WESTON TASK # W91-0001

Custody Transfer Record/Lab Work Request

WESTON

WESTON Analytics Use Only
9105L711

WOS-HANFORD

Client: Westinghouse Hanford/Geosciences
Work Order: 61168-02-01
Date Rec'd.: 5/24/91 Date Due: 6/28/91
RFW Contact: Peg Beaty
Client Contact/Phone: B. H. Ford (509)376-6465

Refrigerator #			2	2	2	2	4	→	→	2	1
#/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	ICLTO	MASS ABIC MISC	ICCL FLN02	See Below	I-308	I-308	I-308	MASS ABIC MISC	0624P
001	B00XM0	W	22 May 91	✓	✓	✓	✓	✓	✓	✓		
2	B00XM1	L	22 May 91								✓	
3	B00XM3		22 May 91									✓
	** Additional Information **											
	1. CLP-CN											
	2. CLP-Metal. Bi/Se/Si (unfiltered)											
	3. TOC. NO_2/NO_3											
	4. ~~Anions~~, TDS, ALK, pH, ICCL, ICFL, ICN02, ICN03, IC504, ICP04											
	5. Gross Alpha, Beta, TC-99, Sr-90, Cs-137, Co-60, Pu-239/240											
	6. Total Uranium							QC Lvl = CLP				
	7. Tritium							TAT = 35 day				
	8. CLP-Metal. Bi/Se/Si (filtered)											
	9. CLP-VOA											

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:

Item/Reason	Relinquished by	Received by	Date	Time	Item/Reason	Relinquished by	Received by	Date	Time
Emery	[illegible]	[illegible]							
	Emery	[illegible]	5/24/91	[illegible]					

WESTON Analytics Use Only

Samples Were: Shipped or Hand-Delivered
NOTES:

2 Ambient or Chilled (Y)
NOTES:

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

4 Properly Preserved (Y) N
NOTES:

5 Received Within Holding Times Y (N)
NOTES: ICN02, ICN03, ICP04, IPH out

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 RECEIVED

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

BOL # 247424935 T
OPC # W91-0334 #13

7-115

9105L711-WES-080 A4

0000001A

0043160

START

WESTON TASK # W91-0001

Custody Transfer Record/Lab Work Request

WESTON

WESTON Analytics Use Only
91052711

Client: Westinghouse Hanford/Geosciences
Work Order: 6168-02-01
Date Rec'd.: 5/24/91 Date Due: 6/28/91
RFW Contact: Peg Beaty
Client Contact/Phone: B. H. Ford (509) 376-6465

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			1	2	3	4	5	6	7	8	9
WA Use Only Lab ID	Client ID/Description	Matrix	Date Collected	** See Additional Information **							
004	B00 XQ6	W	22 May 91	✓	✓	✓	✓	✓	✓	✓	
5	B00 XQ7	I	22 May 91							✓	
	B00										
	** Additional Information **										
	1. CLP-CN										
	2. CLP-Metal,Bi/Se/Si (unfiltered)										
	3. TOC, NO_2/NO_3										
	4. Anions, TDS, ALK, pH										
	5. Gross Alpha, Beta, TC-99,Sr-90,Cs-137,Co-60			Pu-238m,Pu-239/240							
	6. Total Uranium										
	7. Tritium										
	8. CLP-Metal,Bi/Se/Si (filtered)										
	9. CLP-VOA										

See pg 1

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:

Item/Reason	Relinquished by	Received by	Date	Time	Item/Reason	Relinquished by	Received by	Date	Time
	Emmerel	P Hugh	5/24/91	3:30pm					

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:

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

BOL # 247424935T
OPC # W91-0334 #12

7-115

0000002

WESTON TASK # W91-0001

Custody Transfer Record/Lab Work Request

WESTON

WESTON Analytics Use Only
91051711

Client: Westinghouse Hanford/Geosciences
Work Order: 61168-02-01
Date Rec'd. _____ Date Due _____
RFW Contact: Peg Beaty
Client Contact/Phone: B. H. Ford (509)376-6465

			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			See pg 1						
006	B00XL7	W	22May91	✓	✓	✓	✓	✓	✓	✓		
7	B00XL8	X	22May91								✓	
8	B00Y04		22May91									✓
	** Additional Information **											
	1. CLP-CN											
	2. CLP-Metal, Bi/Se/Si (unfiltered)											
	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/Se/Si (filtered)											
	9. CLP-VOA											

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:

Item/Reason	Relinquished by	Received by	Date	Time	Item/Reason	Relinquished by	Received by	Date	Time
	Emory	[illegible]	5/24/91	3:30 pm					

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:

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

BOL # 247424935T
OPC # W91-0334 #12

7-115

0000003

WESTON TASK # W91-0001

Custody Transfer Record/Lab Work Request

WESTON

WESTON Analytics Use Only
9105L711

Client: Westinghouse Hanford/Geosciences
Work Order: 6168-02-01
Date Rec'd. 5/24/91 Date Due 6/28/91
RFW Contact: Peg Beaty
Client Contact/Phone: B. H. Ford (509) 376-6465

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 →			1	** 2	See 3	Additional 4	Information 5	6	7	8	** 9
WA Use Only Lab ID	Client ID/Description	Matrix	Date Collected								
009	B00 X M6	W	22 May 91	✓	✓	✓	✓	✓	✓	✓	
010	B00 X M7	W	22 May 91							✓	
	B00										
	** Additional Information **										
	1. CLP-CN										
	2. CLP-Metal, Bi/Se/Si (unfiltered)										
	3. TOC, NO2/NO3										
	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/Se/Si (filtered)										
	9. CLP-VOA										

See Add'l Info #1

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:

Item/Reason	Relinquished by	Received by	Date	Time	Item/Reason	Relinquished by	Received by	Date	Time
	Emerson	P Kleger	5/24/91	330					

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:

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

BOL # 247424935T
OPC # W91-0334 #13

7-115

0000004

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

RFW Batch Number: 9105L711 Client: WESTINGHOUSE HANFORD Work Order: 6168-02-01-0000 Report Date: 06/03/91 12:32 Page: 1a

	Cust ID:	BOOXM3	BOOXM3	BOOXM3	BOOY04	VBLK	VBLK
Sample Information	RFW#:	003	003 MS	003 MSD	008	91LVK094-MB1	91LVK095-MB1
	Matrix:	WATER	WATER	WATER	WATER	WATER	WATER
	D.F.:	1.00	1.00	1.00	1.00	1.00	1.00
	Units:	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Surrogate Recovery	Toluene-d8	106 %	88 %	100 %	99 %	97 %	100 %
	Bromofluorobenzene	98 %	87 %	98 %	92 %	93 %	97 %
	1,2-Dichloroethane-d4	107 %	89 %	104 %	103 %	98 %	99 %
Chloromethane		10 U	10 U	10 U	10 U	10 U	10 U
Bromomethane		10 U	10 U	10 U	10 U	10 U	10 U
Vinyl Chloride		10 U	10 U	10 U	10 U	10 U	10 U
Chloroethane		10 U	10 U	10 U	10 U	10 U	10 U
Methylene Chloride		2 JB	8 B	11 B	3 JB	6	6
Acetone		4 JB	3 JB	6 JB	8 JB	6 J	7 J
Carbon Disulfide		5 U	5 U	5 U	5 U	5 U	5 U
1,1-Dichloroethene		5 U	91 %	92 %	5 U	5 U	5 U
1,1-Dichloroethane		5 U	5 U	5 U	5 U	5 U	5 U
1,2-Dichloroethene (total)		5 U	5 U	5 U	5 U	5 U	5 U
Chloroform		5 U	5 U	5 U	5 U	5 U	5 U
1,2-Dichloroethane		5 U	5 U	5 U	5 U	5 U	5 U
2-Butanone		10 U	10 U	10 U	10 U	10 U	10 U
1,1,1-Trichloroethane		5 U	5 U	5 U	5 U	5 U	5 U
Carbon Tetrachloride		5 U	5 U	5 U	5 U	5 U	5 U
Vinyl Acetate		10 U	10 U	10 U	10 U	10 U	10 U
Bromodichloromethane		5 U	5 U	5 U	5 U	5 U	5 U
1,2-Dichloropropane		5 U	5 U	5 U	5 U	5 U	5 U
cis-1,3-Dichloropropene		5 U	5 U	5 U	5 U	5 U	5 U
Trichloroethene		5 U	101 %	108 %	5 U	5 U	5 U
Dibromochloromethane		5 U	5 U	5 U	5 U	5 U	5 U
1,1,2-Trichloroethane		5 U	5 U	5 U	5 U	5 U	5 U
Benzene		5 U	99 %	109 %	5 U	5 U	5 U
Trans-1,3-Dichloropropene		5 U	5 U	5 U	5 U	5 U	5 U
Bromoform		5 U	5 U	5 U	5 U	5 U	5 U
4-Methyl-2-pentanone		10 U	10 U	10 U	10 U	10 U	10 U
2-Hexanone		10 U	10 U	10 U	10 U	10 U	10 U
Tetrachloroethene		5 U	5 U	5 U	5 U	5 U	5 U
1,1,2,2-Tetrachloroethane		5 U	5 U	5 U	5 U	5 U	5 U

*= Outside of EPA CLP QC limits.

9613404.0253

Cust ID:	BOOXM3	BOOXM3	BOOXM3	BOOY04	VBLK	VBLK
RFW#:	003	003 MS	003 MSD	008	91LVK094-MB1	91LVK095-MB1
Toluene	5 U	102 %	107 %	5 U	5 U	5 U
Chlorobenzene	5 U	103 %	111 %	5 U	5 U	5 U
Ethylbenzene	5 U	5 U	5 U	5 U	5 U	5 U
Styrene	5 U	5 U	5 U	5 U	5 U	5 U
Xylene (total)	5 U	5 U	5 U	5 U	5 U	5 U

*= Outside of EPA CLP QC limits.

9413014.1254

9613404.0255

ROY F. WESTON, INC.
Lionville Laboratory

CLIENT: WESTINGHOUSE - HANFORD **SAMPLES RECEIVED:** 05-24-91
RFW #: 9105L711, GC/MS VOLATILE
W.O. #: 6168-02-01

NARRATIVE

The set of samples consisted of two (2) water samples collected on 05-22-91.

The samples were analyzed according to criteria set forth in SW 846 Method 8240 for TCL Volatile target compounds on 05-29,30-91.

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 blanks contained the common contaminants methylene chloride and acetone at levels less than 2x the CRQL.

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

6.28.91.

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

1A

VOLATILE ORGANICS ANALYSIS SHEET

0 0 0 0 0 2 8

CLIENT SAMPLE NO.

BOOXM3

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

Client: WESTINGHOUSE HANFORD

Matrix: WATER

Lab Sample ID: 9105L711-003

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

Lab File ID: AK5T14

Level: (low/med) LOW

Date Received: 05/24/91

% Moisture: not dec. _____

Date Analyzed: 05/29/91

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	2	JB
67-64-1	Acetone	4	JB
75-15-0	Carbon Disulfide	5	U
75-35-4	1,1-Dichloroethene	5	U
75-34-3	1,1-Dichloroethane	5	U
540-59-0	1,2-Dichloroethene (total)	5	U
67-66-3	Chloroform	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

1E

000002

VOLATILE ORGANICS ANALYSIS SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

BOOXM3

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

Client: WESTINGHOUSE HANFORD

Matrix: WATER

Lab Sample ID: 9105L711-003

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

Lab File ID: AK5T14

Level: (low/med) LOW

Date Received: 05/24/91

% Moisture: not dec. _____

Date Analyzed: 05/29/91

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.				

1A

VOLATILE ORGANICS ANALYSIS SHEET

0 0 0 0 0 2 7

CLIENT SAMPLE NO.

BOOY04

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

Client: WESTINGHOUSE HANFORD

Matrix: WATER

Lab Sample ID: 9105L711-008

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

Lab File ID: AK5T15

Level: (low/med) LOW

Date Received: 05/24/91

% Moisture: not dec. _____

Date Analyzed: 05/29/91

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	8	JB
75-15-0	Carbon Disulfide	5	U
75-35-4	1,1-Dichloroethene	5	U
75-34-3	1,1-Dichloroethane	5	U
540-59-0	1,2-Dichloroethene (total)	5	U
67-66-3	Chloroform	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

1E

0 0 0 0 0 2 8

VOLATILE ORGANICS ANALYSIS SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

BOOY04

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

Client: WESTINGHOUSE HANFORD

Matrix: WATER

Lab Sample ID: 9105L711-008

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

Lab File ID: AK5T15

Level: (low/med) LOW

Date Received: 05/24/91

% Moisture: not dec. _____

Date Analyzed: 05/29/91

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.				

9613404.0260

ROY F. WESTON, INC.
Lionville Laboratory

CLIENT: WESTINGHOUSE HANFORD **SAMPLES RECEIVED:** 05-24-91
RFW #: 9105L711
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 pH, nitrite, nitrate and phosphate.

2. All preparation blanks were analyzed 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 in the Inorganics Accuracy Report contained within this document. Recoveries for nitrate nitrite were outside the 75-125% guidance limit. 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).

6.27.91.

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

AUG 1991 RECEIVED DATA RECEIPT

i MLC 4/14/95

9613404.0261

ROY F. WESTON INC.

INORGANICS DATA SUMMARY REPORT 06/21/91

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

WESTON BATCH #: 9105L711

SAMPLE	SITE ID	ANALYTE	RESULT	UNITS	REPORTING LIMIT
-001	BOOXMO	Alkalinity	96.0	MG/L	2.0
		Chloride by IC	11.9	mg/L	0.25
		Fluoride by IC	1.0	mg/L	0.50
		Nitrite by IC	0.25 u	mg/L	0.25
		Nitrate by IC	10.3	mg/L	0.25
		Cyanide, Total	10.0 u	UG/L	10.0
		Phosphate by IC	0.25 u	mg/L	0.25
		Sulfate by IC	88.7	mg/L	2.5
		Nitrate Nitrite	2.8	MG/L	0.20
		Total Organic Carbon	0.53	MG/L	0.50
		pH	8.5	PH UNITS	0.010
		Total Dissolved Solids	304	MG/L	5.0
-004	BOOXQ6	Alkalinity	94.0	MG/L	2.0
		Chloride by IC	13.1	mg/L	0.25
		Fluoride by IC	0.94	mg/L	0.50
		Nitrite by IC	0.25 u	mg/L	0.25
		Nitrate by IC	8.5	mg/L	0.25
		Cyanide, Total	16.7 u	UG/L	16.7
		Phosphate by IC	0.25 u	mg/L	0.25
		Sulfate by IC	85.6	mg/L	2.5
		Nitrate Nitrite	1.8	MG/L	0.10
		Total Organic Carbon	0.94	MG/L	0.50
		pH	8.1	PH UNITS	0.010
		Total Dissolved Solids	300	MG/L	5.0
-006	BOOXL7	Alkalinity	94.0	MG/L	2.0
		Chloride by IC	12.9	mg/L	0.25
		Fluoride by IC	0.91	mg/L	0.50
		Nitrite by IC	0.25 u	mg/L	0.25
		Nitrate by IC	8.5	mg/L	0.25
		Cyanide, Total	10.0 u	UG/L	10.0
		Phosphate by IC	0.25 u	mg/L	0.25
		Sulfate by IC	86.0	mg/L	2.5
		Nitrate Nitrite	1.9	MG/L	0.10
		Total Organic Carbon	0.64	MG/L	0.50
		pH	8.0	PH UNITS	0.010
		Total Dissolved Solids	308	MG/L	5.0
-009	BOOXM6	Alkalinity	104	MG/L	2.0

9613404.0262

ROY F. WESTON INC.

INORGANICS DATA SUMMARY REPORT 06/21/91

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

WESTON BATCH #: 9105L711

SAMPLE	SITE ID	ANALYTE	RESULT	UNITS	REPORTING LIMIT
-009	BOOXM6	Chloride by IC	23.5	mg/L	2.5
		Fluoride by IC	0.88	mg/L	0.50
		Nitrite by IC	0.25 u	mg/L	0.25
		Nitrate by IC	13.3	mg/L	0.25
		Cyanide, Total	10.0 u	UG/L	10.0
		Phosphate by IC	0.25 u	mg/L	0.25
		Sulfate by IC	103	mg/L	2.5
		Nitrate Nitrite	4.2	MG/L	1.0
		Total Organic Carbon	0.64	MG/L	0.50
		pH	7.8	PH UNITS	0.010
		Total Dissolved Solids	407	MG/L	5.0

9613404.0263

RADIOACTIVE SAMPLE EVALUATION

1 712 713

I. Sample Custodian: L. PIPER **RFW Batch #** _____ **DATE:** 5-27-91

Package received from:

Client: WESTINGHOUSE Location: HANFORD, WA

Mode of Transport: __ UPS __ Fed EX X Other EVERY WORLDWIDE

DOT labels: __ Radioactive White I __ Radioactive Yellow II __ Radioactive Yellow III __ Other _____

Transport Index: N/A Security Seal: X Yes __ No

II. Package Survey:

Gamma instrument make, model, serial #: LUDLUM MODEL 1944415 (Calibration Exp. 5-24-91)
Calibration date: 8-28-90

Source response check: Th-228
Source type and ID #: 8644-2 Response 130 microR/hr

Package Survey: (microR/hr) max. reading: 4 Background: 3

III. Sample Container Measurements:

Alpha instrument make, model, serial #: LUDLUM MODEL 43-5 ~~58699~~ 58662 5-27-91
Calibration Date: ~~6-11-90~~ 11-2-90 Efficiency factor: 8.69 dpm/cpm

Source Response Check: Th-230
Source type and ID #: Sn-12059 Response: 2600 cpm

Gamma instrument make, model, serial #: LUDLUM MODEL 1958099
Calibration Date: 6-11-90 Gamma Background = ~~800~~ 4 microR/hr

Source Response Check:
Source type and ID#: Ba133 6018500 Response: 800 microR/hr

Sample ID	Form (liq or sol)	RFW ID Batch	Gamma microR/hr	Alpha cpm	Alpha eff. fact	Alpha dpm	nCi/g	Mass (g)	nCi
B00XM6	LIQ		4	0			0.0007		
L7			4				0		
M0			4				0		
Q6			4				0.0010		
B00 B3	SOL		4				0.0272		
84			4				0.0434		
93			4				0.0433		
91			5				0.0102		
92			4				0.0234		
89			4				0.0408		
90			4				0.0096		

RFW 21-21-013/A-28/91

NOT RADIOACTIVE CSP 5-27-91 13:23

9613404.0264

RADIOACTIVE SAMPLE EVALUATION

712
713

I. Sample Custodian: C. Piper **RFW Batch #** _____ **DATE:** 5-27-91

Package received from:

Client: WESTINGHOUSE Location: HANFORD, WA

Mode of Transport: __ UPS __ Fed EX X Other Emert Worldwide

DOT labels: __ Radioactive White I __ Radioactive Yellow II
__ Radioactive Yellow III __ Other _____

Transport Index: N/A Security Seal: X Yes __ No

II. Package Survey:

Gamma instrument make, model, serial #: LUDLUM MODEL 19 44415
(screened under 5-24-91)
Calibration date: 8-28-90

Source response check: Th-228
Source type and ID #: 8644-2 Response 130 microR/hr

Package Survey: (microR/hr) max. reading: 4 Background: 3

III. Sample Container Measurements:

Alpha instrument make, model, serial #: LUDLUM MODEL 43-558660
Calibration Date: 11-2-90 Efficiency factor: 8.69 dpm/cpm

Source Response Check: Th-230
Source type and ID #: Sn-12059 Response: 2600 cpm

Gamma instrument make, model, serial #: LUDLUM MODEL 1958099
Calibration Date: 6-11-90 Gamma Background = 4 microR/hr

Source Response Check:
Source type and ID#: Ba-133 6018500 Response: 800 microR/hr

Sample ID	Form (liq or sol)	RFW ID Batch	Gamma microR/hr	Alpha cpm	Alpha eff. fact	Alpha dpm	nCi/g	Mass (g)	nCi
BOOY 94	SOL		4	0			0.0312		
95			4	0			0.0278		
96			4	0			0.0278		
87			4	0			0.0258		
88			4	0			0.0128		
86			4	0			0.0164		
85			4	0			0.0032		
80			4	0			0.0161		
81			4	0			0.0384		

RFW 21-21-013/A-05/91

NOT RADIOACTIVE CSP 5-27-91 13:23

9613404.0265

VALIDATION SUMMARY

9613404.0266

9105L711-WES-080 44 2

Westinghouse Hanford Company

OSM RCRA LEVEL C DATA ASSESSMENT

DATE 9.30.91

REVIEWED BY LK THOMPSON

LABORATORY WESTON

CASE # ——

SDG # RFW # 9105L711

SAMPLES/MATRIX B00XL7 - WATER
B00XM0 - WATER
B00XM6 - WATER
B00XQC - WATER

LB

DATA ASSESSMENT SUMMARY

QUALITY CONTROL CHECK	ANALYSIS	ALKALINITY	ICANIONS	CYANIDE
1. HOLDING TIME		O	X	O
2. BLANK		O	O	O
3. MATRIX SPIKE		O	O	O
4. DUPLICATES		NE	NE	O
5.				
6.				
7.				
8.				
9.				
10.				

O = data had no problems
X = data qualified due to minor problems
M = data qualified due to major problems/some data may be unusable
NE: NOT EVALUATED

OVERALL ASSESSSMENT: NO MAJOR PROBLEM WITH CASE. ALL DATA USEABLE WITH ATTACHED QUALIFIER FLAGS.

NOTES:

o Refer to the corresponding attachments for explanation of any problems.

ok to transmit
JJ 12/21/91

9613404.0267

Westinghouse Hanford Company

OSM RCRA LEVEL C DATA ASSESSMENT

DATE 9.30.91

REVIEWED BY LK THOMPSON

LABORATORY WESTON

CASE # —

SDG # RFW #9105L711

SAMPLES/MATRIX B00XL7 - WATER
B00XM0 - WATER
B00XM6 - WATER
B00XQ6 - WATER

DATA ASSESSMENT SUMMARY

QUALITY CONTROL CHECK	ANALYSIS	NO_2/NO_3	TOC	TDS
1. HOLDING TIME		O	O	NE
2. BLANK		O	O	O
3. MATRIX SPIKE		O	O	NE
4. DUPLICATES		O	O	O
5.				
6.				
7.				
8.				
9.				
10.				

O = data had no problems
X = data qualified due to minor problems
M = data qualified due to major problems/some data may be unusable
NE: NOT EVALUATED

OVERALL ASSESSSMENT: See Cover

NOTES:

o Refer to the corresponding attachments for explanation of any problems.

9613404.0268

RCRA LEVEL C QC

Name LK THOMPSON Date 9.30.91

QC Check: HOLDING TIME

COMMENTS: → ALKALINITY: 14 DAY HOLDING TIME MET & OK
→ 48 HR. HOLDING TIME exceeded FOR NO_2, NO_3 and PO_4. Action needed
→ CYANIDE 14 DAY HOLDING TIME MET & OK

ACTION: QUALIFY DATA VIA OSM GUIDELINES.

sample #	constituent	value/qual
B00XM0	NO_2	0.25 UJ
	NO_3	10.3 J
	PO_4	0.25 UJ
B00XQ6	NO_2	0.25 UJ
	NO_3	8.5 J
	PO_4	0.25 UJ
B00XL7	NO_2	0.25 UJ
	NO_3	8.5 J
	PO_4	0.25 UJ
B00XM6	NO_2	0.25 UJ
	NO_3	13.3 J
	PO_4	0.25 UJ

sample #	constituent	value/qual

1 of 8

9613404.0269

RCRA LEVEL C QC

Name LK THOMPSON (LKT) Date 9.30.91

QC Check: HOLDING TIME

COMMENTS: → 28 day holding time met for Cl^-, F^-, $SO_4^=$, TOC, and NO_2/NO_3.

→ TDS does not have a specified holding time and is NE (TDS done in 7 days).

ACTION: NONE

sample #	constituent	value/qual	sample #	constituent	value/qual

2 of 8

9613404.0270

RCRA LEVEL C QC

Name LK THOMPSON Date 10/1/91

QC Check: BLANKS

COMMENTS: → ALKALINITY BLANKS (91LAL026-MB1 to MB4) were below MDL

→ IC ANION BLANK (91LIC73-MB1) was below <MDL for ALL ANALYTES

→ CYANIDE BLANK (91K195-MB1) WAS BELOW MDL.

→ NO_2/NO_3 BLANK (91LNO878-MB1 & MB2) <MDL.

ACTION: none

sample #	constituent	value/qual	sample #	constituent	value/qual

9613404.0271

RCRA LEVEL C QC

Name LK THOMPSON Date 10.1.91

QC Check: BLANK

COMMENTS: TOC BLANKS (91LTC042 MB1 + MB3) were < MDL

TDS BLANK (91LS054-MB1) was < MDL

ACTION: none

sample #	constituent	value/qual	sample #	constituent	value/qual

4 of 8

9613404.0272

RCRA LEVEL C QC

Name LK THOMPSON Date 10.1.91

QC Check: MATRIX SPIKE

COMMENTS: → CYANIDE SPIKE OF B00XQ6 HAD % RECOV W/IN QC LIMIT.
→ NO_2/NO_3 SPIKES MS+MSD of B00XQ6 HAD % RECOV. W/IN QC LIMITS.
→ ALKALINITY BLANK SPIKES HAD % RECOVE W/IN QC LIMITS.
→ IC ANIONS BLANK SPIKE HAD ALL % RECOV W/IN QC LIMITS.

ACTION: none

sample #	constituent	value/qual	sample #	constituent	value/qual

9613404.0273

RCRA LEVEL C QC

Name LK THOMPSON Date 10.1.91

QC Check: MATRIX SPIKE

COMMENTS: → NO_2/NO_3 BLANK SPIKES HAD ALL % RECOV W/IN QC LIMIT.
→ TOC BLANK SPIKES HAD ALL % RECOV W/IN QC LIMIT.
→ TDS HAD NO SPIKE STUDIES

ACTION: none

sample #	constituent	value/qual	sample #	constituent	value/qual

9613404.0274

RCRA LEVEL C QC

Name LK THOMPSON (LK) Date 10.1.91

QC Check: DUPLICATE

COMMENTS: → DUPLICATE SPIKE OF BOD X Q6 HAD % DIFF W/IN QC LIMITS FOR NO_2/NO_3

→ DUPLICATE LCS OF CYANIDE HAD % DIFF W/IN QC LIMITS

→ DUPLICATE NO_2/NO_3 SPIKE BLANK HAD % DIFF W/IN QC LIMIT.

→ TOC BLANK SPIKE HAD % DIFF W/IN QC LIMITS.

ACTION: none

sample #	constituent	value/qual	sample #	constituent	value/qual

9613404.0275

RCRA LEVEL C QC

Name LK THOMPSON LKT Date 10.1.91

QC Check: DUPLICATE

COMMENTS: → DUPLICATE TDS ANALYSIS OF B00X MO HAD % DIFF W/IN QC LIMITS.
→ DUPLICATE CYANIDE ANALYSIS OF B00X Q6 HAD % DIFF W/IN QC LIMITS
→ DUPLICATE NO_2/NO_3 ANALYSIS OF B00X Q6 HAD % DIFF W/IN QC LIMITS
→ DUPLICATE CYANIDE ANALYSIS OF LCS HAD % DIFF W/IN QC LIMITS.

ACTION: → ALKALINITY HAD NO DUPLICATE ASSAY PERFORMED ∴ NE. LKT
→ IC ANIONS HAD NO DUPLICATE ASSAY PERFORMED ∴ NE
ACTION: NONE

sample #	constituent	value/qual	sample #	constituent	value/qual

8 of 8

WESTON TASK # W91-0001

Custody Transfer Record/Lab Work Request

WESTON

WESTON Analytics Use Only
91051711

WOS-HANFORD

Client: Westinghouse Hanford/Geosciences
Work Order: 61168-02-01
Date Rec'd: 5/24/91 Date Due: 6/28/91
RFW Contact: Peg Beaty
Client Contact/Phone: B. H. Ford (509)376-6465

Refrigerator #			2	2	2	2	4	→	→	2	1
#/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 →			1	** See Additional Information ** 2	3	4	5	6	7	8	9
WA Use Only Lab ID	Client ID/Description	Matrix	Date Collected	ICLP10	MPS/TD MDIB MCIP	IC03 IC02	Sel Below	IC08	IC08	IC08	MPS/TD MDIB MCIP	06247
001	B00XM0	W	22May91	✓	✓	✓	✓	✓	✓	✓		
2	B00XM1	L	22May91								✓	
3	B00XM3		22May91									✓
	** Additional Information **											
	1. CLP-CN											
	2. CLP-Metal. Bi/Se/Si (unfiltered)											
	3. TOC, NO_2/NO_3											
	4. ~~Anions~~, TDS, ALK, pH, ICCL, ICFL, ICN02, ICN03 IC504, ICP04											
	5. Gross Alpha, Beta, TC-99, Sr-90, Cs-137, Co-60, Pu-239/240											
	6. Total Uranium							QC level: CLP				
	7. Tritium							TAT = 35 days				
	8. CLP-Metal. Bi/Se/Si (filtered)											
	9. CLP-VOA											

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:

Item/Reason	Relinquished by	Received by	Date	Time	Item/Reason	Relinquished by	Received by	Date	Time
Emery	Peg Beaty	Peg Beaty	5/24/91	1330					
	Emery								

WESTON Analytics Use Only

Samples Were: (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: IC502, IC503 ICP04, IPH mod.

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:

9613404.0276

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

BOL # 247424935 T
OPC # W91-0334 #13

7-115

ROY F. WESTON INC.

INORGANICS DATA SUMMARY REPORT 06/21/91

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

WESTON BATCH #: 9105L711

SAMPLE	SITE ID	ANALYTE	RESULT	UNITS	REPORTING LIMIT
-001	BOOXMO	Alkalinity	96.0	MG/L	2.0
		Chloride by IC	11.9	mg/L	0.25
		Fluoride by IC	1.0	mg/L	0.50
		Nitrite by IC	0.25 u J	mg/L	0.25
		Nitrate by IC	10.3 J	mg/L	0.25
		Cyanide, Total	10.0 u	UG/L	10.0
		Phosphate by IC	0.25 u J	mg/L	0.25
		Sulfate by IC	88.7	mg/L	2.5
		Nitrate Nitrite	2.8	MG/L	0.20
		Total Organic Carbon	0.53	MG/L	0.50
		pH	8.5	PH UNITS	0.010
		Total Dissolved Solids	304	MG/L	5.0
-004	BOOXQ6	Alkalinity	94.0	MG/L	2.0
		Chloride by IC	13.1	mg/L	0.25
		Fluoride by IC	0.94	mg/L	0.50
		Nitrite by IC	0.25 u J	mg/L	0.25
		Nitrate by IC	8.5 J	mg/L	0.25
		Cyanide, Total	16.7 u	UG/L	16.7
		Phosphate by IC	0.25 u J	mg/L	0.25
		Sulfate by IC	85.6	mg/L	2.5
		Nitrate Nitrite	1.8	MG/L	0.10
		Total Organic Carbon	0.94	MG/L	0.50
		pH	8.1	PH UNITS	0.010
		Total Dissolved Solids	300	MG/L	5.0
-006	BOOXL7	Alkalinity	94.0	MG/L	2.0
		Chloride by IC	12.9	mg/L	0.25
		Fluoride by IC	0.91	mg/L	0.50
		Nitrite by IC	0.25 u J	mg/L	0.25
		Nitrate by IC	8.5 J	mg/L	0.25
		Cyanide, Total	10.0 u	UG/L	10.0
		Phosphate by IC	0.25 u J	mg/L	0.25
		Sulfate by IC	86.0	mg/L	2.5
		Nitrate Nitrite	1.9	MG/L	0.10
		Total Organic Carbon	0.64	MG/L	0.50
		pH	8.0	PH UNITS	0.010
		Total Dissolved Solids	308	MG/L	5.0
-009	BOOXM6	Alkalinity	104	MG/L	2.0

9613404.0278

ROY F. WESTON INC.

INORGANICS DATA SUMMARY REPORT 06/21/91

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

WESTON BATCH #: 9105L711

SAMPLE	SITE ID	ANALYTE	RESULT	UNITS	REPORTING LIMIT
-009	BOOXM6	Chloride by IC	23.5	mg/L	2.5
		Fluoride by IC	0.88	mg/L	0.50
		Nitrite by IC	0.25 u J	mg/L	0.25
		Nitrate by IC	13.3 J	mg/L	0.25
		Cyanide, Total	10.0 u	UG/L	10.0
		Phosphate by IC	0.25 u J	mg/L	0.25
		Sulfate by IC	103	mg/L	2.5
		Nitrate Nitrite	4.2	MG/L	1.0
		Total Organic Carbon	0.64	MG/L	0.50
		pH	7.8	PH UNITS	0.010
		Total Dissolved Solids	407	MG/L	5.0

9.30.91

9613404.0279

Roy F. Weston, Inc. - Lionville Laboratory
VOA ANALYTICAL DATA PACKAGE FOR
WESTINGHOUSE HANFORD

DATE RECEIVED: 05/24/91 RFW LOT # :9105L711

CLIENT ID	RFW #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
BOOXM3	003	W	91LVK094	05/22/91	N/A	05/29/91
BOOXM3	003 MS	W	91LVK095	05/22/91	N/A	05/30/91
BOOXM3	003 MSD	W	91LVK095	05/22/91	N/A	05/30/91
BOOY04	008	W	91LVK094	05/22/91	N/A	05/29/91

LAB QC:

VBLK	MB1	W	91LVK094	N/A	N/A	05/29/91
VBLK	MB1	W	91LVK095	N/A	N/A	05/30/91

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31

9613404.0280

Westinghouse Hanford Company

OSM RCRA LEVEL C DATA ASSESSMENT

DATE 9.30.91

REVIEWED BY LK THOMPSON

LABORATORY WESTON

CASE # ——

SDG # RFW # 9105L711

SAMPLES/MATRIX B00XL7 - WATER
B00XM0 - WATER
B00XM6 - WATER
B00XQ6 - WATER

DATA ASSESSMENT SUMMARY

QUALITY CONTROL CHECK	ANALYSIS	ALKALINITY	ICANIONS	CYANIDE
1. HOLDING TIME		O	X	O
2. BLANK		O	O	O
3. MATRIX SPIKE		O	O	O
4. DUPLICATES		NE	NE	O
5.				
6.				
7.				
8.				
9.				
10.				

O = data had no problems
X = data qualified due to minor problems
M = data qualified due to major problems/some data may be unusable
NE: NOT EVALUATED

OVERALL ASSESSSMENT: NO MAJOR PROBLEM WITH CASE. ALL DATA USEABLE WITH ATTACHED QUALIFIER FLAGS.

NOTES:

o Refer to the corresponding attachments for explanation of any problems.

ok to transmit
JJ 12/21/91

9613404.0281

Westinghouse Hanford Company

OSM RCRA LEVEL C DATA ASSESSMENT

DATE 9.30.91

REVIEWED BY LK THOMPSON

LABORATORY WESTON

CASE # —

SDG # RFW #9105L711

SAMPLES/MATRIX B00XL7 - WATER
B00XM0 - WATER
B00XM6 - WATER
B00XQ6 - WATER

DATA ASSESSMENT SUMMARY

QUALITY CONTROL CHECK	ANALYSIS	NO_2/NO_3	TOC	TDS
1.	HOLDING TIME	O	O	NE
2.	BLANK	O	O	O
3.	MATRIX SPIKE	O	O	NE
4.	DUPLICATES	O	O	O
5.				
6.				
7.				
8.				
9.				
10.				

O = data had no problems
X = data qualified due to minor problems
M = data qualified due to major problems/some data may be unusable
NE: NOT EVALUATED

OVERALL ASSESSSMENT: See Cover

NOTES:

o Refer to the corresponding attachments for explanation of any problems.

9613404.0282

RCRA LEVEL C QC

Name LK THOMPSON (LKT) Date 9.30.91

QC Check: HOLDING TIME

COMMENTS: → ALKALINITY: 14 DAY HOLDING TIME MET & OK

→ 48 HR. HOLDING TIME exceeded FOR NO_2, NO_3 and PO_4. Action needed

→ CYANIDE 14 DAY HOLDING TIME MET & OK

ACTION: QUALIFY DATA VIA OSM GUIDELINES.

sample #	constituent	value/qual
B00XM0	NO_2	0.25 UJ
	NO_3	10.3 J
	PO_4	0.25 UJ
B00XQ6	NO_2	0.25 UJ
	NO_3	8.5 J
	PO_4	0.25 UJ
B00XL7	NO_2	0.25 UJ
	NO_3	8.5 J
	PO_4	0.25 UJ
B00XM6	NO_2	0.25 UJ
	NO_3	13.3 J
	PO_4	0.25 UJ

sample #	constituent	value/qual

1 of 8

9613404.0283

RCRA LEVEL C QC

Name LK THOMPSON (LKT) Date 9.30.91

QC Check: HOLDING TIME

COMMENTS: → 28 day holding time met for Cl^-, F^-, $SO_4^=$, TOC, and NO_2/NO_3.

→ TDS does not have a specified holding time and is NE (TDS done in 7 days).

ACTION: NONE

sample #	constituent	value/qual	sample #	constituent	value/qual

2 of 8

9613404.0284

RCRA LEVEL C QC

Name LK THOMPSON LKT Date 10/1/91

QC Check: BLANKS

COMMENTS: → ALKALINITY BLANKS (91LAL026-MB1 to MB4) were below MDL

→ IC ANION BLANK (91LIC73-MB1) was below <MDL for ALL ANALYTES

→ CYANIDE BLANK (91IC195-MB1) WAS BELOW MDL.

→ NO_2/NO_3 BLANK (91LNOB78-MB1 & MB2) <MDL.

ACTION: none

sample #	constituent	value/qual	sample #	constituent	value/qual

9613404.0285

RCRA LEVEL C QC

Name ZK THOMPSON Date 10.1.91

QC Check: BLANK

COMMENTS: TOC BLANKS (91LTC092 MB1 + MB3) were < MDL

TDS BLANK (91LS054-MB1) was < MDL

ACTION: none

sample #	constituent	value/qual	sample #	constituent	value/qual

4 of 8

9613404.0286

RCRA LEVEL C QC

Name LK THOMPSON Date 10.1.91

QC Check: MATRIX SPIKE

COMMENTS: → CYANIDE SPIKE OF B00XQ6 HAD % RECOV W/IN QC LIMIT.
→ NO_2/NO_3 SPIKES MS+MSD of B00XQ6 HAD % RECOV. W/IN QC LIMITS.
→ ALKALINITY BLANK SPIKES HAD % RECOVE W/IN QC LIMITS.
→ IC ANIONS BLANK SPIKE HAD ALL % RECOV W/IN QC LIMITS.

ACTION: none

sample #	constituent	value/qual	sample #	constituent	value/qual

9613404.0287

RCRA LEVEL C QC

Name LK THOMPSON Date 10.1.91

QC Check: MATRIX SPIKE

COMMENTS: → NO_2/NO_3 BLANK SPIKES HAD ALL % RECOV W/IN QC LIMIT.
→ TOC BLANK SPIKES HAD ALL % RECOV W/IN QC LIMIT.
→ TDS HAD NO SPIKE STUDIES

ACTION: none

sample #	constituent	value/qual	sample #	constituent	value/qual

9613404.0288

RCRA LEVEL C QC

Name LK THOMPSON (LK) Date 10.1.91

QC Check: DUPLICATE

COMMENTS: → DUPLICATE SPIKE OF BOOXQ6 HAD % DIFF W/IN QC LIMITS FOR NO_2/NO_3

→ DUPLICATE LCS OF CYANIDE HAD % DIFF W/IN QC LIMITS

→ DUPLICATE NO_2/NO_3 SPIKE BLANK HAD % DIFF W/IN QC LIMIT.

→ TOC BLANK SPIKE HAD % DIFF W/IN QC LIMITS.

ACTION: none

sample #	constituent	value/qual	sample #	constituent	value/qual

9613404.0289

RCRA LEVEL C QC

Name LK THOMPSON Date 10.1.91

QC Check: DUPLICATE

COMMENTS: → DUPLICATE TDS ANALYSIS OF B00X MO HAD % DIFF W/IN QC LIMITS.
→ DUPLICATE CYANIDE ANALYSIS OF B00X Q6 HAD % DIFF W/IN QC LIMITS
→ DUPLICATE NO_2/NO_3 ANALYSIS OF B00X Q6 HAD % DIFF W/IN QC LIMITS
→ DUPLICATE CYANIDE ANALYSIS OF LCS HAD % DIFF W/IN QC LIMITS.

ACTION: → ALKALINITY HAD NO DUPLICATE ASSAY PERFORMED ∴ NE.
→ IC ANIONS HAD NO DUPLICATE ASSAY PERFORMED ∴ NE
ACTION: NONE

sample #	constituent	value/qual	sample #	constituent	value/qual

ROY F. WESTON INC.

INORGANICS DATA SUMMARY REPORT 06/21/91

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

WESTON BATCH #: 9105L711

SAMPLE	SITE ID	ANALYTE	RESULT	UNITS	REPORTING LIMIT
-001	BOOXMO	Alkalinity	96.0	MG/L	2.0
		Chloride by IC	11.9	mg/L	0.25
		Fluoride by IC	1.0	mg/L	0.50
		Nitrite by IC	0.25 u J	mg/L	0.25
		Nitrate by IC	10.3 J	mg/L	0.25
		Cyanide, Total	10.0 u	UG/L	10.0
		Phosphate by IC	0.25 u J	mg/L	0.25
		Sulfate by IC	88.7	mg/L	2.5
		Nitrate Nitrite	2.8	MG/L	0.20
		Total Organic Carbon	0.53	MG/L	0.50
		pH	8.5	PH UNITS	0.010
		Total Dissolved Solids	304	MG/L	5.0
-004	BOOXQ6	Alkalinity	94.0	MG/L	2.0
		Chloride by IC	13.1	mg/L	0.25
		Fluoride by IC	0.94	mg/L	0.50
		Nitrite by IC	0.25 u J	mg/L	0.25
		Nitrate by IC	8.5 J	mg/L	0.25
		Cyanide, Total	16.7 u	UG/L	16.7
		Phosphate by IC	0.25 u J	mg/L	0.25
		Sulfate by IC	85.6	mg/L	2.5
		Nitrate Nitrite	1.8	MG/L	0.10
		Total Organic Carbon	0.94	MG/L	0.50
		pH	8.1	PH UNITS	0.010
		Total Dissolved Solids	300	MG/L	5.0
-006	BOOXL7	Alkalinity	94.0	MG/L	2.0
		Chloride by IC	12.9	mg/L	0.25
		Fluoride by IC	0.91	mg/L	0.50
		Nitrite by IC	0.25 u J	mg/L	0.25
		Nitrate by IC	8.5 J	mg/L	0.25
		Cyanide, Total	10.0 u	UG/L	10.0
		Phosphate by IC	0.25 u J	mg/L	0.25
		Sulfate by IC	86.0	mg/L	2.5
		Nitrate Nitrite	1.9	MG/L	0.10
		Total Organic Carbon	0.64	MG/L	0.50
		pH	8.0	PH UNITS	0.010
		Total Dissolved Solids	308	MG/L	5.0
-009	BOOXM6	Alkalinity	104	MG/L	2.0

ROY F. WESTON INC.

INORGANICS DATA SUMMARY REPORT 06/21/91

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

WESTON BATCH #: 9105L711

SAMPLE	SITE ID	ANALYTE	RESULT	UNITS	REPORTING LIMIT
-009	BOOXM6	Chloride by IC	23.5	mg/L	2.5
		Fluoride by IC	0.88	mg/L	0.50
		Nitrite by IC	0.25 u J	mg/L	0.25
		Nitrate by IC	13.3 J	mg/L	0.25
		Cyanide, Total	10.0 u	UG/L	10.0
		Phosphate by IC	0.25 u J	mg/L	0.25
		Sulfate by IC	103	mg/L	2.5
		Nitrate Nitrite	4.2	MG/L	1.0
		Total Organic Carbon	0.64	MG/L	0.50
		pH	7.8	PH UNITS	0.010
		Total Dissolved Solids	407	MG/L	5.0

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