START 9613427.2046 9208L565-WES-803 43 2 0043880

ROY F. WESTON, INC.
Lionville Laboratory

CLIENT: WESTINGHOUSE HANFORD **SAMPLE(S) RECEIVED:** 08-25-92
RFW #: 9208L565, GC/MS VOLATILE
W.O. #: 6168-02-01

NARRATIVE

The set of samples consisted of four (4) water samples collected on 08-21-92.

The samples were analyzed according to criteria set forth in CLP SOW 3/90 for TCL Volatile target compounds on 08-26,27-92.

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. One (1) of twenty-one (21) system monitoring compound (surrogate) recoveries was outside QC limits. The analyses of samples B06Q20 and B06Q20 MS fulfilled the re-analysis requirement for sample B06Q20 MSD.

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

4. The laboratory blank contained the common contaminant Acetone at a level less than the CRQL.

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

FEB 1996 RECEIVED EDMS

Margaret M. Leahy for 10/5/92
J. Peter Hershey, Ph.D. Date
Laboratory Manager
Lionville Analytical Laboratory

FEB 1996 RECEIVED EDMS

sma/voa/08-565v.cn

BOL: 2509970 12-1 OPC: W92-0-0575-14 INST #: 92-128

WESTON Analytics Use Only: 92084565

Custody Transfer Record/Lab Work Request

WESTON

Page 1 of 1

Client: Westinghouse Hanford Co.
Est. Final Proj. Sampling Date:
Work Order #: 6168-02-01-0107
Project Contact/Phone #: P.H. Butcher (509) 376-5045
AD Project Manager: Josie King
QC: CLP Del: CLP TAT: 35 day
Date Rec'd: 8-25-92 Date Due: 9-28-92
Account #: WS-HANFORD

Refrigerator #		1	1-5		3	3	3	3		1	1		SUB		3
#/Type Container	Liquid	SEE SPECIAL INSTRUCTIONS.													
	Solid														
Volume	Liquid	SEE SPECIAL INSTRUCTIONS.													
	Solid														
Preservatives		SEE SPECIAL INSTRUCTIONS.													
ANALYSES REQUESTED		ORGANIC							INORG						
		VOA	BNA	Pest/PCB	Herb	Anions			Metal	CN					Misc. Rad.

See Below

MATRIX CODES:	Lab ID	Client ID/Description	Matrix QC Chosen (✓) MS	MSD	Matrix	Date Collected	Time Collected	1 VOA	2 BNA	3 Pest/PCB	Herb	Anions	4 ICAL	5 ICAL	Metals (3)		6 TOC	7 TDX		8 GS/AB		9 Misc Rad
S - Soil	001	B06Q20			W	8/21/92	0757	✓	✓	✓		✓	✓	✓	✓		✓	✓		✓		
SE - Sediment	002	B06Q21			↓	↓	↓															✓
SO - Solid	003	B06Q22			↓	↓	↓	✓														
SL - Sludge	004	B06Q65			W	8-21-92	10:25	✓	✓	✓		✓	✓	✓	✓		✓	✓		✓		
W - Water	005	66			↓	↓	↓															✓
O - Oil	006	67			↓	↓	↓	✓														
A - Air																						
DS - Drum Solids																						
DL - Drum Liquids																						
L - EP/TCLP Leachate																						
WI - Wipe																						
X - Other																						
F - Fish																						

Anions = ICl, ICAL, ICPO4, ICSO4, ICNO2, ICNO3

FIELD PERSONNEL: COMPLETE ONLY SHADED AREAS

DATE/REVISIONS:

Special Instructions: 1) 3, 40mL, aG; CLP-VOA. 2) ~~3, 2L, aG; SEMI-VOA, PCB/PEST.~~ 3) 1, 1L, P; ICP/AA-METAL, Hg (HNO3) (UNFILTERED). 4) 3, 1L, P; TDS, ANIONS, TSS, ALK. 5) 1, 1L, P; AMMONIA, COD (H2SO4). 6) 1, 250mL, aG; TOC (~~INCLUDES BICARBONATE/CARBONATE~~) (H2SO4). 7) 1, 250mL, Gs; TOX (H2SO4). 8) 1, 1L, P; GROSS ALPHA/BETA, GAMMA SCAN (HNO3). 9) 1, 1L, P; ICP/AA METALS, Hg (HNO3) (FILTERED).

1 2 3 4 5 6

MS/MSD Required

Relinquished by	Received by	Date	Time	Relinquished by	Received by	Date	Time
Emery Jackson	[illegible]	8/25/92	1305		[illegible] 8-25-92		
	[illegible] 8-25-92						

WESTON Analytics Use Only

Samples were: 1) Shipped ✓ or Hand Delivered ___ Airbill # ___
2) Ambient or Chilled
3) Received in Good Condition (Y) or N
4) Labels Indicate Properly Preserved (Y) or N
5) Received Within Holding Times Y or (N) out of hold: anions ICPO4, ICSO4, ICNO2, ICNO3

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

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

RFW 21-21-001/A-7/91 ___ L372 ___ L373 ___ L375 ___ L377 ___ L378 Ref# ___ Cooler# SAL 179 ⊥ 177 381-596a

00000002

9613127.2047

BUL: 250981012-1 OPC: W42-0-0575-14 TASK #: 92-128

WESTON Analytics Use Only

Custody Transfer Record/Lab Work Request

WESTON

Client: Westinghouse Hanford Co.
Est. Final Proj. Sampling Date:
Work Order #:
Project Contact/Phone #: P.H. Butcher (509) 376-5045
AD Project Manager:
QC: Del: TAT:
Date Rec'd: Date Due:
Account #:

Refrigerator #:
#/Type Container: Liquid / Solid — SEE SPECIAL INSTRUCTIONS.
Volume: Liquid / Solid — SEE SPECIAL INSTRUCTIONS.
Preservatives: SEE SPECIAL INSTRUCTIONS.

ANALYSES REQUESTED →

MATRIX CODES:	Lab ID	Client ID/Description	Matrix QC Chosen (✓) MS	MSD	Matrix	Date Collected	Time Collected	ORGANIC VOA	BNA	Pest/PCB	Herb				INORG Metal	CN					
								WESTON Analytics Use Only													
								1		2		3	4	5			6	7		8		9
		B06Q65			W	8/24/92	1025	✓		✓		✓	✓	✓			✓	✓		✓		
		B06Q66			↓		↓															✓
		B06Q67			↓		↓	✓														

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

FIELD PERSONNEL: COMPLETE ONLY SHADED AREAS

DATE/REVISIONS:

Special Instructions: 1) 3, 40mL, aG; CLP-VOA. 2) ~~3, 2L, aG; SEMI-VOA, PCB/PEST.~~ 3) 1, 1L, P; ICP/AA-METAL, Hg (HNO3) (UNFILTERED). 4) 3, 1L, P; TDS, ANIONS, TSS, ALK. 5) 1, 1L, P; AMMONIA, COD (H2SO4). 6) 1, 250mL, aG; TOC (INCLUDES BICARBONATE/CARBONATE) (H2SO4). 7) 1, 250mL, Gs; TOx (H2SO4). 8) 1, 1L, P; GROSS ALPHA/BETA, GAMMA SCAN (HNO3). 9) 1, 1L, P; ICP/AA METALS, Hg (HNO3) (FILTERED).

1. 2. 3. 4. 5. 6.

Transferred to Page 1

WESTON Analytics Use Only

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

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

COC Record Present Upon Sample Rec'd Y or N

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

Relinquished by	Received by	Date	Time	Relinquished by	Received by	Date	Time

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

000003

9613027.2048

9613427.2049 0000004

Westinghouse Hanford Company	CHAIN OF CUSTODY 9208L565

Custody Form Initiator PH BUTCHER

Company Contact PH BUTCHER

Project Designation/Sampling Locations 200AAMS

Ice Chest No. SML-177

Bill of Lading/Airbill No. 250997012-1

Method of Shipment EMERY

Shipped to WESTON

Possible Sample Hazards/Remarks N/A

Telephone (509)376-5045

Collection Date 8 21 92

Field Logbook No. EFL-1032

Offsite Property No. W92-C-0575-14

Sample Identification

B06665
- 3, 40ml, aG, WATER, CLP-VOA
- 3, 2L, aG, WATER, SEMI-VOA, PCB/PEST
- 1, 1L, P, WATER, ICP/AA-METAL & Hg (HNO3) UNFILTERED
- 3, 1L, P, WATER, TDS, ANIONS, TSS, ALK
- 1, 1L, P, WATER, AMMONIA, COD (H2SO4)
- 1, 250ml, aG, WATER, TOC(INCLUDES BICARBONATE/CARBONATE (H2SO4)
- 1, 250ml, Gs, WATER, TOX (H2SO4)
- 1, 1L, P, WATER, GROSS ALPHA/BETA, GAMMA SCAN (HNO3)

B06666
- 1, 1L, P, WATER, ICP/AA METAL & Hg (HNO3) (FILTERED)

B06667
- 3, 40 ml, WATER, CLP-VOA

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

Relinquished by:	Received by:	Date/Time:
C Celebrezzi C CELEBREZZI	K. Trapp / K. Trapp	8/24/92 0911
K. Trapp / K. Trapp		
Emery	[illegible]	8/25/92 13:05

Final Sample Disposition

Disposal Method:	Disposed by:	Date/Time:

Comments:

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

9613427.2050 0000005

Westinghouse Hanford Company

CHAIN OF CUSTODY

9208L565

Custody Form Initiator PH BUTCHER

Company Contact PH BUTCHER

Project Designation/Sampling Locations 200AAMS

Ice Chest No. SML-179

Bill of Lading/Airbill No. 250957012-1

Method of Shipment EMERY

Shipped to WESTON

Possible Sample Hazards/Remarks N/A

Telephone (509)376-5045

Collection Date 8/21/92

Field Logbook No. EFL-1032

Offsite Property No. W92-0-0575-14

Sample Identification

BO6G26
- 3, 40ml, aG, WATER, CLP-VOA
- 3, 2L, aG, WATER, SEMI-VOA, PCB/PEST
- 1, 1L, P, WATER, ICP/AA-METAL & Hg (HNO3) UNFILTERED
- 3, 1L, P, WATER, TDS, ANIONS, TSS, ALK
- 1, 1L, P, WATER, AMMONIA, COD (H2SO4)
- 1, 250ml, aG, WATER, TOC(INCLUDES BICARBONATE/CARBONATE (H2SO4)
- 1, 250ml, Gs, WATER, TOX (H2SO4)
- 1, 1L, P, WATER, GROSS ALPHA/BETA, GAMMA SCAN (HNO3)

BO6G2
- 1, 1L, P, WATER, ICP/AA METAL & Hg (HNO3) (FILTERED)

BO6G22
- 3, 40 ml, WATER, CLP-VOA

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

Relinquished by:	Received by:	Date/Time:
Kimberly Lee K.D. Lee	K. Trapp / K Trapp	8/24/92 0911
K. Trapp / K Trapp		
Emery	[illegible]	8/25/92 13:05

Final Sample Disposition

Disposal Method:	Disposed by:	Date/Time:

Comments:

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

EMERY WORLDWIDE — A CF Company

SIGNATURE AND TALLY RECORD

60029-46 (8/89) Litho USA

DATE: 08-24-92 SHIPMENT NO.: 250987012 1
SHIPPER: WESTINGHOUSE SHIPPING DEPT (509) 376-6665
REFERENCE NO.: W92-0-0575 #14

SHIPPER NAME AND ADDRESS
WESTINGHOUSE SHIPPING DEPT (509) 376-6665
G2-06 U.S. DEPARTMENT OF ENERGY C/O
WESTINGHOUSE HANFORD COMPANY
2355 STEVENS DRIVE 1163 BUILDING
PO BOX 1970
RICHLAND WA 99352

CONSIGNEE NAME AND ADDRESS
JOSIE KING
RF WESTON INC
208 WELSH POOL ROAD
LIONVILLE PA 19341

Pieces	Weight	Description/Marks	Emery Authorization No.
2	143 LBS	WATER SAMPLES COOLERS ID SML177 71#; SM1179 72#	

EACH PERSON HANDLING OR TAKING CUSTODY OF THIS SHIPMENT MUST SIGN AND COMPLETE THE INFORMATION BELOW!

Name of Person/Company	Transship Point/Destination	Signature of Person Accepting Custody	Time/Date
1.			
2.			
3.			
4.			
5.			
6. A. LIEBERMAN	PHL	[illegible]	945/[illegible]
7. K. CARK / FMEY	ILL	[illegible]	[illegible]
8. [illegible]	[illegible]	[illegible]	1305/[illegible]

SPECIAL HANDLING INSTRUCTIONS

CONSIGNEE COPY

92085565

GBL ☐ FCCOD ☐ Bill to Consignee ☐ Third Party Billing ☐

Shipper's Account Number: 150281585

EMERY WORLDWIDE — A CF Company

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

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

Date: 08-24-92 Origin: PSC Shipment Number: 250987012 1

Tariff Dest. | Gateway

From: STINGHOUSE SHIPPING DEPT (509) 376-6665
S. DEPARTMENT OF ENERGY C/O
TINGHOUSE HANFORD
BLDG 1163
5 STEVENS DRIVE
HLAND WA

To: JOSIE KING
RF WESTON INC
208 WELSH POOL ROAD
LIONVILLE PA

Hold for Pick Up ☐ Canada ☐

Check to Shipper $

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

Customer's Reference Numbers: 31232 PB23B W92-0-0575#14 99352

Consignee's Account Number: E 19341

Description	Dimensions Pcs.	L	W	H	Total Pieces	Total Weight
OLERS ID: SML-#177 SML 179 72# R SAMPLES	2	16	16	17	2	143

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

Declared Value $

250987012 1

Remarks: NIGHT DELIVERY ATURE SECURITY SERVICE 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 Pack 12X15 ☐

International Shipments | Third Party | Third Party Account Number | Number for Billing E

nal Customs Value | International Insurance

portation Charges | Other Charges/Advance at Origin | COD/AO $

3 PHL A

Terms and Conditions on Back

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

RFW Batch Number: 9208L565 Client: WESTINGHOUSE HANFORD Work Order: 6168-02-01-0000 Report Date: 09/28/92 19:16 Page: 1a

	Cust ID:	B06Q20	B06Q20	B06Q20	B06Q22	B06Q65	B06Q67
Sample Information	RFW#:	001	001 MS	001 MSD	003	004	006
	Matrix:	WATER	WATER	WATER	WATER	WATER	WATER
	D.F.:	1.00	1.00	1.00	1.00	1.00	1.00
	Units:	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Surrogate Recovery	Toluene-d8	97 %	109 %	93 %	101 %	95 %	97 %
	Bromofluorobenzene	95 %	99 %	86 %	102 %	91 %	91 %
	1,2-Dichloroethane-d4	76 %	76 %	74 * %	79 %	76 %	77 %
		fl	fl	fl	fl	fl	fl
Chloromethane		10 U	10 U	10 U	10 U	10 U	10 U
Bromomethane		10 U	10 U	10 U	10 U	10 U	10 U
Vinyl Chloride		10 U	10 U	10 U	10 U	10 U	10 U
Chloroethane		10 U	10 U	10 U	10 U	10 U	10 U
Methylene Chloride		5 U	5 U	5 U	43	5 U	23
Acetone		10 U	10 U	10 U	2 JB	3 JB	2 JB
Carbon Disulfide		5 U	5 U	5 U	5 U	5 U	5 U
1,1-Dichloroethene		5 U	104 %	103 %	5 U	5 U	5 U
1,1-Dichloroethane		5 U	5 U	5 U	5 U	5 U	5 U
1,2-Dichloroethene (total)		5 U	5 U	5 U	5 U	5 U	5 U
Chloroform		5 U	5 U	5 U	1 J	2 J	1 J
1,2-Dichloroethane		5 U	5 U	5 U	5 U	5 U	5 U
2-Butanone		10 U	10 U	10 U	10 U	10 U	10 U
1,1,1-Trichloroethane		5 U	5 U	5 U	5 U	5 U	5 U
Carbon Tetrachloride		5 U	5 U	5 U	5 U	47	5 U
Vinyl Acetate		10 U	10 U	10 U	10 U	10 U	10 U
Bromodichloromethane		5 U	5 U	5 U	5 U	5 U	5 U
1,2-Dichloropropane		5 U	5 U	5 U	5 U	5 U	5 U
cis-1,3-Dichloropropene		5 U	5 U	5 U	5 U	5 U	5 U
Trichloroethene		5 U	112 %	111 %	5 U	5 U	5 U
Dibromochloromethane		5 U	5 U	5 U	5 U	5 U	5 U
1,1,2-Trichloroethane		5 U	5 U	5 U	5 U	5 U	5 U
Benzene		5 U	105 %	102 %	5 U	5 U	5 U
Trans-1,3-Dichloropropene		5 U	5 U	5 U	5 U	5 U	5 U
Bromoform		5 U	5 U	5 U	5 U	5 U	5 U
4-Methyl-2-pentanone		10 U	10 U	10 U	10 U	10 U	10 U
2-Hexanone		10 U	10 U	10 U	10 U	10 U	10 U
Tetrachloroethene		5 U	5 U	5 U	5 U	5 U	5 U
1,1,2,2-Tetrachloroethane		5 U	5 U	5 U	5 U	5 U	5 U

*= Outside of EPA CLP QC limits.

9247277.2052

Cust ID:	B06Q20	B06Q20	B06Q20	B06Q22	B06Q65	B06Q67
RFW#:	001	001 MS	001 MSD	003	004	006
Toluene	5 U	117 %	102 %	5 U	5 U	5 U
Chlorobenzene	5 U	101 %	107 %	5 U	5 U	5 U
Ethylbenzene	5 U	5 U	5 U	5 U	5 U	5 U
Styrene	5 U	5 U	5 U	5 U	5 U	5 U
Xylene (total)	5 U	5 U	5 U	5 U	5 U	5 U

*= Outside of EPA CLP QC limits.

9613427.2058 0000009

9613427.2054 1A 0000024

VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

B06Q20

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

Client: WESTINGHOUSE HANFORD

Matrix: (soil/water) WATER

Lab Sample ID: 9208L565-001

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

Lab File ID: 0082612

Level: (low/med) LOW

Date Received: 08/25/92

% Moisture: not dec.

Date Analyzed: 08/27/92

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/L	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	5	U
67-64-1	Acetone	10	U
75-15-0	Carbon Disulfide	5	U
75-35-4	1,1-Dichloroethene	5	U
75-34-3	1,1-Dichloroethane	5	U
540-59-0	1,2-Dichloroethene (total)	5	U
67-66-3	Chloroform	5	U
107-06-2	1,2-Dichloroethane	5	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	5	U
56-23-5	Carbon Tetrachloride	5	U
108-05-4	Vinyl Acetate	10	U
75-27-4	Bromodichloromethane	5	U
78-87-5	1,2-Dichloropropane	5	U
10061-01-5	cis-1,3-Dichloropropene	5	U
79-01-6	Trichloroethene	5	U
124-48-1	Dibromochloromethane	5	U
79-00-5	1,1,2-Trichloroethane	5	U
71-43-2	Benzene	5	U
10061-02-6	Trans-1,3-Dichloropropene	5	U
75-25-2	Bromoform	5	U
108-10-1	4-Methyl-2-pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	5	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U
108-88-3	Toluene	5	U
108-90-7	Chlorobenzene	5	U
100-41-4	Ethylbenzene	5	U
100-42-5	Styrene	5	U
1330-20-7	Xylene (total)	5	U

9613427.2055 0n00025

CLIENT SAMPLE NO.

B06Q20

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

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

Client: WESTINGHOUSE HANFORD

Matrix: (soil/water) WATER

Lab Sample ID: 9208L565-001

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

Lab File ID: Q082612

Level: (low/med) LOW

Date Received: 08/25/92

% Moisture: not dec.

Date Analyzed: 08/27/92

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/L

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

9612H27.2056 IA 0 0 0 0 0 2 9

VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

B06Q22

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

Client: WESTINGHOUSE HANFORD

Matrix: (soil/water) WATER

Lab Sample ID: 9208L565-003

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

Lab File ID: 0082615

Level: (low/med) LOW

Date Received: 08/25/92

% Moisture: not dec.

Date Analyzed: 08/27/92

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/L	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	43	
67-64-1	Acetone	2	JB
75-15-0	Carbon Disulfide	5	U
75-35-4	1,1-Dichloroethene	5	U
75-34-3	1,1-Dichloroethane	5	U
540-59-0	1,2-Dichloroethene (total)	5	U
67-66-3	Chloroform	1	J
107-06-2	1,2-Dichloroethane	5	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	5	U
56-23-5	Carbon Tetrachloride	5	U
108-05-4	Vinyl Acetate	10	U
75-27-4	Bromodichloromethane	5	U
78-87-5	1,2-Dichloropropane	5	U
10061-01-5	cis-1,3-Dichloropropene	5	U
79-01-6	Trichloroethene	5	U
124-48-1	Dibromochloromethane	5	U
79-00-5	1,1,2-Trichloroethane	5	U
71-43-2	Benzene	5	U
10061-02-6	Trans-1,3-Dichloropropene	5	U
75-25-2	Bromoform	5	U
108-10-1	4-Methyl-2-pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	5	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U
108-88-3	Toluene	5	U
108-90-7	Chlorobenzene	5	U
100-41-4	Ethylbenzene	5	U
100-42-5	Styrene	5	U
1330-20-7	Xylene (total)	5	U

9613427.2057 0n00030

CLIENT SAMPLE NO.

B06Q22

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

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

Client: WESTINGHOUSE HANFORD

Matrix: (soil/water) WATER

Lab Sample ID: 9208L565-003

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

Lab File ID: Q082615

Level: (low/med) LOW

Date Received: 08/25/92

% Moisture: not dec.

Date Analyzed: 08/27/92

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/L

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

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

B06Q65

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

Client: WESTINGHOUSE HANFORD

Matrix: (soil/water) WATER

Lab Sample ID: 9208L565-004

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

Lab File ID: 0082616

Level: (low/med) LOW

Date Received: 08/25/92

% Moisture: not dec.

Date Analyzed: 08/27/92

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/L	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	5	U
67-64-1	Acetone	3	JB
75-15-0	Carbon Disulfide	5	U
75-35-4	1,1-Dichloroethene	5	U
75-34-3	1,1-Dichloroethane	5	U
540-59-0	1,2-Dichloroethene (total)	5	U
67-66-3	Chloroform	2	J
107-06-2	1,2-Dichloroethane	5	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	5	U
56-23-5	Carbon Tetrachloride	47	
108-05-4	Vinyl Acetate	10	U
75-27-4	Bromodichloromethane	5	U
78-87-5	1,2-Dichloropropane	5	U
10061-01-5	cis-1,3-Dichloropropene	5	U
79-01-6	Trichloroethene	5	U
124-48-1	Dibromochloromethane	5	U
79-00-5	1,1,2-Trichloroethane	5	U
71-43-2	Benzene	5	U
10061-02-6	Trans-1,3-Dichloropropene	5	U
75-25-2	Bromoform	5	U
108-10-1	4-Methyl-2-pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	5	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U
108-88-3	Toluene	5	U
108-90-7	Chlorobenzene	5	U
100-41-4	Ethylbenzene	5	U
100-42-5	Styrene	5	U
1330-20-7	Xylene (total)	5	U

9616427.2059 0n00038

CLIENT SAMPLE NO.

B06Q65

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

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

Client: WESTINGHOUSE HANFORD

Matrix: (soil/water) WATER

Lab Sample ID: 9208L565-004

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

Lab File ID: Q082616

Level: (low/med) LOW

Date Received: 08/25/92

% Moisture: not dec.

Date Analyzed: 08/27/92

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/L

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

9613H27.2060 1A 0 0 0 0 4 5

VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

B06Q67

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

Client: WESTINGHOUSE HANFORD

Matrix: (soil/water) WATER

Lab Sample ID: 9208L565-006

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

Lab File ID: Q082617

Level: (low/med) LOW

Date Received: 08/25/92

% Moisture: not dec.

Date Analyzed: 08/27/92

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/L	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	
67-64-1	Acetone	2	JB
75-15-0	Carbon Disulfide	5	U
75-35-4	1,1-Dichloroethene	5	U
75-34-3	1,1-Dichloroethane	5	U
540-59-0	1,2-Dichloroethene (total)	5	U
67-66-3	Chloroform	1	J
107-06-2	1,2-Dichloroethane	5	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	5	U
56-23-5	Carbon Tetrachloride	5	U
108-05-4	Vinyl Acetate	10	U
75-27-4	Bromodichloromethane	5	U
78-87-5	1,2-Dichloropropane	5	U
10061-01-5	cis-1,3-Dichloropropene	5	U
79-01-6	Trichloroethene	5	U
124-48-1	Dibromochloromethane	5	U
79-00-5	1,1,2-Trichloroethane	5	U
71-43-2	Benzene	5	U
10061-02-6	Trans-1,3-Dichloropropene	5	U
75-25-2	Bromoform	5	U
108-10-1	4-Methyl-2-pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	5	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U
108-88-3	Toluene	5	U
108-90-7	Chlorobenzene	5	U
100-41-4	Ethylbenzene	5	U
100-42-5	Styrene	5	U
1330-20-7	Xylene (total)	5	U

9612127.2061 0n00046

CLIENT SAMPLE NO.

B06Q67

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

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

Client: WESTINGHOUSE HANFORD

Matrix: (soil/water) WATER

Lab Sample ID: 9208L565-006

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

Lab File ID: Q082617

Level: (low/med) LOW

Date Received: 08/25/92

% Moisture: not dec.

Date Analyzed: 08/27/92

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/L

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

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

RFW Batch Number: 9208L565 Client: WESTINGHOUSE HANFORD Work Order: 06168-002-001-0 Report Date: 10/12/92 12:05 Page: 1a

	Cust ID:	B06Q20		B06Q20		B06Q20		B06Q65		SBLK		SBLK BS	
Sample Information	RFW#:	001		001 MS		001 MSD		004		92LE1449-MB1		92LE1449-MB1	
	Matrix:	WATER		WATER		WATER		WATER		WATER		WATER	
	D.F.:	1.00		1.00		1.00		1.00		1.00		1.00	
	Units:	ug/L		ug/L		ug/L		ug/L		ug/L		ug/L	
Surrogate Recovery	Nitrobenzene-d5	61	%	59	%	76	%	70	%	59	%	63	%
	2-Fluorobiphenyl	61	%	60	%	74	%	69	%	58	%	62	%
	Terphenyl-d14	92	%	81	%	95	%	90	%	92	%	93	%
	Phenol-d5	70	%	64	%	82	%	73	%	70	%	78	%
	2-Fluorophenol	66	%	59	%	73	%	68	%	68	%	69	%
	2,4,6-Tribromophenol	84	%	92	%	101	%	94	%	80	%	86	%
	2-Chlorophenol-d4	66	%	63	%	77	%	70	%	67	%	74	%
	1,2-Dichlorobenzene-d4	51	%	43	%	60	%	54	%	52	%	51	%
			fl		fl		fl		fl		fl		fl
Phenol		10	U	74	%	86	%	10	U	10	U	80	%
bis(2-Chloroethyl)ether		10	U	10	U	10	U	10	U	10	U	10	U
2-Chlorophenol		10	U	67	%	73	%	10	U	10	U	70	%
1,3-Dichlorobenzene		10	U	10	U	10	U	10	U	10	U	10	U
1,4-Dichlorobenzene		10	U	41	%	52	%	10	U	10	U	45	%
1,2-Dichlorobenzene		10	U	10	U	10	U	10	U	10	U	10	U
2-Methylphenol		10	U	10	U	10	U	10	U	10	U	10	U
2,2'-oxybis(2-Chloropropane)		10	U	10	U	10	U	10	U	10	U	10	U
4-Methylphenol		10	U	10	U	10	U	10	U	10	U	10	U
N-Nitroso-di-n-propylamine		10	U	81	%	70	%	10	U	10	U	80	%
Hexachloroethane		10	U	10	U	10	U	10	U	10	U	10	U
Nitrobenzene		10	U	10	U	10	U	10	U	10	U	10	U
Isophorone		10	U	10	U	10	U	10	U	10	U	10	U
2-Nitrophenol		10	U	10	U	10	U	10	U	10	U	10	U
2,4-Dimethylphenol		10	U	10	U	10	U	10	U	10	U	10	U
bis(2-Chloroethoxy)methane		10	U	10	U	10	U	10	U	10	U	10	U
2,4-Dichlorophenol		10	U	10	U	10	U	10	U	10	U	10	U
1,2,4-Trichlorobenzene		10	U	49	%	61	%	10	U	10	U	51	%
Naphthalene		10	U	10	U	10	U	10	U	10	U	10	U
4-Chloroaniline		10	U	10	U	10	U	10	U	10	U	10	U
Hexachlorobutadiene		10	U	10	U	10	U	10	U	10	U	10	U
4-Chloro-3-methylphenol		10	U	80	%	86	%	10	U	10	U	78	%
2-Methylnaphthalene		10	U	10	U	10	U	10	U	10	U	10	U
Hexachlorocyclopentadiene		10	U	10	U	10	U	10	U	10	U	10	U

*= Outside of EPA CLP QC limits.

000008
9613427.2062

RFW Batch Number: 9208L565 Client: WESTINGHOUSE HANFORD Work Order: 06168-002-001-0 Page: 1b

Cust ID:	B06Q20		B06Q20		B06Q20		B06Q65		SBLK		SBLK BS	
RFW#:	001		001 MS		001 MSD		004		92LE1449-MB1		92LE1449-MB1	
2,4,6-Trichlorophenol	10	U	10	U	10	U	10	U	10	U	10	U
2,4,5-Trichlorophenol	26	U	26	U	26	U	26	U	25	U	25	U
2-Chloronaphthalene	10	U	10	U	10	U	10	U	10	U	10	U
2-Nitroaniline	26	U	26	U	26	U	26	U	25	U	25	U
Dimethylphthalate	10	U	10	U	10	U	10	U	10	U	10	U
Acenaphthylene	10	U	10	U	10	U	10	U	10	U	10	U
2,6-Dinitrotoluene	10	U	10	U	10	U	10	U	10	U	10	U
3-Nitroaniline	26	U	26	U	26	U	26	U	25	U	25	U
Acenaphthene	10	U	67	%	69	%	10	U	10	U	65	%
2,4-Dinitrophenol	26	U	26	U	26	U	26	U	25	U	25	U
4-Nitrophenol	26	U	113 *	%	114 *	%	26	U	25	U	90 *	%
Dibenzofuran	10	U	10	U	10	U	10	U	10	U	10	U
2,4-Dinitrotoluene	10	U	87	%	82	%	10	U	10	U	78	%
Diethylphthalate	10	U	10	U	2	JB	1	JB	0.8	J	10	U
4-Chlorophenyl-phenylether	10	U	10	U	10	U	10	U	10	U	10	U
Fluorene	10	U	10	U	10	U	10	U	10	U	10	U
4-Nitroaniline	26	U	26	U	26	U	26	U	25	U	25	U
4,6-Dinitro-2-methylphenol	26	U	26	U	26	U	26	U	25	U	25	U
N-Nitrosodiphenylamine (1)	10	U	10	U	10	U	10	U	10	U	10	U
4-Bromophenyl-phenylether	10	U	10	U	10	U	10	U	10	U	10	U
Hexachlorobenzene	10	U	10	U	10	U	10	U	10	U	10	U
Pentachlorophenol	26	U	121 *	%	100	%	26	U	25	U	110 *	%
Phenanthrene	10	U	10	U	10	U	10	U	10	U	10	U
Anthracene	10	U	10	U	10	U	10	U	10	U	10	U
Carbazole	10	U	10	U	10	U	10	U	10	U	10	U
Di-n-butylphthalate	9	JB	12	B	10	JB	8	JB	5	J	3	JB
Fluoranthene	10	U	10	U	10	U	10	U	10	U	10	U
Pyrene	10	U	87	%	93	%	10	U	10	U	94	%
Butylbenzylphthalate	10	U	10	U	10	U	10	U	10	U	10	U
3,3'-Dichlorobenzidine	10	U	10	U	10	U	10	U	10	U	10	U
Benzo(a)anthracene	10	U	10	U	10	U	10	U	10	U	10	U
Chrysene	10	U	10	U	10	U	10	U	10	U	10	U
bis(2-Ethylhexyl)phthalate	4	JB	5	JB	9	JB	3	JB	2	J	2	JB
Di-n-octyl phthalate	10	U	10	U	10	U	10	U	10	U	10	U
Benzo(b)fluoranthene	10	U	10	U	10	U	10	U	10	U	10	U
Benzo(k)fluoranthene	10	U	10	U	10	U	10	U	10	U	10	U
Benzo(a)pyrene	10	U	10	U	10	U	10	U	10	U	10	U
Indeno(1,2,3-cd)pyrene	10	U	10	U	10	U	10	U	10	U	10	U
Dibenz(a,h)anthracene	10	U	10	U	10	U	10	U	10	U	10	U
Benzo(g,h,i)perylene	10	U	10	U	10	U	10	U	10	U	10	U

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

000009

ROY F. WESTON, INC.
Lionville Laboratory

CLIENT: WESTINGHOUSE HANFORD **SAMPLE RECEIVED:** 08-25-92
RFW #: 9208L565, SEMIVOLATILE
W.O. #: 6168-02-01

NARRATIVE

The set of samples consisted of two (2) water samples collected on 08-21-92.

The samples were extracted on 08-27-92 and analyzed according to criteria set forth in CLP SOW 03/92 (Rev. 05/89) for TCL Semivolatile target compounds on 09-14,15-92.

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 these samples.

2. All surrogate recoveries were within EPA QC limits.

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

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

5. The laboratory blank 92LE1449-MB1 contained the common contaminants Diethylphthalate, Di-n-butylphthalate and Bis(2-ethylhexyl)phthalate at levels less than the CRQL.

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

Margaret M. Listy for 10/14/92
J. Peter Hershey, Ph.D. Date
Laboratory Manager
Lionville Analytical Laboratory

kls/08-565b.cn

9613427.2065 0000024

CLIENT SAMPLE NO.

B06Q20

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

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

Client: WESTINGHOUSE HANFORD

Matrix: (soil/water) WATER

Lab Sample ID: 9208L565-001

Sample wt/vol: 990 (g/mL) ML

Lab File ID: M091419

Level: (low/med) LOW

Date Received: 08/25/92

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

Date Extracted: 08/27/92

Concentrated Extract Volume: 1000(uL)

Date Analyzed: 09/15/92

Injection Volume: 2.0(uL)

Dilution Factor: 1.00

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q
108-95-2	Phenol	10	U
111-44-4	bis(2-Chloroethyl)ether	10	U
95-57-8	2-Chlorophenol	10	U
541-73-1	1,3-Dichlorobenzene	10	U
106-46-7	1,4-Dichlorobenzene	10	U
95-50-1	1,2-Dichlorobenzene	10	U
95-48-7	2-Methylphenol	10	U
108-60-1	2,2'-oxybis(2-Chloropropane)	10	U
106-44-5	4-Methylphenol	10	U
621-64-7	N-Nitroso-di-n-propylamine	10	U
67-72-1	Hexachloroethane	10	U
98-95-3	Nitrobenzene	10	U
78-59-1	Isophorone	10	U
88-75-5	2-Nitrophenol	10	U
105-67-9	2,4-Dimethylphenol	10	U
111-91-1	bis(2-Chloroethoxy)methane	10	U
120-83-2	2,4-Dichlorophenol	10	U
120-82-1	1,2,4-Trichlorobenzene	10	U
91-20-3	Naphthalene	10	U
106-47-8	4-Chloroaniline	10	U
87-68-3	Hexachlorobutadiene	10	U
59-50-7	4-Chloro-3-methylphenol	10	U
91-57-6	2-Methylnaphthalene	10	U
77-47-4	Hexachlorocyclopentadiene	10	U
88-06-2	2,4,6-Trichlorophenol	10	U
95-95-4	2,4,5-Trichlorophenol	26	U
91-58-7	2-Chloronaphthalene	10	U
88-74-4	2-Nitroaniline	26	U
131-11-3	Dimethylphthalate	10	U
208-96-8	Acenaphthylene	10	U
606-20-2	2,6-Dinitrotoluene	10	U
99-09-2	3-Nitroaniline	26	U
83-32-9	Acenaphthene	10	U

CLIENT SAMPLE NO.

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

B06Q20

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

Client: WESTINGHOUSE HANFORD

Matrix: (soil/water) WATER

Lab Sample ID: 9208L565-001

Sample wt/vol: 990 (g/mL) ML

Lab File ID: M091419

Level: (low/med) LOW

Date Received: 08/25/92

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

Date Extracted: 08/27/92

Concentrated Extract Volume: 1000(uL)

Date Analyzed: 09/15/92

Injection Volume: 2.0(uL)

Dilution Factor: 1.00

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q
51-28-5	2,4-Dinitrophenol	26	U
100-02-7	4-Nitrophenol	26	U
132-64-9	Dibenzofuran	10	U
121-14-2	2,4-Dinitrotoluene	10	U
84-66-2	Diethylphthalate	10	U
7005-72-3	4-Chlorophenyl-phenylether	10	U
86-73-7	Fluorene	10	U
100-01-6	4-Nitroaniline	26	U
534-52-1	4,6-Dinitro-2-methylphenol	26	U
86-30-6	N-Nitrosodiphenylamine (1)	10	U
101-55-3	4-Bromophenyl-phenylether	10	U
118-74-1	Hexachlorobenzene	10	U
87-86-5	Pentachlorophenol	26	U
85-01-8	Phenanthrene	10	U
120-12-7	Anthracene	10	U
86-74-8	Carbazole	10	U
84-74-2	Di-n-butylphthalate	9	JB
206-44-0	Fluoranthene	10	U
129-00-0	Pyrene	10	U
85-68-7	Butylbenzylphthalate	10	U
91-94-1	3,3'-Dichlorobenzidine	10	U
56-55-3	Benzo(a)anthracene	10	U
218-01-9	Chrysene	10	U
117-81-7	bis(2-Ethylhexyl)phthalate	4	JB
117-84-0	Di-n-octyl phthalate	10	U
205-99-2	Benzo(b)fluoranthene	10	U
207-08-9	Benzo(k)fluoranthene	10	U
50-32-8	Benzo(a)pyrene	10	U
193-39-5	Indeno(1,2,3-cd)pyrene	10	U
53-70-3	Dibenz(a,h)anthracene	10	U
191-24-2	Benzo(g,h,i)perylene	10	U

(1) - Cannot be separated from Diphenylamine

9413127.2067 0 0 0 0 2 6 CLIENT SAMPLE NO.

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

B06Q20

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

Client: WESTINGHOUSE HANFORD

Matrix: (soil/water) WATER

Lab Sample ID: 9208L565-001

Sample wt/vol: 990 (g/mL) ML

Lab File ID: M091419

Level: (low/med) LOW

Date Received: 08/25/92

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

Date Extracted: 08/27/92

Concentrated Extract Volume: 1000(uL)

Date Analyzed: 09/15/92

Injection Volume: 2.0(uL)

Dilution Factor: 1.00

GPC Cleanup: (Y/N) N

pH: 7.0

Number TICs found: 4

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN	6.85	2	JB
2.	UNKNOWN	22.47	3	J
3.	ORGANIC ACID	24.12	5	JB
4.	UNKNOWN	24.55	20	JB

9613427.2068 1B 0000042 CLIENT SAMPLE NO.

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

B06Q65

Lab Name: Roy F. Weston, Inc. Work Order: 06168-002-001-0

Client: WESTINGHOUSE HANFORD

Matrix: (soil/water) WATER Lab Sample ID: 9208L565-004

Sample wt/vol: 990 (g/mL) ML Lab File ID: M091422

Level: (low/med) LOW Date Received: 08/25/92

% Moisture: _____ decanted: (Y/N)__ Date Extracted: 08/27/92

Concentrated Extract Volume: 1000(uL) Date Analyzed: 09/15/92

Injection Volume: 2.0(uL) Dilution Factor: 1.00

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q
108-95-2	Phenol	10	U
111-44-4	bis(2-Chloroethyl)ether	10	U
95-57-8	2-Chlorophenol	10	U
541-73-1	1,3-Dichlorobenzene	10	U
106-46-7	1,4-Dichlorobenzene	10	U
95-50-1	1,2-Dichlorobenzene	10	U
95-48-7	2-Methylphenol	10	U
108-60-1	2,2'-oxybis(2-Chloropropane)	10	U
106-44-5	4-Methylphenol	10	U
621-64-7	N-Nitroso-di-n-propylamine	10	U
67-72-1	Hexachloroethane	10	U
98-95-3	Nitrobenzene	10	U
78-59-1	Isophorone	10	U
88-75-5	2-Nitrophenol	10	U
105-67-9	2,4-Dimethylphenol	10	U
111-91-1	bis(2-Chloroethoxy)methane	10	U
120-83-2	2,4-Dichlorophenol	10	U
120-82-1	1,2,4-Trichlorobenzene	10	U
91-20-3	Naphthalene	10	U
106-47-8	4-Chloroaniline	10	U
87-68-3	Hexachlorobutadiene	10	U
59-50-7	4-Chloro-3-methylphenol	10	U
91-57-6	2-Methylnaphthalene	10	U
77-47-4	Hexachlorocyclopentadiene	10	U
88-06-2	2,4,6-Trichlorophenol	10	U
95-95-4	2,4,5-Trichlorophenol	26	U
91-58-7	2-Chloronaphthalene	10	U
88-74-4	2-Nitroaniline	26	U
131-11-3	Dimethylphthalate	10	U
208-96-8	Acenaphthylene	10	U
606-20-2	2,6-Dinitrotoluene	10	U
99-09-2	3-Nitroaniline	26	U
83-32-9	Acenaphthene	10	U

9613427.2069 0000043

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

B06Q65

Lab Name: Roy F. Weston, Inc. Work Order: 06168-002-001-0

Client: WESTINGHOUSE HANFORD

Matrix: (soil/water) WATER

Lab Sample ID: 9208L565-004

Sample wt/vol: 990 (g/mL) ML

Lab File ID: M091422

Level: (low/med) LOW

Date Received: 08/25/92

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

Date Extracted: 08/27/92

Concentrated Extract Volume: 1000(uL)

Date Analyzed: 09/15/92

Injection Volume: 2.0(uL)

Dilution Factor: 1.00

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q
51-28-5	2,4-Dinitrophenol	26	U
100-02-7	4-Nitrophenol	26	U
132-64-9	Dibenzofuran	10	U
121-14-2	2,4-Dinitrotoluene	10	U
84-66-2	Diethylphthalate	1	JB
7005-72-3	4-Chlorophenyl-phenylether	10	U
86-73-7	Fluorene	10	U
100-01-6	4-Nitroaniline	26	U
534-52-1	4,6-Dinitro-2-methylphenol	26	U
86-30-6	N-Nitrosodiphenylamine (1)	10	U
101-55-3	4-Bromophenyl-phenylether	10	U
118-74-1	Hexachlorobenzene	10	U
87-86-5	Pentachlorophenol	26	U
85-01-8	Phenanthrene	10	U
120-12-7	Anthracene	10	U
86-74-8	Carbazole	10	U
84-74-2	Di-n-butylphthalate	8	JB
206-44-0	Fluoranthene	10	U
129-00-0	Pyrene	10	U
85-68-7	Butylbenzylphthalate	10	U
91-94-1	3,3'-Dichlorobenzidine	10	U
56-55-3	Benzo(a)anthracene	10	U
218-01-9	Chrysene	10	U
117-81-7	bis(2-Ethylhexyl)phthalate	3	JB
117-84-0	Di-n-octyl phthalate	10	U
205-99-2	Benzo(b)fluoranthene	10	U
207-08-9	Benzo(k)fluoranthene	10	U
50-32-8	Benzo(a)pyrene	10	U
193-39-5	Indeno(1,2,3-cd)pyrene	10	U
53-70-3	Dibenz(a,h)anthracene	10	U
191-24-2	Benzo(g,h,i)perylene	10	U

(1) - Cannot be separated from Diphenylamine

9613427.2070 000044 CLIENT SAMPLE NO.

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

B06Q65

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

Client: WESTINGHOUSE HANFORD

Matrix: (soil/water) WATER

Lab Sample ID: 9208L565-004

Sample wt/vol: 990 (g/mL) ML

Lab File ID: M091422

Level: (low/med) LOW

Date Received: 08/25/92

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

Date Extracted: 08/27/92

Concentrated Extract Volume: 1000(uL)

Date Analyzed: 09/15/92

Injection Volume: 2.0(uL)

Dilution Factor: 1.00

GPC Cleanup: (Y/N) N

pH: 7.0

Number TICs found: 6

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN	5.20	4	JB
2.	UNKNOWN	5.72	6	J
3.	UNKNOWN	6.83	20	JB
4.	UNKNOWN	22.45	3	J
5.	ORGANIC ACID	24.10	5	JB
6.	UNKNOWN	24.53	20	JB

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

RFW Batch Number: 9208L565 Client: WESTINGHOUSE HANFORD Work Order: 06168-002-001-0000-00 Report Date: 10/13/92 21:34 Page: 1

Sample Information													
	Cust ID:	B06Q20		B06Q20		B06Q20		B06Q20		B06Q20		B06Q20	
	RFW#:	001		001		001 MS		001 MS		001 MSD		001 MSD	
	Matrix:	WATER		WATER		WATER		WATER		WATER		WATER	
	D.F.:	1.00		1.00		1.00		1.00		1.00		1.00	
	Units:	ug/L		ug/L		ug/L		ug/L		ug/L		ug/L	
				CONFIRM				CONFIRM				CONFIRM	
Surrogate: Tetrachloro-m-xylene		70	%	70	%	55 *	%	65	%	75	%	75	%
Surrogate: Decachlorobiphenyl		90	%	80	%	75	%	70	%	100	%	90	%
			fl		fl		fl		fl		fl		fl
Alpha-BHC		0.052	U	NA		0.10	U	NA		0.10	U	NA	
Beta-BHC		0.052	U	NA		0.10	U	NA		0.10	U	NA	
Delta-BHC		0.052	U	NA		0.10	U	NA		0.10	U	NA	
gamma-BHC (Lindane)		0.052	U	NA		68	%	66	%	88	%	82	%
Heptachlor		0.052	U	NA		58	%	56	%	64	%	62	%
Aldrin		0.052	U	NA		46	%	54	%	94	%	60	%
Heptachlor epoxide		0.052	U	NA		0.10	U	NA		0.10	U	NA	
Endosulfan I		0.052	U	NA		0.10	U	NA		0.10	U	NA	
Dieldrin		0.10	U	NA		76	%	73	%	89	%	88	%
4,4'-DDE		0.10	U	NA		0.20	U	NA		0.20	U	NA	
Endrin		0.10	U	NA		73	%	81	%	97	%	82	%
Endosulfan II		0.10	U	NA		0.20	U	NA		0.20	U	NA	
4,4'-DDD		0.10	U	NA		0.20	U	NA		0.20	U	NA	
Endosulfan sulfate		0.10	U	NA		0.20	U	NA		0.20	U	NA	
4,4'-DDT		0.10	U	NA		76	%	71	%	104	%	101	%
Methoxychlor		0.52	U	NA		1.0	U	NA		1.0	U	NA	
Endrin ketone		0.10	U	NA		0.20	U	NA		0.20	U	NA	
Endrin aldehyde		0.10	U	NA		0.20	U	NA		0.20	U	NA	
alpha-Chlordane		0.052	U	NA		0.10	U	NA		0.10	U	NA	
gamma-Chlordane		0.052	U	NA		0.10	U	NA		0.10	U	NA	
Toxaphene		5.2	U	NA		10	U	NA		10	U	NA	
Aroclor-1016		1.0	U	NA		2.0	U	NA		2.0	U	NA	
Aroclor-1221		2.1	U	NA		4.0	U	NA		4.0	U	NA	
Aroclor-1232		1.0	U	NA		2.0	U	NA		2.0	U	NA	
Aroclor-1242		1.0	U	NA		2.0	U	NA		2.0	U	NA	
Aroclor-1248		1.0	U	NA		2.0	U	NA		2.0	U	NA	
Aroclor-1254		1.0	U	NA		2.0	U	NA		2.0	U	NA	
Aroclor-1260		1.0	U	NA		2.0	U	NA		2.0	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

9613427.2071 00000005

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

RFW Batch Number: 9208L565 Client: WESTINGHOUSE HANFORD Work Order: 06168-002-001-0000-00 Report Date: 10/13/92 21:34

	Cust ID:	B06Q65		B06Q65		PBLK		PBLK		PBLK BS		PBLK BS	
Sample Information	RFW#:	004		004		92LE1457-MB1		92LE1457-MB1		92LE1457-MB1		92LE1457-MB1	
	Matrix:	WATER		WATER		WATER		WATER		WATER		WATER	
	D.F.:	1.00		1.00		1.00		1.00		1.00		1.00	
	Units:	ug/L		ug/L CONFIRM		ug/L		ug/L CONFIRM		ug/L		ug/L CONFIRM	
Surrogate: Tetrachloro-m-xylene		95	%	100	%	65	%	65	%	70	%	70	%
Surrogate: Decachlorobiphenyl		85	%	80	%	75	%	65	%	75	%	65	%
			fl		fl		fl		fl		fl		fl
Alpha-BHC		0.050	U	NA		0.050	U	NA		0.050	U	NA	
Beta-BHC		0.050	U	NA		0.050	U	NA		0.050	U	NA	
Delta-BHC		0.050	U	NA		0.050	U	NA		0.050	U	NA	
gamma-BHC (Lindane)		0.050	U	NA		0.050	U	NA		82	%	76	%
Heptachlor		0.050	U	NA		0.050	U	NA		74	%	70	%
Aldrin		0.050	U	NA		0.050	U	NA		62	%	68	%
Heptachlor epoxide		0.050	U	NA		0.050	U	NA		0.050	U	NA	
Endosulfan I		0.050	U	NA		0.050	U	NA		0.050	U	NA	
Dieldrin		0.10	U	NA		0.10	U	NA		90	%	84	%
4,4'-DDE		0.10	U	NA		0.10	U	NA		0.10	U	NA	
Endrin		0.10	U	NA		0.10	U	NA		81	%	92	%
Endosulfan II		0.10	U	NA		0.10	U	NA		0.10	U	NA	
4,4'-DDD		0.10	U	NA		0.10	U	NA		0.10	U	NA	
Endosulfan sulfate		0.10	U	NA		0.10	U	NA		0.10	U	NA	
4,4'-DDT		0.10	U	NA		0.10	U	NA		91	%	82	%
Methoxychlor		0.50	U	NA		0.50	U	NA		0.50	U	NA	
Endrin ketone		0.10	U	NA		0.10	U	NA		0.10	U	NA	
Endrin aldehyde		0.10	U	NA		0.10	U	NA		0.10	U	NA	
alpha-Chlordane		0.050	U	NA		0.050	U	NA		0.050	U	NA	
gamma-Chlordane		0.050	U	NA		0.050	U	NA		0.050	U	NA	
Toxaphene		5.0	U	NA		5.0	U	NA		5.0	U	NA	
Aroclor-1016		1.0	U	NA		1.0	U	NA		1.0	U	NA	
Aroclor-1221		2.0	U	NA		2.0	U	NA		2.0	U	NA	
Aroclor-1232		1.0	U	NA		1.0	U	NA		1.0	U	NA	
Aroclor-1242		1.0	U	NA		1.0	U	NA		1.0	U	NA	
Aroclor-1248		1.0	U	NA		1.0	U	NA		1.0	U	NA	
Aroclor-1254		1.0	U	NA		1.0	U	NA		1.0	U	NA	
Aroclor-1260		1.0	U	NA		1.0	U	NA		1.0	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

000000

9613427.2073 10A

ROY F. WESTON, INC.
Lionville Laboratory

CLIENT: WESTINGHOUSE HANFORD **SAMPLE(S) RECEIVED:** 08-25-92
RFW #: 9208L565, PEST/PCB
W.O. #: 06168-002-001-0000-00

NARRATIVE

The set of samples consisted of two (2) water samples collected on 08-21-92.

The samples were extracted on 08-28-92 and analyzed according to criteria set forth in the Contract Laboratory Program 03/90 SOW for Pesticide and PCB target compounds on 09-28,29-92 and 10-01-92.

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 all compounds on both analytical columns.

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

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

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

6. One (1) of twenty-four (24) surrogate recoveries was outside the EPA QC limits. The following surrogate recovery was outside the EPA QC limit of 60% to 150%:

	% Recovery For			
Sample ID	TCX1	TCX2	DCB1	DCB2
B06Q20 MS	55	-	-	-

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

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

Margaret M. Beaty for 10/21/92
J. Peter Hershey, Ph.D. Date
Laboratory Manager
Lionville Analytical Laboratory

sma/pcb/08-565pp.cn

9613427.2074 0000019

1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

B06Q20

Lab Name: Roy F. Weston, Inc. Work Order: 06168-002-001-0000-00

Client: WESTINGHOUSE HANFORD

Matrix: (soil/water) WATER

Lab Sample ID: 9208L565-001

Sample wt/vol: 950 (g/mL) ML

Lab File ID: 09259235.42

% Moisture: decanted: (Y/N)_

Date Received: 08/25/92

Extraction: (SepF/Cont/Sonc) CONT

Date Extracted: 08/28/92

Concentrated Extract Volume: 10000.00(uL)

Date Analyzed: 09/28/92

Injection Volume: 0.5(uL)

Dilution Factor: 1.00

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

Sulfur Cleanup: (Y/N) N

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q
319-84-6	Alpha-BHC	0.052	U
319-85-7	Beta-BHC	0.052	U
319-86-8	Delta-BHC	0.052	U
58-89-9	gamma-BHC (Lindane)	0.052	U
76-44-8	Heptachlor	0.052	U
309-00-2	Aldrin	0.052	U
1024-57-3	Heptachlor epoxide	0.052	U
959-98-8	Endosulfan I	0.052	U
60-57-1	Dieldrin	0.10	U
72-55-9	4,4'-DDE	0.10	U
72-20-8	Endrin	0.10	U
33213-65-9	Endosulfan II	0.10	U
72-54-8	4,4'-DDD	0.10	U
1031-07-8	Endosulfan sulfate	0.10	U
50-29-3	4,4'-DDT	0.10	U
72-43-5	Methoxychlor	0.52	U
53494-70-5	Endrin ketone	0.10	U
7421934	Endrin aldehyde	0.10	U
5103-71-9	alpha-Chlordane	0.052	U
5103-74-2	gamma-Chlordane	0.052	U
8001-35-2	Toxaphene	5.2	U
12674-11-2	Aroclor-1016	1.0	U
11104-28-2	Aroclor-1221	2.1	U
11141-16-5	Aroclor-1232	1.0	U
53469-21-9	Aroclor-1242	1.0	U
12672-29-6	Aroclor-1248	1.0	U
11097-69-1	Aroclor-1254	1.0	U
11096-82-5	Aroclor-1260	1.0	U

10-16-92

9613427.2075 0000026

1D

CLIENT SAMPLE NO.

PESTICIDE ORGANICS ANALYSIS DATA SHEET

B06Q65

Lab Name: Roy F. Weston, Inc. Work Order: 06168-002-001-0000-00

Client: WESTINGHOUSE HANFORD

Matrix: (soil/water) WATER

Lab Sample ID: 9208L565-004

Sample wt/vol: 1000 (g/mL) ML

Lab File ID: 09259235.43

% Moisture: decanted: (Y/N)_

Date Received: 08/25/92

Extraction: (SepF/Cont/Sonc) CONT

Date Extracted: 08/28/92

Concentrated Extract Volume: 10000.00(uL)

Date Analyzed: 09/28/92

Injection Volume: 0.5(uL)

Dilution Factor: 1.00

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

Sulfur Cleanup: (Y/N) N

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q
319-84-6	Alpha-BHC	0.050	U
319-85-7	Beta-BHC	0.050	U
319-86-8	Delta-BHC	0.050	U
58-89-9	gamma-BHC (Lindane)	0.050	U
76-44-8	Heptachlor	0.050	U
309-00-2	Aldrin	0.050	U
1024-57-3	Heptachlor epoxide	0.050	U
959-98-8	Endosulfan I	0.050	U
60-57-1	Dieldrin	0.10	U
72-55-9	4,4'-DDE	0.10	U
72-20-8	Endrin	0.10	U
33213-65-9	Endosulfan II	0.10	U
72-54-8	4,4'-DDD	0.10	U
1031-07-8	Endosulfan sulfate	0.10	U
50-29-3	4,4'-DDT	0.10	U
72-43-5	Methoxychlor	0.50	U
53494-70-5	Endrin ketone	0.10	U
7421934	Endrin aldehyde	0.10	U
5103-71-9	alpha-Chlordane	0.050	U
5103-74-2	gamma-Chlordane	0.050	U
8001-35-2	Toxaphene	5.0	U
12674-11-2	Aroclor-1016	1.0	U
11104-28-2	Aroclor-1221	2.0	U
11141-16-5	Aroclor-1232	1.0	U
53469-21-9	Aroclor-1242	1.0	U
12672-29-6	Aroclor-1248	1.0	U
11097-69-1	Aroclor-1254	1.0	U
11096-82-5	Aroclor-1260	1.0	U

DS 10-16-92

9613427.2076

ROY F. WESTON, INC.
Lionville Laboratory

CLIENT: WESTINGHOUSE HANFORD **SAMPLE(S) RECEIVED:** 08-25-92
RFW #: 9208L565
W.O. #: 6168-02-01

INORGANIC NARRATIVE

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

1. Sample holding times as required by 40CFR136 were met with the exception of Nitrite by IC, Nitrate by IC and Phosphate by IC (received past hold) and Total Organic Halides (analyzed past hold).

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% (70-130% for Total Organic Halides). All %RPD were within the 20% (40% for Total Organic Halides) 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% (70-130% for Total Organic Halides) 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% (40% for Total Organic Halides) 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. Leahy for 10/2/92
J. Peter Hershey, Ph.D. Date
Laboratory Manager
Lionville Analytical Laboratory

OCT 1992
RECEIVED
OSM DMO

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11/13/95 M.H.

9613427.2077

ROY F. WESTON INC.

INORGANIC DATA SUMMARY REPORT 09/28/92

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

WESTON BATCH #: 9208L565

SAMPLE	SITE ID	ANALYTE	RESULT	UNITS	REPORTING LIMIT
-001	B06Q20	Alkalinity	145	MG/L	2.0
		Chloride by IC	8.6	MG/L	0.25
		Fluoride by IC	0.51	MG/L	0.50
		Nitrite by IC	0.25 u	MG/L	0.25
		Nitrate by IC	32.7	MG/L	5.0
		Chemical Oxygen Demand	5.0 u	MG/L	5.0
		Phosphate by IC	0.25 u	MG/L	0.25
		Sulfate by IC	67.1	MG/L	5.0
		Ammonia, as N	0.10 u	MG/L	0.10
		Total Organic Carbon	0.50 u	MG/L	0.50
		Total Dissolved Solids	312	MG/L	5.0
		Total Organic Halides	20.0 u	UG/L	20.0
		Total Suspended Solids	5.0 u	MG/L	5.0
-004	B06Q65	Alkalinity	100	MG/L	2.0
		Chloride by IC	26.4	MG/L	5.0
		Fluoride by IC	0.50 u	MG/L	0.50
		Nitrite by IC	0.25 u	MG/L	0.25
		Nitrate by IC	6.9	MG/L	0.25
		Chemical Oxygen Demand	6.6	MG/L	5.0
		Phosphate by IC	0.25 u	MG/L	0.25
		Sulfate by IC	42.9	MG/L	5.0
		Ammonia, as N	0.10 u	MG/L	0.10
		Total Organic Carbon	1.0	MG/L	0.50
		Total Dissolved Solids	167	MG/L	5.0
		Total Organic Halides	45.3	UG/L	5.0
		Total Suspended Solids	5.0	MG/L	5.0

IV 11/13/95 M.H.

Roy F. Weston, INC.
Lionville Laboratory

CLIENT: WESTINGHOUSE HANFORD CO. **SAMPLES RECEIVED:** 08/25/92
RFW #: 9208L565
W.O. #: 6168-02-01

METALS NARRATIVE

The set of samples consisted of four (4) water samples collected on 08/21/92.

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

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

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

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

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

4. All preparation blank values were within control limits.

5. All LCS results were within the 80-120% control limits with the exception of silver on batch #92L2174-LC1 which was outside the EPA's limit. However, based on control chart studies of laboratory standards, internal control chart 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 selenium, lead and cyanide. All exceptions are flagged with a "N" on the CLP forms.

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

8. Selenium sample results were calculated by the method of standard addition (MSA). All corresponding samples were flagged with a "S" according to CLP protocol.

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9. For MSA, results reported on Form 8 are calculated from absorbance values. Results reported on other forms are based on concentration. As indicated in the SOWILM01.0, page B-32, differences due to rounding may be found between the MSA values on Form 8 and the results reported on the other forms.

10. 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.

11. 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).

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

13. 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.

Manager M. Lentz for

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

10/23/92
Date

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WESTON
MANAGERS DESIGNERS CONSULTANTS

Roy F. Weston, INC.
Lionville Laboratory

CLIENT: WESTINGHOUSE HANFORD CO. **SAMPLES RECEIVED:** 08/25/92
RFW #: 9208L565
W.O. #: 6168-02-01

METALS NARRATIVE-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.

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

10/23/92
Date

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ROY F. WESTON INC.

INORGANIC DATA SUMMARY REPORT 10/22/92

CLIENT: WESTINGHOUSE HANFORD
WORK ORDER: 06168-002-001-0000-00

WESTON BATCH #: 9208L565

SAMPLE	SITE ID	ANALYTE	RESULT		UNITS	REPORTING LIMIT
-001	B06Q20	Silver, Total	10.0	u	UG/L	10.0
		Aluminum, Total	200	u	UG/L	200
		Arsenic, Total	10.0	u	UG/L	10.0
		Barium, Total	200	u	UG/L	200
		Beryllium, Total	5.0	u	UG/L	5.0
		Calcium, Total	51200		UG/L	5000
		Cadmium, Total	5.0	u	UG/L	5.0
		Cobalt, Total	50.0	u	UG/L	50.0
		Chromium, Total	10.0	u	UG/L	10.0
		Copper, Total	25.0	u	UG/L	25.0
		Iron, Total	100	u	UG/L	100
		Mercury, Total	0.20	u	UG/L	0.20
		Potassium, Total	6760		UG/L	5000
		Magnesium, Total	14200		UG/L	5000
		Manganese, Total	15.0	u	UG/L	15.0
		Sodium, Total	27100		UG/L	5000
		Nickel, Total	40.0	u	UG/L	40.0
		Lead, Total	3.0	u	UG/L	3.0
		Antimony, Total	60.0	u	UG/L	60.0
		Selenium, Total	5.0	u	UG/L	5.0
		Thallium, Total	10.0	u	UG/L	10.0
		Vanadium, Total	50.0	u	UG/L	50.0
		Zinc, Total	20.0	u	UG/L	20.0

ROY F. WESTON INC.

INORGANIC DATA SUMMARY REPORT 10/22/92

CLIENT: WESTINGHOUSE HANFORD
WORK ORDER: 06168-002-001-0000-00

WESTON BATCH #: 9208L565

SAMPLE	SITE ID	ANALYTE	RESULT		UNITS	REPORTING LIMIT
-002	B06Q21	Silver, Soluble	10.0	u	UG/L	10.0
		Aluminum, Soluble	200	u	UG/L	200
		Arsenic, Soluble	10.0	u	UG/L	10.0
		Barium, Soluble	200	u	UG/L	200
		Beryllium, Soluble	5.0	u	UG/L	5.0
		Calcium, Soluble	51000		UG/L	5000
		Cadmium, Soluble	5.0	u	UG/L	5.0
		Cobalt, Soluble	50.0	u	UG/L	50.0
		Chromium, Soluble	10.0	u	UG/L	10.0
		Copper, Soluble	25.0	u	UG/L	25.0
		Iron, Soluble	100	u	UG/L	100
		Mercury, Soluble	0.20	u	UG/L	0.20
		Potassium, Soluble	6520		UG/L	5000
		Magnesium, Soluble	14200		UG/L	5000
		Manganese, Soluble	15.0	u	UG/L	15.0
		Sodium, Soluble	27200		UG/L	5000
		Nickel, Soluble	40.0	u	UG/L	40.0
		Lead, Soluble	3.0	u	UG/L	3.0
		Antimony, Soluble	60.0	u	UG/L	60.0
		Selenium, Soluble	5.0	u	UG/L	5.0
		Thallium, Soluble	10.0	u	UG/L	10.0
		Vanadium, Soluble	50.0	u	UG/L	50.0
		Zinc, Soluble	20.0	u	UG/L	20.0

ROY F. WESTON INC.

INORGANIC DATA SUMMARY REPORT 10/22/92

CLIENT: WESTINGHOUSE HANFORD
WORK ORDER: 06168-002-001-0000-00

WESTON BATCH #: 9208L565

SAMPLE	SITE ID	ANALYTE	RESULT		UNITS	REPORTING LIMIT
-004	B06Q65	Silver, Total	10.0	u	UG/L	10.0
		Aluminum, Total	590		UG/L	200
		Arsenic, Total	10.0	u	UG/L	10.0
		Barium, Total	200	u	UG/L	200
		Beryllium, Total	5.0	u	UG/L	5.0
		Calcium, Total	31200		UG/L	5000
		Cadmium, Total	5.0	u	UG/L	5.0
		Cobalt, Total	50.0	u	UG/L	50.0
		Chromium, Total	10.0	u	UG/L	10.0
		Copper, Total	25.0	u	UG/L	25.0
		Iron, Total	6690		UG/L	100
		Mercury, Total	0.20	u	UG/L	0.20
		Potassium, Total	5000	u	UG/L	5000
		Magnesium, Total	9670		UG/L	5000
		Manganese, Total	156		UG/L	15.0
		Sodium, Total	10600		UG/L	5000
		Nickel, Total	40.0	u	UG/L	40.0
		Lead, Total	3.0	u	UG/L	3.0
		Antimony, Total	60.0	u	UG/L	60.0
		Selenium, Total	5.0	u	UG/L	5.0
		Thallium, Total	10.0	u	UG/L	10.0
		Vanadium, Total	50.0	u	UG/L	50.0
		Zinc, Total	20.0	u	UG/L	20.0

ROY F. WESTON INC.

INORGANIC DATA SUMMARY REPORT 10/22/92

CLIENT: WESTINGHOUSE HANFORD
WORK ORDER: 06168-002-001-0000-00

WESTON BATCH #: 9208L565

SAMPLE	SITE ID	ANALYTE	RESULT		UNITS	REPORTING LIMIT
-005	B06Q66	Silver, Soluble	10.0	u	UG/L	10.0
		Aluminum, Soluble	200	u	UG/L	200
		Arsenic, Soluble	10.0	u	UG/L	10.0
		Barium, Soluble	200	u	UG/L	200
		Beryllium, Soluble	5.0	u	UG/L	5.0
		Calcium, Soluble	32600		UG/L	5000
		Cadmium, Soluble	5.0	u	UG/L	5.0
		Cobalt, Soluble	50.0	u	UG/L	50.0
		Chromium, Soluble	10.0	u	UG/L	10.0
		Copper, Soluble	25.0	u	UG/L	25.0
		Iron, Soluble	100	u	UG/L	100
		Mercury, Soluble	0.20	u	UG/L	0.20
		Potassium, Soluble	5000	u	UG/L	5000
		Magnesium, Soluble	9840		UG/L	5000
		Manganese, Soluble	15.0	u	UG/L	15.0
		Sodium, Soluble	10400		UG/L	5000
		Nickel, Soluble	40.0	u	UG/L	40.0
		Lead, Soluble	30.0	u	UG/L	30.0
		Antimony, Soluble	60.0	u	UG/L	60.0
		Selenium, Soluble	5.0	u	UG/L	5.0
		Thallium, Soluble	10.0	u	UG/L	10.0
		Vanadium, Soluble	50.0	u	UG/L	50.0
		Zinc, Soluble	20.0	u	UG/L	20.0

U.S. EPA - CLP

1

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

B06Q20

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

Lab Code: WESTON Case No.: WEST SAS No.: SDG No.: CLP565

Matrix (soil/water): WATER Lab Sample ID: 920856501

Level (low/med): LOW Date Received: 8/25/92

% Solids: 0.0

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	49.00	U		P
7440-36-0	Antimony	60.00	U		P
7440-38-2	Arsenic	3.20	B		F
7440-39-3	Barium	52.40	B		P
7440-41-7	Beryllium	1.80	B		P
7440-43-9	Cadmium	7.00	U		P
7440-70-2	Calcium	51200.00			P
7440-47-3	Chromium	9.00	U		P
7440-48-4	Cobalt	9.00	U		P
7440-50-8	Copper	8.00	U		P
7439-89-6	Iron	18.80	B		P
7439-92-1	Lead	2.00	U	NW	F
7439-95-4	Magnesium	14200.00			P
7439-96-5	Manganese	4.00	U		P
7439-97-6	Mercury	.10	U		CV
7440-02-0	Nickel	20.00	U		P
7440-09-7	Potassium	6760.00			P
7782-49-2	Selenium	4.40	B	NS	F
7440-22-4	Silver	10.00	U		P
7440-23-5	Sodium	27100.00			P
7440-28-0	Thallium	2.00	U		F
7440-62-2	Vanadium	30.20	B		P
7440-66-6	Zinc	7.00	U		P
	Cyanide				NR

Color Before: COLORLESS Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

U.S. EPA - CLP

1

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

B06Q21

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

Lab Code: WESTON Case No.: WEST SAS No.: SDG No.: CLP565

Matrix (soil/water): WATER Lab Sample ID: 920856502

Level (low/med): LOW Date Received: 8/25/92

% Solids: 0.0

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	49.00	U		P
7440-36-0	Antimony	60.00	U		P
7440-38-2	Arsenic	3.30	B		F
7440-39-3	Barium	52.40	B		P
7440-41-7	Beryllium	1.10	B		P
7440-43-9	Cadmium	7.00	U		P
7440-70-2	Calcium	51000.00			P
7440-47-3	Chromium	9.00	U		P
7440-48-4	Cobalt	9.00	U		P
7440-50-8	Copper	8.00	U		P
7439-89-6	Iron	16.20	B		P
7439-92-1	Lead	2.00	U	NW	F
7439-95-4	Magnesium	14200.00			P
7439-96-5	Manganese	4.00	U		P
7439-97-6	Mercury	.10	U		CV
7440-02-0	Nickel	20.00	U		P
7440-09-7	Potassium	6520.00			P
7782-49-2	Selenium	2.80	B	NS	F
7440-22-4	Silver	10.00	U		P
7440-23-5	Sodium	27200.00			P
7440-28-0	Thallium	2.00	U		F
7440-62-2	Vanadium	29.00	B		P
7440-66-6	Zinc	7.00	U		P
	Cyanide				NR

Color Before: COLORLESS Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

U.S. EPA - CLP

1

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

B06Q65

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

Lab Code: WESTON Case No.: WEST SAS No.: SDG No.: CLP565

Matrix (soil/water): WATER Lab Sample ID: 920856504

Level (low/med): LOW Date Received: 8/25/92

% Solids: 0.0

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	590.00			P
7440-36-0	Antimony	60.00	U		P
7440-38-2	Arsenic	2.10	B		F
7440-39-3	Barium	40.30	B		P
7440-41-7	Beryllium	1.80	B		P
7440-43-9	Cadmium	7.00	U		P
7440-70-2	Calcium	31200.00			P
7440-47-3	Chromium	9.00	U		P
7440-48-4	Cobalt	9.00	U		P
7440-50-8	Copper	8.00	U		P
7439-89-6	Iron	6690.00			P
7439-92-1	Lead	2.00		NW	F
7439-95-4	Magnesium	9670.00			P
7439-96-5	Manganese	156.00			P
7439-97-6	Mercury	.10	U		CV
7440-02-0	Nickel	20.00	U		P
7440-09-7	Potassium	3550.00	B		P
7782-49-2	Selenium	2.00	U	NW	F
7440-22-4	Silver	10.00	U		P
7440-23-5	Sodium	10600.00			P
7440-28-0	Thallium	2.00	U		F
7440-62-2	Vanadium	41.40	B		P
7440-66-6	Zinc	14.30	B		P
	Cyanide				NR

Color Before: COLORLESS Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

U.S. EPA - CLP

1

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

B06Q66

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

Lab Code: WESTON Case No.: WEST SAS No.: SDG No.: CLP565

Matrix (soil/water): WATER Lab Sample ID: 920856505

Level (low/med): LOW Date Received: 8/25/92

% Solids: 0.0

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	49.00	U		P
7440-36-0	Antimony	60.00	U		P
7440-38-2	Arsenic	2.00	U		F
7440-39-3	Barium	25.00	B		P
7440-41-7	Beryllium	1.40	B		P
7440-43-9	Cadmium	7.00	U		P
7440-70-2	Calcium	32600.00			P
7440-47-3	Chromium	9.00	U		P
7440-48-4	Cobalt	9.00	U		P
7440-50-8	Copper	8.00	U		P
7439-89-6	Iron	35.30	B		P
7439-92-1	Lead	20.00	U	NW	F
7439-95-4	Magnesium	9840.00			P
7439-96-5	Manganese	4.90	B		P
7439-97-6	Mercury	.10	U		CV
7440-02-0	Nickel	20.00	U		P
7440-09-7	Potassium	3480.00	B		P
7782-49-2	Selenium	2.00	U	NW	F
7440-22-4	Silver	10.00	U		P
7440-23-5	Sodium	10400.00			P
7440-28-0	Thallium	2.00	U	W	F
7440-62-2	Vanadium	32.40	B		P
7440-66-6	Zinc	7.50	B		P
	Cyanide				NR

Color Before: COLORLESS Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments: