START 9613451.2558

9

9209L848-WES-872

12.7

0044596

2

ROY F. WESTON, INC.
Lionville Laboratory

CLIENT: WESTINGHOUSE HANFORD **SAMPLE(S) RECEIVED:** 09-11-92
RFW #: 9209L848, GC/MS VOLATILE
W.O. #: 06168-002-001-9999-00

NARRATIVE

One (1) soil sample was collected on 09-08-92.

The sample and its associated QC samples were analyzed according to criteria set forth in CLP SOW 03/90 for TCL Volatile target compounds on 09-16,17-92.

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

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

2. All system monitoring compound (surrogate) recoveries were within EPA QC limits.

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

4. The laboratory blanks contained the common contaminants Methylene Chloride and Acetone at levels less than 2x the CRQL.

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

Margaret M. Seeley for 10/16/92
J. Peter Hershey, Ph.D. Date
Laboratory Manager
Lionville Analytical Laboratory

sma/voa/09-848v.cn

WESTON Analytics Use Only

9209L848

Custody Transfer Record/Lab Work Request

WESTON

Page 1 of 1

Client: Westinghouse Hanford
Est. Final Proj. Sampling Date:
Work Order #: 6168-P2-01-9999
Project Contact/Phone #:
AD Project Manager: Jane Edwards
QC: dlp Del: dlp TAT: 35 Day
Date Rec'd: 9-11-92 Date Due: 10-16-92
Account #: WS-HANFORD

Refrigerator #		1	6	1			548		3	1		3	1				
# Type Container	Liquid																
	Solid	2 Ag	1 Ab	1			1 G		1 Ab	1		1 Ab	1				
Volume	Liquid																
	Solid	120	500	1			1200		250	1		500	1				
Preservatives		-	-	-			-		-	-		-					
ANALYSES REQUESTED		ORGANIC							INORG								
		VOA	BNA	Pest PCB	Herb		Gross Alpha		Metal	CN		Gross Alpha	Ra				

MATRIX CODES:	Lab ID	Client ID/Description	Matrix QC Chosen (✓) MS	MSD	Matrix	Date Collected	Time Collected	062548	062548	062548			1548		MS8270S	Ion TD		ICP ICP/MS	Ra				
S - Soil SE - Sediment SO - Solid SL - Sludge W - Water O - Oil A - Air DS - Drum Solids DL - Drum Liquids L - EP/TCLP Leachate WI - Wipe X - Other F - Fish	001	B07G25			S	9-8-92		✓	✓	✓			✓		✓	✓		✓	✓				

WESTON Analytics Use Only

FIELD PERSONNEL: COMPLETE ONLY SHADED AREAS

Special Instructions: 100-FR-3

(1) MS/MSD required

metals - 1 8L

original aliquots

DATE/REVISIONS:
1
2
3
4
5
6

WESTON Analytics Use Only

Samples were
1) Shipped ✓ or Hand Delivered
Airbill # 5521367208
2) Ambient or Chilled
3) Received in Good Condition (Y) or N
4) Labels Indicate Properly Preserved (Y) or N
5) Received Within Holding Times (Y) or N

COC Tape was
1) Present on Outer Package (Y) or N
2) Unbroken on Outer Package (Y) or N
3) Present on Sample (Y) or N
4) Unbroken on Sample (Y) or N

COC Record Present Upon Sample Rec't (Y) or N

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

Relinquished by	Received by	Date	Time	Relinquished by	Received by	Date	Time
Emily [illegible]	[illegible]	9/11/92	09:[illegible]		[illegible] 9-12-92		
[illegible] 9-12-92			13:05				

RFW 21-21 001/A-7/91 L372 L373 L375 L377 L378 Ref# — Cooler# 34NW2 381 596a

9613451.2559

000002

9613451.2560 0000003 C 002975

Westinghouse Hanford Company	CHAIN OF CUSTODY

Custody Form Initiator: DL LEIST

Company Contact: WV SETZER — Telephone: 376-2413

Project Designation/Sampling Locations: 100-FR-3 — Collection Date: 9-8-92

Ice Chest No. — Field Logbook No.: EFL-1040

Bill of Lading/Airbill No. — Offsite Property No.

Method of Shipment: OVERNIGHT AIR SERVICE

Shipped to: ~~TMA/NORCAL~~ WESTON

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

Sample Identification

1) B075Q5 1,250ml aG:CLP;ICP/AA Metals,Hg,Cn DLL 9-8-92
2x 1,120ml aG:CLP;VOA
DLL 9-8-92 1,~~950~~ 500ml aG:CLP;Semi-VOA,PCB/PEST,~~Anions (F,SO4,NO3)~~ DLL 9-8-92
1,1000ml G:Gross alpha/beta,Gamma Spec,Sr-90,C-14,U-235/238,Pu-239/240,Am-241
1 500ml G: ANIONS, SO_4, F, NO_3-NO_2 & pH

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

3)
1,250ml aG:CLP;ICP/AA Metals,Hg,Cn
1,120ml aG:CLP;VOA DSS 9-8-92
1,950ml aG:CLP;Semi-VOA,PCB/PEST,Anions (F,SO4,NO3)
1,1000ml G:Gross alpha/beta,Gamma Spec,Sr-90,C-14,U-235/238,Pu-239/240,Am-241

[] Field Transfer of Custody — Chain of Possession — (Sign and Print Names)

Relinquished by:	Received by:	Date/Time:
DLLeist	J.E. Darling J.E. Darling	9-8-92 1400
J.E. Darling		
[illegible]	[illegible]	9/11/92 13:05

Final Sample Disposition

Disposal Method:	Disposed by:	Date/Time:

Comments:

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

FORM OF PAYMENT

Check ☐ GBL ☐ FCCOD ☐

Bill to Shipper ☐ Bill to Consignee ☐ Bill to Third Party ☐

EMERY WORLDWIDE — A CF Company

SERVICE — U.S. / CANADA: Same Day (Extra Charges) ☐ AM ☐ PM ☐ Second Day ☐ Express ☐ Standard Plus ☐ Preferred ☐ Standard ☐

INFORMATION: Business Documents ☐ Customs Clearance ☐ Delivery ☐

Shipper's Account Number: E 8502815885

Date: 09-10-92 Origin: PSC 252156770 8

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

To:
JOSIE KING 92091848
RF WESTON INC
208 WELSH POOL ROAD
LIONVILLE PA Canada ☐ Hold for Pick Up ☐

Tariff Dest. $ Gateway

Customer's Reference Numbers: W12410 PBBA4 W92-0-0622#22 97352

Consignee's Account Number: E 19341

Description	Pcs	L	W	H	Total Pieces	Total Weight
1 COOLER # 34NMZ SAMPLES B075Q5	1	/	16	/	1	49

Declared Value $

2521567708

Remarks: OVERNIGHT DELIVERY

Shipper's Signature X

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

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

International Shipments: Free Domicile ☐ Commodity Code

Third Party Account Number mandatory for Third Party Billing: E

Third Party Account Number

International Customs Value

International Insurance

Base Charge

Total Transportation Charges

Other Charges, Shipper or Agent (COD) ☐ $

3-PhL-A

Terms and Conditions on Back

9613451.2561

0000007

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

Report Date: 10/16/92 13:29

RFW Batch Number: 9209L848 Client: WESTINGHOUSE HANFORD Work Order: ~~6168-02-0~~ 06168-001-001-9999-00 Page: 1a

Mn 2 10/15/92

	Cust ID:	B075Q5	B075Q5	B075Q5	VBLK	VBLK
Sample Information	RFW#:	001	001 MS	001 MSD	92LVW213-MB1	92LVW214-MB1
	Matrix:	SOIL	SOIL	SOIL	SOIL	SOIL
	D.F.:	1.02	1.00	0.980	1.00	1.00
	Units:	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG
Surrogate Recovery	Toluene-d8	100 %	108 %	97 %	103 %	102 %
	Bromofluorobenzene	95 %	106 %	94 %	103 %	102 %
	1,2-Dichloroethane-d4	98 %	103 %	88 %	105 %	95 %
Chloromethane		10 U	10 U	10 U	10 U	10 U
Bromomethane		10 U	10 U	10 U	10 U	10 U
Vinyl Chloride		10 U	10 U	10 U	10 U	10 U
Chloroethane		10 U	10 U	10 U	10 U	10 U
Methylene Chloride		15 B	25 B	23 B	9	7
Acetone		18 B	46 B	47 B	17	12
Carbon Disulfide		10 U	10 U	10 U	10 U	10 U
1,1-Dichloroethene		10 U	111 %	106 %	10 U	10 U
1,1-Dichloroethane		10 U	10 U	10 U	10 U	10 U
1,2-Dichloroethene (total)		10 U	10 U	10 U	10 U	10 U
Chloroform		10 U	10 U	10 U	10 U	10 U
1,2-Dichloroethane		10 U	10 U	10 U	10 U	10 U
2-Butanone		10 U	10 U	10 U	10 U	10 U
1,1,1-Trichloroethane		10 U	10 U	10 U	10 U	10 U
Carbon Tetrachloride		10 U	10 U	10 U	10 U	10 U
Bromodichloromethane		10 U	10 U	10 U	10 U	10 U
1,2-Dichloropropane		10 U	10 U	10 U	10 U	10 U
cis-1,3-Dichloropropene		10 U	10 U	10 U	10 U	10 U
Trichloroethene		10 U	108 %	99 %	10 U	10 U
Dibromochloromethane		10 U	10 U	10 U	10 U	10 U
1,1,2-Trichloroethane		10 U	10 U	10 U	10 U	10 U
Benzene		10 U	124 %	108 %	10 U	10 U
trans-1,3-Dichloropropene		10 U	10 U	10 U	10 U	10 U
Bromoform		10 U	10 U	10 U	10 U	10 U
4-Methyl-2-pentanone		10 U	10 U	10 U	10 U	10 U
2-Hexanone		10 U	10 U	10 U	10 U	10 U
Tetrachloroethene		10 U	10 U	10 U	10 U	10 U
1,1,2,2-Tetrachloroethane		10 U	10 U	10 U	10 U	10 U
Toluene		10 U	118 %	112 %	10 U	10 U

*= Outside of EPA CLP QC limits.

9

9613451.2562

RFW Batch Number: 9209L848 Client: WESTINGHOUSE HANFORD Work Order: ~~6160-02-0~~ Page: 1b 10/15/92

Cust ID:	B075Q5	B075Q5	B075Q5	VBLK	VBLK
RFW#:	001	001 MS	001 MSD	92LVW213-MB1	92LVW214-MB1
Chlorobenzene	10 U	120 %	114 %	10 U	10 U
Ethylbenzene	10 U	10 U	10 U	10 U	10 U
Styrene	10 U	10 U	10 U	10 U	10 U
Xylene (total)	10 U	10 U	10 U	10 U	10 U

*= Outside of EPA CLP QC limits.

7

9613451.2563

9613451.2564

1A

0000022 CLIENT SAMPLE NO.

VOLATILE ORGANICS ANALYSIS DATA SHEET

B075Q5

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

Mye 10/15/92

Client: WESTINGHOUSE HANFORD

Matrix: (soil/water) SOIL

Lab Sample ID: 9209L848-001

Sample wt/vol: 4.90 (g/mL) G

Lab File ID: W091619

Level: (low/med) LOW

Date Received: 09/11/92

% Moisture: not dec. 1

Date Analyzed: 09/16/92

GC Column: SP1000 ID: 2.00(mm)

Dilution Factor: 1.02

Soil Extract Volume: (uL)

Soil Aliquot Volume: (uL)

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

9613451.2565
1E

0000023 CLIENT SAMPLE NO.

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

B075Q5

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

Client: WESTINGHOUSE HANFORD

Matrix: (soil/water) SOIL

Lab Sample ID: 9209L848-001

Sample wt/vol: 4.90 (g/mL) G

Lab File ID: W091619

Level: (low/med) LOW

Date Received: 09/11/92

% Moisture: not dec. 1

Date Analyzed: 09/16/92

GC Column: SP1000 ID: 2.00(mm)

Dilution Factor: 1.02

Soil Extract Volume: (uL)

Soil Aliquot Volume: (uL)

Number TICs found: 0

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

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

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

Report Date: 10/23/92 14:36

RFW Batch Number: 9209L848 Client: WESTINGHOUSE HANFORD Work Order: 6168-02-0 Page: 1a

	Cust ID:	B075Q5		B075Q5		B075Q5		SBLK		SBLK BS	
Sample Information	RFW#:	001		001 MS		001 MSD		92LE1613-MB1		92LE1613-MB1	
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL	
	D.F.:	1.00		1.00		1.00		1.00		1.00	
	Units:	ug/Kg		ug/Kg		ug/Kg		ug/Kg		ug/Kg	
Surrogate Recovery	Nitrobenzene-d5	49	%	59	%	69	%	75	%	68	%
	2-Fluorobiphenyl	49	%	61	%	72	%	75	%	73	%
	Terphenyl-d14	99	%	97	%	98	%	113	%	124	%
	Phenol-d5	49	%	57	%	69	%	74	%	68	%
	2-Fluorophenol	48	%	55	%	67	%	74	%	67	%
	2,4,6-Tribromophenol	92	%	101	%	111	%	85	%	85	%
	2-Chlorophenol-d4	49	%	57	%	68	%	74	%	69	%
	1,2-Dichlorobenzene-d4	48	%	54	%	65	%	76	%	68	%
Phenol		340	U	53	%	66	%	330	U	62	%
bis(2-Chloroethyl)ether		340	U	330	U	340	U	330	U	330	U
2-Chlorophenol		340	U	53	%	66	%	330	U	63	%
1,3-Dichlorobenzene		340	U	330	U	340	U	330	U	330	U
1,4-Dichlorobenzene		340	U	51	%	65	%	330	U	65	%
1,2-Dichlorobenzene		340	U	330	U	340	U	330	U	330	U
2-Methylphenol		340	U	330	U	340	U	330	U	330	U
2,2'-oxybis(2-Chloropropane)		340	U	330	U	340	U	330	U	330	U
4-Methylphenol		340	U	330	U	340	U	330	U	330	U
N-Nitroso-di-n-propylamine		340	U	65	%	75	%	330	U	67	%
Hexachloroethane		340	U	330	U	340	U	330	U	330	U
Nitrobenzene		340	U	330	U	340	U	330	U	330	U
Isophorone		340	U	330	U	340	U	330	U	330	U
2-Nitrophenol		340	U	330	U	340	U	330	U	330	U
2,4-Dimethylphenol		340	U	330	U	340	U	330	U	330	U
bis(2-Chloroethoxy)methane		340	U	330	U	340	U	330	U	330	U
2,4-Dichlorophenol		340	U	330	U	340	U	330	U	330	U
1,2,4-Trichlorobenzene		340	U	54	%	66	%	330	U	67	%
Naphthalene		340	U	330	U	340	U	330	U	330	U
4-Chloroaniline		340	U	330	U	340	U	330	U	330	U
Hexachlorobutadiene		340	U	330	U	340	U	330	U	330	U
4-Chloro-3-methylphenol		340	U	71	%	82	%	330	U	69	%
2-Methylnaphthalene		340	U	330	U	340	U	330	U	330	U
Hexachlorocyclopentadiene		340	U	330	U	340	U	330	U	330	U

*= Outside of EPA CLP QC limits.

9613451.2566

RFW Batch Number: 9209L848 Client: WESTINGHOUSE HANFORD Work Order: 6168-02-0 Page: 1b

Cust ID:	B075Q5		B075Q5		B075Q5		SBLK		SBLK BS	
RFW#:	001		001 MS		001 MSD		92LE1613-MB1		92LE1613-MB1	
2,4,6-Trichlorophenol	340	U	330	U	340	U	330	U	330	U
2,4,5-Trichlorophenol	840	U	830	U	840	U	840	U	840	U
2-Chloronaphthalene	340	U	330	U	340	U	330	U	330	U
2-Nitroaniline	840	U	830	U	840	U	840	U	840	U
Dimethylphthalate	340	U	330	U	340	U	330	U	330	U
Acenaphthylene	340	U	330	U	340	U	330	U	330	U
2,6-Dinitrotoluene	340	U	330	U	340	U	330	U	330	U
3-Nitroaniline	840	U	830	U	840	U	840	U	840	U
Acenaphthene	340	U	67	%	78	%	330	U	71	%
2,4-Dinitrophenol	840	U	830	U	840	U	840	U	840	U
4-Nitrophenol	840	U	106	%	109	%	840	U	68	%
Dibenzofuran	340	U	330	U	340	U	330	U	330	U
2,4-Dinitrotoluene	340	U	80	%	87	%	330	U	74	%
Diethylphthalate	340	U	330	U	340	U	330	U	330	U
4-Chlorophenyl-phenylether	340	U	330	U	340	U	330	U	330	U
Fluorene	340	U	330	U	340	U	330	U	330	U
4-Nitroaniline	840	U	830	U	840	U	840	U	840	U
4,6-Dinitro-2-methylphenol	840	U	830	U	840	U	840	U	840	U
N-Nitrosodiphenylamine (1)	340	U	330	U	340	U	330	U	330	U
4-Bromophenyl-phenylether	340	U	330	U	340	U	330	U	330	U
Hexachlorobenzene	340	U	330	U	340	U	330	U	330	U
Pentachlorophenol	840	U	128 *	%	136 *	%	840	U	95	%
Phenanthrene	340	U	330	U	340	U	330	U	330	U
Anthracene	340	U	330	U	340	U	330	U	330	U
Carbazole	340	U	330	U	340	U	330	U	330	U
Di-n-butylphthalate	48	JB	30	JB	39	JB	12	J	330	U
Fluoranthene	340	U	330	U	340	U	330	U	330	U
Pyrene	340	U	88	%	87	%	330	U	113	%
Butylbenzylphthalate	340	U	330	U	340	U	330	U	330	U
3,3'-Dichlorobenzidine	340	U	330	U	340	U	330	U	330	U
Benzo(a)anthracene	340	U	330	U	340	U	330	U	330	U
Chrysene	340	U	330	U	340	U	330	U	330	U
bis(2-Ethylhexyl)phthalate	23	J	20	J	20	J	330	U	330	U
Di-n-octyl phthalate	340	U	330	U	340	U	330	U	330	U
Benzo(b)fluoranthene	340	U	330	U	340	U	330	U	330	U
Benzo(k)fluoranthene	340	U	330	U	340	U	330	U	330	U
Benzo(a)pyrene	340	U	330	U	340	U	330	U	330	U
Indeno(1,2,3-cd)pyrene	340	U	330	U	340	U	330	U	330	U
Dibenz(a,h)anthracene	340	U	330	U	340	U	330	U	330	U
Benzo(g,h,i)perylene	340	U	330	U	340	U	330	U	330	U

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

0000007
9413451.2567

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

Client: WESTINGHOUSE HANFORD
RFW #: 9209L848

W.O. #: 06168-002-001-9999-00
Date Received: 09-11-92

SEMIVOLATILE

One (1) soil sample was collected on 09-08-92.

The sample and its associated QC samples were extracted on 09-17-92 and analyzed according to criteria set forth in CLP SOW 03/90 for TCL Semivolatile target compounds on 10-09,12-92.

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

1. Non-target compounds were detected in sample B075Q5.

2. All surrogate recoveries were within EPA QC limits.

3. Two (2) of twenty-two (22) matrix spike recoveries were outside EPA QC limits.

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

5. The laboratory blank 92LE1613-MB1 contained the common contaminant Di-n-butylphthalate at a level less than the CRQL.

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

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

11/9/92
Date

kls/09-848b.cn

9613451.2569

1B

0000025 CLIENT SAMPLE NO.

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

B075Q5

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

Client: WESTINGHOUSE HANFORD

Matrix: (soil/water) SOIL

Lab Sample ID: 9209L848-001

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

Lab File ID: S100905

Level: (low/med) LOW

Date Received: 09/11/92

% Moisture: 1 decanted: (Y/N)__

Date Extracted: 09/17/92

Concentrated Extract Volume: 500(uL)

Date Analyzed: 10/09/92

Injection Volume: 2.0(uL)

Dilution Factor: 1.00

GPC Cleanup: (Y/N) Y pH: 6.5

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg	Q
108-95-2	Phenol	340	U
111-44-4	bis(2-Chloroethyl)ether	340	U
95-57-8	2-Chlorophenol	340	U
541-73-1	1,3-Dichlorobenzene	340	U
106-46-7	1,4-Dichlorobenzene	340	U
95-50-1	1,2-Dichlorobenzene	340	U
95-48-7	2-Methylphenol	340	U
108-60-1	2,2'-oxybis(2-Chloropropane)	340	U
106-44-5	4-Methylphenol	340	U
621-64-7	N-Nitroso-di-n-propylamine	340	U
67-72-1	Hexachloroethane	340	U
98-95-3	Nitrobenzene	340	U
78-59-1	Isophorone	340	U
88-75-5	2-Nitrophenol	340	U
105-67-9	2,4-Dimethylphenol	340	U
111-91-1	bis(2-Chloroethoxy)methane	340	U
120-83-2	2,4-Dichlorophenol	340	U
120-82-1	1,2,4-Trichlorobenzene	340	U
91-20-3	Naphthalene	340	U
106-47-8	4-Chloroaniline	340	U
87-68-3	Hexachlorobutadiene	340	U
59-50-7	4-Chloro-3-methylphenol	340	U
91-57-6	2-Methylnaphthalene	340	U
77-47-4	Hexachlorocyclopentadiene	340	U
88-06-2	2,4,6-Trichlorophenol	340	U
95-95-4	2,4,5-Trichlorophenol	840	U
91-58-7	2-Chloronaphthalene	340	U
88-74-4	2-Nitroaniline	840	U
131-11-3	Dimethylphthalate	340	U
208-96-8	Acenaphthylene	340	U
606-20-2	2,6-Dinitrotoluene	340	U
99-09-2	3-Nitroaniline	840	U
83-32-9	Acenaphthene	340	U

9613451.2570

1C

0 0 0 0 2 6 CLIENT SAMPLE NO.

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

B075Q5

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

Client: WESTINGHOUSE HANFORD

Matrix: (soil/water) SOIL

Lab Sample ID: 9209L848-001

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

Lab File ID: S100905

Level: (low/med) LOW

Date Received: 09/11/92

% Moisture: 1 decanted: (Y/N)__

Date Extracted: 09/17/92

Concentrated Extract Volume: 500(uL)

Date Analyzed: 10/09/92

Injection Volume: 2.0(uL)

Dilution Factor: 1.00

GPC Cleanup: (Y/N) Y pH: 6.5

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg	Q
51-28-5	2,4-Dinitrophenol	840	U
100-02-7	4-Nitrophenol	840	U
132-64-9	Dibenzofuran	340	U
121-14-2	2,4-Dinitrotoluene	340	U
84-66-2	Diethylphthalate	340	U
7005-72-3	4-Chlorophenyl-phenylether	340	U
86-73-7	Fluorene	340	U
100-01-6	4-Nitroaniline	840	U
534-52-1	4,6-Dinitro-2-methylphenol	840	U
86-30-6	N-Nitrosodiphenylamine (1)	340	U
101-55-3	4-Bromophenyl-phenylether	340	U
118-74-1	Hexachlorobenzene	340	U
87-86-5	Pentachlorophenol	840	U
85-01-8	Phenanthrene	340	U
120-12-7	Anthracene	340	U
86-74-8	Carbazole	340	U
84-74-2	Di-n-butylphthalate	48	JB
206-44-0	Fluoranthene	340	U
129-00-0	Pyrene	340	U
85-68-7	Butylbenzylphthalate	340	U
91-94-1	3,3'-Dichlorobenzidine	340	U
56-55-3	Benzo(a)anthracene	340	U
218-01-9	Chrysene	340	U
117-81-7	bis(2-Ethylhexyl)phthalate	23	J
117-84-0	Di-n-octyl phthalate	340	U
205-99-2	Benzo(b)fluoranthene	340	U
207-08-9	Benzo(k)fluoranthene	340	U
50-32-8	Benzo(a)pyrene	340	U
193-39-5	Indeno(1,2,3-cd)pyrene	340	U
53-70-3	Dibenz(a,h)anthracene	340	U
191-24-2	Benzo(g,h,i)perylene	340	U

(1) - Cannot be separated from Diphenylamine

9613451.2571

1F

0 0 0 0 2 7 CLIENT SAMPLE NO.

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

B075Q5

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

Client: WESTINGHOUSE HANFORD

Matrix: (soil/water) SOIL

Lab Sample ID: 9209L848-001

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

Lab File ID: S100905

Level: (low/med) LOW

Date Received: 09/11/92

% Moisture: 1 decanted: (Y/N)__

Date Extracted: 09/17/92

Concentrated Extract Volume: 500(uL)

Date Analyzed: 10/09/92

Injection Volume: 2.0(uL)

Dilution Factor: 1.00

GPC Cleanup: (Y/N) Y

pH: 6.5

Number TICs found: 5

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	ALDOL CONDENSATE	5.55	200	JA
2.	ORGANIC ACID	15.22	100	J
3.	ADIPATE	22.30	100	J
4.	UNKNOWN	22.98	200	J
5.	UNKNOWN	25.45	300	J

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

RFW Batch Number: 9209L848 Client: WESTINGHOUSE HANFORD Work Order: 06168-002-001-9999-00 Report Date: 10/20/92 14:13 Page: 1

Cust ID:	B075Q5	B075Q5	B075Q5	B075Q5	B075Q5	B075Q5
Sample Information RFW#:	001	001	001 MS	001 MS	001 MSD	001 MSD
Matrix:	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
D.F.:	1.00	1.00	1.00	1.00	1.00	1.00
Units:	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg
		CONFIRM		CONFIRM		CONFIRM
Surrogate: Tetrachloro-m-xylene	62 %	62 %	60 %	62 %	65 %	65 %
Surrogate: Decachlorobiphenyl	70 %	70 %	70 %	68 %	72 %	70 %
	fl	fl	fl	fl	fl	fl
Alpha-BHC	1.7 U	NA	1.7 U	NA	1.7 U	NA
Beta-BHC	1.7 U	NA	1.7 U	NA	1.7 U	NA
Delta-BHC	1.7 U	NA	1.7 U	NA	1.7 U	NA
gamma-BHC (Lindane)	1.7 U	NA	60 %	58 %	64 %	62 %
Heptachlor	1.7 U	NA	58 %	56 %	62 %	60 %
Aldrin	1.7 U	NA	50 %	56 %	54 %	58 %
Heptachlor epoxide	1.7 U	NA	1.7 U	NA	1.7 U	NA
Endosulfan I	1.7 U	NA	1.7 U	NA	1.7 U	NA
Dieldrin	3.4 U	NA	63 %	62 %	67 %	65 %
4,4'-DDE	3.4 U	NA	3.4 U	NA	3.4 U	NA
Endrin	3.4 U	NA	65 %	68 %	70 %	70 %
Endosulfan II	3.4 U	NA	3.4 U	NA	3.4 U	NA
4,4'-DDD	3.4 U	NA	3.4 U	NA	3.4 U	NA
Endosulfan sulfate	3.4 U	NA	3.4 U	NA	3.4 U	NA
4,4'-DDT	3.4 U	NA	66 %	63 %	69 %	66 %
Methoxychlor	17 U	NA	17 U	NA	17 U	NA
Endrin ketone	3.4 U	NA	3.4 U	NA	3.4 U	NA
Endrin aldehyde	3.4 U	NA	3.4 U	NA	3.4 U	NA
alpha-Chlordane	1.7 U	NA	1.7 U	NA	1.7 U	NA
gamma-Chlordane	1.7 U	NA	1.7 U	NA	1.7 U	NA
Toxaphene	170 U	NA	170 U	NA	170 U	NA
Aroclor-1016	34 U	NA	34 U	NA	34 U	NA
Aroclor-1221	67 U	NA	67 U	NA	67 U	NA
Aroclor-1232	34 U	NA	34 U	NA	34 U	NA
Aroclor-1242	34 U	NA	34 U	NA	34 U	NA
Aroclor-1248	34 U	NA	34 U	NA	34 U	NA
Aroclor-1254	34 U	NA	34 U	NA	34 U	NA
Aroclor-1260	34 U	NA	34 U	NA	34 U	NA

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

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

Client: WESTINGHOUSE HANFORD
RFW #: 9209L848

W.O. #: 06168-002-001-9999-00
Date Received: 09-11-92

PESTICIDE/PCB

One (1) soil sample was collected on 09-08-92.

The sample and its associated QC samples were extracted on 09-15-92 and analyzed according to criteria set forth in the Contract Laboratory Program 03/90 SOW for Pesticide and PCB target compounds on 09-22-92.

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

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

2. Retention time criteria were met for each of the analytical columns.

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

4. The RPDs of the pesticides in the individual mixes analyzed for calibration verification were within 25% for both analytical columns.

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

6. All surrogate recoveries were within EPA QC limits.

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

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

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

WESTON
MANAGERS DESIGNERS CONSULTANTS

10. Recoveries of pesticides for the GPC calibration check were within EPA QC limits.

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

11/4/92
Date

tme/pcb/09-848pp.cn

9613451.2575

1D

000017 CLIENT SAMPLE NO.

PESTICIDE ORGANICS ANALYSIS DATA SHEET

B075Q5

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

Client: WESTINGHOUSE HANFORD

Matrix: (soil/water) SOIL

Lab Sample ID: 9209L848-001

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

Lab File ID: 09219235.21

% Moisture: 1.1 decanted: (Y/N)_

Date Received: 09/11/92

Extraction: (SepF/Cont/Sonc) SONC

Date Extracted: 09/15/92

Concentrated Extract Volume: 5000(uL)

Date Analyzed: 09/22/92

Injection Volume: 0.5(uL)

Dilution Factor: 1.00

GPC Cleanup: (Y/N) Y pH: 6.5

Sulfur Cleanup: (Y/N) _

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg	Q
319-84-6	Alpha-BHC	1.7	U
319-85-7	Beta-BHC	1.7	U
319-86-8	Delta-BHC	1.7	U
58-89-9	gamma-BHC (Lindane)	1.7	U
76-44-8	Heptachlor	1.7	U
309-00-2	Aldrin	1.7	U
1024-57-3	Heptachlor epoxide	1.7	U
959-98-8	Endosulfan I	1.7	U
60-57-1	Dieldrin	3.4	U
72-55-9	4,4'-DDE	3.4	U
72-20-8	Endrin	3.4	U
33213-65-9	Endosulfan II	3.4	U
72-54-8	4,4'-DDD	3.4	U
1031-07-8	Endosulfan sulfate	3.4	U
50-29-3	4,4'-DDT	3.4	U
72-43-5	Methoxychlor	17	U
53494-70-5	Endrin ketone	3.4	U
7421934	Endrin aldehyde	3.4	U
5103-71-9	alpha-Chlordane	1.7	U
5103-74-2	gamma-Chlordane	1.7	U
8001-35-2	Toxaphene	170	U
12674-11-2	Aroclor-1016	34	U
11104-28-2	Aroclor-1221	67	U
11141-16-5	Aroclor-1232	34	U
53469-21-9	Aroclor-1242	34	U
12672-29-6	Aroclor-1248	34	U
11097-69-1	Aroclor-1254	34	U
11096-82-5	Aroclor-1260	34	U

DS 11-2-92

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ROY F. WESTON, INC.
Lionville Laboratory

CLIENT: WESTINGHOUSE HANFORD **SAMPLE(S) RECEIVED:** 09-11-92
RFW #: 9209L848
W.O. #: 6168-02-01-9999

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.

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

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

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

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

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

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

Margaret M. Beaty 10/6/92
J. Peter Hershey, Ph.D. Date
Laboratory Manager
Lionville Analytical Laboratory

DEC 1992
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ROY F. WESTON INC.

INORGANIC DATA SUMMARY REPORT 09/30/92

CLIENT: WESTINGHOUSE HANFORD
WORK ORDER: 6168-02-01-9999

WESTON BATCH #: 9209L848

SAMPLE	SITE ID	ANALYTE	RESULT		UNITS	REPORTING LIMIT
-001	B075Q5	% Solids	98.9		%	0.10
		Fluoride by IC	2.5	u	MG/KG	2.5
		Cyanide, Total	1.0	u	MG/KG	1.0
		Sulfate by IC	12.8		MG/KG	1.3
		Nitrate Nitrite	1.1		MG-N/KG	0.51
		pH	8.9		PH UNITS	0.010

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CX

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

Client : WESTINGHOUSE HANFORD
RFW# : 9209L848

W.O. #: 06168-002-001-9999-00

Date Received: 09-11-92

CLP METALS

One (1) soil sample was collected on 09-08-92.

The sample and its associated QC samples were analyzed according to criteria set forth in CLP SOW 3/90.

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

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

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

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

4. All preparation blank values were within control limits.

5. All LCS results were within the 80-120% control limits with the exception of silver on batch #92L2340-LC2 which was outside the control limits. However, based on control chart studies of laboratory control standards, internal control limits of 60-120% for water and 50-120% for soil samples were established for this laboratory.

6. All matrix spike recoveries were within the 75-125% control limits with the exceptions of antimony, chromium, manganese and mercury. All exceptions are flagged with a "N" on the CLP forms.

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

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

WESTON

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

10. Quarterly Detection Limits, ICP Interelement Correction Factors and ICP Linear Ranges for IC3 are included in this package, but do not appear on EDD.

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

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

12-2-92
Date

mlj/clp-met.nar

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

Client: WESTINGHOUSE HANFORD
RFW #: 9209L848

W.O. #:06168-002-001-9999-00
Date Received: 09-11-92

CLP METALS ADDENDUM

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

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

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

12-2-92
Date

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ROY F. WESTON INC.

INORGANIC DATA SUMMARY REPORT 11/26/92

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

WESTON BATCH #: 9209L848

SAMPLE	SITE ID	ANALYTE	RESULT		UNITS	REPORTING LIMIT
-001	B075Q5	Silver, Total	2.0	u	MG/KG	2.0
		Aluminum, Total	3660		MG/KG	40.5
		Arsenic, Total	2.0	u	MG/KG	2.0
		Barium, Total	52.1		MG/KG	40.5
		Beryllium, Total	1.0	u	MG/KG	1.0
		Calcium, Total	4230		MG/KG	1010
		Cadmium, Total	1.0	u	MG/KG	1.0
		Cobalt, Total	10.1	u	MG/KG	10.1
		Chromium, Total	17.6		MG/KG	2.0
		Copper, Total	10.5		MG/KG	5.1
		Iron, Total	13700		MG/KG	20.2
		Mercury, Total	0.10	u	MG/KG	0.10
		Potassium, Total	1010	u	MG/KG	1010
		Magnesium, Total	3010		MG/KG	1010
		Manganese, Total	213		MG/KG	3.0
		Sodium, Total	1010	u	MG/KG	1010
		Nickel, Total	8.6		MG/KG	8.1
		Lead, Total	1.4		MG/KG	0.61
		Antimony, Total	12.1	u	MG/KG	12.1
		Selenium, Total	1.0	u	MG/KG	1.0
		Thallium, Total	2.0	u	MG/KG	2.0
		Vanadium, Total	31.0		MG/KG	10.1
		Zinc, Total	38.5		MG/KG	4.0

U.S. EPA - CLP

1

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

B075Q5

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

Lab Code: WESTON Case No.: WEST SAS No.: SDG No.: CLP848

Matrix (soil/water): SOIL Lab Sample ID: 920984801

Level (low/med): LOW Date Received: 9/11/92

% Solids: 98.9

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	3660.00		*	P
7440-36-0	Antimony	12.10	U	N	P
7440-38-2	Arsenic	.40	U		F
7440-39-3	Barium	52.10			P
7440-41-7	Beryllium	.20	U		P
7440-43-9	Cadmium	1.42	U		P
7440-70-2	Calcium	4230.00			P
7440-47-3	Chromium	17.60		N*	P
7440-48-4	Cobalt	8.40	B		P
7440-50-8	Copper	10.50			P
7439-89-6	Iron	13700.00			P
7439-92-1	Lead	1.40			F
7439-95-4	Magnesium	3010.00			P
7439-96-5	Manganese	213.00		N	P
7439-97-6	Mercury	.05	U	N	CV
7440-02-0	Nickel	8.60		*	P
7440-09-7	Potassium	878.00	B		P
7782-49-2	Selenium	.40	U	W	F
7440-22-4	Silver	2.02	U		P
7440-23-5	Sodium	356.00	B		P
7440-28-0	Thallium	.40	U	W	F
7440-62-2	Vanadium	31.00			P
7440-66-6	Zinc	38.50		*	P
	Cyanide	1.01	U		C

Color Before: BROWN Clarity Before: Texture: FINE

Color After: BROWN Clarity After: Artifacts:

Comments:

VOLATILE ORGANIC DATA VALIDATION CHECKLIST - FORM A-1

PROJECT: Westinghouse Data Validation	REVIEWER: MY	DATE: 3-5-93
LABORATORY: Roy Weston	CASE: WEST	SDG: B07505
SAMPLES/MATRIX: Soil ; B07505		

1. DATA PACKAGE COMPLETENESS

Review the data package for completeness and check off the items below. If any data review elements are missing contact the laboratory for submittal.

Data Package Item	Present?: Yes	No	N/A
Case Narrative	✓		
Data Summary	✓		
Chain-of-Custody	✓		
QC Summary			
Surrogate report	✓		
MS/MSD report	✓		
Blank summary report	✓		
GC/MS tuning report	✓		
Internal standard summary report	✓		
Sample Data			
Sample reports	✓		
TIC reports for each sample	✓		
RIC reports for all samples	✓		
Raw and corrected spectra for all detected results	✓		
Raw and corrected library search data for all reported TIC			✓
Quantitation and calculation data for all TIC			✓
Standards Data			
Initial calibration report	✓		
RIC and quantitation reports for initial calibration	✓		
Continuing calibration reports	✓		
RIC and quantitation reports for cont. calibrations	✓		
Internal standard summary report	✓		
Raw QC Data			
Tuning report, spectra and mass lists	✓		
Blank analysis reports	✓		
TIC reports for all blanks	✓		
RIC and quantitation reports for blanks	✓		
Raw and corrected spectra for all detected results in blanks	✓		
Raw and corrected library search data for all reported TIC			✓

Data Package Item	Present?: Yes	No	N/A
Quantitation and calculation data for all TIC			✓
MS/MSD report forms	✓		
RIC and quantitation reports for MS/MSD	✓		
Additional Data			
Moisture/% solids data sheets		✓	
Reduction formulae		✓	
Instrument time logs		✓	
Chemist notebook pages		✓	
Sample preparation sheets		✓	

2. HOLDING TIMES

Complete the holding time summary form listing all samples and dates of collection and analysis.

Were all samples analyzed within holding time? (Yes) No N/A

ACTION: If any holding times were exceeded, but not by greater than a factor of two, qualify associated samples as estimated (J for detects or UJ for non-detects), otherwise reject all non-detects (R) and qualify all associated detects as estimated (J).

3. INSTRUMENT CALIBRATION, TUNING AND PERFORMANCE CHECKS

3.1 GC/MS TUNING AND PERFORMANCE CHECKS

Is a BFB tune report present for each applicable 12h period? (Yes) No N/A

Do all tunes on all instruments meet the tuning criteria? (Yes) No N/A

Do all tunes on all instruments meet the expanded criteria? (Yes) No N/A

Has the laboratory made any calculation or transciption errors? Yes (No) N/A

Have the proper significant figures been reported? (Yes) No N/A

ACTION: If the mass calibration is out of specification but within the expanded criteria, qualify associated data as estimated (J for detects or UJ for non-detects). If all tuning criteria are missed, qualify all associated data as unusable (R).

3.2 INITIAL CALIBRATION

Is an initial calibration report provided for all instruments? (Yes) No N/A

Are all RSD values $\leq 30\%$ (2/88 SOW)? Yes No (N/A)

Are all RRF values ≥ 0.05 (2/88 SOW)? Yes No (N/A)

Are all applicable RSD values ≤~~20.5%~~ 25.0% (3/90 SOW)?	Yes	No	N/A
Are all applicable RSD values ≤40% (3/90 SOW)?	Yes	No	N/A
Are all applicable RRF values within SOW limits (3/90 SOW)?	Yes	No	N/A
Are all erratic performance compound RRF values ≥0.01 (3/90 SOW)?	Yes	No	N/A

ACTION: With the exception of compounds that exhibit erratic performance and making allowances for up to two TCL compounds, if any RRF value is out of specification qualify all detected results for the particular compound as estimated (J) and all non-detects as unusable (R). Making allowances for up to two TCL compounds, if any RSD value is out of specification qualify all associated data as estimated (J for detects or UJ for non-detects).

3.3. CONTINUING CALIBRATION

Is a continuing calibration report present for all 12h periods in which associated samples were analyzed ?	Yes	No	N/A
Are all RRF values ≥0.05 (2/88 SOW)?	Yes	No	N/A
Are all %D values ≤25% (2/88 or 3/90 SOW)?	Yes	No	N/A
Are all %D values ≤40% (3/90 SOW)?	Yes	No	N/A
Are all RRF values within SOW limits (3/90 SOW)?	Yes	No	N/A
Are all erratic performance compound RRF values ≥0.01 (3/90 SOW)?	Yes	No	N/A

ACTION: With the exception of compounds that exhibit erratic performance and making allowances for up to two TCL compounds, if any RRF value is out of specification qualify all associated detected results as estimated and all non-detects as unusable (R). Making allowances for up to two TCL compounds, if any %D is out of specification, qualify all associated results as estimated (J for detects or UJ for non-detects).

4. BLANKS

4.1 LABORATORY BLANKS

Has the laboratory conducted a method blank analysis per matrix for every 12h period in which samples were analyzed?	Yes	No	N/A
Are TCL compounds present in the laboratory blanks?	Yes	No	N/A

ACTION: Qualify all sample results < 10X the highest blank concentration for the common laboratory contaminants, as non-detects (U) or at the SQL if the result is < CRQL. Qualify all remaining sample results < 5X the blank concentration in similar fashion.

4.2 FIELD BLANKS

Are TCL compounds present in the field blanks? Yes No N/A

ACTION: Qualify all detected sample results less than or equal to five times the amount in any valid field blank as non-detects (U) and note the field blank results in the validation narrative.

5. ACCURACY

5.1 SURROGATE/SYSTEM MONITORING COMPOUND RECOVERY

Are any surrogate recoveries out of specification? Yes No N/A

Are any surrogate recoveries less than 10%? Yes No N/A

Are any method blank surrogate recoveries out of specification? Yes No N/A

ACTION: Qualify all associated sample results as estimated (J for detects or UJ for non-detects) for surrogates out of specification but greater than 10%. Qualify all associated positive sample results as estimated (J) and all non-detect results as unusable (R) for all surrogates below 10%. If method blank surrogates are out of specification and the associated sample surrogates are acceptable no qualification is necessary, however, the laboratory should be contacted for an explanation.

5.2 MATRIX SPIKE RECOVERY

Has an MS/MSD analysis been conducted per matrix in the sample group? Yes No N/A

Are MS/MSD recoveries within specification? Yes No N/A

Are there any calculation errors? Yes No N/A

ACTION: If an MS/MSD analysis has not been conducted contact the laboratory for an explanation. Review the MS/MSD recoveries in conjunction with other QC data such as surrogate recoveries and note the results in the validation narrative. If MS/MSD recoveries are out of specification and sample concentration is greater than five times the spike concentration, no qualification is required, otherwise qualify results as follows: Qualify positive results for the specific class of compound (aromatics and non-aromatics) as estimated (J) in all samples if associated surrogates are also out of specification. The qualification shall only be done on samples of similar matrix as the MS/MSD samples. If it is determined from the review that only the spiked samples are affected by low recoveries, qualify only the results for the spiked sample as described above. If it is determined from the review that out of specification MS/MSD recoveries are indicative of systematic problems in the laboratory such as sample preparation or sample-specific matrix interferences this must be noted in the validation narrative along with the potential affect on the sample results.

5.3 PERFORMANCE AUDIT SAMPLES

Are the performance audit sample results within the acceptance limits? Yes No N/A

ACTION: Note the results of the performance audit sample in the validation narrative.

6. PRECISION

6.1 MATRIX SPIKE/MATRIX SPIKE DUPLICATES

Are RPD values within specification? Yes No N/A

Are there any calculation errors? Yes No N/A

ACTION: Review the MS/MSD results in conjunction with other QC data such as field duplicates and not the results in the validation narrative. If MS/MSD RPDs are out of specification and sample results are greater than five times the CRQL qualify positive results for the specific class of compound (aromatics and non-aromatics) as estimated (J). If it is determined from the review that out of specification MS/MSD results are indicative of systematic problems in the laboratory such as sample preparation or sample-specific matrix interferences this must be noted in the validation narrative along with the potential affect on the sample results.

6.2 FIELD DUPLICATE SAMPLES

Are field duplicate RPD values acceptable? Yes No N/A

ACTION: Note the results of the field duplicate samples in the validation narrative.

6.3 FIELD SPLIT SAMPLES

Are field split RPD values acceptable? Yes No N/A

ACTION: Note the results of the field split samples in the validation narrative.

7. SYSTEM PERFORMANCE

7.1 INTERNAL STANDARDS PERFORMANCE

Are any internal standard area counts outside the acceptance limits? Yes No N/A

Are retention times for any internal standard outside the ±30 second windows established by the most recent calibration check? Yes No N/A

ACTION: If the area counts are outside the acceptance limits qualify all associated results as estimated (J for detects or UJ for non-detects). If it is determined from the review that out of specification area counts and relative retention times are indicative of systematic problems within the laboratory the reviewer may consider rejection of all affected sample data (R).

8. COMPOUND IDENTIFICATION AND QUANTITATION

8.1 COMPOUND IDENTIFICATION

Are detected compounds within ±0.06 relative retention time units of the associated calibration standard?	Yes	No	N/A
Are all ions at a relative intensity of ≥10% in the standard spectra present in the sample spectra?	Yes	No	N/A
Do the relative intensities between the standard and sample spectra agree within 20%?	Yes	No	N/A
Have all ions > 10% in the sample spectra that are not present in the standard spectra been reviewed for possible background contamination?	Yes	No	N/A
Are molecular ions present in the reference specrum present in the sample spectrum?	Yes	No	N/A

ACTION: If compound identification is in error and retention time and mass spectral criteria are exceeded qualify all affected positive results as unusable (R). If cross-contamination between analyses is suspected, qualify affected data as unusable (R). Note the results in the validation narrative.

8.2 REPORTED RESULTS AND QUANTITATION LIMITS

Has the laboratory used the correct RRF values and internal standard(s) for quantitation?	Yes	No	N/A
Are results and quantitation limits calculated properly?	Yes	No	N/A
Has the laboratory reported the sample quantitation limits within five times the CRQL values?	Yes	No	N/A

ACTION: If the results and quantitation limits are in error contact the laboratory for clarification and note in the validation narrative.

8.3 TENTATIVELY IDENTIFIED COMPOUNDS (TIC) No TICs

Has the laboratory conducted a spectral library search on all candidate TIC peaks in accordance with the analytical SOW?	Yes	No	N/A
Has the laboratory properly identified and coded all TIC?	Yes	No	N/A

ACTION: If the laboratory has failed to search the minimum number of TIC peaks in the chromatogram contact the laboratory for submittal of the required data. Qualify as non-detects (U) all TIC compounds present in samples and blanks using the review criteria specified in the validation requirements. If TIC identification is in error sample results should be qualified as non-detects (U) or unusable (R). If TIC identifications are judged valid, qualify the results as presumptive and estimated (JN).

9. OVERALL ASSESSMENT AND SUMMARY

Has the laboratory conducted the analysis in accordance with the analytical SOW?	Yes	No	N/A
Were project specific data quality objectives met for this analysis?	Yes	No	N/A

ACTION: Summarize all the data qualifications recommended in the foregoing sections, and complete the data validation narrative according to the requirements of Section 10 of the data validation requirements.

COMMENTS (attach additional sheets as necessary):

2B

SOIL VOLATILE SYSTEM MONITORING COMPOUND RECOVERY

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

Case No.: WESTINGHOUSE HANFORD Level:(low/med) LOW

RFW Lot No.: 9209L848

	CLIENT SAMPLE NO.	SMC1 (TOL)#	SMC2 (BFB)#	SMC3 (DCE)#	OTHER	TOT OUT
01	B075Q5	100	95	98		0
02	B075Q5MS	108	106	103		0
03	B075Q5MSD	97	94	88		0
04	VBLKLVW213-MB1	103	103	105		0
05	VBLKLVW214-MB1	102	102	95		0

	QC LIMITS
SMC1 (TOL) = Toluene-d8	(84-138)
SMC2 (BFB) = Bromofluorobenzene	(59-113)
SMC3 (DCE) = 1,2-Dichloroethane-d4	(70-121)

Column to be used to flag recovery values

* Values outside of QC limits

D System Monitoring Compound diluted out

3B

SOIL VOLATILE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: Roy F. Weston, Inc. Contract: 06168-002-001-9 999-00

Case No.: WESTINGHOUSE HANFORD RFW Lot No.: 9209L848-001 JM 10/15/92

MATRIX Spike - Sample No.: B075Q5 Level (low/med): LOW

COMPOUND	SPIKE ADDED UG/KG	SAMPLE CONCENTRATION UG/KG	MS CONCENTRATION UG/KG	MS % REC #	QC LIMITS REC.
1,1-Dichloroethene	50.0	0	55.3	111	59 -172
Trichloroethene	50.0	0	53.8	108	62 -137
Benzene	50.0	0	62.0	124	66 -142
Toluene	50.0	0	58.8	118	59 -139
Chlorobenzene	50.0	0	60.1	120	60 -133

COMPOUND	SPIKE ADDED UG/KG	MSD CONCENTRATION UG/KG	MSD % REC #	% RPD #	QC LIMITS RPD	QC LIMITS REC
1,1-Dichloroethene	49.5	52.4	106	4	22	59 -172
Trichloroethene	49.5	49.0	99	8	24	62 -137
Benzene	49.5	53.4	108	13	21	66 -142
Toluene	49.5	55.2	112	5	21	59 -139
Chlorobenzene	49.5	56.6	114	5	21	60 -133

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

RPD: 0 out of 5 outside limits
Spike Recovery: 0 out of 10 outside limits

COMMENTS:

4A

VOLATILE METHOD BLANK SUMMARY

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

jm 2 10/15/92

Case No.: WESTINGHOUSE HANFORD

Lab File ID: W091608 Lab Sample ID: 92LVW213-MB1

Date Analyzed: 09/16/92 Time Analyzed: 1335

GC Column: SP1000 ID: 2.00(mm) Heated Purge: (Y/N) Y

Instrument ID: 1050W

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS AND MSD:

	CLIENT SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
01	B075Q5	9209L848-001	W091619	2046

COMMENTS:

4A
VOLATILE METHOD BLANK SUMMARY

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

Case No.: WESTINGHOUSE HANFORD

Lab File ID: W091708 Lab Sample ID: 92LVW214-MB1

Date Analyzed: 09/17/92 Time Analyzed: 1319

GC Column: SP1000 ID: 2.00(mm) Heated Purge: (Y/N) Y

Instrument ID: 1050W

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS AND MSD:

	CLIENT SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
01	B075Q5MS	9209L848-001S	W091710	1454
02	B075Q5MSD	9209L848-001T	W091711	1531

COMMENTS:

9613451.2595 5A000017

VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Jan 2 10/15/92

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

Case No.: WESTINGHOUSE HANFORD

Lab File ID: W091601 BFB Injection Date: 09/16/92

Instrument ID: 1050W BFB Injection Time: 918

GC Column: SP1000 ID: 2.00(mm) Heated Purge: (Y/N) Y

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	8.0 - 40.0% of mass 95	28.2
75	30.0 - 66.0% of mass 95	52.9
95	Base peak, 100% relative abundance	100.0
96	5.0 - 9.0% of mass 95	8.0
173	Less than 2.0% of mass 174	0.0(0.0)1
174	50.0 - 120.0% of mass 95	80.6
175	4.0 - 9.0% of mass 174	6.8(8.4)1
176	93.0 - 101.0% of mass 174	80.6(100.0)1
177	5.0 - 9.0% of mass 176	6.2(7.7)2

1-Value is % mass 174 2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	CLIENT SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	VSTD50	VSTD50	W091602	09/16/92	0937
02	VSTD100	VSTD100	W091603	09/16/92	1017
03	VSTD200	VSTD200	W091605	09/16/92	1131
04	VSTD20	VSTD20	W091606	09/16/92	1208
05	VSTD10	VSTD10	W091607	09/16/92	1245
06	VBLKLVW213-MB1	92LVW213-MB1	W091608	09/16/92	1335
07	B075Q5	9209L848-001	W091619	09/16/92	2046
08					
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					

9613451.2596 5A 000018

VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: Roy F. Weston, Inc. Contract: 06168-002-001-9999-00 mz 10/15/92

Case No.: WESTINGHOUSE HANFORD

Lab File ID: W091701 BFB Injection Date: 09/17/92

Instrument ID: 1050W BFB Injection Time: 923

GC Column: SP1000 ID: 2.00(mm) Heated Purge: (Y/N) Y

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	8.0 - 40.0% of mass 95	28.3
75	30.0 - 66.0% of mass 95	51.8
95	Base peak, 100% relative abundance	100.0
96	5.0 - 9.0% of mass 95	8.0
173	Less than 2.0% of mass 174	0.0(0.0)1
174	50.0 - 120.0% of mass 95	78.8
175	4.0 - 9.0% of mass 174	6.9(8.8)1
176	93.0 - 101.0% of mass 174	77.6(98.6)1
177	5.0 - 9.0% of mass 176	5.7(7.3)2

1-Value is % mass 174 2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	CLIENT SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	VSTD50	VSTD50	W091702	09/17/92	0938
02	VBLKLVW214-MB1	92LVW214-MB1	W091708	09/17/92	1319
03	B075Q5MS	9209L848-001S	W091710	09/17/92	1454
04	B075Q5MSD	9209L848-001T	W091711	09/17/92	1531
05					
06					
07					
08					
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					

8A
VOLATILE INTERNAL STANDARD AREA SUMMARY

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

Case No.: WESTINGHOUSE HANFORD RFW Lot: 9209L848

Lab File ID (Standard): W091602 Date Analyzed: 09/16/92

Instrument ID: 1050W Time Analyzed: 0937

GC Column: SP1000 ID: 2.00(mm) Heated Purge: (Y/N) Y

		IS1(BCM) AREA #	RT #	IS2(DFB) AREA #	RT #	IS3(CBZ) AREA #	RT #
	12 HOUR STD	68664	5.03	282033	15.00	260023	19.80
	UPPER LIMIT	137328	5.53	564066	15.50	520046	20.30
	LOWER LIMIT	34332	4.53	141017	14.50	130012	19.30
	CLIENT SAMPLE NO.						
01	B075Q5	54539	4.97	213327	15.00	198324	19.83
02	VBLKLVW213-MB1	73215	5.07	280870	15.00	261905	19.83

IS1 (BCM) = Bromochloromethane
IS2 (DFB) = 1,4-Difluorobenzene
IS3 (CBZ) = Chlorobenzene-d5

AREA UPPER LIMIT = +100% of internal standard area
AREA LOWER LIMIT = - 50% of internal standard area
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT LOWER LIMIT = -0.50 minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits.

9613451.2598 000020

8A

VOLATILE INTERNAL STANDARD AREA SUMMARY

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

Case No.: WESTINGHOUSE HANFORD RFW Lot: 9209L848

Lab File ID (Standard): W091702 Date Analyzed: 09/17/92

Instrument ID: 1050W Time Analyzed: 0938

GC Column: SP1000 ID: 2.00(mm) Heated Purge: (Y/N) Y

		IS1(BCM) AREA #	RT #	IS2(DFB) AREA #	RT #	IS3(CBZ) AREA #	RT #
	12 HOUR STD	70625	5.00	312024	15.00	289388	19.83
	UPPER LIMIT	141250	5.50	624048	15.50	578776	20.33
	LOWER LIMIT	35313	4.50	156012	14.50	144694	19.33
	CLIENT SAMPLE NO.						
01	B075Q5MS	51979	5.00	209570	14.97	197982	19.80
02	B075Q5MSD	59109	5.03	241480	15.00	226063	19.83
03	VBLKLVW214-MB1	69697	5.07	271046	15.00	257111	19.83

IS1 (BCM) = Bromochloromethane
IS2 (DFB) = 1,4-Difluorobenzene
IS3 (CBZ) = Chlorobenzene-d5

AREA UPPER LIMIT = +100% of internal standard area
AREA LOWER LIMIT = - 50% of internal standard area
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT LOWER LIMIT = -0.50 minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits.

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1A

0 0 0 0 2 2 CLIENT SAMPLE NO.

VOLATILE ORGANICS ANALYSIS DATA SHEET

B075Q5

Lab Name: Roy F. Weston, Inc. Work Order: 06168-002-001-9992-00

Client: WESTINGHOUSE HANFORD

Matrix: (soil/water) SOIL

Lab Sample ID: 9209L848-001

Sample wt/vol: 4.90 (g/mL) G

Lab File ID: W091619

Level: (low/med) LOW

Date Received: 09/11/92

% Moisture: not dec. 1

Date Analyzed: 09/16/92

GC Column: SP1000 ID: 2.00(mm)

Dilution Factor: 1.02

Soil Extract Volume: (uL)

Soil Aliquot Volume: (uL)

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

9613451.2600 0000023 CLIENT SAMPLE NO.

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

B075Q5

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

Client: WESTINGHOUSE HANFORD

Matrix: (soil/water) SOIL

Lab Sample ID: 9209L848-001

Sample wt/vol: 4.90 (g/mL) G

Lab File ID: W091619

Level: (low/med) LOW

Date Received: 09/11/92

% Moisture: not dec. 1

Date Analyzed: 09/16/92

GC Column: SP1000 ID: 2.00(mm)

Dilution Factor: 1.02

Soil Extract Volume: (uL)

Soil Aliquot Volume: (uL)

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

Number TICs found: 0

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

9613451.2601

0000029

6A

VOLATILE ORGANICS INITIAL CALIBRATION DATA

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

Case No.: WESTINGHOUSE HANFORD RFW Lot: 9209L848

Instrument ID: 1050W Calibration Date(s): 09/16/92 09/16/92

Heated Purge: (Y/N) Y Calibration Time(s): 0937 1245

GC Column: SP1000 ID: 2.00(mm)

LAB FILE ID: RRF10 = W091607 RRF20 = W091606
RRF50 = W091602 RRF100= W091603 RRF200= W091605

COMPOUND	RRF10	RRF20	RRF50	RRF100	RRF200	RRF	% RSD	MIN RRF
Chloromethane	1.122	1.125	1.078	1.091	1.049	1.093	2.9	
Bromomethane *	1.274	1.207	1.223	1.222	1.131	1.211	4.3*	0.100
Vinyl Chloride *	1.100	1.116	1.079	1.276	1.210	1.156	7.2*	0.100
Chloroethane	0.694	0.683	0.677	0.751	0.691	0.699	4.3	
Methylene Chloride	3.159	1.893	1.334	1.330	1.182	1.780	45.9	
Acetone	1.219	0.841	0.713	0.670	0.677	0.824	28.1	
Carbon Disulfide	2.021	2.025	1.849	2.308	2.460	2.133	11.5	
1,1-Dichloroethene *	1.013	0.989	0.958	0.994	0.984	0.988	2.0*	0.100
1,1-Dichloroethane *	2.284	2.150	2.116	2.164	2.161	2.175	2.9*	0.200
1,2-Dichloroethene (total)	1.208	1.103	1.086	1.108	1.119	1.125	4.3	
Chloroform *	2.568	2.374	2.434	2.502	2.449	2.465	3.0*	0.200
1,2-Dichloroethane *	2.096	1.905	2.003	1.936	1.886	1.965	4.4*	0.100
2-Butanone	0.137	0.116	0.151	0.118	0.125	0.129	11.3	
1,1,1-Trichloroethane *	0.512	0.489	0.495	0.521	0.491	0.502	2.8*	0.100
Carbon Tetrachloride *	0.488	0.469	0.492	0.532	0.497	0.496	4.6*	0.100
Bromodichloromethane *	0.539	0.540	0.555	0.611	0.590	0.567	5.7*	0.200
1,2-Dichloropropane	0.349	0.328	0.317	0.327	0.321	0.328	3.8	
cis-1,3-Dichloropropene *	0.420	0.415	0.405	0.446	0.452	0.428	4.8*	0.200
Trichloroethene *	0.527	0.478	0.479	0.475	0.452	0.482	5.7*	0.300
Dibromochloromethane *	0.496	0.508	0.579	0.631	0.617	0.566	10.9*	0.100
1,1,2-Trichloroethane *	0.349	0.311	0.316	0.317	0.311	0.321	5.0*	0.100
Benzene *	0.723	0.685	0.669	0.683	0.677	0.687	3.0*	0.500
trans-1,3-Dichloropropene *	0.421	0.420	0.414	0.434	0.450	0.428	3.4*	0.100
Bromoform *	0.355	0.358	0.459	0.491	0.492	0.431	16.1*	0.100
4-Methyl-2-pentanone	0.553	0.471	0.537	0.474	0.482	0.503	7.7	
2-Hexanone	0.558	0.503	0.603	0.509	0.510	0.537	8.1	
Tetrachloroethene *	0.557	0.511	0.518	0.517	0.476	0.516	5.6*	0.200
1,1,2,2-Tetrachloroethane *	0.447	0.415	0.494	0.455	0.468	0.456	6.3*	0.500
Toluene *	0.611	0.566	0.557	0.568	0.561	0.573	3.8*	0.400
Chlorobenzene *	0.936	0.875	0.874	0.867	0.842	0.879	3.9*	0.500
Ethylbenzene *	0.425	0.401	0.389	0.396	0.384	0.399	4.0*	0.100
Styrene *	0.778	0.705	0.736	0.754	0.750	0.745	3.6*	0.300
Xylene (total) *	0.478	0.443	0.431	0.445	0.443	0.448	3.9*	0.300
Toluene-d8	0.972	0.970	0.939	0.953	0.961	0.959	1.4	
Bromofluorobenzene *	0.923	0.897	0.881	0.887	0.883	0.894	1.9*	0.200
1,2-Dichloroethane-d4	2.050	1.968	1.963	1.906	1.902	1.958	3.1	

* Compounds with required minimum RRF and maximum %RSD values.
All other compounds must meet a minimum RRF of 0.010.

9613451.2602 000050

7A

VOLATILE CONTINUING CALIBRATION CHECK

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

Case No.: WESTINGHOUSE HANFORD RFW Lot: 9209L848

mz 10/15/92

Instrument ID: 1050W Calibration Date: 09/17/92 Time: 0938

Lab File ID: W091702 Init. Calib. Date(s): 09/16/92 09/16/92

Heated Purge: (Y/N) Y Init. Calib. Times: 0937 1245

GC Column: SP1000 ID: 2.00(mm)

COMPOUND	RRF	RRF50	MIN RRF	%D	MAX %D
Chloromethane	1.093	1.040		4.8	
Bromomethane	1.211	1.158	0.100	4.4	25.0
Vinyl Chloride	1.156	1.135	0.100	1.8	25.0
Chloroethane	0.699	0.711		-1.7	
Methylene Chloride	1.780	1.191		33.1	
Acetone	0.824	0.848		-2.9	
Carbon Disulfide	2.133	2.210		-3.6	
1,1-Dichloroethene	0.988	1.042	0.100	-5.5	25.0
1,1-Dichloroethane	2.175	2.271	0.200	-4.4	25.0
1,2-Dichloroethene (total)	1.125	1.156		-2.8	
Chloroform	2.465	2.581	0.200	-4.7	25.0
1,2-Dichloroethane	1.965	2.086	0.100	-6.2	25.0
2-Butanone	0.129	0.190		-47.3	
1,1,1-Trichloroethane	0.502	0.499	0.100	0.6	25.0
Carbon Tetrachloride	0.496	0.489	0.100	1.4	25.0
Bromodichloromethane	0.567	0.546	0.200	3.7	25.0
1,2-Dichloropropane	0.328	0.322		1.8	
cis-1,3-Dichloropropene	0.428	0.425	0.200	0.7	25.0
Trichloroethene	0.482	0.461	0.300	4.4	25.0
Dibromochloromethane	0.566	0.540	0.100	4.6	25.0
1,1,2-Trichloroethane	0.321	0.301	0.100	6.2	25.0
Benzene	0.687	0.678	0.500	1.3	25.0
trans-1,3-Dichloropropene	0.428	0.413	0.100	3.5	25.0
Bromoform	0.431	0.413	0.100	4.2	25.0
4-Methyl-2-pentanone	0.503	0.529		-5.2	
2-Hexanone	0.537	0.547		-1.9	
Tetrachloroethene	0.516	0.492	0.200	4.7	25.0
1,1,2,2-Tetrachloroethane	0.456	0.440	0.500	3.5	25.0
Toluene	0.573	0.561	0.400	2.1	25.0
Chlorobenzene	0.879	0.835	0.500	5.0	25.0
Ethylbenzene	0.399	0.393	0.100	1.5	25.0
Styrene	0.745	0.730	0.300	2.0	25.0
Xylene (total)	0.448	0.435	0.300	2.9	25.0
Toluene-d8	0.959	0.949		1.0	
Bromofluorobenzene	0.894	0.823	0.200	7.9	25.0
1,2-Dichloroethane-d4	1.958	2.101		-7.3	

All other compounds must meet a minimum RRF of 0.010.

9613451.2603 0000055

8A

VOLATILE INTERNAL STANDARD AREA SUMMARY

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

Case No.: WESTINGHOUSE HANFORD RFW Lot: 9209L848

Lab File ID (Standard): W091602 Date Analyzed: 09/16/92

Instrument ID: 1050W Time Analyzed: 0937

GC Column: SP1000 ID: 2.00(mm) Heated Purge: (Y/N) Y

		IS1(BCM) AREA #	RT #	IS2(DFB) AREA #	RT #	IS3(CBZ) AREA #	RT #
	12 HOUR STD	68664	5.03	282033	15.00	260023	19.80
	UPPER LIMIT	137328	5.53	564066	15.50	520046	20.30
	LOWER LIMIT	34332	4.53	141017	14.50	130012	19.30
	CLIENT SAMPLE NO.						
01	B075Q5	54539	4.97	213327	15.00	198324	19.83
02	VBLKLVW213-MB1	73215	5.07	280870	15.00	261905	19.83

IS1 (BCM) = Bromochloromethane
IS2 (DFB) = 1,4-Difluorobenzene
IS3 (CBZ) = Chlorobenzene-d5

AREA UPPER LIMIT = +100% of internal standard area
AREA LOWER LIMIT = - 50% of internal standard area
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT LOWER LIMIT = -0.50 minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits.

8A
VOLATILE INTERNAL STANDARD AREA SUMMARY

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

Case No.: WESTINGHOUSE HANFORD RFW Lot: 9209L848 mt 10/15/92

Lab File ID (Standard): W091702 Date Analyzed: 09/17/92

Instrument ID: 1050W Time Analyzed: 0938

GC Column: SP1000 ID: 2.00(mm) Heated Purge: (Y/N) Y

		IS1(BCM) AREA #	RT #	IS2(DFB) AREA #	RT #	IS3(CBZ) AREA #	RT #
	12 HOUR STD	70625	5.00	312024	15.00	289388	19.83
	UPPER LIMIT	141250	5.50	624048	15.50	578776	20.33
	LOWER LIMIT	35313	4.50	156012	14.50	144694	19.33
	CLIENT SAMPLE NO.						
01	B075Q5MS	51979	5.00	209570	14.97	197982	19.80
02	B075Q5MSD	59109	5.03	241480	15.00	226063	19.83
03	VBLKLVW214-MB1	69697	5.07	271046	15.00	257111	19.83

IS1 (BCM) = Bromochloromethane
IS2 (DFB) = 1,4-Difluorobenzene
IS3 (CBZ) = Chlorobenzene-d5

AREA UPPER LIMIT = +100% of internal standard area
AREA LOWER LIMIT = - 50% of internal standard area
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT LOWER LIMIT = -0.50 minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits.

9613451.2605

1A

000062 CLIENT SAMPLE NO.

VOLATILE ORGANICS ANALYSIS DATA SHEET

VBLK

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

mc 10/5/92

Client: WESTINGHOUSE HANFORD

Matrix: (soil/water) SOIL

Lab Sample ID: 92LVW213-MB1

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

Lab File ID: W091608

Level: (low/med) LOW

Date Received: 09/16/92

% Moisture: not dec.

Date Analyzed: 09/16/92

GC Column: SP1000 ID: 2.00(mm)

Dilution Factor: 1.00

Soil Extract Volume: (uL)

Soil Aliquot Volume: (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	9	
67-64-1	Acetone	17	
75-15-0	Carbon Disulfide	10	U
75-35-4	1,1-Dichloroethene	10	U
75-34-3	1,1-Dichloroethane	10	U
540-59-0	1,2-Dichloroethene (total)	10	U
67-66-3	Chloroform	10	U
107-06-2	1,2-Dichloroethane	10	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	10	U
56-23-5	Carbon Tetrachloride	10	U
75-27-4	Bromodichloromethane	10	U
78-87-5	1,2-Dichloropropane	10	U
10061-01-5	cis-1,3-Dichloropropene	10	U
79-01-6	Trichloroethene	10	U
124-48-1	Dibromochloromethane	10	U
79-00-5	1,1,2-Trichloroethane	10	U
71-43-2	Benzene	10	U
10061-02-6	trans-1,3-Dichloropropene	10	U
75-25-2	Bromoform	10	U
108-10-1	4-Methyl-2-pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	10	U
79-34-5	1,1,2,2-Tetrachloroethane	10	U
108-88-3	Toluene	10	U
108-90-7	Chlorobenzene	10	U
100-41-4	Ethylbenzene	10	U
100-42-5	Styrene	10	U
1330-20-7	Xylene (total)	10	U

9613451.2606 1E

0 0 0 0 0 6 3 CLIENT SAMPLE NO.

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

VBLK

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

mz 10/15/92

Client: WESTINGHOUSE HANFORD

Matrix: (soil/water) SOIL

Lab Sample ID: 92LVW213-MB1

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

Lab File ID: W091608

Level: (low/med) LOW

Date Received: 09/16/92

% Moisture: not dec.

Date Analyzed: 09/16/92

GC Column: SP1000 ID: 2.00(mm)

Dilution Factor: 1.00

Soil Extract Volume: (uL)

Soil Aliquot Volume: (uL)

Number TICs found: 0

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

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

9613451.2607 000069 CLIENT SAMPLE NO.

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

VBLK

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

mt 10/15/92

Client: WESTINGHOUSE HANFORD

Matrix: (soil/water) SOIL

Lab Sample ID: 92LVW214-MB1

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

Lab File ID: W091708

Level: (low/med) LOW

Date Received: 09/17/92

% Moisture: not dec.

Date Analyzed: 09/17/92

GC Column: SP1000 ID: 2.00(mm)

Dilution Factor: 1.00

Soil Extract Volume: (uL)

Soil Aliquot Volume: (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	7	
67-64-1	Acetone	12	
75-15-0	Carbon Disulfide	10	U
75-35-4	1,1-Dichloroethene	10	U
75-34-3	1,1-Dichloroethane	10	U
540-59-0	1,2-Dichloroethene (total)	10	U
67-66-3	Chloroform	10	U
107-06-2	1,2-Dichloroethane	10	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	10	U
56-23-5	Carbon Tetrachloride	10	U
75-27-4	Bromodichloromethane	10	U
78-87-5	1,2-Dichloropropane	10	U
10061-01-5	cis-1,3-Dichloropropene	10	U
79-01-6	Trichloroethene	10	U
124-48-1	Dibromochloromethane	10	U
79-00-5	1,1,2-Trichloroethane	10	U
71-43-2	Benzene	10	U
10061-02-6	trans-1,3-Dichloropropene	10	U
75-25-2	Bromoform	10	U
108-10-1	4-Methyl-2-pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	10	U
79-34-5	1,1,2,2-Tetrachloroethane	10	U
108-88-3	Toluene	10	U
108-90-7	Chlorobenzene	10	U
100-41-4	Ethylbenzene	10	U
100-42-5	Styrene	10	U
1330-20-7	Xylene (total)	10	U

9613451.2608

1E

0000070 CLIENT SAMPLE NO.

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

VBLK

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

mz 10/15/92

Client: WESTINGHOUSE HANFORD

Matrix: (soil/water) SOIL

Lab Sample ID: 92LVW214-MB1

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

Lab File ID: W091708

Level: (low/med) LOW

Date Received: 09/17/92

% Moisture: not dec.

Date Analyzed: 09/17/92

GC Column: SP1000 ID: 2.00(mm)

Dilution Factor: 1.00

Soil Extract Volume: (uL)

Soil Aliquot Volume: (uL)

Number TICs found: 0

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

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

9613451.2609

1A

0 0 0 0 7 6 CLIENT SAMPLE NO.

VOLATILE ORGANICS ANALYSIS DATA SHEET

B075Q5MS

Lab Name: Roy F. Weston, Inc. Work Order: ~~6168-02-0~~ 06168-002-001-9999-00

Client: WESTINGHOUSE HANFORD

Matrix: (soil/water) SOIL

Lab Sample ID: 9209L848-001 MS

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

Lab File ID: W091710

Level: (low/med) LOW

Date Received: 09/11/92

% Moisture: not dec. 1

Date Analyzed: 09/17/92

GC Column: SP1000 ID: 2.00(mm)

Dilution Factor: 1.00

Soil Extract Volume: (uL)

Soil Aliquot Volume: (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	25	B
67-64-1	Acetone	46	B
75-15-0	Carbon Disulfide	10	U
75-35-4	1,1-Dichloroethene		SP
75-34-3	1,1-Dichloroethane	10	U
540-59-0	1,2-Dichloroethene (total)	10	U
67-66-3	Chloroform	10	U
107-06-2	1,2-Dichloroethane	10	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	10	U
56-23-5	Carbon Tetrachloride	10	U
75-27-4	Bromodichloromethane	10	U
78-87-5	1,2-Dichloropropane	10	U
10061-01-5	cis-1,3-Dichloropropene	10	U
79-01-6	Trichloroethene		SP
124-48-1	Dibromochloromethane	10	U
79-00-5	1,1,2-Trichloroethane	10	U
71-43-2	Benzene		SP
10061-02-6	trans-1,3-Dichloropropene	10	U
75-25-2	Bromoform	10	U
108-10-1	4-Methyl-2-pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	10	U
79-34-5	1,1,2,2-Tetrachloroethane	10	U
108-88-3	Toluene		SP
108-90-7	Chlorobenzene		SP
100-41-4	Ethylbenzene	10	U
100-42-5	Styrene	10	U
1330-20-7	Xylene (total)	10	U

SP: SPIKE COMPOUND

FORM 1 VOA

3/90

9613451.2610

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

B075Q5MSD

06168-002-001-9999-0

Lab Name: Roy F. Weston, Inc. Work Order: ~~06168-02-0~~

Client: WESTINGHOUSE HANFORD

Matrix: (soil/water) SOIL

Lab Sample ID: 9209L848-001 MSD

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

Lab File ID: W091711

Level: (low/med) LOW

Date Received: 09/11/92

% Moisture: not dec. 1

Date Analyzed: 09/17/92

GC Column: SP1000 ID: 2.00(mm)

Dilution Factor: 0.980

Soil Extract Volume: (uL)

Soil Aliquot Volume: (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	23	B
67-64-1	Acetone	47	B
75-15-0	Carbon Disulfide	10	U
75-35-4	1,1-Dichloroethene		SP
75-34-3	1,1-Dichloroethane	10	U
540-59-0	1,2-Dichloroethene (total)	10	U
67-66-3	Chloroform	10	U
107-06-2	1,2-Dichloroethane	10	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	10	U
56-23-5	Carbon Tetrachloride	10	U
75-27-4	Bromodichloromethane	10	U
78-87-5	1,2-Dichloropropane	10	U
10061-01-5	cis-1,3-Dichloropropene	10	U
79-01-6	Trichloroethene		SP
124-48-1	Dibromochloromethane	10	U
79-00-5	1,1,2-Trichloroethane	10	U
71-43-2	Benzene		SP
10061-02-6	trans-1,3-Dichloropropene	10	U
75-25-2	Bromoform	10	U
108-10-1	4-Methyl-2-pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	10	U
79-34-5	1,1,2,2-Tetrachloroethane	10	U
108-88-3	Toluene		SP
108-90-7	Chlorobenzene		SP
100-41-4	Ethylbenzene	10	U
100-42-5	Styrene	10	U
1330-20-7	Xylene (total)	10	U

SP: SPIKE COMPOUND

FORM 1 VOA

3/90

9613451.2611

1B

0000025 CLIENT SAMPLE NO.

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

B075Q5

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

Client: WESTINGHOUSE HANFORD

Matrix: (soil/water) SOIL

Lab Sample ID: 9209L848-001

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

Lab File ID: S100905

Level: (low/med) LOW

Date Received: 09/11/92

% Moisture: 1 decanted: (Y/N)__

Date Extracted: 09/17/92

Concentrated Extract Volume: 500(uL)

Date Analyzed: 10/09/92

Injection Volume: 2.0(uL)

Dilution Factor: 1.00

GPC Cleanup: (Y/N) Y pH: 6.5

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg	Q
108-95-2	Phenol	340	U
111-44-4	bis(2-Chloroethyl)ether	340	U
95-57-8	2-Chlorophenol	340	U
541-73-1	1,3-Dichlorobenzene	340	U
106-46-7	1,4-Dichlorobenzene	340	U
95-50-1	1,2-Dichlorobenzene	340	U
95-48-7	2-Methylphenol	340	U
108-60-1	2,2'-oxybis(2-Chloropropane)	340	U
106-44-5	4-Methylphenol	340	U
621-64-7	N-Nitroso-di-n-propylamine	340	U
67-72-1	Hexachloroethane	340	U
98-95-3	Nitrobenzene	340	U
78-59-1	Isophorone	340	U
88-75-5	2-Nitrophenol	340	U
105-67-9	2,4-Dimethylphenol	340	U
111-91-1	bis(2-Chloroethoxy)methane	340	U
120-83-2	2,4-Dichlorophenol	340	U
120-82-1	1,2,4-Trichlorobenzene	340	U
91-20-3	Naphthalene	340	U
106-47-8	4-Chloroaniline	340	U
87-68-3	Hexachlorobutadiene	340	U
59-50-7	4-Chloro-3-methylphenol	340	U
91-57-6	2-Methylnaphthalene	340	U
77-47-4	Hexachlorocyclopentadiene	340	U
88-06-2	2,4,6-Trichlorophenol	340	U
95-95-4	2,4,5-Trichlorophenol	840	U
91-58-7	2-Chloronaphthalene	340	U
88-74-4	2-Nitroaniline	840	U
131-11-3	Dimethylphthalate	340	U
208-96-8	Acenaphthylene	340	U
606-20-2	2,6-Dinitrotoluene	340	U
99-09-2	3-Nitroaniline	840	U
83-32-9	Acenaphthene	340	U

9613451.2612

1C

0 0 0 0 2 6 CLIENT SAMPLE NO.

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

B075Q5

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

Client: WESTINGHOUSE HANFORD

Matrix: (soil/water) SOIL — Lab Sample ID: 9209L848-001

Sample wt/vol: 30.1 (g/mL) G — Lab File ID: S100905

Level: (low/med) LOW — Date Received: 09/11/92

% Moisture: 1 decanted: (Y/N)__ — Date Extracted: 09/17/92

Concentrated Extract Volume: 500(uL) — Date Analyzed: 10/09/92

Injection Volume: 2.0(uL) — Dilution Factor: 1.00

GPC Cleanup: (Y/N) Y pH: 6.5

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg	Q
51-28-5	2,4-Dinitrophenol	840	U J
100-02-7	4-Nitrophenol	840	U
132-64-9	Dibenzofuran	340	U
121-14-2	2,4-Dinitrotoluene	340	U
84-66-2	Diethylphthalate	340	U
7005-72-3	4-Chlorophenyl-phenylether	340	U
86-73-7	Fluorene	340	U
100-01-6	4-Nitroaniline	840	U
534-52-1	4,6-Dinitro-2-methylphenol	840	U
86-30-6	N-Nitrosodiphenylamine (1)	340	U
101-55-3	4-Bromophenyl-phenylether	340	U
118-74-1	Hexachlorobenzene	340	U
87-86-5	Pentachlorophenol	840	U
85-01-8	Phenanthrene	340	U
120-12-7	Anthracene	340	U
86-74-8	Carbazole	340	U
84-74-2	Di-n-butylphthalate	48 340	JB
206-44-0	Fluoranthene	340	U J
129-00-0	Pyrene	340	U
85-68-7	Butylbenzylphthalate	340	U
91-94-1	3,3'-Dichlorobenzidine	340	U
56-55-3	Benzo(a)anthracene	340	U
218-01-9	Chrysene	340	U
117-81-7	bis(2-Ethylhexyl)phthalate	23	J
117-84-0	Di-n-octyl phthalate	340	U J
205-99-2	Benzo(b)fluoranthene	340	U
207-08-9	Benzo(k)fluoranthene	340	U
50-32-8	Benzo(a)pyrene	340	U
193-39-5	Indeno(1,2,3-cd)pyrene	340	U
53-70-3	Dibenz(a,h)anthracene	340	U
191-24-2	Benzo(g,h,i)perylene	340	U

(1) - Cannot be separated from Diphenylamine

9613451.2613

1F

0000027 CLIENT SAMPLE NO.

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

B075Q5

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

Client: WESTINGHOUSE HANFORD

Matrix: (soil/water) SOIL

Lab Sample ID: 9209L848-001

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

Lab File ID: S100905

Level: (low/med) LOW

Date Received: 09/11/92

% Moisture: 1 decanted: (Y/N)__

Date Extracted: 09/17/92

Concentrated Extract Volume: 500(uL)

Date Analyzed: 10/09/92

Injection Volume: 2.0(uL)

Dilution Factor: 1.00

GPC Cleanup: (Y/N) Y

pH: 6.5

Number TICs found: 5

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	ALDOL CONDENSATE	5.55	200	JA
2.	ORGANIC ACID	15.22	100	J
3.	ADIPATE	22.30	100	J
4.	UNKNOWN	22.98	200	J
5.	UNKNOWN	25.45	300	J

3 5-13

MM

SEMI-VOLATILE ORGANIC DATA VALIDATION CHECKLIST - FORM A-2

PROJECT: Westinghouse Data Validation	REVIEWER: MY	DATE: 3-5-93
LABORATORY: Roy Weston	CASE: WEST	SDG: B07505
SAMPLES/MATRIX: Soil ; B07505		

1. DATA PACKAGE COMPLETENESS

Review the data package for completeness and check off the items below. If any data review elements are missing contact the laboratory for submittal.

Data Package Item	Present?: Yes	No	N/A
Case Narrative	✓		
Data Summary	✓		
Chain-of-Custody	✓		
QC Summary			
Surrogate report	✓		
MS/MSD report	✓		
Blank summary report	✓		
GC/MS tuning report	✓		
Internal standard summary report	✓		
Sample Data			
Sample reports	✓		
TIC reports for each sample	✓		
RIC reports for all samples	✓		
Raw and corrected spectra for all detected results	✓		
Raw and corrected library search data for all reported TIC	✓		
Quantitation and calculation data for all TIC	✓		
Standards Data			
Initial calibration report	✓		
RIC and quantitation reports for initial calibration	✓		
Continuing calibration reports	✓		
RIC and quantitation reports for cont. calibrations	✓		
Internal standard summary report	✓		
Raw QC Data			
Tuning report, spectra and mass lists	✓		
Blank analysis reports	✓		
TIC reports for all blanks	✓		
RIC and quantitation reports for blanks	✓		
Raw and corrected spectra for all detected results in blanks	✓		
Raw and corrected library search data for all reported TIC			✓
Quantitation and calculation data for all TIC			✓
MS/MSD report forms	✓		

Data Package Item	Present?: Yes	No	N/A
RIC and quantitation reports for MS/MSD	✓		
Additional Data			
Moisture/% solids data sheets		✓	
Reduction formulae		✓	
Instrument time logs		✓	
Chemist notebook pages		✓	
Sample preparation sheets		✓	

2. HOLDING TIMES

Were all samples extracted within holding time?	Yes	No	N/A
Were all samples analyzed within holding time?	Yes	No	N/A

ACTION: If any holding times were exceeded, but not by greater than a factor of two, qualify associated samples as estimated (J for detects or UJ for non-detects), otherwise reject all non-detects (R) and qualify all associated detects as estimated (J).

3. INSTRUMENT CALIBRATION, TUNING AND PERFORMANCE CHECKS

3.1 GC/MS TUNING AND PERFORMANCE CHECKS

Is a DFTPP tune report present for each applicable 12h period?	Yes	No	N/A
Do all tunes on all instruments meet the tuning criteria?	Yes	No	N/A
Do all tunes on all instruments meet the expanded criteria?	Yes	No	N/A
Has the laboratory made any calculation or transciption errors?	Yes	No	N/A
Have the proper significant figures been reported?	Yes	No	N/A

ACTION: If the mass calibration is out of specification but within the expanded criteria, qualify associated data as estimated (J for detects and UJ for non-detects). If all tuning criteria are not met, qualify all associated data as unusable (R).

3.2 INITIAL CALIBRATION

Is an initial calibration report provided for all instruments?	Yes	No	N/A
Are all RSD values ≤30% (2/88 SOW)?	Yes	No	N/A
Are all RRF values ≥0.05 (2/88 SOW)?	Yes	No	N/A
Are all applicable RSD values ≤~~20.5~~ 25.0% (3/90 SOW)?	Yes	No	N/A
Are all applicable RSD values ≤40% (3/90 SOW)?	Yes	No	N/A

Are all applicable RRF values within SOW limits (3/90 SOW)?	Yes	No	N/A
Are all erratic performance compound RRF values ≥0.01 (3/90 SOW)?	Yes	No	N/A

ACTION: With the exception of compounds that exhibit erratic performance and making allowances for up to four TCL compounds or surrogates, if any RRF value is out of specification qualify all detected results for the particular compound as estimated (J) and all non-detects as unusable (R). Making allowances for up to four TCL compounds or surrogates, if any RSD value is out of specification qualify all associated data as estimated (J for detects or UJ for non-detects).

3.3 CONTINUING CALIBRATION

Is a continuing calibration report present for all 12h periods in which associated samples were analyzed?	Yes	No	N/A
Are all RRF values ≥0.05 (2/88 SOW)?	Yes	No	N/A
Are all %D values ≤25% (2/88 or 3/90 SOW)?	Yes	No	N/A
Are all %D values ≤40% (3/90 SOW)?	Yes	No	N/A
Are all RRF values within SOW limits (3/90 SOW)?	Yes	No	N/A
Are all erratic performance compound RRF values ≥0.01 (3/90 SOW)?	Yes	No	N/A

ACTION: With the exception of compounds that exhibit erratic performance and making allowances for up to four TCL compounds or surrogates, if any RRF value is out of specification qualify all associated detected results as estimated and all non-detects as unusable (R). Making allowances for up to four TCL compounds or surrogates, if any %D is out of specification, qualify all associated results as estimated (J for detects or UJ for non-detects).

4. BLANKS

4.1 LABORATORY BLANKS

Has the laboratory conducted a method blank analysis per matrix for every extraction batch?	Yes	No	N/A
Are compounds reported in the laboratory blanks?	Yes	No	N/A

ACTION: Qualify all sample results < 10X the highest blank concentration for the common laboratory contaminants, as non-detects (U) or at the SQL if the result is < CRQL. Qualify all remaining sample results < 5X the blank concentration in similar fashion.

4.2 FIELD BLANKS

Are compounds reported in the field blanks? Yes No N/A

ACTION: Qualify all detected sample results less than or equal to five times the amount in any valid field blank as non-detects (U) and note the results of the field blanks in the validation narrative.

5. ACCURACY

5.1 SURROGATE RECOVERY/SYSTEM MONITORING COMPOUND RECOVERY

Are any surrogate recoveries out of specification? Yes No N/A

Are any surrogate recoveries less than 10%? Yes No N/A

Are any method blank surrogate recoveries out of specification? Yes No N/A

ACTION: Qualify all associated data as estimated (J for detects and UJ for non-detects) if at least two semivolatile surrogates are out of specification. If any surrogate is below 10% recovery qualify associated detected results as estimated (J) and associated non-detect results as unusable (R). If method blank surrogates are out of specification and associated sample surrogates are acceptable no qualification is required, however, the laboratory should be contacted for an explanation.

5.2 MATRIX SPIKE RECOVERY

Has an MS/MSD analysis been conducted per matrix in the sample group? Yes No N/A

Are MS/MSD recoveries within specification? Yes No N/A

Are there any calculation errors? Yes No N/A

ACTION: If an MS/MSD analysis has not been conducted contact the laboratory for an explanation. Review the MS/MSD recoveries in conjunction with other QC data such as surrogate recoveries and note the results in the validation narrative. If MS/MSD recoveries are out of specification and sample concentration is greater than five times the spike concentration, no qualification is required, otherwise qualify results as follows: Qualify positive results for the specific class of compound (aromatics and non-aromatics) as estimated (J) in all samples if associated surrogates are also out of specification. The qualification shall only be done on samples of similar matrix as the MS/MSD samples. If it is determined from the review that only the spiked samples are affected by low recoveries, qualify only the results for the spiked sample as described above. If it is determined from the review that out of specification MS/MSD recoveries are indicative of systematic problems in the laboratory such as sample preparation or sample-specific matrix interferences this must be noted in the validation narrative along with the potential affect on the sample results.

5.3 PERFORMANCE AUDIT SAMPLES

Are the results for the performance audit samples within the acceptance limits? Yes No N/A

ACTION: Note the results of the performance audit samples in the validation narrative.

6. PRECISION

6.1 MATRIX SPIKE/MATRIX SPIKE DUPLICATES

Are all RPD values within specification? Yes No N/A

Are there any calculation errors? Yes No N/A

ACTION: Review the MS/MSD results in conjunction with other QC data such as field duplicates and not the results in the validation narrative. If MS/MSD RPDs are out of specification and sample results are greater than five times the CRQL qualify positive results for the specific class of compound (aromatics and non-aromatics) as estimated (J). If it is determined from the review that out of specification MS/MSD results are indicative of systematic problems in the laboratory such as sample preparation or sample-specific matrix interferences this must be noted in the validation narrative along with the potential affect on the sample results.

6.2 FIELD DUPLICATE SAMPLES

Are field duplicate RPD values acceptable? Yes No N/A

ACTION: Note the results of the field duplicate samples in the validation narrative.

6.3 FIELD SPLIT SAMPLES

Are field split RPD values acceptable? Yes No N/A

ACTION: Note the results of the field split samples in the validation narrative.

7. SYSTEM PERFORMANCE

7.1 INTERNAL STANDARDS PERFORMANCE

Are any internal standard area counts outside the acceptance limits? Yes No N/A

Are retention times for any internal standard outside the ± 30 second windows established by the most recent calibration check? Yes No N/A

ACTION: If the area counts are outside the acceptance limits qualify all associated results as estimated (J for detects and UJ for non-detects. If it is determined from the review that out of specification area counts and relative retention times are indicative of systematic problems within the laboratory the reviewer may consider rejection of all affected sample data (R).

8. COMPOUND IDENTIFICATION AND QUANTITATION

8.1 COMPOUND IDENTIFICATION

Are detected compounds within ±0.06 relative retention time units of the associated calibration standard?	Yes	No	N/A
Are all ions at a relative intensity of ≥10% in the standard spectra present in the sample spectra?	Yes	No	N/A
Do the relative intensities between the standard and sample spectra agree within 20%?	Yes	No	N/A
Have all ions > 10% in the sample spectra that are not present in the standard spectra been reviewed for possible background contamination?	Yes	No	N/A
Are molecular ions in the reference spectrum present in the sample spectrum?	Yes	No	N/A

ACTION: If compound identification is in error and retention time and mass spectral criteria are exceeded qualify all affected positive results as unusable (R). If cross-contamination between analyses is suspected, qualify affected data as unusable (R).

8.2 REPORTED RESULTS AND QUANTITATION LIMITS

Has the laboratory used the correct RRF values and internal standards for quantitation?	Yes	No	N/A
Are results and quantitation limits calculated properly?	Yes	No	N/A
Has the laboratory reported the sample quantitation limits within five times the CRQL values?	Yes	No	N/A

ACTION: If the quantitation limits are in error contact the laboratory for clarification and note in the validation narrative.

8.3 TENTATIVELY IDENTIFIED COMPOUNDS

Has the laboratory conducted a spectral library search on all candidate TIC peaks in accordance with the analytical SOW?	Yes	No	N/A
Has the laboratory properly identified and coded all TIC?	Yes	No	N/A

ACTION: If the laboratory has failed to search the minimum number of TIC peaks in the chromatogram contact the laboratory for submittal of the required data. Qualify as non-detects (U) all TIC compounds present in samples and blanks using the review criteria specified in the validation requirements. If TIC identification is in error sample results should be qualified as non-detects (U) or unusable (R). If TIC identifications are judged valid, qualify the results as presumptive and estimated (JN).

9. OVERALL ASSESSMENT AND SUMMARY

Has the laboratory conducted the analysis in accordance with the analytical SOW?	Yes	No	N/A
Were project specific data quality objectives met for this analysis?	Yes	No	N/A

ACTION: Summarize all the data qualifications and complete the data validation narrative as specified in Section 10 of the data validation requirements.

COMMENTS (attach additional sheets as necessary):

9613451.2622 ID

0 0 0 0 1 7 CLIENT SAMPLE NO.

PESTICIDE ORGANICS ANALYSIS DATA SHEET

B075Q5

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

Client: WESTINGHOUSE HANFORD

Matrix: (soil/water) SOIL — Lab Sample ID: 9209L848-001

Sample wt/vol: 30.0 (g/mL) G — Lab File ID: 09219235.21

% Moisture: 1.1 decanted: (Y/N) _ — Date Received: 09/11/92

Extraction: (SepF/Cont/Sonc) SONC — Date Extracted: 09/15/92

Concentrated Extract Volume: 5000 (uL) — Date Analyzed: 09/22/92

Injection Volume: 0.5 (uL) — Dilution Factor: 1.00

GPC Cleanup: (Y/N) Y pH: 6.5 — Sulfur Cleanup: (Y/N) _

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg	Q
319-84-6	Alpha-BHC	1.7	U
319-85-7	Beta-BHC	1.7	U
319-86-8	Delta-BHC	1.7	U
58-89-9	gamma-BHC (Lindane)	1.7	U
76-44-8	Heptachlor	1.7	U
309-00-2	Aldrin	1.7	U
1024-57-3	Heptachlor epoxide	1.7	U
959-98-8	Endosulfan I	1.7	U
60-57-1	Dieldrin	3.4	U
72-55-9	4,4'-DDE	3.4	U
72-20-8	Endrin	3.4	U
33213-65-9	Endosulfan II	3.4	U
72-54-8	4,4'-DDD	3.4	U
1031-07-8	Endosulfan sulfate	3.4	U
50-29-3	4,4'-DDT	3.4	U
72-43-5	Methoxychlor	17	U
53494-70-5	Endrin ketone	3.4	U
7421934	Endrin aldehyde	3.4	U
5103-71-9	alpha-Chlordane	1.7	U
5103-74-2	gamma-Chlordane	1.7	U
8001-35-2	Toxaphene	170	U
12674-11-2	Aroclor-1016	34	U
11104-28-2	Aroclor-1221	67	U
11141-16-5	Aroclor-1232	34	U
53469-21-9	Aroclor-1242	34	U
12672-29-6	Aroclor-1248	34	U
11097-69-1	Aroclor-1254	34	U
11096-82-5	Aroclor-1260	34	U

BS 11-29-92

% RSD

PESTICIDE/PCB DATA VALIDATION CHECKLIST - FORM A-3

PROJECT: Westinghouse Data Validation	REVIEWER: MY	DATE: 3-9-93
LABORATORY: Roy Weston	CASE: WEST	SDG: B07505
SAMPLES/MATRIX: Soil ; B07505		

1. DATA PACKAGE COMPLETENESS

Review the data package for completeness and check off the items below. If any data review elements are missing contact the laboratory for re-submittal.

Data Package Item	Present?: Yes	No	N/A
Case Narrative	✓		
Data Summary	✓		
Chain-of-Custody	✓		
QC Summary			
Surrogate report	✓		
MS/MSD report	✓		
Blank summary report	✓		
Sample Data			
Sample reports	✓		
Chromatograms	✓		
GC integration reports	✓		
Worksheets		✓	
UV traces from GPC	✓		
GC/MS confirmation spectra			✓
Standards Data			
Pesticides Evaluation Standards Summary	✓		
Pesticides/PCB Standards Summary	✓		
Pesticides/PCB identification	✓		
Pesticides standard chromatograms	✓		
Raw QC Data			
Blank analysis report forms and chromatograms	✓		
MS/MSD report forms and chromatograms	✓		

Data Package Item	Present?: Yes	No	N/A
Additional Data			
Moisture/% solids data sheets	___	✓	___
Reduction formulae	___	✓	___
Instrument time logs	___	✓	___
Chemist notebook pages	___	✓	___
Sample preparation sheets	___	✓	___

2. HOLDING TIMES

Were all samples extracted within holding time? (Yes) No N/A

Were all samples analyzed within holding time? (Yes) No N/A

ACTION: If any holding times were exceeded, but not by greater than a factor of two, qualify associated samples as estimated (J for detects or UJ for non-detects), otherwise reject all non-detects (R) and qualify all associated detects as estimated (J).

3. INSTRUMENT PERFORMANCE AND CALIBRATIONS

3.1 INSTRUMENT PERFORMANCE (2/88 SOW)

Are DDT retention times greater than 12 minutes? Yes No (N/A)

ACTION: If DDT retention time is < 12 minutes and resolution is ≤25% qualify associated data as unusable (R).

Is resolution between DDT peaks acceptable? Yes No (N/A)

ACTION: If resolution between DDT peaks is unacceptable qualify associated data as unusable (R).

Do all pesticide standards elute within the established retention time windows? Yes No (N/A)

ACTION: If the standards do not meet the retention time criteria and peaks are not present near or within the retention time windows no sample qualification is necessary. If peaks are near or within the retention time windows and the standards and matrix spikes do not fall within the expanded retention time windows calculated according to the validation requirements, qualify all associated sample results from the last in-control point as unusable (R).

Are DDT breakdowns <20%? Yes No (N/A)

ACTION: If the DDT percent breakdown exceeds 20%, qualify all detected results for DDT as estimated (J) and all non-detects as unusable (R) if DDD and DDE are detected. In addition qualify all results for DDD or DDE as presumptive and estimated (NJ).

Are endrin breakdowns <20%? Yes No (N/A)

ACTION: If the endrin breakdown exceeds 20%, qualify all detected results for endrin as estimated (J) and all non-detects as unusable (R) if endrin aldehyde or endrin ketone are detected. In addition qualify all results for endrin ketone as presumptive and estimated (NJ).

Are DBC retention time differences within specification? Yes No N/A

ACTION: If DBC %D values are outside the limits and the shift is ocurring repeatedly in samples and standards, qualify affected sample results as unusable (R).

3.2 CALIBRATIONS (2/88 SOW)

Are RSD values for aldrin, endrin, DDT and DBC ≤10%? Yes No N/A

Have all standards been analyzed within 72 hours of any sample? Yes No N/A

Has a 3-point calibration been conducted for DDT or toxaphene? Yes No N/A

Have all standards been analyzed at the start of each 72h sequence? Yes No N/A

Have evaluation standards A, B, and C been analyzed within 72h of any sample? Yes No N/A

Has the confirmation standard mix been analyzed after every 5 samples? Yes No N/A

Has evaluation standard B analyzed every 10 samples? Yes No N/A

Are %D values for initial and subsequent standards ≤15% for quantitation standards and ≤20% for confirmation standards? Yes No N/A

ACTION: If the RSD criteria were exceeded or three point calibrations not conducted qualify associated detects as estimated (J). If all standards were not analyzed at the beginning of each 72h sequence qualify associated data as unusable (R). If the confirmation standards were not analyzed properly qualify associated detects as estimated (J). If the continuing calibration criteria were not met qualify associated quantitation data as estimated (J).

3.3 INSTRUMENT PERFORMANCE AND INITIAL CALIBRATION (3/90 SOW)

Is peak resolution acceptable? Yes No N/A

ACTION: If the resolution criteria are not met, reject positive sample results generated after initial calibration (R).

Are DDT and endrin breakdowns ≤20.0% Yes No N/A

ACTION: If the breakdown criteria are not met qualify sample results as described in Section 5.3.1 of the validation requirements.

Are single component target compounds in the PEMs, INDA, INDB and the calibration standards within the retention time windows? Yes No N/A

ACTION: If the retention time criteria are not met and no peaks are present in the samples within two times the retention time windows (±0.04, ±0.05 for methoxychlor), no qualification is necessary. If peaks are present in samples within the retention time window a review is made of the raw data to determine expanded retention time windows (see Section 5.3.1 of the validation requirements). If all standards and matrix spikes fall within the expanded windows then no qualification of sample results is necessary. If all standards and matrix spikes do not fall within the expanded windows then all affected sample results are qualified as unusable (R).

Are the RPDs acceptable for the PEMs? Yes No N/A

ACTION: If the RPD criteria are not met qualify associated positive sample results as estimated (J).

Are the RSDs for the calibration factors < 10.0% (< 15.0% for the BHC series, DDT, endrin and methoxychlor)? Yes No N/A

ACTION: If the RSD criteria are not met qualify associated positive sample results as estimated (J).

3.4 CALIBRATION VERIFICATION (3/90 SOW)

Have the analytical sequence requirements been met for the analysis of instrument blanks, PEMs, INDA and INDB mixes? Yes No N/A

ACTION: If the analytical sequence requirements are not followed and any of the resolution or retention time criteria listed below are exceeded, reject associated positive results (R).

Is peak resolution acceptable for PEMs, INDA and INDB mixes? Yes No N/A

ACTION: If the resolution criteria are not met reject positive sample results generated after a non-compliant standard analysis (R).

Are single component target compounds in the PEMs, INDA and INDB mixes within the retention time windows? Yes No N/A

ACTION: If the retention time criteria are not met and no peaks are present in the samples analyzed after the non-compliant standard within two times the retention time windows (±0.04, ±0.05 for methoxychlor), no qualification is necessary. If peaks are present in samples within the expanded windows rejected associated positive and non-detect results (R).

Are RPDs between the calculated and true amounts in the PEMs, INDA and INDB mixes ≤25.0%? Yes No N/A

ACTION: If the RPD criteria are not met qualify associated positive sample results as estimated (J).

Are DDT and endrin breakdowns in the PEMs ≤20.0% (≤30.0% total combined)? Yes No N/A

ACTION: If the breakdown criteria are not met qualify associated positive sample results in accordance with the criteria specified in Section 5.3.1.

4. BLANKS

4.1 LABORATORY BLANKS

Has the laboratory analyzed the method blanks at the required frequency? Yes No N/A

Has the laboratory analyzed a sulfur clean-up blank if required? Yes No N/A

Has the laboratory analyzed instrument blanks at the required frequency? Yes No N/A

Are target compounds present in the blanks? Yes No N/A

ACTION: Qualify all associated positive results as non-detects (U) that are <5X the highest concentration in any acceptable blank.

4.2 FIELD BLANKS

Are target compounds present in the field blanks? Yes No N/A

ACTION: If target compounds are present in the field blanks qualify all positive sample results <5X the highest valid field blank concentrations as non-detects (U) and note the results in the validation narrative.

5. ACCURACY

5.1 SURROGATE RECOVERY

Are any surrogate recoveries out of specification?	Yes	No	N/A
Do any samples show non-detects for surrogates?	Yes	No	N/A
Are any method blank surrogates out of specification?	Yes	No	N/A

ACTION: Qualify all associated sample results as estimated (J for detects and UJ for non-detects) for surrogates out of specification. If the surrogate was not detected (0% recovery) in the sample qualify associated non-detects as unusable (R). If method blank surrogates are out of specification and sample surrogates are acceptable, no qualification is required however, the laboratory should be contacted for an explanation.

5.2 MATRIX SPIKE RECOVERY

Has the laboratory analyzed a MS/MSD per matrix for the the sample group?	Yes	No	N/A
Are MS/MSD recoveries within specification?	Yes	No	N/A
Are there any calculation or transcription errors?	Yes	No	N/A

ACTION: If MS/MSD analyses have not been conducted contact the laboratory for clarification. Review the MS/MSD recoveries in conjunction with other QC data such as surrogate recoveries and note the results in the validation narrative. If MS/MSD recoveries are out of specification and sample concentration is greater than five times the spike concentration, no qualification is required, otherwise qualify results as follows: Qualify positive results as estimated (J) in all samples if associated surrogates are also out of specification. The qualification shall only be done on samples of similar matrix as the MS/MSD samples. If it is determined from the review that only the spiked samples are affected by the low recoveries, qualify only the results for the spiked sample as described above. If it is determined from the review that out of specification MS/MSD recoveries are indicative of systematic problems in the laboratory such as sample preparation or sample-specific matrix interferences this must be noted in the validation narrative along with the potential affect on the sample results.

5.3 PERFORMANCE AUDIT SAMPLES

Are performance audit sample results within the acceptance limits?	Yes	No	N/A

ACTION: Note the results of the performance audit samples in the validation narrative.

6. PRECISION

6.1 MATRIX SPIKE/MATRIX SPIKE DUPLICATE SAMPLES

3-9-93 MJ

Are the RPD values within specification? Yes No N/A

ACTION: Review the MS/MSD results in conjunction with other QC data such as field duplicates and note the results in the validation narrative. If MS/MSD RPD values are out of specification and sample results are greater than five times the CRQL qualify positive results as estimated (J). If it is determined from the review that out of specification MS/MSD results are indicative of systematic problems in the laboratory such as sample preparation or sample-specific matrix interferences this must be noted in the validation narrative along with the potential affect on the sample results.

6.2 FIELD DUPLICATE SAMPLES

Are field duplicate RPD values acceptable? Yes No N/A

ACTION: Note the results of the field duplicate samples in the validation narrative.

6.3 FIELD SPLIT SAMPLES

Are field split RPD values acceptable? Yes No N/A

ACTION: Note the results of the field split samples in the validation narrative.

7. COMPOUND IDENTIFICATION AND QUANTITATION

7.1 COMPOUND IDENTIFICATION No Detects

Do positive results meet the retention time window criteria? Yes No N/A

Were positive results analyzed on disimilar columns? Yes No N/A

If dieldrin and DDE were reported was a 3% OV-1 column used for confirmation (2/88 SOW data only)? Yes No N/A

Do retention times and relative peak height ratios match the expected patterns for multipeak compounds (PCB, toxaphene or chlordane)? Yes No N/A

Has GC/MS confirmation been conducted on sample extract concentrations > 10 ppm? Yes No N/A

ACTION: If positive results do not meet the retention time criteria qualify all detected results as non-detects as follows: If the misidentified peak is outside the retention time windows and no interferences are noted report the CRQL and if the misidentified peak interferes with a target peak then the report value is qualified as estimated and non-detected (UJ). If positive results were not confirmed on disimilar columns, reject affected results (R). If a 3% OV-1 was used to confirm dieldrin and DDE, reject the affected data (R). If PCB, chlordane or toxaphene identification is questionable qualify the results as presumptive and estimated (NJ). If GC/MS confirmation was not conducted contact the laboratory for explanation and note in the validation narrative.

7.2 REPORTED RESULTS AND QUANTITATION LIMITS

Are results and quantitation limits calculated properly?	Yes	No	N/A
Has the laboratory reported the sample quantitation limits within five times the CRQL values?	Yes	No	N/A

ACTION: If results and quantitation limits are in error contact the laboratory for clarification and note in the validation narrative.

8. OVERALL ASSESSMENT AND SUMMARY

Has the laboratory conducted the analysis in accordance with the analytical SOW?	Yes	No	N/A
Were project specific data quality objectives met for this analysis?	Yes	No	N/A

ACTION: Summarize all the data qualifications and complete the data validation narrative as specified in Section 10 of the data validation requirements.

COMMENTS (attach additional sheets as necessary):

9613451.2632

0000012

2F

SOIL PESTICIDE SURROGATE RECOVERY

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

DS 10-31-92

Case No.: WESTINGHOUSE HANFORD RFW Lot No.: 9209L848

GC Column(1): DB608 ID: 0.53(mm) GC Column(2): DB1701 ID: 0.53(mm)

	CLIENT SAMPLE NO.	TCX1 %REC #	TCX2 %REC #	DCB1 %REC #	DCB2 %REC #	OTHER (1)	OTHER (2)	TOT OUT
01	B075Q5	62	62	70	70			0
02	B075Q5MS	60	62	70	68			0
03	B075Q5MSD	65	65	72	70			0
04	PBLKLE1590-MB1	65	62	72	70			0
05	PBLKLE1590-MB1 BS	68	68	72	70			0

	ADVISORY QC LIMITS
TCX = Tetrachloro-m-xylene	(60-150)
DCB = Decachlorobiphenyl	(60-150)

Column to be used to flag recovery values
* Values outside of QC limits
Z Surrogate diluted out

3F

SOIL PESTICIDE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

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

Case No.: WESTINGHOUSE HANFORD RFW Lot No.: 9209L848-001 11-2-92

MATRIX Spike - Sample No.: B075Q5

COMPOUND	SPIKE ADDED (ug/Kg)	SAMPLE CONCENTRATION (ug/Kg)	MS CONCENTRATION (ug/Kg)	MS % REC #	QC LIMITS REC.
gamma-BHC (Lindane)	16.9	0	9.78	58	46-127
Heptachlor	16.9	0	9.44	56	35-130
Aldrin	16.9	0	8.43	50	34-132
Dieldrin	33.7	0	20.9	62	31-134
Endrin	33.7	0	21.9	65	42-139
4,4'-DDT	33.7	0	21.2	63	23-134

COMPOUND	SPIKE ADDED (ug/Kg)	MSD CONCENTRATION (ug/Kg)	MSD % REC #	% RPD #	QC LIMITS RPD	QC LIMITS REC
gamma-BHC (Lindane)	16.9	10.4	62	6	50	46-127
Heptachlor	16.9	10.1	60	6	31	35-130
Aldrin	16.9	9.10	54	7	43	34-132
Dieldrin	33.7	21.9	65	4	38	31-134
Endrin	33.7	23.6	70	7	45	42-139
4,4'-DDT	33.7	22.2	66	4	50	23-134

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

RPD: 0 out of 6 outside limits
Spike Recovery: 0 out of 12 outside limits

COMMENTS:

9613451.2634 0000014

3F

SOIL PESTICIDE MATRIX SPIKE RECOVERY

06168-002-001-9999-00

Lab Name: Roy F. Weston, Inc. Contract: ~~NONE~~ DS 11-2-92

Case No.: WESTINGHOUSE HANFORD RFW Lot No.: 9209L848

MATRIX Spike - Sample No.: PBLKLE1590-MB1

COMPOUND	SPIKE ADDED (ug/Kg)	SAMPLE CONCENTRATION (ug/Kg)	MS CONCENTRATION (ug/Kg)	MS % REC #	QC LIMITS REC.
gamma-BHC (Lindane)	16.7	0	10.0	60	46-127
Heptachlor	16.7	0	10.0	60	35-130
Aldrin	16.7	0	9.00	54	34-132
Dieldrin	33.3	0	21.0	63	31-134
Endrin	33.3	0	22.3	67	42-139
4,4'-DDT	33.3	0	21.0	63	23-134

Column to be used to flag recovery value with an asterisk

* Values outside of QC limits

Spike Recovery: 6 out of 6 outside limits

COMMENTS: 0 fmm 10/20/92

9613451.2635

0000015

4C

PESTICIDE METHOD BLANK SUMMARY

Lab Name: Roy F. Weston, Inc.

Contract: 06168-002-001-9999-00
DS 11-2-92

Case No.: WESTINGHOUSE HANFORD

Lab Sample ID: 92LE1590-MB1

Lab File ID: 09219235.24

Matrix:(soil/water) SOIL

Extraction:(SepF/Cont/Sonc) SONC

Sulfur Cleanup: (Y/N) N

Date Extracted: 09/15/92

Date Analyzed (1): 09/22/92

Date Analyzed (2): 09/22/92

Time Analyzed (1): 1555

Time Analyzed (2): 1555

Instrument ID (1): 35

Instrument ID (2): 35

GC Column (1): DB608 ID: 0.53(mm)

GC Column (2): DB1701 ID: 0.53(mm)

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS AND MSD:

	CLIENT SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED 1	DATE ANALYZED 2
01	B075Q5	9209L848-001	09/22/92	09/22/92
02	B075Q5MS	9209L848-001S	09/22/92	09/22/92
03	B075Q5MSD	9209L848-001T	09/22/92	09/22/92
04	PBLKLE1590-MB1 BS	92LE1590-MB1S	09/22/92	09/22/92

COMMENTS:

FORM IV PEST

3/90

9613451.2636 0000025

6D

PESTICIDE INITIAL CALIBRATION OF SINGLE COMPONENT ANALYTES

Lab Name: Roy F. Weston, Inc. Contract: 06168-02-01-9999-00

Case No.: WESTINGHOUSE HANFORD

Instrument ID: 35 Level (x low): low 1x mid 4x high 16x

GC Column: DB608 ID: 0.53(mm) Date(s) Analyzed: 09/22/92 09/22/92

COMPOUND	RT OF STANDARDS LOW	MID	HIGH	MEAN RT	RT WINDOW FROM	TO
Alpha-BHC	12.78	12.78	12.78	12.78	12.73	12.83
Beta-BHC	14.70	14.70	14.70	14.70	14.65	14.75
Delta-BHC	16.20	16.20	16.20	16.20	16.15	16.25
gamma-BHC (Lindane)	14.43	14.43	14.43	14.43	14.38	14.48
Heptachlor	15.76	15.76	15.76	15.76	15.71	15.81
Aldrin	17.10	17.10	17.10	17.10	17.05	17.15
Heptachlor epoxide	19.28	19.28	19.28	19.28	19.21	19.35
Endosulfan I	20.65	20.65	20.65	20.65	20.58	20.72
Dieldrin	21.81	21.81	21.81	21.81	21.74	21.88
4,4'-DDE	21.42	21.42	21.42	21.42	21.35	21.49
Endrin	23.20	23.20	23.20	23.20	23.13	23.27
Endosulfan II	23.85	23.85	23.85	23.85	23.78	23.92
4,4'-DDD	23.50	23.50	23.49	23.50	23.43	23.57
Endosulfan sulfate	25.49	25.49	25.49	25.49	25.42	25.56
4,4'-DDT	24.61	24.61	24.61	24.61	24.54	24.68
Methoxychlor	28.10	28.10	28.10	28.10	28.03	28.17
Endrin ketone	28.88	28.88	28.88	28.88	28.81	28.95
Endrin aldehyde	25.05	25.05	25.05	25.05	24.98	25.12
alpha-Chlordane	20.51	20.51	20.51	20.51	20.44	20.58
gamma-Chlordane	19.90	19.90	19.90	19.90	19.83	19.97
Tetrachloro-m-xylene	9.77	9.76	9.76	9.76	9.71	9.81
Decachlorobiphenyl	36.22	36.22	36.22	36.22	36.12	36.32

* Surrogate retention times are measured from Standard Mix A analyses.

Retention time windows are +/- 0.05 minutes for all compounds that elute before Heptachlor epoxide, +/- 0.07 minutes for all other compounds, except +/- 0.10 minutes for Decachlorobiphenyl.

6D

PESTICIDE INITIAL CALIBRATION OF SINGLE COMPONENT ANALYTES

Lab Name: Roy F. Weston, Inc. Contract: 06168-02-01-9999-00

Case No.: WESTINGHOUSE HANFORD

Instrument ID: 36 Level (x low): low 1x mid 4x high 16x

GC Column: DB1701 ID: 0.53(mm) Date(s) Analyzed: 09/22/92 09/22/92

COMPOUND	RT OF STANDARDS LOW	MID	HIGH	MEAN RT	RT WINDOW FROM	TO
Alpha-BHC	14.61	14.61	14.61	14.61	14.56	14.66
Beta-BHC	18.92	18.92	18.92	18.92	18.87	18.97
Delta-BHC	19.92	19.92	19.92	19.92	19.87	19.97
gamma-BHC (Lindane)	16.21	16.21	16.21	16.21	16.16	16.26
Heptachlor	17.06	17.06	17.06	17.06	17.01	17.11
Aldrin	18.16	18.16	18.16	18.16	18.11	18.21
Heptachlor epoxide	20.66	20.66	20.66	20.66	20.59	20.73
Endosulfan I	21.72	21.72	21.72	21.72	21.65	21.79
Dieldrin	23.03	23.03	23.03	23.03	22.96	23.10
4,4'-DDE	22.28	22.28	22.28	22.28	22.21	22.35
Endrin	23.80	23.80	23.80	23.80	23.73	23.87
Endosulfan II	25.46	25.46	25.47	25.46	25.39	25.53
4,4'-DDD	25.08	25.08	25.08	25.08	25.01	25.15
Endosulfan sulfate	28.37	28.37	28.37	28.37	28.30	28.44
4,4'-DDT	25.69	25.69	25.69	25.69	25.62	25.76
Methoxychlor	28.02	28.02	28.02	28.02	27.95	28.09
Endrin ketone	30.53	30.53	30.54	30.53	30.46	30.60
Endrin aldehyde	27.04	27.04	27.04	27.04	26.97	27.11
alpha-Chlordane	22.03	22.03	22.03	22.03	21.96	22.10
gamma-Chlordane	21.84	21.83	21.84	21.84	21.77	21.91
Tetrachloro-m-xylene	10.81	10.81	10.81	10.81	10.76	10.86
Decachlorobiphenyl	35.41	35.41	35.42	35.41	35.31	35.51

* Surrogate retention times are measured from Standard Mix A analyses.

Retention time windows are +/- 0.05 minutes for all compounds that elute before Heptachlor epoxide, +/- 0.07 minutes for all other compounds, except +/- 0.10 minutes for Decachlorobiphenyl.

6E

PESTICIDE INITIAL CALIBRATION OF SINGLE COMPONENT ANALYTES

Lab Name: Roy F. Weston, Inc. Contract: 06168-02-01-9999-00

DG 11-2-92

Case No.: WESTINGHOUSE HANFORD

Instrument ID: 35 Level (x low): low 1x mid 4x high 16x

GC Column: DB608 ID: 0.53(mm) Date(s) Analyzed: 09/22/92 09/22/92

COMPOUND	CALIBRATION FACTORS LOW	MID	HIGH	MEAN	%RSD
Alpha-BHC	612000.0	645000.0	664700.0	640567.0	4.16
Beta-BHC	504000.0	517600.0	529650.0	517083.0	2.48
Delta-BHC	628000.0	616900.0	737825.0	660908.0	10.11
gamma-BHC (Lindane)	636800.0	684900.0	698725.0	673475.0	4.83
Heptachlor	1084000.0	1036800.0	825100.0	981967.0	14.04
Aldrin	806800.0	768600.0	767300.0	780900.0	2.87
Heptachlor epoxide	1147600.0	1087300.0	999100.0	1078000.0	6.93
Endosulfan I	908400.0	925300.0	760200.0	864633.0	10.51
Dieldrin	810400.0	819800.0	776238.0	802146.0	2.86
4,4'-DDE	723000.0	713450.0	832063.0	756171.0	8.71
Endrin	611800.0	603300.0	556950.0	590683.0	5.00
Endosulfan II	910200.0	936200.0	877438.0	907946.0	3.24
4,4'-DDD	496800.0	527000.0	545738.0	523179.0	4.72
Endosulfan sulfate	901800.0	888350.0	846438.0	878863.0	3.29
4,4'-DDT	560600.0	643750.0	667300.0	623883.0	8.98
Methoxychlor	274960.0	336440.0	328810.0	313403.0	10.69
Endrin ketone	657600.0	697300.0	771363.0	708754.0	8.15
Endrin aldehyde	775800.0	775300.0	703213.0	751438.0	5.56
alpha-Chlordane	1193600.0	1158500.0	1070630.0	1140910.0	5.55
gamma-Chlordane	1137200.0	1164100.0	1074380.0	1125230.0	4.09
Tetrachloro-m-xylene	662800.0	685200.0	624525.0	657508.0	4.67
Decachlorobiphenyl	798600.0	763950.0	587538.0	716696.0	15.79

DG 11-2-92

* Surrogate calibration factors are measured from Standard Mix A analyses.

%RSD must be less than or equal 20.0% for all compounds except the surrogates, where %RSD must be less than or equal to 30.0%. Up to two target compounds but not surrogates, may have %RSD greater than 20.0% but less than or equal to 30.0%.

6E

PESTICIDE INITIAL CALIBRATION OF SINGLE COMPONENT ANALYTES

Lab Name: Roy F. Weston, Inc. Contract: 06168-02-01-9999-00

DS 11-2-92

Case No.: WESTINGHOUSE HANFORD

Instrument ID: 36 Level (x low): low 1x mid 4x high 16x

GC Column: DB1701 ID: 0.53(mm) Date(s) Analyzed: 09/22/92 09/22/92

COMPOUND	CALIBRATION FACTORS LOW	MID	HIGH	MEAN	%RSD
Alpha-BHC	489600.0	518900.0	486200.0	498233.0	3.61
Beta-BHC	405200.0	416400.0	415100.0	412233.0	1.49
Delta-BHC	472000.0	484800.0	510500.0	489100.0	4.01
gamma-BHC (Lindane)	515600.0	555300.0	521850.0	530917.0	4.02
Heptachlor	868000.0	871800.0	702150.0	813983.0	11.90
Aldrin	598800.0	600800.0	594300.0	597967.0	0.56
Heptachlor epoxide	766000.0	756900.0	696400.0	739767.0	5.11
Endosulfan I	615600.0	640200.0	519400.0	591733.0	10.79
Dieldrin	558000.0	590350.0	530275.0	559542.0	5.37
4,4'-DDE	465600.0	474200.0	510150.0	483317.0	4.89
Endrin	387000.0	413450.0	368600.0	389683.0	5.79
Endosulfan II	583400.0	630200.0	586663.0	600088.0	4.35
4,4'-DDD	344200.0	380000.0	354338.0	359513.0	5.13
Endosulfan sulfate	432800.0	437250.0	411863.0	427304.0	3.17
4,4'-DDT	343200.0	406900.0	385500.0	378533.0	8.56
Methoxychlor	211880.0	251670.0	231870.0	231807.0	8.58
Endrin ketone	357600.0	373300.0	370625.0	367175.0	2.29
Endrin aldehyde	336200.0	257100.0	209663.0	267654.0	23.88
alpha-Chlordane	801600.0	797200.0	744150.0	780983.0	4.09
gamma-Chlordane	801600.0	812500.0	729050.0	781050.0	5.81
Tetrachloro-m-xylene	534000.0	571000.0	494025.0	533008.0	7.22
Decachlorobiphenyl	479000.0	489100.0	391875.0	453325.0	11.79

DS 11-2-92

* Surrogate calibration factors are measured from Standard Mix A analyses.

%RSD must be less than or equal 20.0% for all compounds except the surrogates, where %RSD must be less than or equal to 30.0%. Up to two target compounds but not surrogates, may have %RSD greater than 20.0% but less than or equal to 30.0%.

6F

PESTICIDE INITIAL CALIBRATION OF MULTICOMPONENT ANALYTES

Lab Name: Roy F. Weston, Inc. Contract: 06168-02-01-9999-00

DS 11-29-92

Case No.: WESTINGHOUSE HANFORD

Instrument ID: 35 Date(s) Analyzed: 09/22/92 09/22/92

GC Column: DB608 ID: 0.53(mm)

COMPOUND	AMOUNT (ng)	PEAK	RT	RT WINDOW FROM	RT WINDOW TO	CALIBRATION FACTOR
Toxaphene	0.25	*1	27.29	27.22	27.36	7664
		*2	27.03	26.96	27.10	7108
		*3	24.71	24.64	24.78	4976
		4	23.90	23.83	23.97	7216
		5	23.56	23.49	23.63	5768
Aroclor 1016	0.05	*1	18.35	18.28	18.42	25080
		*2	17.05	16.98	17.12	32560
		*3	16.48	16.41	16.55	27120
		4	15.83	15.76	15.90	50760
		5	14.36	14.29	14.43	53000
Aroclor 1221	0.10	*1	14.33	14.26	14.40	11690
		*2	12.63	12.56	12.70	44670
		*3	12.35	12.28	12.42	13460
		4	11.70	11.63	11.77	15320
		5	8.60	8.530	8.670	19890
Aroclor 1232	0.05	*1	18.35	18.28	18.42	13060
		*2	17.04	16.97	17.11	14480
		*3	15.83	15.76	15.90	23740
		4	14.35	14.28	14.42	27160
		5	12.63	12.56	12.70	26080
Aroclor 1242	0.05	*1	18.35	18.28	18.42	26900
		*2	17.05	16.98	17.12	31020
		*3	16.48	16.41	16.55	27220
		4	15.83	15.76	15.90	48460
		5	14.36	14.29	14.43	51960
Aroclor 1248	0.05	*1	19.57	19.50	19.64	40860
		*2	19.31	19.24	19.38	44320
		*3	18.35	18.28	18.42	38480
		4	17.06	16.99	17.13	41240
		5	15.83	15.76	15.90	39680
Aroclor 1254	0.05	*1	24.61	24.54	24.68	58320
		*2	22.98	22.91	23.05	50840
		*3	22.47	22.40	22.54	53420
		4	22.06	21.99	22.13	77680
		5	20.07	20.00	20.14	61500
Aroclor 1260	0.05	*1	26.56	26.49	26.63	87260
		*2	26.07	26.00	26.14	42700
		*3	24.28	24.21	24.35	39880
		4	22.98	22.91	23.05	85120
		5	22.70	22.63	22.77	83440

* Denotes required peaks

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6F

PESTICIDE INITIAL CALIBRATION OF MULTICOMPONENT ANALYTES

Lab Name: Roy F. Weston, Inc. Contract: 6168-02-01-9999-00

Case No.: WESTINGHOUSE HANFORD

Instrument ID: 36 Date(s) Analyzed: 09/22/92 09/22/92

GC Column: DB1701 ID: 0.53(mm)

COMPOUND	AMOUNT (ng)	PEAK	RT	RT WINDOW FROM	RT WINDOW TO	CALIBRATION FACTOR
Toxaphene	0.25	*1	28.17	28.10	28.24	3280
		*2	26.55	26.48	26.62	4340
		*3	25.19	25.12	25.26	4604
		4	24.54	24.47	24.61	3204
		5	23.27	23.20	23.34	3264
Aroclor 1016	0.05	*1	18.87	18.80	18.94	18700
		*2	18.02	17.95	18.09	17520
		*3	17.17	17.10	17.24	19620
		4	16.66	16.59	16.73	48320
		5	14.86	14.79	14.93	36380
Aroclor 1221	0.10	*1	16.66	16.59	16.73	4500
		*2	13.32	13.25	13.39	35070
		*3	13.06	12.99	13.13	9430
		4	12.40	12.33	12.47	10990
		5	9.15	9.080	9.220	13990
Aroclor 1232	0.05	*1	18.87	18.80	18.94	8460
		*2	17.17	17.10	17.24	8720
		*3	16.66	16.59	16.73	21320
		4	14.86	14.79	14.93	16480
		5	13.32	13.25	13.39	18580
Aroclor 1242	0.05	*1	18.87	18.80	18.94	19060
		*2	18.02	17.95	18.09	16940
		*3	17.17	17.10	17.24	18920
		4	16.66	16.59	16.73	46240
		5	14.86	14.79	14.93	35120
Aroclor 1248	0.05	*1	21.26	21.19	21.33	17700
		*2	19.22	19.15	19.29	26120
		*3	18.87	18.80	18.94	29200
		4	18.00	17.93	18.07	26360
		5	16.66	16.59	16.73	37060
Aroclor 1254	0.05	*1	25.16	25.09	25.23	38120
		*2	23.49	23.42	23.56	26860
		*3	22.60	22.53	22.67	48800
		4	20.96	20.89	21.03	30560
		5	20.30	20.23	20.37	40640
Aroclor 1260	0.05	*1	27.54	27.47	27.61	53140
		*2	26.41	26.34	26.48	27320
		*3	23.91	23.84	23.98	49100
		4	23.12	23.05	23.19	42460
		5	22.60	22.53	22.67	22360

* Denotes required peaks

6G

PESTICIDE ANALYTE RESOLUTION SUMMARY

Lab Name: Roy F. Weston, Inc. Contract: 06168-02-01-9999-00

DS 11-2-92

Case No.: WESTINGHOUSE HANFORD

GC Column (1): DB608 ID: 0.53(mm) Instrument ID (1): 35

EPA Sample No. (Standard 1): RES 12-83 Lab Sample ID (1): 09219235

Date Analyzed (1): 09/21/92 Time Analyzed :2004

	ANALYTE	RT	RESOLUTION (%)
01	gamma-Chlordane	19.91	100.0
02	Endosulfan I	20.66	100.0
03	4,4'-DDE	21.43	100.0
04	Dieldrin	21.82	100.0
05	Endosulfan sulfate	25.50	100.0
06	Methoxychlor	28.10	100.0
07	Endrin ketone	28.89	100.0
08	Decachlorobiphenyl	36.24	
09	Tetrachloro-m-xylene	9.77	100.0

GC Column (2): DB1701 ID:0.53(mm) Instrument ID (2): 36

EPA Sample No. (Standard 2):RES 12-83 Lab Sample ID (2): 09219236

Date Analyzed (2): 09/21/92 Time Analyzed (2):2004

	ANALYTE	RT	RESOLUTION (%)
01	Tetrachloro-m-xylene	10.81	100.0
02	Endosulfan I	21.72	62.00
03	gamma-Chlordane	21.84	100.0
04	4,4'-DDE	22.28	100.0
05	Dieldrin	23.04	100.0
06	Methoxychlor	28.03	100.0
07	Endosulfan sulfate	28.38	100.0
08	Endrin ketone	30.55	100.0
09	Decachlorobiphenyl	35.43	

Resolution of two adjacent peaks must be calculated as a percentage of the height of the smaller peak, and must be greater than or equal to 60.0%.

7D

PESTICIDE CALIBRATION VERIFICATION SUMMARY

Lab Name: Roy F. Weston, Inc. Contract: 06168-02-01-9999-00

DS 11-2-92

Case No.: WESTINGHOUSE HANFORD

GC Column: DB608 ID: 0.53(mm) Init. Calib. Date(s): 09/21/92 09/22/92

EPA Sample No.(PIBLK): Date Analyzed :

Lab Sample ID (PIBLK): Time Analyzed :

EPA Sample NO.(PEM) : PEM 11-92 Date Analyzed :09/21/92

Lab Sample ID (PEM) : 09219235.02 Time Analyzed :2053

PEM COMPOUND	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT (ng)	NOM. AMOUNT (ng)	RPD
Alpha-BHC	12.79	12.73	12.83	0.0045	0.005	10.0
Beta-BHC	14.71	14.65	14.75	0.0050	0.005	0.0
gamma-BHC (Lindane)	14.44	14.38	14.48	0.0045	0.005	10.0
Endrin	23.21	23.13	23.27	0.0245	0.025	2.0
4,4'-DDT	24.62	24.54	24.68	0.0570	0.050	14.0
Methoxychlor	28.10	28.03	28.17	0.1410	0.125	12.8

4,4'-DDT % breakdown (1): 3.0 Endrin % breakdown (1): 10.0

Combined % breakdown (1): 13.0

DS 11-2-92

QC LIMITS:

RPD of amounts in PEM must be less than or equal to 25.0%

4,4'-DDT breakdown must be less than or equal to 20.0%

Endrin breakdown must be less than or equal to 20.0%

Combined breakdown must be less than or equal to 30.0%

7D

PESTICIDE CALIBRATION VERIFICATION SUMMARY

Lab Name: Roy F. Weston, Inc. Contract: 06168-02-01-9999 00

DS 11-2-92

Case No.: WESTINGHOUSE HANFORD

GC Column: DB608 ID: 0.53(mm) Init. Calib. Date(s): 09/21/92 09/22/92

EPA Sample No.(PIBLK): IBLK01 Date Analyzed :09/22/92

Lab Sample ID (PIBLK): 09219235.16 Time Analyzed :0813

EPA Sample NO.(PEM) : PEM 11-92 Date Analyzed :09/22/92

Lab Sample ID (PEM) : 09219235.17 Time Analyzed :0901

PEM COMPOUND	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT (ng)	NOM. AMOUNT (ng)	RPD
Alpha-BHC	12.79	12.73	12.83	0.0045	0.005	10.0
Beta-BHC	14.71	14.65	14.75	0.0050	0.005	0.0
gamma-BHC (Lindane)	14.44	14.38	14.48	0.0045	0.005	10.0
Endrin	23.20	23.13	23.27	0.0250	0.025	0.0
4,4'-DDT	24.62	24.54	24.68	0.0570	0.050	14.0
Methoxychlor	28.10	28.03	28.17	0.1320	0.125	5.6

4,4'-DDT % breakdown (1): 3.0 Endrin % breakdown (1): 10.0

Combined % breakdown (1): 13.0

DS 11-2-92

QC LIMITS:

RPD of amounts in PEM must be less than or equal to 25.0%

4,4'-DDT breakdown must be less than or equal to 20.0%

Endrin breakdown must be less than or equal to 20.0%

Combined breakdown must be less than or equal to 30.0%

7D

PESTICIDE CALIBRATION VERIFICATION SUMMARY

Lab Name: Roy F. Weston, Inc. Contract: 06168-02-01-9999-00

DS 11-2-92

Case No.: WESTINGHOUSE HANFORD

GC Column: DB1701 ID: 0.53(mm) Init. Calib. Date(s): 09/21/92 09/22/92

EPA Sample No.(PIBLK): Date Analyzed :_____

Lab Sample ID (PIBLK): Time Analyzed :____

EPA Sample NO.(PEM) : PEM 11-92 Date Analyzed :09/21/92

Lab Sample ID (PEM) : 09219236.02 Time Analyzed :2053

PEM COMPOUND	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT (ng)	NOM. AMOUNT (ng)	RPD
Alpha-BHC	14.62	14.56	14.66	0.0045	0.005	10.0
Beta-BHC	18.93	18.87	18.97	0.0050	0.005	0.0
gamma-BHC (Lindane)	16.22	16.16	16.26	0.0045	0.005	10.0
Endrin	23.80	23.73	23.87	0.0250	0.025	0.0
4,4'-DDT	25.70	25.62	25.76	0.0540	0.050	8.0
Methoxychlor	28.03	27.95	28.09	0.1350	0.125	8.0

4,4'-DDT % breakdown (1): 4.0 Endrin % breakdown (1): 14.0

Combined % breakdown (1): 18.0

DS 11-2-92

QC LIMITS:

RPD of amounts in PEM must be less than or equal to 25.0%

4,4'-DDT breakdown must be less than or equal to 20.0%

Endrin breakdown must be less than or equal to 20.0%

Combined breakdown must be less than or equal to 30.0%

7D

PESTICIDE CALIBRATION VERIFICATION SUMMARY

Lab Name: Roy F. Weston, Inc. Contract: 06168-02-01-9999-00

DS 11-2-92

Case No.: WESTINGHOUSE HANFORD

GC Column: DB1701 ID: 0.53(mm) Init. Calib. Date(s): 09/21/92 09/22/92

EPA Sample No.(PIBLK): IBLK01 Date Analyzed :09/22/92

Lab Sample ID (PIBLK): 09219236.16 Time Analyzed :0813

EPA Sample NO.(PEM) : PEM 11-92 Date Analyzed :09/22/92

Lab Sample ID (PEM) : 09219236.17 Time Analyzed :0901

PEM COMPOUND	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT (ng)	NOM. AMOUNT (ng)	RPD
Alpha-BHC	14.62	14.56	14.66	0.0045	0.005	10.0
Beta-BHC	18.93	18.87	18.97	0.0050	0.005	0.0
gamma-BHC (Lindane)	16.22	16.16	16.26	0.0045	0.005	10.0
Endrin	23.80	23.73	23.87	0.0255	0.025	2.0
4,4'-DDT	25.70	25.62	25.76	0.0535	0.050	7.0
Methoxychlor	28.02	27.95	28.09	0.1310	0.125	4.8

4,4'-DDT % breakdown (1): 4.0 Endrin % breakdown (1): 14.0

Combined % breakdown (1): 18.0

LB 11-2-92

QC LIMITS:

RPD of amounts in PEM must be less than or equal to 25.0%

4,4'-DDT breakdown must be less than or equal to 20.0%

Endrin breakdown must be less than or equal to 20.0%

Combined breakdown must be less than or equal to 30.0%

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7E

PESTICIDE CALIBRATION VERIFICATION SUMMARY

Lab Name: Roy F. Weston, Inc. Contract: 06168-02-01-9999-00

DS 11-2-92

Case No.: WESTINGHOUSE HANFORD

GC Column: DB608 ID: 0.53(mm) Init. Calib. Date(s): 09/21/92 09/22/92

EPA Sample No.(PIBLK): IBLK02 Date Analyzed :09/22/92

Lab Sample ID (PIBLK): 09219235.26 Time Analyzed :1733

EPA Sample NO.(INDA): INDAM 11-95 Date Analyzed :09/22/92

Lab Sample ID (INDA): 09219235.27 Time Analyzed :1821

INDIVIDUAL MIX A COMPOUND	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT (ng)	NOM. AMOUNT (ng)	RPD
Alpha-BHC	12.78	12.73	12.83	0.0105	0.010	5.0
gamma-BHC (Lindane)	14.43	14.38	14.48	0.0100	0.010	0.0
Heptachlor	15.76	15.71	15.81	0.0105	0.010	5.0
Endosulfan I	20.65	20.58	20.72	0.0100	0.010	0.0
Dieldrin	21.81	21.74	21.88	0.0205	0.020	2.5
Endrin	23.20	23.13	23.27	0.0205	0.020	2.5
4,4'-DDD	23.49	23.43	23.57	0.0195	0.020	2.5
4,4'-DDT	24.61	24.54	24.68	0.0205	0.020	2.5
Methoxychlor	28.09	28.03	28.17	0.0995	0.100	0.5
Tetrachloro-m-xylene	9.76	9.71	9.81	0.0105	0.010	5.0
Decachlorobiphenyl	36.22	36.12	36.32	0.0205	0.020	2.5

EPA Sample No.(INDB): INDBM 11-96 Date Analyzed :09/22/92

Lab Sample ID (INDB): 09219235.28 Time Analyzed :1909

INDIVIDUAL MIX B COMPOUND	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT (ng)	NOM. AMOUNT (ng)	RPD
Beta-BHC	14.70	14.65	14.75	0.0105	0.010	5.0
Delta-BHC	16.21	16.15	16.25	0.0100	0.010	0.0
Aldrin	17.10	17.05	17.15	0.0100	0.010	0.0
Heptachlor epoxide	19.28	19.21	19.35	0.0100	0.010	0.0
4,4'-DDE	21.42	21.35	21.49	0.0205	0.020	2.5
Endosulfan II	23.85	23.78	23.92	0.0200	0.020	0.0
Endosulfan sulfate	25.49	25.42	25.56	0.0200	0.020	0.0
Endrin ketone	28.88	28.81	28.95	0.0210	0.020	5.0
Endrin aldehyde	25.05	24.98	25.12	0.0200	0.020	0.0
alpha-Chlordane	20.51	20.44	20.58	0.0100	0.010	0.0
gamma-Chlordane	19.90	19.83	19.97	0.0105	0.010	5.0
Tetrachloro-m-xylene	9.77	9.71	9.81	0.0100	0.010	0.0
Decachlorobiphenyl	36.23	36.12	36.32	0.0205	0.020	2.5

DS 11-2-92

QC LIMITS: RPD of amounts in the Individual Mixes must be less than or equal to 25.0%.

7E

PESTICIDE CALIBRATION VERIFICATION SUMMARY

Lab Name: Roy F. Weston, Inc. Contract: 06168-02-01-9999-00

05 11-2-92

Case No.: WESTINGHOUSE HANFORD

GC Column: DB1701 ID: 0.53(mm) Init. Calib. Date(s): 09/21/92 09/22/92

EPA Sample No.(PIBLK): IBLK02 Date Analyzed :09/22/92

Lab Sample ID (PIBLK): 09219236.26 Time Analyzed :1733

EPA Sample NO.(INDA): INDAM 11-95 Date Analyzed :09/22/92

Lab Sample ID (INDA): 09219236.27 Time Analyzed :1821

INDIVIDUAL MIX A COMPOUND	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT (ng)	NOM. AMOUNT (ng)	RPD
Alpha-BHC	14.61	14.56	14.66	0.0100	0.010	0.0
gamma-BHC (Lindane)	16.21	16.16	16.26	0.0100	0.010	0.0
Heptachlor	17.05	17.01	17.11	0.0100	0.010	0.0
Endosulfan I	21.71	21.65	21.79	0.0100	0.010	0.0
Dieldrin	23.03	22.96	23.10	0.0200	0.020	0.0
Endrin	23.79	23.73	23.87	0.0205	0.020	2.5
4,4'-DDD	25.08	25.01	25.15	0.0190	0.020	5.0
4,4'-DDT	25.69	25.62	25.76	0.0200	0.020	0.0
Methoxychlor	28.01	27.95	28.09	0.0990	0.100	1.0
Tetrachloro-m-xylene	10.81	10.76	10.86	0.0100	0.010	0.0
Decachlorobiphenyl	35.40	35.31	35.51	0.0200	0.020	0.0

EPA Sample No.(INDB): INDBM 11-96 Date Analyzed :09/22/92

Lab Sample ID (INDB): 09219236.28 Time Analyzed :1909

INDIVIDUAL MIX B COMPOUND	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT (ng)	NOM. AMOUNT (ng)	RPD
Beta-BHC	18.91	18.87	18.97	0.0100	0.010	0.0
Delta-BHC	19.92	19.87	19.97	0.0100	0.010	0.0
Aldrin	18.16	18.11	18.21	0.0100	0.010	0.0
Heptachlor epoxide	20.66	20.59	20.73	0.0100	0.010	0.0
4,4'-DDE	22.28	22.21	22.35	0.0190	0.020	5.0
Endosulfan II	25.46	25.39	25.53	0.0200	0.020	0.0
Endosulfan sulfate	28.37	28.30	28.44	0.0200	0.020	0.0
Endrin ketone	30.53	30.46	30.60	0.0195	0.020	2.5
Endrin aldehyde	27.04	26.97	27.11	0.0200	0.020	0.0
alpha-Chlordane	22.03	21.96	22.10	0.0100	0.010	0.0
gamma-Chlordane	21.83	21.77	21.91	0.0100	0.010	0.0
Tetrachloro-m-xylene	10.81	10.76	10.86	0.0100	0.010	0.0
Decachlorobiphenyl	35.41	35.31	35.51	0.0200	0.020	0.0

AS 11-2-92

QC LIMITS: RPD of amounts in the Individual Mixes must be less than or equal to 25.0%.

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8D

PESTICIDE ANALYTICAL SEQUENCE

Lab Name: Roy F. Weston, Inc. Contract: 06168-02-01-9999-00

DS 11-2-92

Case No.: WESTINGHOUSE HANFORD

GC Column: DB608 ID: 0.53(mm) Init. Calib. Date(s): 09/21/92 09/17/92

Instrument ID: 35

THE ANALYTICAL SEQUENCE OF PERFORMANCE EVALUATION MIXTURES, BLANKS, SAMPLES, AND STANDARDS IS GIVEN BELOW:

MEAN SURROGATE RT FROM INITIAL CALIBRATION
TCX: 9.76 DCB: 36.22

	CLIENT SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED	TIME ANALYZED	TCX RT #	DCB RT #
01	RES 12-83	RES 12-83	09/21/92	2004	9.77	36.24
02	PEM 11-92	PEM 11-92	09/21/92	2053	9.77	36.24
03	AR1660 02360	AR1660 02360	09/21/92	2141	9.77	36.24
04	AR1221 03358	AR1221 03358	09/21/92	2230	9.77	36.24
05	AR1232 03307	AR1232 03307	09/21/92	2318	9.77	36.24
06	AR1242 03352	AR1242 03352	09/22/92	0007	9.77	36.23
07	AR1248 04353	AR1248 04353	09/22/92	0056	9.77	36.23
08	AR1254 04351	AR1254 04351	09/22/92	0144	9.77	36.23
09	TOXAPH 03356	TOXAPH 03356	09/22/92	0233	9.77	36.22
10	INDAL 11-80	INDAL 11-80	09/22/92	0323	9.77	36.22
11	INDBL 11-90	INDBL 11-90	09/22/92	0411	9.77	36.22
12	INDAM 11-95	INDAM 11-95	09/22/92	0459	9.77	36.22
13	INDBM 11-96	INDBM 11-96	09/22/92	0548	9.76	36.21
14	INDAH 13-80	INDAH 13-80	09/22/92	0636	9.77	36.22
15	INDBH 12-90	INDBH 12-90	09/22/92	0724	9.77	36.23
16	IBLK01	IBLK01	09/22/92	0813	9.77	36.23
17	PEM 11-92	PEM 11-92	09/22/92	0901	9.77	36.24
18	ZZZZZ	9209L846001	09/22/92	1057	9.75	36.20
19	ZZZZZ	9209L846001S	09/22/92	1147	9.76	36.21
20	ZZZZZ	9209L846001T	09/22/92	1237	9.76	36.22
21	B075Q5	9209L848001	09/22/92	1328	9.77	36.22
22	B075Q5	9209L848001T	09/22/92	1417	9.77	36.22
23	B075Q5	9209L848001S	09/22/92	1506	9.77	36.22
24	PBLK1590MB1	92LE1590MB1	09/22/92	1555	9.76	36.22
25	PBLK1590MB1S	92LE1590MB1S	09/22/92	1644	9.76	36.21
26	IBLK02	IBLK02	09/22/92	1733	9.77	36.22
27	INDAM 11-95	INDAM 11-95	09/22/92	1821	9.76	36.22
28	INDBM 11-96	INDBM 11-96	09/22/92	1909	9.77	36.23
29						
30						
31						
32						

	QC LIMITS
TCX = Tetrachloro-m-xylene	(+/- 0.05 MINUTES)
DCB = Decachlorobiphenyl	(+/- 0.10 MINUTES)

Column used to flag retention time values with an asterisk.
* Values outside of QC limits.

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PESTICIDE ANALYTICAL SEQUENCE

Lab Name: Roy F. Weston, Inc. Contract: 06168-02-01-9999-00

Case No.: WESTINGHOUSE HANFORD

GC Column: DB1701 ID: 0.53(mm) Init. Calib. Date(s): 09/21/92 09/22/92

Instrument ID: 36

THE ANALYTICAL SEQUENCE OF PERFORMANCE EVALUATION MIXTURES, BLANKS, SAMPLES, AND STANDARDS IS GIVEN BELOW:

MEAN SURROGATE RT FROM INITIAL CALIBRATION
TCX: 10.81 DCB: 35.41

	CLIENT SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED	TIME ANALYZED	TCX RT #	DCB RT #
01	RES 12-83	RES 12-83	09/21/92	2004	10.81	35.43
02	PEM 11-92	PEM 11-92	09/21/92	2053	10.82	35.44
03	AR1660 02360	AR1660 02360	09/21/92	2141	10.82	35.43
04	AR1221 03358	AR1221 03358	09/21/92	2230	10.82	35.43
05	AR1232 03307	AR1232 03307	09/21/92	2318	10.82	35.43
06	AR1242 03352	AR1242 03352	09/22/92	0007	10.82	35.43
07	AR1248 04353	AR1248 04353	09/22/92	0056	10.81	35.42
08	AR1254 04351	AR1254 04351	09/22/92	0144	10.81	35.42
09	TOXAPH 03356	TOXAPH 03356	09/22/92	0233	10.81	35.41
10	INDAL 11-80	INDAL 11-80	09/22/92	0323	10.81	35.41
11	INDBL 11-90	INDBL 11-90	09/22/92	0411	10.81	35.41
12	INDAM 11-95	INDAM 11-95	09/22/92	0500	10.81	35.41
13	INDBM 11-96	INDBM 11-96	09/22/92	0548	10.81	35.41
14	INDAH 13-80	INDAH 13-80	09/22/92	0636	10.81	35.42
15	INDBH 12-90	INDBH 12-90	09/22/92	0724	10.81	35.42
16	IBLK01	IBLK01	09/22/92	0813	10.82	35.42
17	PEM 11-92	PEM 11-92	09/22/92	0901	10.82	35.43
18	ZZZZZ	9209L846001	09/22/92	1057	10.80	35.40
19	ZZZZZ	9209L846001S	09/22/92	1147	10.80	35.40
20	ZZZZZ	9209L846001T	09/22/92	1237	10.81	35.41
21	B075Q5	9209L848001	09/22/92	1328	10.81	35.40
22	B075Q5	9209L848001T	09/22/92	1417	10.81	35.41
23	B075Q5	9209L848001S	09/22/92	1506	10.81	35.41
24	PBLK1590MB1	92LE1590MB1	09/22/92	1555	10.81	35.40
25	PBLK1590MB1S	92LE1590MB1S	09/22/92	1644	10.81	35.40
26	IBLK02	IBLK02	09/22/92	1733	10.81	35.40
27	INDAM 11-95	INDAM 11-95	09/22/92	1821	10.81	35.40
28	INDBM 11-96	INDBM 11-96	09/22/92	1909	10.81	35.41
29						
30						
31						
32						

QC LIMITS

TCX = Tetrachloro-m-xylene (+/- 0.05 MINUTES)
DCB = Decachlorobiphenyl (+/- 0.10 MINUTES)

Column used to flag retention time values with an asterisk.
* Values outside of QC limits.

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9A

PESTICIDE FLORISIL CARTRIDGE CHECK

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

DS 11-2-92

Case No.: WESTINGHOUSE HANFORD

Florisil Cartridge Lot Number: LSPO394SUP Date of Analysis: 03/03/92

GC Column(1): DB608 ID: 0.53(mm) GC Column(2): DB1701 ID: 0.53(mm)

COMPOUND	SPIKE ADDED (ng)	SPIKE RECOVERED (ng)	% REC #	QC LIMITS
Alpha-BHC	10.00	9.00	90.0	80-120
gamma-BHC (Lindane)	10.00	9.00	90.0	80-120
Heptachlor	10.00	10.00	100.0	80-120
Endosulfan I	10.00	10.00	100.0	80-120
Dieldrin	20.00	19.00	95.0	80-120
Endrin	20.00	20.00	100.0	80-120
4,4'-DDD	20.00	17.00	85.0	80-120
4,4'-DDT	20.00	20.00	100.0	80-120
Methoxychlor	100.00	96.00	96.0	80-120
Tetrachloro-m-xylene	10.00	8.00	80.0	80-120
Decachlorobiphenyl	20.00	21.00	105.0	80-120

Column to be used to flag recovery with an asterisk.
* Values outside of QC limits.

THIS CARTRIDGE LOT APPLIES TO THE FOLLOWING SAMPLES, BLANKS, MS, AND MSD:

	CLIENT SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED 1	DATE ANALYZED 2
01	B075Q5	9209L848001	09/22/92	09/22/92
02	B075Q5	9209L848001S	09/22/92	09/22/92
03	B075Q5	9209L848001T	09/22/92	09/22/92
04	PBLK1590	92LE1590MB1	09/22/92	09/22/92
05	PBLK1590 BS	92LE1590MB1S	09/22/92	09/22/92
06				
07				
08				
09				
10				
11				
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22				
23				

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9B

PESTICIDE GPC CALIBRATION

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

BS 11-2-92

Case No.: WESTINGHOUSE HANFORD

GPC Column: GPC091192GC3 Calibration Date: 09/15/92

GC Column(1): DB1701 ID: 0.53(mm) GC Column(2): DB1701 ID: 0.53(mm)

COMPOUND	SPIKE ADDED (ng)	SPIKE RECOVERED (ng)	% REC #	QC LIMITS REC.
gamma-BHC (Lindane)	500	490	98.0	80-110
Heptachlor	500	490	98.0	80-110
Aldrin	500	470	94.0	80-110
Dieldrin	1000	1000	100.0	80-110
Endrin	1000	1080	108.0	80-110
4,4'-DDT	1000	980	98.0	80-110

Column to be used to flag recovery with an asterisk.
* Values outside of QC limits.

THIS GPC CALIBRATION APPLIES TO THE FOLLOWING SAMPLES, BLANKS, MS, AND MSD:

	CLIENT SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED 1	DATE ANALYZED 2
01	B075Q5	9209L848001	09/22/92	09/22/92
02	B075Q5	9209L848001S	09/22/92	09/22/92
03	B075Q5	9209L848001T	09/22/92	09/22/92
04	PBLK	92LE1590MB1	09/22/92	09/22/92
05	PBLK BS	92LE1590MB1S	09/22/92	09/22/92
06				
07				
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1D

0 0 0 0 1 3 7 CLIENT SAMPLE NO.

PESTICIDE ORGANICS ANALYSIS DATA SHEET

PBLK

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

Client: WESTINGHOUSE HANFORD

Matrix: (soil/water) SOIL — Lab Sample ID: 92LE1590-MB1

Sample wt/vol: 30.0 (g/mL) G — Lab File ID: 09219235.24

% Moisture: 0.0 decanted: (Y/N) _ — Date Received: 09/15/92

Extraction: (SepF/Cont/Sonc) SONC — Date Extracted: 09/15/92

Concentrated Extract Volume: 5000 (uL) — Date Analyzed: 09/22/92

Injection Volume: 0.5 (uL) — Dilution Factor: 1.00

GPC Cleanup: (Y/N) Y pH: 7.0 — Sulfur Cleanup: (Y/N) _

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg	Q
319-84-6	Alpha-BHC	1.7	U
319-85-7	Beta-BHC	1.7	U
319-86-8	Delta-BHC	1.7	U
58-89-9	gamma-BHC (Lindane)	1.7	U
76-44-8	Heptachlor	1.7	U
309-00-2	Aldrin	1.7	U
1024-57-3	Heptachlor epoxide	1.7	U
959-98-8	Endosulfan I	1.7	U
60-57-1	Dieldrin	3.3	U
72-55-9	4,4'-DDE	3.3	U
72-20-8	Endrin	3.3	U
33213-65-9	Endosulfan II	3.3	U
72-54-8	4,4'-DDD	3.3	U
1031-07-8	Endosulfan sulfate	3.3	U
50-29-3	4,4'-DDT	3.3	U
72-43-5	Methoxychlor	17	U
53494-70-5	Endrin ketone	3.3	U
7421934	Endrin aldehyde	3.3	U
5103-71-9	alpha-Chlordane	1.7	U
5103-74-2	gamma-Chlordane	1.7	U
8001-35-2	Toxaphene	170	U
12674-11-2	Aroclor-1016	33	U
11104-28-2	Aroclor-1221	67	U
11141-16-5	Aroclor-1232	33	U
53469-21-9	Aroclor-1242	33	U
12672-29-6	Aroclor-1248	33	U
11097-69-1	Aroclor-1254	33	U
11096-82-5	Aroclor-1260	33	U

DS 11-2-92

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1D

0n00143 CLIENT SAMPLE NO.

PESTICIDE ORGANICS ANALYSIS DATA SHEET

PBLKMS

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

Client: WESTINGHOUSE HANFORD

Matrix: (soil/water) SOIL

Lab Sample ID: 92LE1590-MB1 BS

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

Lab File ID: 09219235.25

% Moisture: 0.0 decanted: (Y/N)

Date Received: 09/15/92

Extraction: (SepF/Cont/Sonc) SONC

Date Extracted: 09/15/92

Concentrated Extract Volume: 5000 (uL)

Date Analyzed: 09/22/92

Injection Volume: 0.5 (uL)

Dilution Factor: 1.00

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

Sulfur Cleanup: (Y/N)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg	Q
319-84-6	Alpha-BHC	1.7	U
319-85-7	Beta-BHC	1.7	U
319-86-8	Delta-BHC	1.7	U
58-89-9	gamma-BHC (Lindane)	60.0	%
76-44-8	Heptachlor	60.0	%
309-00-2	Aldrin	54.0	%
1024-57-3	Heptachlor epoxide	1.7	U
959-98-8	Endosulfan I	1.7	U
60-57-1	Dieldrin	63.0	%
72-55-9	4,4'-DDE	3.3	U
72-20-8	Endrin	67.0	%
33213-65-9	Endosulfan II	3.3	U
72-54-8	4,4'-DDD	3.3	U
1031-07-8	Endosulfan sulfate	3.3	U
50-29-3	4,4'-DDT	63.0	%
72-43-5	Methoxychlor	17	U
53494-70-5	Endrin ketone	3.3	U
7421934	Endrin aldehyde	3.3	U
5103-71-9	alpha-Chlordane	1.7	U
5103-74-2	gamma-Chlordane	1.7	U
8001-35-2	Toxaphene	170	U
12674-11-2	Aroclor-1016	33	U
11104-28-2	Aroclor-1221	67	U
11141-16-5	Aroclor-1232	33	U
53469-21-9	Aroclor-1242	33	U
12672-29-6	Aroclor-1248	33	U
11097-69-1	Aroclor-1254	33	U
11096-82-5	Aroclor-1260	33	U

BS 1-2-92

%: SPIKE COMPOUND

FORM 1 PEST

03/90

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1D

0 0 0 0 1 4 9 CLIENT SAMPLE NO.

PESTICIDE ORGANICS ANALYSIS DATA SHEET

B075Q5MS

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

Client: WESTINGHOUSE HANFORD

Matrix: (soil/water) SOIL — Lab Sample ID: 9209L848-001 MS

Sample wt/vol: 30.0 (g/mL) G — Lab File ID: 09219235.23

% Moisture: 1.1 decanted: (Y/N) _ — Date Received: 09/11/92

Extraction: (SepF/Cont/Sonc) SONC — Date Extracted: 09/15/92

Concentrated Extract Volume: 5000 (uL) — Date Analyzed: 09/22/92

Injection Volume: 0.5 (uL) — Dilution Factor: 1.00

GPC Cleanup: (Y/N) Y pH: 6.5 — Sulfur Cleanup: (Y/N) _

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg	Q
319-84-6	Alpha-BHC	1.7	U
319-85-7	Beta-BHC	1.7	U
319-86-8	Delta-BHC	1.7	U
58-89-9	gamma-BHC (Lindane)	58.0	%
76-44-8	Heptachlor	56.0	%
309-00-2	Aldrin	50.0	%
1024-57-3	Heptachlor epoxide	1.7	U
959-98-8	Endosulfan I	1.7	U
60-57-1	Dieldrin	62.0	%
72-55-9	4,4'-DDE	3.4	U
72-20-8	Endrin	65.0	%
33213-65-9	Endosulfan II	3.4	U
72-54-8	4,4'-DDD	3.4	U
1031-07-8	Endosulfan sulfate	3.4	U
50-29-3	4,4'-DDT	63.0	%
72-43-5	Methoxychlor	17	U
53494-70-5	Endrin ketone	3.4	U
7421934	Endrin aldehyde	3.4	U
5103-71-9	alpha-Chlordane	1.7	U
5103-74-2	gamma-Chlordane	1.7	U
8001-35-2	Toxaphene	170	U
12674-11-2	Aroclor-1016	34	U
11104-28-2	Aroclor-1221	67	U
11141-16-5	Aroclor-1232	34	U
53469-21-9	Aroclor-1242	34	U
12672-29-6	Aroclor-1248	34	U
11097-69-1	Aroclor-1254	34	U
11096-82-5	Aroclor-1260	34	U

DS 11-2-92

%: SPIKE COMPOUND

FORM 1 PEST 03/90

9613451.2656

1D 0 0 0 0 1 5 6 CLIENT SAMPLE NO.

PESTICIDE ORGANICS ANALYSIS DATA SHEET

B075Q5MSD

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

Client: WESTINGHOUSE HANFORD

Matrix: (soil/water) SOIL — Lab Sample ID: 9209L848-001 MSD

Sample wt/vol: 30.0 (g/mL) G — Lab File ID: 09219235.22

% Moisture: 1.1 decanted: (Y/N) _ — Date Received: 09/11/92

Extraction: (SepF/Cont/Sonc) SONC — Date Extracted: 09/15/92

Concentrated Extract Volume: 5000 (uL) — Date Analyzed: 09/22/92

Injection Volume: 0.5 (uL) — Dilution Factor: 1.00

GPC Cleanup: (Y/N) Y pH: 6.5 — Sulfur Cleanup: (Y/N) _

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg	Q
319-84-6	Alpha-BHC	1.7	U
319-85-7	Beta-BHC	1.7	U
319-86-8	Delta-BHC	1.7	U
58-89-9	gamma-BHC (Lindane)	62.0	%
76-44-8	Heptachlor	60.0	%
309-00-2	Aldrin	54.0	%
1024-57-3	Heptachlor epoxide	1.7	U
959-98-8	Endosulfan I	1.7	U
60-57-1	Dieldrin	65.0	%
72-55-9	4,4'-DDE	3.4	U
72-20-8	Endrin	70.0	%
33213-65-9	Endosulfan II	3.4	U
72-54-8	4,4'-DDD	3.4	U
1031-07-8	Endosulfan sulfate	3.4	U
50-29-3	4,4'-DDT	66.0	%
72-43-5	Methoxychlor	17	U
53494-70-5	Endrin ketone	3.4	U
7421934	Endrin aldehyde	3.4	U
5103-71-9	alpha-Chlordane	1.7	U
5103-74-2	gamma-Chlordane	1.7	U
8001-35-2	Toxaphene	170	U
12674-11-2	Aroclor-1016	34	U
11104-28-2	Aroclor-1221	67	U
11141-16-5	Aroclor-1232	34	U
53469-21-9	Aroclor-1242	34	U
12672-29-6	Aroclor-1248	34	U
11097-69-1	Aroclor-1254	34	U
11096-82-5	Aroclor-1260	34	U

RS 11-2-92

%: SPIKE COMPOUND

FORM 1 PEST 03/90

2D

SOIL SEMIVOLATILE SURROGATE RECOVERY

Lab Name: Roy F. Weston, Inc. Contract: 06168-002-001-9

Case No.: WESTINGHOUSE HANFORD Level:(low/med) LOW

RFW Lot No.: 9209L848

	CLIENT SAMPLE NO.	S1 (NBZ)#	S2 (FBP)#	S3 (TPH)#	S4 (PHL)#	S5 (2FP)#	S6 (TBP)#	S7 (2CP)#	S8 (DCB)#	TOT OUT
01	B075Q5	49	49	99	49	48	92	49	48	0
02	B075Q5MS	59	61	97	57	55	101	57	54	0
03	B075Q5MSD	69	72	98	69	67	111	68	65	0
04	SBLKLE1613-MB1	75	75	113	74	74	85	74	76	0
05	SBLKLE1613-MB1 BS	68	73	124	68	67	85	69	68	0

		QC LIMITS	
S1 (NBZ)	= Nitrobenzene-d5	(23-120)	
S2 (FBP)	= 2-Fluorobiphenyl	(30-115)	
S3 (TPH)	= Terphenyl-d14	(18-137)	
S4 (PHL)	= Phenol-d5	(24-113)	
S5 (2FP)	= 2-Fluorophenol	(25-121)	
S6 (TBP)	= 2,4,6-Tribromophenol	(19-122)	
S7 (2CP)	= 2-Chlorophenol-d4	(20-130)	(advisory)
S8 (DCB)	= 1,2-Dichlorobenzene-d4	(20-130)	(advisory)

Column to be used to flag recovery values

* Values outside of QC limits

D Surrogate diluted out

BLK 10/23/92

3D

SOIL SEMIVOLATILE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: Roy F. Weston, Inc. Contract: 06168-002-001-9

Case No.: WESTINGHOUSE HANFORD RFW Lot No.: 9209L848-001

MATRIX Spike - Sample No.: B075Q5 Level (low/med): LOW

COMPOUND	SPIKE ADDED UG/KG	SAMPLE CONCENTRATION UG/KG	MS CONCENTRATION UG/KG	MS % REC #	QC LIMITS REC.
Phenol	2490	0	1320	53	26 - 90
2-Chlorophenol	2490	0	1310	53	25 -102
1,4-Dichlorobenzene	1660	0	843	51	28 -104
N-Nitroso-di-n-prop.(1)	1660	0	1080	65	41 -126
1,2,4-Trichlorobenzene	1660	0	903	54	38 -107
4-Chloro-3-methylphenol	2490	0	1770	71	26 -103
Acenaphthene	1660	0	1110	67	31 -137
4-Nitrophenol	2490	0	2630	106	11 -114
2,4-Dinitrotoluene	1660	0	1330	80	28 - 89
Pentachlorophenol	2490	0	3190	128 *	17 -109
Pyrene	1660	0	1460	88	35 -142

COMPOUND	SPIKE ADDED UG/KG	MSD CONCENTRATION UG/KG	MSD % REC #	% RPD #	QC LIMITS RPD	QC LIMITS REC
Phenol	2520	1670	66	22	35	26 - 90
2-Chlorophenol	2520	1650	66	22	50	25 -102
1,4-Dichlorobenzene	1680	1100	65	24	27	28 -104
N-Nitroso-di-n-prop.(1)	1680	1250	75	14	38	41 -126
1,2,4-Trichlorobenzene	1680	1110	66	20	23	38 -107
4-Chloro-3-methylphenol	2520	2060	82	14	33	26 -103
Acenaphthene	1680	1300	78	15	19	31 -137
4-Nitrophenol	2520	2750	109	2	50	11 -114
2,4-Dinitrotoluene	1680	1460	87	8	47	28 - 89
Pentachlorophenol	2520	3430	136 *	6	47	17 -109
Pyrene	1680	1460	87	1	36	35 -142

(1) N-Nitroso-di-n-propylamine

Column to be used to flag recovery and RPD values with an asterisk
* Values outside of QC limits

RPD: 0 out of 11 outside limits
Spike Recovery: 2 out of 22 outside limits

COMMENTS:

3D

SOIL SEMIVOLATILE BLANK SPIKE RECOVERY

Lab Name: Roy F. Weston, Inc. Contract: NONE

Case No.: WESTINGHOUSE HANFORD RFW Lot No.: 9209L848

BLANK Spike - Sample No.: SBLKLE1613-MB1 Level (low/med): LOW

COMPOUND	SPIKE ADDED UG/KG	SAMPLE CONCENTRATION UG/KG	BS CONCENTRATION UG/KG	BS % REC #	QC LIMITS REC.
Phenol	2500	0	1550	62	26 - 90
2-Chlorophenol	2500	0	1590	63	25 -102
1,4-Dichlorobenzene	1670	0	1090	65	28 -104
N-Nitroso-di-n-prop.(1)	1670	0	1120	67	41 -126
1,2,4-Trichlorobenzene	1670	0	1110	67	38 -107
4-Chloro-3-methylphenol	2500	0	1720	69	26 -103
Acenaphthene	1670	0	1190	71	31 -137
4-Nitrophenol	2500	0	1700	68	11 -114
2,4-Dinitrotoluene	1670	0	1240	74	28 - 89
Pentachlorophenol	2500	0	2380	95	17 -109
Pyrene	1670	0	1880	113	35 -142

(1) N-Nitroso-di-n-propylamine

Column to be used to flag recovery value with an asterisk
* Values outside of QC limits

Spike Recovery: 0 out of 11 outside limits

COMMENTS: _____

4B

SEMIVOLATILE METHOD BLANK SUMMARY

Lab Name: Roy F. Weston, Inc. Contract: 06168-002-001-9

Case No.: WESTINGHOUSE HANFORD

Lab File ID: S101214 Lab Sample ID: 92LE1613-MB1

Instrument ID: 5100SP Date Extracted: 09/17/92

Matrix:(soil/water) SOIL Date Analyzed: 10/12/92

Level:(low/med) LOW Time Analyzed: 1853

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS AND MSD:

	CLIENT SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
01	SBLKLE1613-MB1 BS	92LE1613-MB1S	S100904	10/09/92
02	B075Q5	9209L848-001	S100905	10/09/92
03	B075Q5MS	9209L848-001S	S100906	10/09/92
04	B075Q5MSD	9209L848-001T	S100907	10/09/92

COMMENTS:

BCK 10/23/92

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5B 0 0 0 0 1 7

SEMIVOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: Roy F. Weston, Inc. Contract: 06168-002-001-9

Case No.: WESTINGHOUSE HANFORD

Lab File ID: S100604 DFTPP Injection Date: 10/06/92

Instrument ID: 5100SP DFTPP Injection Time: 1150

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	30.0 - 80.0% of mass 198	43.8
68	Less than 2.0% of mass 69	0.0(0.0)1
69	Mass 69 relative abundance	59.4
70	Less than 2.0% of mass 69	0.0(0.0)1
127	25.0 - 75.0% of mass 198	52.4
197	Less than 1.0% of mass 198	0.0
198	Base Peak, 100% relative abundance	100.0
199	5.0 to 9.0% of mass 198	5.9
275	10.0 - 30.0% of mass 198	18.4
365	Greater than 0.75% of mass 198	1.81
441	Present, but less than mass 443	5.9
442	40.0 - 110.0% of mass 198	42.9
443	15.0 - 24.0% of mass 442	8.0(18.7)2

1-Value is % mass 69 2-Value is % mass 442

BLR 10/23/92

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	CLIENT SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	SSTD50	SSTD50	S100605	10/06/92	1213
02	SSTD80	SSTD80	S100606	10/06/92	1259
03	SSTD120	SSTD120	S100607	10/06/92	1345
04	SSTD160	SSTD160	S100608	10/06/92	1432
05	SSTD20	SSTD20	S100609	10/06/92	1518
06					
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SEMIVOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: Roy F. Weston, Inc. Contract: 06168-002-001-9

Case No.: WESTINGHOUSE HANFORD

Lab File ID: S100901 DFTPP Injection Date: 10/09/92

Instrument ID: 5100SP DFTPP Injection Time: 1025

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	30.0 - 80.0% of mass 198	31.5
68	Less than 2.0% of mass 69	0.0(0.0)1
69	Mass 69 relative abundance	49.3
70	Less than 2.0% of mass 69	0.0(0.0)1
127	25.0 - 75.0% of mass 198	55.2
197	Less than 1.0% of mass 198	0.0
198	Base Peak, 100% relative abundance	100.0
199	5.0 to 9.0% of mass 198	6.6
275	10.0 - 30.0% of mass 198	22.1
365	Greater than 0.75% of mass 198	2.06
441	Present, but less than mass 443	8.6
442	40.0 - 110.0% of mass 198	66.7
443	15.0 - 24.0% of mass 442	12.6(18.9)2

1-Value is % mass 69 2-Value is % mass 442

BKR 10/23/92

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	CLIENT SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	SSTD50	SSTD50	S100902	10/09/92	1042
02	SBLKLE1613-MB1 BS	92LE1613-MB1S	S100904	10/09/92	1309
03	B075Q5	9209L848-001	S100905	10/09/92	1355
04	B075Q5MS	9209L848-001S	S100906	10/09/92	1441
05	B075Q5MSD	9209L848-001T	S100907	10/09/92	1527
06					
07					
08					
09					
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5E0000019

SEMIVOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: Roy F. Weston, Inc. Contract: 06168-002-001-9

Case No.: WESTINGHOUSE HANFORD

Lab File ID: S101201 DFTPP Injection Date: 10/12/92

Instrument ID: 5100SP DFTPP Injection Time: 0842

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	30.0 - 80.0% of mass 198	32.2
68	Less than 2.0% of mass 69	0.0(0.0)1
69	Mass 69 relative abundance	48.3
70	Less than 2.0% of mass 69	0.0(0.0)1
127	25.0 - 75.0% of mass 198	52.8
197	Less than 1.0% of mass 198	0.0
198	Base Peak, 100% relative abundance	100.0
199	5.0 to 9.0% of mass 198	6.5
275	10.0 - 30.0% of mass 198	20.6
365	Greater than 0.75% of mass 198	1.96
441	Present, but less than mass 443	7.4
442	40.0 - 110.0% of mass 198	57.6
443	15.0 - 24.0% of mass 442	11.8(20.5)2

1-Value is % mass 69 2-Value is % mass 442

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS: BKL 10/23/92

	CLIENT SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	SSTD50	SSTD50	S101202	10/12/92	0859
02	SBLKLE1613-MB1	92LE1613-MB1	S101214	10/12/92	1853
03					
04					
05					
06					
07					
08					
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8B

SEMIVOLATILE INTERNAL STANDARD AREA SUMMARY

Lab Name: Roy F. Weston, Inc. Contract: 06168-002-001-9

Case No.: WESTINGHOUSE HANFORD RFW Lot: 9209L848

Lab File ID (Standard): S100902 Date Analyzed: 10/09/92

Instrument ID: 5100SP Time Analyzed: 1042

		IS1(DCB) AREA #	RT #	IS2(NPT) AREA #	RT #	IS3(ANT) AREA #	RT #
	12 HOUR STD	20983	7.28	74846	10.25	40170	14.73
	UPPER LIMIT	41966	7.78	149692	10.75	80340	15.23
	LOWER LIMIT	10492	6.78	37423	9.75	20085	14.23
	CLIENT SAMPLE NO.						
01	B075Q5	25231	7.28	89914	10.25	50493	14.73
02	B075Q5MS	22788	7.28	81268	10.25	44288	14.73
03	B075Q5MSD	24581	7.28	89422	10.25	48626	14.73
04	SBLKLE1613-MB1 BS	23294	7.28	81499	10.25	42728	14.73

IS1 (DCB) = 1,4-Dichlorobenzene-d4
IS2 (NPT) = Naphthalene-d8
IS3 (ANT) = Acenaphthene-d10

AREA UPPER LIMIT = +100% of internal standard area
AREA LOWER LIMIT = - 50% of internal standard area
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT LOWER LIMIT = -0.50 minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits.

BLL 10/23/92

8C

SEMIVOLATILE INTERNAL STANDARD AREA SUMMARY

Lab Name: Roy F. Weston, Inc. Contract: 06168-002-001-9

Case No.: WESTINGHOUSE HANFORD RFW Lot: 9209L848

Lab File ID (Standard): S100902 Date Analyzed: 10/09/92

Instrument ID: 5100SP Time Analyzed: 1042

		IS4(PHN) AREA #	RT #	IS5(CRY) AREA #	RT #	IS6(PRY) AREA #	RT #
	12 HOUR STD	57350	18.43	43614	23.62	34722	28.37
	UPPER LIMIT	114700	18.93	87228	24.12	69444	28.87
	LOWER LIMIT	28675	17.93	21807	23.12	17361	27.87
	CLIENT SAMPLE NO.						
01	B075Q5	71211	18.42	51686	23.65	40069	28.42
02	B075Q5MS	62875	18.47	45934	23.58	37403	28.33
03	B075Q5MSD	68123	18.42	50723	23.65	40796	28.43
04	SBLKLE1613-MB1 BS	54570	18.42	27257	23.67	19362	28.43

IS4 (PHN) = Phenanthrene-d10
IS5 (CRY) = Chrysene-d12
IS6 (PRY) = Perylene-d12

AREA UPPER LIMIT = +100% of internal standard area
AREA LOWER LIMIT = - 50% of internal standard area
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT LOWER LIMIT = -0.50 minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits.

BLL 10/23/92

8B

SEMIVOLATILE INTERNAL STANDARD AREA SUMMARY

Lab Name: Roy F. Weston, Inc. Contract: 06168-002-001-9

Case No.: WESTINGHOUSE HANFORD RFW Lot: 9209L848

Lab File ID (Standard): S101202 Date Analyzed: 10/12/92

Instrument ID: 5100SP Time Analyzed: 0859

		IS1(DCB) AREA #	RT #	IS2(NPT) AREA #	RT #	IS3(ANT) AREA #	RT #
	12 HOUR STD	24006	7.27	87772	10.23	45386	14.72
	UPPER LIMIT	48012	7.77	175544	10.73	90772	15.22
	LOWER LIMIT	12003	6.77	43886	9.73	22693	14.22
	CLIENT SAMPLE NO.						
01	SBLKLE1613-MB1	28883	7.28	96563	10.25	52196	14.73

IS1 (DCB) = 1,4-Dichlorobenzene-d4
IS2 (NPT) = Naphthalene-d8
IS3 (ANT) = Acenaphthene-d10

AREA UPPER LIMIT = +100% of internal standard area
AREA LOWER LIMIT = - 50% of internal standard area
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT LOWER LIMIT = -0.50 minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits.

BLK 10/23/92

8C

SEMIVOLATILE INTERNAL STANDARD AREA SUMMARY

Lab Name: Roy F. Weston, Inc. Contract: 06168-002-001-9

Case No.: WESTINGHOUSE HANFORD RFW Lot: 9209L848

Lab File ID (Standard): S101202 Date Analyzed: 10/12/92

Instrument ID: 5100SP Time Analyzed: 0859

		IS4(PHN) AREA #	RT #	IS5(CRY) AREA #	RT #	IS6(PRY) AREA #	RT #
	12 HOUR STD	61460	18.43	41657	23.58	32429	28.33
	UPPER LIMIT	122920	18.93	83314	24.08	64858	28.83
	LOWER LIMIT	30730	17.93	20829	23.08	16215	27.83
	CLIENT SAMPLE NO.						
01	SBLKLE1613-MB1	68480	18.42	40095	23.67	28883	28.43

IS4 (PHN) = Phenanthrene-d10
IS5 (CRY) = Chrysene-d12
IS6 (PRY) = Perylene-d12

AREA UPPER LIMIT = +100% of internal standard area
AREA LOWER LIMIT = - 50% of internal standard area
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT LOWER LIMIT = -0.50 minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits.

PKL 10/23/92

6B

SEMIVOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: Roy F. Weston, Inc. Contract: 06168-002-001-9

Case No.: WESTINGHOUSE HANFORD RFW Lot: 9209L848

Instrument ID: 5100SP Calibration Date(s): 10/06/92 10/06/92

Calibration Time(s): 1213 1518

LAB FILE ID: RRF20 = S100609 RRF50 = S100605
RRF80 = S100606 RRF120= S100607 RRF160= S100608

BLR 10/23/92

COMPOUND	RRF20	RRF50	RRF80	RRF120	RRF160	RRF	% RSD	MIN RRF
Phenol *	1.900	1.848	2.014	2.004	1.883	1.930	3.9*	0.800
bis(2-Chloroethyl)ether *	2.123	1.832	1.911	1.891	1.795	1.910	6.7*	0.700
2-Chlorophenol *	1.486	1.389	1.486	1.489	1.409	1.452	3.4*	0.800
1,3-Dichlorobenzene *	1.732	1.493	1.607	1.565	1.499	1.579	6.2*	0.600
1,4-Dichlorobenzene *	1.840	1.615	1.697	1.622	1.553	1.665	6.6*	0.500
1,2-Dichlorobenzene *	1.745	1.520	1.619	1.553	1.483	1.584	6.5*	0.400
2-Methylphenol *	1.319	1.243	1.359	1.365	1.301	1.317	3.8*	0.700
2,2'-oxybis(2-Chloropropane)	2.559	2.148	2.437	2.462	2.400	2.401	6.4	
4-Methylphenol *	1.405	1.298	1.411	1.437	1.351	1.380	4.0*	0.600
N-Nitroso-di-n-propylamine *	1.403	1.218	1.373	1.391	1.342	1.345	5.6*	0.500
Hexachloroethane *	0.807	0.701	0.758	0.730	0.712	0.742	5.7*	0.300
Nitrobenzene *	0.480	0.415	0.452	0.451	0.429	0.445	5.6*	0.200
Isophorone *	0.974	0.839	0.923	0.908	0.866	0.902	5.8*	0.400
2-Nitrophenol *	0.183	0.196	0.208	0.207	0.200	0.199	5.1*	0.100
2,4-Dimethylphenol *	0.356	0.334	0.367	0.366	0.349	0.354	3.8*	0.200
bis(2-Chloroethoxy)methane *	0.596	0.511	0.559	0.559	0.543	0.554	5.6*	0.300
2,4-Dichlorophenol *	0.272	0.254	0.282	0.286	0.271	0.273	4.5*	0.200
1,2,4-Trichlorobenzene *	0.314	0.272	0.293	0.285	0.277	0.288	5.7*	0.200
Naphthalene *	1.155	0.990	1.043	0.984	0.945	1.023	8.0*	0.700
4-Chloroaniline	0.515	0.455	0.499	0.506	0.489	0.493	4.7	
Hexachlorobutadiene	0.145	0.130	0.140	0.134	0.129	0.136	5.0	
4-Chloro-3-methylphenol *	0.328	0.310	0.347	0.363	0.350	0.340	6.1*	0.200
2-Methylnaphthalene *	0.760	0.653	0.707	0.690	0.650	0.692	6.5*	0.400
Hexachlorocyclopentadiene	0.205	0.229	0.261	0.246	0.228	0.234	9.0	
2,4,6-Trichlorophenol *	0.307	0.289	0.319	0.326	0.309	0.310	4.5*	0.200
2,4,5-Trichlorophenol *		0.344	0.372	0.359	0.345	0.355	3.7*	0.200
2-Chloronaphthalene *	1.319	1.139	1.226	1.188	1.133	1.201	6.3*	0.800
2-Nitroaniline		0.461	0.544	0.569	0.569	0.536	9.6	
Dimethylphthalate	1.428	1.254	1.374	1.388	1.367	1.362	4.8	
Acenaphthylene *	2.102	1.806	1.915	1.795	1.697	1.863	8.3*	1.300
2,6-Dinitrotoluene *	0.345	0.313	0.341	0.333	0.331	0.333	3.7*	0.200
3-Nitroaniline		0.369	0.435	0.477	0.500	0.445	12.9	
Acenaphthene *	1.235	1.033	1.090	1.039	0.998	1.079	8.6*	0.800
2,4-Dinitrophenol		0.126	0.176	0.228	0.238	0.192	26.9	
4-Nitrophenol		0.131	0.173	0.208	0.219	0.183	21.7	
Dibenzofuran *	1.823	1.540	1.665	1.635	1.574	1.647	6.7*	0.800
2,4-Dinitrotoluene *	0.433	0.410	0.473	0.524	0.544	0.477	12.0*	0.200

* Compounds with required minimum RRF and maximum %RSD values.
All other compounds must meet a minimum RRF of 0.010.

6C

SEMIVOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: Roy F. Weston, Inc. Contract: 06168-002-001-9

Case No.: WESTINGHOUSE HANFORD RFW Lot: 9209L848

Instrument ID: 5100SP Calibration Date(s): 10/06/92 10/06/92

Calibration Time(s): 1213 1518

LAB FILE ID: RRF20 = S100609 RRF50 = S100605
RRF80 = S100606 RRF120= S100607 RRF160= S100608

DAL 10/23/92

COMPOUND	RRF20	RRF50	RRF80	RRF120	RRF160	RRF	% RSD	MIN RRF
Diethylphthalate	1.507	1.298	1.458	1.487	1.511	1.452	6.1	
4-Chlorophenyl-phenylether *	0.671	0.569	0.617	0.608	0.593	0.612	6.2*	0.400
Fluorene *	1.403	1.174	1.269	1.245	1.210	1.260	6.9*	0.900
4-Nitroaniline		0.345	0.426	0.510	0.534	0.454	19.0	
4,6-Dinitro-2-methylphenol		0.142	0.166	0.181	0.176	0.166	10.4	
N-Nitrosodiphenylamine (1)	0.691	0.609	0.636	0.580	0.532	0.610	9.8	
4-Bromophenyl-phenylether *	0.233	0.199	0.209	0.192	0.180	0.203	9.9*	0.100
Hexachlorobenzene *	0.231	0.204	0.213	0.197	0.185	0.206	8.4*	0.100
Pentachlorophenol *		0.098	0.130	0.143	0.137	0.127	15.8*	0.050
Phenanthrene *	1.278	1.084	1.111	1.020	0.940	1.087	11.6*	0.700
Anthracene *	1.282	1.113	1.152	1.037	0.935	1.104	11.7*	0.700
Carbazole	1.118	0.984	1.107	1.098	1.020	1.065	5.6	
Di-n-butylphthalate	1.842	1.608	1.721	1.447	1.369	1.597	12.1	
Fluoranthene *	1.223	1.090	1.215	1.164	1.047	1.148	6.7*	0.600
Pyrene *	1.935	1.607	1.479	1.240	1.227	1.498	19.6*	0.600
Butylbenzylphthalate	1.123	1.031	1.040	0.926	0.883	1.001	9.6	
3,3'-Dichlorobenzidine	0.416	0.335	0.403	0.403	0.393	0.390	8.2	
Benzo(a)anthracene *	1.339	1.156	1.211	1.102	1.033	1.168	9.9*	0.800
Chrysene *	1.323	1.084	1.139	1.029	0.981	1.111	11.9*	0.700
bis(2-Ethylhexyl)phthalate	1.482	1.379	1.430	1.252	1.171	1.343	9.6	
Di-n-octyl phthalate	2.881	3.018	3.042	2.392	2.167	2.700	14.7	
Benzo(b)fluoranthene *	1.297	1.180	1.294	1.229	1.208	1.242	4.2*	0.700
Benzo(k)fluoranthene *	1.330	1.180	1.233	1.063	1.014	1.164	11.0*	0.700
Benzo(a)pyrene *	1.168	1.044	1.148	1.115	1.069	1.109	4.7*	0.700
Indeno(1,2,3-cd)pyrene *	1.127	0.928	1.098	1.062	1.060	1.055	7.2*	0.500
Dibenz(a,h)anthracene *	0.902	0.756	0.899	0.894	0.904	0.871	7.4*	0.400
Benzo(g,h,i)perylene *	1.004	0.825	0.960	0.967	0.984	0.948	7.5*	0.500
Nitrobenzene-d5 *	0.488	0.429	0.466	0.464	0.455	0.460	4.6*	0.200
2-Fluorobiphenyl *	1.372	1.162	1.236	1.154	1.087	1.202	9.0*	0.700
Terphenyl-d14 *	1.277	1.087	1.021	0.848	0.838	1.014	18.0*	0.500
Phenol-d5 *	1.824	1.724	1.870	1.842	1.738	1.800	3.6*	0.800
2-Fluorophenol *	1.404	1.333	1.413	1.387	1.336	1.375	2.7*	0.600
2,4,6-Tribromophenol	0.111	0.105	0.124	0.140	0.140	0.124	13.0	
2-Chlorophenol-d4 *	1.406	1.332	1.463	1.452	1.377	1.406	3.8*	0.800
1,2-Dichlorobenzene-d4 *	1.043	0.890	0.953	0.910	0.860	0.931	7.6*	0.400

(1) Cannot be separated from Diphenylamine

* Compounds with required minimum RRF and maximum %RSD values.
All other compounds must meet a minimum RRF of 0.010.

9613451.2670

0000085

7B

SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: Roy F. Weston, Inc. Contract: 06168-002-001-9

Case No.: WESTINGHOUSE HANFORD RFW Lot: 9209L848

Instrument ID: 5100SP Calibration Date: 10/09/92 Time: 1042

Lab File ID: S100902 Init. Calib. Date(s): 10/06/92 10/06/92

Init. Calib. Times: 1213 1518

COMPOUND	RRF	RRF50	MIN RRF	%D	MAX %D
Phenol	1.930	1.887	0.800	2.2	25.0
bis(2-Chloroethyl)ether	1.910	1.815	0.700	5.0	25.0
2-Chlorophenol	1.452	1.444	0.800	0.6	25.0
1,3-Dichlorobenzene	1.579	1.487	0.600	5.8	25.0
1,4-Dichlorobenzene	1.665	1.569	0.500	5.8	25.0
1,2-Dichlorobenzene	1.584	1.487	0.400	6.1	25.0
2-Methylphenol	1.317	1.300	0.700	1.3	25.0
2,2'-oxybis(2-Chloropropane)	2.401	1.177		51.0	
4-Methylphenol	1.380	1.296	0.600	6.1	25.0
N-Nitroso-di-n-propylamine	1.345	0.940	0.500	30.1	25.0
Hexachloroethane	0.742	0.716	0.300	3.5	25.0
Nitrobenzene	0.445	0.405	0.200	9.0	25.0
Isophorone	0.902	0.766	0.400	15.1	25.0
2-Nitrophenol	0.199	0.213	0.100	-7.0	25.0
2,4-Dimethylphenol	0.354	0.360	0.200	-1.7	25.0
bis(2-Chloroethoxy)methane	0.554	0.506	0.300	8.7	25.0
2,4-Dichlorophenol	0.273	0.295	0.200	-8.1	25.0
1,2,4-Trichlorobenzene	0.288	0.326	0.200	-13.2	25.0
Naphthalene	1.023	1.083	0.700	-5.9	25.0
4-Chloroaniline	0.493	0.416		15.6	
Hexachlorobutadiene	0.136	0.177		-30.1	
4-Chloro-3-methylphenol	0.340	0.329	0.200	3.2	25.0
2-Methylnaphthalene	0.692	0.722	0.400	-4.3	25.0
Hexachlorocyclopentadiene	0.234	0.243		-3.8	
2,4,6-Trichlorophenol	0.310	0.346	0.200	-11.6	25.0
2,4,5-Trichlorophenol	0.355	0.370	0.200	-4.2	25.0
2-Chloronaphthalene	1.201	1.199	0.800	0.2	25.0
2-Nitroaniline	0.536	0.365		31.9	
Dimethylphthalate	1.362	1.351		0.8	
Acenaphthylene	1.863	1.879	1.300	-0.9	25.0
2,6-Dinitrotoluene	0.333	0.323	0.200	3.0	25.0
3-Nitroaniline	0.445	0.338		24.0	
Acenaphthene	1.079	1.038	0.800	3.8	25.0
2,4-Dinitrophenol	0.192	0.117		39.1	
4-Nitrophenol	0.183	0.144		21.3	
Dibenzofuran	1.647	1.610	0.800	2.2	25.0
2,4-Dinitrotoluene	0.477	0.419	0.200	12.2	25.0

All other compounds must meet a minimum RRF of 0.010.

FORM VII SV-1 3/90 Rev.

PJL 10/23/92

9613451.2671

0000086

7C

SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: Roy F. Weston, Inc. Contract: 06168-002-001-9

Case No.: WESTINGHOUSE HANFORD RFW Lot: 9209L848

Instrument ID: 5100SP Calibration Date: 10/09/92 Time: 1042

Lab File ID: S100902 Init. Calib. Date(s): 10/06/92 10/06/92

Init. Calib. Times: 1213 1518

COMPOUND	RRF	RRF50	MIN RRF	%D	MAX %D
Diethylphthalate	1.452	1.400		3.6	
4-Chlorophenyl-phenylether	0.612	0.621	0.400	-1.5	25.0
Fluorene	1.260	1.230	0.900	2.4	25.0
4-Nitroaniline	0.454	0.286		37.0	
4,6-Dinitro-2-methylphenol	0.166	0.145		12.7	
N-Nitrosodiphenylamine (1)	0.610	0.627		-2.8	
4-Bromophenyl-phenylether	0.203	0.238	0.100	-17.2	25.0
Hexachlorobenzene	0.206	0.264	0.100	-28.2	25.0
Pentachlorophenol	0.127	0.115	0.050	9.4	25.0
Phenanthrene	1.087	1.098	0.700	-1.0	25.0
Anthracene	1.104	1.137	0.700	-3.0	25.0
Carbazole	1.065	0.993		6.8	
Di-n-butylphthalate	1.597	1.698		-6.3	
Fluoranthene	1.148	1.217	0.600	-6.0	25.0
Pyrene	1.498	1.667	0.600	-11.3	25.0
Butylbenzylphthalate	1.001	1.035		-3.4	
3,3'-Dichlorobenzidine	0.390	0.292		25.1	
Benzo(a)anthracene	1.168	1.216	0.800	-4.1	25.0
Chrysene	1.111	1.170	0.700	-5.3	25.0
bis(2-Ethylhexyl)phthalate	1.343	1.352		-0.7	
Di-n-octyl phthalate	2.700	2.714		-0.5	
Benzo(b)fluoranthene	1.242	1.249	0.700	-0.6	25.0
Benzo(k)fluoranthene	1.164	1.144	0.700	1.7	25.0
Benzo(a)pyrene	1.109	1.010	0.700	8.9	25.0
Indeno(1,2,3-cd)pyrene	1.055	0.975	0.500	7.6	25.0
Dibenz(a,h)anthracene	0.871	0.781	0.400	10.3	25.0
Benzo(g,h,i)perylene	0.948	0.945	0.500	0.3	25.0
Nitrobenzene-d5	0.460	0.392	0.200	14.8	25.0
2-Fluorobiphenyl	1.202	1.256	0.700	-4.5	25.0
Terphenyl-d14	1.014	1.171	0.500	-15.5	25.0
Phenol-d5	1.800	1.633	0.800	9.3	25.0
2-Fluorophenol	1.375	1.364	0.600	0.8	25.0
2,4,6-Tribromophenol	0.124	0.154		-24.2	
2-Chlorophenol-d4	1.406	1.331	0.800	5.3	25.0
1,2-Dichlorobenzene-d4	0.931	0.914	0.400	1.8	25.0

(1) Cannot be separated from Diphenylamine
All other compounds must meet a minimum RRF of 0.010.

FORM VII SV-2 3/90 Rev.

BM 10/23/92

7B

SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: Roy F. Weston, Inc. Contract: 06168-002-001-9

Case No.: WESTINGHOUSE HANFORD RFW Lot: 9209L848

Instrument ID: 5100SP Calibration Date: 10/12/92 Time: 0859

Lab File ID: S101202 Init. Calib. Date(s): 10/06/92 10/06/92

Init. Calib. Times: 1213 1518

COMPOUND	RRF	RRF50	MIN RRF	%D	MAX %D
Phenol	1.930	1.837	0.800	4.8	25.0
bis(2-Chloroethyl)ether	1.910	1.682	0.700	11.9	25.0
2-Chlorophenol	1.452	1.404	0.800	3.3	25.0
1,3-Dichlorobenzene	1.579	1.498	0.600	5.1	25.0
1,4-Dichlorobenzene	1.665	1.594	0.500	4.3	25.0
1,2-Dichlorobenzene	1.584	1.469	0.400	7.3	25.0
2-Methylphenol	1.317	1.198	0.700	9.0	25.0
2,2'-oxybis(2-Chloropropane)	2.401	1.208		49.7	
4-Methylphenol	1.380	1.284	0.600	7.0	25.0
N-Nitroso-di-n-propylamine	1.345	0.980	0.500	27.1	25.0
Hexachloroethane	0.742	0.703	0.300	5.3	25.0
Nitrobenzene	0.445	0.391	0.200	12.1	25.0
Isophorone	0.902	0.767	0.400	15.0	25.0
2-Nitrophenol	0.199	0.196	0.100	1.5	25.0
2,4-Dimethylphenol	0.354	0.351	0.200	0.8	25.0
bis(2-Chloroethoxy)methane	0.554	0.500	0.300	9.7	25.0
2,4-Dichlorophenol	0.273	0.282	0.200	-3.3	25.0
1,2,4-Trichlorobenzene	0.288	0.298	0.200	-3.5	25.0
Naphthalene	1.023	1.049	0.700	-2.5	25.0
4-Chloroaniline	0.493	0.416		15.6	
Hexachlorobutadiene	0.136	0.156		-14.7	
4-Chloro-3-methylphenol	0.340	0.311	0.200	8.5	25.0
2-Methylnaphthalene	0.692	0.690	0.400	0.3	25.0
Hexachlorocyclopentadiene	0.234	0.180		23.1	
2,4,6-Trichlorophenol	0.310	0.329	0.200	-6.1	25.0
2,4,5-Trichlorophenol	0.355	0.354	0.200	0.3	25.0
2-Chloronaphthalene	1.201	1.123	0.800	6.5	25.0
2-Nitroaniline	0.536	0.357		33.4	
Dimethylphthalate	1.362	1.298		4.7	
Acenaphthylene	1.863	1.828	1.300	1.9	25.0
2,6-Dinitrotoluene	0.333	0.305	0.200	8.4	25.0
3-Nitroaniline	0.445	0.308		30.8	
Acenaphthene	1.079	1.031	0.800	4.4	25.0
2,4-Dinitrophenol	0.192	0.115		40.1	
4-Nitrophenol	0.183	0.149		18.6	
Dibenzofuran	1.647	1.508	0.800	8.4	25.0
2,4-Dinitrotoluene	0.477	0.390	0.200	18.2	25.0

All other compounds must meet a minimum RRF of 0.010.

BLL 10/23/92

FORM VII SV-1 3/90 Rev.

7C

SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: Roy F. Weston, Inc. Contract: 06168-002-001-9

Case No.: WESTINGHOUSE HANFORD RFW Lot: 9209L848

Instrument ID: 5100SP Calibration Date: 10/12/92 Time: 0859

Lab File ID: S101202 Init. Calib. Date(s): 10/06/92 10/06/92

Init. Calib. Times: 1213 1518

COMPOUND	RRF	RRF50	MIN RRF	%D	MAX %D
Diethylphthalate	1.452	1.375		5.3	
4-Chlorophenyl-phenylether	0.612	0.549	0.400	10.3	25.0
Fluorene	1.260	1.167	0.900	7.4	25.0
4-Nitroaniline	0.454	0.248		45.4	
4,6-Dinitro-2-methylphenol	0.166	0.128		22.9	
N-Nitrosodiphenylamine (1)	0.610	0.596		2.3	
4-Bromophenyl-phenylether	0.203	0.216	0.100	-6.4	25.0
Hexachlorobenzene	0.206	0.248	0.100	-20.4	25.0
Pentachlorophenol	0.127	0.118	0.050	7.1	25.0
Phenanthrene	1.087	1.053	0.700	3.1	25.0
Anthracene	1.104	1.062	0.700	3.8	25.0
Carbazole	1.065	0.853		19.9	
Di-n-butylphthalate	1.597	1.655		-3.6	
Fluoranthene	1.148	1.077	0.600	6.2	25.0
Pyrene	1.498	1.584	0.600	-5.7	25.0
Butylbenzylphthalate	1.001	1.000		0.1	
3,3'-Dichlorobenzidine	0.390	0.282		27.7	
Benzo(a)anthracene	1.168	1.101	0.800	5.7	25.0
Chrysene	1.111	1.084	0.700	2.4	25.0
bis(2-Ethylhexyl)phthalate	1.343	1.353		-0.7	
Di-n-octyl phthalate	2.700	2.808		-4.0	
Benzo(b)fluoranthene	1.242	1.164	0.700	6.3	25.0
Benzo(k)fluoranthene	1.164	1.170	0.700	-0.5	25.0
Benzo(a)pyrene	1.109	1.019	0.700	8.1	25.0
Indeno(1,2,3-cd)pyrene	1.055	0.886	0.500	16.0	25.0
Dibenz(a,h)anthracene	0.871	0.744	0.400	14.6	25.0
Benzo(g,h,i)perylene	0.948	0.786	0.500	17.1	25.0
Nitrobenzene-d5	0.460	0.382	0.200	17.0	25.0
2-Fluorobiphenyl	1.202	1.188	0.700	1.2	25.0
Terphenyl-d14	1.014	1.075	0.500	-6.0	25.0
Phenol-d5	1.800	1.549	0.800	13.9	25.0
2-Fluorophenol	1.375	1.329	0.600	3.3	25.0
2,4,6-Tribromophenol	0.124	0.136		-9.7	
2-Chlorophenol-d4	1.406	1.301	0.800	7.5	25.0
1,2-Dichlorobenzene-d4	0.931	0.892	0.400	4.2	25.0

BLC 10/23/92

(1) Cannot be separated from Diphenylamine
All other compounds must meet a minimum RRF of 0.010.

8B

SEMIVOLATILE INTERNAL STANDARD AREA SUMMARY

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

Case No.: WESTINGHOUSE HANFORD RFW Lot: 9209L848

Lab File ID (Standard): S100902 Date Analyzed: 10/09/92

Instrument ID: 5100SP Time Analyzed: 1042

		IS1(DCB) AREA #	RT #	IS2(NPT) AREA #	RT #	IS3(ANT) AREA #	RT #
	12 HOUR STD	20983	7.28	74846	10.25	40170	14.73
	UPPER LIMIT	41966	7.78	149692	10.75	80340	15.23
	LOWER LIMIT	10492	6.78	37423	9.75	20085	14.23
	CLIENT SAMPLE NO.						
01	B075Q5	25231	7.28	89914	10.25	50493	14.73
02	B075Q5MS	22788	7.28	81268	10.25	44288	14.73
03	B075Q5MSD	24581	7.28	89422	10.25	48626	14.73
04	SBLKLE1613-MB1 BS	23294	7.28	81499	10.25	42728	14.73

IS1 (DCB) = 1,4-Dichlorobenzene-d4
IS2 (NPT) = Naphthalene-d8
IS3 (ANT) = Acenaphthene-d10

AREA UPPER LIMIT = +100% of internal standard area
AREA LOWER LIMIT = - 50% of internal standard area
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT LOWER LIMIT = -0.50 minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits.

8C

SEMIVOLATILE INTERNAL STANDARD AREA SUMMARY

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

Case No.: WESTINGHOUSE HANFORD RFW Lot: 9209L848

Lab File ID (Standard): S100902 Date Analyzed: 10/09/92

Instrument ID: 5100SP Time Analyzed: 1042

		IS4(PHN) AREA #	RT #	IS5(CRY) AREA #	RT #	IS6(PRY) AREA #	RT #
	12 HOUR STD	57350	18.43	43614	23.62	34722	28.37
	UPPER LIMIT	114700	18.93	87228	24.12	69444	28.87
	LOWER LIMIT	28675	17.93	21807	23.12	17361	27.87
	CLIENT SAMPLE NO.						
01	B075Q5	71211	18.42	51686	23.65	40069	28.42
02	B075Q5MS	62875	18.47	45934	23.58	37403	28.33
03	B075Q5MSD	68123	18.42	50723	23.65	40796	28.43
04	SBLKLE1613-MB1 BS	54570	18.42	27257	23.67	19362	28.43

IS4 (PHN) = Phenanthrene-d10
IS5 (CRY) = Chrysene-d12
IS6 (PRY) = Perylene-d12

AREA UPPER LIMIT = +100% of internal standard area
AREA LOWER LIMIT = - 50% of internal standard area
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT LOWER LIMIT = -0.50 minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits.

8B

SEMIVOLATILE INTERNAL STANDARD AREA SUMMARY

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

Case No.: WESTINGHOUSE HANFORD RFW Lot: 9209L848

Lab File ID (Standard): S101202 Date Analyzed: 10/12/92

Instrument ID: 5100SP Time Analyzed: 0859

		IS1(DCB) AREA #	RT #	IS2(NPT) AREA #	RT #	IS3(ANT) AREA #	RT #
	12 HOUR STD	24006	7.27	87772	10.23	45386	14.72
	UPPER LIMIT	48012	7.77	175544	10.73	90772	15.22
	LOWER LIMIT	12003	6.77	43886	9.73	22693	14.22
	CLIENT SAMPLE NO.						
01	SBLKLE1613-MB1	28883	7.28	96563	10.25	52196	14.73

IS1 (DCB) = 1,4-Dichlorobenzene-d4
IS2 (NPT) = Naphthalene-d8
IS3 (ANT) = Acenaphthene-d10

AREA UPPER LIMIT = +100% of internal standard area
AREA LOWER LIMIT = - 50% of internal standard area
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT LOWER LIMIT = -0.50 minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits.

8C

SEMIVOLATILE INTERNAL STANDARD AREA SUMMARY

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

Case No.: WESTINGHOUSE HANFORD RFW Lot: 9209L848

Lab File ID (Standard): S101202 Date Analyzed: 10/12/92

Instrument ID: 5100SP Time Analyzed: 0859

		IS4(PHN) AREA #	RT #	IS5(CRY) AREA #	RT #	IS6(PRY) AREA #	RT #
	12 HOUR STD	61460	18.43	41657	23.58	32429	28.33
	UPPER LIMIT	122920	18.93	83314	24.08	64858	28.83
	LOWER LIMIT	30730	17.93	20829	23.08	16215	27.83
	CLIENT SAMPLE NO.						
01	SBLKLE1613-MB1	68480	18.42	40095	23.67	28883	28.43

IS4 (PHN) = Phenanthrene-d10
IS5 (CRY) = Chrysene-d12
IS6 (PRY) = Perylene-d12

AREA UPPER LIMIT = +100% of internal standard area
AREA LOWER LIMIT = - 50% of internal standard area
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT LOWER LIMIT = -0.50 minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits.

9613451.2678

1B

0000118 CLIENT SAMPLE NO.

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SBLK

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

Client: WESTINGHOUSE HANFORD

Matrix: (soil/water) SOIL Lab Sample ID: 92LE1613-MB1

Sample wt/vol: 30.0 (g/mL) G Lab File ID: S101214

Level: (low/med) LOW Date Received: 09/17/92

% Moisture: _____ decanted: (Y/N)__ Date Extracted: 09/17/92

Concentrated Extract Volume: 500(uL) Date Analyzed: 10/12/92

Injection Volume: 2.0(uL) Dilution Factor: 1.00

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg	Q
108-95-2	Phenol	330	U
111-44-4	bis(2-Chloroethyl)ether	330	U
95-57-8	2-Chlorophenol	330	U
541-73-1	1,3-Dichlorobenzene	330	U
106-46-7	1,4-Dichlorobenzene	330	U
95-50-1	1,2-Dichlorobenzene	330	U
95-48-7	2-Methylphenol	330	U
108-60-1	2,2'-oxybis(2-Chloropropane)	330	U
106-44-5	4-Methylphenol	330	U
621-64-7	N-Nitroso-di-n-propylamine	330	U
67-72-1	Hexachloroethane	330	U
98-95-3	Nitrobenzene	330	U
78-59-1	Isophorone	330	U
88-75-5	2-Nitrophenol	330	U
105-67-9	2,4-Dimethylphenol	330	U
111-91-1	bis(2-Chloroethoxy)methane	330	U
120-83-2	2,4-Dichlorophenol	330	U
120-82-1	1,2,4-Trichlorobenzene	330	U
91-20-3	Naphthalene	330	U
106-47-8	4-Chloroaniline	330	U
87-68-3	Hexachlorobutadiene	330	U
59-50-7	4-Chloro-3-methylphenol	330	U
91-57-6	2-Methylnaphthalene	330	U
77-47-4	Hexachlorocyclopentadiene	330	U
88-06-2	2,4,6-Trichlorophenol	330	U
95-95-4	2,4,5-Trichlorophenol	840	U
91-58-7	2-Chloronaphthalene	330	U
88-74-4	2-Nitroaniline	840	U
131-11-3	Dimethylphthalate	330	U
208-96-8	Acenaphthylene	330	U
606-20-2	2,6-Dinitrotoluene	330	U
99-09-2	3-Nitroaniline	840	U
83-32-9	Acenaphthene	330	U

9613451.2679

1C

0000119 CLIENT SAMPLE NO.

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SBLK

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

Client: WESTINGHOUSE HANFORD

Matrix: (soil/water) SOIL

Lab Sample ID: 92LE1613-MB1

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

Lab File ID: S101214

Level: (low/med) LOW

Date Received: 09/17/92

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

Date Extracted: 09/17/92

Concentrated Extract Volume: 500(uL)

Date Analyzed: 10/12/92

Injection Volume: 2.0(uL)

Dilution Factor: 1.00

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg	Q
51-28-5	2,4-Dinitrophenol	840	U
100-02-7	4-Nitrophenol	840	U
132-64-9	Dibenzofuran	330	U
121-14-2	2,4-Dinitrotoluene	330	U
84-66-2	Diethylphthalate	330	U
7005-72-3	4-Chlorophenyl-phenylether	330	U
86-73-7	Fluorene	330	U
100-01-6	4-Nitroaniline	840	U
534-52-1	4,6-Dinitro-2-methylphenol	840	U
86-30-6	N-Nitrosodiphenylamine (1)	330	U
101-55-3	4-Bromophenyl-phenylether	330	U
118-74-1	Hexachlorobenzene	330	U
87-86-5	Pentachlorophenol	840	U
85-01-8	Phenanthrene	330	U
120-12-7	Anthracene	330	U
86-74-8	Carbazole	330	U
84-74-2	Di-n-butylphthalate	12	J
206-44-0	Fluoranthene	330	U
129-00-0	Pyrene	330	U
85-68-7	Butylbenzylphthalate	330	U
91-94-1	3,3'-Dichlorobenzidine	330	U
56-55-3	Benzo(a)anthracene	330	U
218-01-9	Chrysene	330	U
117-81-7	bis(2-Ethylhexyl)phthalate	330	U
117-84-0	Di-n-octyl phthalate	330	U
205-99-2	Benzo(b)fluoranthene	330	U
207-08-9	Benzo(k)fluoranthene	330	U
50-32-8	Benzo(a)pyrene	330	U
193-39-5	Indeno(1,2,3-cd)pyrene	330	U
53-70-3	Dibenz(a,h)anthracene	330	U
191-24-2	Benzo(g,h,i)perylene	330	U

(1) - Cannot be separated from Diphenylamine

9613451.2680
1F

0000120 CLIENT SAMPLE NO.

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

SBLK

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

Client: WESTINGHOUSE HANFORD

Matrix: (soil/water) SOIL

Lab Sample ID: 92LE1613-MB1

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

Lab File ID: S101214

Level: (low/med) LOW

Date Received: 09/17/92

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

Date Extracted: 09/17/92

Concentrated Extract Volume: 500(uL)

Date Analyzed: 10/12/92

Injection Volume: 2.0(uL)

Dilution Factor: 1.00

GPC Cleanup: (Y/N) Y

pH: 7.0

Number TICs found: 0

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

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

9613451.2681

1B

0000129 CLIENT SAMPLE NO.

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SBLKMS

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

Client: WESTINGHOUSE HANFORD

Matrix: (soil/water) SOIL Lab Sample ID: 92LE1613-MB1 BS

Sample wt/vol: 30.0 (g/mL) G Lab File ID: S100904

Level: (low/med) LOW Date Received: 09/17/92

% Moisture: _____ decanted: (Y/N)__ Date Extracted: 09/17/92

Concentrated Extract Volume: 500(uL) Date Analyzed: 10/09/92

Injection Volume: 2.0(uL) Dilution Factor: 1.00

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg	Q
108-95-2	Phenol		SP
111-44-4	bis(2-Chloroethyl)ether	330	U
95-57-8	2-Chlorophenol		SP
541-73-1	1,3-Dichlorobenzene	330	U
106-46-7	1,4-Dichlorobenzene		SP
95-50-1	1,2-Dichlorobenzene	330	U
95-48-7	2-Methylphenol	330	U
108-60-1	2,2'-oxybis(2-Chloropropane)	330	U
106-44-5	4-Methylphenol	330	U
621-64-7	N-Nitroso-di-n-propylamine		SP
67-72-1	Hexachloroethane	330	U
98-95-3	Nitrobenzene	330	U
78-59-1	Isophorone	330	U
88-75-5	2-Nitrophenol	330	U
105-67-9	2,4-Dimethylphenol	330	U
111-91-1	bis(2-Chloroethoxy)methane	330	U
120-83-2	2,4-Dichlorophenol	330	U
120-82-1	1,2,4-Trichlorobenzene		SP
91-20-3	Naphthalene	330	U
106-47-8	4-Chloroaniline	330	U
87-68-3	Hexachlorobutadiene	330	U
59-50-7	4-Chloro-3-methylphenol		SP
91-57-6	2-Methylnaphthalene	330	U
77-47-4	Hexachlorocyclopentadiene	330	U
88-06-2	2,4,6-Trichlorophenol	330	U
95-95-4	2,4,5-Trichlorophenol	840	U
91-58-7	2-Chloronaphthalene	330	U
88-74-4	2-Nitroaniline	840	U
131-11-3	Dimethylphthalate	330	U
208-96-8	Acenaphthylene	330	U
606-20-2	2,6-Dinitrotoluene	330	U
99-09-2	3-Nitroaniline	840	U
83-32-9	Acenaphthene		SP

SP: SPIKE COMPOUND

9613451.2682

1C

0 0 0 0 1 3 0 CLIENT SAMPLE NO.

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SBLKMS

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

Client: WESTINGHOUSE HANFORD

Matrix: (soil/water) SOIL

Lab Sample ID: 92LE1613-MB1 BS

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

Lab File ID: S100904

Level: (low/med) LOW

Date Received: 09/17/92

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

Date Extracted: 09/17/92

Concentrated Extract Volume: 500(uL)

Date Analyzed: 10/09/92

Injection Volume: 2.0(uL)

Dilution Factor: 1.00

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg	Q
51-28-5	2,4-Dinitrophenol	840	U
100-02-7	4-Nitrophenol		SP
132-64-9	Dibenzofuran	330	U
121-14-2	2,4-Dinitrotoluene		SP
84-66-2	Diethylphthalate	330	U
7005-72-3	4-Chlorophenyl-phenylether	330	U
86-73-7	Fluorene	330	U
100-01-6	4-Nitroaniline	840	U
534-52-1	4,6-Dinitro-2-methylphenol	840	U
86-30-6	N-Nitrosodiphenylamine (1)	330	U
101-55-3	4-Bromophenyl-phenylether	330	U
118-74-1	Hexachlorobenzene	330	U
87-86-5	Pentachlorophenol		SP
85-01-8	Phenanthrene	330	U
120-12-7	Anthracene	330	U
86-74-8	Carbazole	330	U
84-74-2	Di-n-butylphthalate	330	U
206-44-0	Fluoranthene	330	U
129-00-0	Pyrene		SP
85-68-7	Butylbenzylphthalate	330	U
91-94-1	3,3'-Dichlorobenzidine	330	U
56-55-3	Benzo(a)anthracene	330	U
218-01-9	Chrysene	330	U
117-81-7	bis(2-Ethylhexyl)phthalate	330	U
117-84-0	Di-n-octyl phthalate	330	U
205-99-2	Benzo(b)fluoranthene	330	U
207-08-9	Benzo(k)fluoranthene	330	U
50-32-8	Benzo(a)pyrene	330	U
193-39-5	Indeno(1,2,3-cd)pyrene	330	U
53-70-3	Dibenz(a,h)anthracene	330	U
191-24-2	Benzo(g,h,i)perylene	330	U

(1) - Cannot be separated from Diphenylamine

SP: SPIKE COMPOUND

9613451.2683

1B

0 0 0 0 1 3 7 CLIENT SAMPLE NO.

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

B075Q5MS

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

Client: WESTINGHOUSE HANFORD

Matrix: (soil/water) SOIL

Lab Sample ID: 9209L848-001 MS

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

Lab File ID: S100906

Level: (low/med) LOW

Date Received: 09/11/92

% Moisture: 1 decanted: (Y/N)__

Date Extracted: 09/17/92

Concentrated Extract Volume: 500(uL)

Date Analyzed: 10/09/92

Injection Volume: 2.0(uL)

Dilution Factor: 1.00

GPC Cleanup: (Y/N) Y pH: 6.5

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg	Q
108-95-2	Phenol		SP
111-44-4	bis(2-Chloroethyl)ether	330	U
95-57-8	2-Chlorophenol		SP
541-73-1	1,3-Dichlorobenzene	330	U
106-46-7	1,4-Dichlorobenzene		SP
95-50-1	1,2-Dichlorobenzene	330	U
95-48-7	2-Methylphenol	330	U
108-60-1	2,2'-oxybis(2-Chloropropane)	330	U
106-44-5	4-Methylphenol	330	U
621-64-7	N-Nitroso-di-n-propylamine		SP
67-72-1	Hexachloroethane	330	U
98-95-3	Nitrobenzene	330	U
78-59-1	Isophorone	330	U
88-75-5	2-Nitrophenol	330	U
105-67-9	2,4-Dimethylphenol	330	U
111-91-1	bis(2-Chloroethoxy)methane	330	U
120-83-2	2,4-Dichlorophenol	330	U
120-82-1	1,2,4-Trichlorobenzene		SP
91-20-3	Naphthalene	330	U
106-47-8	4-Chloroaniline	330	U
87-68-3	Hexachlorobutadiene	330	U
59-50-7	4-Chloro-3-methylphenol		SP
91-57-6	2-Methylnaphthalene	330	U
77-47-4	Hexachlorocyclopentadiene	330	U
88-06-2	2,4,6-Trichlorophenol	330	U
95-95-4	2,4,5-Trichlorophenol	830	U
91-58-7	2-Chloronaphthalene	330	U
88-74-4	2-Nitroaniline	830	U
131-11-3	Dimethylphthalate	330	U
208-96-8	Acenaphthylene	330	U
606-20-2	2,6-Dinitrotoluene	330	U
99-09-2	3-Nitroaniline	830	U
83-32-9	Acenaphthene		SP

SP: SPIKE COMPOUND

9613451.2684

1C

0 0 0 0 1 3 8 CLIENT SAMPLE NO.

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

B075Q5MS

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

Client: WESTINGHOUSE HANFORD

Matrix: (soil/water) SOIL

Lab Sample ID: 9209L848-001 MS

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

Lab File ID: S100906

Level: (low/med) LOW

Date Received: 09/11/92

% Moisture: 1 decanted: (Y/N)__

Date Extracted: 09/17/92

Concentrated Extract Volume: 500(uL)

Date Analyzed: 10/09/92

Injection Volume: 2.0(uL)

Dilution Factor: 1.00

GPC Cleanup: (Y/N) Y pH: 6.5

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg	Q
51-28-5	2,4-Dinitrophenol	830	U
100-02-7	4-Nitrophenol		SP
132-64-9	Dibenzofuran	330	U
121-14-2	2,4-Dinitrotoluene		SP
84-66-2	Diethylphthalate	330	U
7005-72-3	4-Chlorophenyl-phenylether	330	U
86-73-7	Fluorene	330	U
100-01-6	4-Nitroaniline	830	U
534-52-1	4,6-Dinitro-2-methylphenol	830	U
86-30-6	N-Nitrosodiphenylamine (1)	330	U
101-55-3	4-Bromophenyl-phenylether	330	U
118-74-1	Hexachlorobenzene	330	U
87-86-5	Pentachlorophenol		SP
85-01-8	Phenanthrene	330	U
120-12-7	Anthracene	330	U
86-74-8	Carbazole	330	U
84-74-2	Di-n-butylphthalate	30	JB
206-44-0	Fluoranthene	330	U
129-00-0	Pyrene		SP
85-68-7	Butylbenzylphthalate	330	U
91-94-1	3,3'-Dichlorobenzidine	330	U
56-55-3	Benzo(a)anthracene	330	U
218-01-9	Chrysene	330	U
117-81-7	bis(2-Ethylhexyl)phthalate	20	J
117-84-0	Di-n-octyl phthalate	330	U
205-99-2	Benzo(b)fluoranthene	330	U
207-08-9	Benzo(k)fluoranthene	330	U
50-32-8	Benzo(a)pyrene	330	U
193-39-5	Indeno(1,2,3-cd)pyrene	330	U
53-70-3	Dibenz(a,h)anthracene	330	U
191-24-2	Benzo(g,h,i)perylene	330	U

(1) - Cannot be separated from Diphenylamine

SP: SPIKE COMPOUND

9613451.2685

1B

0 0 0 0 1 4 5 CLIENT SAMPLE NO.

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

B075Q5MSD

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

Client: WESTINGHOUSE HANFORD

Matrix: (soil/water) SOIL

Lab Sample ID: 9209L848-001 MSD

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

Lab File ID: S100907

Level: (low/med) LOW

Date Received: 09/11/92

% Moisture: 1 decanted: (Y/N)__

Date Extracted: 09/17/92

Concentrated Extract Volume: 500(uL)

Date Analyzed: 10/09/92

Injection Volume: 2.0(uL)

Dilution Factor: 1.00

GPC Cleanup: (Y/N) Y pH: 6.5

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg	Q
108-95-2	Phenol		SP
111-44-4	bis(2-Chloroethyl)ether	340	U
95-57-8	2-Chlorophenol		SP
541-73-1	1,3-Dichlorobenzene	340	U
106-46-7	1,4-Dichlorobenzene		SP
95-50-1	1,2-Dichlorobenzene	340	U
95-48-7	2-Methylphenol	340	U
108-60-1	2,2'-oxybis(2-Chloropropane)	340	U
106-44-5	4-Methylphenol	340	U
621-64-7	N-Nitroso-di-n-propylamine		SP
67-72-1	Hexachloroethane	340	U
98-95-3	Nitrobenzene	340	U
78-59-1	Isophorone	340	U
88-75-5	2-Nitrophenol	340	U
105-67-9	2,4-Dimethylphenol	340	U
111-91-1	bis(2-Chloroethoxy)methane	340	U
120-83-2	2,4-Dichlorophenol	340	U
120-82-1	1,2,4-Trichlorobenzene		SP
91-20-3	Naphthalene	340	U
106-47-8	4-Chloroaniline	340	U
87-68-3	Hexachlorobutadiene	340	U
59-50-7	4-Chloro-3-methylphenol		SP
91-57-6	2-Methylnaphthalene	340	U
77-47-4	Hexachlorocyclopentadiene	340	U
88-06-2	2,4,6-Trichlorophenol	340	U
95-95-4	2,4,5-Trichlorophenol	840	U
91-58-7	2-Chloronaphthalene	340	U
88-74-4	2-Nitroaniline	840	U
131-11-3	Dimethylphthalate	340	U
208-96-8	Acenaphthylene	340	U
606-20-2	2,6-Dinitrotoluene	340	U
99-09-2	3-Nitroaniline	840	U
83-32-9	Acenaphthene		SP

SP: SPIKE COMPOUND

9613451.2686

1C

0 0 0 1 4 6 CLIENT SAMPLE NO.

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

B075Q5MSD

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

Client: WESTINGHOUSE HANFORD

Matrix: (soil/water) SOIL

Lab Sample ID: 9209L848-001 MSD

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

Lab File ID: S100907

Level: (low/med) LOW

Date Received: 09/11/92

% Moisture: 1 decanted: (Y/N)__

Date Extracted: 09/17/92

Concentrated Extract Volume: 500(uL)

Date Analyzed: 10/09/92

Injection Volume: 2.0(uL)

Dilution Factor: 1.00

GPC Cleanup: (Y/N) Y pH: 6.5

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg	Q
51-28-5	2,4-Dinitrophenol	840	U
100-02-7	4-Nitrophenol		SP
132-64-9	Dibenzofuran	340	U
121-14-2	2,4-Dinitrotoluene		SP
84-66-2	Diethylphthalate	340	U
7005-72-3	4-Chlorophenyl-phenylether	340	U
86-73-7	Fluorene	340	U
100-01-6	4-Nitroaniline	840	U
534-52-1	4,6-Dinitro-2-methylphenol	840	U
86-30-6	N-Nitrosodiphenylamine (1)	340	U
101-55-3	4-Bromophenyl-phenylether	340	U
118-74-1	Hexachlorobenzene	340	U
87-86-5	Pentachlorophenol		SP
85-01-8	Phenanthrene	340	U
120-12-7	Anthracene	340	U
86-74-8	Carbazole	340	U
84-74-2	Di-n-butylphthalate	39	JB
206-44-0	Fluoranthene	340	U
129-00-0	Pyrene		SP
85-68-7	Butylbenzylphthalate	340	U
91-94-1	3,3'-Dichlorobenzidine	340	U
56-55-3	Benzo(a)anthracene	340	U
218-01-9	Chrysene	340	U
117-81-7	bis(2-Ethylhexyl)phthalate	20	J
117-84-0	Di-n-octyl phthalate	340	U
205-99-2	Benzo(b)fluoranthene	340	U
207-08-9	Benzo(k)fluoranthene	340	U
50-32-8	Benzo(a)pyrene	340	U
193-39-5	Indeno(1,2,3-cd)pyrene	340	U
53-70-3	Dibenz(a,h)anthracene	340	U
191-24-2	Benzo(g,h,i)perylene	340	U

(1) - Cannot be separated from Diphenylamine

SP: SPIKE COMPOUND