START

9613402.1841

9302L721-WES-1062

0043042

WESTON

MANAGERS DESIGNERS/CONSULTANTS

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

Client : WESTINGHOUSE HANFORD
RFW# : 9302L721

W.O. #: 06168-002-001-9999-00
Date Received: 02-25-93

INORGANIC

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

1. All sample holding times as required by 40CFR136 were met with the exception of pH and Specific Conductance which were received past hold.

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

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

4. Matrix spike recoveries are summarized on the Inorganic Accuracy Report contained within this document. All recoveries were within the 75-125% guidance limits. All %RPD were within the 20% guidance limit.

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

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

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

3/11/93
Date

APR 1993 RECEIVED OSM DMO

FEB 1996 RECEIVED EDMC

ncc/i02-721

9613402.1842 000007

ROY F. WESTON INC.

INORGANIC DATA SUMMARY REPORT 03/04/93

CLIENT: WESTINGHOUSE HANFORD
WORK ORDER: 06168-002-001-9999-00

WESTON BATCH #: 9302L721

SAMPLE	SITE ID	ANALYTE	RESULT	UNITS	REPORTING LIMIT
-001	B08517	Nitrate Nitrite	9.4	MG-N/L	1.0
		pH	7.8	PH UNITS	0.010
		Specific Conductance	567	UMHOS/CM	1.0

9613402.1843

OFFICE OF SAMPLE MANAGEMENT

RECORD OF DISPOSITION

ROD-93-00054
Record of Disposition No.

DATE: 2/25/93	LABORATORY: WESTON
PROJECT TITLE/NO.: 100-HR-3/93-024	NCR NO.: 051735

SAMPLE IDENTIFICATION NUMBERS:

B08517

DESCRIPTION OF EVENT:

Bottles received at the lab did not match those requested on the Sample Analysis Request. A 250 ml bottle for Conductivity/pH analysis was received instead of a 500 ml bottle; two 125 ml bottles for Tritium analysis were received instead of one 250 ml bottle.

DISPOSITION OF SAMPLES:

With concurrence from S. Vukelich, project engineer, continue with analyses using aliquots provided.

APPROVAL SIGNATURES:

R. C. Smith/ R. Clayton Smith — 2/25/93
OSM Project Coordinator (Print/Sign Name) — Date

S. Vukelich/
Technical Representative (Print/Sign Name) — Date

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

9613402.1844

Westinghouse Hanford Company

NONCONFORMANCE REPORT

1. Page 1 of 1

2. Preprinted No. 051735

QA Log No. EQA-93-046

3. P. O., W. O., or Job Control No.	4. System/End Use	5. Item/Material	6. Dwg./Spec./Other No.	7. Rev.
N/A	RI/FS	WATER SAMPLE	B08517	N/A

8. Program/Project/Other	9. Safety Class	10. ASME Code Items
100-HR-3/93-024	N/A	☐ Yes ☒ No (If yes, notify authorized inspector)

11. Supplier Name/Address: ENVIRONMENTAL FIELD SAMPLING SERVICES

12. Notification of Potential Occurence Required: ☐ Yes ☒ No

13. Code: Lot/Heat/Serial	14. Lot Size	15. Sample	16. Qty. Acc.	17. Inspection Criteria
N/A	2	2	0	☐ Dwg. ☐ Spec. ☐ Insp. Plan ☒ Other CLP SOW

18. Item	19. Description of Nonconformance (list serial no. where applicable)	22. Disposition, Justification, and Instructions
	BOTTLES RECEIVED AT LAB DID NOT MATCH THOSE REQUESTED ON THE SAMPLE ANALYSIS REQUEST. A 250 ml BOTTLE FOR CONDUCTIVITY/pH ANALYSIS WAS RECEIVED INSTEAD OF A 500 ml BOTTLE; TWO 125 ml BOTTLES FOR TRITIUM ANALYSIS WERE RECEIVED INSTEAD OF ONE 250 ml BOTTLE.	The analyses for the referenced samples shall ~~be~~ 3-17-93 be performed as required per the statement of work (SOW). The attached DSI indicates the laboratory has deemed ~~it~~ 3-17-93 these samples are adequate for the required analyses, therefore, no flagging will be necessary

20. Originator's Signature	Date	23. Design Document Change Required?
R. C. SMITH R Clayton Smith	2/25/93	☐ Yes, Doc. No. ☒ No

21. Cognizant QA Manager's Signature	Date	24. Corrective Action Required?
M Bannerman	3/5/93	☐ Yes, No. ☒ No

Disp. App.	25. Cognizant Engineer	Date	26. Technical Rep.	Date	Signature/Org.	Date
	SE Vukelich Steve Vukelich	3-18-93	NA		NA	
	QA Engineer	Date	Signature/Org.	Date	Signature/Org.	Date
	GS Corrigan Gary Corrigan	3-18-93	NA		NA	

Close — 27. Accept 2 Reject NA Follow on NCR NA

Gary J. Corrigan 3-17-93
QA/C Personnel Date

A-7210-104 (10/91)

9613402.1845

QUALITY ASSURANCE

NONCONFORMANCE REPORT DISTRIBUTION

1. FROM:	2. MSIN:	3. DATE:
Environmental Quality Assurance	H4-16	March 4, 1993

4. NCR No.:	5. Initiation, Disposition, or Closure (I, D, C):
051735 / EQA-93-046	I

6. TO:		MSIN	I	D	C
Cognizant Engineer	S. E. Vukelich	H6-02			
Cognizant Quality Engineer	G. S. Corrigan	H4-16			
Originator	R. C. Smith	H4-23			
Q. A. Manager	NA	NA			
Cognizant QE Manager	T. L. Bennington	H4-16			
Facility Manager	NA	NA			
Engineering Records	L. M. McDaniel	H6-08			
Safety	NA	NA			
QSDM	D. P. Trott	L4-86			
Other: JCS Package	NA	NA			
Q. C.	NA	NA			
Buyer (Procurement)	NA	NA			
P.O. File (Procurement)	NA	NA			
Vendor File (Procurement)	B. M. Colley	H4-23			
	EQA File	H4-16			
	P. H. Butcher	H6-06			
	J. H. Kessner	H4-23			

MAR 1993

7. QST Codes

Subject:	Cause:	Contr. Factor:	PPG:
AD-08	PN-002		NA

8. Responsible Action Party:	Org Code:
S. E. Vukelich	81310

A-6000-816 (09/91)

54-9000-10119-891

9613402.1846

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

DATE 3/15/93

TO GARY CORRIGAN

FROM CLAY SMITH

PER TELECON WITH TMA, BOTTLE VOLUMES PROVIDED FOR SAMPLE # B08517 ARE ADEQUATE FOR ANALYSIS.

R Clayton Smith

"TO MAKE LIFE LAST, PUT SAFETY FIRST"

WESTON Analytics Use Only
93021L721

Custody Transfer Record/Lab Work Request

WESTON

Page 1 of 1

Client: Westinghouse - Hanford
Est. Final Proj. Sampling Date:
Work Order #: 06168-002-001-9999-00
Project Contact/Phone #:
AD Project Manager: Josie Edwards.
QC: CLP Del: CLP TAT: 35 DAY
Date Rec'd: 2-25-93 Date Due: 4-1-93
Account #: WS-HANFORD.

Refrigerator #							2-25	4	4	4		4					
#/Type Container	Liquid						1/pl	1/pl	2/pl			2/pl					
	Solid						See below										
Volume	Liquid							500	500	1Gal		1Gal					
	Solid																
Preservatives							See below	—	HNO3	HNO3		HNO3					
ANALYSES REQUESTED →		ORGANIC					Radio Chem	GRO PH	IN3N2	INORG		Piss metals					
		VOA	BNA	Pest/PCB	Herb					Metal	CN						
WESTON Analytics Use Only							ISG13	IGRO IPH	IN3N2	See below		See below					

MATRIX CODES:	Lab ID	Client ID/Description	Matrix QC Chosen (✓) MS	MSD	Matrix	Date Collected	Time Collected														
S - Soil	001	B08517			W	2/23/93	0939				X	X	X	X							
SE - Sediment	002	B08518			W	2/23/93	0939									X					
SO - Solid																					
SL - Sludge																					
W - Water																					
O - Oil																					
A - Air																					
DS - Drum Solids																					
DL - Drum Liquids																					
L - EP/TCLP Leachate																					
WI - Wipe		metals = Westinghouse TCP + (AS, SE, PO, TL) by AA																			
X - Other																					
F - Fish																					
		Radio Chem = Gross Alpha / Gross Beta / Sr-90 (HNO3) 2@ 1Gal Plastic																			
		Tritium 2@ 125ml																			

FIELD PERSONNEL: COMPLETE ONLY SHADED AREAS

Special Instructions:
Task 93.024
Temp = 4.2°C

DATE/REVISIONS:
3/1/93 1. metals AS, SE, PO + TL added to
1 2. samples COLL 002 per SDK (13-7 nass)
3.
4.
5.
6.

WESTON Analytics Use Only

Samples were:
1) Shipped X or Hand Delivered ___
Airbill # ___
2) Ambient or Chilled
3) Received in Good Condition (Y) or N
4) Labels Indicate Properly Preserved (Y) or N
5) Received Within Holding Times Y or (N)

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

Discrepancies Between Samples Labels and COC Record? (Y) or N
NOTES:
Bottle size for Tritium
PH & SPCO out of Hold

Relinquished by	Received by	Date	Time
Emery	B Alf	2-25-93	12:30
	B25	2-25-93	

Relinquished by	Received by	Date	Time
	B29	2-25-93	

RFW 21-21-001/A-7/91 ___ 1 ___ L373 ___ L375 ___ L377 ___ L378 Ref# ___ Cooler# ___ 381-596a

4. IN3N2 did not [illegible]

9613402.1847

000028

9613402.1830 2L7 9 0 0 0 0 2 9

Westinghouse Hanford Company	CHAIN OF CUSTODY

Custody Form Initiator KD LEE/GG HAMILTON

Company Contact PH BUTCHER

Telephone (509) 376-5045

Project Designation/Sampling Locations 100-HR-3

Collection Date 2/23/93

Ice Chest No. SML-280

Field Logbook No. EFL-0057

Bill of Lading/Airbill No. 2536953562

Offsite Property No. W93-0-0226-46

Method of Shipment EMERY

Shipped to WESTON/TELEDYNE

Possible Sample Hazards/Remarks

Sample Identification

BO 8517

2, 1L, P, WATER, CLP-ICP/GFAA METALS(HNO3 to pH<2) UNFILTERED
1, 500ml, P, WATER, NO2/NO3(H2SO4 to pH<2)
Rec'd 250ml 1, 500ml, P, WATER, CONDUCTIVITY/pH
2, 1L P, WATER, GROSS ALPHA/GROSS BETA/Sr-90(HNO3)
KDL 02/23/93 2, 250ml ~~1, 250ml~~, Gs, WATER, TRITIUM

BO 8518

2, 1L, P, WATER, CLP-ICP/GFAA METALS(HNO3 to pH<2) FILTERED

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

Relinquished By	Date	Time	Received By	Date	Time
Kathy D. Lee K.D. Lee	2/23/93	1304	AJSimpson AJSIMPSON	2/24/93	0840
AJSimpson AJSIMPSON	2/24/93				
Emery	2-25-93	1230	Brian E [illegible]	2-25-93	1230

Final Sample Disposition

Disposal Method:	Disposed by:	Date/Time:

Comments: FRIG. #1 TEMP = 4.2°C

A-6000-407 (12/92) WEF061

9613402.1849 29A

Westinghouse Hanford Company

SAMPLE ANALYSIS REQUEST

PART I: FIELD SECTION

Collecto K. Lee, L. Walker Date Sampled 2/23/93 Time 0935 hours

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

Sample Number	Number and Type of Sample	Type of Sample*	Analysis Requested
B08517	2; 1L; P;	WATER	CLP ICP/GFAA METALS(HNO3 to pH<2) UNFILTERED
	1; 500ml; P	WATER	NO2/NO3(H2SO4 to pH<2)
Rec'd 250ml	1; 500ml; P	WATER	CONDUCTIVITY/pH
	2; 1L; P	WATER	GROSS ALPHA/GROSS BETA/Sr-90(HNO3)
	1; 250ml; Gs	WATER	TRITIUM
	2 - 125ml Rec'd 3-25-93		
B08518	2; 1L; P;	WATER	CLP-ICP/GFAA METALS(HNO3 to pH<2) FILTERED
			OPC: # W93-0-0226-46
			BOL: # 2536953562
			TASK: 93-024

Field

Special Handling and/or

Possible Sample

PART II: LABORATORY SECTION

Received Titl Date

Analysis

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

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

A-6000-406(05/90)

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

Client: WESTINGHOUSE HANFORD
RFW #: 9302L721

W.O. #: 06168-002-001-9999-00
Date Received: 02-25-93

CLP METALS

1. This narrative covers the analysis of two (2) water samples.

2. The samples were prepared and analyzed in accordance with the following protocols: CLP SOW 3/90.

3. ICVs, CCVs, and LCSs stock standards were purchased form Inorganic Ventures Laboratory.

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

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

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

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

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

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

10. All Serial Dilution percent differences were within USEPA SOW control limits except for:

RFW #	Element	%Difference
001	Magnesium	11.5
	Sodium	16.4

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

WESTON

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

RFW #	Element	%Recovery
001	Lead	40.0
	Silver	40.4

A Post-Matrix Spike analysis was performed for those ICP elements that did not meet the specified control limits (exception allowed for Ag).

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

13. Method of Standard Additions (MSA) analyses was performed on the following sample:

Element	Sample #'s
Selenium	001

14. ICP Interelement Correction Factors for IC1 and IC3 are included in this package, but do not appear on EDD.

15. The graphite furnace time that appears on form XIV is the time of the first injection. The time that appears on the data is the print time.

Raymond A. Siery
Inorganic Section Manager
Lionville Analytical Laboratory

3.30.93
Date

mlj/clp-met.nar

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

Client: WESTINGHOUSE HANFORD
RFW #: 9302L721

W.O. #: 06168-002-001-9999-00
Date Received: 02-25-93

CLP METALS ADDENDUM

1. Following Exhibit E, Section V, Item 10, page E-23 of the USEPA Statement of Work for Inorganics Analysis, Document Number ILM02.0 ICP Instrument Detection Limits (IDLs) are reported for two (2) ICP instruments. The instrument identification numbers are "IC1" and "IC3". The highest IDL for the two instruments is used for reporting concentration values in this sample data package.

2. A discrepancy exists between raw data and Form XIVs analytical spikes recovery calculations performed for graphite furnace AA analytes. Instrument software calculates spike recoveries based on absolute values below the IDL for sample results. This is hard-coded by the vendor and is currently not correctable. CLP convention (SOW ILM02.0, Exhibit E, Section V, Item 6, page E-20) requires that when values fall below the IDL, the sample result is equal to zero (0) for the purposes of calculating the percent recovery. The Form XIVs contain the correct calculation.

Raymond A. Siery
Inorganic Section Manager
Lionville Analytical Laboratory

3.30.93
Date

mlj\clp-met.nar

ROY F. WESTON INC.

INORGANIC DATA SUMMARY REPORT 03/30/93

CLIENT: WESTINGHOUSE HANFORD
WORK ORDER: 06168-002-001-9999-00

WESTON BATCH #: 9302L721

SAMPLE	SITE ID	ANALYTE	RESULT		UNITS	REPORTING LIMIT
-001	B08517	Silver, Total	10.0	u	UG/L	10.0
		Aluminum, Total	200	u	UG/L	200
		Arsenic, Total	10.0	u	UG/L	10.0
		Barium, Total	200	u	UG/L	200
		Beryllium, Total	5.0	u	UG/L	5.0
		Calcium, Total	69900		UG/L	5000
		Cadmium, Total	5.0	u	UG/L	5.0
		Cobalt, Total	50.0	u	UG/L	50.0
		Chromium, Total	42.8		UG/L	10.0
		Copper, Total	25.0	u	UG/L	25.0
		Iron, Total	100	u	UG/L	100
		Potassium, Total	6120		UG/L	5000
		Magnesium, Total	20200		UG/L	5000
		Manganese, Total	15.0	u	UG/L	15.0
		Sodium, Total	14400		UG/L	5000
		Nickel, Total	40.0	u	UG/L	40.0
		Lead, Total	30.0	u	UG/L	30.0
		Antimony, Total	60.0	u	UG/L	60.0
		Selenium, Total	5.0	u	UG/L	5.0
		Thallium, Total	10.0	u	UG/L	10.0
		Vanadium, Total	50.0	u	UG/L	50.0
		Zinc, Total	20.0	u	UG/L	20.0

ROY F. WESTON INC.

INORGANIC DATA SUMMARY REPORT 03/30/93

CLIENT: WESTINGHOUSE HANFORD
WORK ORDER: 06168-002-001-9999-00

WESTON BATCH #: 9302L721

SAMPLE	SITE ID	ANALYTE	RESULT		UNITS	REPORTING LIMIT
-002	B08518	Silver, Soluble	10.0	u	UG/L	10.0
		Aluminum, Soluble	200	u	UG/L	200
		Arsenic, Soluble	10.0	u	UG/L	10.0
		Barium, Soluble	200	u	UG/L	200
		Beryllium, Soluble	5.0	u	UG/L	5.0
		Calcium, Soluble	69400		UG/L	5000
		Cadmium, Soluble	5.0	u	UG/L	5.0
		Cobalt, Soluble	50.0	u	UG/L	50.0
		Chromium, Soluble	43.6		UG/L	10.0
		Copper, Soluble	25.0	u	UG/L	25.0
		Iron, Soluble	100	u	UG/L	100
		Potassium, Soluble	5610		UG/L	5000
		Magnesium, Soluble	19900		UG/L	5000
		Manganese, Soluble	15.0	u	UG/L	15.0
		Sodium, Soluble	14200		UG/L	5000
		Nickel, Soluble	40.0	u	UG/L	40.0
		Lead, Soluble	30.0	u	UG/L	30.0
		Antimony, Soluble	60.0	u	UG/L	60.0
		Selenium, Soluble	5.0	u	UG/L	5.0
		Thallium, Soluble	10.0	u	UG/L	10.0
		Vanadium, Soluble	50.0	u	UG/L	50.0
		Zinc, Soluble	20.0	u	UG/L	20.0

U.S. EPA - CLP

1

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

B08517

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

Lab Code: WESTON Case No.: WEST SAS No.: SDG No.: CLP721

Matrix (soil/water): WATER Lab Sample ID: 930272101

Level (low/med): LOW Date Received: 2/25/93

% Solids: 0.0

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	64.00	U		P
7440-36-0	Antimony	57.00	U		P
7440-38-2	Arsenic	2.00	U		F
7440-39-3	Barium	70.80	B		P
7440-41-7	Beryllium	1.00	U		P
7440-43-9	Cadmium	4.00	U		P
7440-70-2	Calcium	69900.00			P
7440-47-3	Chromium	42.80			P
7440-48-4	Cobalt	8.00	U		P
7440-50-8	Copper	9.00	U		P
7439-89-6	Iron	66.90	B		P
7439-92-1	Lead	20.00	U	NW	F
7439-95-4	Magnesium	20200.00		E	P
7439-96-5	Manganese	2.90	B		P
7439-97-6	Mercury				NR
7440-02-0	Nickel	19.00	U		P
7440-09-7	Potassium	6120.00			P
7782-49-2	Selenium	2.00	U	S	F
7440-22-4	Silver	7.00	U	N	P
7440-23-5	Sodium	14400.00		E	P
7440-28-0	Thallium	2.00	U		F
7440-62-2	Vanadium	18.50	B		P
7440-66-6	Zinc	8.20	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.

B08518

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

Lab Code: WESTON Case No.: WEST SAS No.: SDG No.: CLP721

Matrix (soil/water): WATER Lab Sample ID: 930272102

Level (low/med): LOW Date Received: 2/25/93

% Solids: 0.0

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	64.00	U		P
7440-36-0	Antimony	57.00	U		P
7440-38-2	Arsenic	2.00			F
7440-39-3	Barium	69.20	B		P
7440-41-7	Beryllium	1.00	U		P
7440-43-9	Cadmium	4.00	U		P
7440-70-2	Calcium	69400.00			P
7440-47-3	Chromium	43.60			P
7440-48-4	Cobalt	8.00	U		P
7440-50-8	Copper	9.00	U		P
7439-89-6	Iron	20.60	B		P
7439-92-1	Lead	20.00	U	NW	F
7439-95-4	Magnesium	19900.00		E	P
7439-96-5	Manganese	2.00	U		P
7439-97-6	Mercury				NR
7440-02-0	Nickel	19.00	U		P
7440-09-7	Potassium	5610.00			P
7782-49-2	Selenium	2.00	U	W	F
7440-22-4	Silver	7.00	U	N	P
7440-23-5	Sodium	14200.00		E	P
7440-28-0	Thallium	2.00	U		F
7440-62-2	Vanadium	19.20	B		P
7440-66-6	Zinc	8.00	U		P
	Cyanide				NR

Color Before: COLORLESS Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

9613402.1857

93021721-WRS-1062

VALIDATION SUMMARY

9613402.1858

9302L721-WES-1062

DATA QUALIFICATION SUMMARY

UNIT: 100-HR-3

DOCUMENT CONTROL NUMBER: WHC-SD-EN-TI-183

ANALYSES: Inorganics, Wet Chemistry

RFW NO.: 9302L721-WES-1062

SDG NO.: B08517

QUALIFICATION SUMMARY:

INORGANICS

SAMPLE NUMBERS: B08517, B08518

WET CHEMISTRY

SAMPLE NUMBERS: B08517, B08518

Data from this package were not validated.

9613402.1869 9302L721 0000002

Westinghouse Hanford Company	CHAIN OF CUSTODY

Custody Form Initiator KD LEE/GG HAMILTON

Company Contact PH BUTCHER

Telephone (509) 376-5045

Project Designation/Sampling Locations 100-HR-3

Collection Date 2/23/93

Ice Chest No. SML-280

Field Logbook No. EFL-0057

Bill of Lading/Airbill No. 2536953562

Offsite Property No. W93-0-0226-4

Method of Shipment EMERY

Shipped to WESTON/TELEDYNE

Possible Sample Hazards/Remarks

Sample Identification

BO8517

2, 1L, P, WATER, CLP-ICP/GFAA METALS(HNO3 to pH<2) UNFILTERED

1, 500ml, P, WATER, NO2/NO3(H2SO4 to pH<2)

Rec'd 250ml 1, 500ml, P, WATER, CONDUCTIVITY/pH

2, 1L P, WATER, GROSS ALPHA/GROSS BETA/Sr-90(HNO3)

KDL 02/23/93 ~~1, 250ml~~, Gs, WATER, TRITIUM

2, 250ml

BO8518

2, 1L, P, WATER, CLP-ICP/GFAA METALS(HNO3 to pH<2) FILTERED

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

Relinquished By	Date	Time	Received By	Date	Time
Kody D. Lee K.D. Lee	2/23/93	1309	AJSimpson AJSIMPSON	2/24/93	0840
AJSimpson AJSIMPSON	2/24/93				
Emery	2-25-93	1230	Brian E [illegible]	2-25-93	1230

Final Sample Disposition

Disposal Method:	Disposed by:	Date/Time:

Comments: FRIG. #1 TEMP = 4.2°C

A-6000-407 (12/92) WEF061

0000003

9613402.1860

Westinghouse Hanford Company

SAMPLE ANALYSIS REQUEST

PART I: FIELD SECTION

Collecto K. Lee, L. Walker Date Sampled 2/23/93 Time 0935 hours

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

Sample Number	Number and Type of Sample	Type of Sample*	Analysis Requested
B0E517	2; 1L; P;	WATER	CLP ICP/GFAA METALS(HNO3 to pH<2) UNFILTERED
	1; 500ml; P	WATER	NO2/NO3(H2SO4 to pH<2)
Rec'd 250ml	1; 500ml; P	WATER	CONDUCTIVITY/pH
	2; 1L; P	WATER	GROSS ALPHA/GROSS BETA/Sr-90(HNO3)
	1; 250ml; Gs	WATER	TRITIUM
	2 - 125ml Rec'd 3-25-93		
B0E518	2; 1L; P;	WATER	CLP-ICP/GFAA METALS(HNO3 to pH<2) FILTERED
			OPC: # W93-D-0226-46
			BOL: # 2536953562
			TASK: 93-024

Field

Special Handling and/or

Possible Sample

PART II: LABORATORY SECTION

Received Titl Date

Analysis

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

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

A-6000-406(05/90

U.S. EPA - CLP

1

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

B08517

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

Lab Code: WESTON Case No.: WEST SAS No.: SDG No.: CLP721

Matrix (soil/water): WATER Lab Sample ID: 930272101

Level (low/med): LOW Date Received: 2/25/93

% Solids: 0.0

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	64.00	U		P
7440-36-0	Antimony	57.00	U		P
7440-38-2	Arsenic	2.00	U		F
7440-39-3	Barium	70.80	B		P
7440-41-7	Beryllium	1.00	U		P
7440-43-9	Cadmium	4.00	U		P
7440-70-2	Calcium	69900.00			P
7440-47-3	Chromium	42.80			P
7440-48-4	Cobalt	8.00	U		P
7440-50-8	Copper	9.00	U		P
7439-89-6	Iron	66.90	B		P
7439-92-1	Lead	20.00	U	NW	F
7439-95-4	Magnesium	20200.00		E	P
7439-96-5	Manganese	2.90	B		P
7439-97-6	Mercury				NR
7440-02-0	Nickel	19.00	U		P
7440-09-7	Potassium	6120.00			P
7782-49-2	Selenium	2.00	U	S	F
7440-22-4	Silver	7.00	U	N	P
7440-23-5	Sodium	14400.00		E	P
7440-28-0	Thallium	2.00	U		F
7440-62-2	Vanadium	18.50	B		P
7440-66-6	Zinc	8.20	B		P
	Cyanide				NR

Color Before: COLORLESS Clarity Before: CLEAR e:

Color After: COLORLESS Clarity After: CLE ts:

Comments:

X02163

FORM I - IN 03/90

9613402.1862 U.S. EPA - CLP

1

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

B08518

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

Lab Code: WESTON Case No.: WEST SAS No.: SDG No.: CLP721

Matrix (soil/water): WATER Lab Sample ID: 930272102

Level (low/med): LOW Date Received: 2/25/93

% Solids: 0.0

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	64.00	U		P
7440-36-0	Antimony	57.00	U		P
7440-38-2	Arsenic	2.00			F
7440-39-3	Barium	69.20	B		P
7440-41-7	Beryllium	1.00	U		P
7440-43-9	Cadmium	4.00	U		P
7440-70-2	Calcium	69400.00			P
7440-47-3	Chromium	43.60			P
7440-48-4	Cobalt	8.00	U		P
7440-50-8	Copper	9.00	U		P
7439-89-6	Iron	20.60	B		P
7439-92-1	Lead	20.00	U	NW	F
7439-95-4	Magnesium	19900.00		E	P
7439-96-5	Manganese	2.00	U		P
7439-97-6	Mercury				NR
7440-02-0	Nickel	19.00	U		P
7440-09-7	Potassium	5610.00			P
7782-49-2	Selenium	2.00	U	W	F
7440-22-4	Silver	7.00	U	N	P
7440-23-5	Sodium	14200.00		E	P
7440-28-0	Thallium	2.00	U		F
7440-62-2	Vanadium	19.20	B		P
7440-66-6	Zinc	8.00	U		P
	Cyanide				NR

Color Before: COLORLESS Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

9613402.1863

ROY F. WESTON INC.

INORGANIC DATA SUMMARY REPORT 03/04/93

CLIENT: WESTINGHOUSE HANFORD

WESTON BATCH #: 9302L721

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

SAMPLE	SITE ID	ANALYTE	RESULT	UNITS	REPORTING LIMIT
-001	B08517	Nitrate Nitrite	9.4	MG-N/L	1.0
		pH	7.8	PH UNITS	0.010
		Specific Conductance	567	UMHOS/CM	1.0