC Cleanup: (Y/N) N pH: 7.0 Dilution Factor: 100

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

CAS NO.	COMPOUND		
99-09-2	3-Nitroaniline	6200000	U
83-32-9	Acenaphthene	0.0	NR
51-28-5	2,4-Dinitrophenol	6200000	U
100-02-7	4-Nitrophenol	0.0	NR
132-64-9	Dibenzofuran	1200000	U
121-14-2	2,4-Dinitrotoluene	0.0	NR
84-66-2	Diethylphthalate	1200000	U
7005-72-3	4-Chlorophenyl-phenylether	1200000	U
86-73-7	Fluorene	1200000	U
100-01-6	4-Nitroaniline	6200000	U
534-52-1	4,6-Dinitro-2-methylphenol	6200000	U
86-30-6	N-Nitrosodiphenylamine (1)	1200000	U
101-55-3	4-Bromophenyl-phenylether	1200000	U
118-74-1	Hexachlorobenzene	1200000	U
87-86-5	Pentachlorophenol	0.0	NR
85-01-8	Phenanthrene	1200000	U
120-12-7	Anthracene	1200000	U
84-74-2	Di-n-Butylphthalate	1200000	U
206-44-0	Fluoranthene	1200000	U
129-00-0	Pyrene	0.0	NR
85-68-7	Butylbenzylphthalate	1200000	U
91-94-1	3,3'-Dichlorobenzidine	2500000	U
56-55-3	Benzo(a)anthracene	1200000	U
218-01-9	Chrysene	1200000	U
117-81-7	bis(2-Ethylhexyl)phthalate	1200000	U
117-84-0	Di-n-Octyl phthalate	1200000	U
205-99-2	Benzo(b)fluoranthene	1200000	U
207-08-9	Benzo(k)fluoranthene	1200000	U
50-32-8	Benzo(a)pyrene	1200000	U
193-39-5	Indeno(1,2,3-cd)pyrene	1200000	U
53-70-3	Dibenzo(a,h)anthracene	1200000	U
191-24-2	Benzo(g,h,i)perylene	1200000	U

(1) - Cannot be separated from Diphenylamine

1D

SEMIVOLATILE ORGANICS ANALYSIS SHEET 0000053

CLIENT SAMPLE NO.

BOOJ05

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

Client: WESTINGHOUSE HANFORD

Matrix: DRUM

Lab Sample ID: 9104L167-002

Sample wt/vol: 0.800 (g/mL) G

Lab File ID: M050606

Level: (low/med) LOW

Date Received: 04/04/91

% Moisture: not dec. 0 dec.

Date Extracted: 04/08/91

Extraction: (SepF/Cont/Sonc) N/A

Date Analyzed: 05/06/91

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

Dilution Factor: 100

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

CAS NO.	COMPOUND		
126-73-8	Tributylphosphate	1200000	U

FORM 1 SV-3

12/88 Rev.

1F

SEMIVOLATILE ORGANICS ANALYSIS SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

0000054

CLIENT SAMPLE NO.

B00J05

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

Client: WESTINGHOUSE HANFORD

Matrix: DRUM

Lab Sample ID: 9104L167-002

Sample wt/vol: 0.800 (g/mL) G

Lab File ID: M050606

Level: (low/med) LOW

Date Received: 04/04/91

% Moisture: not dec. 0 dec.

Date Extracted: 04/08/91

Extraction: (SepF/Cont/Sonc) N/A

Date Analyzed: 05/06/91

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

Dilution Factor: 100

Number TICs found: 6

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	ALKANE	10.22	400000	J
2.	ALKANE	11.05	1000000	J
3.	ALKANE	12.50	500000	J
4.	ALKANE	12.80	500000	J
5.	ALKANE	13.62	400000	J
6.	ALKANE	14.10	200000	J

1B

SEMIVOLATILE ORGANICS ANALYSIS SHEET 000068

CLIENT SAMPLE NO.

BOOJ05RE

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

Client: WESTINGHOUSE HANFORD

Matrix: DRUM

Lab Sample ID: 9104L167-002

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

Lab File ID: M051014

Level: (low/med) LOW

Date Received: 04/04/91

% Moisture: not dec. 0 dec.

Date Extracted: 05/06/91

Extraction: (SepF/Cont/Sonc) N/A

Date Analyzed: 05/10/91

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

Dilution Factor: 100

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

CAS NO.	COMPOUND		
108-95-2	Phenol	1000000	~~U~~ UJ
111-44-4	bis(2-Chloroethyl)ether	1000000	U
95-57-8	2-Chlorophenol	1000000	~~U~~ UJ
541-73-1	1,3-Dichlorobenzene	1000000	U
106-46-7	1,4-Dichlorobenzene	1000000	~~U~~ UJ
100-51-6	Benzyl alcohol	1000000	U
95-50-1	1,2-Dichlorobenzene	1000000	U
95-48-7	2-Methylphenol	1000000	U
108-60-1	bis(2-Chloroisopropyl)ether	1000000	U
106-44-5	4-Methylphenol	1000000	U
621-64-7	N-Nitroso-Di-n-propylamine	1000000	~~U~~ UJ
67-72-1	Hexachloroethane	1000000	U
98-95-3	Nitrobenzene	1000000	U
78-59-1	Isophorone	1000000	U
88-75-5	2-Nitrophenol	1000000	U
105-67-9	2,4-Dimethylphenol	1000000	U
65-85-0	Benzoic acid	5000000	U
111-91-1	bis(2-Chloroethoxy)methane	1000000	U
120-83-2	2,4-Dichlorophenol	1000000	U
120-82-1	1,2,4-Trichlorobenzene	1000000	~~U~~ UJ
91-20-3	Naphthalene	1000000	U
106-47-8	4-Chloroaniline	1000000	U
87-68-3	Hexachlorobutadiene	1000000	U
59-50-7	4-Chloro-3-methylphenol	1000000	~~U~~ UJ
91-57-6	2-Methylnaphthalene	1000000	U
77-47-4	Hexachlorocyclopentadiene	1000000	U
88-06-2	2,4,6-Trichlorophenol	1000000	U
95-95-4	2,4,5-Trichlorophenol	5000000	U
91-58-7	2-Chloronaphthalene	1000000	U
88-74-4	2-Nitroaniline	5000000	U
131-11-3	Dimethylphthalate	1000000	U
208-96-8	Acenaphthylene	1000000	~~U~~ UJ
606-20-2	2,6-Dinitrotoluene	1000000	U

7-27-91
W Simply

1C

SEMIVOLATILE ORGANICS ANALYSIS SHEET 000069

CLIENT SAMPLE NO.

BOOJ05RE

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

Client: WESTINGHOUSE HANFORD

Matrix: DRUM Lab Sample ID: 9104L167-002

Sample wt/vol: 1.00 (g/mL) G Lab File ID: M051014

Level: (low/med) LOW Date Received: 04/04/91

% Moisture: not dec. 0 dec. Date Extracted: 05/06/91

Extraction: (SepF/Cont/Sonc) N/A Date Analyzed: 05/10/91

GPC Cleanup: (Y/N) N pH: 7.0 Dilution Factor: 100

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg	
99-09-2	3-Nitroaniline	5000000	U
83-32-9	Acenaphthene	1000000	U
51-28-5	2,4-Dinitrophenol	5000000	U
100-02-7	4-Nitrophenol	5000000	~~U~~ UJ
132-64-9	Dibenzofuran	1000000	U
121-14-2	2,4-Dinitrotoluene	1000000	U
84-66-2	Diethylphthalate	1000000	U
7005-72-3	4-Chlorophenyl-phenylether	1000000	U
86-73-7	Fluorene	1000000	U
100-01-6	4-Nitroaniline	5000000	U
534-52-1	4,6-Dinitro-2-methylphenol	5000000	U
86-30-6	N-Nitrosodiphenylamine (1)	1000000	U
101-55-3	4-Bromophenyl-phenylether	1000000	U
118-74-1	Hexachlorobenzene	1000000	U
87-86-5	Pentachlorophenol	5000000	~~U~~ UJ
85-01-8	Phenanthrene	1000000	U
120-12-7	Anthracene	1000000	U
84-74-2	Di-n-Butylphthalate	1000000	U
206-44-0	Fluoranthene	1000000	U
129-00-0	Pyrene	1000000	~~U~~ UJ
85-68-7	Butylbenzylphthalate	1000000	U
91-94-1	3,3'-Dichlorobenzidine	2000000	U
56-55-3	Benzo(a)anthracene	1000000	U
218-01-9	Chrysene	1000000	U
117-81-7	bis(2-Ethylhexyl)phthalate	1000000	U
117-84-0	Di-n-Octyl phthalate	1000000	U
205-99-2	Benzo(b)fluoranthene	1000000	U
207-08-9	Benzo(k)fluoranthene	1000000	U
50-32-8	Benzo(a)pyrene	1000000	U
193-39-5	Indeno(1,2,3-cd)pyrene	1000000	U
53-70-3	Dibenzo(a,h)anthracene	1000000	U
191-24-2	Benzo(g,h,i)perylene	1000000	U

7-27-91 [illegible]

(1) - Cannot be separated from Diphenylamine

1D
SEMIVOLATILE ORGANICS ANALYSIS SHEET 000070

CLIENT SAMPLE NO.

BOOJ05RE

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

Client: WESTINGHOUSE HANFORD

Matrix: DRUM Lab Sample ID: 9104L167-002

Sample wt/vol: 1.00 (g/mL) G Lab File ID: M051014

Level: (low/med) LOW Date Received: 04/04/91

% Moisture: not dec. 0 dec. Date Extracted: 05/06/91

Extraction: (SepF/Cont/Sonc) N/A Date Analyzed: 05/10/91

GPC Cleanup: (Y/N) N pH: 7.0 Dilution Factor: 100

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg	
126-73-8	Tributylphosphate	1000000	U

FORM 1 SV-3 12/88 Rev.

1F

SEMIVOLATILE ORGANICS ANALYSIS SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

000071

CLIENT SAMPLE NO.

BOOJ05RE

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

Client: WESTINGHOUSE HANFORD

Matrix: DRUM

Lab Sample ID: 9104L167-002

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

Lab File ID: M051014

Level: (low/med) LOW

Date Received: 04/04/91

% Moisture: not dec. 0 dec.

Date Extracted: 05/06/91

Extraction: (SepF/Cont/Sonc) N/A

Date Analyzed: 05/10/91

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

Dilution Factor: 100

Number TICs found: 16

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	ALKANE	6.85	300000	J
2.	ALKANE	8.45	400000	J
3.	UNKNOWN	9.17	200000	J
4.	ALKANE	9.97	900000	J
5.	ALKANE	10.18	800000	J
6.	UNKNOWN	10.58	300000	J
7.	CYCLOALKANE	10.70	300000	J
8.	HYDROCARBON	10.90	200000	J
9.	ALKANE	11.02	2000000	J
10.	ALKANE	11.42	1000000	J
11.	ALKANE	11.57	200000	J
12.	CYCLOALKANE	12.17	200000	J
13.	ALKANE	12.47	700000	J
14.	ALKANE	12.77	1000000	J
15.	ALKANE	13.58	500000	J
16.	ALKANE	14.07	300000	J

Roy F. Weston, Inc. - Lionville Laboratory

PCBs by GC

Report Date: 05/09/91 11:42

RFW Batch Number: 9104L167 Client: WESTINGHOUSE HANFORD Work Order: 6168-02-01-0000 Page: 1

	Cust ID:	BOOJ02	BOOJ02	BOOJ02	BOOJ05	PBLK	PBLK BS
Sample Information	RFW#:	001	001 MS	001 MSD	002	91LE0450-MB1	91LE0450-MB1
	Matrix:	DRUM	DRUM	DRUM	DRUM	SOIL	SOIL
	D.F.:	0.500	0.500	0.500	0.500	0.500	0.500
	Units:	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg
Surrogate: Di-n-butylchlorendate		84 %	77 %	79 %	84 %	79 %	91 %
		fl	fl	fl	fl	fl	fl
Aroclor-1016		12000 U	12000 U	12000 U	12000 U	12000 U	12000 U
Aroclor-1221		12000 U	12000 U	12000 U	12000 U	12000 U	12000 U
Aroclor-1232		12000 U	12000 U	12000 U	12000 U	12000 U	12000 U
Aroclor-1242		12000 U	12000 U	12000 U	12000 U	12000 U	12000 U
Aroclor-1248		12000 U	12000 U	12000 U	12000 U	12000 U	12000 U
Aroclor-1254		24000 U	73 %	74 %	24000 U	24000 U	82 %
Aroclor-1260		24000 U	24000 U	24000 U	24000 U	24000 U	24000 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

000007

1D
PESTICIDE ORGANICS ANALYSIS SHEET 0000014

CLIENT SAMPLE NO.

BOOJ02

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

Client: WESTINGHOUSE HANFORD

Matrix: DRUM Lab Sample ID: 9104L167-001

Sample wt/vol: 0.100 (g/mL) G Lab File ID: 05079113.13

Level: (low/med) LOW Date Received: 04/04/91

% Moisture: not dec. 100 dec. Date Extracted: 04/05/91

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 05/07/91

GPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 0.500

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg	
12674-11-2	Aroclor-1016	12000	U
11104-28-2	Aroclor-1221	12000	U
11141-16-5	Aroclor-1232	12000	U
53469-21-9	Aroclor-1242	12000	U
12672-29-6	Aroclor-1248	12000	U
11097-69-1	Aroclor-1254	24000	U
11096-82-5	Aroclor-1260	24000	U

5/9/91

0000019

1D

PESTICIDE ORGANICS ANALYSIS SHEET

CLIENT SAMPLE NO.

BOOJ05

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

Client: WESTINGHOUSE HANFORD

Matrix: DRUM

Lab Sample ID: 9104L167-002

Sample wt/vol: 0.100 (g/mL) G

Lab File ID: 05079113.14

Level: (low/med) LOW

Date Received: 04/04/91

% Moisture: not dec. 100 dec.

Date Extracted: 04/05/91

Extraction: (SepF/Cont/Sonc) SONC

Date Analyzed: 05/08/91

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

Dilution Factor: 0.500

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

CAS NO.	COMPOUND		
12674-11-2	Aroclor-1016	12000	U
11104-28-2	Aroclor-1221	12000	U
11141-16-5	Aroclor-1232	12000	U
53469-21-9	Aroclor-1242	12000	U
12672-29-6	Aroclor-1248	12000	U
11097-69-1	Aroclor-1254	24000	U
11096-82-5	Aroclor-1260	24000	U

5/9/91

FORM 1 PEST 12/88 Rev.

ORGANIC QC - Holding Times

Name C.J. Simiele Date 7-27-91

COMMENTS: VOA- analysis performed seven days after sampling (hold time - 14 days)
BNA- extraction performed six days after sampling, analysis performed 31 days after extraction - Both samples were re extracted out of hold time.
PCB- extraction performed 3 days after sampling, analysis performed 32 days after extraction

ACTION: qualify associated samples as per OSM guidelines - BNA

sample #	constituent	value/qual
BNA:		
B00J02	phenol	UJ
	2-chloropenol	UJ
	1,4-Dichlorobenzene	UJ
	N-nitroso-Di-n-propylamine	UJ
	1,2,4-Trichlorobenzene	UJ
	4-chloro-3-methylphenol	UJ
	Acenaphthene	UJ
	2,4-Dinitrotoluene	UJ
	Pentachlorophenol	UJ
	Pyrene	UJ
B00J05	Phenol	UJ
	2-chlorophenol	UJ
	1,4-Dichlorobenzene	UJ
	N-nitroso-Di-n-propylamine	UJ
	1,2,4-Trichlorobenzene	UJ
	4-chloro-3-methylphenol	UJ
	Acenaphthene	UJ
	4-nitrophenol	UJ
	2,4-Dinitrotoluene	UJ
	Pentachlorophenol	UJ
	Pyrene	UJ

sample #	constituent	value/qual

ORGANIC QC - Surrogate Recovery

Name C.J. Simiele Date 7-27-91

COMMENTS: VOA- surrogates diluted out in four out of five samples. % recoveries were within required control limits for surrogates not diluted out.
BNA- all surrogate recoveries are within required control limits.
PCB- all surrogate % recoveries are within required control limits.

ACTION: None

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

ORGANIC QC - MS/MSD

Name CJ Simiele Date 7-23-91

COMMENTS: VOA- all ms/msd % recoveries and RPD's are within required control limits.
BNA- all ms/msD RPD's are within required control limits, 16 % recoveries are out of required control limits, 2nd ms/msD run and all % recoveries are within control limits
PCB- all ms/msD % recoveries and RPD's are within required control limits.

ACTION: Action: None

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

ORGANIC QC - Blanks

Name C.J. Simiele Date 7-26-91

COMMENTS: VOA- Common lab contaminants detected in blank (methylene chloride (780), acetone (2000)), blank frequency met.
BNA- no contaminants detected in blank
PCB- no contaminants detected in blank, blank analysis frequency met.

ACTION: Qualify associated samples as per OSM guidelines- VOA

sample #	constituent	value/qual
VOA: all sample results > 10x conc. of contaminants in blank		

sample #	constituent	value/qual

ORGANIC QC - GC/MS Tune

Name CJ Simiele Date 7-27-91

COMMENTS: VOA- all BFB % relative abundance results are within ion abundance criteria limits, tune frequency met.
BNA- all DFTPP % relative abundance results are within required control limits
~~PCB~~ WS

ACTION: None

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

ORGANIC QC - Calibrations

Name C J Simiele Date 7-27-91

COMMENTS: VOA- initial and continuing calibration are all within required control limits, calibr. frequency met. BNA- initial and continuing calibration are all within required control limits, calibration frequency met. PCB- initial calibr. linearity check %RSD's are within required control limits, analytical sequence met. Continuing calibr.- %D's are all within required control limits for PCB constituents.

ACTION:

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

ORGANIC QC - Internal Standards

Name C.J. Simiele Date 7-27-91

COMMENTS: VOA- internal standards. Area counts and retention times are all within required control limits
BNA- 2 internal standard area counts are out of required control limits, all retention times are within required control limit.

ACTION: Qualify associated samples as per OSM guidelines-BNA

sample #	constituent	value/qual	sample #	constituent	value/qual
BNA:					
300J02	All Constituents	UJ			

ORGANIC QC - Instrument Performance (pest)

Name CJ Simiele Date 7-27-91

COMMENTS: All DDT $ standard (applicable to PCB's) have retention times with in required control limits. % Breakdown limits for endrin $ DDT met. DBC retention time % D's are with in required control limits

ACTION: None

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

ORGANIC QC - Other

Name C.J. Simione Date 7-27-91

COMMENTS: None

ACTION: N/A

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

Westinghouse
Hanford Company

OSM RCRA LEVEL C DATA ASSESSMENT

DATE 7-27-91

SAMPLES/MATRIX B00J02-drum organic
B00J05 liquids

REVIEWED BY C.J. Simiele

LABORATORY Roy F. Weston

CASE #

SDG # 9103L1167 C

DATA ASSESSMENT SUMMARY

QUALITY CONTROL CHECK	ANALYSIS	Anions-IC	N/A	N/A
1. Requested vs. Reported		O		
2. Holding Times		O		
3. Matrix Spike		X		
4. Duplicate Analysis		O		
5. Analytical Blank		O		
6. Calibration		X		
7. LCS		O		
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: fair - calibration information was not provided with data package.

NOTES:

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

ROY F. WESTON INC.

INORGANICS DATA SUMMARY REPORT 05/03/91

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

WESTON BATCH #: 9104L167

SAMPLE	SITE ID	ANALYTE	RESULT	UNITS	REPORTING LIMIT
-001	BOOJ02	Chloride by IC	0.50 u	mg/L	0.50
		Fluoride by IC	20.3	mg/L	1.0
		Nitrite by IC	0.50 ~~u~~	mg/L UJ	0.50
		Nitrate by IC	1.5	mg/L	0.50
		Phosphate by IC	0.50 u	mg/L	0.50
		Sulfate by IC	0.50 u	mg/L	0.50
		Flash Point	55.9	DEG/F	20.0
-002	BOOJ05	Chloride by IC	0.50 u	mg/L	0.50
		Fluoride by IC	7.3	mg/L	1.0
		Nitrite by IC	0.50 ~~u~~	mg/L UJ	0.50
		Nitrate by IC	0.50 u	mg/L	0.50
		Phosphate by IC	0.50 u	mg/L	0.50
		Sulfate by IC	0.50 u	mg/L	0.50
		Flash Point	56.9	DEG/F	20.0

7-27-91
CJSimely

RCRA LEVEL C QC

Name CJ Simiele Date 7-27-91

QC Check: Requested vs. Reported

COMMENTS: Requested Analysis: Anions
Reported Analysis: Anions

ACTION: None

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

___ of ___

RCRA LEVEL C QC

Name CJ Simiele Date 7-27-91

QC Check: Holding Times.

COMMENTS: Analysis was performed 116 days after sampling

ACTION: None.

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

___ of ___

RCRA LEVEL C QC

Name CJ Simiele Date 7-27-91

QC Check: Matrix Spike

COMMENTS: Matrix spike % recovery was out of required control limits for ~~HO~~ CJS 7-31-91 NO_2 (109%) All other anion % recoveries were within required limits

ACTION: Qualify associated samples as per OSM guidelines.

sample #	constituent	value/qual	sample #	constituent	value/qual
B00J02	NO_2	0.5 UJ			
B00J05	NO_2	0.5UJ			

___ of ___

RCRA LEVEL C QC

Name CJ Simiele Date 7-27-91

QC Check: Duplicate Analysis

COMMENTS: All duplicate analysis RPD's are within required control limits

ACTION: None

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

___ of ___

RCRA LEVEL C QC

Name CJ Simiele Date 7-27-91

QC Check: Analytical Blank

COMMENTS: No contaminants detected in blank

ACTION: None

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

___ of ___

RCRA LEVEL C QC

Name C.J. Simiele Date 7-27-91

QC Check: Calibration

COMMENTS: No calibration information provided with data package. Summary does note that all calibration verification was within required control limits

ACTION: None- user should note that calibr. data was not provided with package and data could potential have problems.

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

___ of ___

RCRA LEVEL C QC

Name CJ Simiele Date 7-27-91

QC Check: LCS

COMMENTS: LCS % recoveries (blank spike) are all within required control limits

ACTION: None

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

___ of ___

Westinghouse
Hanford Company

OSM INORGANIC DATA ASSESSMENT

DATE 7-29-91 SAMPLES/MATRIX B00J02- drum organic

REVIEWED BY CJ Simiele B00J05 Liquids

LABORATORY Roy F. Weston

CASE # West

SDG # 9104L1107 (CLP1107)

DATA ASSESSMENT SUMMARY

	ICP	AA	Hg	CN
1. Calibrations (Form II)	O			
2. Blanks (III)	X			
3. ICS (IV)	X			
4. Matrix Spike (V)	X			
5. Duplicate Analysis (VI)	O			
6. LCS (VII)	O			
7. Serial Dilution (IX)	O			
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: Good, minor QC problems

NOTES:

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

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ROY F. WESTON INC.

INORGANICS DATA SUMMARY REPORT 05/09/91

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

WESTON BATCH #: 9104L167

SAMPLE	SITE ID	ANALYTE	RESULT		UNITS	REPORTING LIMIT
-001	B00J02	Silver, Total	10.0	u	UG/L UJ	10.0
		Aluminum, Total	200	u	UG/L	200
		Barium, Total	200	u	UG/L	200
		Beryllium, Total	5.0	u	UG/L	5.0
		Calcium, Total	5000	u	UG/L	5000
		Cadmium, Total	5.0	u	UG/L	5.0
		Cobalt, Total	50.0	u	UG/L	50.0
		Chromium, Total	10.0	u	UG/L	10.0
		Copper, Total	92.2		UG/L	25.0
		Iron, Total	104		UG/L J	100
		Potassium, Total	5000	u	UG/L	5000
		Magnesium, Total	5000	u	UG/L	5000
		Manganese, Total	15.0	u	UG/L	15.0
		Sodium, Total	5000	u	UG/L	5000
		Nickel, Total	40.0	u	UG/L	40.0
		Antimony, Total	60.0	u	UG/L	60.0
		Vanadium, Total	50.0	u	UG/L	50.0
		Zinc, Total	90.4		UG/L	20.0

7-28-91 W Samuel

ROY F. WESTON INC.

INORGANICS DATA SUMMARY REPORT 05/09/91

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

WESTON BATCH #: 9104L167

SAMPLE	SITE ID	ANALYTE	RESULT		UNITS	REPORTING LIMIT
-002	BOOJ05	Silver, Total	10.0	u	UG/L UJ	10.0
		Aluminum, Total	200	u	UG/L	200
		Barium, Total	200	u	UG/L	200
		Beryllium, Total	5.0	u	UG/L	5.0
		Calcium, Total	5000	u	UG/L	5000
		Cadmium, Total	5.0	u	UG/L	5.0
		Cobalt, Total	50.0	u	UG/L	50.0
		Chromium, Total	10.0	u	UG/L	10.0
		Copper, Total	40.9		UG/L	25.0
		Iron, Total	100	u	UG/L UJ	100
		Potassium, Total	5000	u	UG/L	5000
		Magnesium, Total	5000	u	UG/L	5000
		Manganese, Total	15.0	u	UG/L	15.0
		Sodium, Total	5000	u	UG/L	5000
		Nickel, Total	40.0	u	UG/L	40.0
		Antimony, Total	60.0	u	UG/L	60.0
		Vanadium, Total	50.0	u	UG/L	50.0
		Zinc, Total	22.8		UG/L	20.0

7-28-91
WSumeli

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U.S. EPA - CLP

1

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

BOOJ02

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

Lab Code:WESTON Case No:WEST SAS No.: SDG No.:CLP167

Matrix (soil/water):WATER Lab Sample ID:9104167001

Level (low/med): LOW Date Received:04/04/91

% Solids:

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	77.0	U		P
7440-36-0	Antimony	19.0	U		P
7440-38-2	Arsenic				
7440-39-3	Barium	5.00	U		P
7440-41-7	Beryllium	1.00	U		P
7440-43-9	Cadmium	4.00	U		P
7440-70-2	Calcium	92.0	U		P
7440-47-3	Chromium	5.00	B		P
7440-48-4	Cobalt	4.80	B		P
7440-50-8	Copper	92.2			P
7439-89-6	Iron	104		J	P
7439-92-1	Lead				
7439-95-4	Magnesium	84.0	U		P
7439-96-5	Manganese	2.60	B		P
7439-97-6	Mercury				
7440-02-0	Nickel	7.00	U		P
7440-09-7	Potassium	1010	U		P
7782-49-2	Selenium				
7440-22-4	Silver	4.00	U	UJ	P
7440-23-5	Sodium	71.0	U		P
7440-28-0	Thallium				
7440-62-2	Vanadium	8.00	U		P
7440-66-6	Zinc	90.4			P
	Cyanide				

7-28-91
W Samuels

Color Before:COLORLESS Clarity Before:CLEAR Texture:

Color After:COLORLESS Clarity After:CLEAR Artifacts:

Comments:

FORM I - IN

U.S. EPA - CLP

1

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

BOOJ05

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

Lab Code:WESTON Case No:WEST SAS No.: SDG No.:CLP167

Matrix (soil/water):WATER Lab Sample ID:9104167002

Level (low/med): LOW Date Received:04/04/91

% Solids:

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	77.0	U		P
7440-36-0	Antimony	29.6	B		P
7440-38-2	Arsenic				
7440-39-3	Barium	5.00	U		P
7440-41-7	Beryllium	1.00	U		P
7440-43-9	Cadmium	4.00	U		P
7440-70-2	Calcium	92.0	U		P
7440-47-3	Chromium	3.60	B		P
7440-48-4	Cobalt	4.00	U		P
7440-50-8	Copper	40.9			P
7439-89-6	Iron	37.0	U	UJ	P
7439-92-1	Lead				
7439-95-4	Magnesium	84.0	U		P
7439-96-5	Manganese	2.00	U		P
7439-97-6	Mercury				
7440-02-0	Nickel	7.00	U		P
7440-09-7	Potassium	1010	U		P
7782-49-2	Selenium				
7440-22-4	Silver	4.00	U	UJ	P
7440-23-5	Sodium	71.0	U		P
7440-28-0	Thallium				
7440-62-2	Vanadium	8.00	U		P
7440-66-6	Zinc	22.8			P
	Cyanide				

7-28-91
W Simeli

Color Before:COLORLESS Clarity Before:CLEAR Texture:

Color After:COLORLESS Clarity After:CLEAR Artifacts:

Comments:

FORM I - IN

INORGANIC QC - Calibrations

Name CJ Simicic Date 7-29-91

COMMENTS: Initial and Continuing calibration % recoveries are within required control limits. No instrument run log provided.

ACTION: None

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

INORGANIC QC - Blanks

Name CJ Simicic Date 7-27-91

COMMENTS: Contaminants detected in initial calibr. blank for: Sb (26.5); Co (4.2); Na (73.2).

ACTION: Qualify associated samples as per OSM guidelines - all sample results are >5x concentration in blank

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

INORGANIC QC - ICS

Name C.J. Simiele Date 7-27-91

COMMENTS: Only 1 ICS report form provided with data package, 2 are required to bracket data. All % recoveries are within required control limits.

ACTION: Non-users should note the absence of ICS data.

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

INORGANIC QC - Matrix Spike

Name CJ Simiele Date 7-27-91

COMMENTS: matrix spike % recoveries out of required control limits for Fe (216.7%) and Ag (41.2%). Post digestion spike % recovery in required control limits for Fe. (See RFW9103L121 for matrix spike results)

ACTION: Qualify all associated samples as per OSM guidelines

sample #	constituent	value/qual
300J02	Ag	10 UJ
↓	Fe	104 J
B00J05	Ag	10 UJ
↓	Fe	100 UJ

sample #	constituent	value/qual

INORGANIC QC - Duplicate Analysis

Name C.J. Simiele Date 7-27-91

COMMENTS: all duplicate RPD's are with in required control limits. (See RFW 9103L121 for duplicate analysis results.)

ACTION: None

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

INORGANIC QC - LCS

Name C.J Simiele Date 7-27-91

COMMENTS: All LCS %recoveries were within required control limits

ACTION: None

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

INORGANIC QC - Serial Dilution

Name CJ Simiele Date 7-27-91

COMMENTS: all serial dilution %Diff's are with unrequired control limits. (see RFW 9103L121 for serial dilution results)

ACTION: None

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

INORGANIC QC - Holding Times

Name CJ Simiele Date 7-27-91

COMMENTS: ICP- analysis performed 28 days after sampling (holding time - 10 months)

ACTION: None

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

INORGANIC QC - other

Name _____ Date _____

COMMENTS: _____

_____

_____

_____

ACTION: _____

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