9613422.0370 0000007 0043618 76
9102L538-WES-001

START

WESTON

ROY F. WESTON, INC.
Lionville Laboratory

CLIENT: WESTINGHOUSE HANFORD **SAMPLES RECEIVED:** 02-13-91
RFW #: 9102L538, GC/MS VOLATILE
W.O. #: 6168-02-01

NARRATIVE

The set of samples consisted of two (2) water samples collected on 01-31-91.

The samples were analyzed according to criteria set forth in CLP SOW 2/88 (rev 5/89) for TCL Volatile target compounds on 02-15-91.

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

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

2. All surrogate recoveries were within EPA QC limits.

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

4. The laboratory blank contained the common contaminants methylene chloride and acetone at levels less than 2x the CRQL.

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

FEB 1996 RECEIVED EDMC

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

5.13.91
Date

WESTON Analytics Use Only
9102L538

Custody Transfer Record/Lab Work Request

WESTON

Page 1 of 1

Client: Westinghouse Hanford
Est. Final Proj. Sampling Date:
Work Order #: ~~0690-44-01-0000~~ 06168-02-01
Project Contact/Phone #:
AD Project Manager: Peg Beaty
QC: CLP Del: CLP TAT: 35 DAY
Date Rec'd: 2/13/91 Date Due: 3/20/91
Account #: WS-Hanford

Refrigerator #		1	5	5				1	2	2	2	2	2					1
#/Type Container	Liquid	3/6	2/6	—		1/P	1/6	1/6	1/P	1/P	1/P	1/P	1/P					
	Solid																	
Volume	Liquid	40ml	2/L	—		1/L	250ml	125	1L	1L	1L	1L	1L					
	Solid																	
Preservatives		—				HCl	—	H_2SO_4	—	HNO_3	NaOH	—	H_2SO_4					

ANALYSES REQUESTED →

	ORGANIC								INORG							
	VOA	BNA	Pest/PCB	Herb	TOT URANIUM	TRITIUM	TOC	Anions	Metal	CN	SO4			NO2	NO3	
	06274	06254	06284		ISUB		IOCT	IFLOR, ICL, IPO4, ISO4	SO4 ** TOT **	ICNTO	ISO4 ISO4 ICLAR	IPH ICOD	ETDS	ICLAR	INO2 INO3	IHARD
001 BooDL2	✓	✓	✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
002 BooDL3									✓							
003 BooDL5	✓															

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 (✓)	Matrix	Date Collected
001	BooDL2		Water	1/31/91
002	BooDL3		↓	↓
003	BooDL5			
**	metals = HSL + Sn, Sr, Bi			
***	Anions = ~~FLOR~~ ICFL, ~~CL~~ ICCL, ~~PO4~~ ICPO4, ISO4, ~~INO2~~ ICNO2, ~~NO3~~ ICNO3,			

Special Instructions:
* Rec'd Total Uranium + Tritium For BooD2 Not on chain
Didn't Rec Uranium + Tritium For BooD3
Rec'd metal Bottle for BooDL3 Not on COC
Didn't Rec Tritium For Bottle BooDL5
Rec'd VOA For BooDL5.
Due To Rad Screening, All CN, VOA, P, PCB Bna Run out of Hold

DATE/REVISIONS: ICNO3, ICNO3, IN3N2, ICFL, ICCL, ICPO4, ICSO4, Added
2/18/91 1. IFLOR, ICL, IPO4T, INO3, INO2 deleted
2-25-91 2. Change #20# per J. King
4/14/91 3. ~~RAD~~ RADIOCHEM ~~PO4~~ 4/13/91 Subbed to Teledyne
4.
5.
6.

Relinquished by	Received by	Date	Time	Relinquished by	Received by	Date	Time
Emery	K Shepford	2/13/91	9:30				

Discrepancies Between Samples Labels and COC Record? Y or N
NOTES: *
Metals Screening SAD OK Rec'd out of Chill

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

0000003

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91021566

Custody Transfer Record/Lab Work Request

WESTON

Page 1 of 1

Client: Westinghouse Hanford
Est. Final Proj. Sampling Date: 4/18-02-01
Work Order #: ~~0620 44 01-0004~~
Project Contact/Phone #:
AD Project Manager: Peg Beaty, Josie King
QC: CLP Del: CLP TAT: 14
Date Rec'd: 2/15/91 Date Due: 3/22/91
Account #: WS-Hanford

Lab ID	Client ID/Description	Matrix QC Chosen (✓)	Matrix	Date Collected	VOA	BNA	Pest/PCB	Herb	RAD WORK	TOT URANIUM	Tritium	TOC	Metal	CN	Anions	Inorg 1	Inorg 2
Refrigerator #					1	5	5		2	2	2	2	2	2	2	2	2
#/Type Container Liquid					3/G	2/G	→		3/P	1/P	1/G	1/G	1/P	1/P	1/P	1/P	1/P
#/Type Container Solid																	
Volume Liquid					40ml	2LR	→		4LR	4LR	250	250	1LR	1LR	1LR	1LR	1LR
Volume Solid																	
Preservatives					none	none	→		HNO3	HCL	none	H2SO4	HNO3	NaOH	none	none	H2SO4
ANALYSES REQUESTED					ORGANIC								INORG				
					0624H	0625H	0608H		* ISOB	ISOB	ISOB	IOCT	** TOT/SOL	ICNTO	*** See Below	**** See Below	***** See Below
001	B00 DK9		W	2/12/91	✓	✓	✓		✓	✓	✓	✓	✓	✓	✓	✓	✓
2	DL0												✓				
3	DY5				✓												
4	DL6			2/13/91	✓	✓	✓		✓	✓	✓	✓	✓	✓	✓	✓	✓
5	DL7												✓				
6	DL9				✓	✓	✓		✓	✓	✓	✓	✓	✓	✓	✓	✓
7	DM0												✓				
8	DL5				✓												
9	DK6			2/12/91	✓	✓	✓		✓	✓	✓	✓	✓	✓	✓	✓	✓
10	DK7												✓				

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

Special Instructions:
* RAD Gross Alpha, Beta, Radium, SR-90, TC-90, CS-137, CO-60, PU-238, PU239/240
** Metal = HSL + BI, SR, SN
*** Anions = ICCL, ICFL, ICSO4, ICPO4, ICNO3, ICNO2
**** Anorg ① = PH, SPCL, ALKL, ~~CHR, ICL, ISO4~~ TDS ISO4
***** Anorg ② = HARD, NH3N, N3N2

DATE/REVISIONS:
2-25-91 1. Change WO# per J. King
4/14/91 2. Radiochem subbed to Teledyne
3.
4.
5.
6.

Relinquished by	Received by	Date	Time
L. Sly	K. Sheppard	2/15/91	9:30
M. Ayers	Ayers	2/15	3PM 9:20

Relinquished by	Received by	Date	Time

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

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) Properly Preserved Y or N
5) Received Within Holding Times (Y) or N

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

00000C4

WESTON Analytics Use Only

91021599

Custody Transfer Record/Lab Work Request

WESTON

Page 1 of 1

Client: Westinghouse-Hanford

Est. Final Proj. Sampling Date: 4/16-02-01

Work Order #: ~~A6.30-44-01-0000~~

Project Contact/Phone #:

AD Project Manager: Peg Beaty

QC: CLP Del: CLP TAT: 35 day

Date Rec'd: 2/16/91 Date Due: 3/23/91

Account #: WS-Hanford

Refrigerator #		1	5	5		2	2	2	1	2	2	2	2	2		
#/Type Container	Liquid	3/G	2/G	→		3/P	1/P	1/G	1/G	1/P	1/P	1/P	1/P	1/P		
	Solid															
Volume	Liquid	40ml	2LTR	→		4LTR	LTR	250ml	250	LTR	LTR	LTR	LTR	LTR		
	Solid															
Preservatives		None	None	→		HNO3	~~HCL~~	None	H2SO4	HNO3	NaOH	None	NaOH	H2SO4		
ANALYSES REQUESTED →		ORGANIC								INORG						
		VOA	BNA	Pest/PCB	Herb	RAD WORK	TOT URANIUM	TRITIUM	TOC	** Metal	CN	*** Anions	**** Inorg (1)	**** Inorg (2)		
		060344	060254	060844		* ISUB	ISUB	ISUB	IOCT	TOT/SOL	ICNTO	see Below	see Below	see Below		
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 (✓)	Matrix	Date Collected											
	001	B00DM2		W	2/14/91	✓	✓	✓		✓	✓	✓	✓	✓/✓	✓	✓	✓	✓	
	2	B00DM3												✓					
	3	B00D25		↓	↓	✓													
		*RAD - Gross Alpha, Gross Beta, Radium, SR-90, TC-90, CS-137, CO-60, PU-238 PU 239/240																	
		** Metals = HSL + BI, SR, SN																	

Special Instructions:

*** Anions = ICCL, ICFL, ICSO4, ICPO4, ICNO3, ICNO2

**** Inorg (1) = PH, SPCD, ALKL, ~~NO3, NO2~~, ~~ICSO4~~ ITDS

***** Inorg (2) HARD, NH_3N, N_3N_2

Original rewritten pg

DATE/REVISIONS:

2/25/91 1. Change WO# per J. KING

4/14/91 2. Radiochem subbed to Teledyne

3.

4.

5.

6.

Relinquished by	Received by	Date	Time
Teledyne	P Geiger	2/16/91	9:30 AM

Relinquished by	Received by	Date	Time

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) Properly Preserved Y or N

5) Received Within Holding Times Y or N

COC Tape was: 1) Present on Outer Package Y or N

2) Unbroken on Outer Package Y or N

3) Present on Sample Y or N

4) Unbroken on Sample Y or N

COC Record Present Upon Sample Rec't Y or N

Discrepancies Between Samples Labels and COC Record? Y or N

NOTES: NO #12 on orig COC pg

incl. NO3, NO2, SO4, PH mat.

00000005

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

RFW Batch Number: 9102L538 Client: WESTINGHOUSE HANFORD Work Order: 0630-44-01-0000 Report Date: 02/18/91 16:03 Page: 1a

	Cust ID:	BOODL2	BOODL2	BOODL2	BOODL5	VBLK
Sample Information	RFW#:	001	001 MS	001 MSD	003	91LVK031-MB1
	Matrix:	WATER	WATER	WATER	WATER	WATER
	D.F.:	1.00	1.00	1.00	1.00	1.00
	Units:	ug/L	ug/L	ug/L	ug/L	ug/L
Surrogate Recovery	Toluene-d8	102 %	99 %	101 %	99 %	99 %
	Bromofluorobenzene	98 %	98 %	100 %	96 %	97 %
	1,2-Dichloroethane-d4	103 %	96 %	98 %	104 %	103 %
Chloromethane		10 U	10 U	10 U	10 U	10 U
Bromomethane		10 U	10 U	10 U	10 U	10 U
Vinyl Chloride		10 U	10 U	10 U	10 U	10 U
Chloroethane		10 U	10 U	10 U	10 U	10 U
Methylene Chloride		3 JB	4 JB	3 JB	15 B	8
Acetone		10 U	10 U	10 U	12 B	15
Carbon Disulfide		5 U	5 U	5 U	5 U	5 U
1,1-Dichloroethene		5 U	96 %	101 %	5 U	5 U
1,1-Dichloroethane		5 U	5 U	5 U	5 U	5 U
1,2-Dichloroethene (total)		5 U	5 U	5 U	5 U	5 U
Chloroform		5 U	5 U	5 U	5 U	5 U
1,2-Dichloroethane		5 U	5 U	5 U	5 U	5 U
2-Butanone		10 U	10 U	10 U	10 U	10 U
1,1,1-Trichloroethane		5 U	5 U	5 U	5 U	5 U
Carbon Tetrachloride		5 U	5 U	5 U	5 U	5 U
Vinyl Acetate		10 U	10 U	10 U	10 U	10 U
Bromodichloromethane		5 U	5 U	5 U	5 U	5 U
1,2-Dichloropropane		5 U	5 U	5 U	5 U	5 U
cis-1,3-Dichloropropene		5 U	5 U	5 U	5 U	5 U
Trichloroethene		5 U	98 %	101 %	5 U	5 U
Dibromochloromethane		5 U	5 U	5 U	5 U	5 U
1,1,2-Trichloroethane		5 U	5 U	5 U	5 U	5 U
Benzene		5 U	105 %	108 %	5 U	5 U
Trans-1,3-Dichloropropene		5 U	5 U	5 U	5 U	5 U
Bromoform		5 U	5 U	5 U	5 U	5 U
4-Methyl-2-pentanone		10 U	10 U	10 U	10 U	10 U
2-Hexanone		10 U	10 U	10 U	10 U	10 U
Tetrachloroethene		5 U	5 U	5 U	5 U	5 U
1,1,2,2-Tetrachloroethane		5 U	5 U	5 U	5 U	5 U

*= Outside of EPA CLP QC limits.

000004
9618422.0374

Cust ID:	BOODL2	BOODL2	BOODL2	BOODL5	VBLK
RFW#:	001	001 MS	001 MSD	003	91LVK031-MB1
Toluene	5 U	105 %	104 %	5 U	5 U
Chlorobenzene	5 U	107 %	108 %	5 U	5 U
Ethylbenzene	5 U	5 U	5 U	5 U	5 U
Styrene	5 U	5 U	5 U	5 U	5 U
Xylene (total)	5 U	5 U	5 U	5 U	5 U

*= Outside of EPA CLP QC limits.

9612122.0875 000005

9613422.0376

VOLATILE ORGANICS ANALYSIS SHEET 000016

CLIENT SAMPLE NO.

BOODL2

Lab Name: Roy F. Weston, Inc. Work Order: 0630-44-01-0000

Client: WESTINGHOUSE HANFORD

Matrix: WATER

Lab Sample ID: 9102L538-001

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

Lab File ID: AK2F13

Level: (low/med) LOW

Date Received: 02/13/91

% Moisture: not dec. _____

Date Analyzed: 02/15/91

Column: (pack/cap) CAP

Dilution Factor: 1.00

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

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

BEST AVAILABLE COPY

VOLATILE ORGANICS ANALYSIS SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

BOODL2

Lab Name: Roy F. Weston, Inc. Work Order: 0630-44-01-0000

Client: WESTINGHOUSE HANFORD

Matrix: WATER

Lab Sample ID: 9102L538-001

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

Lab File ID: AK2F13

Level: (low/med) LOW

Date Received: 02/13/91

% Moisture: not dec. _____

Date Analyzed: 02/15/91

Column: (pack/cap) CAP

Dilution Factor: 1.00

Number TICs found: 0

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

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

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9613422.0378

1A

VOLATILE ORGANICS ANALYSIS SHEET 000022

CLIENT SAMPLE NO.

BOODL5

Lab Name: Roy F. Weston, Inc. Work Order: 0630-44-01-0000

Client: WESTINGHOUSE HANFORD

Matrix: WATER

Lab Sample ID: 9102L538-003

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

Lab File ID: AK2F16

Level: (low/med) LOW

Date Received: 02/13/91

% Moisture: not dec. _____

Date Analyzed: 02/15/91

Column: (pack/cap) CAP

Dilution Factor: 1.00

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

CAS NO.	COMPOUND		
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	15	B
67-64-1	Acetone	12	B
75-15-0	Carbon Disulfide	5	U
75-35-4	1,1-Dichloroethene	5	U
75-34-3	1,1-Dichloroethane	5	U
540-59-0	1,2-Dichloroethene (total)	5	U
67-66-3	Chloroform	5	U
107-06-2	1,2-Dichloroethane	5	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	5	U
56-23-5	Carbon Tetrachloride	5	U
108-05-4	Vinyl Acetate	10	U
75-27-4	Bromodichloromethane	5	U
78-87-5	1,2-Dichloropropane	5	U
10061-01-5	cis-1,3-Dichloropropene	5	U
79-01-6	Trichloroethene	5	U
124-48-1	Dibromochloromethane	5	U
79-00-5	1,1,2-Trichloroethane	5	U
71-43-2	Benzene	5	U
10061-02-6	Trans-1,3-Dichloropropene	5	U
75-25-2	Bromoform	5	U
108-10-1	4-Methyl-2-pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	5	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U
108-88-3	Toluene	5	U
108-90-7	Chlorobenzene	5	U
100-41-4	Ethylbenzene	5	U
100-42-5	Styrene	5	U
1330-20-7	Xylene (total)	5	U

BEST AVAILABLE COPY

9413422.0579

000023

VOLATILE ORGANICS ANALYSIS SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

BOODL5

Lab Name: Roy F. Weston, Inc. Work Order: 0630-44-01-0000

Client: WESTINGHOUSE HANFORD

Matrix: WATER

Lab Sample ID: 9102L538-003

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

Lab File ID: AK2F16

Level: (low/med) LOW

Date Received: 02/13/91

% Moisture: not dec. _____

Date Analyzed: 02/15/91

Column: (pack/cap) CAP

Dilution Factor: 1.00

Number TICs found: 0

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

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

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

RFW Batch Number: 9102L538 Client: WESTINGHOUSE HANFORD Work Order: 6168-02-01-0000 Report Date: 03/18/91 16:52 Page: 1a

	Cust ID:	BOODL2		SBLK		SBLK BS		SBLK BSD	
Sample Information	RFW#:	001		91LE0175-MB1		91LE0175-MB1		91LE0175-MB1	
	Matrix:	WATER		WATER		WATER		WATER	
	D.F.:	1.00		1.00		1.00		1.00	
	Units:	ug/L		ug/L		ug/L		ug/L	
Surrogate Recovery	Nitrobenzene-d5	70	%	72	%	79	%	75	%
	2-Fluorobiphenyl	72	%	77	%	84	%	81	%
	p-Terphenyl-d14	92	%	97	%	100	%	88	%
	Phenol-d5	22	%	32	%	34	%	31	%
	2-Fluorophenol	35	%	55	%	52	%	46	%
	2,4,6-Tribromophenol	75	%	75	%	76	%	73	%
Phenol		10	U	10	U	32	%	30	%
bis(2-Chloroethyl)ether		10	U	10	U	10	U	10	U
2-Chlorophenol		10	U	10	U	73	%	65	%
1,3-Dichlorobenzene		10	U	10	U	10	U	10	U
1,4-Dichlorobenzene		10	U	10	U	61	%	60	%
Benzyl alcohol		10	U	10	U	10	U	10	U
1,2-Dichlorobenzene		10	U	10	U	10	U	10	U
2-Methylphenol		10	U	10	U	10	U	10	U
bis(2-Chloroisopropyl)ether		10	U	10	U	10	U	10	U
4-Methylphenol		10	U	10	U	10	U	10	U
N-Nitroso-Di-n-propylamine		10	U	10	U	68	%	66	%
Hexachloroethane		10	U	10	U	10	U	10	U
Nitrobenzene		10	U	10	U	10	U	10	U
Isophorone		10	U	10	U	10	U	10	U
2-Nitrophenol		10	U	10	U	10	U	10	U
2,4-Dimethylphenol		10	U	10	U	10	U	10	U
Benzoic acid		50	U	50	U	50	U	50	U
bis(2-Chloroethoxy)methane		10	U	10	U	10	U	10	U
2,4-Dichlorophenol		10	U	10	U	10	U	10	U
1,2,4-Trichlorobenzene		10	U	10	U	66	%	64	%
Naphthalene		10	U	10	U	10	U	10	U
4-Chloroaniline		10	U	10	U	10	U	10	U
Hexachlorobutadiene		10	U	10	U	10	U	10	U
4-Chloro-3-methylphenol		10	U	10	U	68	%	67	%
2-Methylnaphthalene		10	U	10	U	10	U	10	U
Hexachlorocyclopentadiene		10	U	10	U	10	U	10	U

*= Outside of EPA CLP QC limits.

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0080.22142.96

Cust ID:	BOODL2		SBLK		SBLK BS		SBLK BSD	
RFW#:	001		91LE0175-MB1		91LE0175-MB1		91LE0175-MB1	
2,4,6-Trichlorophenol	10	U	10	U	10	U	10	U
2,4,5-Trichlorophenol	50	U	50	U	50	U	50	U
2-Chloronaphthalene	10	U	10	U	10	U	10	U
2-Nitroaniline	50	U	50	U	50	U	50	U
Dimethylphthalate	10	U	10	U	10	U	10	U
Acenaphthylene	10	U	10	U	10	U	10	U
2,6-Dinitrotoluene	10	U	10	U	10	U	10	U
3-Nitroaniline	50	U	50	U	50	U	50	U
Acenaphthene	10	U	10	U	75	%	76	%
2,4-Dinitrophenol	50	U	50	U	50	U	50	U
4-Nitrophenol	50	U	50	U	26	%	32	%
Dibenzofuran	10	U	10	U	10	U	10	U
2,4-Dinitrotoluene	10	U	10	U	76	%	79	%
Diethylphthalate	10	U	10	U	10	U	10	U
4-Chlorophenyl-phenylether	10	U	10	U	10	U	10	U
Fluorene	10	U	10	U	10	U	10	U
4-Nitroaniline	50	U	50	U	50	U	50	U
4,6-Dinitro-2-methylphenol	50	U	50	U	50	U	50	U
N-Nitrosodiphenylamine (1)	10	U	10	U	10	U	10	U
4-Bromophenyl-phenylether	10	U	10	U	10	U	10	U
Hexachlorobenzene	10	U	10	U	10	U	10	U
Pentachlorophenol	50	U	50	U	69	%	67	%
Phenanthrene	10	U	10	U	10	U	10	U
Anthracene	10	U	10	U	10	U	10	U
Di-n-Butylphthalate	10	U	10	U	10	U	10	U
Fluoranthene	10	U	10	U	10	U	10	U
Pyrene	10	U	10	U	90	%	78	%
Butylbenzylphthalate	10	U	10	U	10	U	10	U
3,3'-Dichlorobenzidine	20	U	20	U	20	U	20	U
Benzo(a)anthracene	10	U	10	U	10	U	10	U
Chrysene	10	U	10	U	10	U	10	U
bis(2-Ethylhexyl)phthalate	10	U	10	U	10	U	10	U
Di-n-Octyl phthalate	10	U	10	U	10	U	10	U
Benzo(b)fluoranthene	10	U	10	U	10	U	10	U
Benzo(k)fluoranthene	10	U	10	U	10	U	10	U
Benzo(a)pyrene	10	U	10	U	10	U	10	U
Indeno(1,2,3-cd)pyrene	10	U	10	U	10	U	10	U
Dibenzo(a,h)anthracene	10	U	10	U	10	U	10	U
Benzo(g,h,i)perylene	10	U	10	U	10	U	10	U

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

000005

9613122.0381

WESTON

ROY F. WESTON, INC.
Lionville Laboratory

CLIENT: WESTINGHOUSE HANFORD **SAMPLES RECEIVED:** 02-13-91
RFW #: 9102L538, SEMIVOLATILE
W.O. #: 6168-02-01

NARRATIVE

One (1) water sample was collected on 01-31-91.

The sample and its associated QC samples were extracted on 02-15-91 and analyzed according to criteria set forth in CLP SOW 02/88 (Rev. 05/89) for TCL Semivolatile target compounds on 02-20-91 and 03-11-91.

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

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

2. All surrogate recoveries were within EPA QC limits.

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

4. Internal standard area and retention time criteria were met for all samples and blanks.

Jack R. Tuschall, Ph.D. 5.14.91
Date
Laboratory Manager
Lionville Analytical Laboratory

9613422.0383

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

0100018

CLIENT SAMPLE NO.

BOODL2

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

Client: WESTINGHOUSE HANFORD

Matrix: WATER

Lab Sample ID: 9102L538-001

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

Lab File ID: J031111

Level: (low/med) LOW

Date Received: 02/13/91

% Moisture: not dec. _____ dec.

Date Extracted: 02/15/91

Extraction: (SepF/Cont/Sonc) SEPF

Date Analyzed: 03/11/91

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

Dilution Factor: 1.00

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

CAS NO.	COMPOUND		
108-95-2	Phenol	10	U
111-44-4	bis(2-Chloroethyl)ether	10	U
95-57-8	2-Chlorophenol	10	U
541-73-1	1,3-Dichlorobenzene	10	U
106-46-7	1,4-Dichlorobenzene	10	U
100-51-6	Benzyl alcohol	10	U
95-50-1	1,2-Dichlorobenzene	10	U
95-48-7	2-Methylphenol	10	U
108-60-1	bis(2-Chloroisopropyl)ether	10	U
106-44-5	4-Methylphenol	10	U
621-64-7	N-Nitroso-Di-n-propylamine	10	U
67-72-1	Hexachloroethane	10	U
98-95-3	Nitrobenzene	10	U
78-59-1	Isophorone	10	U
88-75-5	2-Nitrophenol	10	U
105-67-9	2,4-Dimethylphenol	10	U
65-85-0	Benzoic acid	50	U
111-91-1	bis(2-Chloroethoxy)methane	10	U
120-83-2	2,4-Dichlorophenol	10	U
120-82-1	1,2,4-Trichlorobenzene	10	U
91-20-3	Naphthalene	10	U
106-47-8	4-Chloroaniline	10	U
87-68-3	Hexachlorobutadiene	10	U
59-50-7	4-Chloro-3-methylphenol	10	U
91-57-6	2-Methylnaphthalene	10	U
77-47-4	Hexachlorocyclopentadiene	10	U
88-06-2	2,4,6-Trichlorophenol	10	U
95-95-4	2,4,5-Trichlorophenol	50	U
91-58-7	2-Chloronaphthalene	10	U
88-74-4	2-Nitroaniline	50	U
131-11-3	Dimethylphthalate	10	U
208-96-8	Acenaphthylene	10	U
606-20-2	2,6-Dinitrotoluene	10	U

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1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET 0 0 0 0 1 9

CLIENT SAMPLE NO.

BOODL2

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

Client: WESTINGHOUSE HANFORD

Matrix: WATER Lab Sample ID: 9102L538-001

Sample wt/vol: 1000 (g/mL) ML Lab File ID: J031111

Level: (low/med) LOW Date Received: 02/13/91

% Moisture: not dec. _____ dec. Date Extracted: 02/15/91

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 03/11/91

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

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

CAS NO.	COMPOUND		
99-09-2	3-Nitroaniline	50	U
83-32-9	Acenaphthene	10	U
51-28-5	2,4-Dinitrophenol	50	U
100-02-7	4-Nitrophenol	50	U
132-64-9	Dibenzofuran	10	U
121-14-2	2,4-Dinitrotoluene	10	U
84-66-2	Diethylphthalate	10	U
7005-72-3	4-Chlorophenyl-phenylether	10	U
86-73-7	Fluorene	10	U
100-01-6	4-Nitroaniline	50	U
534-52-1	4,6-Dinitro-2-methylphenol	50	U
86-30-6	N-Nitrosodiphenylamine (1)	10	U
101-55-3	4-Bromophenyl-phenylether	10	U
118-74-1	Hexachlorobenzene	10	U
87-86-5	Pentachlorophenol	50	U
85-01-8	Phenanthrene	10	U
120-12-7	Anthracene	10	U
84-74-2	Di-n-Butylphthalate	10	U
206-44-0	Fluoranthene	10	U
129-00-0	Pyrene	10	U
85-68-7	Butylbenzylphthalate	10	U
91-94-1	3,3'-Dichlorobenzidine	20	U
56-55-3	Benzo(a)anthracene	10	U
218-01-9	Chrysene	10	U
117-81-7	bis(2-Ethylhexyl)phthalate	10	U
117-84-0	Di-n-Octyl phthalate	10	U
205-99-2	Benzo(b)fluoranthene	10	U
207-08-9	Benzo(k)fluoranthene	10	U
50-32-8	Benzo(a)pyrene	10	U
193-39-5	Indeno(1,2,3-cd)pyrene	10	U
53-70-3	Dibenzo(a,h)anthracene	10	U
191-24-2	Benzo(g,h,i)perylene	10	U

(1) - Cannot be separated from Diphenylamine

CLIENT SAMPLE NO.

BOODL2

SEMIVOLATILE ORGANICS ANALYSIS SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

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

Client: WESTINGHOUSE HANFORD

Matrix: WATER

Lab Sample ID: 9102L538-001

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

Lab File ID: J031111

Level: (low/med) LOW

Date Received: 02/13/91

% Moisture: not dec. _____ dec.

Date Extracted: 02/15/91

Extraction: (SepF/Cont/Sonc) SEPF

Date Analyzed: 03/11/91

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

Dilution Factor: 1.00

Number TICs found: 9

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN	6.50	20	JB
2.	UNKNOWN	18.31	4	J
3.	HYDROCARBON	20.54	200	JB
4.	UNKNOWN	20.67	8	J
5.	HYDROCARBON	21.00	4	JB
6.	HYDROCARBON	21.76	7	JB
7.	UNKNOWN	22.15	8	J
8.	UNKNOWN	22.23	8	JB
9.	UNKNOWN	30.99	5	J

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

RFW Batch Number: 9102L538 | Client: WESTINGHOUSE HANFORD | Work Order: 6168-02-01-0000 | Report Date: 04/10/91 17:00 | Page: 1

	Cust ID:	BOODL2		PBLK		PBLK BS		PBLK BSD	
Sample Information	RFW#:	001		91LE0193-MB1		91LE0193-MB1		91LE0193-MB1	
	Matrix:	WATER		WATER		WATER		WATER	
	D.F.:	1.00		1.00		2.00		2.00	
	Units:	ug/L		ug/L		ug/L		ug/L	
Surrogate: Di-n-butylchlorendate		111	%	88	%	93	%	91	%
Alpha-BHC		0.050	U	0.050	U	0.10	U	0.10	U
Beta-BHC		0.050	U	0.050	U	0.10	U	0.10	U
Delta-BHC		0.050	U	0.050	U	0.10	U	0.10	U
gamma-BHC (Lindane)		0.050	U	0.050	U	120	%	125 *	%
Heptachlor		0.050	U	0.050	U	40	%	40	%
Aldrin		0.050	U	0.050	U	80	%	70	%
Heptachlor epoxide		0.050	U	0.050	U	0.10	U	0.10	U
Endosulfan I		0.050	U	0.050	U	0.10	U	0.10	U
Dieldrin		0.10	U	0.10	U	88	%	96	%
4,4'-DDE		0.10	U	0.10	U	0.20	U	0.20	U
Endrin		0.10	U	0.10	U	112	%	114	%
Endosulfan II		0.10	U	0.10	U	0.20	U	0.20	U
4,4'-DDD		0.10	U	0.10	U	0.20	U	0.20	U
Endosulfan sulfate		0.10	U	0.10	U	0.20	U	0.20	U
4,4'-DDT		0.10	U	0.10	U	96	%	92	%
Methoxychlor		0.50	U	0.50	U	1.0	U	1.0	U
Endrin ketone		0.10	U	0.10	U	0.20	U	0.20	U
alpha-Chlordane		0.50	U	0.50	U	1.0	U	1.0	U
gamma-Chlordane		0.50	U	0.50	U	1.0	U	1.0	U
Toxaphene		1.0	U	1.0	U	2.0	U	2.0	U
Aroclor-1016		0.50	U	0.50	U	1.0	U	1.0	U
Aroclor-1221		0.50	U	0.50	U	1.0	U	1.0	U
Aroclor-1232		0.50	U	0.50	U	1.0	U	1.0	U
Aroclor-1242		0.50	U	0.50	U	1.0	U	1.0	U
Aroclor-1248		0.50	U	0.50	U	1.0	U	1.0	U
Aroclor-1254		1.0	U	1.0	U	2.0	U	2.0	U
Aroclor-1260		1.0	U	1.0	U	2.0	U	2.0	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

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ROY F. WESTON, INC.
Lionville Laboratory

CLIENT: WESTINGHOUSE HANFORD **SAMPLES RECEIVED:** 02-13-91
RFW #: 9102L538, PEST/PCB
W.O. #: 6168-02-01

NARRATIVE

One (1) water sample was collected on 01-31-91.

The sample and its associated QC samples were extracted on 02-18-91 and analyzed according to criteria set forth in the Contract Laboratory Program for Pesticide and PCB target compounds on 03-29-91.

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

1. Linearity and breakdown criteria were met for the primary column.

2. Continuing calibration criteria were exceeded for several compounds, but this occurred in standards analyzed after the sample extracts, so there was no re-analysis requirements.

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

4. All surrogate recoveries were within EPA QC limits.

5. One (1) of twelve (12) blank spike recoveries was outside EPA QC limits. The blank spike recovery for gamma-BHC (125%) was outside the EPA QC limits of 123%.

6. The blank spike samples required two-fold dilutions to obtain spike recoveries within the linear range of the instrument.

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

4.19.91
Date

9613422.0388

1D

PESTICIDE ORGANICS ANALYSIS SHEET

CLIENT SAMPLE NO.

BOODL2

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

Client: WESTINGHOUSE HANFORD

Matrix: WATER

Lab Sample ID: 9102L538-001

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

Lab File ID: 03289113.42

Level: (low/med) LOW

Date Received: 02/13/91

% Moisture: not dec. _____ dec.

Date Extracted: 02/18/91

Extraction: (SepF/Cont/Sonc) CONT

Date Analyzed: 03/29/91

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	0.050	U
319-85-7	Beta-BHC	0.050	U
319-86-8	Delta-BHC	0.050	U
58-89-9	gamma-BHC (Lindane)	0.050	U
76-44-8	Heptachlor	0.050	U
309-00-2	Aldrin	0.050	U
1024-57-3	Heptachlor epoxide	0.050	U
959-98-8	Endosulfan I	0.050	U
60-57-1	Dieldrin	0.10	U
72-55-9	4,4'-DDE	0.10	U
72-20-8	Endrin	0.10	U
33213-65-9	Endosulfan II	0.10	U
72-54-8	4,4'-DDD	0.10	U
1031-07-8	Endosulfan sulfate	0.10	U
50-29-3	4,4'-DDT	0.10	U
72-43-5	Methoxychlor	0.50	U
53494-70-5	Endrin ketone	0.10	U
5103-71-9	alpha-Chlordane	0.50	U
5103-74-2	gamma-Chlordane	0.50	U
8001-35-2	Toxaphene	1.0	U
12674-11-2	Aroclor-1016	0.50	U
11104-28-2	Aroclor-1221	0.50	U
11141-16-5	Aroclor-1232	0.50	U
53469-21-9	Aroclor-1242	0.50	U
12672-29-6	Aroclor-1248	0.50	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.

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ROY F. WESTON, INC.
Lionville Laboratory

CLIENT: WESTINGHOUSE HANFORD **SAMPLES RECEIVED:** 02-13-91
RFW #: 9102L538
W.O. #: 6168-02-01

INORGANIC NARRATIVE

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

1. Sample holding times as required by 40CFR136 were met for water samples with the exception of alkalinity (analyzed past hold), nitrite, nitrate, phosphate anions, pH and total dissolved solids, all received out of hold.

2. Preparation blank results were below the required detection limit with the exception of total dissolved solids.

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

4. All calibration verification checks are within the required control limits of 85-115%. Calibration verification is performed using independent standards.

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

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

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

Jack R. Tuschall, Ph.D. 4 9 91
Date
Laboratory Manager
Lionville Analytical Laboratory

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8.23.94

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ROY F. WESTON INC.

INORGANICS DATA SUMMARY REPORT 04/03/91

CLIENT: WESTINGHOUSE HANFORD

WESTON BATCH #: 9102L538

WORK ORDER: 6168-02-01-0000

SAMPLE	SITE ID	ANALYTE	RESULT	UNITS	REPORTING LIMIT
-001	BOODL2	Alkalinity	108	MG/L	2.0
		Chloride by IC	28.2	mg/L	2.5
		Fluoride by IC	0.50 u	mg/L	0.50
		Nitrite by IC	0.25 u	mg/L	0.25
		Nitrate by IC	2.5 u	mg/L	2.5
		Cyanide, Total	10.0 u	UG/L	10.0
		Phosphate by IC	0.25 u	mg/L	0.25
		Sulfate by IC	17.8	mg/L	2.5
		Hardness	125	MG/L	2.0
		Nitrate Nitrite	0.16	MG/L	0.10
		Ammonia, as N	0.12	MG/L	0.10
		Total Organic Carbon	1.6	MG/L	0.50
		pH	8.5	PH UNITS	0.10
		Sulfate	16.7	MG/L	5.0
		Specific Conductance	324	UMHOS/CM	1.0
		Total Dissolved Solids	195	MG/L	5.0

WESTON

Roy F. Weston, INC.
Lionville Laboratory

CLIENT: WESTINGHOUSE HANFORD **SAMPLES RECEIVED:** 2/13/91
2/15/91
2/16/91

RFW #: 9102L538, 9102L566 & 9102L599
W.O. #: 6168-02-01

METALS NARRATIVE

The set of samples consisted of twelve (12) water samples collected on 1/31/91, 2/12/91, 2/13/91 and 2/14/91.

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

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

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

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

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

4. All preparation blank values were within control limits.

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

6. All matrix spike recoveries were within the 75-125% control limits.

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

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

9. For MSA, results reported on Form 8 are calculated from absorbance values. Results reported on other forms are based on concentration. As indicated in the SOW1LJM01.0, page B-32, differences due to rounding may be found between the MSA values on Form 8 and the results reported on the other forms.

WESTON

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

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

12. Quarterly Detection Limits for IC2 are included in this package.

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

10.29.91
Date

pas\ clp-met.nar

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ROY F. WESTON INC.

INORGANICS DATA SUMMARY REPORT 05/10/91

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

WESTON BATCH #: 9102L538

SAMPLE	SITE ID	ANALYTE	RESULT		UNITS	REPORTING LIMIT
-001	BOODL2	Silver, Total	10.0	u	UG/L	10.0
		Aluminum, Total	2060		UG/L	200
		Arsenic, Total	10.0	u	UG/L	10.0
		Barium, Total	200	u	UG/L	200
		Beryllium, Total	5.0	u	UG/L	5.0
		Bismuth, Total	200	u	UG/L	200
		Calcium, Total	32100		UG/L	5000
		Cadmium, Total	5.0	u	UG/L	5.0
		Cobalt, Total	50.0	u	UG/L	50.0
		Chromium, Total	10.0	u	UG/L	10.0
		Copper, Total	26.4		UG/L	25.0
		Iron, Total	41900		UG/L	100
		Mercury, Total	0.20	u	UG/L	0.20
		Potassium, Total	7210		UG/L	5000
		Magnesium, Total	11300		UG/L	5000
		Manganese, Total	458		UG/L	15.0
		Sodium, Total	16900		UG/L	5000
		Nickel, Total	40.0	u	UG/L	40.0
		Lead, Total	3.3		UG/L	3.0
		Antimony, Total	60.0	u	UG/L	60.0
		Selenium, Total	5.0	u	UG/L	5.0
		Tin, Total	100	u	UG/L	100
		Strontium, Total	218		UG/L	100
		Thallium, Total	100	u	UG/L	100
		Vanadium, Total	50.0	u	UG/L	50.0
		Zinc, Total	30.1		UG/L	20.0

ROY F. WESTON INC.

INORGANICS DATA SUMMARY REPORT 05/10/91

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

WESTON BATCH #: 9102L538

SAMPLE	SITE ID	ANALYTE	RESULT		UNITS	REPORTING LIMIT
-002	BOODL3	Silver, Total	10.0	u	UG/L	10.0
		Aluminum, Total	1780		UG/L	200
		Arsenic, Total	10.0	u	UG/L	10.0
		Barium, Total	200	u	UG/L	200
		Beryllium, Total	5.0	u	UG/L	5.0
		Bismuth, Total	200	u	UG/L	200
		Calcium, Total	31700		UG/L	5000
		Cadmium, Total	5.0	u	UG/L	5.0
		Cobalt, Total	50.0	u	UG/L	50.0
		Chromium, Total	10.0	u	UG/L	10.0
		Copper, Total	26.6		UG/L	25.0
		Iron, Total	39300		UG/L	100
		Mercury, Total	0.20	u	UG/L	0.20
		Potassium, Total	7680		UG/L	5000
		Magnesium, Total	11200		UG/L	5000
		Manganese, Total	437		UG/L	15.0
		Sodium, Total	17000		UG/L	5000
		Nickel, Total	40.0	u	UG/L	40.0
		Lead, Total	6.6		UG/L	3.0
		Antimony, Total	60.0	u	UG/L	60.0
		Selenium, Total	5.0	u	UG/L	5.0
		Tin, Total	100	u	UG/L	100
		Strontium, Total	218		UG/L	100
		Thallium, Total	100	u	UG/L	100
		Vanadium, Total	50.0	u	UG/L	50.0
		Zinc, Total	20.8		UG/L	20.0

ROY F. WESTON INC.

INORGANICS DATA SUMMARY REPORT 05/10/91

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

WESTON BATCH #: 9102L566

SAMPLE	SITE ID	ANALYTE	RESULT		UNITS	REPORTING LIMIT
-001	BOO-DK9	Silver, Total	10.0	u	UG/L	10.0
		Aluminum, Total	200	u	UG/L	200
		Arsenic, Total	10.0	u	UG/L	10.0
		Boron, Total	100	u	UG/L	100
		Barium, Total	200	u	UG/L	200
		Beryllium, Total	5.0	u	UG/L	5.0
		Bismuth, Total	200	u	UG/L	200
		Calcium, Total	28100		UG/L	5000
		Cadmium, Total	5.0	u	UG/L	5.0
		Cobalt, Total	50.0	u	UG/L	50.0
		Chromium, Total	18.1		UG/L	10.0
		Copper, Total	25.0	u	UG/L	25.0
		Iron, Total	535		UG/L	100
		Mercury, Total	0.20	u	UG/L	0.20
		Potassium, Total	6910		UG/L	5000
		Magnesium, Total	9590		UG/L	5000
		Manganese, Total	75.2		UG/L	15.0
		Sodium, Total	18800		UG/L	5000
		Nickel, Total	40.0	u	UG/L	40.0
		Lead, Total	3.0	u	UG/L	3.0
		Antimony, Total	60.0	u	UG/L	60.0
		Selenium, Total	5.0	u	UG/L	5.0
		Tin, Total	100	u	UG/L	100
		Strontium, Total	249		UG/L	100
		Thallium, Total	10.0	u	UG/L	10.0
		Vanadium, Total	50.1		UG/L	50.0
		Zinc, Total	20.0	u	UG/L	20.0

ROY F. WESTON INC.

INORGANICS DATA SUMMARY REPORT 05/10/91

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

WESTON BATCH #: 9102L566

SAMPLE	SITE ID	ANALYTE	RESULT		UNITS	REPORTING LIMIT
-002	BOO-DL0	Silver, Soluble	10.0	u	UG/L	10.0
		Aluminum, Soluble	200	u	UG/L	200
		Arsenic, Soluble	10.0	u	UG/L	10.0
		Boron, Soluble	100	u	UG/L	100
		Barium, Soluble	200	u	UG/L	200
		Beryllium, Soluble	5.0	u	UG/L	5.0
		Bismuth, Soluble	200	u	UG/L	200
		Calcium, Soluble	28500		UG/L	5000
		Cadmium, Soluble	5.0	u	UG/L	5.0
		Cobalt, Soluble	50.0	u	UG/L	50.0
		Chromium, Soluble	10.0	u	UG/L	10.0
		Copper, Soluble	25.0	u	UG/L	25.0
		Iron, Soluble	100	u	UG/L	100
		Mercury, Soluble	0.20	u	UG/L	0.20
		Potassium, Soluble	7230		UG/L	5000
		Magnesium, Soluble	9780		UG/L	5000
		Manganese, Soluble	70.7		UG/L	15.0
		Sodium, Soluble	19300		UG/L	5000
		Nickel, Soluble	40.0	u	UG/L	40.0
		Lead, Soluble	3.0	u	UG/L	3.0
		Antimony, Soluble	60.0	u	UG/L	60.0
		Selenium, Soluble	5.0	u	UG/L	5.0
		Tin, Soluble	100	u	UG/L	100
		Strontium, Soluble	254		UG/L	100
		Thallium, Soluble	10.0	u	UG/L	10.0
		Vanadium, Soluble	51.6		UG/L	50.0
		Zinc, Soluble	20.0	u	UG/L	20.0

ROY F. WESTON INC.

INORGANICS DATA SUMMARY REPORT 05/10/91

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

WESTON BATCH #: 9102L566

SAMPLE	SITE ID	ANALYTE	RESULT		UNITS	REPORTING LIMIT
-004	BOO-DL6	Silver, Total	10.0	u	UG/L	10.0
		Aluminum, Total	200	u	UG/L	200
		Arsenic, Total	10.0	u	UG/L	10.0
		Boron, Total	100	u	UG/L	100
		Barium, Total	200	u	UG/L	200
		Beryllium, Total	5.0	u	UG/L	5.0
		Bismuth, Total	200	u	UG/L	200
		Calcium, Total	32000		UG/L	5000
		Cadmium, Total	5.0	u	UG/L	5.0
		Cobalt, Total	50.0	u	UG/L	50.0
		Chromium, Total	31.9		UG/L	10.0
		Copper, Total	25.0	u	UG/L	25.0
		Iron, Total	615		UG/L	100
		Mercury, Total	0.20	u	UG/L	0.20
		Potassium, Total	8950		UG/L	5000
		Magnesium, Total	9860		UG/L	5000
		Manganese, Total	61.6		UG/L	15.0
		Sodium, Total	21300		UG/L	5000
		Nickel, Total	40.0	u	UG/L	40.0
		Lead, Total	3.0	u	UG/L	3.0
		Antimony, Total	60.0	u	UG/L	60.0
		Selenium, Total	5.0	u	UG/L	5.0
		Tin, Total	100	u	UG/L	100
		Strontium, Total	280		UG/L	100
		Thallium, Total	10.0	u	UG/L	10.0
		Vanadium, Total	50.0	u	UG/L	50.0
		Zinc, Total	20.0	u	UG/L	20.0

ROY F. WESTON INC.

INORGANICS DATA SUMMARY REPORT 05/10/91

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

WESTON BATCH #: 9102L566

SAMPLE	SITE ID	ANALYTE	RESULT		UNITS	REPORTING LIMIT
-005	BOO-DL7	Silver, Soluble	10.0	u	UG/L	10.0
		Aluminum, Soluble	200	u	UG/L	200
		Arsenic, Soluble	10.0	u	UG/L	10.0
		Boron, Soluble	100	u	UG/L	100
		Barium, Soluble	200	u	UG/L	200
		Beryllium, Soluble	5.0	u	UG/L	5.0
		Bismuth, Soluble	200	u	UG/L	200
		Calcium, Soluble	35300		UG/L	5000
		Cadmium, Soluble	5.0	u	UG/L	5.0
		Cobalt, Soluble	50.0	u	UG/L	50.0
		Chromium, Soluble	10.0	u	UG/L	10.0
		Copper, Soluble	25.0	u	UG/L	25.0
		Iron, Soluble	100	u	UG/L	100
		Mercury, Soluble	0.20	u	UG/L	0.20
		Potassium, Soluble	8600		UG/L	5000
		Magnesium, Soluble	10700		UG/L	5000
		Manganese, Soluble	56.0		UG/L	15.0
		Sodium, Soluble	21200		UG/L	5000
		Nickel, Soluble	40.0	u	UG/L	40.0
		Lead, Soluble	3.0	u	UG/L	3.0
		Antimony, Soluble	60.0	u	UG/L	60.0
		Selenium, Soluble	5.0	u	UG/L	5.0
		Tin, Soluble	100	u	UG/L	100
		Strontium, Soluble	291		UG/L	100
		Thallium, Soluble	10.0	u	UG/L	10.0
		Vanadium, Soluble	55.5		UG/L	50.0
		Zinc, Soluble	20.0	u	UG/L	20.0

ROY F. WESTON INC.

INORGANICS DATA SUMMARY REPORT 05/10/91

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

WESTON BATCH #: 9102L566

SAMPLE	SITE ID	ANALYTE	RESULT		UNITS	REPORTING LIMIT
-006	BOO-DL9	Silver, Total	10.0	u	UG/L	10.0
		Aluminum, Total	200	u	UG/L	200
		Arsenic, Total	10.0	u	UG/L	10.0
		Boron, Total	100	u	UG/L	100
		Barium, Total	200	u	UG/L	200
		Beryllium, Total	5.0	u	UG/L	5.0
		Bismuth, Total	200	u	UG/L	200
		Calcium, Total	47200		UG/L	5000
		Cadmium, Total	5.0	u	UG/L	5.0
		Cobalt, Total	50.0	u	UG/L	50.0
		Chromium, Total	46.2		UG/L	10.0
		Copper, Total	25.0	u	UG/L	25.0
		Iron, Total	541		UG/L	100
		Mercury, Total	0.20	u	UG/L	0.2C
		Potassium, Total	7180		UG/L	5000
		Magnesium, Total	14600		UG/L	5000
		Manganese, Total	15.0	u	UG/L	15.0
		Sodium, Total	26300		UG/L	5000
		Nickel, Total	40.0	u	UG/L	40.0
		Lead, Total	3.0	u	UG/L	3.0
		Antimony, Total	60.0	u	UG/L	60.0
		Selenium, Total	11.3		UG/L	5.0
		Tin, Total	100	u	UG/L	100
		Strontium, Total	252		UG/L	100
		Thallium, Total	10.0	u	UG/L	10.0
		Vanadium, Total	62.2		UG/L	50.0
		Zinc, Total	20.0	u	UG/L	20.0

ROY F. WESTON INC.

INORGANICS DATA SUMMARY REPORT 05/10/91

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

WESTON BATCH #: 9102L566

SAMPLE	SITE ID	ANALYTE	RESULT		UNITS	REPORTING LIMIT
-007	BOO-DM0	Silver, Soluble	10.0	u	UG/L	10.0
		Aluminum, Soluble	200	u	UG/L	200
		Arsenic, Soluble	10.0	u	UG/L	10.0
		Boron, Soluble	100	u	UG/L	100
		Barium, Soluble	200	u	UG/L	200
		Beryllium, Soluble	5.0	u	UG/L	5.0
		Bismuth, Soluble	200	u	UG/L	200
		Calcium, Soluble	51100		UG/L	5000
		Cadmium, Soluble	5.0	u	UG/L	5.0
		Cobalt, Soluble	50.0	u	UG/L	50.0
		Chromium, Soluble	10.0	u	UG/L	10.0
		Copper, Soluble	25.0	u	UG/L	25.0
		Iron, Soluble	100	u	UG/L	100
		Mercury, Soluble	0.20	u	UG/L	0.20
		Potassium, Soluble	7450		UG/L	5000
		Magnesium, Soluble	15600		UG/L	5000
		Manganese, Soluble	15.0	u	UG/L	15.0
		Sodium, Soluble	26000		UG/L	5000
		Nickel, Soluble	40.0	u	UG/L	40.0
		Lead, Soluble	3.0	u	UG/L	3.0
		Antimony, Soluble	60.0	u	UG/L	60.0
		Selenium, Soluble	6.2		UG/L	5.0
		Tin, Soluble	100	u	UG/L	100
		Strontium, Soluble	257		UG/L	100
		Thallium, Soluble	10.0	u	UG/L	10.0
		Vanadium, Soluble	70.6		UG/L	50.0
		Zinc, Soluble	20.0	u	UG/L	20.0

ROY F. WESTON INC.

INORGANICS DATA SUMMARY REPORT 05/10/91

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

WESTON BATCH #: 9102L566

SAMPLE	SITE ID	ANALYTE	RESULT		UNITS	REPORTING LIMIT
-009	BOO-DK6	Silver, Total	10.0	u	UG/L	10.0
		Aluminum, Total	200	u	UG/L	200
		Arsenic, Total	10.0	u	UG/L	10.0
		Boron, Total	100	u	UG/L	100
		Barium, Total	200	u	UG/L	200
		Beryllium, Total	5.0	u	UG/L	5.0
		Bismuth, Total	200	u	UG/L	200
		Calcium, Total	73900		UG/L	5000
		Cadmium, Total	5.0	u	UG/L	5.0
		Cobalt, Total	50.0	u	UG/L	50.0
		Chromium, Total	26.4		UG/L	10.0
		Copper, Total	25.0	u	UG/L	25.0
		Iron, Total	1680		UG/L	100
		Mercury, Total	0.20	u	UG/L	0.20
		Potassium, Total	7330		UG/L	5000
		Magnesium, Total	22300		UG/L	5000
		Manganese, Total	54.0		UG/L	15.0
		Sodium, Total	32200		UG/L	5000
		Nickel, Total	40.0	u	UG/L	40.0
		Lead, Total	3.0	u	UG/L	3.0
		Antimony, Total	60.0	u	UG/L	60.0
		Selenium, Total	15.3		UG/L	5.0
		Tin, Total	100	u	UG/L	100
		Strontium, Total	370		UG/L	100
		Thallium, Total	10.0	u	UG/L	10.0
		Vanadium, Total	56.8		UG/L	50.0
		Zinc, Total	20.0	u	UG/L	20.0

ROY F. WESTON INC.

INORGANICS DATA SUMMARY REPORT 05/10/91

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

WESTON BATCH #: 9102L566

SAMPLE	SITE ID	ANALYTE	RESULT		UNITS	REPORTING LIMIT
-010	BOO-DK7	Silver, Soluble	10.0	u	UG/L	10.0
		Aluminum, Soluble	200	u	UG/L	200
		Arsenic, Soluble	10.0	u	UG/L	10.0
		Boron, Soluble	100	u	UG/L	100
		Barium, Soluble	200	u	UG/L	200
		Beryllium, Soluble	5.0	u	UG/L	5.0
		Bismuth, Soluble	200	u	UG/L	200
		Calcium, Soluble	82200		UG/L	5000
		Cadmium, Soluble	5.0	u	UG/L	5.0
		Cobalt, Soluble	50.0	u	UG/L	50.0
		Chromium, Soluble	10.0	u	UG/L	10.0
		Copper, Soluble	25.0	u	UG/L	25.0
		Iron, Soluble	127		UG/L	100
		Mercury, Soluble	0.20	u	UG/L	0.20
		Potassium, Soluble	7640		UG/L	5000
		Magnesium, Soluble	24100		UG/L	5000
		Manganese, Soluble	45.5		UG/L	15.0
		Sodium, Soluble	32400		UG/L	5000
		Nickel, Soluble	40.0	u	UG/L	40.0
		Lead, Soluble	3.0	u	UG/L	3.0
		Antimony, Soluble	60.0	u	UG/L	60.0
		Selenium, Soluble	11.3		UG/L	5.0
		Tin, Soluble	100	u	UG/L	100
		Strontium, Soluble	387		UG/L	100
		Thallium, Soluble	10.0	u	UG/L	10.0
		Vanadium, Soluble	65.4		UG/L	50.0
		Zinc, Soluble	20.0	u	UG/L	20.0

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ROY F. WESTON INC.

INORGANICS DATA SUMMARY REPORT 05/10/91

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

WESTON BATCH #: 9102L599

SAMPLE	SITE ID	ANALYTE	RESULT		UNITS	REPORTING LIMIT
-001	BOO-DM2	Silver, Total	10.0	u	UG/L	10.0
		Aluminum, Total	200	u	UG/L	200
		Arsenic, Total	10.0	u	UG/L	10.0
		Barium, Total	200	u	UG/L	200
		Beryllium, Total	5.0	u	UG/L	5.0
		Bismuth, Total	200	u	UG/L	200
		Calcium, Total	52400		UG/L	5000
		Cadmium, Total	5.0	u	UG/L	5.0
		Cobalt, Total	50.0	u	UG/L	50.0
		Chromium, Total	85.2		UG/L	10.0
		Copper, Total	25.0	u	UG/L	25.0
		Iron, Total	421		UG/L	100
		Mercury, Total	0.20	u	UG/L	0.20
		Potassium, Total	7330		UG/L	5000
		Magnesium, Total	15500		UG/L	5000
		Manganese, Total	15.0	u	UG/L	15.0
		Sodium, Total	25500		UG/L	5000
		Nickel, Total	46.7		UG/L	40.0
		Lead, Total	3.0	u	UG/L	3.0
		Antimony, Total	60.0	u	UG/L	60.0
		Selenium, Total	7.1		UG/L	5.0
		Tin, Total	100	u	UG/L	100
		Strontium, Total	262		UG/L	100
		Thallium, Total	10.0	u	UG/L	10.0
		Vanadium, Total	73.9		UG/L	50.0
		Zinc, Total	20.0	u	UG/L	20.0

ROY F. WESTON INC.

INORGANICS DATA SUMMARY REPORT 05/10/91

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

WESTON BATCH #: 9102L599

SAMPLE	SITE ID	ANALYTE	RESULT		UNITS	REPORTING LIMIT
-002	BOO-DM3	Silver, Soluble	10.0	u	UG/L	10.0
		Aluminum, Soluble	200	u	UG/L	200
		Arsenic, Soluble	10.0	u	UG/L	10.0
		Barium, Soluble	200	u	UG/L	200
		Beryllium, Soluble	5.0	u	UG/L	5.0
		Bismuth, Soluble	200	u	UG/L	200
		Calcium, Soluble	55900		UG/L	5000
		Cadmium, Soluble	5.0	u	UG/L	5.0
		Cobalt, Soluble	50.0	u	UG/L	50.0
		Chromium, Soluble	10.0	u	UG/L	10.0
		Copper, Soluble	25.0	u	UG/L	25.0
		Iron, Soluble	100	u	UG/L	100
		Mercury, Soluble	0.20	u	UG/L	0.20
		Potassium, Soluble	7410		UG/L	5000
		Magnesium, Soluble	16500		UG/L	5000
		Manganese, Soluble	15.0	u	UG/L	15.0
		Sodium, Soluble	26900		UG/L	5000
		Nickel, Soluble	40.0	u	UG/L	40.0
		Lead, Soluble	3.0	u	UG/L	3.0
		Antimony, Soluble	60.0	u	UG/L	60.0
		Selenium, Soluble	5.0		UG/L	5.0
		Tin, Soluble	100	u	UG/L	100
		Strontium, Soluble	280		UG/L	100
		Thallium, Soluble	10.0	u	UG/L	10.0
		Vanadium, Soluble	76.3		UG/L	50.0
		Zinc, Soluble	20.0	u	UG/L	20.0

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INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

BOODL2

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

Lab Code: WESTON Case No.: WEST SAS No.: SDG No.: CLP538

Matrix (soil/water): WATER Lab Sample ID: 910253801

Level (low/med): LOW Date Received:

% Solids:

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	2060.00			P
7440-36-0	Antimony	28.70	B		P
7440-38-2	Arsenic	2.00	U		F
7440-39-3	Barium	85.90	B		P
7440-41-7	Beryllium	1.00	U		P
7440-43-9	Cadmium	4.00	U		P
7440-70-2	Calcium	32100.00			P
7440-47-3	Chromium	3.00	U		P
7440-48-4	Cobalt	4.40	U		P
7440-50-8	Copper	26.40			P
7439-89-6	Iron	41900.00			P
7439-92-1	Lead	3.30		W	F
7439-95-4	Magnesium	11300.00			P
7439-96-5	Manganese	458.00			P
7439-97-6	Mercury	.20	U		CV
7440-02-0	Nickel	13.50	B		P
7440-09-7	Potassium	7210.00			P
7782-49-2	Selenium	1.00		W	F
7440-22-4	Silver	4.00	U		P
7440-23-5	Sodium	16900.00			P
7440-28-0	Thallium	68.00	B		F
7440-62-2	Vanadium	26.70	B		P
7440-66-6	Zinc	30.10			P
	Cyanide	10.00	U	N	C

Color Before: COLORLESS Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

EPA SAMPLE NO.

1

INORGANIC ANALYSIS DATA SHEET

BOODL3

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

Lab Code: WESTON Case No.: WEST SAS No.: SDG No.: CLP538

Matrix (soil/water): WATER Lab Sample ID: 910253802

Level (low/med): LOW Date Received:

% Solids:

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	1780.00			P
7440-36-0	Antimony	30.00	B		P
7440-38-2	Arsenic	2.00	U		F
7440-39-3	Barium	83.20	B		P
7440-41-7	Beryllium	1.00	U		P
7440-43-9	Cadmium	4.00	U		P
7440-70-2	Calcium	31700.00			P
7440-47-3	Chromium	3.00	U		P
7440-48-4	Cobalt	4.00	U		P
7440-50-8	Copper	26.60			P
7439-89-6	Iron	39300.00			P
7439-92-1	Lead	6.60			F
7439-95-4	Magnesium	11200.00			P
7439-96-5	Manganese	437.00			P
7439-97-6	Mercury	.20	U		CV
7440-02-0	Nickel	10.30	B		P
7440-09-7	Potassium	7680.00			P
7782-49-2	Selenium	1.00	U	W	F
7440-22-4	Silver	4.00	U		P
7440-23-5	Sodium	17000.00			P
7440-28-0	Thallium	50.00	U	W	F
7440-62-2	Vanadium	27.50	B		P
7440-66-6	Zinc	20.80			P
	Cyanide				NR

Color Before: COLORLESS Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

U.S. EPA - CLP

1

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

BOODK9

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

Lab Code: WESTON Case No.: WEST SAS No.: SDG No.: CLP538

Matrix (soil/water): WATER Lab Sample ID: 910256601

Level (low/med): LOW Date Received:

% Solids:

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	77.00	U		P
7440-36-0	Antimony	19.00	U		P
7440-38-2	Arsenic	4.50	B		F
7440-39-3	Barium	112.00	B		P
7440-41-7	Beryllium	1.00	U		P
7440-43-9	Cadmium	4.00	U		P
7440-70-2	Calcium	28100.00			P
7440-47-3	Chromium	18.10			P
7440-48-4	Cobalt	4.00	U		P
7440-50-8	Copper	7.00	U		P
7439-89-6	Iron	535.00			P
7439-92-1	Lead	2.00	U	W	F
7439-95-4	Magnesium	9590.00			P
7439-96-5	Manganese	75.20			P
7439-97-6	Mercury	.20	U		CV
7440-02-0	Nickel	15.90	B		P
7440-09-7	Potassium	6910.00			P
7782-49-2	Selenium	3.20	B	W	F
7440-22-4	Silver	4.00	U		P
7440-23-5	Sodium	18800.00			P
7440-28-0	Thallium	5.00	U	W	F
7440-62-2	Vanadium	50.10			P
7440-66-6	Zinc	4.40	B		P
	Cyanide	10.00	U	N	C

Color Before: COLORLESS Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

U.S. EPA - CLP

1

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

BOODLO

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

Lab Code: WESTON Case No.: WEST SAS No.: SDG No.: CLP538

Matrix (soil/water): WATER Lab Sample ID: 910256602

Level (low/med): LOW Date Received:

% Solids:

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	77.00	U		P
7440-36-0	Antimony	56.30	B		P
7440-38-2	Arsenic	2.60	B		F
7440-39-3	Barium	112.00	B		P
7440-41-7	Beryllium	1.00	U		P
7440-43-9	Cadmium	4.00	U		P
7440-70-2	Calcium	28500.00			P
7440-47-3	Chromium	3.30	B		P
7440-48-4	Cobalt	4.00	U		P
7440-50-8	Copper	7.00	U		P
7439-89-6	Iron	64.50	B		P
7439-92-1	Lead	2.00	U	W	F
7439-95-4	Magnesium	9780.00			P
7439-96-5	Manganese	70.70			P
7439-97-6	Mercury	.20	U		CV
7440-02-0	Nickel	10.70	B		P
7440-09-7	Potassium	7230.00			P
7782-49-2	Selenium	1.20	U	W	F
7440-22-4	Silver	4.00	U		P
7440-23-5	Sodium	19300.00			P
7440-28-0	Thallium	5.00	U	W	F
7440-62-2	Vanadium	51.60			P
7440-66-6	Zinc	5.40	B		P
	Cyanide				NR

Color Before: COLORLESS Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

EPA SAMPLE NO.

1

INORGANIC ANALYSIS DATA SHEET

BOODL6

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

Lab Code: WESTON Case No.: WEST SAS No.: SDG No.: CLP538

Matrix (soil/water): WATER Lab Sample ID: 910256604

Level (low/med): LOW Date Received:

% Solids:

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	77.00	U		P
7440-36-0	Antimony	19.00	U		P
7440-38-2	Arsenic	3.80	B		F
7440-39-3	Barium	47.70	B		P
7440-41-7	Beryllium	1.00	U		P
7440-43-9	Cadmium	4.00	U		P
7440-70-2	Calcium	32000.00			P
7440-47-3	Chromium	31.90			P
7440-48-4	Cobalt	4.00	U		P
7440-50-8	Copper	7.00	B		P
7439-89-6	Iron	615.00			P
7439-92-1	Lead	2.00	U	W	F
7439-95-4	Magnesium	9860.00			P
7439-96-5	Manganese	61.60			P
7439-97-6	Mercury	.20	U		CV
7440-02-0	Nickel	21.70	B		P
7440-09-7	Potassium	8950.00			P
7782-49-2	Selenium	2.60	B	W	F
7440-22-4	Silver	4.00	U		P
7440-23-5	Sodium	21300.00			P
7440-28-0	Thallium	5.00	U		F
7440-62-2	Vanadium	46.50	B		P
7440-66-6	Zinc	5.30	B		P
	Cyanide	10.00	U	N	C

Color Before: COLORLESS Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

U.S. EPA - CLP

1

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

BOODL7

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

Lab Code: WESTON Case No.: WEST SAS No.: SDG No.: CLP538

Matrix (soil/water): WATER Lab Sample ID: 910256605

Level (low/med): LOW Date Received:

% Solids:

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	77.00	U		P
7440-36-0	Antimony	19.00	U		P
7440-38-2	Arsenic	2.00	B		F
7440-39-3	Barium	48.40	B		P
7440-41-7	Beryllium	1.00	U		P
7440-43-9	Cadmium	4.00	U		P
7440-70-2	Calcium	35300.00			P
7440-47-3	Chromium	3.00	U		P
7440-48-4	Cobalt	4.00	U		P
7440-50-8	Copper	7.00	U		P
7439-89-6	Iron	37.00	U		P
7439-92-1	Lead	2.00	U	W	F
7439-95-4	Magnesium	10700.00			P
7439-96-5	Manganese	56.00			P
7439-97-6	Mercury	.20	U		CV
7440-02-0	Nickel	9.60	B		P
7440-09-7	Potassium	8600.00			P
7782-49-2	Selenium	2.20	B	W	F
7440-22-4	Silver	4.00	U		P
7440-23-5	Sodium	21200.00			P
7440-28-0	Thallium	5.00	U	W	F
7440-62-2	Vanadium	55.50			P
7440-66-6	Zinc	4.50	B		P
	Cyanide				NR

Color Before: COLORLESS Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

U.S. EPA - CLP

1

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

BOODL9

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

Lab Code: WESTON Case No.: WEST SAS No.: SDG No.: CLP538

Matrix (soil/water): WATER Lab Sample ID: 910256606

Level (low/med): LOW Date Received:

% Solids:

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	77.00	U		P
7440-36-0	Antimony	38.60	B		P
7440-38-2	Arsenic	5.20	B		F
7440-39-3	Barium	21.30	B		P
7440-41-7	Beryllium	1.00	U		P
7440-43-9	Cadmium	4.00	U		P
7440-70-2	Calcium	47200.00			P
7440-47-3	Chromium	46.20			P
7440-48-4	Cobalt	4.00	U		P
7440-50-8	Copper	7.70	B		P
7439-89-6	Iron	541.00			P
7439-92-1	Lead	2.00	U	W	F
7439-95-4	Magnesium	14600.00			P
7439-96-5	Manganese	12.70	B		P
7439-97-6	Mercury	.20	U		CV
7440-02-0	Nickel	26.60	B		P
7440-09-7	Potassium	7180.00			P
7782-49-2	Selenium	11.30		S	F
7440-22-4	Silver	4.00	U		P
7440-23-5	Sodium	26300.00			P
7440-28-0	Thallium	5.00	U	W	F
7440-62-2	Vanadium	62.20			P
7440-66-6	Zinc	7.10	B		P
	Cyanide	11.70	U	N	C

Color Before: COLORLESS Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

U.S. EPA - CLP

1

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

BOODM0

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

Lab Code: WESTON Case No.: WEST SAS No.: SDG No.: CLP538

Matrix (soil/water): WATER Lab Sample ID: 910256607

Level (low/med): LOW Date Received:

% Solids:

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	77.00	U		P
7440-36-0	Antimony	19.00	U		P
7440-38-2	Arsenic	5.50	B	W	F
7440-39-3	Barium	21.50	B		P
7440-41-7	Beryllium	1.00	U		P
7440-43-9	Cadmium	4.00	U		P
7440-70-2	Calcium	51100.00			P
7440-47-3	Chromium	3.00	U		P
7440-48-4	Cobalt	4.00	U		P
7440-50-8	Copper	7.00	U		P
7439-89-6	Iron	61.10	B		P
7439-92-1	Lead	2.00	U	W	F
7439-95-4	Magnesium	15600.00			P
7439-96-5	Manganese	6.30	B		P
7439-97-6	Mercury	.20	U		CV
7440-02-0	Nickel	7.00	U		P
7440-09-7	Potassium	7450.00			P
7782-49-2	Selenium	6.20		S	F
7440-22-4	Silver	4.00	U		P
7440-23-5	Sodium	26000.00			P
7440-28-0	Thallium	5.00	U	W	F
7440-62-2	Vanadium	70.60			P
7440-66-6	Zinc	4.50	B		P
	Cyanide				NR

Color Before: COLORLESS Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

U.S. EPA - CLP

1

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

BOODK6

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

Lab Code: WESTON Case No.: WEST SAS No.: SDG No.: CLP538

Matrix (soil/water): WATER Lab Sample ID: 910256609

Level (low/med): LOW Date Received:

% Solids:

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	77.00	U		P
7440-36-0	Antimony	20.60	B		P
7440-38-2	Arsenic	3.70	B		F
7440-39-3	Barium	26.60	B		P
7440-41-7	Beryllium	1.00	U		P
7440-43-9	Cadmium	4.00	U		P
7440-70-2	Calcium	73900.00			P
7440-47-3	Chromium	26.40			P
7440-48-4	Cobalt	4.00	U		P
7440-50-8	Copper	7.00	B		P
7439-89-6	Iron	1680.00			P
7439-92-1	Lead	2.00	U	W	F
7439-95-4	Magnesium	22300.00			P
7439-96-5	Manganese	54.00			P
7439-97-6	Mercury	.20	U		CV
7440-02-0	Nickel	16.10	B		P
7440-09-7	Potassium	7330.00			P
7782-49-2	Selenium	15.30		S	F
7440-22-4	Silver	4.00	U		P
7440-23-5	Sodium	32200.00			P
7440-28-0	Thallium	5.00	U	W	F
7440-62-2	Vanadium	56.80			P
7440-66-6	Zinc	10.00	B		P
	Cyanide	122.00		N	C

Color Before: COLORLESS Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

U.S. EPA - CLP

1

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

BOODK7

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

Lab Code: WESTON Case No.: WEST SAS No.: SDG No.: CLP538

Matrix (soil/water): WATER Lab Sample ID: 910256610

Level (low/med): LOW Date Received:

% Solids:

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	77.00	U		P
7440-36-0	Antimony	19.00	U		P
7440-38-2	Arsenic	4.30	B		F
7440-39-3	Barium	28.20	B		P
7440-41-7	Beryllium	1.00	U		P
7440-43-9	Cadmium	4.00	U		P
7440-70-2	Calcium	82200.00			P
7440-47-3	Chromium	7.20	B		P
7440-48-4	Cobalt	4.00	U		P
7440-50-8	Copper	7.00	U		P
7439-89-6	Iron	127.00			P
7439-92-1	Lead	2.00	U	W	F
7439-95-4	Magnesium	24100.00			P
7439-96-5	Manganese	45.50			P
7439-97-6	Mercury	.20	U		CV
7440-02-0	Nickel	10.70	B		P
7440-09-7	Potassium	7640.00			P
7782-49-2	Selenium	11.30		S	F
7440-22-4	Silver	4.00	U		P
7440-23-5	Sodium	32400.00			P
7440-28-0	Thallium	5.00	U	W	F
7440-62-2	Vanadium	65.40			P
7440-66-6	Zinc	9.90	B		P
	Cyanide				NR

Color Before: COLORLESS Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

U.S. EPA - CLP

1

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

BOODM2

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

Lab Code: WESTON Case No.: WEST SAS No.: SDG No.: CLP538

Matrix (soil/water): WATER Lab Sample ID: 910259901

Level (low/med): LOW Date Received:

% Solids:

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	77.00	U		P
7440-36-0	Antimony	27.90	B		P
7440-38-2	Arsenic	5.90	B		F
7440-39-3	Barium	22.60	B		P
7440-41-7	Beryllium	1.00	U		P
7440-43-9	Cadmium	4.00	U		P
7440-70-2	Calcium	52400.00			P
7440-47-3	Chromium	85.20			P
7440-48-4	Cobalt	4.00	U		P
7440-50-8	Copper	7.00	B		P
7439-89-6	Iron	421.00			P
7439-92-1	Lead	2.00	U	W	F
7439-95-4	Magnesium	15500.00			P
7439-96-5	Manganese	9.20	B		P
7439-97-6	Mercury	.20	U		CV
7440-02-0	Nickel	46.70			P
7440-09-7	Potassium	7330.00			P
7782-49-2	Selenium	7.10		S	F
7440-22-4	Silver	4.00	U		P
7440-23-5	Sodium	25500.00			P
7440-28-0	Thallium	5.00	U	W	F
7440-62-2	Vanadium	73.90			P
7440-66-6	Zinc	8.20	B		P
	Cyanide	10.00	U	N	C

Color Before: COLORLESS Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

U.S. EPA - CLP

1

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

BOODM3

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

Lab Code: WESTON Case No.: WEST SAS No.: SDG No.: CLP538

Matrix (soil/water): WATER Lab Sample ID: 910259902

Level (low/med): LOW Date Received:

% Solids:

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	77.00	U		P
7440-36-0	Antimony	19.00	U		P
7440-38-2	Arsenic	5.80	B		F
7440-39-3	Barium	24.90	B		P
7440-41-7	Beryllium	1.00	U		P
7440-43-9	Cadmium	4.00	U		P
7440-70-2	Calcium	55900.00			P
7440-47-3	Chromium	3.90	B		P
7440-48-4	Cobalt	4.00	U		P
7440-50-8	Copper	7.00	U		P
7439-89-6	Iron	37.00	U		P
7439-92-1	Lead	2.00	U	W	F
7439-95-4	Magnesium	16500.00			P
7439-96-5	Manganese	2.00	U		P
7439-97-6	Mercury	.20	U		CV
7440-02-0	Nickel	7.00	U		P
7440-09-7	Potassium	7410.00			P
7782-49-2	Selenium	5.00		S	F
7440-22-4	Silver	4.00	U		P
7440-23-5	Sodium	26900.00			P
7440-28-0	Thallium	5.00	U	W	F
7440-62-2	Vanadium	76.30			P
7440-66-6	Zinc	8.50	B		P
	Cyanide				NR

Color Before: COLORLESS Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

WESTON

Roy F. Weston, INC.
Lionville Laboratory

CLIENT:WESTINGHOUSE HANFORD SAMPLES RECEIVED:2/13,2/15,2/16/91
RFW #:9102L538,9102L566,9102L599 METALS
W.O.#:6168-02-01

METALS NARRATIVE

The set of samples consisted of (12) water samples collected on 1/31/91, 2/12/91, 2/13/91 and 2/14/91.

The samples were analyzed according to criteria set forth in CLP SOW 7/87.

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

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

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

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

4. All preparation blank values were within control limits.

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

   Note: The USEPA has dropped control limits for antimony and silver due to documented difficulties in obtaining reliable results. WESTON Analytics has adopted the same policy.

6. CN spike recoveries were not within the 75-125% control limits; therefore, all corresponding samples were flagged with an "N" according to CLP protocol.

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

8. All other spike and duplicate analyses were done on another RFW# in a different batch. Please refer to 9102L658 in batch 91L0565.

WESTON

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

10. Sample 91021538-001 was collected on 1/31/91 and received on 2/13/91; therefore, the hold time for cyanide was exceeded.

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

4.24.91
Date

ROY F. WESTON INC.

INORGANICS DATA SUMMARY REPORT 05/10/91

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

WESTON BATCH #: 9102L538

SAMPLE	SITE ID	ANALYTE	RESULT		UNITS	REPORTING LIMIT
-001	BOODL2	Silver, Total	10.0	u	UG/L	10.0
		Aluminum, Total	2060		UG/L	200
		Arsenic, Total	10.0	u	UG/L	10.0
		Barium, Total	200	u	UG/L	200
		Beryllium, Total	5.0	u	UG/L	5.0
		Bismuth, Total	200	u	UG/L	200
		Calcium, Total	32100		UG/L	5000
		Cadmium, Total	5.0	u	UG/L	5.0
		Cobalt, Total	50.0	u	UG/L	50.0
		Chromium, Total	10.0	u	UG/L	10.0
		Copper, Total	26.4		UG/L	25.0
		Iron, Total	41900		UG/L	100
		Mercury, Total	0.20	u	UG/L	0.20
		Potassium, Total	7210		UG/L	5000
		Magnesium, Total	11300		UG/L	5000
		Manganese, Total	458		UG/L	15.0
		Sodium, Total	16900		UG/L	5000
		Nickel, Total	40.0	u	UG/L	40.0
		Lead, Total	3.3		UG/L	3.0
		Antimony, Total	60.0	u	UG/L	60.0
		Selenium, Total	5.0	u	UG/L	5.0
		Tin, Total	100	u	UG/L	100
		Strontium, Total	218		UG/L	100
		Thallium, Total	100	u	UG/L	100
		Vanadium, Total	50.0	u	UG/L	50.0
		Zinc, Total	30.1		UG/L	20.0

ROY F. WESTON INC.

INORGANICS DATA SUMMARY REPORT 05/10/91

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

WESTON BATCH #: 9102L538

SAMPLE	SITE ID	ANALYTE	RESULT		UNITS	REPORTING LIMIT
-002	BOODL3	Silver, Total	10.0	u	UG/L	10.0
		Aluminum, Total	1780		UG/L	200
		Arsenic, Total	10.0	u	UG/L	10.0
		Barium, Total	200	u	UG/L	200
		Beryllium, Total	5.0	u	UG/L	5.0
		Bismuth, Total	200	u	UG/L	200
		Calcium, Total	31700		UG/L	5000
		Cadmium, Total	5.0	u	UG/L	5.0
		Cobalt, Total	50.0	u	UG/L	50.0
		Chromium, Total	10.0	u	UG/L	10.0
		Copper, Total	26.6		UG/L	25.0
		Iron, Total	39300		UG/L	100
		Mercury, Total	0.20	u	UG/L	0.20
		Potassium, Total	7680		UG/L	5000
		Magnesium, Total	11200		UG/L	5000
		Manganese, Total	437		UG/L	15.0
		Sodium, Total	17000		UG/L	5000
		Nickel, Total	40.0	u	UG/L	40.0
		Lead, Total	6.6		UG/L	3.0
		Antimony, Total	60.0	u	UG/L	60.0
		Selenium, Total	5.0	u	UG/L	5.0
		Tin, Total	100	u	UG/L	100
		Strontium, Total	218		UG/L	100
		Thallium, Total	100	u	UG/L	100
		Vanadium, Total	50.0	u	UG/L	50.0
		Zinc, Total	20.8		UG/L	20.0

ROY F. WESTON INC.

INORGANICS DATA SUMMARY REPORT 05/10/91

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

WESTON BATCH #: 9102L566

SAMPLE	SITE ID	ANALYTE	RESULT		UNITS	REPORTING LIMIT
-001	BOO-DK9	Silver, Total	10.0	u	UG/L	10.0
		Aluminum, Total	200	u	UG/L	200
		Arsenic, Total	10.0	u	UG/L	10.0
		Boron, Total	100	u	UG/L	100
		Barium, Total	200	u	UG/L	200
		Beryllium, Total	5.0	u	UG/L	5.0
		Bismuth, Total	200	u	UG/L	200
		Calcium, Total	28100		UG/L	5000
		Cadmium, Total	5.0	u	UG/L	5.0
		Cobalt, Total	50.0	u	UG/L	50.0
		Chromium, Total	18.1		UG/L	10.0
		Copper, Total	25.0	u	UG/L	25.0
		Iron, Total	535		UG/L	100
		Mercury, Total	0.20	u	UG/L	0.20
		Potassium, Total	6910		UG/L	5000
		Magnesium, Total	9590		UG/L	5000
		Manganese, Total	75.2		UG/L	15.0
		Sodium, Total	18800		UG/L	5000
		Nickel, Total	40.0	u	UG/L	40.0
		Lead, Total	3.0	u	UG/L	3.0
		Antimony, Total	60.0	u	UG/L	60.0
		Selenium, Total	5.0	u	UG/L	5.0
		Tin, Total	100	u	UG/L	100
		Strontium, Total	249		UG/L	100
		Thallium, Total	10.0	u	UG/L	10.0
		Vanadium, Total	50.1		UG/L	50.0
		Zinc, Total	20.0	u	UG/L	20.0

ROY F. WESTON INC.

INORGANICS DATA SUMMARY REPORT 05/10/91

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

WESTON BATCH #: 9102L566

SAMPLE	SITE ID	ANALYTE	RESULT		UNITS	REPORTING LIMIT
-002	BOO-DL0	Silver, Soluble	10.0	u	UG/L	10.0
		Aluminum, Soluble	200	u	UG/L	200
		Arsenic, Soluble	10.0	u	UG/L	10.0
		Boron, Soluble	100	u	UG/L	100
		Barium, Soluble	200	u	UG/L	200
		Beryllium, Soluble	5.0	u	UG/L	5.0
		Bismuth, Soluble	200	u	UG/L	200
		Calcium, Soluble	28500		UG/L	5000
		Cadmium, Soluble	5.0	u	UG/L	5.0
		Cobalt, Soluble	50.0	u	UG/L	50.0
		Chromium, Soluble	10.0	u	UG/L	10.0
		Copper, Soluble	25.0	u	UG/L	25.0
		Iron, Soluble	100	u	UG/L	100
		Mercury, Soluble	0.20	u	UG/L	0.20
		Potassium, Soluble	7230		UG/L	5000
		Magnesium, Soluble	9780		UG/L	5000
		Manganese, Soluble	70.7		UG/L	15.0
		Sodium, Soluble	19300		UG/L	5000
		Nickel, Soluble	40.0	u	UG/L	40.0
		Lead, Soluble	3.0	u	UG/L	3.0
		Antimony, Soluble	60.0	u	UG/L	60.0
		Selenium, Soluble	5.0	u	UG/L	5.0
		Tin, Soluble	100	u	UG/L	100
		Strontium, Soluble	254		UG/L	100
		Thallium, Soluble	10.0	u	UG/L	10.0
		Vanadium, Soluble	51.6		UG/L	50.0
		Zinc, Soluble	20.0	u	UG/L	20.0

ROY F. WESTON INC.

INORGANICS DATA SUMMARY REPORT 05/10/91

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

WESTON BATCH #: 9102L566

SAMPLE	SITE ID	ANALYTE	RESULT		UNITS	REPORTING LIMIT
-004	BOO-DL6	Silver, Total	10.0	u	UG/L	10.0
		Aluminum, Total	200	u	UG/L	200
		Arsenic, Total	10.0	u	UG/L	10.0
		Boron, Total	100	u	UG/L	100
		Barium, Total	200	u	UG/L	200
		Beryllium, Total	5.0	u	UG/L	5.0
		Bismuth, Total	200	u	UG/L	200
		Calcium, Total	32000		UG/L	5000
		Cadmium, Total	5.0	u	UG/L	5.0
		Cobalt, Total	50.0	u	UG/L	50.0
		Chromium, Total	31.9		UG/L	10.0
		Copper, Total	25.0	u	UG/L	25.0
		Iron, Total	615		UG/L	100
		Mercury, Total	0.20	u	UG/L	0.20
		Potassium, Total	8950		UG/L	5000
		Magnesium, Total	9860		UG/L	5000
		Manganese, Total	61.6		UG/L	15.0
		Sodium, Total	21300		UG/L	5000
		Nickel, Total	40.0	u	UG/L	40.0
		Lead, Total	3.0	u	UG/L	3.0
		Antimony, Total	60.0	u	UG/L	60.0
		Selenium, Total	5.0	u	UG/L	5.0
		Tin, Total	100	u	UG/L	100
		Strontium, Total	280		UG/L	100
		Thallium, Total	10.0	u	UG/L	10.0
		Vanadium, Total	50.0	u	UG/L	50.0
		Zinc, Total	20.0	u	UG/L	20.0

ROY F. WESTON INC.

INORGANICS DATA SUMMARY REPORT 05/10/91

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

WESTON BATCH #: 9102L566

SAMPLE	SITE ID	ANALYTE	RESULT		UNITS	REPORTING LIMIT
-005	BOO-DL7	Silver, Soluble	10.0	u	UG/L	10.0
		Aluminum, Soluble	200	u	UG/L	200
		Arsenic, Soluble	10.0	u	UG/L	10.0
		Boron, Soluble	100	u	UG/L	100
		Barium, Soluble	200	u	UG/L	200
		Beryllium, Soluble	5.0	u	UG/L	5.0
		Bismuth, Soluble	200	u	UG/L	200
		Calcium, Soluble	35300		UG/L	5000
		Cadmium, Soluble	5.0	u	UG/L	5.0
		Cobalt, Soluble	50.0	u	UG/L	50.0
		Chromium, Soluble	10.0	u	UG/L	10.0
		Copper, Soluble	25.0	u	UG/L	25.0
		Iron, Soluble	100	u	UG/L	100
		Mercury, Soluble	0.20	u	UG/L	0.20
		Potassium, Soluble	8600		UG/L	5000
		Magnesium, Soluble	10700		UG/L	5000
		Manganese, Soluble	56.0		UG/L	15.0
		Sodium, Soluble	21200		UG/L	5000
		Nickel, Soluble	40.0	u	UG/L	40.0
		Lead, Soluble	3.0	u	UG/L	3.0
		Antimony, Soluble	60.0	u	UG/L	60.0
		Selenium, Soluble	5.0	u	UG/L	5.0
		Tin, Soluble	100	u	UG/L	100
		Strontium, Soluble	291		UG/L	100
		Thallium, Soluble	10.0	u	UG/L	10.0
		Vanadium, Soluble	55.5		UG/L	50.0
		Zinc, Soluble	20.0	u	UG/L	20.0

ROY F. WESTON INC.

INORGANICS DATA SUMMARY REPORT 05/10/91

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

WESTON BATCH #: 9102L566

SAMPLE	SITE ID	ANALYTE	RESULT		UNITS	REPORTING LIMIT
-006	BOO-DL9	Silver, Total	10.0	u	UG/L	10.0
		Aluminum, Total	200	u	UG/L	200
		Arsenic, Total	10.0	u	UG/L	10.0
		Boron, Total	100	u	UG/L	100
		Barium, Total	200	u	UG/L	200
		Beryllium, Total	5.0	u	UG/L	5.0
		Bismuth, Total	200	u	UG/L	200
		Calcium, Total	47200		UG/L	5000
		Cadmium, Total	5.0	u	UG/L	5.0
		Cobalt, Total	50.0	u	UG/L	50.0
		Chromium, Total	46.2		UG/L	10.0
		Copper, Total	25.0	u	UG/L	25.0
		Iron, Total	541		UG/L	100
		Mercury, Total	0.20	u	UG/L	0.20
		Potassium, Total	7180		UG/L	5000
		Magnesium, Total	14600		UG/L	5000
		Manganese, Total	15.0	u	UG/L	15.0
		Sodium, Total	26300		UG/L	5000
		Nickel, Total	40.0	u	UG/L	40.0
		Lead, Total	3.0	u	UG/L	3.0
		Antimony, Total	60.0	u	UG/L	60.0
		Selenium, Total	11.3		UG/L	5.0
		Tin, Total	100	u	UG/L	100
		Strontium, Total	252		UG/L	100
		Thallium, Total	10.0	u	UG/L	10.0
		Vanadium, Total	62.2		UG/L	50.0
		Zinc, Total	20.0	u	UG/L	20.0

ROY F. WESTON INC.

INORGANICS DATA SUMMARY REPORT 05/10/91

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

WESTON BATCH #: 9102L566

SAMPLE	SITE ID	ANALYTE	RESULT		UNITS	REPORTING LIMIT
-007	BOO-DM0	Silver, Soluble	10.0	u	UG/L	10.0
		Aluminum, Soluble	200	u	UG/L	200
		Arsenic, Soluble	10.0	u	UG/L	10.0
		Boron, Soluble	100	u	UG/L	100
		Barium, Soluble	200	u	UG/L	200
		Beryllium, Soluble	5.0	u	UG/L	5.0
		Bismuth, Soluble	200	u	UG/L	200
		Calcium, Soluble	51100		UG/L	5000
		Cadmium, Soluble	5.0	u	UG/L	5.0
		Cobalt, Soluble	50.0	u	UG/L	50.0
		Chromium, Soluble	10.0	u	UG/L	10.0
		Copper, Soluble	25.0	u	UG/L	25.0
		Iron, Soluble	100	u	UG/L	100
		Mercury, Soluble	0.20	u	UG/L	0.20
		Potassium, Soluble	7450		UG/L	5000
		Magnesium, Soluble	15600		UG/L	5000
		Manganese, Soluble	15.0	u	UG/L	15.0
		Sodium, Soluble	26000		UG/L	5000
		Nickel, Soluble	40.0	u	UG/L	40.0
		Lead, Soluble	3.0	u	UG/L	3.0
		Antimony, Soluble	60.0	u	UG/L	60.0
		Selenium, Soluble	6.2		UG/L	5.0
		Tin, Soluble	100	u	UG/L	100
		Strontium, Soluble	257		UG/L	100
		Thallium, Soluble	10.0	u	UG/L	10.0
		Vanadium, Soluble	70.6		UG/L	50.0
		Zinc, Soluble	20.0	u	UG/L	20.0

ROY F. WESTON INC.

INORGANICS DATA SUMMARY REPORT 05/10/91

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

WESTON BATCH #: 9102L566

SAMPLE	SITE ID	ANALYTE	RESULT		UNITS	REPORTING LIMIT
-009	BOO-DK6	Silver, Total	10.0	u	UG/L	10.0
		Aluminum, Total	200	u	UG/L	200
		Arsenic, Total	10.0	u	UG/L	10.0
		Boron, Total	100	u	UG/L	100
		Barium, Total	200	u	UG/L	200
		Beryllium, Total	5.0	u	UG/L	5.0
		Bismuth, Total	200	u	UG/L	200
		Calcium, Total	73900		UG/L	5000
		Cadmium, Total	5.0	u	UG/L	5.0
		Cobalt, Total	50.0	u	UG/L	50.0
		Chromium, Total	26.4		UG/L	10.0
		Copper, Total	25.0	u	UG/L	25.0
		Iron, Total	1680		UG/L	100
		Mercury, Total	0.20	u	UG/L	0.20
		Potassium, Total	7330		UG/L	5000
		Magnesium, Total	22300		UG/L	5000
		Manganese, Total	54.0		UG/L	15.0
		Sodium, Total	32200		UG/L	5000
		Nickel, Total	40.0	u	UG/L	40.0
		Lead, Total	3.0	u	UG/L	3.0
		Antimony, Total	60.0	u	UG/L	60.0
		Selenium, Total	15.3		UG/L	5.0
		Tin, Total	100	u	UG/L	100
		Strontium, Total	370		UG/L	100
		Thallium, Total	10.0	u	UG/L	10.0
		Vanadium, Total	56.8		UG/L	50.0
		Zinc, Total	20.0	u	UG/L	20.0

ROY F. WESTON INC.

INORGANICS DATA SUMMARY REPORT 05/10/91

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

WESTON BATCH #: 9102L566

SAMPLE	SITE ID	ANALYTE	RESULT		UNITS	REPORTING LIMIT
-010	BOO-DK7	Silver, Soluble	10.0	u	UG/L	10.0
		Aluminum, Soluble	200	u	UG/L	200
		Arsenic, Soluble	10.0	u	UG/L	10.0
		Boron, Soluble	100	u	UG/L	100
		Barium, Soluble	200	u	UG/L	200
		Beryllium, Soluble	5.0	u	UG/L	5.0
		Bismuth, Soluble	200	u	UG/L	200
		Calcium, Soluble	82200		UG/L	5000
		Cadmium, Soluble	5.0	u	UG/L	5.0
		Cobalt, Soluble	50.0	u	UG/L	50.0
		Chromium, Soluble	10.0	u	UG/L	10.0
		Copper, Soluble	25.0	u	UG/L	25.0
		Iron, Soluble	127		UG/L	100
		Mercury, Soluble	0.20	u	UG/L	0.20
		Potassium, Soluble	7640		UG/L	5000
		Magnesium, Soluble	24100		UG/L	5000
		Manganese, Soluble	45.5		UG/L	15.0
		Sodium, Soluble	32400		UG/L	5000
		Nickel, Soluble	40.0	u	UG/L	40.0
		Lead, Soluble	3.0	u	UG/L	3.0
		Antimony, Soluble	60.0	u	UG/L	60.0
		Selenium, Soluble	11.3		UG/L	5.0
		Tin, Soluble	100	u	UG/L	100
		Strontium, Soluble	387		UG/L	100
		Thallium, Soluble	10.0	u	UG/L	10.0
		Vanadium, Soluble	65.4		UG/L	50.0
		Zinc, Soluble	20.0	u	UG/L	20.0

ROY F. WESTON INC.

INORGANICS DATA SUMMARY REPORT 05/10/91

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

WESTON BATCH #: 9102L599

SAMPLE	SITE ID	ANALYTE	RESULT		UNITS	REPORTING LIMIT
-001	BOO-DM2	Silver, Total	10.0	u	UG/L	10.0
		Aluminum, Total	200	u	UG/L	200
		Arsenic, Total	10.0	u	UG/L	10.0
		Barium, Total	200	u	UG/L	200
		Beryllium, Total	5.0	u	UG/L	5.0
		Bismuth, Total	200	u	UG/L	200
		Calcium, Total	52400		UG/L	5000
		Cadmium, Total	5.0	u	UG/L	5.0
		Cobalt, Total	50.0	u	UG/L	50.0
		Chromium, Total	85.2		UG/L	10.0
		Copper, Total	25.0	u	UG/L	25.0
		Iron, Total	421		UG/L	100
		Mercury, Total	0.20	u	UG/L	0.20
		Potassium, Total	7330		UG/L	5000
		Magnesium, Total	15500		UG/L	5000
		Manganese, Total	15.0	u	UG/L	15.0
		Sodium, Total	25500		UG/L	5000
		Nickel, Total	46.7		UG/L	40.0
		Lead, Total	3.0	u	UG/L	3.0
		Antimony, Total	60.0	u	UG/L	60.0
		Selenium, Total	7.1		UG/L	5.0
		Tin, Total	100	u	UG/L	100
		Strontium, Total	262		UG/L	100
		Thallium, Total	10.0	u	UG/L	10.0
		Vanadium, Total	73.9		UG/L	50.0
		Zinc, Total	20.0	u	UG/L	20.0

ROY F. WESTON INC.

INORGANICS DATA SUMMARY REPORT 05/10/91

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

WESTON BATCH #: 9102L599

SAMPLE	SITE ID	ANALYTE	RESULT		UNITS	REPORTING LIMIT
-002	BOO-DM3	Silver, Soluble	10.0	u	UG/L	10.0
		Aluminum, Soluble	200	u	UG/L	200
		Arsenic, Soluble	10.0	u	UG/L	10.0
		Barium, Soluble	200	u	UG/L	200
		Beryllium, Soluble	5.0	u	UG/L	5.0
		Bismuth, Soluble	200	u	UG/L	200
		Calcium, Soluble	55900		UG/L	5000
		Cadmium, Soluble	5.0	u	UG/L	5.0
		Cobalt, Soluble	50.0	u	UG/L	50.0
		Chromium, Soluble	10.0	u	UG/L	10.0
		Copper, Soluble	25.0	u	UG/L	25.0
		Iron, Soluble	100	u	UG/L	100
		Mercury, Soluble	0.20	u	UG/L	0.20
		Potassium, Soluble	7410		UG/L	5000
		Magnesium, Soluble	16500		UG/L	5000
		Manganese, Soluble	15.0	u	UG/L	15.0
		Sodium, Soluble	26900		UG/L	5000
		Nickel, Soluble	40.0	u	UG/L	40.0
		Lead, Soluble	3.0	u	UG/L	3.0
		Antimony, Soluble	60.0	u	UG/L	60.0
		Selenium, Soluble	5.0		UG/L	5.0
		Tin, Soluble	100	u	UG/L	100
		Strontium, Soluble	280		UG/L	100
		Thallium, Soluble	10.0	u	UG/L	10.0
		Vanadium, Soluble	76.3		UG/L	50.0
		Zinc, Soluble	20.0	u	UG/L	20.0

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U.S. EPA - CLP

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INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

BOODL2

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

Lab Code:WESTON Case No:WEST SAS No.: SDG No.:CLP538

Matrix (soil/water):water Lab Sample ID:9102538001

Level (low/med): low Date Received: 02/13/91

% Solids:

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	2060			P
7440-36-0	Antimony	28.7	B		P
7440-38-2	Arsenic	2.00	U		F
7440-39-3	Barium	85.9	B		P
7440-41-7	Beryllium	1.00	U		P
7440-43-9	Cadmium	4.00	U		P
7440-70-2	Calcium	32100			P
7440-47-3	Chromium	3.00	U		P
7440-48-4	Cobalt	5.00	U		P
7440-50-8	Copper	26.4			P
7439-89-6	Iron	41900			P
7439-92-1	Lead	3.30	B	W	F
7439-95-4	Magnesium	11300			P
7439-96-5	Manganese	458			P
7439-97-6	Mercury	0.200	U		CV
7440-02-0	Nickel	13.5	B		P
7440-09-7	Potassium	7210			P
7782-49-2	Selenium	2.00	U	W	F
7440-22-4	Silver	5.00	U		P
7440-23-5	Sodium	16900			P
7440-28-0	Thallium	68.0			F
7440-62-2	Vanadium	26.7	B		P
7440-66-6	Zinc	30.1			P
	Cyanide	10.00	U	N	C

Color Before:COLORLESS Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

FORM I - IN

000040

U.S. EPA - CLP

1

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

BOODL3

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

Lab Code:WESTON Case No:WEST SAS No.: SDG No.:CLP538

Matrix (soil/water):water Lab Sample ID:9102538002

Level (low/med): low Date Received: 02/13/91

% Solids:

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	1780			P
7440-36-0	Antimony	30.0	B		P
7440-38-2	Arsenic	2.00	U		F
7440-39-3	Barium	83.2	B		P
7440-41-7	Beryllium	1.00	U		P
7440-43-9	Cadmium	4.00	U		P
7440-70-2	Calcium	31700			P
7440-47-3	Chromium	3.00	U		P
7440-48-4	Cobalt	5.00	U		P
7440-50-8	Copper	26.6			P
7439-89-6	Iron	39300			P
7439-92-1	Lead	6.60			F
7439-95-4	Magnesium	11200			P
7439-96-5	Manganese	437			P
7439-97-6	Mercury	0.200	U		CV
7440-02-0	Nickel	10.3	B		P
7440-09-7	Potassium	7680			P
7782-49-2	Selenium	2.00	U	W	F
7440-22-4	Silver	5.00	U		P
7440-23-5	Sodium	17000			P
7440-28-0	Thallium	4.00	U	W	F
7440-62-2	Vanadium	27.5	B		P
7440-66-6	Zinc	20.8			P
	Cyanide				

Color Before:COLORLESS Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

FORM I - IN

U.S. EPA - CLP

1

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

BOO-DK9

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

Lab Code:WESTON Case No:WEST SAS No.: SDG No.:CLP538

Matrix (soil/water):water Lab Sample ID:9102566001

Level (low/med): low Date Received: 02/15/91

% Solids:

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	124	U		P
7440-36-0	Antimony	21.0	U		P
7440-38-2	Arsenic	4.50	B		F
7440-39-3	Barium	112	B		P
7440-41-7	Beryllium	1.00	U		P
7440-43-9	Cadmium	4.00	U		P
7440-70-2	Calcium	28100			P
7440-47-3	Chromium	18.1			P
7440-48-4	Cobalt	5.00	U		P
7440-50-8	Copper	5.00	U		P
7439-89-6	Iron	535			P
7439-92-1	Lead	3.00	U	W	F
7439-95-4	Magnesium	9590			P
7439-96-5	Manganese	75.2			P
7439-97-6	Mercury	0.200	U		CV
7440-02-0	Nickel	15.9	B		P
7440-09-7	Potassium	6910			P
7782-49-2	Selenium	3.20	B	W	F
7440-22-4	Silver	5.00	U		P
7440-23-5	Sodium	18800			P
7440-28-0	Thallium	4.00	U	W	F
7440-62-2	Vanadium	50.1			P
7440-66-6	Zinc	4.40	B		P
	Cyanide	10.00	U	N	C

Color Before:COLORLESS Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

FORM I - IN

U.S. EPA - CLP

1

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

BOO-DLO

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

Lab Code:WESTON Case No:WEST SAS No.: SDG No.:CLP538

Matrix (soil/water):water Lab Sample ID:9102566002

Level (low/med): low Date Received: 02/15/91

% Solids:

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	124	U		P
7440-36-0	Antimony	56.3	B		P
7440-38-2	Arsenic	2.60	B		F
7440-39-3	Barium	112	B		P
7440-41-7	Beryllium	1.00	U		P
7440-43-9	Cadmium	4.00	U		P
7440-70-2	Calcium	28500			P
7440-47-3	Chromium	3.30	B		P
7440-48-4	Cobalt	5.00	U		P
7440-50-8	Copper	5.00	U		P
7439-89-6	Iron	64.5	B		P
7439-92-1	Lead	3.00	U	W	F
7439-95-4	Magnesium	9780			P
7439-96-5	Manganese	70.7			P
7439-97-6	Mercury	0.200	U		CV
7440-02-0	Nickel	10.7	B		P
7440-09-7	Potassium	7230			P
7782-49-2	Selenium	2.00	U	W	F
7440-22-4	Silver	5.00	U		P
7440-23-5	Sodium	19300			P
7440-28-0	Thallium	4.00	U	W	F
7440-62-2	Vanadium	51.6			P
7440-66-6	Zinc	5.40	B		P
	Cyanide				

Color Before:COLORLESS Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

FORM I - IN

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U.S. EPA - CLP

1

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

BOO-DL6

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

Lab Code:WESTON Case No:WEST SAS No.: SDG No.:CLP538

Matrix (soil/water):water Lab Sample ID:9102566004

Level (low/med): low Date Received: 02/15/91

% Solids:

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	124	U		P
7440-36-0	Antimony	21.0	U		P
7440-38-2	Arsenic	3.80	B		F
7440-39-3	Barium	47.7	B		P
7440-41-7	Beryllium	1.00	U		P
7440-43-9	Cadmium	4.00	U		P
7440-70-2	Calcium	32000			P
7440-47-3	Chromium	31.9			P
7440-48-4	Cobalt	5.00	U		P
7440-50-8	Copper	6.90	B		P
7439-89-6	Iron	615			P
7439-92-1	Lead	3.00	U	W	F
7439-95-4	Magnesium	9860			P
7439-96-5	Manganese	61.6			P
7439-97-6	Mercury	0.200	U		CV
7440-02-0	Nickel	21.7	B		P
7440-09-7	Potassium	8950			P
7782-49-2	Selenium	2.60	B	W	F
7440-22-4	Silver	5.00	U		P
7440-23-5	Sodium	21300			P
7440-28-0	Thallium	4.00	U		F
7440-62-2	Vanadium	46.5	B		P
7440-66-6	Zinc	5.30	B		P
	Cyanide	10.00	U	N	C

Color Before:COLORLESS Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

FORM I - IN

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9613422.0436

U.S. EPA - CLP

1

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

BOO-DL7

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

Lab Code:WESTON Case No:WEST SAS No.: SDG No.:CLP538

Matrix (soil/water):water Lab Sample ID:9102566005

Level (low/med): low Date Received: 02/15/91

% Solids:

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	124	U		P
7440-36-0	Antimony	21.0	U		P
7440-38-2	Arsenic	2.00	B		F
7440-39-3	Barium	48.4	B		P
7440-41-7	Beryllium	1.00	U		P
7440-43-9	Cadmium	4.00	U		P
7440-70-2	Calcium	35300			P
7440-47-3	Chromium	3.00	U		P
7440-48-4	Cobalt	5.00	U		P
7440-50-8	Copper	5.00	U		P
7439-89-6	Iron	55.0	U		P
7439-92-1	Lead	3.00	U	W	F
7439-95-4	Magnesium	10700			P
7439-96-5	Manganese	56.0			P
7439-97-6	Mercury	0.200	U		CV
7440-02-0	Nickel	9.60	B		P
7440-09-7	Potassium	8600			P
7782-49-2	Selenium	2.20	B	W	F
7440-22-4	Silver	5.00	U		P
7440-23-5	Sodium	21200			P
7440-28-0	Thallium	4.00	U	W	F
7440-62-2	Vanadium	55.5			P
7440-66-6	Zinc	4.50	B		P
	Cyanide				

Color Before:COLORLESS Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

FORM I - IN

000045

U.S. EPA - CLP

1

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

BOO-DL9

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

Lab Code:WESTON Case No:WEST SAS No.: SDG No.:CLP538

Matrix (soil/water):water Lab Sample ID:9102566006

Level (low/med): low Date Received: 02/15/91

% Solids:

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	124	U		P
7440-36-0	Antimony	38.6	B		P
7440-38-2	Arsenic	5.20	B		F
7440-39-3	Barium	21.3	B		P
7440-41-7	Beryllium	1.00	U		P
7440-43-9	Cadmium	4.00	U		P
7440-70-2	Calcium	47200			P
7440-47-3	Chromium	46.2			P
7440-48-4	Cobalt	5.00	U		P
7440-50-8	Copper	7.70	B		P
7439-89-6	Iron	541			P
7439-92-1	Lead	3.00	U	W	F
7439-95-4	Magnesium	14600			P
7439-96-5	Manganese	12.7	B		P
7439-97-6	Mercury	0.200	U		CV
7440-02-0	Nickel	26.6	B		P
7440-09-7	Potassium	7180			P
7782-49-2	Selenium	11.3		S	F
7440-22-4	Silver	5.00	U		P
7440-23-5	Sodium	26300			P
7440-28-0	Thallium	4.00	U	W	F
7440-62-2	Vanadium	62.2			P
7440-66-6	Zinc	7.10	B		P
	Cyanide	-10.0	U	N	C

Color Before:COLORLESS Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

FORM I - IN

9613422.0438

U.S. EPA - CLP

1

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

BOO-DMO

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

Lab Code:WESTON Case No:WEST SAS No.: SDG No.:CLP538

Matrix (soil/water):water Lab Sample ID:9102566007

Level (low/med): low Date Received: 02/15/91

% Solids:

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	124	U		P
7440-36-0	Antimony	21.0	U		P
7440-38-2	Arsenic	5.50	B	W	F
7440-39-3	Barium	21.5	B		P
7440-41-7	Beryllium	1.00	U		P
7440-43-9	Cadmium	4.00	U		P
7440-70-2	Calcium	51100			P
7440-47-3	Chromium	3.00	U		P
7440-48-4	Cobalt	5.00	U		P
7440-50-8	Copper	5.00	U		P
7439-89-6	Iron	61.1	B		P
7439-92-1	Lead	3.00	U	W	F
7439-95-4	Magnesium	15600			P
7439-96-5	Manganese	6.30	B		P
7439-97-6	Mercury	0.200	U		CV
7440-02-0	Nickel	8.00	U		P
7440-09-7	Potassium	7450			P
7782-49-2	Selenium	6.20		S	F
7440-22-4	Silver	5.00	U		P
7440-23-5	Sodium	26000			P
7440-28-0	Thallium	4.00	U	W	F
7440-62-2	Vanadium	70.6			P
7440-66-6	Zinc	4.50	B		P
	Cyanide				

Color Before:COLORLESS Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

FORM I - IN

0000047

9613422.0439

U.S. EPA - CLP

1

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

BOO-DK6

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

Lab Code:WESTON Case No:WEST SAS No.: SDG No.:CLP538

Matrix (soil/water):water Lab Sample ID:9102566009

Level (low/med): low Date Received: 02/15/91

% Solids:

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	124	U		P
7440-36-0	Antimony	21.0	U		P
7440-38-2	Arsenic	3.70	B		F
7440-39-3	Barium	26.6	B		P
7440-41-7	Beryllium	1.00	U		P
7440-43-9	Cadmium	4.00	U		P
7440-70-2	Calcium	73900			P
7440-47-3	Chromium	26.4			P
7440-48-4	Cobalt	5.00	U		P
7440-50-8	Copper	6.60	B		P
7439-89-6	Iron	1680			P
7439-92-1	Lead	3.00	U	W	F
7439-95-4	Magnesium	22300			P
7439-96-5	Manganese	54.0			P
7439-97-6	Mercury	0.200	U		CV
7440-02-0	Nickel	16.1	B		P
7440-09-7	Potassium	7330			P
7782-49-2	Selenium	15.3		S	F
7440-22-4	Silver	5.00	U		P
7440-23-5	Sodium	32200			P
7440-28-0	Thallium	4.00	U	W	F
7440-62-2	Vanadium	56.8			P
7440-66-6	Zinc	10.0	B		P
—	Cyanide	145.9		N	C

Color Before:COLORLESS Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

FORM I - IN

000048

U.S. EPA - CLP

1

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

BOO-DK7

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

Lab Code:WESTON Case No:WEST SAS No.: SDG No.:CLP538

Matrix (soil/water):water Lab Sample ID:9102566010

Level (low/med): low Date Received: 02/15/91

% Solids:

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	124	U		P
7440-36-0	Antimony	21.0	U		P
7440-38-2	Arsenic	4.30	B		F
7440-39-3	Barium	28.2	B		P
7440-41-7	Beryllium	1.00	U		P
7440-43-9	Cadmium	4.00	U		P
7440-70-2	Calcium	82200			P
7440-47-3	Chromium	7.20	B		P
7440-48-4	Cobalt	5.00	U		P
7440-50-8	Copper	5.00	U		P
7439-89-6	Iron	127			P
7439-92-1	Lead	3.00	U	W	F
7439-95-4	Magnesium	24100			P
7439-96-5	Manganese	45.5			P
7439-97-6	Mercury	0.200	U		CV
7440-02-0	Nickel	10.7	B		P
7440-09-7	Potassium	7640			P
7782-49-2	Selenium	11.3		S	F
7440-22-4	Silver	5.00	U		P
7440-23-5	Sodium	32400			P
7440-28-0	Thallium	4.00	U	W	F
7440-62-2	Vanadium	65.4			P
7440-66-6	Zinc	9.90	B		P
	Cyanide				

Color Before:COLORLESS Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

FORM I - IN

U.S. EPA - CLP

1

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

BOO-DM2

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

Lab Code:WESTON Case No:WEST SAS No.: SDG No.:CLP538

Matrix (soil/water):water Lab Sample ID:9102599001

Level (low/med): low Date Received: 02/16/91

% Solids:

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	124	U		P
7440-36-0	Antimony	27.9	B		P
7440-38-2	Arsenic	5.90	B		F
7440-39-3	Barium	22.6	B		P
7440-41-7	Beryllium	1.00	U		P
7440-43-9	Cadmium	4.00	U		P
7440-70-2	Calcium	52400			P
7440-47-3	Chromium	85.2			P
7440-48-4	Cobalt	5.00	U		P
7440-50-8	Copper	6.90	B		P
7439-89-6	Iron	421			P
7439-92-1	Lead	3.00	U	W	F
7439-95-4	Magnesium	15500			P
7439-96-5	Manganese	9.20	B		P
7439-97-6	Mercury	0.200	U		CV
7440-02-0	Nickel	46.7			P
7440-09-7	Potassium	7330			P
7782-49-2	Selenium	7.10		S	F
7440-22-4	Silver	5.00	U		P
7440-23-5	Sodium	25500			P
7440-28-0	Thallium	4.00	U	W	F
7440-62-2	Vanadium	73.9			P
7440-66-6	Zinc	8.20	B		P
	Cyanide	10.0	U	N	C

Color Before:COLORLESS Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

FORM I - IN

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U.S. EPA - CLP

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INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

BOO-DM3

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

Lab Code:WESTON Case No:WEST SAS No.: SDG No.:CLP538

Matrix (soil/water):water Lab Sample ID:9102599002

Level (low/med): low Date Received: 02/16/91

% Solids:

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	124	U		P
7440-36-0	Antimony	21.0	U		P
7440-38-2	Arsenic	5.80	B		F
7440-39-3	Barium	24.9	B		P
7440-41-7	Beryllium	1.00	U		P
7440-43-9	Cadmium	4.00	U		P
7440-70-2	Calcium	55900			P
7440-47-3	Chromium	3.90	B		P
7440-48-4	Cobalt	5.00	U		P
7440-50-8	Copper	5.00	U		P
7439-89-6	Iron	55.0	U		P
7439-92-1	Lead	3.00	U	W	F
7439-95-4	Magnesium	16500			P
7439-96-5	Manganese	2.00	U		P
7439-97-6	Mercury	0.200	U		CV
7440-02-0	Nickel	8.00	U		P
7440-09-7	Potassium	7410			P
7782-49-2	Selenium	5.00		S	F
7440-22-4	Silver	5.00	U		P
7440-23-5	Sodium	26900			P
7440-28-0	Thallium	4.00	U	W	F
7440-62-2	Vanadium	76.3			P
7440-66-6	Zinc	8.50	B		P
	Cyanide				

Color Before:COLORLESS Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

FORM I - IN

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9613422.0443

WESTON

Roy F. Weston, INC.
Lionville Laboratory

CLIENT:WESTINGHOUSE HANFORD SAMPLES RECEIVED:2/13,2/15,2/16/91
RFW #:9102L538,9102L566,9102L599 METALS
W.O.#:6168-02-01

METALS NARRATIVE

The set of samples consisted of (12) water samples collected on 1/31/91, 2/12/91, 2/13/91 and 2/14/91.

The samples were analyzed according to criteria set forth in CLP SOW 7/87.

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

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

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

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

4. All preparation blank values were within control limits.

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

   Note: The USEPA has dropped control limits for antimony and silver due to documented difficulties in obtaining reliable results. WESTON Analytics has adopted the same policy.

6. CN spike recoveries were not within the 75-125% control limits; therefore, all corresponding samples were flagged with an "N" according to CLP protocol.

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

8. All other spike and duplicate analyses were done on another RFW# in a different batch. Please refer to 9102L658 in batch 91L0565.

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

10. Sample 91021538-001 was collected on 1/31/91 and received on 2/13/91; therefore, the hold time for cyanide was exceeded.

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4.24.91
Date