Custody Transfer Record/Lab Work Request

WESTON

WESTON Analytics Use Only
9111L269

WS-HANFORD

Client: Westinghouse Hanford Company
Work Order: 6168-02-01-0000
Date Rec'd.: 11-2-91 Date Due: 12-7-91
RFW Contact: Josie Kim
Client Contact/Phone: P.H. Butcher 509-376-5045

Refrigerator#	2	2	2	2	SUB	SUB	SUB	2	1
#/Type Container	3,P	3,P	1,G	1,P	3,P	1,P	1,G	3,P	3,G
Volume	1L	1L	500ml	1L	4L	1L	250ml	1L	40ml
Preservative	NaOH	HNO3	H2SO4	-	HNO3	HCl	--	HNO3	--
ANALYSES REQUESTED	CN 1	** See additional information ** 2	3	4	5	6	7	8	VOA 9

WA Use Only Lab ID	Client ID/Description	Matrix	Date Collected	ICNTO	MS/MSD +Bi,Si	IOCJ IN,N2	* Anions Below	ISUB	ISUB	ISUB	MS/MSD +Bi,Si	624H
001	~~B00~~ B019Q1	W	10/31/91	✓	✓	✓	✓	✓	✓	✓		
002	~~B00~~ B019Q2	W	"								✓	
003	~~B00~~ B01B29	W	"								✓	
	3 *) TOC, NO_2/NO_3											
	4 *) Anions, TDS, AlK, pH											
	5 *) Gross Alpha, Beta, TC-99, Sr-90, Cs-137, CO-60, Pu-238, Pu-239/240											
	6 *) Total Uranium											
	7 *) Tritium											
	8) CLP-Metal, Bi/Si (F)											
	1) CLP-CN											
	2) CLP - Metal, Bi/~~Se~~/Si (Un)											
	9) CLP-VOA											
	* ANION = ICCL, ICFL, ICNO2, ICNO3, IC SO4, IC PO4, ITDS, IALKL, IPh											

Revision #1 11/5/91
Radiochem subcon to teledyne

Bad info to follow.

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

Special Instructions: MS/MSD Required for Each Batch & Each Matrix
OC Del = CLP
TAT = 35 day
BOL # 2974253977
OPC # W92-0-0035
NOTE: (F) = Filtered, (UN) = Unfiltered

Item/Reason	Relinquished by	Received by	Date	Time	Item/Reason	Relinquished by	Received by	Date	Time
Shipping	Fedex	Brian Shelh	11/2/91	4:00pm					
Bad Deliver	11-5-91	Johnson	11-5-91	9:35	Sample is missing 11-5-91 JH.				
Missing			11/5	10:45					

WESTON Analytics Use Only

Samples Were:
1 Shipped or Hand-Delivered
NOTES:

2 Ambient or Chilled
NOTES:

3 Received Broken/Leaking (Improperly Sealed) Y N
NOTES:

4 Properly Preserved Y N
NOTES:

5 Received Within Holding Times Y N
NOTES Ph, Anions

COC Tape Was:
1 Present on Outer Package Y N
2 Unbroken on Outer Package Y N
3 Present on Sample Y N
4 Unbroken on Sample Y N
NOTES:

COC Record Was:
1 Present Upon Receipt of Samples Y N

Discrepancies Between Sample Labels and COC Record? Y N
NOTES:

FEB 1996

9111L269-WES-211

START 9613490100086

RFW 21-21-001/A-12/88

7-115

9613441.0907

DON'T SAY IT --- *Write It!*

DATE: January 26, 1993

TO: File 9110L143
9110L145
9110L205
9110L269
1 MC 9-1-95

FROM: S.D.L.A.

Telephone: 2-3206

cc:

SUBJECT:
VALIDATION DOCUMENTATION

Validation documentation for the above mentioned data package is filed with Data Package 9110L120.

9613441.0908

Report To

Westinghouse Hanford Company
Richland, Washington

Data Validation Report
200-BP-1 RI/FS
Data Packages: 9110L120, 9110L143, 9110L145, 9110L205, 9110L269 9/1/95
Matrix: Water
Analysis Type: Organics/Metals/Wet Chemistry

Prepared By

Golder Associates Inc.
Redmond, Washington

June 17, 1992

913-1719

Task # W91-001

2 of 2

Custody Transfer Record/Lab Work Request

WESTON

WESTON Analytics Use Only
91111L269

Client: Westinghouse Hanford Company

Work Order: See Page 1

Date Rec'd. / Date Due

RFW Contact

Client Contact/Phone: P. H. Butcher 509-376-5045

Refrigerator#									
#/Type Container	1,P	1,P	1,G	1,P	3,P	1,P	1,G	1,P	3,G
Volume	1L	1L	500ml	1L	4L	1L	250ml	1L	40ml
Preservative	NaOH	HNO3	H2SO4	-	HNO3	HCl	--	HNO3	--
ANALYSES REQUESTED	**See additional information**								
	1	2	3	4	5	6	7	8	9

WA Use Only Lab ID	Client ID/Description	Matrix	Date Collected	1	2	3	4	5	6	7	8	9
				See Page 1								
004	~~B00~~ B01B01	W	10/31/91	✓	✓	✓	✓	✓	✓	✓		
005	~~B00~~ B01B02	W	"								✓	
	~~B00~~	W										
	3 *1) TOC, NO_2/NO_3											
	4 1) Anions, TDS, AlK, pH											
	5 1) Gross Alpha, Beta, TC-99, Sr-90, Cs-137, CO-60, Pu-238, Pu-239/240											
	6 1) Total Uranium											
	7 1) Tritium											
	8) CLP-Metal Bi/Si (F)											
	1) CLP CN											
	2) CLP - Metal, Bi/Se/Si (Un)											

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

Special Instructions:

BOL # 2474253977 NOTE: (F) = Filtered

OPC # W92-0-0035 #17 (UN) = Unfiltered

Item/Reason	Relinquished by	Received by	Date	Time	Item/Reason	Relinquished by	Received by	Date	Time
Shipping	Kinney	Brian Neff	11/2/91	4:00pm					

WESTON Analytics Use Only

Samples Were:

1 Shipped or Hand-Delivered
NOTES:

2 Ambient or Chilled
NOTES:

3 Received Broken/Leaking (Improperly Sealed) Y N
NOTES:

4 Properly Preserved Y N
NOTES:

5 Received Within Holding Times Y N
NOTES:

COC Tape Was:
1 Present on Outer Package Y N
2 Unbroken on Outer Package Y N
3 Present on Sample Y N
4 Unbroken on Sample Y N
NOTES:

COC Record Was:
1 Present Upon Receipt of Samples Y N

Discrepancies Between Sample Labels and COC Record? Y N
NOTES:

9613441.0909 0000003

RFW 21-21-001/A-12/88

7-115

9613441.0910 0000004 RFW 9111L269

Westinghouse Hanford Company

CHAIN OF CUSTODY

Custody Form Initiator PH BUTCHER

Company Contact PH BUTCHER

Telephone (509)376-5045

Project Designation/Sampling Locations 200-BP-1

Collection Date 10-31-91

Ice Chest No. SML-38

Field Logbook No. WHC-N-4461

Bill of Lading/Airbill No. 2474253917

Offsite Property No. W92-0-0035 #17

Method of Shipment EMERY

Shipped to WESTON

Possible Sample Hazards/Remarks N/A

Sample Identification

B01B01

3X, 1L, P, WATER, CLP-CN

PHB 3X, 1L, P, WATER, CLP-METAL, Bi/~~Se~~/Si, HNO3 (UNFILTERED)
10/31/91

1, 1L, aG, WATER, TOC, NO2/NO3, H2SO4

1, 1L, P, WATER, ANIONS, TDS, ALK, pH

3, 4L, P, WATER, ALPHA, BETA, Tc-99, Sr-90, Cs-137, Co-60, Pu-238, Pu-239/240, HNO3

1, 1L, P, WATER, TOTAL URANIUM, HCl

1, 250ml, G, WATER, TRITIUM

B01B02

1, 1L, P, WATER, CLP-METAL, Bi/~~Se~~/Si, HNO3 (FILTERED)

PHB
10/31/91

[] Field Transfer of Custody

Chain of Possession (Sign and Print Names)

Relinquished by:	Received by:	Date/Time:
L.D. Walker L.D. Walker	PH Butcher PH Butcher	11/1/91 0635
PH Butcher PH Butcher	Emery	
Emery	Brian E Shaffer	11/2/91 4:00 pm

Final Sample Disposition

Disposal Method:	Disposed by:	Date/Time:

Comments:

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

9613441.0911 0000005 RFW 9111L269

Westinghouse Hanford Company

CHAIN OF CUSTODY

Custody Form Initiator PH BUTCHER

Company Contact PH BUTCHER

Telephone (509)376-5045

Project Designation/Sampling Locations 200-BP-1

Collection Date 10-31-91

Ice Chest No. SMH-82

Field Logbook No. WHC-N-4461

Bill of Lading/Airbill No. 24742539 7T

Offsite Property No. W92-0-0035 #1

Method of Shipment EMERY

Shipped to WESTON

Possible Sample Hazards/Remarks N/A

Sample Identification

B0 19Q1

3X, 1L, P, WATER, CLP-CN

PHB 10/31/91 3X, 1L, P, WATER, CLP-METAL, Bi/~~Se~~/Si, HNO3 (UNFILTERED)

1, 1L, aG, WATER, TOC, NO2/NO3, H2SO4

1, 1L, P, WATER, ANIONS, TDS, ALK, pH

3, 4L, P, WATER, ALPHA, BETA, Tc-99, Sr-90, Cs-137, Co-60, Pu-238, Pu-239/240, HNO3

1, 1L, P, WATER, TOTAL URANIUM, HCl

1, 250ml, G, WATER, TRITIUM

B0 19Q2

3X, 1L, P, WATER, CLP-METAL, Bi/~~Se~~/Si, HNO3 (FILTERED)

PHB 10/31/91

B0 1B29

3, 40 ml, G, Water, CLP-VOA

[] Field Transfer of Custody	Chain of Possession	(Sign and Print Names)
Relinquished by: L D Walker L. D. Walker	Received by: P H Butcher P H Butcher	Date/Time: 11/1/91 0635
Relinquished by: P H Butcher P H Butcher	Received by: Emery	Date/Time:
Relinquished by: Emery	Received by: Brian E Shaff	Date/Time: 11/2/91 4:00pm
Relinquished by:	Received by:	Date/Time:

Final Sample Disposition

Disposal Method:	Disposed by:	Date/Time:

Comments:

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

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

Report Date: 11/25/91 15:07

RFW Batch Number: 9111L269 Client: WESTINGHOUSE HANFORD Work Order: 6168-02-01-0000 Page: 1a

	Cust ID:	BO1B29		BO1B29		BO1B29		VBLK	
Sample Information	RFW#:	003		003 MS		003 MSD		91LVK198-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	
	Toluene-d8	104	%	107	%	101	%	104	%
Surrogate	Bromofluorobenzene	100	%	102	%	98	%	100	%
Recovery	1,2-Dichloroethane-d4	101	%	105	%	107	%	103	%
			fl		fl		fl		fl
Chloromethane		10	U	10	U	10	U	10	U
Bromomethane		10	U	10	U	10	U	10	U
Vinyl Chloride		10	U	10	U	10	U	10	U
Chloroethane		10	U	10	U	10	U	10	U
Methylene Chloride		11	B	12	B	12	B	2	J
Acetone		14	B	12	B	19	B	5	J
Carbon Disulfide		5	U	5	U	5	U	5	U
1,1-Dichloroethene		5	U	92	%	90	%	5	U
1,1-Dichloroethane		5	U	5	U	5	U	5	U
1,2-Dichloroethene (total)		5	U	5	U	5	U	5	U
Chloroform		5	U	5	U	5	U	5	U
1,2-Dichloroethane		5	U	5	U	5	U	5	U
2-Butanone		10	U	10	U	10	U	10	U
1,1,1-Trichloroethane		5	U	5	U	5	U	5	U
Carbon Tetrachloride		5	U	5	U	5	U	5	U
Vinyl Acetate		10	U	10	U	10	U	10	U
Bromodichloromethane		5	U	5	U	5	U	5	U
1,2-Dichloropropane		5	U	5	U	5	U	5	U
cis-1,3-Dichloropropene		5	U	5	U	5	U	5	U
Trichloroethene		5	U	108	%	111	%	5	U
Dibromochloromethane		5	U	5	U	5	U	5	U
1,1,2-Trichloroethane		5	U	5	U	5	U	5	U
Benzene		5	U	112	%	111	%	5	U
Trans-1,3-Dichloropropene		5	U	5	U	5	U	5	U
Bromoform		5	U	5	U	5	U	5	U
4-Methyl-2-pentanone		10	U	10	U	10	U	10	U
2-Hexanone		10	U	10	U	10	U	10	U
Tetrachloroethene		5	U	5	U	5	U	5	U
1,1,2,2-Tetrachloroethane		5	U	5	U	5	U	5	U

*= Outside of EPA CLP QC limits.

9613441.0912 0000007

Cust ID:	B01B29	B01B29	B01B29	VBLK
RFW#:	003	003 MS	003 MSD	91LVK198-MB1
Toluene	5 U	113 %	107 %	5 U
Chlorobenzene	5 U	112 %	110 %	5 U
Ethylbenzene	5 U	5 U	5 U	5 U
Styrene	5 U	5 U	5 U	5 U
Xylene (total)	5 U	5 U	5 U	5 U

*= Outside of EPA CLP QC limits.

9613441.0913 0000008

ROY F. WESTON, INC.
Lionville Laboratory

CLIENT: WESTINGHOUSE HANFORD **SAMPLES RECEIVED:** 11-02-91
RFW #: 9111L269, GC/MS VOLATILE
W.O. #: 6168-02-01

NARRATIVE

One (1) water sample was collected on 10-31-91.

The sample and its associated QC samples were analyzed according to criteria set forth in CLP SOW 02/88 (Rev. 05/89) for TCL Volatile target compounds on 11-06-91.

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

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

2. All 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 the CRQL.

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

12.09.91.

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

VOLATILE ORGANICS ANALYSIS SHEET

CLIENT SAMPLE NO.

BO1B29

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

Client: WESTINGHOUSE HANFORD

Matrix: WATER

Lab Sample ID: 9111L269-003

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

Lab File ID: AKB619

Level: (low/med) LOW

Date Received: 11/02/91

% Moisture: not dec. _____

Date Analyzed: 11/06/91

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	11	B
67-64-1	Acetone	14	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

CLIENT SAMPLE NO.

BO1B29

VOLATILE 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: 9111L269-003

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

Lab File ID: AKB619

Level: (low/med) LOW

Date Received: 11/02/91

% Moisture: not dec. _____

Date Analyzed: 11/06/91

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.				

9613441.0917 0000001

DEC 1991
RECEIVED
OSM DMO

WESTON

ROY F. WESTON, INC.
Lionville Laboratory

CLIENT: WESTINGHOUSE HANFORD **SAMPLES RECEIVED:** 11-02-91
RFW #: 9111L269
W.O. #: 6168-02-01-0000

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 nitrate by IC and nitrite by IC which were analyzed past hold and pH which was received past hold.

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

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

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

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

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

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

[signature] 12.06.91

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

ncc.21\i11-269

ROY F. WESTON INC.

INORGANICS DATA SUMMARY REPORT 12/04/91

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

WESTON BATCH #: 9111L269

SAMPLE	SITE ID	ANALYTE	RESULT	UNITS	REPORTING LIMIT
-001	BO19Q1	Alkalinity	94.0	MG/L	2.0
		Chloride by IC	9.5	MG/L	0.25
		Fluoride by IC	0.50 u	MG/L	0.50
		Nitrite by IC	0.25 u	MG/L	0.25
		Nitrate by IC	55.3	MG/L	2.5
		Cyanide, Total	41.5	UG/L	25.0
		Phosphate by IC	0.25 u	MG/L	0.25
		Sulfate by IC	18.5	MG/L	0.25
		Nitrate Nitrite	0.51	MG-N/L	0.10
		Total Organic Carbon	1.0	MG/L	0.50
		pH	8.0	PH UNITS	0.010
		Total Dissolved Solids	265	MG/L	5.0
-004	BO1B01	Alkalinity	4.0	MG/L	2.0
		Chloride by IC	0.10 u	MG/L	0.10
		Fluoride by IC	0.20 u	MG/L	0.20
		Nitrite by IC	0.10 u	MG/L	0.10
		Nitrate by IC	0.10 u	MG/L	0.10
		Cyanide, Total	10.0 u	UG/L	10.0
		Phosphate by IC	0.10 u	MG/L	0.10
		Sulfate by IC	0.10 u	MG/L	0.10
		Nitrate Nitrite	0.10 u	MG-N/L	0.10
		Total Organic Carbon	0.50 u	MG/L	0.50
		pH	8.6	PH UNITS	0.010
		Total Dissolved Solids	5.0 u	MG/L	5.0

Roy F. Weston, INC.
Lionville Laboratory

CLIENT: WESTINGHOUSE HANFORD **SAMPLES RECEIVED:** 11/02/91
RFW #: 9111L269
W.O. #: 6168-02-01

METALS NARRATIVE

The set of samples consisted of four (4) water samples collected on 10/31/91.

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 with the exception of Pb and Se. All corresponding samples were flagged with an "N" according to CLP protocol.

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

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

WESTON

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

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

12.19.91
Date

mlj\ clp-met.nar

ROY F. WESTON INC.

INORGANICS DATA SUMMARY REPORT 12/17/91

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

WESTON BATCH #: 9111L269

SAMPLE	SITE ID	ANALYTE	RESULT		UNITS	REPORTING LIMIT
-001	BO19Q1	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	150	u	UG/L	150
		Calcium, Total	29500		UG/L	5000
		Cadmium, Total	5.0	u	UG/L	5.0
		Cobalt, Total	50.0	u	UG/L	50.0
		Chromium, Total	10.0	u	UG/L	10.0
		Copper, Total	25.0	u	UG/L	25.0
		Iron, Total	201		UG/L	100
		Mercury, Total	0.20	u	UG/L	0.20
		Potassium, Total	8170		UG/L	5000
		Magnesium, Total	8250		UG/L	5000
		Manganese, Total	15.0	u	UG/L	15.0
		Sodium, Total	27600		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
		Silicon, Total	27200		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 12/17/91

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

WESTON BATCH #: 9111L269

SAMPLE	SITE ID	ANALYTE	RESULT		UNITS	REPORTING LIMIT
-002	BO19Q2	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	150	u	UG/L	150
		Calcium, Soluble	30000		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	8770		UG/L	5000
		Magnesium, Soluble	8390		UG/L	5000
		Manganese, Soluble	15.0	u	UG/L	15.0
		Sodium, Soluble	28200		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
		Silicon, Soluble	27900		UG/L	100
		Thallium, Soluble	10.0	u	UG/L	10.0
		Vanadium, Soluble	50.0	u	UG/L	50.0
		Zinc, Soluble	22.0		UG/L	20.0

ROY F. WESTON INC.

INORGANICS DATA SUMMARY REPORT 12/17/91

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

WESTON BATCH #: 9111L269

SAMPLE	SITE ID	ANALYTE	RESULT		UNITS	REPORTING LIMIT
-004	B01B01	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	150	u	UG/L	150
		Calcium, Total	5000	u	UG/L	5000
		Cadmium, Total	5.0	u	UG/L	5.0
		Cobalt, Total	50.0	u	UG/L	50.0
		Chromium, Total	10.0	u	UG/L	10.0
		Copper, Total	25.0	u	UG/L	25.0
		Iron, Total	100	u	UG/L	100
		Mercury, Total	0.20	u	UG/L	0.20
		Potassium, Total	5000	u	UG/L	5000
		Magnesium, Total	5000	u	UG/L	5000
		Manganese, Total	15.0	u	UG/L	15.0
		Sodium, Total	5000	u	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
		Silicon, Total	100	u	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 12/17/91

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

WESTON BATCH #: 9111L269

SAMPLE	SITE ID	ANALYTE	RESULT		UNITS	REPORTING LIMIT
-005	B01B02	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	150	u	UG/L	150
		Calcium, Soluble	5000	u	UG/L	5000
		Cadmium, Soluble	5.0	u	UG/L	5.0
		Cobalt, Soluble	50.0	u	UG/L	50.0
		Chromium, Soluble	10.0	u	UG/L	10.0
		Copper, Soluble	25.0	u	UG/L	25.0
		Iron, Soluble	100	u	UG/L	100
		Mercury, Soluble	0.20	u	UG/L	0.20
		Potassium, Soluble	5000	u	UG/L	5000
		Magnesium, Soluble	5000	u	UG/L	5000
		Manganese, Soluble	15.0	u	UG/L	15.0
		Sodium, Soluble	5000	u	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
		Silicon, Soluble	100	u	UG/L	100
		Thallium, Soluble	10.0	u	UG/L	10.0
		Vanadium, Soluble	50.0	u	UG/L	50.0
		Zinc, Soluble	20.0	u	UG/L	20.0

U.S. EPA - CLP

EPA SAMPLE NO.

1

INORGANIC ANALYSIS DATA SHEET

B019Q1

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

Lab Code: WESTON Case No.: WEST SAS No.: SDG No.: CLP269

Matrix (soil/water): WATER Lab Sample ID: 911126901

Level (low/med): LOW Date Received: 11/02/91

% 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	91.00	U		P
7440-36-0	Antimony	20.00	U		P
7440-38-2	Arsenic	2.00	U		F
7440-39-3	Barium	86.00	B		P
7440-41-7	Beryllium	1.00	U		P
7440-43-9	Cadmium	3.00	U		P
7440-70-2	Calcium	29500.00			P
7440-47-3	Chromium	6.00	U		P
7440-48-4	Cobalt	10.00	U		P
7440-50-8	Copper	10.00	U		P
7439-89-6	Iron	201.00			P
7439-92-1	Lead	2.00	U	NW	F
7439-95-4	Magnesium	8250.00			P
7439-96-5	Manganese	2.00	U		P
7439-97-6	Mercury	.10	U		CV
7440-02-0	Nickel	26.60	B		P
7440-09-7	Potassium	8170.00			P
7782-49-2	Selenium	3.00	B	NW	F
7440-22-4	Silver	10.00	U		P
7440-23-5	Sodium	27600.00			P
7440-28-0	Thallium	2.00	U		F
7440-62-2	Vanadium	12.80	B		P
7440-66-6	Zinc	15.60	B		P
	Cyanide	41.50	U		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.

B019Q2

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

Lab Code: WESTON Case No.: WEST SAS No.: SDG No.: CLP269

Matrix (soil/water): WATER Lab Sample ID: 911126902

Level (low/med): LOW Date Received: 11/02/91

% 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	91.00	U		P
7440-36-0	Antimony	20.00	U		P
7440-38-2	Arsenic	2.00	U		F
7440-39-3	Barium	87.50	B		P
7440-41-7	Beryllium	1.00	U		P
7440-43-9	Cadmium	3.00	U		P
7440-70-2	Calcium	30000.00			P
7440-47-3	Chromium	6.00	U		P
7440-48-4	Cobalt	10.00	U		P
7440-50-8	Copper	10.00	U		P
7439-89-6	Iron	52.70	B		P
7439-92-1	Lead	2.00	U	NW	F
7439-95-4	Magnesium	8390.00			P
7439-96-5	Manganese	2.00	U		P
7439-97-6	Mercury	.10	U		CV
7440-02-0	Nickel	11.00	U		P
7440-09-7	Potassium	8770.00			P
7782-49-2	Selenium	2.00	U	NW	F
7440-22-4	Silver	10.00	U		P
7440-23-5	Sodium	28200.00			P
7440-28-0	Thallium	2.00	U		F
7440-62-2	Vanadium	10.40	B		P
7440-66-6	Zinc	22.00			P
	Cyanide				NR

Color Before: COLORLESS Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

U.S. EPA - CLP

EPA SAMPLE NO.

1

INORGANIC ANALYSIS DATA SHEET

B01B01

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

Lab Code: WESTON Case No.: WEST SAS No.: SDG No.: CLP269

Matrix (soil/water): WATER Lab Sample ID: 911126904

Level (low/med): LOW Date Received: 11/02/91

% 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	91.00	U		P
7440-36-0	Antimony	20.00	U		P
7440-38-2	Arsenic	2.00	U		F
7440-39-3	Barium	16.00	U		P
7440-41-7	Beryllium	1.00	U		P
7440-43-9	Cadmium	3.00	U		P
7440-70-2	Calcium	63.00	U		P
7440-47-3	Chromium	6.00	U		P
7440-48-4	Cobalt	10.00	U		P
7440-50-8	Copper	10.00	U		P
7439-89-6	Iron	46.00	U		P
7439-92-1	Lead	2.00	U	N	F
7439-95-4	Magnesium	87.00	U		P
7439-96-5	Manganese	2.00	U		P
7439-97-6	Mercury	.10	U		CV
7440-02-0	Nickel	11.00	U		P
7440-09-7	Potassium	862.00	U		P
7782-49-2	Selenium	2.00	U	NW	F
7440-22-4	Silver	10.00	U		P
7440-23-5	Sodium	110.00	U		P
7440-28-0	Thallium	2.00	U		F
7440-62-2	Vanadium	8.00	U		P
7440-66-6	Zinc	6.00	U		P
	Cyanide	10.00	U		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.

B01B02

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

Lab Code: WESTON Case No.: WEST SAS No.: SDG No.: CLP269

Matrix (soil/water): WATER Lab Sample ID: 911126905

Level (low/med): LOW Date Received: 11/02/91

% 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	91.00	U		P
7440-36-0	Antimony	20.00	U		P
7440-38-2	Arsenic	2.00	U		F
7440-39-3	Barium	16.00	U		P
7440-41-7	Beryllium	1.00	U		P
7440-43-9	Cadmium	3.00	U		P
7440-70-2	Calcium	63.00	U		P
7440-47-3	Chromium	6.00	U		P
7440-48-4	Cobalt	10.00	U		P
7440-50-8	Copper	10.00	U		P
7439-89-6	Iron	46.00	U		P
7439-92-1	Lead	2.00	U	N	F
7439-95-4	Magnesium	87.00	U		P
7439-96-5	Manganese	2.00	U		P
7439-97-6	Mercury	.10	U		CV
7440-02-0	Nickel	11.00	U		P
7440-09-7	Potassium	862.00	U		P
7782-49-2	Selenium	2.00	U	NW	F
7440-22-4	Silver	10.00	U		P
7440-23-5	Sodium	110.00	U		P
7440-28-0	Thallium	2.00	U		F
7440-62-2	Vanadium	8.00	U		P
7440-66-6	Zinc	6.00	U		P
	Cyanide				NR

Color Before: COLORLESS Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments: