0012370

SINGLE-SHELL TANK WASTE CHARACTERIZATION FOR TANK 241-U-110 CORE 8

DATA PACKAGE

SECTION

6 OF 7

Westinghouse
Hanford Company

012370
6 of 7

OSM RCRA LEVEL C DATA ASSESSMENT

DATE 12-16-90

REVIEWED BY C.J. Simiele

LABORATORY WHC-2225

CASE # SST-241-U-110

SDG # 89-052
Core 8 Seq. 3

SAMPLES/MATRIX (Comp of 1 Sample)

DATA ASSESSMENT SUMMARY

QUALITY CONTROL CHECK	ANALYSIS			
1.				
2.				
3.				
4.				
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

OVERALL ASSESSSMENT: Sampler was empty.

NOTES:

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

Westinghouse
Hanford Company

P.O. Box 1970 Richland, WA 99352

222-S/RCRA Analytical Laboratories

Project:	Single-Shell Tank Waste Characterization
Tank:	**241-U-110**
Core:	**8**
Segment:	**3**
Customer Id.	**89-052**
Date	**6-15-90**

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Appendix A
Analytical Analysis Cards

I have reviewed this report and certify that the package is in compliance with SD-CP-QAPP-002. I found it to be a true and accurate accounting both technically and for completeness of the laboratory analyses performed on this sample.

Herlene S. Rich — Date 06-25-90

Cary M. Seidel
Unit Manager — Date 6-25-90

Larry H. Taylor
Laboratory Q.A. Officer — Date 7-10-90

INTRODUCTION

INTRODUCTION

Westinghouse Hanford Company 222-S/RCRA Analytical Laboratories are supporting the characterization efforts of the single shell tanks. The characterization of tank 241-U-110 was performed under Phase 1A and 1B of the Waste Characterization Plan for the Hanford Site Single-Shelled Tanks (WHC-EP-0210).

Tank 241-U-110 has a 500,000 gallon capacity, construction was completed in 1944. The tank received first cycle waste, REDOX high-level waste, coating waste, and laboratory waste until 1975. Between July 7, 1975 and February 2, 1976, P-10 pumps were installed, and 41,700 gallons of liquid waste were pumped from the tank. Tank 241-U-110 still contains an estimated 195,000 gallons of waste.

222S/RCRA Analytical Laboratories performs all analytical analysis to the specifications of WHC-SD-CP-QAPP-002. In accordance with WHC-SD-CP-QAPP-002 the following laboratory policies are being followed. Spikes are performed on either the undissolved sample, or the sample after dissolution as directed by the chemist. If the spike addition is found to be less than 20% of an analyte concentration, the spike recovery is not reported due to errors introduced by the precision of the sample analysis. The concentration of spike additions will be re-evaluated before the start of phase 1C. Two spiking routines are being used during phase 1A and 1B. For the following analyses, Ion Chromatography, Inductive Coupled Plasma, Mercury Hydride, Total Organic Carbon, and Carbonate analyses the solid sample is spiked and digested independently from the sample digestion. Any non-homogeneity of the sample could adversely affect the spike recoveries. For the radio-isotopic analysis and other analyses not specified above the spikes were performed by spiking an aliquot of sample after digestion.

The laboratory does not report sample results from batch analyses that are questionable. The results from questionable batches are discarded and the analysis is repeated. Sample cards (laboratory travelers) for the repeated analysis are reissued for analysis after they have been stamped "rerun". Laboratory travelers are issued using a computerized routine according to a "sample point". This sample point label (segment-n) on the Laboratory travelers and on the GEA analysis reports has no relationship to the sampling activities or the sample identification. All results in this data package relate only to the sample identified as segment 3 from core 8 taken from tank 241-U-110.

The orgnic analysis of htis sample will be performed by Pacific Laboratories (PNL). Due to instrument and procedure problems, PNL has been unable to separate organics from the normal paraffin hydrocarbon present in the samples. The results from the organic analysis will be provided when available.

Samples analyzed for total organic carbon between November 1, 1989 and February 22, 1990 were not acidified. The results from these analyses include total organic carbon, carbonate, and dissolved carbon dioxide from the air. The validity of these analysis are subject to interpretation. The total organic carbon procedure was corrected and these analyses will be repeated there-ever possible.

This report documents the receipt of empty sampling equipment into the laboratory. No analytical data is presented in this report.

SAMPLING AND CUSTODY DATA

F-345
9

CHAIN-OF-CUSTODY RECORD FOR CORE SAMPLING

(1) Shipment Number 5-027-89 (2) Sample Number 89-052 (3) Supervisor D.C. Hartley

(4) Tank 110A (5) Riser 1 (6) Segment #3 (7) Cask Serial Number 1007C

Radiation Survey Data:	(8) FIELD	(20) LABORATORY
Over Top Dose Rate	<1.5MR/HR	<0.5mrad/hr
Side Dose Rate	<1.5MR/HR	<0.5mrad/hr
Bottom Dose Rate	<1.5MR/HR	<0.5mrad/hr
Smearable Contamination	<DET (alpha)	<DET (alpha)
	<DET (beta-gamma)	<DET (beta-gamma)
	RPT (Signature)	RPT (Signature)

(9) Shipment Description:

A. Work Package Number	2W-89-00953/W
B. Cask Seal Number	For Future Use
C. Sampler Number, Used	23
D. Date and Time Sampler Unseated	11-17-89, 1545
E. Expected Liquid Content	20%
F. Expected Solid Content	80%
G. Dose Rate Through Drill String	1 MR/HR
H. Expected Sample Length	14"

(10) INFORMATION (*Include statement of laboratory tests to be performed.**)

Core #8, WHC-EP-0210 Waste Characterization Plan for the Hanford Single Shell Tanks

*Reference laboratory work request, if available.

Comments:

(11) POINT OF ORIGIN	(12) SENDER NAME / SENDER SIGNATURE	(13) DATE AND TIME RELEASED	(14) DESTINATION	(16) RECIPIENT NAME / RECIPIENT SIGNATURE	(17) DATE AND TIME RECEIVED
241-A 110	DC Hartley	11-20-89 2107	222S LABS. 200 West	MS HARRIS	11-20-89 2145

(15) Seal Intact Upon Release? ☒ Yes ☐ No

(18) Seal Intact Upon Receipt? ☒ Yes ☐ No

(19) Seal Data Consistent with this Record? Shipment No. ☒ Yes ☐ No Sample No. ☒ Yes ☐ No

Single Shell Tank Waste Characterization
Summary of Core Sample

Phase I-A

Tank ID:	241-U-110
Riser ID:	7
Core ID:	8

Date Sampling Initiated:	11-27-89
Date Sampling Completed:	11-28-89

Segment 1	Lab Serial No.	F0289
	Customer ID. No.	89-050
	Last Segment?	NO
Segment 2	Lab Serial No.	*F0321
	Customer ID. No.	89-051
	Last Segment?	NO
Segment 3	Lab Serial No.	*F0345
	Customer ID. No.	89-052
	Last Segment?	NO
Segment 4	Lab Serial No.	*F0369
	Customer ID. No.	89-053
	Last Segment?	YES
Segment 5	Lab Serial No.	
	Customer ID. No.	
	Last Segment?	
Segment 6	Lab Serial No.	
	Customer ID. No.	
	Last Segment?	
Segment 7	Lab Serial No.	
	Customer ID. No.	
	Last Segment?	
Segment 8	Lab Serial No.	
	Customer ID. No.	
	Last Segment?	
Segment 9	Lab Serial No.	
	Customer ID. No.	
	Last Segment?	
Segment 10	Lab Serial No.	
	Customer ID. No..	
	Last Segment?	
Segment 11	Lab Serial No.	
	Customer ID. No.	
	Last Segment?	
Segment 12	Lab Serial No.	
	Customer ID. No.	
	Last Segment?	
Segment 13	Lab Serial No.	
	Customer ID. No.	
	Last Segment?	
Segment 14	Lab Serial No.	
	Customer ID. No.	
	Last Segment?	

* Notes CASK WERE RECEIVED EMPTY.

Segment 89-050 will be analyzed using the core composite schedule.

Prepared by:	Signature	H.S. RICH. Printed Name	Date: 6-11-90
Verified by:	Signature	C.M. SEIDEL Printed Name	Date: 6-11-90
Approved by:	Signature	L.H. Taylor Printed Name	Date: 7-10-90

PHYSICAL TEST RESULTS

Single Shell Tank Extrusion of Segment -- Physical Tests	Phase I-A

Lab Segment Serial No.: F0345 Customer ID: 89-052

Analyst: RICHARD L. WEISS Date Extruded: 11-27-89

Drainable Liquid Liquid Submitted for Segment Analysis? -- No

Gross	Tare	Net
Serial	Date/Time_____/_____	Estimated
Specific	Calculated	

Appearance of Liquid:

Dimensions of Segment

Complete Segment Obtained? NO	Length: O IN	Calculated Volume: O CUBIC IN
Remarks SAMPLER WAS RECEIVED EMPTY		

Appearance of Solid:

Penetrometer	lbs/sq in	Remarks:

Homogenization

Procedure: T038A-00712 Revision: F	Quantity of Material grams
Date Homogenized:	Time Homogenized: Minutes
Opperator:	

Laboratory Notebook Reference	Notebook No.	Page No.

Prepared by: H. S. Rich (Signature)	H. S. RICH (Printed Name)	Date:	06-11-90
Verified by: Cary M Seidel (Signature)	C. M. SEIDEL (Printed Name)	Date:	06-11-90
Approved by: L. H. Taylor (Signature)	L. H. Taylor (Printed Name)	Date:	9-10-90

Interim 3/27/90 Rev. C SST-3

APPENDIX A

Analytical Cards

Serial No	Sample Point	Date	Time Issued	Priority
F 369.-5000	SEGMENT-B	11-21-89	9: 2	18

Determination	Method/Standard	Result Units	Charge Code	Reruns
APPR/OTR	LI-000-200	NONE	WB75L	0

Sample Size	Customer ID
?	89-053

Remarks, Calculations, Results:

A. JAR ID#
B. JAR TARE WT.
C. JAR TOTAL WT.
D. C-B=
E. EST. VOL./LENGTH
F. VISUAL REMARKS

No Sample
Piston Rod still in sampler No Sample Possible

Analyst - 1	Analyst - 2	Analyst - 3	Analyst - 4	Analyst - 5
RLH 11-27-89				
Hrs	Hrs	Hrs	Hrs	Hrs
Date	Time Completed	Lab Unit Mgr		

84-8400-081 (R-10-83)

Serial No.	Sample Point	Date	Time Issued	Priority
F 345.-5000	SEGMENT-B	11-21-89	8:44	18

Determination	Method/Standard	Result Units	Charge Code	Reruns
APPR/OTR	LI-000-200	NONE	WB75L	0

Sample Size	Customer ID
?	89-052

Remarks, Calculations, Results:

A. JAR ID#
B. JAR TARE WT.
C. JAR TOTAL WT.
D. C-B=
E. EST. VOL./LENGTH
F. VISUAL REMARKS

No Sample
Empty

Analyst - 1	Analyst - 2	Analyst - 3	Analyst - 4	Analyst - 5
RLH 11-27-89				
Hrs	Hrs	Hrs	Hrs	Hrs
Date	Time Completed	Lab Unit Mgr		

84-8400-081 (R-10-83)

Serial No.	Sample Point	Date	Time Issued	Priority
F 321.-5000	SEGMENT-B	11-21-89	8:40	18

Determination	Method/Standard	Result Units	Charge Code	Reruns
APPR/OTR	LI-000-200	NONE	WB75L	0

Sample Size	Customer ID
?	89-051

Remarks, Calculations, Results:

A. JAR ID#
B. JAR TARE WT.
C. JAR TOTAL WT.
D. C-B=
E. EST. VOL./LENGTH
F. VISUAL REMARKS

NO SAMPLE

Analyst - 1	Analyst - 2	Analyst - 3	Analyst - 4	Analyst - 5
RLH 11-27-89				
Hrs	Hrs	Hrs	Hrs	Hrs
Date	Time Completed	Lab Unit Mgr		

84-8400-081 (R-10-83)