START

9613403.0094

9302L709-WES-1043

0043070

APR 1993 RECEIVED OSM DMO

WESTON

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

Client : WESTINGHOUSE HANFORD
RFW# : 9302L709

W.O. #: 06168-002-001-9999-00
Date Received: 02-24-93

INORGANIC

RECORD COPY

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.

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.

5. Replicate results are summarized on the Inorganic Precision Report contained within this document. All results were within the 20% RPD guidance limit with the exception of Total Organic Carbon.

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).

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

3.29.93
Date

pas/i02-709

FEB 1996 RECEIVED EDMC

9613403.0095

Westinghouse Hanford Company

NONCONFORMANCE REPORT

1. Page 1 of 1

2. Preprinted No. 051736

QA Log No. EQA-93-035

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	B07K16	N/A

8. Program/Project/Other	9. Safety Class	10. ASME Code Items
241-T-106/92-336	N/A	☐ Yes ☒ No (If yes, notify authorized inspector)

11. Supplier Name/Address	12. Notification of Potential Occurence Required
ENVIRONMENTAL RESTORATION ENGINEERING	☐ Yes ☒ No

13. Code: Lot/Heat/Serial	14. Lot Size	15. Sample	16. Qty. Acc.	17. Inspection Criteria
N/A	1	1	0	☐ Dwg. ☐ Spec. ☐ Insp. Plan ☒ Other NHC-CM-5.3, Section 1.0, Rev 1

18. Item	19. Description of Nonconformance (list serial no. where applicable)	22. Disposition, Justification, and Instructions
	THE BOTTLE FOR SAMPLE B07K16 WAS RECEIVED FROZEN AND BROKEN AT THE LAB.	With concurrence from J. Freeman-Pollard, Project Engineer, analysis was cancelled for sample B07K16

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

21. Cognizant QA Manager's Signature	Date	24. Corrective Action Required?
[illegible]	3/1/93	☐ Yes, No. _____ ☐ No

Disp. App.	25. Cognizant Engineer	Date	26. Technical Rep.	Date	Signature/Org.	Date
	J. Freeman-Pollard [illegible]	3/9/93				
	QA Engineer	Date	Signature/Org.	Date	Signature/Org.	Date
	RL Hand RL Hand	3/9/93				

Close	27.
	Accept ✓ Reject _____ Follow on NCR _____ RL Hand QA/C Personnel 3/9/93 Date

A-7310-104 (10/91)

9613403.0096

OFFICE OF SAMPLE MANAGEMENT

RECORD OF DISPOSITION

ROD-93-00047
Record of Disposition No.

DATE: 2/22/93	LABORATORY: TMA
PROJECT TITLE/NO.: 241-T-106/92-238	NCR NO.: N/A

SAMPLE IDENTIFICATION NUMBERS:

All samples for this project.

DESCRIPTION OF EVENT:

Analyses for Flouride and Chloride were not asked for on the SAR despite request on SAF.

DISPOSITION OF SAMPLES:

Include Flouride and Chloride in anions analysis.

APPROVAL SIGNATURES:

R.C. Smith / R C Smith — 2/22/93
OSM Project Coordinator (Print/Sign Name) — Date

J. Freeman-Pollard / J Freeman-Pollard — 3/1/93
Technical Representative (Print/Sign Name) — Date

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

9613403.0097

OFFICE OF SAMPLE MANAGEMENT

RECORD OF DISPOSITION

ROD-93-00055
Record of Disposition No.

DATE: 2/25/93	LABORATORY: WESTON
PROJECT TITLE/NO.: 241-T-106/92-336	NCR NO.: 051736

SAMPLE IDENTIFICATION NUMBERS:

B07K16

DESCRIPTION OF EVENT:

The bottle for TOC analysis for sample B07K16 was received frozen and broken at the lab.

DISPOSITION OF SAMPLES:

With concurrence from J. Freeman-Pollard, project engineer, cancel analysis for sample B07K16.

APPROVAL SIGNATURES:

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

J. Freeman-Pollard/
Technical Representative (Print/Sign Name) — Date

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

9613403.0098

QUALITY ASSURANCE

NONCONFORMANCE REPORT DISTRIBUTION

1. FROM:	2. MSIN:	3. DATE:
EQA	H4-16	2/26/93

4. NCR No.:	5. Initiation, Disposition, or Closure (I, D, C):
051736 / EQA-93-035	

6. TO:	MSIN	I	D	C
Cognizant Engineer J. Freeman-Pollard	H6-03			
Cognizant Quality Engineer RL Hand	H4-16			
Originator RC Smith	H4-16			
Q. A. Manager				
Cognizant QE Manager TL Bennington	H4-16			
Facility Manager				
Engineering Records				
Safety				
QSDM	L4-86			
Other: JCS Package				
Q. C.				
Buyer (Procurement)				
P.O. File (Procurement)				
Vendor File (Procurement)				
EQA File	H4-16			
BM Colley	H4-23			
JH Kessler	H4-23			

MAR 1993

7. QST Codes

Subject:	Cause:	Contr. Factor:	PPG:
PR-005	PN-006-005		

8. Responsible Action Party:	Org Code:
J. Freeman-Pollard	81320

A-6000-816 (09/9

9613403.0099

ROY F. WESTON INC.

INORGANIC DATA SUMMARY REPORT 03/26/93

CLIENT: WESTINGHOUSE HANFORD

WESTON BATCH #: 9302L709

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

SAMPLE	SITE ID	ANALYTE	RESULT	UNITS	REPORTING LIMIT
-001	B07K18	% Solids	89.4	%	0.10
		Total Organic Carbon	2920	MG/KG	98.0
-002	B07K20	% Solids	84.7	%	0.10
		Total Organic Carbon	2020	MG/KG	250

20

WESTON Analytics Use Only

93021709

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: 2/24/93 Date Due: 3-31-93
Account #: WS-Hanford

Refrigerator #						4									
#/Type Container	Liquid					1/AG									
	Solid					1/AG									
Volume	Liquid					250m									
	Solid					125m									
Preservatives						—									
ANALYSES REQUESTED →		ORGANIC							INORG						
		VOA	BNA	Pest/PCB	Herb	TOC			Metal	CN					

WESTON Analytics Use Only

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

Lab ID	Client ID/Description	Matrix QC Chosen (✓) MS	MSD	Matrix	Date Collected	Time Collected	TOC
001	B07K18	RAD		S	2/12/93	09:15	X
002	B07K20	RAD		S	2/12/93	10:15	X
003	B07K16			W	2/12/93	07:30	X — Cancel; Rec'd Frozen & Broken

FIELD PERSONNEL: COMPLETE ONLY SHADED AREAS

Special Instructions:
Run 1 MS/MSD
Temp = 5.1°C

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

WESTON Analytics Use Only

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

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

Relinquished by	Received by	Date	Time
Yellow Fright	[signature]	2-24-93	11:00 am
	BSS	2-24-93	

Relinquished by	Received by	Date	Time
	BSS	2-24-93	

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

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

9613403.0100

9613403.0101

Westinghouse Hanford Company	CHAIN OF CUSTODY

Custody Form Initiator Wendy S. Thompson PROJECT NUMBER: 92-336

Company Contact Wendy S. Thompson Telephone (509)376-2153

Project Designation/Sampling Locations 241-T-106 Collection Date 2-12-93

Borehole Number: 299-W10-196 Time 0915;1015;073

Ice Chest No. PNK-BLT-1 Field Logbook No. EFL-1053

Bill of Lading/Airbill No. N/A Radioactive Shipment # RSR ~~18340~~ 15 81 Offsite Property No. N/A wst 2-16-

Method of Shipment ~~Air (Emery)~~ wst 2-16-93 truck Yellow Freight

Shipped to Weston Laboratory "Yellow Freight"

Possible Sample Hazards/Remarks Keep Samples Chilled. All analysis per lab statement of work.

Samples #1 + #2 are Radioactive #1 = 667 pCi/gm #2 = 1.8 nCi/gm

Sample Identification

(1) B07K18 @ 0915 <Dexternal, upto 1000 cpm ~~ex~~ intern wst 2-12-93

1 x 125 ml., amber glass, soil, TOC (Method 9060)

(2) B07K20 @ 1015

1 x 125 ml., amber glass, soil, TOC (Method 9060)

(3) ~~B07K15~~ wst 2-12-93 @ B07K16 0730

1 x 250 ml, amber glass; water (H_2SO_4) TOC

☐ Field Transfer of Custody CHAIN OF POSSESSION (Sign and Print Name)

Relinquished By	Date	Time	Received By	Date	Time
W.S Thompson Wendy S Thompson	2-16-93	1100			
Yellow Freight	2-24-93	11:00 Am	Brian E Shaffer	2-24-93	11:00 Am

Final Sample Disposition

Disposal Method:	Disposed by:	Date/Time:

Comments:

21

A-6000-407 (12/92)

9613403.0102

Westinghouse Hanford Company

SAMPLE ANALYSIS REQUEST

Collector Wendy S Thompson

Date ~~2-6~~ WST 2-16-93 2-12-93

Company Contact Wendy S. Thompson

Telephone (509) 376-2153

	Sample Number	*	Date Collected	Time Collected	Number and Type of Sample Containers/Analysis Requested
1	B07K18	S	2-12-93	0915	1 x 125 ml., amber glass, soil, TOC (Method 9060)
2	B07K20	S	2-12-93	1015	1x 125ml, amber glass soil, TOC
3	B07K16	W	2-12-93	0730	1x250 ml, amber glass, water, TOC (H_2SO_4)

RSJ 2-12-93

*Type of Sample

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

Field Information Samples support the 241-T-106 investigation. All analysis per lab statement of work.

Special Handling and/or Storage KEEP SAMPLES CHILLED.

22

Possible Sample Hazards Sample #1 & #2 is Radioactive #3 is non radioactive. Up to 1000 cpm internal

A-6000-406 (06/91)

AGENCY CONTACT (509) 313-3800 ERG-90 61

9613405.0103

OFFSITE RADIOACTIVE SHIPMENT RECORD

- EXTERIOR INSPECTION PERMITTED -

15812

SHIPPING INST.

SHIP TO:
Company: ROY F. WESTON
Address: 256 Welsh Pool Rd
City, State, Zip: LIONVILLE, PA 19353
Attention: Peg Beatty

Contractor: ☐ PNL ☐ KEH ☒ WHC

Site Carrier: W.S. Thompson

PR No. 67097 Veh. No. 16709 16158 WST 2-16-93

Ship: ☒ Prepaid ☐ Collect Via:
☒ Motor-Rail ☐ Air Psgr.
☐ Excl. Use ☐ Air Cargo
☐ DOE Veh. ☐ Mail
☒ UPS Sur. ☐

SHIPMENT DESCRIPTION AND CERTIFICATION

Proper Shipping Name (Radioactive Material,)	UN Number
1. Empty Packages	☐ UN 2908
2. Low Specific Activity, n.o.s	☐ UN 2912
3. Limited quantity, n.o.s.	☒ UN 2910
4. N.O.S.	☐ UN 2982
5. Fissile n.o.s.	☐ UN 2918
6. Special Form, n.o.s.	☐ UN 2974
7. Instruments & Articles	☐ UN 2911
8.	☐

Material Form: ☐ Special (A1) ☒ Normal (A2)

Labels Applied: ☐ Empty ☐ Radioactive LSA ☐ White I ☐ Yellow II ☐ Yellow III ☒ None ☐ Danger (Air Cargo) ☐ Secondary

Material Category: ☐ Empty ☐ Low Specific Act. (LSA) ☒ Limited Quantity ☐ Type A Quantity ☐ Type B Quantity ☐ Highway Route Controlled Quantity

For Normal Form Identify:
Physical Form: ☒ Solid ☐ Liquid ☐ Gas
Chemical Form: ☐ Metal ☐ Oxide ☒ Elemental ☐ Nitrate
Other

TYPE PACKAGE: ☒ Strong Tight ☐ Type A ☐ Type B ☐ Type B (U) ☐ Type B (M)

CONSTRUCTION: ☐ Box, FB ☐ Wood ☐ Steel ☐ Drum ☐ Cask ☒ Other polyeoob

FISSILE CLASS: ☐ Non Fissile ☒ Fissile Exempt ☐ Fissile I ☐ Fissile II ☐ Fissile III
Grams Fissile

SNM: ☐ No ☒ Yes ☒ <1 gr ☐ Category I ☐ Category II ☐ Category III

ACCOUNTABILITY/SECURITY CONTROL: ☐ Classified ☒ Unclassified
Consignee authorized to receive this qty ☒
Sig. Security Svc. Req. ☐ NA ☒
Pu, EU > 1 g ☐ N/A NU, DU > 1 Kg ☐
Security Escorts Req. ☐ Not. Req. ☒
External Cask Temperature N/A ☒
(Max. 122° F LTL, 180° F Ex. Use) °F

Packaging conforms to appropriate packaging procedure ☐ N/A ☒ Yes
Complies with D. O. T. packaging marking and labeling requirements ☐ N/A ☒ Yes
Container acceptability documented (incl. 7A cert.) ☒ N/A ☐ Yes

Container examined: No evidence of deterioration or damage ☒ Yes
QA Inspection Current ☐ Yes ☒ N/A Seals required ☒ No ☐ Yes
Shipping Doc. 49CFR Authorization No. N/A

No. Pkgs.	Model Package	COC/Spec. No.	Serial No.	Seal No.	Isotopes	Curies/Pkg	T.I.	Gr. Wt.
1	paintcan strong tight	N/A	N/A	N/A	Cs137, Sr90, Pu 238, Pu239, Co60	0.497 µCi	0	35 lb
	2 soil samples, double bagged inside paint can, placed inside an ice chest, surrounded by ice (one non radioactive water sample)				Samples # B07K16, B07K18, B07K			
	(Shipper may describe package in detail on one of unused lines above)				TOTAL	0.497 µCi	0	35 lb

This is to certify that the above named materials are properly classified, described, packaged, marked and labeled, and are in proper condition for transportation, according to the applicable federal, state, local and international regulations for the transportation of hazardous materials.

Certifier's Signature: Henry Thompson Date: 2-16-93 Organization: ENV. FIELD SERV. Complete Cost Code (inc. end function): PF5AG

AREA MONITOR

Surface Dose Rate of Package: ☑ ≤0.5 or ___ mrem/hr (N + βγ)
Dose Rate at 1 Meter from Surface of Package: ☑ ≤0.5 or ___ mrem/hr (N + βγ)
Smears of Outer Container: ☑ ≤22 dpm βγ/cm² ☑ ≤2.2 dpm α/cm²
TRUCK LOAD OR EXCLUSIVE USE
Surface: ☑ ≤ 200 mrem/hr (N + βγ)
@ 6 feet: ☑ ≤ 10 mrem/hr (N + βγ)
@ Cab or Sleeper ☑ ≤ 2.0 mrem/hr (N + βγ)

Additional Data and Instructions (inc. Readings on Internal Packaging): Internal max 10,000 DPM β-γ

Signature - Radiation Monitoring: [illegible] Bldg. T-106 Survey No. 110193 Date 2-16-93

APPROVAL

AUTHORIZATION FOR SHIPMENT

AIR TRANSPORT CERTIFICATION ▸ Cargo Only: ☐ Danger Labels Applied
Passenger: ☐ 1. Ltd. Qty. ☐ 2. ≤3 T.I. ☐ 3. Research or Medical Diagnosis ☐ 4. Human Medical Research
Pkg. Dimensions N/A

Traffic has inspected and verified preshipment compliance to DOT regulations.

Authorized Signature ▸ [illegible] Printed Name ▸ Keith R. Smith Date ▸ 2-16-93

APPROVED FOR OFFSITE SHIPMENT

TRAFFIC

B. L. No.	Date Shipped	E.T.A.	Routing	
RMW-8006	2/16/93	2/26/93	Yellow	☐ N/A

Placards: ☐ Yes ☒ No
Route Plan: ☐ Yes ☒ No

Surveyed By	Date	Approved for Shipment	Date
[illegible]	2-16-93	Westinghouse Hanford Company [illegible]	2/16/93

Received _____ Date _____

54-6000-088 (10/88) 2