START 9613401.1250

93/1L768-WBS.1413
66
5

0042962

WESTON

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

Client: WESTINGHOUSE HANFORD
RFW #: 9311L768

W.O. #: 06168-002-001-9999-00
Date Received: 11-20-93

PESTICIDE/PCB

1. The set of samples consisted of four (4) water samples and five (5) sediment samples collected on 11-15,16-93.

2. The samples were analyzed based on SW-846, 3rd Edition, procedures. The extraction procedure used was based on Method 3520 and Method 3550. The extracts were analyzed based on Method 8080.

3. These samples received GPC and sulfur cleanups.

4. The sediment samples were extracted within its required holding time. Samples B09JD2, B09JD4, B09JF0, and B09JF2 were extracted outside of holding time. A Sample Discrepancy Report (SDR) has been enclosed.

5. The method blank was below the reporting limits for all target compounds.

6. Two (2) of thirty (30) obtainable surrogate recoveries were outside acceptance criteria; however, all obtainable TCX surrogate recoveries were within acceptance criteria.

7. All obtainable sediment matrix spike recoveries were within acceptance criteria. Sediment matrix spike recoveries for Aldrin were unobtainable due to interferences with coeluting Aroclor 1254 peaks within the retention time windows (RTW) on both columns. Matrix spike recoveries for 4,4'-DDT were unobtainable due to Aroclor 1254 coelution on the DB608 column and the presence of the target compound in the sample matrix found in the RTW on RTX1701 column.

8. A matrix spike analysis for the water samples was not performed due to insufficient sample volume. A sample Discrepancy Report (SDR) has been enclosed.

9. All blank spike recoveries were within acceptance criteria.

10. The following samples required dilutions due to matrix interferences and high concentrations of analytes:

Sample ID	Dilution Factor
B09JD5, MS, MSD	2
B09JF6	200
B09JF7	10, 100

Detection limits have been adjusted to reflect the necessary dilutions.

0005

9613401.1251

OFFICE OF SAMPLE MANAGEMENT

RECORD OF DISPOSITION

ROD-94-0015
Record of Disposition No.

DATE: 1/24/94

LABORATORY: Roy F. Weston

PROJECT TITLE/NO.: 190-D Waste Complex Sampling, SAF# 93-352.

NCR NO.: N/A

SAMPLE IDENTIFICATION NUMBERS: B09JD2

DESCRIPTION OF EVENT: Cyanide analysis for sample B09JD2 was canceled due to the Laboratory Control Sample being outside the acceptable range. There was insufficient sample remaining to reanalyze.

DISPOSITION OF SAMPLES: Cancel Cyanide analysis for sample B09JD2. Continue with analyses as directed.

APPROVAL SIGNATURES:

Larry D. Zuck — 1/24/94
HASM Project Coordinator (Print/Sign Name) — Date

David B. Encke — 1/27/94
Technical Representative (Print/Sign Name) — Date

N/A
Quality Assurance (Print/Sign Name) — Date

9613401.1252

OFFICE OF SAMPLE MANAGEMENT

RECORD OF DISPOSITION

ROD-93-0273
Record of Disposition No.

DATE: 12/15/93

LABORATORY: Roy F. Weston

PROJECT TITLE/NO.: 190-D Waste Complex Sampling, SAF# 93-352.

NCR NO.: N/A

SAMPLE IDENTIFICATION NUMBERS: B09JF0.

DESCRIPTION OF EVENT: There's insufficient sample volume to perform Cyanide analysis.

DISPOSITION OF SAMPLES: With concurrence from the client, cancel Cyanide analysis for the above sample.

APPROVAL SIGNATURES:

Larry D. Zuck — 12/28/93
HASM Project Coordinator (Print/Sign Name) — Date

D. B. Encke — 12/28/93
Technical Representative (Print/Sign Name) — Date

N/A
Quality Assurance (Print/Sign Name) — Date

9613401.1253

OFFICE OF SAMPLE MANAGEMENT

RECORD OF DISPOSITION

ROD-93-0275
Record of Disposition No.

DATE: 12/14/93

LABORATORY: Roy F. Weston

PROJECT TITLE/NO.: 190-D Waste Complex Sampling, SAF# 93-352.

NCR NO.: N/A

SAMPLE IDENTIFICATION NUMBERS: B09JD2, B09JD4, B09JD5, B09JF0, B09JF1, B09JF2, B09JF6, B09JF7, B09JF8, RFW# 9311L768.

DESCRIPTION OF EVENT: The above samples were extracted one day outside of holding time.

DISPOSITION OF SAMPLES: With concurrence from the client, proceed with analysis despite missing the holding time by one day.

APPROVAL SIGNATURES:

Larry D. Zuck — 12/22/93
HASM Project Coordinator (Print/Sign Name) — Date

D. B. Encke — 12/28/93
Technical Representative (Print/Sign Name) — Date

N/A
Quality Assurance (Print/Sign Name) — Date

WESTON

11. For continuing calibration standards analyzed prior to the sample extracts, the 15% criteria for calibration factors were exceeded for the compounds Alpha-BHC and Gamma-BHC on 12-04-93 at 0656 on both columns. These compounds were not identified in any sample extract and the data reflected an increase in instrument response for these parameters so the ability to identify the target compounds were not impaired. Since quantitation was not required, the data should not be impacted. All other initial and continuing standard calibrations associated with this data set were within acceptance criteria.

12. Sample B09JF6 was not reanalyzed at a lower dilution due to interference with the high level of Aroclor-1254 detected in the sample.

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

12.30.93
Date

sma/pcb/11-768p.cn

WESTON Analytics Use Only

9311L768

Custody Transfer Record/Lab Work Request

WESTON

Page 1 of 2

Client: ~~West Hanford~~ Westinghouse - Hanford

Est. Final Proj. Sampling Date:

Work Order #: 06168-002-001-9999-00

Project Contact/Phone #:

AD Project Manager: Josie Edwards

QC: SW846 Del: Special TAT: 7 ~~10 DAY~~

Date Rec'd: 11-20-93 Date Due: ~~11-30-93~~ 11/27/93

Account #: WS HANFORD

Refrigerator #		6		6	2	1	2	2	2	2	2	2	1	2	2
#/Type Container	Liquid			1 1/2L		1 1/2L	1 1/2L	1 1/2L	1 1/2L	1 1/2L	1 1/2L	1 1/2L	1 1/2L	1 1/2L	1 1/2L
	Solid	1 1/2L		w/HPH	1 1/2L			2 1/2L		1 1/2L	1 1/2L	1 1/2L			
Volume	Liquid			1L		250ml	250ml	500ml	1L	1L	500ml	500ml	125ml	250ml	500ml
	Solid	250ml		w/HPH	120ml			120ml		250ml	500ml	125ml			
Preservatives		—		—	—	H2SO4	NaOH	—	HNO3	NaOH	H2SO4	NaOH/NaAsO2	NaOH	—	—

ANALYSES REQUESTED	ORGANIC							INORG							
	~~VOA TPH~~	BNA	Pest/PCB	~~Sulfide Halo TOX~~	TOX	NH3N	PH FL CL SO4 NO3 NO2 TKN	Metal	CN	NO3N2	SFD	TOC	FLSH	metals TCLP (5)	Lanthanum Strontium

MATRIX CODES:	Lab ID	Client ID/Description	Matrix QC Chosen (✓) MS	MSD	Matrix	Date Collected	Time Collected	IPHC		OGOBH	TEOX	ITOX	INH3N	IPH FCL FCCL FSO4 FNO3 FNO2 FKN	MHSTOW	ICNTO	INO3N2	ISFO	IDCT	IFLSH	TCLP	RCRATOX
S - Soil	001	B09JD2			W	11-15-93	1330			X		X	X	X	X	X	X	X	X	X		
SE - Sediment	002	B09JD4			W	11-15-93	1315			X		X	X	X	X	X	X	X	X	X		
SO - Solid	003	B09JD5			SE	11-15-93	1300	X		X	X			X		X	X	X			X	
SL - Sludge	004	B09JF0			W	11-15-93	1230			X		X	X	X	X	X	X	X	X	X		
W - Water	005	B09JF1			SE	11-15-93	1245	X		X	X			X		X	X	X			X	
O - Oil	006	B09JF2			W	11-15-93	1008			X		X	X	X	X	X	X	X	X	X		
A - Air	007	B09JF6			SE	11-15-93	1132	X		X	X			X		X	X	X			X	
DS - Drum Solids	008	B09JF7			SE	11-15-93	1159	X		X	X			X		X	X	X			X	
DL - Drum Liquids	009	B09JF8			SE	11-16-93	1310	X		X	X			X		X	X	X			X	
L - EP/TCLP Leachate	010	B09JD5 Tare of 003			L																	X
WI - Wipe																						
X - Other																						
F - Fish																						

WESTON Analytics Use Only

FIELD PERSONNEL: COMPLETE ONLY SHADED AREAS

Special Instructions:

Temp. = 7.4°C, 3.4°C, 6.4°C

metals = ~~TOTAL~~ RCRA; Lab Chlorides

SAF # 93-352 RCRA

DATE/REVISIONS:

11/22/93 1. TAT = 7 DAY DUE = 11/27/93

2.

3.

4.

5.

6.

WESTON Analytics Use Only

Samples were: 1) Shipped ✓ or Hand Delivered ___ Airbill # ___

2) Ambient or Chilled

3) Received in Good Condition (Y) or N

4) 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
Burlington	B. Burnett	11-20-93	10:00
BB	11-22-93		

Relinquished by	Received by	Date	Time
BB	11-22-93		

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

9613401.1255

0010

WESTON Analytics Use Only
9311L768

Custody Transfer Record/Lab Work Request

WESTON

Client: Westinghouse - Hanford
Est. Final Proj. Sampling Date:
Work Order #: see page 1
Project Contact/Phone #:
AD Project Manager:
QC: Del: TAT:
Date Rec'd: Date Due:
Account #:

Refrigerator #
#/Type Container: Liquid / Solid
Volume: Liquid / Solid
Preservatives
ANALYSES REQUESTED → ORGANIC: VOA, BNA, Pest/PCB, Herb; INORG: Metal, CN

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: Leachate metals	Review
011	B09JF1 TCLP of 005			L			X	
012	B09JF6 TCLP of 007			L			X	
013	B09JF7 TCLP of 008			L			X	
014	B09JF8 TCLP of 009			L			X	

FIELD PERSONNEL: COMPLETE ONLY SHADED AREAS

Special Instructions:

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

WESTON Analytics Use Only

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

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

Relinquished by	Received by	Date	Time
Burlington	B. [illegible]	11-20-93	10:00
	BCS 11-20-93		

Relinquished by	Received by	Date	Time
	BCS 11-20-93		

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

9613401.1256

Westinghouse
Hanford Company

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

005176

Collector M.L.MYERS/ | Company Contact Dave Encke | Telephone 373-3461

SAF No. 93-352 | Project Designation 190D WASTE COMPLEX | Sampling Location 100D

Ice Chest No. | Bill of Lading/Airbill No. | Offsite Property No.

Method of Shipment AIR OVERNIGHT-BURLINGTON | Field Logbook No. WHC-N-205-

Shipped to ROY F. WESTON . LIONVILLE, PA

Possible Sample Hazards/Remarks UNKNOWN, SUBJECT TO ANALYSIS/PRIORITY TURNAROUND REQUESTED/RCRA PROTOCOL

Special Handling and/or Storage Shipped on WET ICE. KEEP AT 4 DEGREES C-SAF WAS REVISED AFTER SAMPLE COLLECTION. NO SAMPLE WAS PULLED FOR TPH ANALYSIS, IF ANY SAMPLE REMAINS PLEASE ANALYZE FOR TPH METHOD 418.1

TEMP=7.4

0012

Sample Number	*	Date Collected	Time	Number and Type of Containers	Analysis Required	Preservative
B09JD2	LIQUID	11/15/93	1330	1, P, 1000ML	ICP METALS, METHOD 6010, SELENIUM, METHOD 7740, LEAD, METHOD 7421, ARSENIC, METHOD 7060, MERCURY, METHOD 7471,	HNO3
				1,GLASS,500ML	PH, METHOD 9045 ANIONS, F,CL,SO4,NO2,NO3,PO4, EPA METHOD 300.0	NA
				1, P,250ML	AMMONIA, EPA METHOD 350.3,	H2SO4
				1,aGs, 250ML	TOX, METHOD 9020	H2SO4
				1,AGLASS,1000ML	PCB'S PEST, METHOD 8080/	NA
				1,P,500ML	NO2,NO3, EPA METHOD 353.1	H2SO4
				1,P,1000ML	CYANIDE, METHOD 9010	NAOH
				1, P,500ML	SULFIDE, METHOD 9030	ZNAC+NAOH
				1,AGS,125ML	TOC, METHOD 9060	H2SO4
				1,G,250 ML	FLASHPOINT, METHOD 1010	
						NA

Chain of Possession (Sign and Print Names)

Relinquished By	Date/Time	Received By	Date/Time
Melanie Myers / Lulan Lyon	0940 11/19/93		
Relinquished By	Date/Time	Received By	Date/Time
BURLINGTON	11-20-93 10:00	[signature]	11-20-93 10:00
Relinquished By	Date/Time	Received By	Date/Time

PRIORITY TURNAROUND REQUESTED. 7 DAY HOLD TIMES AS WELL AS HOLD TIMES FOR NO2/NO3/PO4 MAY BE MISSED. PLEASE ANALYZE ANYWAY. SAF WAS REVISED AFTER SAMPLE COLLECTION. DUE TO LATE SAF REVISION SAMPLE WAS NOT PULLED FOR TPH.

*Matrix
A = Air
DL = Drum Liquids
DS = Drum Solids
L = Liquid
O = Oil
S = Soil
SE = Sediment
SL = Sludge
SO = Solid
T = Tissue
W = Water
WI = Wipe
X = Other

LABORATORY SECTION	Received By	Title	Date/Time
Final Sample Disposition	Disposal Method:	Disposed by:	Date/Time:

PRIORITY TURNAROUND

9613401.1257

Westinghouse
Hanford Company

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

00 5177

Collector M.L.MYERS/ | Company Contact Dave Encke | Telephone 373-3461

SAF No. 93-352 | Project Designation 190D WASTE COMPLEX | Sampling Location 100D

Ice Chest No. | Bill of Lading/Airbill No. | Offsite Property No.

Method of Shipment AIR OVERNIGHT-BURLINGTON | Field Logbook No. WHC-N-205-

Shipped to ROY F. WESTON . LIONVILLE, PA

Possible Sample Hazards/Remarks UNKNOWN, SUBJECT TO ANALYSIS/PRIORITY TURNAROUND REQUESTED/RCRA PROTOCOL

Special Handling and/or Storage Shipped on WET ICE. KEEP AT 4 DEGREES C-SAF WAS REVISED AFTER SAMPLE COLLECTION. NO SAMPLE WAS PULLED FOR TPH ANALYSIS, IF ANY SAMPLE REMAINS PLEASE ANALYZE FOR TPH METHOD 418.1

TBOMV = 7.4

0013

Sample Number	*	Date Collected	Time	Number and Type of Containers	Analysis Required	Preservative
B09JD4	LIQUID	11/15/93	1315	1, P, 1000ML	ICP METALS, METHOD 6010, SELENIUM, METHOD 7740, LEAD, METHOD 7421, ARSENIC, METHOD 7060, MERCURY, METHOD 7471,	HNO3
				1,GLASS,500ML	PH, METHOD 9045 ANIONS, F,CL,SO4,NO2,NO3,PO4, EPA METHOD 300.0	NA
				1, P,250ML	AMMONIA, EPA METHOD 350.3,	H2SO4
				1,aGs, 250ML	TOX, METHOD 9020	H2SO4
				1,AGLASS,1000ML	PCB'S PEST, METHOD 8080/	NA
				1,P,500ML	NO2,NO3, EPA METHOD 353.1	H2SO4
				1,P,1000ML	CYANIDE, METHOD 9010	NAOH
				1, P,500ML	SULFIDE, METHOD 9030	ZNAC+NAOH
				1,AGS,125ML	TOC, METHOD 9060	H2SO4
				1,G,250 ML	FLASHPOINT, METHOD 1010	
						NA

Chain of Possession (Sign and Print Names)

Relinquished By	Date/Time	Received By	Date/Time
[illegible]	11/19/93 1740	[illegible]	11/19/93
Burlington	11-20-93 10100	[illegible]	11-20-93 10100

PRIORITY TURNAROUND REQUESTED. 7 DAY HOLD TIMES AS WELL AS HOLD TIMES FOR NO2/NO3/PO4 MAY BE MISSED. PLEASE ANALYZE ANYWAY. SAF WAS REVISED AFTER SAMPLE COLLECTION. DUE TO LATE SAF REVISION SAMPLE WAS NOT PULLED FOR TPH.

*Matrix

A = Air
DL = Drum Liquids
DS = Drum Solids
L = Liquid
O = Oil
S = Soil

SE = Sediment
SL = Sludge
SO = Solid
T = Tissue
W = Water
WI = Wipe
X = Other

LABORATORY SECTION	Received By	Title	Date/Time
Final Sample Disposition	Disposal Method:	Disposed by:	Date/Time:

PRIORITY TURNAROUND

9613401.1258

Westinghouse Hanford Company

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

00 5178

Collector M.L.MYERS/ | Company Contact Dave Encke | Telephone 373-3461

SAF No. 93-352 | Project Designation 190D WASTE COMPLEX | Sampling Location 100D

Ice Chest No. | Bill of Lading/Airbill No. 997332534 | Offsite Property No.

Method of Shipment AIR OVERNIGHT-BURLINGTON-SATURDAY DELIVERY | Field Logbook No. WHC-N-205-

Shipped to ROY F. WESTON . LIONVILLE, PA

Possible Sample Hazards/Remarks UNKNOWN, SUBJECT TO ANALYSIS/PRIORITY TURNAROUND REQUESTED/RCRA PROTOCOL

Special Handling and/or Storage Shipped on WET ICE. KEEP AT 4 DEGREES C-

Temp = 3.4

0014

Sample Number	*	Date Collected	Time	Number and Type of Containers	Analysis Required	Preservative
B09JD5	SLUDGE	11/15/93	1300	1, AG, 500ML	TCLP METALS, BARIUM, CADMIUM,CHROMIUM,SILVEER,METHOD 1311/6010, SELENIUM, METHOD 1311/7740, LEAD, METHOD 1311/7421, ARSENIC, METHOD 1311/7060, MERCURY, METHOD 1311/7471,	N/A
				1,GLASS,120ML	PH, METHOD 9045	
				1, GLASS, 120ML	ANIONS, F,CL,SO4,NO2,NO3,PO4, EPA METHOD 300.0	
				1,aGs, 120ML	TOX, METHOD 9020	
				1,GLASS,250ML	TPH, EPA METHOD 418.1, PCB'S PEST, METHOD 8080/SAF REVISION WAS MADE AFTER SAMPLE COLLECTION. PLEASE ANALYZE FOR TPH FIRST.	
				1,GLASS,500ML	NO2,NO3, EPA METHOD 353.1	
				1,GLASS,250ML	CYANIDE, METHOD 9010	
				1, Gs 125ML	SULFIDE, METHOD 9030	
					SAF REVISION WAS DONE AFTER SAMPLE COLLECTION. SAMPLE WAS NOT TAKEN FOR TOC ANALYSIS.	

Chain of Possession (Sign and Print Names)

Relinquished By	Date/Time	Received By	Date/Time
Melanie Myers	11/19/93 0940		
Relinquished By	Date/Time	Received By	Date/Time
BURLINGTON AIR	11-20-93 1010		11-20-93 1010
Relinquished By	Date/Time	Received By	Date/Time

PRIORITY TURNAROUND REQUESTED. 7 DAY HOLD TIMES AS WELL AS HOLD TIMES FOR NO2/NO3/PO4 MAY BE MISSED. PLEASE ANALYZE ANYWAY. SAF WAS REVISED AFTER SAMPLE COLLECTION. 1-250ML BOTTLE FOR TPH & PCB. PLEASE ANALYZE FOR TPH FIRST AND USE REMAINING SAMPLE FOR PCB'S. DUE TO LATE SAF REVISION SAMPLE WAS NOT PULLED FOR TOC. IF SAMPLE REMAINS AFTER ANLYSIS, PLEASE ANALYZE FOR TOC.

*Matrix

A = Air
DL = Drum Liquids
DS = Drum Solids
L = Liquid
O = Oil
S = Soil
SE = Sediment
SL = Sludge
SO = Solid
T = Tissue
W = Water
WI = Wipe
X = Other

LABORATORY SECTION	Received By	Title	Date/Time
Final Sample Disposition	Disposal Method:	Disposed by:	Date/Time:

9613401.1259

PRIORITY TURNAROUND

Westinghouse
Hanford Company

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

00 5179

Collector M.L.MYERS/ | Company Contact Dave Encke | Telephone 373-3461

SAF No. 93-352 | Project Designation 190D WASTE COMPLEX | Sampling Location 100D

Ice Chest No. | Bill of Lading/Airbill No. | Offsite Property No.

Method of Shipment AIR OVERNIGHT-BURLINGTON | Field Logbook No. WHC-N-205-

Shipped to ROY F. WESTON . LIONVILLE, PA

Possible Sample Hazards/Remarks UNKNOWN, SUBJECT TO ANALYSIS/PRIORITY TURNAROUND REQUESTED/RCRA PROTOCOL

Special Handling and/or Storage Shipped on WET ICE. KEEP AT 4 DEGREES C-SAF WAS REVISED AFTER SAMPLE COLLECTION. NO SAMPLE WAS PULLED FOR TPH ANALYSIS, IF ANY SAMPLE REMAINS PLEASE ANALYZE FOR TPH METHOD 418.1

TEMP = 6.4

0015

Sample Number	*	Date Collected	Time	Number and Type of Containers	Analysis Required	Preservative
B09JF0	LIQUID	11/15/93	1230	1, P, 1000ML	ICP METALS, METHOD 6010, SELENIUM, METHOD 7740, LEAD, METHOD 7421, ARSENIC, METHOD 7060, MERCURY, METHOD 7471,	HNO3
				1,GLASS,500ML	PH, METHOD 9045 ANIONS, F,CL,SO4,NO2,NO3,PO4, EPA METHOD 300.0	NA
				1, P,250ML	AMMONIA, EPA METHOD 350.3,	H2SO4
				1,aGs, 250ML	TOX, METHOD 9020	H2SO4
				1,AGLASS,1000ML	PCB'S PEST, METHOD 8080/	NA
				1,P,500ML	NO2,NO3, EPA METHOD 353.1	H2SO4
				1,P,1000ML	CYANIDE, METHOD 9010	NAOH
				1, P,500ML	SULFIDE, METHOD 9030	ZNAC+NAOH
				1,AGS,125ML	TOC, METHOD 9060	H2SO4
				1,G,250 ML	FLASHPOINT, METHOD 1010	
						NA

Chain of Possession (Sign and Print Names)

Relinquished By	Date/Time	Received By	Date/Time
Melanie Lyons	11/19/93 0934		
Relinquished By	Date/Time	Received By	Date/Time
BURLINGTON AIR	11-20-93 10:00		11-20-93 10:00
Relinquished By	Date/Time	Received By	Date/Time

PRIORITY TURNAROUND REQUESTED. 7 DAY HOLD TIMES AS WELL AS HOLD TIMES FOR NO2/NO3/PO4 MAY BE MISSED. PLEASE ANALYZE ANYWAY. SAF WAS REVISED AFTER SAMPLE COLLECTION. DUE TO LATE SAF REVISION SAMPLE WAS NOT PULLED FOR TPH.

*Matrix
A = Air
DL = Drum Liquids
DS = Drum Solids
L = Liquid
O = Oil
S = Soil
SE = Sediment
SL = Sludge
SO = Solid
T = Tissue
W = Water
WI = Wipe
X = Other

LABORATORY SECTION	Received By	Title	Date/Time
Final Sample Disposition	Disposal Method:	Disposed by:	Date/Time:

PRIORITY TURNAROUND

9613401 1260

Westinghouse Hanford Company

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

Page 1 of 1

00 5180

Collector M.L.MYERS/ | Company Contact Dave Encke | Telephone 373-3461

SAF No. 93-352 | Project Designation 190D WASTE COMPLEX | Sampling Location 100D

Ice Chest No. | Bill of Lading/Airbill No. 997332534 | Offsite Property No.

Method of Shipment AIR OVERNIGHT-BURLINGTON-SATURDAY DELIVERY | Field Logbook No. WHC-N-205-

Shipped to ROY F. WESTON . LIONVILLE, PA

Possible Sample Hazards/Remarks UNKNOWN, SUBJECT TO ANALYSIS/PRIORITY TURNAROUND REQUESTED/RCRA PROTOCOL

Special Handling and/or Storage Shipped on WET ICE. KEEP AT 4 DEGREES C-

TEMP = 3.4

0016

Sample Number	*	Date Collected	Time	Number and Type of Containers	Analysis Required	Preservative
B09JF1	SLUDGE	11/15/93	1245	1, AG, 500ML	TCLP METALS, BARIUM, CADMIUM, CHROMIUM, SILVEER, METHOD 1311/6010, SELENIUM, METHOD 1311/7740, LEAD, METHOD 1311/7421, ARSENIC, METHOD 1311/7060, MERCURY, METHOD 1311/7471,	N/A
				1, GLASS, 120ML	PH, METHOD 9045	
				1, GLASS, 120ML	ANIONS, F, CL, SO4, NO2, NO3, PO4, EPA METHOD 300.0	
				1, aGs, 120ML	TOX, METHOD 9020	
				1, GLASS, 250ML	TPH, EPA METHOD 418.1, PCB'S PEST, METHOD 8080/SAF REVISION WAS MADE AFTER SAMPLE COLLECTION. PLEASE ANALYZE FOR TPH FIRST.	
				1, GLASS, 500ML	NO2, NO3, EPA METHOD 353.1	
				1, GLASS, 250ML	CYANIDE, METHOD 9010	
				1, Gs 125ML	SULFIDE, METHOD 9030	
					SAF REVISION WAS DONE AFTER SAMPLE COLLECTION. SAMPLE WAS NOT TAKEN FOR TOC ANALYSIS.	

Chain of Possession (Sign and Print Names)

Relinquished By	Date/Time	Received By	Date/Time
[signature] Melanie Lyons	11/19/93 1745		
Relinquished By	Date/Time	Received By	Date/Time
BURLINGTON	11-20-93 10:00	[signature]	11-20-93 10:00
Relinquished By	Date/Time	Received By	Date/Time

PRIORITY TURNAROUND REQUESTED. 7 DAY HOLD TIMES AS WELL AS HOLD TIMES FOR NO2/NO3/PO4 MAY BE MISSED. PLEASE ANALYZE ANYWAY. SAF WAS REVISED AFTER SAMPLE COLLECTION. 1-250ML BOTTLE FOR TPH & PCB. PLEASE ANALYZE FOR TPH FIRST AND USE REMAINING SAMPLE FOR PCB'S. DUE TO LATE SAF REVISION SAMPLE WAS NOT PULLED FOR TOC. IF SAMPLE REMAINS AFTER ANLYSIS, PLEASE ANALYZE FOR TOC.

*Matrix

A = Air
DL = Drum Liquids
DS = Drum Solids
L = Liquid
O = Oil
S = Soil
SE = Sediment
SL = Sludge
SO = Solid
T = Tissue
W = Water
WI = Wipe
X = Other

LABORATORY SECTION	Received By	Title	Date/Time
Final Sample Disposition	Disposal Method:	Disposed by:	Date/Time:

9613401.1261

PRIORITY TURNAROUND

Westinghouse
Hanford Company

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

00 5181

Collector M.L.MYERS/ | Company Contact Dave Encke | Telephone 373-3461

SAF No. 93-352 | Project Designation 190D WASTE COMPLEX | Sampling Location 100D

Ice Chest No. | Bill of Lading/Airbill No. | Offsite Property No.

Method of Shipment AIR OVERNIGHT-BURLINGTON | Field Logbook No. WHC-N-205-

Shipped to ROY F. WESTON . LIONVILLE, PA

Possible Sample Hazards/Remarks UNKNOWN, SUBJECT TO ANALYSIS/PRIORITY TURNAROUND REQUESTED/RCRA PROTOCOL

Special Handling and/or Storage Shipped on WET ICE. KEEP AT 4 DEGREES C-SAF WAS REVISED AFTER SAMPLE COLLECTION. NO SAMPLE WAS PULLED FOR TPH ANALYSIS, IF ANY SAMPLE REMAINS PLEASE ANALYZE FOR TPH METHOD 418.1

TEMP = 3.4

0017

Sample Number	*	Date Collected	Time	Number and Type of Containers	Analysis Required	Preservative
B09JF2	LIQUID	11/15/93	1008	1, P, 1000ML	ICP METALS, METHOD 6010, SELENIUM, METHOD 7740, LEAD, METHOD 7421, ARSENIC, METHOD 7060, MERCURY, METHOD 7471,	HNO3
				1,GLASS,500ML	PH, METHOD 9045 ANIONS, F,CL,SO4,NO2,NO3,PO4, EPA METHOD 300.0	NA
				1, P,250ML	AMMONIA, EPA METHOD 350.3,	H2SO4
				1,aGs, 250ML	TOX, METHOD 9020	H2SO4
				1,AGLASS,1000ML	PCB'S PEST, METHOD 8080/	NA
				1,P,500ML	NO2,NO3, EPA METHOD 353.1	H2SO4
				1,P,1000ML	CYANIDE, METHOD 9010	NAOH
				1, P,500ML	SULFIDE, METHOD 9030	ZNAC+NAOH
				1,AGS,125ML	TOC, METHOD 9060	H2SO4
				1,G,250 ML	FLASHPOINT, METHOD 1010	
						NA

9613401.1262

Chain of Possession (Sign and Print Names)

Relinquished By	Date/Time	Received By	Date/Time
Lulon Melamblyes	11/19/93 0945		
Relinquished By	Date/Time	Received By	Date/Time
BURLINGTON	11-20-93 10:00		11-20-93 10:00

PRIORITY TURNAROUND REQUESTED. 7 DAY HOLD TIMES AS WELL AS HOLD TIMES FOR NO2/NO3/PO4 MAY BE MISSED. PLEASE ANALYZE ANYWAY. SAF WAS REVISED AFTER SAMPLE COLLECTION. DUE TO LATE SAF REVISION SAMPLE WAS NOT PULLED FOR TPH.

*Matrix

A = Air
DL = Drum Liquids
DS = Drum Solids
L = Liquid
O = Oil
S = Soil
SE = Sediment
SL = Sludge
SO = Solid
T = Tissue
W = Water
WI = Wipe
X = Other

LABORATORY SECTION	Received By	Title	Date/Time
Final Sample Disposition	Disposal Method:	Disposed by:	Date/Time:

PRIORITY TURNAROUND

Westinghouse Hanford Company

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

00~~8~~182

Collector M.L.MYERS/ | Company Contact Dave Encke | Telephone 373-3461

SAF No. 93-352 | Project Designation 190D WASTE COMPLEX | Sampling Location 100D

Ice Chest No. | Bill of Lading/Airbill No. 997332534 | Offsite Property No.

Method of Shipment AIR OVERNIGHT-BURLINGTON-SATURDAY DELIVERY | Field Logbook No. WHC-N-205-

Shipped to ROY F. WESTON . LIONVILLE, PA

Possible Sample Hazards/Remarks UNKNOWN, SUBJECT TO ANALYSIS/PRIORITY TURNAROUND REQUESTED/RCRA PROTOCOL

Special Handling and/or Storage Shipped on WET ICE. KEEP AT 4 DEGREES C-

Temp = 7.4

0018

Sample Number	*	Date Collected	Time	Number and Type of Containers	Analysis Required	Preservative
B09JF6	SLUDGE	11/15/93	1132	1, AG, 500ML	TCLP METALS, BARIUM, CADMIUM, CHROMIUM, SILVEER, METHOD 1311/6010, SELENIUM, METHOD 1311/7740, LEAD, METHOD 1311/7421, ARSENIC, METHOD 1311/7060, MERCURY, METHOD 1311/7471,	N/A
				1, GLASS, 120ML	PH, METHOD 9045	
				1, GLASS, 120ML	ANIONS, F, CL, SO4, NO2, NO3, PO4, EPA METHOD 300.0	
				1, aGs, 120ML	TOX, METHOD 9020	
				1, GLASS, 250ML	TPH, EPA METHOD 418.1, PCB'S PEST, METHOD 8080/SAF REVISION WAS MADE AFTER SAMPLE COLLECTION. PLEASE ANALYZE FOR TPH FIRST.	
				* 1, GLASS, 500ML	UNABLE TO OBTAIN ENOUGH SAMPLE FOR NO2, NO3, EPA METHOD 353.1	
				1, GLASS, 250ML	CYANIDE, METHOD 9010	
				1, Gs 125ML	SULFIDE, METHOD 9030	
					SAF REVISION WAS DONE AFTER SAMPLE COLLECTION. SAMPLE WAS NOT TAKEN FOR TOC ANALYSIS	

Chain of Possession (Sign and Print Names)

Relinquished By	Date/Time	Received By	Date/Time
Melanie Myers	11/19/93 1045		
Melanie Myers			
BURLINGTON AIR	11-20-93 10100	[illegible]	11-20-93 10100

PRIORITY TURNAROUND REQUESTED. 7 DAY HOLD TIMES AS WELL AS HOLD TIMES FOR NO2/NO3/PO4 MAY BE MISSED. PLEASE ANALYZE ANYWAY. SAF WAS REVISED AFTER SAMPLE COLLECTION. 1-250ML BOTTLE FOR TPH & PCB. PLEASE ANALYZE FOR TPH FIRST AND USE REMAINING SAMPLE FOR PCB'S. DUE TO LATE SAF REVISION SAMPLE WAS NOT PULLED FOR TOC. IF SAMPLE REMAINS AFTER ANLYSIS, PLEASE ANALYZE FOR TOC.

*Matrix

A = Air
DL = Drum Liquids
DS = Drum Solids
L = Liquid
O = Oil
S = Soil
SE = Sediment
SL = Sludge
SO = Solid
T = Tissue
W = Water
WI = Wipe
X = Other

LABORATORY SECTION	Received By	Title	Date/Time
Final Sample Disposition	Disposal Method:	Disposed by:	Date/Time:

*DID NOT REC ANY VOLUME FOR THIS ANALYSIS

PRIORITY TURNAROUND

9613401.1263

Westinghouse
Hanford Company

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

00 5183

Collector M.L.MYERS/ | Company Contact Dave Encke | Telephone 373-3461

SAF No. 93-352 | Project Designation 190D WASTE COMPLEX | Sampling Location 100D

Ice Chest No. | Bill of Lading/Airbill No. 997332534 | Offsite Property No.

Method of Shipment AIR OVERNIGHT-BURLINGTON-SATURDAY DELIVERY | Field Logbook No. WHC-N-205-

Shipped to ROY F. WESTON . LIONVILLE, PA

Possible Sample Hazards/Remarks UNKNOWN, SUBJECT TO ANALYSIS/PRIORITY TURNAROUND REQUESTED/RCRA PROTOCOL

Special Handling and/or Storage Shipped on WET ICE. KEEP AT 4 DEGREES C-

0019

Temp = 3.4

Sample Number	*	Date Collected	Time	Number and Type of Containers	Analysis Required	Preservative
B09JF7	SLUDGE	11/15/93	1159	1, AG, 500ML	TCLP METALS, BARIUM, CADMIUM, CHROMIUM, SILVEER, METHOD 1311/6010, SELENIUM, METHOD 1311/7740, LEAD, METHOD 1311/7421, ARSENIC, METHOD 1311/7060, MERCURY, METHOD 1311/7471,	N/A
				1, GLASS, 120ML	PH, METHOD 9045	
				1, GLASS, 120ML	ANIONS, F, CL, SO4, NO2, NO3, PO4, EPA METHOD 300.0	
				1, aGs, 120ML	TOX, METHOD 9020	
				1, GLASS, 250ML	TPH, EPA METHOD 418.1, PCB'S PEST, METHOD 8080/SAF REVISION WAS MADE AFTER SAMPLE COLLECTION. PLEASE ANALYZE FOR TPH FIRST.	
				1, GLASS, 500ML	NO2, NO3, EPA METHOD 353.1	
				1, GLASS, 250ML	CYANIDE, METHOD 9010	
				1, Gs 125ML	SULFIDE, METHOD 9030	
					SAF REVISION WAS DONE AFTER SAMPLE COLLECTION. SAMPLE WAS NOT TAKEN FOR TOC ANALYSIS.	

Chain of Possession (Sign and Print Names)

Relinquished By	Date/Time	Received By	Date/Time
Melanie Myers	11/19/93 0945		
Relinquished By	Date/Time	Received By	Date/Time
BURLINGTON	11-20-93 1010		11-20-93 1000
Relinquished By	Date/Time	Received By	Date/Time

PRIORITY TURNAROUND REQUESTED. 7 DAY HOLD TIMES AS WELL AS HOLD TIMES FOR NO2/NO3/PO4 MAY BE MISSED. PLEASE ANALYZE ANYWAY. SAF WAS REVISED AFTER SAMPLE COLLECTION. 1-250ML BOTTLE FOR TPH & PCB. PLEASE ANALYZE FOR TPH FIRST AND USE REMAINING SAMPLE FOR PCB'S. DUE TO LATE SAF REVISION SAMPLE WAS NOT PULLED FOR TOC. IF SAMPLE REMAINS AFTER ANLYSIS, PLEASE ANALYZE FOR TOC.

*Matrix

A = Air
DL = Drum Liquids
DS = Drum Solids
L = Liquid
O = Oil
S = Soil
SE = Sediment
SL = Sludge
SO = Solid
T = Tissue
W = Water
WI = Wipe
X = Other

LABORATORY SECTION	Received By	Title	Date/Time
Final Sample Disposition	Disposal Method:	Disposed by:	Date/Time:

PRIORITY TURNAROUND

9613401.1264

Westinghouse Hanford Company

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

Page 1 of 1

00 5184

Collector M.L.MYERS/ | Company Contact Dave Encke | Telephone 373-3461

SAF No. 93-352 | Project Designation 190D WASTE COMPLEX | Sampling Location 100D

Ice Chest No. | Bill of Lading/Airbill No. 997332534 | Offsite Property No.

Method of Shipment AIR OVERNIGHT-BURLINGTON-SATURDAY DELIVERY | Field Logbook No. WHC-N-205-

Shipped to ROY F. WESTON . LIONVILLE, PA

Possible Sample Hazards/Remarks UNKNOWN, SUBJECT TO ANALYSIS/PRIORITY TURNAROUND REQUESTED/RCRA PROTOCOL

Special Handling and/or Storage Shipped on WET ICE. KEEP AT 4 DEGREES C-

Temp = 5.4

0020

Sample Number	*	Date Collected	Time	Number and Type of Containers	Analysis Required	Preservative
B09JF8	SLUDGE	11/16/93	1310	1, AG, 500ML	TCLP METALS, BARIUM, CADMIUM,CHROMIUM,SILVEER,METHOD 1311/6010, SELENIUM, METHOD 1311/7740, LEAD, METHOD 1311/7421, ARSENIC, METHOD 1311/7060, MERCURY, METHOD 1311/7471,	N/A
				1,GLASS,120ML	PH, METHOD 9045	
				1, GLASS, 120ML	ANIONS, F,CL,SO4,NO2,NO3,PO4, EPA METHOD 300.0	
				1,aGs, 120ML	TOX, METHOD 9020	
				1,GLASS,250ML	TPH, EPA METHOD 418.1, PCB'S PEST, METHOD 8080/SAF REVISION WAS MADE AFTER SAMPLE COLLECTION. PLEASE ANALYZE FOR TPH FIRST.	
				* 1,GLASS,500ML	UNABLE TO OBTAIN ENOUGH SAMPLE FOR NO2,NO3, EPA METHOD 353.1	
				1,GLASS,250ML	CYANIDE, METHOD 9010	
				1, Gs 125ML	SULFIDE, METHOD 9030	
					SAF REVISION WAS DONE AFTER SAMPLE COLLECTION. SAMPLE WAS NOT TAKEN FOR TOC ANALYSIS.	

Chain of Possession (Sign and Print Names)

Relinquished By	Date/Time	Received By	Date/Time
Melanie Lyer	11/19/93		
Relinquished By	Date/Time	Received By	Date/Time
Burlington	11-20-93 10:00		11-20-93 10:00
Relinquished By	Date/Time	Received By	Date/Time

PRIORITY TURNAROUND REQUESTED. 7 DAY HOLD TIMES AS WELL AS HOLD TIMES FOR NO2/NO3/PO4 MAY BE MISSED. PLEASE ANALYZE ANYWAY. SAF WAS REVISED AFTER SAMPLE COLLECTION. 1-250ML BOTTLE FOR TPH & PCB. PLEASE ANALYZE FOR TPH FIRST AND USE REMAINING SAMPLE FOR PCB'S. DUE TO LATE SAF REVISION SAMPLE WAS NOT PULLED FOR TOC. IF SAMPLE REMAINS AFTER ANLYSIS, PLEASE ANALYZE FOR TOC.

*Matrix

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DL = Drum Liquids
DS = Drum Solids
L = Liquid
O = Oil
S = Soil

SE = Sediment
SL = Sludge
SO = Solid
T = Tissue
W = Water
WI = Wipe
X = Other

LABORATORY SECTION	Received By	Title	Date/Time
Final Sample Disposition	Disposal Method:	Disposed by:	Date/Time:

* DID NOT REC ANY VOLUME FOR THIS ANALYSIS

PRIORITY TURNAROUND

9413401.1265

AIR OVERNIGHT7 SATURDAY DELIVERY

Contractor	OFF-SITE PROPERTY CONTROL	CONTROL NUMBER (To be obtained from PROPERTY MANAGEMEN
WESTINGHOUSE HANFORD		W94-0-0138-7

PART I – TO BE COMPLETED BY ORIGINATOR

Department PROCESING/analytical labs Section SAMPLING/SPECIAL ANALYTICAL Unit SAMPLING & MOBILE LABOR

The following items are to be shipped from ☒ Contractor ☐ Vendor

Routing ☒ Contractor ☐ Vendor

Shipped to
ROY F. WESTON
256 WELSH POOL ROAD
LIONVILLE PA, 19341-1313

Off-site Custodian
JOSIE KING

Full Title

Quantity	Description (Include Serial and any Government Tag Numbers)	Original Cost
3	POLYCOOLERS, SAMPLES ARE DOUBLE BAGGED AND PACKED ON WET ICE.	
70 #'s	COOLER # SMU 419 (D2,D4,F6)	
60#	COOLER # SMU 346 (F0,F2)	
68#	COOLER # SMU 380 (D5,F1,F7,F8)	
Gross WT.	SAMPLE #'s B09JD2,B09JD4,B09JD5,B09JF0,B09JF1,B09JF2,B09JF6, B09JF7,B09JF8 (5176, 5183, 5178, 5179, 5180, 5181, 5182, 5183, 5184)	

☐ Classified ☒ Unclassified ☐ Shipped Under DOE Contract ☐ Shipped Under Contractor's Use Permit Contract

Necessity for the Off-Site Use of this Property

SAMPLES REQUIRE ANALYSIS WHICH ARE CURRENTLY UNAVAILABLE AT THIS SITE.

RECEIVED
NOV 19 1993
PROPERTY MGCC

SAF# -93-352

COC#'s 5176, 5177, 5178, 5179, 5180, 5181, 5182, 5183, 5184

BILL OF LADING # 997332534

CERTIFICATION OF THE RADIATION MONITORING RELEASE MUST BE SECURED THE SAME DAY THAT MATERIAL IS DELIVERED TO SHIPPING.

RM Clearance for Public Release	RM Survey No	Date
S N [illegible]	167229	11/19/93

Location of Property (Area & Bldg)	Contact	Phone
3705 Annex/200 W	M.L.MYERS	373-2640

Date Ready for Shipment	Cost Code to be Charged	Approximate Date This Property will be Returned
11/19/93	UB42H org code 12911	na

Originated By	Date	Authorized By	Date
M.L.MYERS	11/19/93	J. HYATT [illegible]	11/19/93

Signature and Name of Property Control	Custodian Date	Property Management Approval	Date
		[illegible]	11/19/9

PART II – TO BE COMPLETED BY SHIPPING

Signature of Recipient	Return Order No.	Date Issued	Purchase Order No.	Date Issued
C.P. [illegible]				
Date 11-19-93				

DISTRIBUTION

By Originator	Shipping Operation – Sign all Copies and Forward to:
White, Green, Yellow, Pink – Property Management Goldenrod – Retain	White – Property Management Yellow – Retain Green – Property Control Custodian (Issuing Office) Pink – Originator

0021

54-3000-479 (09/

0021

AIR OVERNIGHT? SATURDAY DELIVERY

Contractor	OFF-SITE PROPERTY CONTROL	CONTROL NUMBER (To be obtained from PROPERTY MANAGEMENT)
WESTINGHOUSE HANFORD 9613401.1267		W94-0-0138-7

PART I - TO BE COMPLETED BY ORIGINATOR

Department PROCESING/analytical labs Section SAMPLING/SPECIAL ANALYTICAL Unit SAMPLING & MOBILE LABORAT

The following items are to be shipped from ☒ Contractor ☐ Vendor

Routing ☒ Contractor ☐ Vendor

Shipped to
ROY F. WESTON
256 WELSH POOL ROAD
LIONVILLE PA, 19341-1313

Off-site Custodian
JOSIE KING

Full Title

Quantity	Description (Include Serial and any Government Tag Numbers)	Original Cost
3	POLYCOOLERS, SAMPLES ARE DOUBLE BAGGED AND PACKED ON WET ICE.	
76 #s	COOLER # SMC 419 (D2,D4,F6)	
60 #	COOLER # SMC 341 (F0,F2)	
68 #	COOLER # SMC 380 (D5,F1,F7,F8)	
Gross WT.	SAMPLE #'s B09JD2,B09JD4,B09JD5,B09JF0,B09JF1,B09JF2,B09JF6, B09JF7,B09JF8 (5176, 5177, 5178, 5179, 5180, 5181, 5182, 5183, 5184)	

☐ Classified ☒ Unclassified ☐ Shipped Under DOE Contract ☐ Shipped Under Contractor's Use Permit Contract

Necessity for the Off-Site Use of this Property

SAMPLES REQUIRE ANALYSIS WHICH ARE CURRENTLY UNAVAILABLE AT THIS SITE.

RECEIVED
NOV 19 1993
PROPERTY RECOR

SAF# -93-352

COC#'s 5176, 5177, 5178, 5179, 5180, 5181, 5182, 5183, 5184

BILL OF LADING # 997332534

CERTIFICATION OF THE RADIATION MONITORING RELEASE MUST BE SECURED THE SAME DAY THAT MATERIAL IS DELIVERED TO SHIPPING.

RM Clearance for Public Release: S N Gaber	RM Survey No 167229		Date 11/19/93
Location of Property (Area & Bldg.): 3705 S Annex/200 W	Contact: M.L.MYERS		Phone 373-2640
Date Ready for Shipment: 11/19/93	Cost Code to be Charged: UB42H org code 12911	Approximate Date This Property will be Returned: na	
Originated By: M.L.MYERS	Date 11/19/93	Authorized By: J. HYATT	Date 11/19/93
Signature and Name of Property Control	Custodian Date	Property Management Approval: J P Hanket	Date 11/19/93

PART II - TO BE COMPLETED BY SHIPPING

Signature of Recipient	Return Order No.	Date Issued	Purchase Order No.	Date Issued
C.P. Rhem				
Date 11-19-93				

DISTRIBUTION

By Originator	Shipping Operation - Sign all Copies and Forward to:	
White, Green, Yellow, Pink - Property Management Goldenrod - Retain	White - Property Management Yellow - Retain	Green - Property Control Custodian (Issuing Office) Pink - Originator

0022

54-3000-479 (09/89)

AIR OVERNIGHT, SATURDAY DELIVERY

Contractor	OFF-SITE PROPERTY CONTROL	CONTROL NUMBER (To be obtained from PROPERTY MANAGEMENT)
WESTINGHOUSE HANFORD		W94-0-0138-7

PART I – TO BE COMPLETED BY ORIGINATOR

Department	Section	Unit
PROCESING/analytical labs	SAMPLING/SPECIAL ANALYTICAL	SAMPLING & MOBILE LABORAT

The following items are to be shipped from ☒ Contractor ☐ Vendor

Routing ☒ Contractor ☐ Vendor

Shipped to
ROY F. WESTON
256 WELSH POOL ROAD
LIONVILLE PA, 19341-1313

Off-site Custodian: JOSIE KING

Full Title:

Quantity	Description (Include Serial and any Government Tag Numbers)	Original Cost
3	POLYCOOLERS, SAMPLES ARE DOUBLE BAGGED AND PACKED ON WET ICE.	
70 #'s	COOLER # SML 4.9 (D2,D4 F6)	
60#	COOLER # SML 341 (F0,F2)	
68#	COOLER # SML 380 (D5,F1,F7,F8)	
GROSS WT.	SAMPLE #'s B09JD2, B09JD4, B09JD5, B09JF0, B09JF1, B09JF2, B09JF6, B09JF7, B09JF8	

☐ Classified ☒ Unclassified ☐ Shipped Under DOE Contract ☐ Shipped Under Contractor's Use Permit Contract

Necessity for the Off-Site Use of this Property

SAMPLES REQUIRE ANALYSIS WHICH ARE CURRENTLY UNAVAILABLE AT THIS SITE.

SAF# -93-352

COC#'s 5176, 5177, 5178, 5179, 5180, 5181, 5182, 5183, 5184

BILL OF LADING # 997332534

CERTIFICATION OF THE RADIATION MONITORING RELEASE MUST BE SECURED THE SAME DAY THAT MATERIAL IS DELIVERED TO SHIPPING.

RM Clearance for Public Release	RM Survey No	Date

Location of Property (Area & Bldg.)	Contact	Phone
202S Annex/200 W	M.L.MYERS	373-2640

Date Ready for Shipment	Cost Code to be Charged	Approximate Date This Property will be Returned
11/19/93	UB42H org code 12911	na

Originated By	Date	Authorized By	Date
M.L.MYERS	11/19/93	J. HYATT	11/19/93

Signature and Name of Property Control	Custodian Date	Property Management Approval	Date
		J. Hankel	11/19/93

PART II – TO BE COMPLETED BY SHIPPING

Signature of Recipient	Return Order No.	Date Issued	Purchase Order No.	Date Issued
C.R. Rhan				32
Date 11. 19.93				

DISTRIBUTION

By Originator	Shipping Operation – Sign all Copies and Forward to:
White, Green, Yellow, Pink – Property Management Goldenrod – Retain	White – Property Management, Green – Property Control Custodian (Issuing Office) Yellow – Retain, Pink – Originator

WESTON

SAMPLE DISCREPANCY REPORT (SDR)

93pm1381

SDR IN-PROGRESS ROUTING: (see other side)

Initiator: Deb Haydt
Date: 11/23/93
Client: WH-Hanford
RFW Lot #: 9311L768
Samples:

Parameter:
Matrix:
Prep Batch:
Urgency: ✓ Immediate ___ Other

Category for Discrepancy
___ Log-In
___ LIMS
___ Analysis/Sample
___ Project Revision
___ Other:

A. Reason for SDR:

A1a. Requires Verification By (circle): Log-In or Prep Group

A2. Verified By (circle): Log-In or Prep Group (signature) (date)

___ Missing Sample/Extract
___ Wrong Sample Pulled
___ Improper Bottle Type
___ Container Broken
___ Preservation Wrong
___ Received Past Hold
___ Insufficient Sample
___ Label ID's Illegible

A1b.

___ Re-Log: Tech Profile Error..Client Changed Request.. Sampler Error on C-O-C..Transcription Error.. Wrong Test Code, Re-Log As _____
___ Re-Leach: Metals/Inorg/VOA/BNA/Pest/Herb/___
___ Re-Digest: AA/ICP/HG/_____
___ Re-Extract: BNA/PEST/_____
___ QC Out: SURR/MS...High/Low/<10%/Missing/2X
___ QC Out: B/BS/BSD/LCS/LCS-D...High/Low
___ Hold Time Exceeded: Prep/Analysis/Report
___ Not Amenable to Analysis
___ Other (describe)

B. PM Instructions For Disposition (signature/date): Deb Haydt 11/23/

___ Cancel ___ Add ___ Subout Analysis
___ Place On Hold ___ Take Off Hold
___ Change W.O. # to: _____
___ MS/MSD on Sample ____, if enough sample: ORG/INORG
___ MS/DUP on Sample ____, if enough sample: ORG/INORG
___ Change Client name to: _____
___ Wrong Test Code, Re-Log As _____
___ Include in Narrative

__ Other, explain:

1. Add TOC to sample #3, 5, 7, 8 if volume allows.
2. Change T.A.T. to 10 days
3. Put note on C.O.C. to analyze for TPHC first & if enough volume analyze for Pest/PCB.

C. FINAL ACTION: a clear description of what was done for resolution, when it was done, and by whom it was done

Action Taken:
✓ Revision To Chain-of-Custody Completed
✓ LIMS Corrections Completed
✓ Other, explain

RECEIVED
NOV 24 1993
QA/H&S - L372 Lab
WESTON, Analytics Division

Action By (name/date): Mary Herrie 11/23/93
Forward to Pat Feldman, QA for distribution ---

D. Distribution of Completed SDR (include name

X Initiator: C. Keeler
X Lab Manager: J. PETER HERSHEY
X Project Mgr: D. HAYDT
✓ Unit Leader: A. Perrone
X QA (original): K. RYAN
X Log-In: B. Shaffer
X Data Reporting: Sam B
___ Billing: S. BRENER
✓ Dina O.
✓ D. Sutter
X D SKRZAT
X K Croner
X R Sery

Distributed By: (signature/date) 0033

RFW 21-21-006/E-10/90 (SDR Revision 5.9)

12

WESTON

SAMPLE DISCREPANCY REPORT (SDR)

93EX104

SDR IN-PROGRESS ROUTING: (see other side)

Initiator: S. Wentz
Date: 11/24/93
Client: Westinghouse
RFW Lot #: 93IL768
Samples: all waters -001, -002, -004, ~~-006, -010, -011, -012, -013, -014~~

Parameter: 8608H
Matrix: Water
Prep Batch: 93LE2095
Urgency: ___ Immediate ___ Other

Category for Discrepancy:
___ Log-In
___ LIMS
X Analysis/Sample
___ Project Revision
___ Other:

A. Reason for SDR:

A1a. Requires Verification By (circle): Log-In or Prep Group

A2. Verified By (circle): Log-In or Prep Group (signature) (date)

___ Missing Sample/Extract
___ Wrong Sample Pulled
___ Improper Bottle Type
___ Container Broken
___ Preservation Wrong
___ Received Past Hold
___ Insufficient Sample
___ Label ID's Illegible

A1b.

___ Re-Log: Tech Profile Error..Client Changed Request.. Sampler Error on C-O-C..Transcription Error.. Wrong Test Code, Re-Log As _____
___ Re-Leach: Metals/Inorg/VOA/BNA/Pest/Herb/___
___ Re-Digest: AA/ICP/HG/_____
___ Re-Extract: BNA/PEST/_____
___ QC Out: SURR/MS...High/Low/<10%/Missing/2X
___ QC Out: B/BS/BSD/LCS/LCS-D...High/Low
___ Hold Time Exceeded: Prep/Analysis/Report
___ Not Amenable to Analysis
X Other (describe)

Samples extracted 1 day outside Holding time. See client's COC

D.O. 11/24/93

B. PM Instructions For Disposition (signature/date): Josie Edwards 11-30-93

___ Cancel ___ Add ___ Subout Analysis
___ Place On Hold ___ Take Off Hold
___ Change W.O. # to: _____
___ MS/MSD on Sample ___, if enough sample: ORG/INORG
___ MS/DUP on Sample ___, if enough sample: ORG/INORG
___ Change Client name to: _____
___ Wrong Test Code, Re-Log As _____
✓ Include in Narrative

___ Other, explain:

C. FINAL ACTION: a clear description of what was done for resolution, when it was done, and by whom it was done

Action Taken:
___ Revision To Chain-of-Custody Completed
___ LIMS Corrections Completed
✓ Other, explain

Noted in Narrative

Action By (name/date): Kryan 12/13/93
Forward to Pat Feldman, QA for distribution ---

D. Distribution of Completed SDR (include name):

X Initiator: Sue Wentz
X Lab Manager: J. PETER HERSHEY
X Project Mgr: J. Edwards
X Unit Leader: Denise S.
X QA (original): K. RYAN
___ Log-In: _____
X Data Reporting: Sam B
___ Billing: S. BRENER
X Kirk Cromer
✓ F Kiger

Distributed By: (signature/date)

RFW 21-21-006/E-10/90 (SDR Revision 5.0)

93PM1394

9613401.1271

SAMPLE DISCREPANCY REPORT (SDR)

SDR IN-PROGRESS ROUTING. (see other side)

Initiator: Josie Edwards
Date: 11-30-93
Client: WHC - Hanford
RFW Lot #: 9311L768
Samples: -003, -005, -007, -008, -009

Parameter: 0608H
Matrix: Sediment
Prep Batch:
Urgency: ✓ Immediate ___ Other

Category for Discrepancy
___ Log-In
___ LIMS
___ Analysis/Sample
___ Project Revision
___ Other:

A. Reason for SDR:

A1a. Requires Verification By (circle): Log-In or Prep Group

A2. Verified By (circle): Log-In or Prep Group (signature) (date)

___ Missing Sample/Extract
___ Wrong Sample Pulled
___ Improper Bottle Type
___ Container Broken
___ Preservation Wrong
___ Received Past Hold
___ Insufficient Sample
___ Label ID's Illegible

A1b.

___ Re-Log: Tech Profile Error..Client Changed Request.. Sampler Error on C-O-C..Transcription Error.. Wrong Test Code, Re-Log As _____
___ Re-Leach: Metals/Inorg/VOA/BNA/Pest/Herb/___
___ Re-Digest: AA/ICP/HG/_____
___ Re-Extract: BNA/PEST/_____
___ QC Out: SURR/MS...High/Low/<10%/Missing/2X
___ QC Out: B/BS/BSD/LCS/LCS-D...High/Low
___ Hold Time Exceeded: Prep/Analysis/Report
___ Not Amenable to Analysis
___ Other (describe)

B. PM Instructions For Disposition (signature/date): Josie Edwards 11-30-93

___ Cancel ___ Add ___ Subout Analysis
___ Place On Hold ___ Take Off Hold
___ Change W.O. # to: _____
___ MS/MSD on Sample ___, if enough sample: ORG/INOR
___ MS/DUP on Sample ___, if enough sample: ORG/INOR
___ Change Client name to: _____
___ Wrong Test Code, Re-Log As _____
___ Include in Narrative
✓ Other, explain:

Need to cancel 0608H on samples 3, 5, 7, 8, 9 because IPHC used up the 350 ml. volumes sent for both analyses. (But prior cancelling check if other volume remains from other analyses.

C. FINAL ACTION: a clear description of what was done for resolution, when it was done, and by whom it was done

Action Taken:
___ Revision To Chain-of-Custody Completed
___ LIMS Corrections Completed
___ Other, explain

Action By (name/date): _____
Forward to Pat Feldman, QA for distribution ---

D. Distribution of Completed SDR (include na

X Initiator: J. Edwards
X Lab Manager: J.Peter Hershey
X Project Mgr: S. Sanne
X Unit Leader: [illegible]
X QA (original): D.S. Therry
X Log-In: [illegible]
___ Data Reporting: _____
___ Billing: Karen Olsen
X [illegible]
___ _____

Distributed By: 0035
(signature/date)

WESTON

SAMPLE DISCREPANCY REPORT (SDR)

93GC294

SDR IN-PROGRESS ROUTING: (see other side)

Initiator: Fran Kiger
Date: 12/17/93
Client: Westinghouse Hanford
RFW Lot #: 93112768 - 0006
Samples:

Parameter: 06084H
Matrix: Water
Prep Batch: 93LE2095
Urgency: ✓ Immediate ___ Other

Category for Discrepancy:
___ Log-In
___ LIMS
✓ Analysis/Sample
___ Project Revision
___ Other:

A. Reason for SDR:

A1a. Requires Verification By (circle): Log-In or Prep Group

A2. Verified By (circle): Log-In or Prep Group (signature) (date)

___ Missing Sample/Extract
___ Wrong Sample Pulled
___ Improper Bottle Type
___ Container Broken
___ Preservation Wrong
___ Received Past Hold
___ Insufficient Sample
___ Label ID's Illegible

A1b.

___ Re-Log: Tech Profile Error..Client Changed Request.. Sampler Error on C-O-C..Transcription Error.. Wrong Test Code, Re-Log As _____
___ Re-Leach: Metals/Inorg/VOA/BNA/Pest/Herb/____
___ Re-Digest: AA/ICP/HG/_____
___ Re-Extract: BNA/PEST/_____
___ QC Out: SURR/MS...High/Low/<10%/Missing/2X
___ QC Out: B/BS/BSD/LCS/LCS-D...High/Low
___ Hold Time Exceeded: Prep/Analysis/Report
___ Not Amenable to Analysis
✓ Other (describe)

Continuing Calibration stds analyzed prior to #006 exceeded +15% criteria on both sides for Alpha and Gamma BHC. Increased Instrument Response does not impact ability to identify compounds. Neither compound detected in sample. Will note in Narr. — Please advise for further action, if required.

B. PM Instructions For Disposition (signature/date): Jane Edwards 12-20-93

___ Cancel ___ Add ___ Subout Analysis
___ Place On Hold ___ Take Off Hold
___ Change W.O. # to: _____
___ MS/MSD on Sample ____, if enough sample: ORG/INORG
___ MS/DUP on Sample ____, if enough sample: ORG/INORG
___ Change Client name to: _____
___ Wrong Test Code, Re-Log As _____
✓ Include in Narrative

___ Other, explain:

C. FINAL ACTION: a clear description of what was done for resolution, when it was done, and by whom it was done

Action Taken:
___ Revision To Chain-of-Custody Completed
___ LIMS Corrections Completed
___ Other, explain

Included in Narrative

Action By (name/date): 12-20-93
Forward to Pat Feldman, QA for distribution ---

D. Distribution of Completed SDR (include name):

X Initiator: F Kiger
X Lab Manager: J. PETER HERSHEY
X Project Mgr: Jane Edwards
X Unit Leader: D Skrzat
X QA (original): K. RYAN
___ Log-In: _____
___ Data Reporting: _____
___ Billing: S. BRENER
X K. Cromer
___ _____

Distributed By: (signature/date)

RFW 21-21-006/E-10/90 (SDR Revision 5.0)

0036

936C293

WESTON SAMPLE DISCREPANCY REPORT (SDR)

SDR IN-PROGRESS ROUTING: (see other side)

Initiator: Fran Kiger
Date: 12/17/93
Client: Westinghouse Hanford
RFW Lot #: 93116768
Samples: 007, 008

Parameter: 0608 H
Matrix: SEDIMENT
Prep Batch: 93LE2102
Urgency: ✓ Immediate ___ Other

Category for Discrepancy:
___ Log-In
___ LIMS
✓ Analysis/Sample
___ Project Revision
___ Other:

A. Reason for SDR:

A1a. Requires Verification By (circle): Log-In or Prep Group

A2. Verified By (circle): Log-In or Prep Group (signature) (date)

___ Missing Sample/Extract
___ Wrong Sample Pulled
___ Improper Bottle Type
___ Container Broken
___ Preservation Wrong
___ Received Past Hold
___ Insufficient Sample
___ Label ID's Illegible

A1b.

___ Re-Log: Tech Profile Error..Client Changed Request.. Sampler Error on C-O-C..Transcription Error.. Wrong Test Code, Re-Log As _____
___ Re-Leach: Metals/Inorg/VOA/BNA/Pest/Herb/____
___ Re-Digest: AA/ICP/HG/_____
___ Re-Extract: BNA/PEST/_____
___ QC Out: SURR/MS...High/Low/<10%/Missing/2X
___ QC Out: B/BS/BSD/LCS/LCS-D...High/Low
___ Hold Time Exceeded: Prep/Analysis/Report
___ Not Amenable to Analysis
✓ Other (describe)

Samples contain target compounds in excess of 10 ug/mL. Is GCMS Confirmation desired - (not required for 8080) Please Advise
F Kiger 12/17/93

B. PM Instructions For Disposition (signature/date): Jose Edwards 12-17-93

___ Cancel ___ Add ___ Subout Analysis
___ Place On Hold ___ Take Off Hold
___ Change W.O. # to: _____
___ MS/MSD on Sample ____, if enough sample: ORG/INORG
___ MS/DUP on Sample ____, if enough sample: ORG/INORG
___ Change Client name to: _____
___ Wrong Test Code, Re-Log As _____
✓ Include in Narrative

___ Other, explain:

C. FINAL ACTION: a clear description of what was done for resolution, when it was done, and by whom it was done

Action Taken:
___ Revision To Chain-of-Custody Completed
___ LIMS Corrections Completed
✓ Other, explain

No Final Action Required

Action By (name/date): F Kiger 12/17/93
Forward to Pat Feldman, QA for distribution ---

D. Distribution of Completed SDR (include name):

X Initiator: F Kiger
X Lab Manager: J. PETER HERSHEY
X Project Mgr: Jose Edwards
X Unit Leader: D Skreat
X QA (original): K. RYAN
___ Log-In: _____
___ Data Reporting: _____
___ Billing: S. BRENER
X K Cromer
X S Dirk

Distributed By: (signature/date)

RFW 21-21-006/E-10/90 (SDR Revision 5.0)

93EX132

WESTON **SAMPLE DISCREPANCY REPORT (SDR)**

SDR IN-PROGRESS ROUTING. (see other side)

Initiator: Dina Osei-Mensah
Date: 12/30/93
Client: Westinghouse Hanford
RFW Lot #: 93PL716, 768
Samples: all

Parameter: 06084
Matrix: Waters
Prep Batch:
Urgency: ✓ Immediate ___ Other

Category for Discrepancy
___ Log-In
___ LIMS
✓ Analysis/Sample
___ Project Revision
___ Other:

A. Reason for SDR:

A1a.
Requires Verification By (circle): Log-In or Prep Group

A2.
Verified By (circle): Log-In or Prep Group
(signature) (date)

___ Missing Sample/Extract
___ Wrong Sample Pulled
___ Improper Bottle Type
___ Container Broken
___ Preservation Wrong
___ Received Past Hold
✓ Insufficient Sample — D.O 12/30/93
___ Label ID's Illegible

A1b.

___ Re-Log: Tech Profile Error..Client Changed Request.. Sampler Error on C-O-C..Transcription Error.. Wrong Test Code, Re-Log As _____
___ Re-Leach: Metals/Inorg/VOA/BNA/Pest/Herb/____
___ Re-Digest: AA/ICP/HG/_____
___ Re-Extract: BNA/PEST/_____
___ QC Out: SURR/MS...High/Low/<10%/Missing/2X
___ QC Out: B/BS/BSD/LCS/LCS-D...High/Low
___ Hold Time Exceeded: Prep/Analysis/Report
___ Not Amenable to Analysis
___ Other (describe)

Insuff. sample volume for matrix QC.
Dina O 12/30/93

B. PM Instructions For Disposition (signature/date): Josie Edwards 12/30/93

___ Cancel ___ Add ___ Subout Analysis
___ Place On Hold ___ Take Off Hold
___ Change W.O. # to: _____
___ MS/MSD on Sample ____, if enough sample: ORG/INOR
___ MS/DUP on Sample ____, if enough sample: ORG/INOR
___ Change Client name to: _____
___ Wrong Test Code, Re-Log As _____
___ Include in Narrative

___ Other, explain:

C. FINAL ACTION: a clear description of what was done for resolution, when it was done, and by whom it was done

Action Taken:
___ Revision To Chain-of-Custody Completed
___ LIMS Corrections Completed
___ Other, explain

Included in Narrative

Action By (name/date): [signature]
Forward to Pat Feldman, QA for distribution ---

D. Distribution of Completed SDR (include name

X Initiator: Dina O
X Lab Manager: J. PETER HERSHE
X Project Mgr: J. Edwards
___ Unit Leader: _____
X QA (original): K. RYAN
X Log-In: ~~Sam B~~ D.O 12/30/93
X Data Reporting: Sam B
___ Billing: S. BRENER
X Kirk Cromer
___ _____

Distributed By: (signature/date) 0228

RFW 21-21-006/E-10/90 (SDR Revision 5.0)

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

Report Date: 12/20/93 09:25

RFW Batch Number: 9311L768 Client: WESTINGHOUSE HANFORD Work Order: 06168002001 Page: 1

	Cust ID:	B09JD2		B09JD4		B09JD5		B09JD5		B09JD5		B09JF0	
Sample Information	RFW#:	001		002		003		003 MS		003 MSD		004	
	Matrix:	WATER		WATER		SEDIMENT		SEDIMENT		SEDIMENT		WATER	
	D.F.:	1.00		1.00		1.00		1.00		1.00		1.00	
	Units:	ug/L		ug/L		ug/Kg		ug/Kg		ug/Kg		ug/L	
Surrogate:	Decachlorobiphenyl	43	%	41	%	44	%	40	%	38	%	56	%
	Tetrachloro-m-xylene	38	%	70	%	54	%	49	%	49	%	70	%
			fl		fl		fl		fl		fl		fl
Alpha-BHC		0.058	U	0.052	U	8.3	U	8.3	U	8.3	U	0.053	U
Beta-BHC		0.058	U	0.052	U	8.3	U	8.3	U	8.3	U	0.053	U
Delta-BHC		0.058	U	0.052	U	8.3	U	8.3	U	8.3	U	0.053	U
gamma-BHC (Lindane)		0.058	U	0.052	U	8.3	U	95	%	90	%	0.053	U
Heptachlor		0.058	U	0.052	U	8.3	U	100	%	100	%	0.053	U
Aldrin		0.058	U	0.052	U	I		I	%	I	%	0.053	U
Heptachlor epoxide		0.058	U	0.052	U	8.3	U	8.3	U	8.3	U	0.053	U
Endosulfan I		0.058	U	0.052	U	8.3	U	8.3	U	8.3	U	0.053	U
Dieldrin		0.12	U	0.10	U	17	U	94	%	90	%	0.11	U
4,4'-DDE		0.12	U	0.10	U	9.3	J	6.6	J	7.6	J	0.11	U
Endrin		0.12	U	0.10	U	17	U	66	%	66	%	0.11	U
Endosulfan II		0.12	U	0.10	U	15	J	12	J	11	J	0.11	U
4,4'-DDD		0.12	U	0.10	U	17	U	17	U	17	U	0.11	U
Endosulfan sulfate		0.12	U	0.10	U	17	U	17	U	17	U	0.11	U
4,4'-DDT		0.12	U	0.10	U	16	J	I	%	I	%	0.11	U
Methoxychlor		0.58	U	0.52	U	83	U	83	U	83	U	0.53	U
Endrin ketone		0.12	U	0.10	U	17	U	17	U	17	U	0.11	U
alpha-Chlordane		0.58	U	0.52	U	83	U	83	U	83	U	0.53	U
gamma-Chlordane		0.58	U	0.52	U	83	U	83	U	83	U	0.53	U
Toxaphene		1.2	U	1.0	U	170	U	170	U	170	U	1.1	U
Aroclor-1016		0.58	U	0.52	U	83	U	83	U	83	U	0.53	U
Aroclor-1221		0.58	U	0.52	U	83	U	83	U	83	U	0.53	U
Aroclor-1232		0.58	U	0.52	U	83	U	83	U	83	U	0.53	U
Aroclor-1242		0.58	U	0.52	U	83	U	83	U	83	U	0.53	U
Aroclor-1248		0.58	U	0.52	U	83	U	83	U	83	U	0.53	U
Aroclor-1254		1.2	U	1.0	U	380		350		330		1.1	U
Aroclor-1260		1.2	U	1.0	U	170	U	170	U	170	U	1.1	U

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

12-20-93

0040

9613401.1275

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

RFW Batch Number: 9311L768 Client: WESTINGHOUSE HANFORD Work Order: 06168002001 Page: 2 Report Date: 12/20/93 09:25

	Cust ID:	B09JF1	B09JF2	B09JF6	B09JF7	B09JF7	B09JF8
Sample Information	RFW#:	005	006	007	008	008 DL	009
	Matrix:	SEDIMENT	WATER	SEDIMENT	SEDIMENT	SEDIMENT	SEDIMENT
	D.F.:	0.500	1.00	100	5.00	50.0	0.500
	Units:	ug/Kg	ug/L	ug/Kg	ug/Kg	ug/Kg	ug/Kg
Surrogate:	Decachlorobiphenyl	38 %	63 %	D %	33 * %	D %	28 * %
	Tetrachloro-m-xylene	48 %	88 %	D %	49 %	D %	31 %
		fl	fl	fl	fl	fl	fl
Alpha-BHC		60 U	0.052 U	1200 U	40 U	NA	4.1 U
Beta-BHC		60 U	0.052 U	1200 U	40 U	NA	4.1 U
Delta-BHC		60 U	0.052 U	1200 U	40 U	NA	4.1 U
gamma-BHC (Lindane)		60 U	0.052 U	1200 U	40 U	NA	4.1 U
Heptachlor		60 U	0.052 U	1200 U	40 U	NA	4.1 U
Aldrin		60 U	0.052 U	I	I	400 U.	I
Heptachlor epoxide		60 U	0.052 U	1200 U	40 U	NA	4.1 U
Endosulfan I		60 U	0.052 U	1200 U	40 U	NA	4.1 U
Dieldrin		120 U	0.10 U	2400 U	81 U	NA	8.1 U
4,4'-DDE		120 U	0.10 U	2400 U	53 J	NA	6.8 J
Endrin		120 U	0.10 U	2400 U	81 U	NA	8.1 U
Endosulfan II		120 U	0.10 U	2400 U	81 U	NA	4.4 J
4,4'-DDD		120 U	0.10 U	2400 U	220	NA	8.1 U
Endosulfan sulfate		120 U	0.10 U	2400 U	81 U	NA	8.1 U
4,4'-DDT		120 U	0.10 U	2400 U	E	930	16
Methoxychlor		600 U	0.52 U	12000 U	400 U	NA	41 U
Endrin ketone		120 U	0.10 U	2400 U	81 U	NA	8.1 U
alpha-Chlordane		600 U	0.52 U	I	I	4000 U.	41 U
gamma-Chlordane		600 U	0.52 U	12000 U	E	270	41 U
Toxaphene		1200 U	1.0 U	24000 U	810 U	NA	81 U
Aroclor-1016		600 U	0.52 U	12000 U	400 U	NA	41 U
Aroclor-1221		600 U	0.52 U	12000 U	400 U	NA	41 U
Aroclor-1232		600 U	0.52 U	12000 U	400 U	NA	41 U
Aroclor-1242		600 U	0.52 U	12000 U	400 U	NA	41 U
Aroclor-1248		600 U	0.52 U	12000 U	400 U	NA	41 U
Aroclor-1254		1200 U	1.0 U	43000	920	NA	170
Aroclor-1260		1200 U	1.0 U	24000 U	810 U	NA	81 U

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

DS 12-20-93

0041

9613401.1276

9613401.1277

1D
PESTICIDE ORGANICS ANALYSIS SHEET

CLIENT SAMPLE NO.

B09JD2

Lab Name: Roy F. Weston, Inc. Work Order: 06168002001

Client: WESTINGHOUSE HANFORD

Matrix: WATER Lab Sample ID: 9311L768-001

Sample wt/vol: 870 (g/mL) ML Lab File ID: 12019311.75

Level: (low/med) LOW Date Received: 11/20/93

% Moisture: not dec. _____ dec. Date Extracted: 11/23/93

Extraction: (SepF/Cont/Sonc) CONT Date Analyzed: 12/04/93

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

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

CAS NO.	COMPOUND		
319-84-6	Alpha-BHC	0.058	U
319-85-7	Beta-BHC	0.058	U
319-86-8	Delta-BHC	0.058	U
58-89-9	gamma-BHC (Lindane)	0.058	U
76-44-8	Heptachlor	0.058	U
309-00-2	Aldrin	0.058	U
1024-57-3	Heptachlor epoxide	0.058	U
959-98-8	Endosulfan I	0.058	U
60-57-1	Dieldrin	0.12	U
72-55-9	4,4'-DDE	0.12	U
72-20-8	Endrin	0.12	U
33213-65-9	Endosulfan II	0.12	U
72-54-8	4,4'-DDD	0.12	U
1031-07-8	Endosulfan sulfate	0.12	U
50-29-3	4,4'-DDT	0.12	U
72-43-5	Methoxychlor	0.58	U
53494-70-5	Endrin ketone	0.12	U
5103-71-9	alpha-Chlordane	0.58	U
5103-74-2	gamma-Chlordane	0.58	U
8001-35-2	Toxaphene	1.2	U
12674-11-2	Aroclor-1016	0.58	U
11104-28-2	Aroclor-1221	0.58	U
11141-16-5	Aroclor-1232	0.58	U
53469-21-9	Aroclor-1242	0.58	U
12672-29-6	Aroclor-1248	0.58	U
11097-69-1	Aroclor-1254	1.2	U
11096-82-5	Aroclor-1260	1.2	U

B.M 12/17/93

FORM 1 PEST 12/88 Rev.

0051

9613401.1278

1D
PESTICIDE ORGANICS ANALYSIS SHEET

CLIENT SAMPLE NO.

B09JD4

Lab Name: Roy F. Weston, Inc. Work Order: 06168002001

Client: WESTINGHOUSE HANFORD

Matrix: WATER Lab Sample ID: 9311L768-002

Sample wt/vol: 950 (g/mL) ML Lab File ID: 12019311.76

Level: (low/med) LOW Date Received: 11/20/93

% Moisture: not dec. _____ dec. Date Extracted: 11/23/93

Extraction: (SepF/Cont/Sonc) CONT Date Analyzed: 12/04/93

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

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

CAS NO.	COMPOUND		
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
5103-71-9	alpha-Chlordane	0.52	U
5103-74-2	gamma-Chlordane	0.52	U
8001-35-2	Toxaphene	1.0	U
12674-11-2	Aroclor-1016	0.52	U
11104-28-2	Aroclor-1221	0.52	U
11141-16-5	Aroclor-1232	0.52	U
53469-21-9	Aroclor-1242	0.52	U
12672-29-6	Aroclor-1248	0.52	U
11097-69-1	Aroclor-1254	1.0	U
11096-82-5	Aroclor-1260	1.0	U

B. M
12/17/93

FORM 1 PEST 12/88 Rev.

9613401.1279

1D
PESTICIDE ORGANICS ANALYSIS SHEET

CLIENT SAMPLE NO.

B09JD5

Lab Name: Roy F. Weston, Inc. Work Order: 06168002001

Client: WESTINGHOUSE HANFORD

Matrix: SEDIMENT Lab Sample ID: 9311L768-003

Sample wt/vol: 30.0 (g/mL) G Lab File ID: 12089311.43

Level: (low/med) LOW Date Received: 11/20/93

% Moisture: not dec. 3 dec. Date Extracted: 11/23/93

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 12/10/93

GPC Cleanup: (Y/N) Y pH: 6.8 Dilution Factor: 1.00

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

CAS NO.	COMPOUND		
319-84-6	Alpha-BHC	8.3	U
319-85-7	Beta-BHC	8.3	U
319-86-8	Delta-BHC	8.3	U
58-89-9	gamma-BHC (Lindane)	8.3	U
76-44-8	Heptachlor	8.3	U
309-00-2	Aldrin	I	
1024-57-3	Heptachlor epoxide	8.3	U
959-98-8	Endosulfan I	8.3	U
60-57-1	Dieldrin	17	U
72-55-9	4,4'-DDE	9.3	J
72-20-8	Endrin	17	U
33213-65-9	Endosulfan II	15	J
72-54-8	4,4'-DDD	17	U
1031-07-8	Endosulfan sulfate	17	U
50-29-3	4,4'-DDT	16	J
72-43-5	Methoxychlor	83	U
53494-70-5	Endrin ketone	17	U
5103-71-9	alpha-Chlordane	83	U
5103-74-2	gamma-Chlordane	83	U
8001-35-2	Toxaphene	170	U
12674-11-2	Aroclor-1016	83	U
11104-28-2	Aroclor-1221	83	U
11141-16-5	Aroclor-1232	83	U
53469-21-9	Aroclor-1242	83	U
12672-29-6	Aroclor-1248	83	U
11097-69-1	Aroclor-1254	380	
11096-82-5	Aroclor-1260	170	U

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12-20-93

FORM 1 PEST 12/88 Rev.

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9613401.1280

1D
PESTICIDE ORGANICS ANALYSIS SHEET

CLIENT SAMPLE NO.

B09JF0

Lab Name: Roy F. Weston, Inc. Work Order: 06168002001

Client: WESTINGHOUSE HANFORD

Matrix: WATER Lab Sample ID: 9311L768-004

Sample wt/vol: 940 (g/mL) ML Lab File ID: 12019311.77

Level: (low/med) LOW Date Received: 11/20/93

% Moisture: not dec. _____ dec. Date Extracted: 11/23/93

Extraction: (SepF/Cont/Sonc) CONT Date Analyzed: 12/04/93

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

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

CAS NO.	COMPOUND		
319-84-6	Alpha-BHC	0.053	U
319-85-7	Beta-BHC	0.053	U
319-86-8	Delta-BHC	0.053	U
58-89-9	gamma-BHC (Lindane)	0.053	U
76-44-8	Heptachlor	0.053	U
309-00-2	Aldrin	0.053	U
1024-57-3	Heptachlor epoxide	0.053	U
959-98-8	Endosulfan I	0.053	U
60-57-1	Dieldrin	0.11	U
72-55-9	4,4'-DDE	0.11	U
72-20-8	Endrin	0.11	U
33213-65-9	Endosulfan II	0.11	U
72-54-8	4,4'-DDD	0.11	U
1031-07-8	Endosulfan sulfate	0.11	U
50-29-3	4,4'-DDT	0.11	U
72-43-5	Methoxychlor	0.53	U
53494-70-5	Endrin ketone	0.11	U
5103-71-9	alpha-Chlordane	0.53	U
5103-74-2	gamma-Chlordane	0.53	U
8001-35-2	Toxaphene	1.1	U
12674-11-2	Aroclor-1016	0.53	U
11104-28-2	Aroclor-1221	0.53	U
11141-16-5	Aroclor-1232	0.53	U
53469-21-9	Aroclor-1242	0.53	U
12672-29-6	Aroclor-1248	0.53	U
11097-69-1	Aroclor-1254	1.1	U
11096-82-5	Aroclor-1260	1.1	U

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12/12/93

FORM 1 PEST 12/88 Rev.

9613401.1281

1D
PESTICIDE ORGANICS ANALYSIS SHEET

CLIENT SAMPLE NO.

B09JF1

Lab Name: Roy F. Weston, Inc. Work Order: 06168002001

Client: WESTINGHOUSE HANFORD

Matrix: SEDIMENT Lab Sample ID: 9311L768-005

Sample wt/vol: 30.0 (g/mL) G Lab File ID: 12059311.38

Level: (low/med) LOW Date Received: 11/20/93

% Moisture: not dec. 93 dec. Date Extracted: 11/23/93

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 12/06/93

GPC Cleanup: (Y/N) Y pH: 6.4 Dilution Factor: 0.500

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg	
319-84-6	Alpha-BHC	60	U
319-85-7	Beta-BHC	60	U
319-86-8	Delta-BHC	60	U
58-89-9	gamma-BHC (Lindane)	60	U
76-44-8	Heptachlor	60	U
309-00-2	Aldrin	60	U
1024-57-3	Heptachlor epoxide	60	U
959-98-8	Endosulfan I	60	U
60-57-1	Dieldrin	120	U
72-55-9	4,4'-DDE	120	U
72-20-8	Endrin	120	U
33213-65-9	Endosulfan II	120	U
72-54-8	4,4'-DDD	120	U
1031-07-8	Endosulfan sulfate	120	U
50-29-3	4,4'-DDT	120	U
72-43-5	Methoxychlor	600	U
53494-70-5	Endrin ketone	120	U
5103-71-9	alpha-Chlordane	600	U
5103-74-2	gamma-Chlordane	600	U
8001-35-2	Toxaphene	1200	U
12674-11-2	Aroclor-1016	600	U
11104-28-2	Aroclor-1221	600	U
11141-16-5	Aroclor-1232	600	U
53469-21-9	Aroclor-1242	600	U
12672-29-6	Aroclor-1248	600	U
11097-69-1	Aroclor-1254	1200	U
11096-82-5	Aroclor-1260	1200	U

B.M 12/17/93

FORM 1 PEST 12/88 Rev.

9613401.1282

1D
PESTICIDE ORGANICS ANALYSIS SHEET

CLIENT SAMPLE NO.

B09JF2

Lab Name: Roy F. Weston, Inc. Work Order: 06168002001

Client: WESTINGHOUSE HANFORD

Matrix: WATER Lab Sample ID: 9311L768-006

Sample wt/vol: 960 (g/mL) ML Lab File ID: 12019311.82

Level: (low/med) LOW Date Received: 11/20/93

% Moisture: not dec. _____ dec. Date Extracted: 11/23/93

Extraction: (SepF/Cont/Sonc) CONT Date Analyzed: 12/04/93

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

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

CAS NO.	COMPOUND		
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
5103-71-9	alpha-Chlordane	0.52	U
5103-74-2	gamma-Chlordane	0.52	U
8001-35-2	Toxaphene	1.0	U
12674-11-2	Aroclor-1016	0.52	U
11104-28-2	Aroclor-1221	0.52	U
11141-16-5	Aroclor-1232	0.52	U
53469-21-9	Aroclor-1242	0.52	U
12672-29-6	Aroclor-1248	0.52	U
11097-69-1	Aroclor-1254	1.0	U
11096-82-5	Aroclor-1260	1.0	U

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FORM 1 PEST 12/88 Rev.

0090

9613401.1283

1D
PESTICIDE ORGANICS ANALYSIS SHEET

CLIENT SAMPLE NO.

B09JF6

Lab Name: Roy F. Weston, Inc. Work Order: 06168002001

Client: WESTINGHOUSE HANFORD

Matrix: SEDIMENT

Lab Sample ID: 9311L768-007

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

Lab File ID: 12089311.42

Level: (low/med) LOW

Date Received: 11/20/93

% Moisture: not dec. 32 dec.

Date Extracted: 11/23/93

Extraction: (SepF/Cont/Sonc) SONC

Date Analyzed: 12/10/93

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

Dilution Factor: 100

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

CAS NO.	COMPOUND		
319-84-6	Alpha-BHC	1200	U
319-85-7	Beta-BHC	1200	U
319-86-8	Delta-BHC	1200	U
58-89-9	gamma-BHC (Lindane)	1200	U
76-44-8	Heptachlor	1200	U
309-00-2	Aldrin	I	
1024-57-3	Heptachlor epoxide	1200	U
959-98-8	Endosulfan I	1200	U
60-57-1	Dieldrin	2400	U
72-55-9	4,4'-DDE	2400	U
72-20-8	Endrin	2400	U
33213-65-9	Endosulfan II	2400	U
72-54-8	4,4'-DDD	2400	U
1031-07-8	Endosulfan sulfate	2400	U
50-29-3	4,4'-DDT	2400	U
72-43-5	Methoxychlor	12000	U
53494-70-5	Endrin ketone	2400	U
5103-71-9	alpha-Chlordane	I	
5103-74-2	gamma-Chlordane	12000	U
8001-35-2	Toxaphene	24000	U
12674-11-2	Aroclor-1016	12000	U
11104-28-2	Aroclor-1221	12000	U
11141-16-5	Aroclor-1232	12000	U
53469-21-9	Aroclor-1242	12000	U
12672-29-6	Aroclor-1248	12000	U
11097-69-1	Aroclor-1254	43000	
11096-82-5	Aroclor-1260	24000	U

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12/17/93

FORM 1 PEST 12/88 Rev.

9613401.1284

1D
PESTICIDE ORGANICS ANALYSIS SHEET

CLIENT SAMPLE NO.

B09JF7

Lab Name: Roy F. Weston, Inc. Work Order: 06168002001

Client: WESTINGHOUSE HANFORD

Matrix: SEDIMENT

Lab Sample ID: 9311L768-008

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

Lab File ID: 12089311.63

Level: (low/med) LOW

Date Received: 11/20/93

% Moisture: not dec. 1 dec.

Date Extracted: 11/23/93

Extraction: (SepF/Cont/Sonc) SONC

Date Analyzed: 12/10/93

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

Dilution Factor: 5.00

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

CAS NO.	COMPOUND		
319-84-6	Alpha-BHC	40	U
319-85-7	Beta-BHC	40	U
319-86-8	Delta-BHC	40	U
58-89-9	gamma-BHC (Lindane)	40	U
76-44-8	Heptachlor	40	U
309-00-2	Aldrin	I	
1024-57-3	Heptachlor epoxide	40	U
959-98-8	Endosulfan I	40	U
60-57-1	Dieldrin	81	U
72-55-9	4,4'-DDE	53	J
72-20-8	Endrin	81	U
33213-65-9	Endosulfan II	81	U
72-54-8	4,4'-DDD	220	
1031-07-8	Endosulfan sulfate	81	U
50-29-3	4,4'-DDT		E
72-43-5	Methoxychlor	400	U
53494-70-5	Endrin ketone	81	U
5103-71-9	alpha-Chlordane	I	
5103-74-2	gamma-Chlordane		E
8001-35-2	Toxaphene	810	U
12674-11-2	Aroclor-1016	400	U
11104-28-2	Aroclor-1221	400	U
11141-16-5	Aroclor-1232	400	U
53469-21-9	Aroclor-1242	400	U
12672-29-6	Aroclor-1248	400	U
11097-69-1	Aroclor-1254	920	
11096-82-5	Aroclor-1260	810	U

B.M 12/17/93

FORM 1 PEST 12/88 Rev.

9613401.1285

1D
PESTICIDE ORGANICS ANALYSIS SHEET

CLIENT SAMPLE NO.

B09JF7DL

Lab Name: Roy F. Weston, Inc. Work Order: 06168002001

Client: WESTINGHOUSE HANFORD

Matrix: SEDIMENT

Lab Sample ID: 9311L768-008 DL

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

Lab File ID: 12059311.41

Level: (low/med) LOW

Date Received: 11/20/93

% Moisture: not dec. 1 dec.

Date Extracted: 11/23/93

Extraction: (SepF/Cont/Sonc) SONC

Date Analyzed: 12/06/93

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

Dilution Factor: 50.0

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

CAS NO.	COMPOUND		
319-84-6	Alpha-BHC	NA	
319-85-7	Beta-BHC	NA	
319-86-8	Delta-BHC	NA	
58-89-9	gamma-BHC (Lindane)	NA	
76-44-8	Heptachlor	NA	
309-00-2	Aldrin	400	U.
1024-57-3	Heptachlor epoxide	NA	
959-98-8	Endosulfan I	NA	
60-57-1	Dieldrin	NA	
72-55-9	4,4'-DDE	NA	
72-20-8	Endrin	NA	
33213-65-9	Endosulfan II	NA	
72-54-8	4,4'-DDD	NA	
1031-07-8	Endosulfan sulfate	NA	
50-29-3	4,4'-DDT	930	
72-43-5	Methoxychlor	NA	
53494-70-5	Endrin ketone	NA	
5103-71-9	alpha-Chlordane	4000	U.
5103-74-2	gamma-Chlordane	270	
8001-35-2	Toxaphene	NA	
12674-11-2	Aroclor-1016	NA	
11104-28-2	Aroclor-1221	NA	
11141-16-5	Aroclor-1232	NA	
53469-21-9	Aroclor-1242	NA	
12672-29-6	Aroclor-1248	NA	
11097-69-1	Aroclor-1254	NA	
11096-82-5	Aroclor-1260	NA	

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12-20-93

FORM 1 PEST 12/88 Rev.

9613401.1286

1D
PESTICIDE ORGANICS ANALYSIS SHEET

CLIENT SAMPLE NO.

B09JF8

Lab Name: Roy F. Weston, Inc. Work Order: 06168002001

Client: WESTINGHOUSE HANFORD

Matrix: SEDIMENT

Lab Sample ID: 9311L768-009

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

Lab File ID: 12089311.64

Level: (low/med) LOW

Date Received: 11/20/93

% Moisture: not dec. 2 dec.

Date Extracted: 11/23/93

Extraction: (SepF/Cont/Sonc) SONC

Date Analyzed: 12/10/93

GPC Cleanup: (Y/N) Y pH: 6.2

Dilution Factor: 0.500

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

CAS NO.	COMPOUND		
319-84-6	Alpha-BHC	4.1	U
319-85-7	Beta-BHC	4.1	U
319-86-8	Delta-BHC	4.1	U
58-89-9	gamma-BHC (Lindane)	4.1	U
76-44-8	Heptachlor	4.1	U
309-00-2	Aldrin	I	
1024-57-3	Heptachlor epoxide	4.1	U
959-98-8	Endosulfan I	4.1	U
60-57-1	Dieldrin	8.1	U
72-55-9	4,4'-DDE	6.8	J
72-20-8	Endrin	8.1	U
33213-65-9	Endosulfan II	4.4	J
72-54-8	4,4'-DDD	8.1	U
1031-07-8	Endosulfan sulfate	8.1	U
50-29-3	4,4'-DDT	16	
72-43-5	Methoxychlor	41	U
53494-70-5	Endrin ketone	8.1	U
5103-71-9	alpha-Chlordane	41	U
5103-74-2	gamma-Chlordane	41	U
8001-35-2	Toxaphene	81	U
12674-11-2	Aroclor-1016	41	U
11104-28-2	Aroclor-1221	41	U
11141-16-5	Aroclor-1232	41	U
53469-21-9	Aroclor-1242	41	U
12672-29-6	Aroclor-1248	41	U
11097-69-1	Aroclor-1254	170	
11096-82-5	Aroclor-1260	81	U

DS
12-20-93

FORM 1 PEST 12/88 Rev.

9613401.1287

JAN 1994
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SDLA

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

Client : WESTINGHOUSE HANFORD
RFW# : 9311L768

W.O. #: 06168-002-001-9999-00
Date Received: 11-20-93

INORGANIC

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 Sulfide for samples 001, 002, 004 and 006 and all Cyanide samples, which were analyzed past hold and pH, Nitrate by IC, Nitrite by IC and Phosphate by IC for samples 001, 002, 004 and 006, which were received past hold.

   Hold times for Total Recoverable Petroleum Hydrocarbons (PHC) in waters are not specified in test method 418.1 (EPA 600/4-79-020). Preservation of water samples with acid and refrigeration are required for a delay between sampling and analysis of greater than 48 hours. Water samples herein were prepared and analyzed within 7 days.

   Hold times for Total Recoverable Petroleum Hydrocarbons (PHC) in soils are not specified in the soil extraction method 9071 (SW846) or test method 418.1 (EPA 600/4-79-020). Soil samples herein were prepared and analyzed within 28 days.

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

3. All laboratory control standards (blank spikes) were within the control limits of 80-120% (70-130% for PHC; Extractable Organic Halides and Total Organic Halides). All %RPD were within the 20% guidance limit (30% for PHC) and (40% for Total Organic Halides and Extractable Organic Halides).

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

WESTON

5. Matrix spike recoveries are summarized on the Inorganic Accuracy Report contained within this document. All recoveries were within the 75-125% guidance limits (70-130% for PHC, Extractable Organic Halides and Total Organic Halides) with the exception of PHC for sample 003, which contained greater than four times the concentration of PHC than the spike amount of 4.2 mg/kg. All %RPD were within the 20% guidance limit (30% for PHC) and (40% for Total Organic Halides and Extractable Organic Halides).

6. Replicate results are summarized on the Inorganic Precision Report contained within this document. All results were within the 20% RPD guidance limit (30% for PHC) and (40% for Total Organic Halides and Extractable Organic Halides) with the exception of Total Organic Halides for sample 001, which was reanalyzed 11-30-93; however, the RPD was 94.9%. The original analysis data was reported and both sets of data are included in the report.

7. Sample 001 was analyzed for Cyanide; however, the LCS was outside the acceptable range of 80-120%. This data is invalid and not included in the report. Insufficient sample remained, which prevented reanalysis.

8. 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), Standard Methods for the Examination of Water and Wastewater 16 ed. and Test Methods for Evaluating Solid Waste (USEPA SW846).

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

1-3-93
Date

pas/i11-768

ROY F. WESTON
INORGANICS DATA SUMMARY REPORT
PHYSICAL TESTING OBSERVATIONS

Client : WESTINGHOUSE HANFORD
RFW# : 9311L768 001, 002, 004, 006

W.O. #: 06168-002-001-9999-00
Date Received: 11-20-93

Analyte:	**Observation:**
Flash point (IFLSH)	No flash point observed. Test flame extinguished at: 164°F for sample 001, 153°F for sample 001R, 180°F for sample 002, 163°F for sample 004 & 172°F for sample 006. All samples boiled at 212°F, test was then stopped. Xylene was used to determine the accuracy of the flash point apparatus. The Xylene will flash at 80°F +/- 2°F. For this test, the Xylene determinations flashed at 80/80°F.

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9613401.1290

ROY F. WESTON INC.

INORGANIC DATA SUMMARY REPORT 12/29/93

CLIENT: WESTINGHOUSE HANFORD

WESTON BATCH #: 9311L768

WORK ORDER: 06168-002-001-9999-00

SAMPLE	SITE ID	ANALYTE	RESULT		UNITS	REPORTING LIMIT	DILUTION FACTOR
-001	B09JD2	Chloride by IC	5.1		MG/L	0.25	1.0
		Fluoride by IC	0.50	u	MG/L	0.50	1.0
		Nitrite by IC	0.25	u	MG/L	0.25	1.0
		Nitrate by IC	8.0		MG/L	0.25	1.0
		Phosphate by IC	0.25	u	MG/L	0.25	1.0
		Sulfate by IC	19.3		MG/L	0.50	2.0
		Nitrate Nitrite	1.1		MG-N/L	0.50	5.0
		Ammonia, as N	0.45		MG/L	0.10	1.0
		Total Organic Carbon	21.0		MG/L	0.50	1.0
		pH	6.1		PH UNITS	0.010	1.0
		Sulfide	0.10	u	MG/L	0.10	1.0
		Total Organic Halides	29.2		UG/L	20.0	4.0
-002	B09JD4	Chloride by IC	5.7		MG/L	0.25	1.0
		Fluoride by IC	0.50	u	MG/L	0.50	1.0
		Nitrite by IC	0.25	u	MG/L	0.25	1.0
		Nitrate by IC	8.3		MG/L	0.25	1.0
		Cyanide, Total	20.0	u	UG/L	20.0	1.0
		Phosphate by IC	0.25	u	MG/L	0.25	1.0
		Sulfate by IC	21.0		MG/L	0.50	2.0
		Nitrate Nitrite	1.4		MG-N/L	0.50	5.0
		Ammonia, as N	0.10	u	MG/L	0.10	1.0
		Total Organic Carbon	5.6		MG/L	0.50	1.0
		pH	7.7		PH UNITS	0.010	1.0
		Sulfide	0.10	u	MG/L	0.10	1.0
		Total Organic Halides	13.1		UG/L	5.0	1.0

ROY F. WESTON INC.

INORGANIC DATA SUMMARY REPORT 12/29/93

CLIENT: WESTINGHOUSE HANFORD

WESTON BATCH #: 9311L768

WORK ORDER: 06168-002-001-9999-00

SAMPLE	SITE ID	ANALYTE	RESULT		UNITS	REPORTING LIMIT	DILUTION FACTOR
-003	B09JD5	% Solids	96.6		%	0.10	1.0
		Chloride by IC	13.1		MG/KG	1.3	1.0
		Fluoride by IC	2.6	u	MG/KG	2.6	1.0
		Nitrite by IC	1.3	u	MG/KG	1.3	1.0
		Nitrate by IC	14.6		MG/KG	1.3	1.0
		Cyanide, Total	1.0	u	MG/KG	1.0	1.0
		Phosphate by IC	2.4		MG/KG	1.3	1.0
		Sulfate by IC	12.6		MG/KG	1.3	1.0
		Extr. Organic Halides	40.0	u	MG/KG	40.0	1.0
		Nitrate Nitrite	4.0		MG-N/KG	1.0	2.0
		Total Organic Carbon	19000		MG/KG	870	1.0
		pH	7.6		PH UNITS	0.010	1.0
		Petroleum Hydrocarbons	1200		MG/KG	173	50.0
		Sulfide	0.26	u	MG/KG	0.26	1.0
-004	B09JF0	Chloride by IC	5.2		MG/L	0.25	1.0
		Fluoride by IC	0.50	u	MG/L	0.50	1.0
		Nitrite by IC	0.25	u	MG/L	0.25	1.0
		Nitrate by IC	2.3		MG/L	0.25	1.0
		Cyanide, Total	20.0	u	UG/L	20.0	1.0
		Phosphate by IC	0.25	u	MG/L	0.25	1.0
		Sulfate by IC	81.7		MG/L	5.0	20.0
		Nitrate Nitrite	0.22		MG-N/L	0.10	1.0
		Ammonia, as N	0.10	u	MG/L	0.10	1.0
		Total Organic Carbon	2.7		MG/L	0.50	1.0
		pH	9.1		PH UNITS	0.010	1.0
		Sulfide	0.10	u	MG/L	0.10	1.0
		Total Organic Halides	6.6		UG/L	5.0	1.0

ROY F. WESTON INC.

INORGANIC DATA SUMMARY REPORT 12/29/93

CLIENT: WESTINGHOUSE HANFORD

WESTON BATCH #: 9311L768

WORK ORDER: 06168-002-001-9999-00

SAMPLE	SITE ID	ANALYTE	RESULT		UNITS	REPORTING LIMIT	DILUTION FACTOR
-005	B09JF1	% Solids	6.7		%	0.10	1.0
		Chloride by IC	500		MG/KG	18.8	1.0
		Fluoride by IC	2.5	u	MG/KG	2.5	1.0
		Nitrite by IC	18.8	u	MG/KG	18.8	1.0
		Nitrate by IC	79.4		MG/KG	18.8	1.0
		Cyanide, Total	15.0	u	MG/KG	15.0	1.0
		Phosphate by IC	18.8	u	MG/KG	18.8	1.0
		Sulfate by IC	1140		MG/KG	75.1	4.0
		Extr. Organic Halides	40.0	u	MG/KG	40.0	1.0
		Nitrate Nitrite	25.1		MG-N/KG	7.5	1.0
		Total Organic Carbon	1420		MG/KG	238	1.0
		pH	9.2		PH UNITS	0.010	1.0
		Petroleum Hydrocarbons	10.7		MG/KG	3.3	1.0
		Sulfide	3.8	u	MG/KG	3.8	1.0
-006	B09JF2	Chloride by IC	6.3		MG/L	0.25	1.0
		Fluoride by IC	0.50	u	MG/L	0.50	1.0
		Nitrite by IC	0.25	u	MG/L	0.25	1.0
		Nitrate by IC	9.2		MG/L	0.25	1.0
		Cyanide, Total	10.0	u	UG/L	10.0	1.0
		Phosphate by IC	0.25	u	MG/L	0.25	1.0
		Sulfate by IC	19.9		MG/L	0.50	2.0
		Nitrate Nitrite	1.6		MG-N/L	0.50	5.0
		Ammonia, as N	0.10	u	MG/L	0.10	1.0
		Total Organic Carbon	9.3		MG/L	0.50	1.0
		pH	8.2		PH UNITS	0.010	1.0
		Sulfide	0.10	u	MG/L	0.10	1.0
		Total Organic Halides	86.1		UG/L	20.0	4.0

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ROY F. WESTON INC.

INORGANIC DATA SUMMARY REPORT 12/29/93

CLIENT: WESTINGHOUSE HANFORD

WESTON BATCH #: 9311L768

WORK ORDER: 06168-002-001-9999-00

SAMPLE	SITE ID	ANALYTE	RESULT		UNITS	REPORTING LIMIT	DILUTION FACTOR
-007	B09JF6	% Solids	67.9		%	0.10	1.0
		Chloride by IC	236		MG/KG	18.4	10.0
		Fluoride by IC	10.6		MG/KG	3.7	1.0
		Nitrite by IC	5.6		MG/KG	1.8	1.0
		Nitrate by IC	67.7		MG/KG	1.8	1.0
		Cyanide, Total	1.5	u	MG/KG	1.5	1.0
		Phosphate by IC	73.4		MG/KG	1.8	1.0
		Sulfate by IC	302		MG/KG	18.4	10.0
		Extr. Organic Halides	343		MG/KG	40.0	1.0
		Nitrate Nitrite	11.6		MG-N/KG	3.7	5.0
		Total Organic Carbon	20500		MG/KG	909	1.0
		pH	8.0		PH UNITS	0.010	1.0
		Petroleum Hydrocarbons	2770		MG/KG	246	50.0
		Sulfide	0.37	u	MG/KG	0.37	1.0
-008	B09JF7	% Solids	99.0		%	0.10	1.0
		Chloride by IC	23.0		MG/KG	1.3	1.0
		Fluoride by IC	2.5	u	MG/KG	2.5	1.0
		Nitrite by IC	1.3	u	MG/KG	1.3	1.0
		Nitrate by IC	43.3		MG/KG	1.3	1.0
		Cyanide, Total	1.0	u	MG/KG	1.0	1.0
		Phosphate by IC	4.1		MG/KG	1.3	1.0
		Sulfate by IC	177		MG/KG	12.6	10.0
		Extr. Organic Halides	102		MG/KG	40.0	1.0
		Nitrate Nitrite	10.2		MG-N/KG	2.5	5.0
		Total Organic Carbon	16300		MG/KG	833	1.0
		pH	7.7		PH UNITS	0.010	1.0
		Petroleum Hydrocarbons	1400		MG/KG	168	50.0
		Sulfide	0.25	u	MG/KG	0.25	1.0

ROY F. WESTON INC.

INORGANIC DATA SUMMARY REPORT 12/29/93

CLIENT: WESTINGHOUSE HANFORD

WESTON BATCH #: 9311L768

WORK ORDER: 06168-002-001-9999-00

SAMPLE	SITE ID	ANALYTE	RESULT		UNITS	REPORTING LIMIT	DILUTION FACTOR
-009	B09JF8	% Solids	98.2		%	0.10	1.0
		Chloride by IC	43.5		MG/KG	1.3	1.0
		Fluoride by IC	2.5	u	MG/KG	2.5	1.0
		Nitrite by IC	1.3	u	MG/KG	1.3	1.0
		Nitrate by IC	22.2		MG/KG	1.3	1.0
		Cyanide, Total	1.0	u	MG/KG	1.0	1.0
		Phosphate by IC	6.0		MG/KG	1.3	1.0
		Sulfate by IC	143		MG/KG	6.4	5.0
		Extr. Organic Halides	40.0	u	MG/KG	40.0	1.0
		Nitrate Nitrite	3.9		MG-N/KG	2.5	5.0
		Total Organic Carbon	11300		MG/KG	526	1.0
		pH	8.3		PH UNITS	0.010	1.0
		Petroleum Hydrocarbons	1990		MG/KG	170	50.0
		Sulfide	0.25	u	MG/KG	0.25	1.0

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

Client: WESTINGHOUSE HANFORD
RFW #: 9311L768

W.O. #: 06168-002-001-9999-00
Date Received: 11-20-93

CLP METALS

1. This narrative covers the analyses of five (5) sediment, four (4) water and five (5) TCLP Leachate samples.

2. The samples were prepared and analyzed in accordance with the following protocols: SW-846.

3. ICVs, CCVs, and LCSs stock standards were purchased from Inorganic Ventures Laboratory and High Purity.

4. All analyses were performed within the required holding times.

5. All Initial and Continuing Calibration Verifications (ICV/CCV's) were within control limits.

6. All Initial and Continuing Calibration Blanks (ICB/CCB's) were within control limits.

7. All Preparation/Method Blanks were below Reporting Limits.

8. All ICP Interference Check Samples (ICSA and ICSAB) were within control limits.

9. All Laboratory Control Samples (LCS) were within the 80-120% control limits.

10. All Serial Dilution percent differences were within SW-846 control limits except for:

RFW #	Element	%Difference
001	Calcium	18.6
	Iron	17.7
	Manganese	17.7

11. All Matrix Spike recoveries were within the 75-125% control limits (exception allowed when sample concentration exceeds the spike added concentration by a factor of 4 or more).

    Matrix spike analyses are not required for Ca, Mg, Na, and K in waters and soils. Also, not required for Al and Fe in soils.

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12. All Matrix Spike Duplicates were within the 20% Relative Percent Difference (RPD) control limits except for:

RFW #	Element	%RPD
001	Silver	20.7

13. All Duplicate analyses were within the 20% Relative Percent Difference (RPD) control limits for samples values greater than 5X Reporting Limit, or +/- the Reporting Limits for sample values less than 5X Reporting Limit.

14. 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.

15. 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).

16. 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.

17. The TCLP extract from sample 010 was selected for the matrix spike for this analytical batch.

    The matrix spike for Silver was below 50% recovery at 38.2%. The Silver result in the TCLP Leachate was below 80-120% of the action level so standard addition was not required per Federal Register, Vol.57, No.227, Nov. 24, 1992, page 55117.

18. The Cyanide sample 001 was analyzed with a duplicate, matrix spike and matrix spike duplicate. The Laboratory Control Standard failed. There was insufficient sample volume for reanalysis; the sample was cancelled.

Raymond A. Siery
Inorganic Section Manager
Lionville Analytical Laboratory

12.16.93
Date

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

Client: WESTINGHOUSE HANFORD
RFW #: 9311L768

W.O. #: 06168-002-001-9999-00
Date Received: 11-20-93

CLP METALS ADDENDUM

1. 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.

Raymond A. Siery
Inorganic Section Manager
Lionville Analytical Laboratory

12.16.93
Date

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ROY F. WESTON INC.

INORGANIC DATA SUMMARY REPORT 12/07/93

CLIENT: WESTINGHOUSE HANFORD

WESTON BATCH #: 9311L768

WORK ORDER: 06168-002-001-9999-00

SAMPLE	SITE ID	ANALYTE	RESULT		UNITS	REPORTING LIMIT	DILUTION FACTOR
-001	B09JD2	Silver, Total	10.0	u	UG/L	10.0	1.0
		Aluminum, Total	200	u	UG/L	200	1.0
		Arsenic, Total	10.0	u	UG/L	10.0	1.0
		Barium, Total	200	u	UG/L	200	1.0
		Beryllium, Total	5.0	u	UG/L	5.0	1.0
		Calcium, Total	8920		UG/L	5000	1.0
		Cadmium, Total	5.0	u	UG/L	5.0	1.0
		Cobalt, Total	50.0	u	UG/L	50.0	1.0
		Chromium, Total	34.2		UG/L	10.0	1.0
		Copper, Total	25.0	u	UG/L	25.0	1.0
		Iron, Total	9290		UG/L	100	1.0
		Mercury, Total	0.20	u	UG/L	0.20	1.0
		Potassium, Total	5000	u	UG/L	5000	1.0
		Magnesium, Total	5000	u	UG/L	5000	1.0
		Manganese, Total	162		UG/L	15.0	1.0
		Sodium, Total	5000	u	UG/L	5000	1.0
		Nickel, Total	40.0	u	UG/L	40.0	1.0
		Lead, Total	162		UG/L	15.0	5.0
		Antimony, Total	60.0	u	UG/L	60.0	1.0
		Selenium, Total	5.0	u	UG/L	5.0	1.0
		Thallium, Total	10.0	u	UG/L	10.0	1.0
		Vanadium, Total	50.0	u	UG/L	50.0	1.0
		Zinc, Total	121		UG/L	20.0	1.0

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ROY F. WESTON INC.

INORGANIC DATA SUMMARY REPORT 12/07/93

CLIENT: WESTINGHOUSE HANFORD

WESTON BATCH #: 9311L768

WORK ORDER: 06168-002-001-9999-00

SAMPLE	SITE ID	ANALYTE	RESULT		UNITS	REPORTING LIMIT	DILUTION FACTOR
-002	B09JD4	Silver, Total	10.0	u	UG/L	10.0	1.0
		Aluminum, Total	200	u	UG/L	200	1.0
		Arsenic, Total	10.0	u	UG/L	10.0	1.0
		Barium, Total	200	u	UG/L	200	1.0
		Beryllium, Total	5.0	u	UG/L	5.0	1.0
		Calcium, Total	26100		UG/L	5000	1.0
		Cadmium, Total	5.0	u	UG/L	5.0	1.0
		Cobalt, Total	50.0	u	UG/L	50.0	1.0
		Chromium, Total	10.0	u	UG/L	10.0	1.0
		Copper, Total	74.6		UG/L	25.0	1.0
		Iron, Total	378		UG/L	100	1.0
		Mercury, Total	0.20	u	UG/L	0.20	1.0
		Potassium, Total	7110		UG/L	5000	1.0
		Magnesium, Total	5000	u	UG/L	5000	1.0
		Manganese, Total	17.5		UG/L	15.0	1.0
		Sodium, Total	20600		UG/L	5000	1.0
		Nickel, Total	40.0	u	UG/L	40.0	1.0
		Lead, Total	9.5		UG/L	3.0	1.0
		Antimony, Total	60.0	u	UG/L	60.0	1.0
		Selenium, Total	5.0	u	UG/L	5.0	1.0
		Thallium, Total	10.0	u	UG/L	10.0	1.0
		Vanadium, Total	50.0	u	UG/L	50.0	1.0
		Zinc, Total	376		UG/L	20.0	1.0

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ROY F. WESTON INC.

INORGANIC DATA SUMMARY REPORT 12/07/93

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WESTON BATCH #: 9311L768

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SAMPLE	SITE ID	ANALYTE	RESULT		UNITS	REPORTING LIMIT	DILUTION FACTOR
-004	B09JF0	Silver, Total	10.0	u	UG/L	10.0	1.0
		Aluminum, Total	651		UG/L	200	1.0
		Arsenic, Total	20.9		UG/L	10.0	1.0
		Barium, Total	200	u	UG/L	200	1.0
		Beryllium, Total	5.0	u	UG/L	5.0	1.0
		Calcium, Total	5000	u	UG/L	5000	1.0
		Cadmium, Total	5.0	u	UG/L	5.0	1.0
		Cobalt, Total	50.0	u	UG/L	50.0	1.0
		Chromium, Total	117		UG/L	10.0	1.0
		Copper, Total	33.7		UG/L	25.0	1.0
		Iron, Total	1480		UG/L	100	1.0
		Mercury, Total	2.7		UG/L	0.20	1.0
		Potassium, Total	6540		UG/L	5000	1.0
		Magnesium, Total	5000	u	UG/L	5000	1.0
		Manganese, Total	53.9		UG/L	15.0	1.0
		Sodium, Total	272000		UG/L	5000	1.0
		Nickel, Total	40.0	u	UG/L	40.0	1.0
		Lead, Total	10.9		UG/L	3.0	1.0
		Antimony, Total	60.0	u	UG/L	60.0	1.0
		Selenium, Total	5.0	u	UG/L	5.0	1.0
		Thallium, Total	10.0	u	UG/L	10.0	1.0
		Vanadium, Total	50.0	u	UG/L	50.0	1.0
		Zinc, Total	93.8		UG/L	20.0	1.0

ROY F. WESTON INC.

INORGANIC DATA SUMMARY REPORT 12/07/93

CLIENT: WESTINGHOUSE HANFORD

WESTON BATCH #: 9311L768

WORK ORDER: 06168-002-001-9999-00

SAMPLE	SITE ID	ANALYTE	RESULT		UNITS	REPORTING LIMIT	DILUTION FACTOR
-006	B09JF2	Silver, Total	10.0	u	UG/L	10.0	1.0
		Aluminum, Total	200	u	UG/L	200	1.0
		Arsenic, Total	10.0	u	UG/L	10.0	1.0
		Barium, Total	200	u	UG/L	200	1.0
		Beryllium, Total	5.0	u	UG/L	5.0	1.0
		Calcium, Total	43400		UG/L	5000	1.0
		Cadmium, Total	5.0	u	UG/L	5.0	1.0
		Cobalt, Total	50.0	u	UG/L	50.0	1.0
		Chromium, Total	10.0	u	UG/L	10.0	1.0
		Copper, Total	25.0	u	UG/L	25.0	1.0
		Iron, Total	302		UG/L	100	1.0
		Mercury, Total	0.20	u	UG/L	0.20	1.0
		Potassium, Total	13300		UG/L	5000	1.0
		Magnesium, Total	5000	u	UG/L	5000	1.0
		Manganese, Total	15.0	u	UG/L	15.0	1.0
		Sodium, Total	27700		UG/L	5000	1.0
		Nickel, Total	40.0	u	UG/L	40.0	1.0
		Lead, Total	3.0	u	UG/L	3.0	1.0
		Antimony, Total	60.0	u	UG/L	60.0	1.0
		Selenium, Total	5.0	u	UG/L	5.0	1.0
		Thallium, Total	10.0	u	UG/L	10.0	1.0
		Vanadium, Total	50.0	u	UG/L	50.0	1.0
		Zinc, Total	628		UG/L	20.0	1.0

ROY F. WESTON INC.

INORGANIC DATA SUMMARY REPORT 12/07/93

CLIENT: WESTINGHOUSE HANFORD

WESTON BATCH #: 9311L768

WORK ORDER: 06168-002-001-9999-00

SAMPLE	SITE ID	ANALYTE	RESULT		UNITS	REPORTING LIMIT	DILUTION FACTOR
-010	B09JD5	Silver, TCLP Leachate	10.0	u	UG/L	10.0	1.0
		Arsenic, TCLP Leachate	100	u	UG/L	100	1.0
		Barium, TCLP Leachate	1470		UG/L	200	1.0
		Cadmium, TCLP Leachate	116		UG/L	5.0	1.0
		Chromium, TCLP Leachate	27.5		UG/L	10.0	1.0
		Mercury, TCLP Leachate	0.98		UG/L	0.20	1.0
		Lead, TCLP Leachate	550		UG/L	90.0	1.0
		Selenium, TCLP Leachate	100	u	UG/L	100	1.0

ROY F. WESTON INC.

INORGANIC DATA SUMMARY REPORT 12/07/93

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WESTON BATCH #: 9311L768

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SAMPLE	SITE ID	ANALYTE	RESULT		UNITS	REPORTING LIMIT	DILUTION FACTOR
-011	B09JF1	Silver, TCLP Leachate	10.0	u	UG/L	10.0	1.0
		Arsenic, TCLP Leachate	100	u	UG/L	100	1.0
		Barium, TCLP Leachate	919		UG/L	200	1.0
		Cadmium, TCLP Leachate	7.3		UG/L	5.0	1.0
		Chromium, TCLP Leachate	12.0		UG/L	10.0	1.0
		Mercury, TCLP Leachate	0.20	u	UG/L	0.20	1.0
		Lead, TCLP Leachate	321		UG/L	90.0	1.0
		Selenium, TCLP Leachate	100	u	UG/L	100	1.0

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ROY F. WESTON INC.

INORGANIC DATA SUMMARY REPORT 12/07/93

CLIENT: WESTINGHOUSE HANFORD

WESTON BATCH #: 9311L768

WORK ORDER: 06168-002-001-9999-00

SAMPLE	SITE ID	ANALYTE	RESULT		UNITS	REPORTING LIMIT	DILUTION FACTOR
-012	B09JF6	Silver, TCLP Leachate	10.0	u	UG/L	10.0	1.0
		Arsenic, TCLP Leachate	100	u	UG/L	100	1.0
		Barium, TCLP Leachate	648		UG/L	200	1.0
		Cadmium, TCLP Leachate	626		UG/L	5.0	1.0
		Chromium, TCLP Leachate	20.7		UG/L	10.0	1.0
		Mercury, TCLP Leachate	2.1		UG/L	0.20	1.0
		Lead, TCLP Leachate	159		UG/L	90.0	1.0
		Selenium, TCLP Leachate	100	u	UG/L	100	1.0

ROY F. WESTON INC.

INORGANIC DATA SUMMARY REPORT 12/07/93

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WESTON BATCH #: 9311L768

WORK ORDER: 06168-002-001-9999-00

SAMPLE	SITE ID	ANALYTE	RESULT		UNITS	REPORTING LIMIT	DILUTION FACTOR
-013	B09JF7	Silver, TCLP Leachate	10.0	u	UG/L	10.0	1.0
		Arsenic, TCLP Leachate	100	u	UG/L	100	1.0
		Barium, TCLP Leachate	1210		UG/L	200	1.0
		Cadmium, TCLP Leachate	36.7		UG/L	5.0	1.0
		Chromium, TCLP Leachate	143		UG/L	10.0	1.0
		Mercury, TCLP Leachate	0.20	u	UG/L	0.20	1.0
		Lead, TCLP Leachate	3380		UG/L	90.0	1.0
		Selenium, TCLP Leachate	100	u	UG/L	100	1.0

ROY F. WESTON INC.

INORGANIC DATA SUMMARY REPORT 12/07/93

CLIENT: WESTINGHOUSE HANFORD

WESTON BATCH #: 9311L768

WORK ORDER: 06168-002-001-9999-00

SAMPLE	SITE ID	ANALYTE	RESULT		UNITS	REPORTING LIMIT	DILUTION FACTOR
-014	B09JF8	Silver, TCLP Leachate	10.0	u	UG/L	10.0	1.0
		Arsenic, TCLP Leachate	100	u	UG/L	100	1.0
		Barium, TCLP Leachate	899		UG/L	200	1.0
		Cadmium, TCLP Leachate	127		UG/L	5.0	1.0
		Chromium, TCLP Leachate	10.0	u	UG/L	10.0	1.0
		Mercury, TCLP Leachate	6.1		UG/L	0.20	1.0
		Lead, TCLP Leachate	334		UG/L	90.0	1.0
		Selenium, TCLP Leachate	100	u	UG/L	100	1.0

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INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

B09JD2

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

Lab Code: WESTON Case No.: WEST SAS No.: SDG No.: CLP768

Matrix (soil/water): WATER Lab Sample ID: 931176801

Level (low/med): LOW Date Received: 11/20/93

% 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	169.00	B		P
7440-36-0	Antimony	46.00	U		P
7440-38-2	Arsenic	2.00	U		F
7440-39-3	Barium	18.00	B		P
7440-41-7	Beryllium	1.00	U		P
7440-43-9	Cadmium	5.00	U		P
7440-70-2	Calcium	8920.00		E	P
7440-47-3	Chromium	34.20			P
7440-48-4	Cobalt	7.00	U		P
7440-50-8	Copper	7.00	U		P
7439-89-6	Iron	9290.00		E	P
7439-92-1	Lead	162.00			F
7439-95-4	Magnesium	1290.00	B		P
7439-96-5	Manganese	162.00		E	P
7439-97-6	Mercury	.10	U		CV
7440-02-0	Nickel	16.30	B		P
7440-09-7	Potassium	3790.00	B		P
7782-49-2	Selenium	2.00	U		F
7440-22-4	Silver	7.00	U		P
7440-23-5	Sodium	2370.00	B		P
7440-28-0	Thallium	2.00	U		F
7440-62-2	Vanadium	9.10	B		P
7440-66-6	Zinc	121.00			P
	Cyanide				NR

Color Before: COLORLESS Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

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1

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

B09JD4

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

Lab Code: WESTON Case No.: WEST SAS No.: SDG No.: CLP768

Matrix (soil/water): WATER Lab Sample ID: 931176802

Level (low/med): LOW Date Received: 11/20/93

% 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	76.50	B		P
7440-36-0	Antimony	46.00	U		P
7440-38-2	Arsenic	3.10	B		F
7440-39-3	Barium	22.10	B		P
7440-41-7	Beryllium	1.00	U		P
7440-43-9	Cadmium	5.00	U		P
7440-70-2	Calcium	26100.00		E	P
7440-47-3	Chromium	6.00	U		P
7440-48-4	Cobalt	7.00	U		P
7440-50-8	Copper	74.60			P
7439-89-6	Iron	378.00		E	P
7439-92-1	Lead	9.50			F
7439-95-4	Magnesium	4900.00	B		P
7439-96-5	Manganese	17.50		E	P
7439-97-6	Mercury	.10	U		CV
7440-02-0	Nickel	12.00	U		P
7440-09-7	Potassium	7110.00			P
7782-49-2	Selenium	2.00	U		F
7440-22-4	Silver	7.00	U		P
7440-23-5	Sodium	20600.00			P
7440-28-0	Thallium	2.00	U		F
7440-62-2	Vanadium	3.00	U		P
7440-66-6	Zinc	376.00			P
	Cyanide	20.00	U		C

Color Before: COLORLESS Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

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U.S. EPA - CLP

1

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

B09JD5

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

Lab Code: WESTON Case No.: WEST SAS No.: SDG No.: CLP768

Matrix (soil/water): SOIL Lab Sample ID: 931176803

Level (low/med): LOW Date Received: 11/20/93

% Solids: 96.6

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum				NR
7440-36-0	Antimony				NR
7440-38-2	Arsenic				NR
7440-39-3	Barium				NR
7440-41-7	Beryllium				NR
7440-43-9	Cadmium				NR
7440-70-2	Calcium				NR
7440-47-3	Chromium				NR
7440-48-4	Cobalt				NR
7440-50-8	Copper				NR
7439-89-6	Iron				NR
7439-92-1	Lead				NR
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury				NR
7440-02-0	Nickel				NR
7440-09-7	Potassium				NR
7782-49-2	Selenium				NR
7440-22-4	Silver				NR
7440-23-5	Sodium				NR
7440-28-0	Thallium				NR
7440-62-2	Vanadium				NR
7440-66-6	Zinc				NR
	Cyanide	1.04	U		C

Color Before: BROWN Clarity Before: Texture: FINE

Color After: BROWN Clarity After: Artifacts:

Comments:

FORM I - IN

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U.S. EPA - CLP

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INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

B09JF0

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

Lab Code: WESTON Case No.: WEST SAS No.: SDG No.: CLP768

Matrix (soil/water): WATER Lab Sample ID: 931176804

Level (low/med): LOW Date Received: 11/20/93

% 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	651.00			P
7440-36-0	Antimony	46.00	U		P
7440-38-2	Arsenic	20.90			F
7440-39-3	Barium	7.60	B		P
7440-41-7	Beryllium	1.00	U		P
7440-43-9	Cadmium	5.00	U		P
7440-70-2	Calcium	3370.00	B	E	P
7440-47-3	Chromium	117.00			P
7440-48-4	Cobalt	7.00	U		P
7440-50-8	Copper	33.70			P
7439-89-6	Iron	1480.00		E	P
7439-92-1	Lead	10.90			F
7439-95-4	Magnesium	1810.00	B		P
7439-96-5	Manganese	53.90		E	P
7439-97-6	Mercury	2.75			CV
7440-02-0	Nickel	12.00	U		P
7440-09-7	Potassium	6540.00			P
7782-49-2	Selenium	2.00	U		F
7440-22-4	Silver	7.00	U		P
7440-23-5	Sodium	272000.00			P
7440-28-0	Thallium	2.00	U		F
7440-62-2	Vanadium	8.20	B		P
7440-66-6	Zinc	93.80			P
	Cyanide	20.00	U		C

Color Before: COLORLESS Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

FORM I - IN

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INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

B09JF1

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

Lab Code: WESTON Case No.: WEST SAS No.: SDG No.: CLP768

Matrix (soil/water): SOIL Lab Sample ID: 931176805

Level (low/med): LOW Date Received: 11/20/93

% Solids: 6.7

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum				NR
7440-36-0	Antimony				NR
7440-38-2	Arsenic				NR
7440-39-3	Barium				NR
7440-41-7	Beryllium				NR
7440-43-9	Cadmium				NR
7440-70-2	Calcium				NR
7440-47-3	Chromium				NR
7440-48-4	Cobalt				NR
7440-50-8	Copper				NR
7439-89-6	Iron				NR
7439-92-1	Lead				NR
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury				NR
7440-02-0	Nickel				NR
7440-09-7	Potassium				NR
7782-49-2	Selenium				NR
7440-22-4	Silver				NR
7440-23-5	Sodium				NR
7440-28-0	Thallium				NR
7440-62-2	Vanadium				NR
7440-66-6	Zinc				NR
	Cyanide	15.00	U		C

Color Before: BROWN Clarity Before: Texture: FINE

Color After: BROWN Clarity After: Artifacts:

Comments:

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INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

B09JF2

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

Lab Code: WESTON Case No.: WEST SAS No.: SDG No.: CLP768

Matrix (soil/water): WATER Lab Sample ID: 931176806

Level (low/med): LOW Date Received: 11/20/93

% 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	95.90	B		P
7440-36-0	Antimony	46.00	U		P
7440-38-2	Arsenic	2.00	U		F
7440-39-3	Barium	62.30	B		P
7440-41-7	Beryllium	1.00	U		P
7440-43-9	Cadmium	5.00	U		P
7440-70-2	Calcium	43400.00		E	P
7440-47-3	Chromium	6.00	U		P
7440-48-4	Cobalt	7.00	U		P
7440-50-8	Copper	18.50	B		P
7439-89-6	Iron	302.00		E	P
7439-92-1	Lead	2.40	B		F
7439-95-4	Magnesium	1680.00	B		P
7439-96-5	Manganese	8.00	B	E	P
7439-97-6	Mercury	.10	U		CV
7440-02-0	Nickel	12.00	U		P
7440-09-7	Potassium	13300.00			P
7782-49-2	Selenium	2.00	U		F
7440-22-4	Silver	7.00	U		P
7440-23-5	Sodium	27700.00			P
7440-28-0	Thallium	2.00	U		F
7440-62-2	Vanadium	3.00	U		P
7440-66-6	Zinc	628.00			P
	Cyanide	10.00	U		C

Color Before: COLORLESS Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

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INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

B09JF6

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

Lab Code: WESTON Case No.: WEST SAS No.: SDG No.: CLP768

Matrix (soil/water): SOIL Lab Sample ID: 931176807

Level (low/med): LOW Date Received: 11/20/93

% Solids: 67.9

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum				NR
7440-36-0	Antimony				NR
7440-38-2	Arsenic				NR
7440-39-3	Barium				NR
7440-41-7	Beryllium				NR
7440-43-9	Cadmium				NR
7440-70-2	Calcium				NR
7440-47-3	Chromium				NR
7440-48-4	Cobalt				NR
7440-50-8	Copper				NR
7439-89-6	Iron				NR
7439-92-1	Lead				NR
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury				NR
7440-02-0	Nickel				NR
7440-09-7	Potassium				NR
7782-49-2	Selenium				NR
7440-22-4	Silver				NR
7440-23-5	Sodium				NR
7440-28-0	Thallium				NR
7440-62-2	Vanadium				NR
7440-66-6	Zinc				NR
	Cyanide	1.47	U		C

Color Before: BROWN Clarity Before: Texture: FINE

Color After: BROWN Clarity After: Artifacts:

Comments:

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INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

B09JF7

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

Lab Code: WESTON Case No.: WEST SAS No.: SDG No.: CLP768

Matrix (soil/water): SOIL Lab Sample ID: 931176808

Level (low/med): LOW Date Received: 11/20/93

% Solids: 98.9

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum				NR
7440-36-0	Antimony				NR
7440-38-2	Arsenic				NR
7440-39-3	Barium				NR
7440-41-7	Beryllium				NR
7440-43-9	Cadmium				NR
7440-70-2	Calcium				NR
7440-47-3	Chromium				NR
7440-48-4	Cobalt				NR
7440-50-8	Copper				NR
7439-89-6	Iron				NR
7439-92-1	Lead				NR
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury				NR
7440-02-0	Nickel				NR
7440-09-7	Potassium				NR
7782-49-2	Selenium				NR
7440-22-4	Silver				NR
7440-23-5	Sodium				NR
7440-28-0	Thallium				NR
7440-62-2	Vanadium				NR
7440-66-6	Zinc				NR
	Cyanide	1.01	U		C

Color Before: BROWN Clarity Before: Texture: FINE

Color After: BROWN Clarity After: Artifacts:

Comments:

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INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

B09JF8

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

Lab Code: WESTON Case No.: WEST SAS No.: SDG No.: CLP768

Matrix (soil/water): SOIL Lab Sample ID: 931176809

Level (low/med): LOW Date Received: 11/20/93

% Solids: 98.3

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum				NR
7440-36-0	Antimony				NR
7440-38-2	Arsenic				NR
7440-39-3	Barium				NR
7440-41-7	Beryllium				NR
7440-43-9	Cadmium				NR
7440-70-2	Calcium				NR
7440-47-3	Chromium				NR
7440-48-4	Cobalt				NR
7440-50-8	Copper				NR
7439-89-6	Iron				NR
7439-92-1	Lead				NR
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury				NR
7440-02-0	Nickel				NR
7440-09-7	Potassium				NR
7782-49-2	Selenium				NR
7440-22-4	Silver				NR
7440-23-5	Sodium				NR
7440-28-0	Thallium				NR
7440-62-2	Vanadium				NR
7440-66-6	Zinc				NR
	Cyanide	1.02	U		C

Color Before: BROWN Clarity Before: Texture: FINE

Color After: BROWN Clarity After: Artifacts:

Comments:

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