START 9613427.1347 000014 9208L684-WES-835 0043871 49 2

ROY F. WESTON, INC.
Lionville Laboratory

CLIENT: WESTINGHOUSE HANFORD **SAMPLE(S) RECEIVED:** 08-29-92
RFW #: 9208L684, GC/MS VOLATILE
W.O. #: 6168-02-01

NARRATIVE

The set of samples consisted of four (4) water samples collected on 08-27-92.

The samples were analyzed according to criteria set forth in CLP SOW 3/90 for TCL Volatile target compounds on 09-04-92.

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

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

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

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

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

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

10.12.92
Date

FEB 1996 RECEIVED EDMC

sma/voa/08-684v.cn

WESTON Analytics Use Only

92084684

Custody Transfer Record/Lab Work Request

WESTON

Page 1 of 1

Client: Westinghouse Hanford
Est. Final Proj. Sampling Date:
Work Order #: 6168-02-01-0000
Project Contact/Phone #:
AD Project Manager: Jane Edwards
QC: Ok Del: Ok TAT: 35 day
Date Rec'd: 8/29/92 Date Due: ~~9-28-92~~ 10-03-92
Account #:

Refrigerator #		1	6	6		1	1	SUB	3		3	3	3			1
#/Type Container	Liquid	3G	1pt	1pt		1pt	1pt	1l	1l		1l	1l				1l
	Solid															
Volume	Liquid	40	950	950		250	250	1l	1l		1l	1l	1l			1l
	Solid															
Preservatives		—	—	—		HCl	HCl	HNO3	HNO3		none	H2SO4	none			HNO3
ANALYSES REQUESTED →		ORGANIC							INORG							
		VOA	BNA	Pest/PCB	Herb	TOC	TOX	Radiochem	Metal	CN	anions	nitrate CaCO	TDS TSS Alk			Diss Metals

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

Lab ID	Client ID/Description	Matrix QC Chosen (✓) MS	MSD	Matrix	Date Collected	Time Collected	WESTON Analytics Use Only: 8024H	8035H	8080H		TOCT	TTOX	TRAD	MMS(DW)		Free Cl2	Titration ICCD	TDS TSS TALK			MMS(SOW)
001	B06PZ3			W	8/27/92	08:25	✓	✓	✓		✓	✓	✓	✓		✓	✓	✓			
002	4																				✓
003	5						✓														
004	B06Q11					11:00	✓	✓	✓		✓	✓	✓	✓		✓	✓	✓			
005	12																				✓
006	13						✓														

FIELD PERSONNEL: COMPLETE ONLY SHADED AREAS

Special Instructions: TPSK 92-128 200 AAMS
Metals = HSL 1 MS/MSD Acquired
Anions = ICCL, ICFL, IC SO4, IC PO4, IC NO2, IC NO3
Radiochem = Gross alpha/Beta, Gamma Isotopes
Original Requisition

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

Relinquished by	Received by	Date	Time
Emery	[signature]	8/29/92	12:00
	[signature] 8-31-92		

Relinquished by	Received by	Date	Time
	[signature] 8-31-92		

WESTON Analytics Use Only

Samples were:
1) Shipped ___ or Hand Delivered ___
Airbill # 3595 3224
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)
Anions NO2, NO3, PO4

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# ____ 381-596a

9084027.1118

000002

9613427.1349 0000003 9208L684

Westinghouse Hanford Company	CHAIN OF CUSTODY

Custody Form Initiator PH BUTCHER

Company Contact PH BUTCHER

Project Designation/Sampling Locations 200AAMS

Ice Chest No. SML-187

Bill of Lading/Airbill No. 250987026-4

Method of Shipment EMERY

Shipped to WESTON

Possible Sample Hazards/Remarks N/A

Telephone (509)376-5045

Collection Date 8-27-92

Field Logbook No. EFL-1032

Offsite Property No. W92-0-0575-19

Sample Identification

BOG PZ3

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)

BOG PZ4

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

BOG PZ5

3, 40 ml, WATER, CLP-VOA

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

Relinquished by:	Received by:	Date/Time:
L.D. Walker LD Walker	B. WHITEN	8-28-92 10:00
B. WHITEN		
Emery		8/29/92 12:00

Final Sample Disposition

Disposal Method:	Disposed by:	Date/Time:

Comments:

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

9615427.1350 000004

Westinghouse Hanford Company	CHAIN OF CUSTODY

Custody Form Initiator PH BUTCHER

Company Contact PH BUTCHER

Project Designation/Sampling Locations 200AAMS

Ice Chest No. 170

Bill of Lading/Airbill No. 2509867026-4

Method of Shipment EMERY

Shipped to WESTON

Possible Sample Hazards/Remarks N/A

Telephone (509)376-5045

Collection Date 8-27-92

Field Logbook No. EFL-1032

Offsite Property No. W92-0-0575-19

Sample Identification

B06Q11

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)

B06Q12

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

B06Q13

3, 40 ml, WATER, CLP-VOA

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

Relinquished by:	Received by:	Date/Time:
L.D. Walker LE Walker	B-WHITEN	8-28-92 10:00
B-WHITEN		
Emery	8/29/92	12:00

Final Sample Disposition

Disposal Method:	Disposed by:	Date/Time:

Comments:

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

9612427.1351 000005

Westinghouse Hanford Company

SAMPLE ANALYSIS REQUEST

PART I: FIELD SECTION

Collector K. D. Lee/L. D. Walker Date Sampled 8-27-92 Time 08:25 hours

Company Contact P. H. Butcher Telephone (509) 376-5045

Sample Number	Number and Type of Sample Containers	Type of Sample*	Analysis Requested
B06PZ3	3, 40ml, Gs	W	CLP-VOA
	3, 2L, aG	W	SEMI-VOA, PCB/PEST
	1, 1L, P	W	ICP/AA METAL & Hg, (HNO3) UNFILTERED
	3, 1L, P	W	TDS, ANIONS, TSS, ALK
	1, 1L, P	W	AMMONIA, COD (H2SO4)
	1, 250ml, aG	W	TOC (INCLUDES BICARBONATE/CARBONATE) (H2SO4)
	1, 250ml, Gs	W	TOX (H2SO4)
	1, 1L, P	W	GROSS ALPHA/BETA, GAMMA SCAN (HNO3)
B06PZ4	1, 1L, P	W	ICP/AA METAL & Hg (HNO3) FILTERED
B06PZ5	3, 40ml, Gs	W	CLP-VOA
			BOL — 2509867026-4
			OPC — W92-0-0575-19
			TASK — 92-128

Field Information** _____

Special Handling and/or Storage _____

Possible Sample Hazards _____

PART II: LABORATORY SECTION

Received by _____ Title _____ Date _____

Analysis Required _____

*Indicate whether sample is soil, sludge, water, etc.

**Use back of page for additional information relative to sample location.

A-6000-406 (05/90

9613427 1352 000006

Westinghouse Hanford Company

SAMPLE ANALYSIS REQUEST

PART I: FIELD SECTION

Collector K. D. Lee/L. D. Walker Date Sampled 8-27-92 Time 11:00 hours

Company Contact P. H. Butcher Telephone (509) 376-5045

Sample Number	Number and Type of Sample Containers	Type of Sample*	Analysis Requested
B06Q11	3, 40ml, Gs	W	CLP-VOA
	3, 2L, aG	W	SEMI-VOA, PCB/PEST
	1, 1L, P	W	ICP/AA METAL & Hg, (HNO3) UNFILTERED
	3, 1L, P	W	TDS, ANIONS, TSS, ALK
	1, 1L, P	W	AMMONIA, COD (H2SO4)
	1, 250ml, aG	W	TOC (INCLUDES BICARBONATE/CARBONATE) (H2SO4)
	1, 250ml, Gs	W	TOX (H2SO4)
	1, 1L, P	W	GROSS ALPHA/BETA, GAMMA SCAN (HNO3)
B06Q12	1, 1L, P	W	ICP/AA METAL & Hg (HNO3) FILTERED
B06Q13	3, 40ml, Gs	W	CLP-VOA
			BOL— 250987026-4
			OPC — W92-0-0575-19
			TASK— 92-128

Field Information** _____

Special Handling and/or Storage _____

Possible Sample Hazards _____

PART II: LABORATORY SECTION

Received by _____ Title _____ Date _____

Analysis Required _____

*Indicate whether sample is soil, sludge, water, etc.

**Use back of page for additional information relative to sample location.

A-6000-406 (05/90)

EMERY WORLDWIDE

A CF Company

UNITED STATES / CANADA — INTERNATIONAL

Shipper's Account Number: 450[illegible]585 9208L684

Date: 08-28-9[illegible]

Shipment Number: [illegible]

FROM:
ESTINGHOUSE SHIPPING DEPT (509) 376-6665
.S. DEPARTMENT OF ENERGY C/O
ESTINGHOUSE HANFORD
BLDG 1163
55 STEVENS DRIVE
CHLAND WA

TO:
JOSIE KING
RF WESTON INC
208 WELSH POOL ROAD
LONVILLE PA 19341

Tariff Dest. | Gateway

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

Canada

Customer's Reference Numbers: 232 #8238 W92-0-0575#19

Zip: 99352

Consignee's Account Number: E

Zip: 19341

Description	Pos.	Dimensions L	W	H	Total Pieces	Total Weight (LBS)
COOLER ID: SML#7 187 82#: 84# WATER SAMPLES	2		14	11	2	166

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

Declared Value $

250987821-4

Remarks: JRDAY DELIVERY ATURE SECURITY SERVIC

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: Commodity Code

Third Party Account Number required for Third Party Billing: E

International Customs Value | International Insurance

Total Transportation Charges | Other Charges/Advance [illegible] OC/AO

3-PHSA

EMERY WORLDWIDE — A CF Company — 9208L684

SIGNATURE AND TALLY RECORD

DATE: 08-28-92 SHIPMENT NO.: 250987821-4

SHIPPER: WESTINGHOUSE SHIPPING DEPT (509) 376-6665

REFERENCE NO.: W92-0-0575#19

29-46 (8/89) Litho USA

SHIPPER NAME AND ADDRESS
ESTINGHOUSE SHIPPING DEPT (509) 376-6665
2-06 U.S. DEPARTMENT OF ENERGY C/O
ESTINGHOUSE HANFORD COMPANY
355 STEVENS DRIVE 1163 BUILDING
O BOX 1970
ICHLAND WA 99352

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

Pieces | Weight: 166 LBS | Description/Marks: WATER SAMPLES COOLER ID: SML 187 82#: 170 84# | Emery Authorization No.

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
Don Ruth-d Exe	Sum PHL		0930 8-28
			12 9/2

SPECIAL HANDLING INSTRUCTIONS

CONSIGNEE COPY

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

RFW Batch Number: 9208L684 Client: WESTINGHOUSE HANFORD Work Order: 6168-02-01-0000 Report Date: 09/29/92 18:21 Page: 1a

Cust ID:	B06PZ3		B06PZ3		B06PZ3		B06PZ5		B06Q11		B06Q13	
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	100	%	102	%	100	%	104	%	104	%	107	%
Bromofluorobenzene	94	%	90	%	93	%	96	%	98	%	100	%
1,2-Dichloroethane-d4	106	%	107	%	109	%	111	%	110	%	112	%
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	5	U	5	U	5	U
Acetone	10	U	10	U	10	U	10	U	10	U	10	U
Carbon Disulfide	5	U	5	U	5	U	5	U	5	U	5	U
1,1-Dichloroethene	5	U	116	%	111	%	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	2	J	5	U	2	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	5	U	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	111	%	109	%	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	118	%	113	%	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.

9213427.1394 0000009

Cust ID:	B06PZ3	B06PZ3	B06PZ3	B06PZ5	B06Q11	B06Q13
RFW#:	001	001 MS	001 MSD	003	004	006
Toluene	5 U	114 %	109 %	5 U	5 U	5 U
Chlorobenzene	5 U	112 %	108 %	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.

9613427.1355

000010

9616427.1356 000025 CLIENT SAMPLE NO.

VOLATILE ORGANICS ANALYSIS DATA SHEET

B06PZ3

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

Client: WESTINGHOUSE HANFORD

Matrix: (soil/water) WATER

Lab Sample ID: 9208L684-001

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

Lab File ID: 0090405

Level: (low/med) LOW

Date Received: 08/29/92

% Moisture: not dec.

Date Analyzed: 09/04/92

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

9613427.1357 0n00026 CLIENT SAMPLE NO.

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

B06PZ3

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

Client: WESTINGHOUSE HANFORD

Matrix: (soil/water) WATER

Lab Sample ID: 9208L684-001

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

Lab File ID: Q090405

Level: (low/med) LOW

Date Received: 08/29/92

% Moisture: not dec.

Date Analyzed: 09/04/92

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.				

VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

B06PZ5

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

Client: WESTINGHOUSE HANFORD

Matrix: (soil/water) WATER

Lab Sample ID: 9208L684-003

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

Lab File ID: Q090408

Level: (low/med) LOW

Date Received: 08/29/92

% Moisture: not dec.

Date Analyzed: 09/04/92

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	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	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

9616427.1359 0000031 CLIENT SAMPLE NO.

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

B06PZ5

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

Client: WESTINGHOUSE HANFORD

Matrix: (soil/water) WATER

Lab Sample ID: 9208L684-003

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

Lab File ID: 0090408

Level: (low/med) LOW

Date Received: 08/29/92

% Moisture: not dec.

Date Analyzed: 09/04/92

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.				

9613427.1560

1A VOLATILE ORGANICS ANALYSIS DATA SHEET

000036 CLIENT SAMPLE NO.

B06Q11

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

Client: WESTINGHOUSE HANFORD

Matrix: (soil/water) WATER

Lab Sample ID: 9208L684-004

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

Lab File ID: Q090409

Level: (low/med) LOW

Date Received: 08/29/92

% Moisture: not dec.

Date Analyzed: 09/04/92

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

CLIENT SAMPLE NO.

B06Q11

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: 9208L684-004

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

Lab File ID: Q090409

Level: (low/med) LOW

Date Received: 08/29/92

% Moisture: not dec.

Date Analyzed: 09/04/92

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.				

9615427.1562 0000041

VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

B06Q13

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

Client: WESTINGHOUSE HANFORD

Matrix: (soil/water) WATER

Lab Sample ID: 9208L684-006

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

Lab File ID: Q090410

Level: (low/med) LOW

Date Received: 08/29/92

% Moisture: not dec.

Date Analyzed: 09/04/92

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	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	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

CLIENT SAMPLE NO.

B06Q13

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: 9208L684-006

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

Lab File ID: Q090410

Level: (low/med) LOW

Date Received: 08/29/92

% Moisture: not dec.

Date Analyzed: 09/04/92

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: 9208L684 Client: WESTINGHOUSE HANFORD Work Order: 6168-02-01-0000 Report Date: 10/02/92 15:11 Page: 1a

	Cust ID:	B06PZ3		B06PZ3		B06PZ3		B06Q11		SBLK		SBLK BS	
Sample Information	RFW#:	001		001 MS		001 MSD		004		92LE1493-MB1		92LE1493-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	80	%	81	%	70	%	74	%	87	%	91	%
	2-Fluorobiphenyl	81	%	88	%	71	%	74	%	77	%	78	%
	Terphenyl-d14	96	%	93	%	89	%	85	%	110	%	92	%
	Phenol-d5	91	%	89	%	73	%	84	%	88	%	93	%
	2-Fluorophenol	89	%	86	%	70	%	78	%	75	%	81	%
	2,4,6-Tribromophenol	83	%	102	%	95	%	99	%	110	%	115	%
	2-Chlorophenol-d4	91	%	92	%	78	%	83	%	88	%	94	%
	1,2-Dichlorobenzene-d4	72	%	68	%	59	%	64	%	61	%	67	%
			fl		fl		fl		fl		fl		fl
Phenol		10	U	104	%	88	%	10	U	10	U	99	%
bis(2-Chloroethyl)ether		10	U	10	U	10	U	10	U	10	U	10	U
2-Chlorophenol		10	U	94	%	79	%	10	U	10	U	92	%
1,3-Dichlorobenzene		10	U	10	U	10	U	10	U	10	U	10	U
1,4-Dichlorobenzene		10	U	69	%	56	%	10	U	10	U	62	%
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	88	%	84	%	10	U	10	U	93	%
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	77	%	66	%	10	U	10	U	71	%
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	96	%	88	%	10	U	10	U	104 *	%
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.

000009
9613427.1304

RFW Batch Number: 9208L684 Client: WESTINGHOUSE HANFORD Work Order: 6168-02-01-0000 Page: 1b

Cust ID:	B06PZ3		B06PZ3		B06PZ3		B06Q11		SBLK		SBLK BS	
RFW#:	001		001 MS		001 MSD		004		92LE1493-MB1		92LE1493-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	94	%	77	%	10	U	10	U	79	%
2,4-Dinitrophenol	26	U	26	U	26	U	26	U	25	U	25	U
4-Nitrophenol	26	U	109 *	%	102 *	%	26	U	25	U	109 *	%
Dibenzofuran	10	U	10	U	10	U	10	U	10	U	10	U
2,4-Dinitrotoluene	10	U	97 *	%	86	%	10	U	10	U	93	%
Diethylphthalate	10	U	10	U	0.8	J	10	U	10	U	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	110 *	%	114 *	%	26	U	25	U	117 *	%
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	3	JB	4	JB	1	JB	1	JB	0.4	J	2	JB
Fluoranthene	10	U	10	U	10	U	10	U	10	U	10	U
Pyrene	10	U	96	%	91	%	10	U	10	U	91	%
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	0.9	J	1	J	8	J	2	J	10	U	10	U
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.

000010

ROY F. WESTON, INC.
Lionville Laboratory

CLIENT: WESTINGHOUSE HANFORD **SAMPLE RECEIVED:** 08-29-92
RFW #: 9208L684, SEMIVOLATILE
W.O. #: 06168-002-001-0000-00

NARRATIVE

The set of samples consisted of two (2) water samples collected on 08-27-92.

The samples were extracted on 09-02-92 and analyzed according to criteria set forth in CLP SOW 03/90 for TCL Semivolatile target compounds on 09-15,16-92.

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. Five (5) of twenty-two (22) matrix spike recoveries were outside EPA QC limits.

4. Three (3) of eleven (11) blank spike recoveries were outside EPA QC limits.

5. The laboratory blank 92LE1493-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 10/16/92
J. Peter Hershey, Ph.D. Date
Laboratory Manager
Lionville Analytical Laboratory

kls/08-684b.cn

9613427.1367 IB 000028

CLIENT SAMPLE NO.

B06PZ3

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: 9208L684-001

Sample wt/vol: 990 (g/mL) ML Lab File ID: M091603

Level: (low/med) LOW Date Received: 08/29/92

% Moisture: _____ decanted: (Y/N)__ Date Extracted: 09/02/92

Concentrated Extract Volume: 1000(uL) Date Analyzed: 09/16/92

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.

B06PZ3

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: 9208L684-001

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

Lab File ID: M091603

Level: (low/med) LOW

Date Received: 08/29/92

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

Date Extracted: 09/02/92

Concentrated Extract Volume: 1000(uL)

Date Analyzed: 09/16/92

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	3	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	0.9	J
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

9613427.1369 0000030

CLIENT SAMPLE NO.

B06PZ3

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

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

Client: WESTINGHOUSE HANFORD

Matrix: (soil/water) WATER

Lab Sample ID: 9208L684-001

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

Lab File ID: M091603

Level: (low/med) LOW

Date Received: 08/29/92

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

Date Extracted: 09/02/92

Concentrated Extract Volume: 1000(uL)

Date Analyzed: 09/16/92

Injection Volume: 2.0(uL)

Dilution Factor: 1.00

GPC Cleanup: (Y/N) N

pH: 7.0

Number TICs found: 2

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN	5.25	10	J
2.	UNKNOWN	24.52	4	J

CLIENT SAMPLE NO.

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

B06Q11

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

Client: WESTINGHOUSE HANFORD

Matrix: (soil/water) WATER

Lab Sample ID: 9208L684-004

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

Lab File ID: M091606

Level: (low/med) LOW

Date Received: 08/29/92

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

Date Extracted: 09/02/92

Concentrated Extract Volume: 1000(uL)

Date Analyzed: 09/16/92

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

9616927.1571 0000045

CLIENT SAMPLE NO.

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

B06Q11

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

Client: WESTINGHOUSE HANFORD

Matrix: (soil/water) WATER Lab Sample ID: 9208L684-004

Sample wt/vol: 990 (g/mL) ML Lab File ID: M091606

Level: (low/med) LOW Date Received: 08/29/92

% Moisture: _____ decanted: (Y/N)__ Date Extracted: 09/02/92

Concentrated Extract Volume: 1000(uL) Date Analyzed: 09/16/92

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	1	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	2	J
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

CLIENT SAMPLE NO.

B06Q11

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

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

Client: WESTINGHOUSE HANFORD

Matrix: (soil/water) WATER

Lab Sample ID: 9208L684-004

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

Lab File ID: M091606

Level: (low/med) LOW

Date Received: 08/29/92

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

Date Extracted: 09/02/92

Concentrated Extract Volume: 1000(uL)

Date Analyzed: 09/16/92

Injection Volume: 2.0(uL)

Dilution Factor: 1.00

GPC Cleanup: (Y/N) N

pH: 7.0

Number TICs found: 5

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN	4.90	8	J
2.	UNKNOWN	5.03	2	J
3.	UNKNOWN	5.20	5	J
4.	UNKNOWN	10.67	4	J
5.	SILOXANE	11.55	2	J

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

RFW Batch Number: 9208L684 Client: WESTINGHOUSE HANFORD Work Order: 06168-002-001-0000-00 Report Date: 10/30/92 10:08 Page: 1

	Cust ID:	B06PZ3	B06PZ3	B06PZ3	B06PZ3	B06PZ3	B06PZ3
Sample Information	RFW#:	001	001	001	001	001 MS	001 MS
	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	REPREP	RE/CONF		CONFIRM
Surrogate: Tetrachloro-m-xylene		10 * %	15 * %	62 %	55 * %	10 * %	25 * %
Surrogate: Decachlorobiphenyl		15 * %	10 * %	NS %	NS %	15 * %	10 * %
		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	100 %	90 %
Heptachlor		0.050 U	NA	0.050 U	NA	84 %	74 %
Aldrin		0.050 U	NA	0.20 B	0.050 U	96 %	80 %
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	98 %	92 %
4,4'-DDE		0.10 U	NA	0.10 U	NA	0.10 U	NA
Endrin		0.10 U	NA	0.10 U	NA	104 %	93 %
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	108 %	104 %
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

000010

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

RFW Batch Number: 9208L684 Client: WESTINGHOUSE HANFORD Work Order: 06168-002-001-0000-00 Report Date: 10/30/92 10:08 Page: 2

	Cust ID:	B06PZ3	B06PZ3	B06Q11	B06Q11	B06Q11	B06Q11
Sample Information	RFW#:	001 MSD	001 MSD	004	004	004	004
	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	REPREP	RE/CONF
Surrogate: Tetrachloro-m-xylene		15 * %	20 * %	15 * %	15 * %	50 * %	45 * %
Surrogate: Decachlorobiphenyl		20 * %	15 * %	20 * %	15 * %	NS %	NS %
		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	0.050 U	0.050 U	NA
gamma-BHC (Lindane)		150 * %	132 * %	0.050 U	NA	0.050 U	NA
Heptachlor		116 %	106 %	0.050 U	NA	0.050 U	NA
Aldrin		144 * %	114 %	0.050 U	NA	0.18 B	0.050 U
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		146 * %	135 * %	0.10 U	NA	0.10 U	NA
4,4'-DDE		0.10 U	NA	0.10 U	NA	0.10 U	NA
Endrin		156 * %	147 * %	0.10 U	NA	0.10 U	NA
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		166 * %	154 * %	0.10 U	NA	0.10 U	NA
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

000011
9427.674

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

RFW Batch Number: 9208L684 | Client: WESTINGHOUSE HANFORD | Work Order: 06168-002-001-0000-00 | Report Date: 10/30/92 10:08 | Page: 3

Sample Information						
Cust ID:	B06Q11	B06Q11	B06Q11	B06Q11	PBLK	PBLK
RFW#:	004 MS	004 MS	004 MSD	004 MSD	92LE1489-MB1	92LE1489-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
	REPREP	RE/CONF	REPREP	RE/CONF		CONFIRM
Surrogate: Tetrachloro-m-xylene	73 %	65 %	62 %	55 * %	15 * %	I %
Surrogate: Decachlorobiphenyl	NS %	NS %	NS %	NS %	20 * %	15 * %
	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)	60 %	60 %	55 * %	50 * %	0.050 U	NA
Heptachlor	75 %	65 %	60 %	55 %	0.050 U	NA
Aldrin	20 * %	60 %	10 * %	45 %	1.4	0.050 U
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	60 %	58 %	56 %	52 %	0.10 U	NA
4,4'-DDE	0.10 U	NA	0.10 U	NA	0.10 U	NA
Endrin	58 %	52 * %	54 * %	46 * %	0.10 U	NA
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	46 %	46 %	34 * %	32 * %	0.10 U	NA
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

000012
9413427.1375

9613427.1576 14A

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

Client: WESTINGHOUSE HANFORD
RFW #: 9208L684

W.O. #: 06168-002-001-9999-00
Date Received: 08-29-92

PESTICIDE/PCB

The set of samples consisted of two (2) water samples collected on 08-27-92.

The samples were extracted on 09-02-92 and 10-20-92 and analyzed according to criteria set forth in the Contract Laboratory Program 03/90 SOW for Pesticide and PCB target compounds on 10-03,04,08,23,24-92.

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

1. All samples were re-extracted due to low surrogate recoveries; however this occurred outside the holding time.

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

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

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

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

6. The RPDs of the pesticides in the Performance Evaluation Mixes analyzed for calibration verification were within 25% for both analytical columns with the exception of Methoxychlor analyzed on 10-02-92 at 0242 on the DB608 column which was used for the matrix spikes.

7. Thirty-one (31) of thirty-five (35) obtainable surrogate recoveries were outside the EPA QC limits. The following surrogate recoveries were outside the EPA QC limits of 60%-150%.

	% Recoveries			
Sample ID	TCX1	TCX2	DCB1	DCB2
B06PZ3	10	15	15	10
B06PZ3 RE	-	55	-	-
B06PZ3 MS	10	25	15	10

WESTON
MANAGERS DESIGNERS/CONSULTANTS

Sample ID	% Recoveries TCX1	TCX2	DCB1	DCB2
B06PZ3 MSD	15	20	20	15
B06Q11	15	15	20	15
B06Q11 RE	50	45	-	-
B06Q11 MSD	-	55	-	-
92LE1489-MB1	15	-	20	15
92LE1489-MB1S	10	10	15	15
92LE1790-MB1	42	35	-	-
92LE1790-MB1S	40	35	-	-

8. Four (4) of twenty-three (23) obtainable blank spike recoveries were outside EPA QC limits. The following blank spike recoveries were outside EPA QC limits:

Compound	(%) Recovery	(%) QC Limits
4,4'-DDT	130 & 130	38 - 127
Gamma-BHC	55	56 - 123
Endrin	54	56 - 121

9. Eighteen (18) of forty-eight (48) matrix spike recoveries were outside EPA QC limits. The following matrix spike recoveries were outside EPA QC limits:

Compound	(%) Recovery	(%) QC Limits
Gamma-BHC	150 & 132	56 - 123
Aldrin	144	40 - 120
Dieldrin	146 & 135	52 - 126
Endrin	156 & 147	56 - 121
4,4'-DDT	166 & 154	38 - 127
Gamma-BHC	55 & 50	56 - 123
Aldrin	20 & 10	40 - 120
Endrin	52, 54, 46	56 - 121
4,4'-DDT	34, 32	38 - 127

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

11. Extracts with sufficient volume were re-extracted due to low surrogate recoveries but the re-extracted batch 92LE1790 was inadvertently spiked and surrogated with CLP 02/88 surrogates & spikes.

WESTON
MANAGERS DESIGNERS/CONSULTANTS

12. Since Endosulfan Sulfate coelutes with DBC on the DB1701, confirmation cannot be obtained for Endosulfan Sulfate. No peaks eluted within the retention time window of Endosulfan Sulfate on DB608 column; therefore, no confirmation was required.

Margaret M. Beatyppe

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

11/4/92
Date

sma/pcb/08-684pp.cn

9613427.1579 0 0 0 0 0 2 6

PESTICIDE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

B06PZ3

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

Client: WESTINGHOUSE HANFORD

Matrix: (soil/water) WATER

Lab Sample ID: 9208L684-001

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

Lab File ID: 09309235.71

% Moisture: decanted: (Y/N)_

Date Received: 08/29/92

Extraction: (SepF/Cont/Sonc) CONT

Date Extracted: 09/02/92

Concentrated Extract Volume: 10000.00 (uL)

Date Analyzed: 10/03/92

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

DCR 10/29/92

9613927.1580 0000031

PESTICIDE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

B06PZ3RE

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

Client: WESTINGHOUSE HANFORD

Matrix: (soil/water) WATER — Lab Sample ID: 9208L684-001

Sample wt/vol: 990 (g/mL) ML — Lab File ID: 10239235.07

% Moisture: decanted: (Y/N)_ — Date Received: 08/29/92

Extraction: (SepF/Cont/Sonc) CONT — Date Extracted: 10/20/92

Concentrated Extract Volume: 10000.00(uL) — Date Analyzed: 10/23/92

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

DOB 10/29/92

9613427.1581 000036

CLIENT SAMPLE NO.

PESTICIDE ORGANICS ANALYSIS DATA SHEET

B06Q11

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

Client: WESTINGHOUSE HANFORD

Matrix: (soil/water) WATER — Lab Sample ID: 9208L684-004

Sample wt/vol: 990 (g/mL) ML — Lab File ID: 09309235.74

% Moisture: decanted: (Y/N) _ — Date Received: 08/29/92

Extraction: (SepF/Cont/Sonc) CONT — Date Extracted: 09/02/92

Concentrated Extract Volume: 10000.00 (uL) — Date Analyzed: 10/04/92

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

DCF 10/29/92

9613427.1382 0000043

CLIENT SAMPLE NO.

PESTICIDE ORGANICS ANALYSIS DATA SHEET

B06Q11RE

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

Client: WESTINGHOUSE HANFORD

Matrix: (soil/water) WATER — Lab Sample ID: 9208L684-004

Sample wt/vol: 990 (g/mL) ML — Lab File ID: 10239235.08

% Moisture: decanted: (Y/N)_ — Date Received: 08/29/92

Extraction: (SepF/Cont/Sonc) CONT — Date Extracted: 10/20/92

Concentrated Extract Volume: 10000.00(uL) — Date Analyzed: 10/23/92

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

DER 01/30/92

9613127.1505

RECORD COPY

ROY F. WESTON, INC.
Lionville Laboratory

CLIENT: WESTINGHOUSE HANFORD **SAMPLE(S) RECEIVED:** 08-29-92
RFW #: 9208L684
W.O. #: 6168-02-01

INORGANIC NARRATIVE

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

1. All sample holding times as required by 40CFR136 were met with the exception of Nitrite by IC, Nitrate by IC and Phosphate by IC (received 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 10/5/92
J. Peter Hershey, Ph.D. Date
Laboratory Manager
Lionville Analytical Laboratory

NOV 1992
RECEIVED
OSM DMO

kls/i08-684

9613127.1504

ROY F. WESTON INC.

INORGANIC DATA SUMMARY REPORT 09/29/92

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

WESTON BATCH #: 9208L684

SAMPLE	SITE ID	ANALYTE	RESULT	UNITS	REPORTING LIMIT
-001	B06PZ3	Alkalinity	100	MG/L	2.0
		Chloride by IC	2.8	MG/L	0.25
		Fluoride by IC	0.52	MG/L	0.50
		Nitrite by IC	0.25 u	MG/L	0.25
		Nitrate by IC	7.3	MG/L	0.25
		Chemical Oxygen Demand	5.0 u	MG/L	5.0
		Phosphate by IC	0.25 u	MG/L	0.25
		Sulfate by IC	21.8	MG/L	2.5
		Ammonia, as N	0.10 u	MG/L	0.10
		Total Organic Carbon	0.50 u	MG/L	0.50
		Total Dissolved Solids	199	MG/L	5.0
		Total Organic Halides	10.5	UG/L	5.0
		Total Suspended Solids	10.0	MG/L	5.0
-004	B06Q11	Alkalinity	100	MG/L	2.0
		Chloride by IC	13.8	MG/L	2.5
		Fluoride by IC	0.55	MG/L	0.50
		Nitrite by IC	0.25 u	MG/L	0.25
		Nitrate by IC	6.6	MG/L	0.25
		Chemical Oxygen Demand	7.6	MG/L	5.0
		Phosphate by IC	0.25 u	MG/L	0.25
		Sulfate by IC	29.2	MG/L	2.5
		Ammonia, as N	0.10 u	MG/L	0.10
		Total Organic Carbon	3.3	MG/L	0.50
		Total Dissolved Solids	230	MG/L	5.0
		Total Organic Halides	21.5	UG/L	20.0
		Total Suspended Solids	11.0	MG/L	5.0

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

Client : WESTINGHOUSE HANFORD
RFW# : 9208L684

W.O. #: 6168-02-01
Date Received: 08-29-92

CLP METALS

The set of samples consisted of four (4) water samples collected on 08-27-92.

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. Solubles and totals were digested within the same digestion batch; therefore, will share the same QC flags.

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

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

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

5. All preparation blank values were within control limits.

6. All LCS results were within the 80-120% control limits.

7. All matrix spike recoveries were within the 75-125% control limits with the exceptions of lead and mercury. All exceptions are flagged with a "N" on the CLP forms.

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

9. 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
MANAGERS DESIGNERS/CONSULTANTS

10. 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).

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

12. 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.

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

11/9/92
Date

mlj/clp-met.nar

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

Client: WESTINGHOUSE
RFW#: 9208L684

W.O. #: 6168-02-01
Date Received: 08-29-92

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.

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

11/9/92
Date

mlj\clp-met.nar

ROY F. WESTON INC.

INORGANIC DATA SUMMARY REPORT 11/06/92

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

WESTON BATCH #: 9208L684

SAMPLE	SITE ID	ANALYTE	RESULT		UNITS	REPORTING LIMIT
-001	B06PZ3	Silver, Total	10.0	u	UG/L	10.0
		Aluminum, Total	200	u	UG/L	200
		Arsenic, Total	10.5		UG/L	10.0
		Barium, Total	200	u	UG/L	200
		Beryllium, Total	5.0	u	UG/L	5.0
		Calcium, Total	23300		UG/L	5000
		Cadmium, Total	5.0	u	UG/L	5.0
		Cobalt, Total	50.0	u	UG/L	50.0
		Chromium, Total	10.2		UG/L	10.0
		Copper, Total	25.0	u	UG/L	25.0
		Iron, Total	143		UG/L	100
		Mercury, Total	0.20	u	UG/L	0.20
		Potassium, Total	6230		UG/L	5000
		Magnesium, Total	6880		UG/L	5000
		Manganese, Total	15.0	u	UG/L	15.0
		Sodium, Total	19600		UG/L	5000
		Nickel, Total	40.0	u	UG/L	40.0
		Lead, Total	30.0	u	UG/L	30.0
		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	51.2		UG/L	50.0
		Zinc, Total	20.0	u	UG/L	20.0

ROY F. WESTON INC.

INORGANIC DATA SUMMARY REPORT 11/06/92

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

WESTON BATCH #: 9208L684

SAMPLE	SITE ID	ANALYTE	RESULT		UNITS	REPORTING LIMIT
-002	B06PZ4	Silver, Soluble	10.0	u	UG/L	10.0
		Aluminum, Soluble	200	u	UG/L	200
		Arsenic, Soluble	11.3		UG/L	10.0
		Barium, Soluble	200	u	UG/L	200
		Beryllium, Soluble	5.0	u	UG/L	5.0
		Calcium, Soluble	23100		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	5450		UG/L	5000
		Magnesium, Soluble	7140		UG/L	5000
		Manganese, Soluble	15.0	u	UG/L	15.0
		Sodium, Soluble	20100		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

ROY F. WESTON INC.

INORGANIC DATA SUMMARY REPORT 11/06/92

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

WESTON BATCH #: 9208L684

SAMPLE	SITE ID	ANALYTE	RESULT		UNITS	REPORTING LIMIT
-004	B06Q11	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	26400		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	175		UG/L	100
		Mercury, Total	0.20	u	UG/L	0.20
		Potassium, Total	6430		UG/L	5000
		Magnesium, Total	8270		UG/L	5000
		Manganese, Total	15.0	u	UG/L	15.0
		Sodium, Total	22800		UG/L	5000
		Nickel, Total	40.0	u	UG/L	40.0
		Lead, Total	30.0	u	UG/L	30.0
		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 11/06/92

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

WESTON BATCH #: 9208L684

SAMPLE	SITE ID	ANALYTE	RESULT		UNITS	REPORTING LIMIT
-005	B06Q12	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	26000		UG/L	5000
		Cadmium, Soluble	5.0	u	UG/L	5.0
		Cobalt, Soluble	50.0	u	UG/L	50.0
		Chromium, Soluble	10.2		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	6960		UG/L	5000
		Magnesium, Soluble	8230		UG/L	5000
		Manganese, Soluble	15.0	u	UG/L	15.0
		Sodium, Soluble	22900		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

EPA SAMPLE NO.

1

INORGANIC ANALYSIS DATA SHEET

B06PZ3

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

Lab Code: WESTON Case No.: WEST SAS No.: SDG No.: CLP684

Matrix (soil/water): WATER Lab Sample ID: 920868401

Level (low/med): LOW Date Received: 8/29/92

% 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	10.50			F
7440-39-3	Barium	17.40	B		P
7440-41-7	Beryllium	1.80	B		P
7440-43-9	Cadmium	7.00	U		P
7440-70-2	Calcium	23300.00			P
7440-47-3	Chromium	10.20		*	P
7440-48-4	Cobalt	9.00	U		P
7440-50-8	Copper	8.00	U		P
7439-89-6	Iron	143.00			P
7439-92-1	Lead	20.00	U	NW	F
7439-95-4	Magnesium	6880.00			P
7439-96-5	Manganese	8.50	B		P
7439-97-6	Mercury	.10	U	N	CV
7440-02-0	Nickel	20.00	U		P
7440-09-7	Potassium	6230.00			P
7782-49-2	Selenium	2.00	U	W	F
7440-22-4	Silver	10.00	U		P
7440-23-5	Sodium	19600.00			P
7440-28-0	Thallium	2.00	U		F
7440-62-2	Vanadium	51.20			P
7440-66-6	Zinc	10.90	B		P
	Cyanide				NR

Color Before: COLORLESS Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

9613427.1393

U.S. EPA - CLP 0000029

1

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

B06PZ4

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

Lab Code: WESTON Case No.: WEST SAS No.: SDG No.: CLP684

Matrix (soil/water): WATER Lab Sample ID: 920868402

Level (low/med): LOW Date Received: 8/29/92

% 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	11.30			F
7440-39-3	Barium	18.70	B		P
7440-41-7	Beryllium	1.00	U		P
7440-43-9	Cadmium	7.00	U		P
7440-70-2	Calcium	23100.00			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	15.00	U		P
7439-92-1	Lead	20.00	U	NW	F
7439-95-4	Magnesium	7140.00			P
7439-96-5	Manganese	5.60	B		P
7439-97-6	Mercury	.10	U	N	CV
7440-02-0	Nickel	20.00	U		P
7440-09-7	Potassium	5450.00			P
7782-49-2	Selenium	2.00	U	W	F
7440-22-4	Silver	10.00	U		P
7440-23-5	Sodium	20100.00			P
7440-28-0	Thallium	2.00	U		F
7440-62-2	Vanadium	40.30	B		P
7440-66-6	Zinc	10.90	B		P
	Cyanide				NR

Color Before: COLORLESS Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

EPA SAMPLE NO.

1

INORGANIC ANALYSIS DATA SHEET

B06Q11

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

Lab Code: WESTON Case No.: WEST SAS No.: SDG No.: CLP684

Matrix (soil/water): WATER Lab Sample ID: 920868404

Level (low/med): LOW Date Received: 8/29/92

% 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	6.70	B		F
7440-39-3	Barium	36.10	B		P
7440-41-7	Beryllium	1.00	U		P
7440-43-9	Cadmium	7.00	U		P
7440-70-2	Calcium	26400.00			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	175.00			P
7439-92-1	Lead	20.00	U	NW	F
7439-95-4	Magnesium	8270.00			P
7439-96-5	Manganese	7.10	B		P
7439-97-6	Mercury	.10	U	N	CV
7440-02-0	Nickel	20.00	U		P
7440-09-7	Potassium	6430.00			P
7782-49-2	Selenium	2.00	U	W	F
7440-22-4	Silver	10.00	U		P
7440-23-5	Sodium	22800.00			P
7440-28-0	Thallium	2.00	U		F
7440-62-2	Vanadium	30.70	B		P
7440-66-6	Zinc	10.90	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.

B06Q12

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

Lab Code: WESTON Case No.: WEST SAS No.: SDG No.: CLP684

Matrix (soil/water): WATER Lab Sample ID: 920868405

Level (low/med): LOW Date Received: 8/29/92

% 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	7.00	B		F
7440-39-3	Barium	38.80	B		P
7440-41-7	Beryllium	1.00	U		P
7440-43-9	Cadmium	7.00	U		P
7440-70-2	Calcium	26000.00			P
7440-47-3	Chromium	10.20		*	P
7440-48-4	Cobalt	9.00	U		P
7440-50-8	Copper	8.00	U		P
7439-89-6	Iron	15.00	U		P
7439-92-1	Lead	20.00	U	NW	F
7439-95-4	Magnesium	8230.00			P
7439-96-5	Manganese	4.00	U		P
7439-97-6	Mercury	.10	U	N	CV
7440-02-0	Nickel	20.00	U		P
7440-09-7	Potassium	6960.00			P
7782-49-2	Selenium	2.00	U	W	F
7440-22-4	Silver	10.00	U		P
7440-23-5	Sodium	22900.00			P
7440-28-0	Thallium	2.00	U		F
7440-62-2	Vanadium	31.60	B		P
7440-66-6	Zinc	10.90	B		P
	Cyanide				NR

Color Before: COLORLESS Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments: