NOV 07 1991

Tank Farm Surveillance and Waste Status Report for July 1991

Prepared for the U.S. Department of Energy
Office of Environmental Restoration
and Waste Management

Westinghouse
Hanford Company Richland, Washington

Hanford Operations and Engineering Contractor for the
U.S. Department of Energy under Contract DE-AC06-87RL10930

Approved for Public Release

DISTRIBUTION OF THIS DOCUMENT IS UNLIMITED

LEGAL DISCLAIMER

This report was prepared as an account of work sponsored by an agency of the United States Government. Neither the United States Government nor any agency thereof, nor any of their employees, nor any of their contractors, subcontractors or their employees, makes any warranty, express or implied, or assumes any legal liability or responsibility for the accuracy, completeness, or any third party's use or the results of such use of any information, apparatus, product, or process disclosed, or represents that its use would not infringe privately owned rights. Reference herein to any specific commercial product, process, or service by trade name, trademark, manufacturer, or otherwise, does not necessarily constitute or imply its endorsement, recommendation, or favoring by the United States Government or any agency thereof or its contractors or subcontractors. The views and opinions of authors expressed herein do not necessarily state or reflect those of the United States Government or any agency thereof.

This report has been reproduced from the best available copy.
Available in paper copy and microfiche.

Available to the U.S. Department of Energy
and its contractors from
Office of Scientific and Technical Information
P.O. Box 62
Oak Ridge, TN 37831
(615) 576-8401

Available to the public from the U.S. Department of Commerce
National Technical Information Service
5285 Port Royal Road
Springfield, VA 22161
(703) 487-4650

Printed in the United States of America

DISCLM-1.CHP (1-91)

WHC-EP--0182-40

DE92 002234

Tank Farm Surveillance and Waste Status Report for July 1991

B. M. Hanlon

Date Published
September 1991

Prepared for the U.S. Department of Energy
Office of Environmental Restoration
and Waste Management

**Westinghouse
Hanford Company**

P.O. Box 1970
Richland, Washington 99352

Hanford Operations and Engineering Contractor for the
U.S. Department of Energy under Contract DE-AC06-87RL10930

MASTER

Approved for Public Release

JMS

DISTRIBUTION OF THIS DOCUMENT IS UNLIMITED

APPROVAL

Prepared by: B. M. Hanlon 8/14/91
B. M. Hanlon
Engineer Date

Approved by: G. T. Frater 8-30-91
G. T. Frater
Manager, Tank Farm
Surveillance Analysis Date

**TANK FARM SURVEILLANCE AND WASTE STATUS
SUMMARY REPORT FOR JULY 1991**

B. M. Hanlon

ABSTRACT

This report is the official inventory for radioactive waste stored in underground tanks in the 200 Areas at the Hanford Site. Data that depict the status of stored radioactive waste and tank vessel integrity are contained within the report. The intent of the report is to provide data on each of the existing 177 large underground waste storage tanks and 49 smaller catch tanks and special surveillance facilities, and to provide supplemental information regarding tank surveillance anomalies and ongoing investigations.

This page intentionally left blank.

CONTENTS

SUMMARY	1
TANK STATUS	1
TANK INVESTIGATIONS	1
HIGHLIGHTS	3
Appendixes:	
A. TANK AND EQUIPMENT CODE/STATUS DEFINITIONS	A-1
Tank and Equipment Code and Status Definitions	A-3
B. TANK FARM CONFIGURATION, STATUS AND FACILITY CHARTS	B-1
1 High-Level Waste Tank Configuration	B-3
2 Double-Shell Tank Instrumentation Configuration	B-4
3 Single-Shell Tank Instrumentation Configuration	B-5
4 Double-Shell Tank Status	B-7
5 200 E Single-Shell Tank Status	B-9
6 200 W Single-Shell Tank Status	B-11
7 Hanford Tank Farms Facilities Chart	B-13
C. MONTHLY SUMMARY	C-1
1 Monthly Summary	C-3
2 Tank Use Summary	C-4
3 Inventory Summary by Tank Farm	C-5
4 Inventory and Status by Tank - Double-Shell Tanks	C-6
5 Inventory and Status by Tank - Single-Shell Tanks	C-9
D. PERFORMANCE SUMMARY	D-1
1 Performance Summary	D-3
E. LIQUID STATUS AND PUMPABLE LIQUID REMAINING IN TANKS	E-1
1 Liquid Status and Pumpable Liquid Remaining in Tanks	E-3
F. PUMPING RECORD	F-1
1 Pumping Record	F-3
G. CATCH TANKS AND SPECIAL SURVEILLANCE FACILITIES	G-1
1 East and West Area Catch Tanks (Active)	G-3
2 East Area Catch Tanks (Inactive)	G-4
3 West Area Catch Tanks (Inactive)	G-5
H. LEAK VOLUME ESTIMATES	H-1
1 Leak Volumes Estimated and Reported Before 1989 (39 Tanks)	H-3
2 Leak Volumes Estimated in 1989 (27 Tanks)	H-5

LIST OF FIGURES

1	Tank 101-SY Surface Level Readings	13
---	--	----

LIST OF TABLES

1	Watch List Tanks	4
2	Tanks Containing >1,000 gram mole of Ferrocyanide (Watch List Tanks)	5
3	Single-Shell Tanks with High Heat Loads (>40,000 BTU/hr)	6
4	Tanks with Potential for Hydrogen or Flammable Gas Accumulation Above the Flammability Limit (Watch List Tanks)	7
5	Tanks Containing Potentially High Concentrations of Organic Salts ≥10 Weight % TOC (Watch List Tanks)	8
6	Single-Shell Tanks Interim Stabilization and Isolations Schedule	9
7	Interim Stabilizations Status for Watch List Tanks	11
8	Double-Shell Tank Waste Type and Space Allocation	12

METRIC CONVERSION CHART		
1 inch	=	2.54 centimeters
1 foot	=	30.48 centimeters
1 gallon	=	3.80 liters
1 ton	=	0.90 metric tons
$1\text{ }^{\circ}\text{F} = \left(\frac{9}{5}\text{ }^{\circ}\text{C}\right) + 32$		
1 Btu/h = 2.930711 E-01 watts (International Table)		

TANK FARM SURVEILLANCE AND WASTE STATUS SUMMARY REPORT FOR JULY 1991

SUMMARY

Note: Changes from the previous month are in bold print.

TANK STATUS

Category	Quantity	Date of Last Change
In-Service Tanks ^c	28 double-shell	10/86
Out-of-Service Tanks ^a	149 single-shell	07/88
Assumed-Leaker Tanks	66 single-shell	09/88
Interim-Stabilized Tanks ^{b,d}	105 single-shell	09/90
Interim-Isolated Tanks ^e	94 single-shell	09/90

^a All 149 single-shell tanks were removed from service (i.e., no longer authorized to receive waste) as of November 21, 1980.

^b Of the 105 tanks classified as interim stabilized, 56 have been listed as "questionable integrity" or "confirmed leakers" in past documents.

^c Five double-shell tanks listed as "in service" are currently not receiving waste because of inclusion on the Hydrogen Watch List.

^d Of the 48 single-shell tanks on Watch Lists, 21 have been Interim Stabilized.

^e Of the 48 single-shell tanks on Watch Lists, 16 have been Interim Isolated.

TANK INVESTIGATIONS

Tank 241-SY-101. The surface level within this tank continues to fluctuate. The surface level increase/decrease phenomena has been observed since 1981, and is attributed to the buildup and release of gas beneath the crusted surface. An investigation into solutions to the slurry growth problems is ongoing. Multiple Event Fact Sheets, a Critique Report, Occurrence Reports Nos. 77-64, 77-92, 77-175, 77-207, 78-16, 79-11, Discrepancy Reports, and Unusual Occurrence Reports have been issued. The Food Instrument Corporation (FIC) gauge, manual tape, and radar gauge measurement devices showed an upward trend in the surface level measurement during the month of June. The FIC and manual tape surface level measurement anomalies were seen June 11 to June 14 and June 19 to June 22, 1991. The radar gauge did not show these apparent anomalies, and is most likely the best representation of the surface level during the later part of June. The FIC surface level measurement showed 407.8 in. on July 7, and 409.45 in. on July 8, 1991. This increase is attributed to the uneven crust where the FIC surface level measurements are being taken. Photographs of the FIC show measurements being taken in and out of dimples in the uneven crust. The radar gauge also did not show these apparent anomalies. There was a very slow increase to 409.5 in. on July 31, 1991.

Potential or Assumed Leaks

Catch Tank 241-S-302-A. Surface level measurement decreases have been observed after noted increases attributed to rain. The decreases in this tank could not be accounted for and were assumed to be indicative of a leak. Event Fact Sheet TF-EFS-90-042 was issued June 8, 1990. Pumping of the tank commenced June 14, 1990, and Unusual Occurrence Report WHC-UO-90-23-TF-05 was issued June 21, 1990. Pumping was completed on July 13, 1990. At that time the surface level measurement device was touching on solids (surface level was 14.20 in.), and less than 400 gal of liquid remained in a visible pool. Total gallons pumped was 2,660. Occurrence Report WHC-90-B013-TFarm, an update to WHC-UO-90-23-TF-05 (TF-EFS-90-042), was issued November 12, 1990. The Westinghouse Hanford Company and U.S. Army Corps of Engineers developed a plan to perform a temporary repair of this tank in order to support required transfers of facilities waste to the tank farms. This temporary repair, involving grout being added to the tank, would allow near-term transfers to proceed pending planned replacement with a new tank. The pouring of the first of three layers of grout was accomplished on February 26, 1991. The remaining pours were completed and 4,400 gal of water were added on March 20 to facilitate leak testing. Upon completion of the leak testing, the ultrasonic leak test data and the FIC gauge data was analyzed, and it was determined that the slow decrease in the liquid level was not the effect of temperature variations or evaporation. It was concluded that the catch tank is still leaking. On April 16, 1991, the tank was pumped to remove water that was added to perform the leak test. New criteria limits have been established for the tank, and the surface level will not be allowed to increase more than 0.5 in. from the baseline of 54.0 in. without attempting to pump. On June 4, 1991, the surface level increased to 54.7 in., exceeding the 0.5-in. increase criteria by 0.2 in. Occurrence Report RL-WHC-TANKFARM-191-1018 was issued June 5, 1991. The increase was attributed to an intrusion of approximately 90 gal of water that had leaked from a faulty hose connection to a diversion box which drains directly into S-302-A. This occurred during maintenance activities to install a replacement catch tank for S-302-A. On June 12, 1991, the tank was pumped. The surface level measurement remained stable at 54.5 in. through July 1991. Preliminary work is in progress to replace this catch tank. The new tank is expected to be in service before September 30, 1991.

Potential or Assumed Intrusions:

The following tanks are on report for potential in-leakage (intrusions) from known/unknown sources.

Tank 241-TX-115. The Liquid Observation Well (LOW) scans revealed an Interstitial Liquid Level (ILL) increase in excess of the established 0.4 ft. increase criteria in May 1987. Comparison of past and present in-tank photographs show no significant change in surface conditions or obvious evidence of intrusion. An Event Fact Sheet was issued on January 9, 1990. The ILL showed an increase of 0.4 ft on March 1, 1991. The increase was verified on March 11, 1991. Engineering Testing is conducting an intrusion investigation for this tank. These LOWs are monitored quarterly, alternating every six weeks with the neutron and gamma probes. The ILL showed no further increase on the scan taken June 7, 1991.

Tank 241-S-107. A slow increase in the surface level has been observed since May 1987, but it has not exceeded the 2.00-in. increase criteria. This tank now appears on the Alert List.

HIGHLIGHTS

1. Saltwell Pumping

Jet pumping in Tanks 102-BY and 109-BY continues. Changes in liquids and solids can be found in Appendix C (Inventory and Status by Tank, Single-Shell Tanks) and the Changes section immediately following Appendix C.

Changes to the Summary Report:

1. Monthly Summary

Table 1 (Watch List Tanks) has been added. This table lists the tanks identified as being on the Watch List.

Tables 2 through 5 (temperatures for tanks containing ferrocyanide, hydrogen, organic salts or having high heat loads) have been modified. These tables all now have columns for ASSUMED LEAKED DATED (or SOUND) and INTERIM STABILIZED DATE (or Not Applicable).

Former Table 5 (Single-Shell Tanks on Active Ventilation) has been deleted. A statement has been added to the new Table 5 (Single-Shell Tanks with High Heat Loads) that "all high heat load tanks are on active ventilations." Failure of any of the cooling systems for these tanks will be reported in the Summary section.

Figure 2 (Double-Shell Tanks Overall Waste Flow and Disposal) has been deleted. The figure has appeared in the document for four months and is no longer needed for reference.

TABLE 1. WATCH LIST TANKS

These tanks have been identified as Watch List Tanks in accordance with Public Law 101-510, Section 3137, "Safety Measures for Waste Tanks at Hanford Nuclear Reservation," (1990). Tables 2 through 5 give more information on these tanks.

July 1991

Single-Shell Tanks		Single-Shell Tanks		Single-Shell Tanks	
Tank No.	Category	Tank No.	Category	Tank No.	Category
101-A	Hydrogen	108-C	Ferrocyanide	110-T	Hydrogen
101-AX	Hydrogen	109-C	Ferrocyanide	105-TX	Organic Salts
103-AX	Hydrogen	111-C	Ferrocyanide	118-TX	Ferrocyanide
103-B	Organic Salts	112-C	Ferrocyanide	101-TY	Ferrocyanide
102-BX	Ferrocyanide	102-S	Hydrogen,	103-TY	Ferrocyanide
106-BX	Ferrocyanide		Organic Salts	104-TY	Ferrocyanide
110-BX	Ferrocyanide	111-S	Hydrogen	103-U	Hydrogen
111-BX	Ferrocyanide	112-S	Hydrogen	105-U	Hydrogen
101-BY	Ferrocyanide	101-SX	Hydrogen	106-U	Organic Salts
103-BY	Ferrocyanide	102-SX	Hydrogen	107-U	Organic Salts
104-BY	Ferrocyanide	103-SX	Hydrogen	108-U	Hydrogen
105-BY	Ferrocyanide	104-SX	Hydrogen	109-U	Hydrogen
106-BY	Ferrocyanide	105-SX	Hydrogen	48 Tanks	
107-BY	Ferrocyanide	106-SX	Hydrogen,		
108-BY	Ferrocyanide		Organic Salts	Double-Shell Tanks	
110-BY	Ferrocyanide	109-SX	Hydrogen potential,	Tank No.	Category
111-BY	Ferrocyanide		other tanks vent	103-AN	Hydrogen
112-BY	Ferrocyanide		thru it	104-AN	Hydrogen
103-C	Organic Salts	101-T	Ferrocyanide	105-AN	Hydrogen
106-C	High Heat Load	107-T	Ferrocyanide	101-SY	Hydrogen
				103-SY	Hydrogen
				5 Tanks	

TABLE 2. TANKS CONTAINING >1000 GRAM MOLE OF FERROCYANIDE (Watch List Tanks)

These tanks have been declared an Unreviewed Safety Question (USQ) because their explosion potential exceeds previously reported safety analysis consequences. Ferrocyanide tanks are monitored weekly.

Temperatures in these tanks did not exceed the max. temperature criteria or surveillance frequency limits for the month of July 1991.

All Watch List tanks are reviewed for increasing temperature trends.

Tank No.	Highest Temperature Reading this Month (F.)	Date	Probe Position	FeCN(1) (x1000 gm mole)	Heat Load(2) (BTU/hr)	Assumed Leak Date	Interim Stabilized Date
102-BX	64	07/06/91	TC	0-3	<10000	1971	11/78
106-BX	64	07/06/91	TC	0-1	<10000	Sound	N/A
110-BX	66	07/27/91	TC	0-1	<10000	1976	8/85
111-BX	67	07/06/91	TC	0-1	<10000	1984	N/A
101-BY	74	07/13/91	TC	0-1	8200	Sound	5/84
103-BY	88	07/20/91	LOW	0-1	8600	1973	N/A
104-BY	130	07/03/91	TC	100-200	17000	Sound	1/85
105-BY	112	07/06/91	TC	70-100	37700	1984	N/A
106-BY	130	07/06/91	TC	30	12200	1984	N/A
107-BY	80	07/13/91	TC	30-80	14500	1984	7/79
108-BY	97	07/16/91	TC	30-70	23000	1972	2/85
110-BY	120	07/13/91	TC	50-90	25200	Sound	1/85
111-BY	84	07/16/91	LOW	0-3	34200	Sound	1/85
112-BY	81	07/27/91	LOW	2-3	<10000	Sound	5/85
108-C	75	07/07/91	TC	9-20	<10000	Sound	3/84
109-C	77	07/13/91	TC	30-50	<10000	Sound	11/83
111-C	80	07/07/91	TC	10-30	<10000	1968	3/84
112-C	80	07/07/91	TC	50-70	<10000	Sound	9/90
101-T	67	07/03/91	TC	0-10	<10000	Sound	N/A
107-T	68	07/16/91	TC	0-5	<10000	1984	N/A
118-TX (3)	71	07/27/91	TC	0-3	4900	Sound	4/83
101-TY	68	07/16/91	TC	0-30	<10000	1973	8/83
103-TY	65	07/13/91	LOW	0-30	<10000	1973	2/83
104-TY	68	07/03/91	TC	0-20	<10000	1981	1/83
<div> <div>24 Tanks</div> <div> Legend: TC - Thermocouple Tree LOW - Liquid Observation Well. A single thermocouple is positioned in the well. </div> </div>							

(1) The amounts of FeCN in the tanks were estimated using the Track Radioactive Components (TRAC) program and memo report, L. L. Burger, PNL, Complexant Stability Investigation, Task 1, Ferrocyanide Solids, PNL-5441, dated 1984

(2) The estimated heat generation rates were obtained from memo report, W. S. Lewis and A. T. Alstad to S. J. Joncus, Replacement of Defective Thermocouples in Single-Wall Tanks, dated July 23, 1986. (1 kW = 3412 BTU/hr)

(3) This tank also contains a high concentration (> 10 wt %) of organic salts

N/A = Not Applicable (not yet interim stabilized)

**TABLE 3. TANKS WITH POTENTIAL FOR HYDROGEN OR FLAMMABLE GAS ACCUMULATION
ABOVE THE FLAMMABILITY LIMIT (Watch List Tanks)**

These tanks have been declared an Unreviewed Safety Question (USQ) because of the potential consequences of a radiological release resulting from a hydrogen burn and resulting secondary crust burn, an event not analyzed in previous safety analysis.

Temperatures in these tanks did not exceed the applicable maximum temperature criteria or surveillance frequency limits for the month of July 1991. All Watch List tanks are reviewed for increasing temperature trends.

Tank No.	Highest Temperature Reading this Month (F.)	Date	Monitoring Frequency	Assumed Leaked Date	Interim Stabilized Date
101-A	157	07/06/91	Weekly	SOUND	N/A
101-AX	143	07/06/91	Weekly	SOUND	N/A
103-AX	118	07/06/91	Weekly	SOUND	8/87
102-S (3)	108	07/13/91	Weekly	SOUND	N/A
111-S	94	07/20/91	Weekly	SOUND	N/A
112-S	87	07/03/91	Weekly	SOUND	N/A
101-SX	140	07/13/91	Weekly	SOUND	N/A
102-SX	157	07/07/91	Weekly	SOUND	N/A
103-SX	180	07/07/91	Weekly	SOUND	N/A
104-SX	173	07/13/91	Weekly	1988	N/A
105-SX	186	07/13/91	Weekly	SOUND	N/A
106-SX (3)	107	07/27/91	Weekly	SOUND	N/A
109-SX (2)	146	07/19/91	Monthly	1965	5/81
110-T	61	07/06/91	Weekly	SOUND	N/A
103-U	90	07/06/91	Weekly	SOUND	N/A
105-U	92	07/06/91	Weekly	SOUND	N/A
108-U	90	07/06/91	Weekly	SOUND	N/A
109-U	88	07/06/91	Weekly	SOUND	N/A
103-AN (1)	111	07/19/91	Weekly	SOUND	N/A
104-AN (1)	113	07/29/91	Weekly	SOUND	N/A
105-AN (1)	105	07/15/91	Weekly	SOUND	N/A
101-SY (1)	135	07/15/91	Daily	SOUND	N/A
103-SY (1)	112	07/01/91	Weekly	SOUND	N/A
23 Tanks					

Note: All readings are taken by Thermocouple Tree

(1) Double-shell tanks

(2) This tank has the potential for flammable gas accumulation only because other SX tanks vent through it

(3) These tanks also contain potentially high concentrations of organic salts

**TABLE 4. TANKS CONTAINING CONCENTRATIONS OF ORGANIC SALTS
>10 WEIGHT % TOC (Watch List Tanks)**

These tanks have organic chemicals which are potentially flammable and mixtures of organic materials mixed with nitrate and nitrate salts can deflagrate. They are listed here because of their "potential for release of high level waste because of uncontrolled increases in the temperature or pressure. Tanks containing organic salts are monitored weekly.

Temperatures in these tanks did not exceed the applicable maximum temperature criteria or surveillance frequency limits for the month of July 1991. All Watch List tanks are reviewed for increasing temperature trends.

Tank No.	Highest Temperature		Assumed Leaked		Interim Stabilized	
	Reading this month (F.)	Date	Date		Date	
103-B	62	07/06/91	1978		2/85	
103-C (3)	123	07/21/91	SOUND		N/A	
102-S (1)	108	07/13/91	SOUND		N/A	
106-SX (1)	107	07/27/91	SOUND		N/A	
105-TX	99	07/16/91	1977		9/83	
118-TX (2)	71	07/27/91	SOUND		4/83	
106-U	83	07/06/91	SOUN'D		N/A	
107-U	80	07/06/91	SOUND		N/A	
8 Tanks						

Note: All readings are taken by Thermocouple Tree

- (1) These tanks also have the potential for hydrogen or flammable gas accumulation
- (2) This tank also contains ferrocyanide
- (3) This tank was added due to the presence of a separable organic layer found on the surface

TABLE 5. SINGLE-SHELL TANKS WITH HIGH HEAT LOADS (>40,000 BTU/hr)

High heat load tanks are regulated by Safety Analysis Report SD-WM-SAR-006 and Operating Specification Document OSD-T-151-00013, with the exception of laterals beneath 105-A. All high heat load tanks are on active ventilation.

Temperatures in these tanks did not exceed SAR or OSD requirement limits for the month of July 1991.
These high heat tanks are reviewed for increasing temperature trends.

Tank No.	Highest Temp. Reading this Month (F.)	Date	Probe Position	Monitoring Frequency	Estimated Heat Load (1) (BTU/hr)	Assumed		Interim	
						Leaked	Date	Stabilized	Date
104-A	187	07/20/91	R	Weekly	50000		1975		9/78
105-A	131	07/01/91	R	Weekly	50000		1963		7/79
105-C (2)	96	07/27/91	TC	Monthly	42000	SOUND		N/A	
106-C (2)(3)	160	07/23/91	TC	Weekly	150000	SOUND		N/A	
107-SX	175	07/19/91	TC	Monthly	42000		1964		10/79
108-SX	196	07/19/91	TC	Monthly	45000		1962		8/79
109-SX (3)	146	07/19/91	TC	Monthly	50000		1965		5/81
110-SX	171	07/19/91	TC	Monthly	42000		1976		8/79
111-SX	190	07/19/91	TC	Monthly	44000		1974		7/79
112-SX	157	07/19/91	TC	Monthly	43000		1969		7/79
114-SX	193	07/19/91	TC	Monthly	58000		1972		7/79
11 Tanks									
<div>Legend: Probe Position</div> <div>TC=Thermocouple Tree</div> <div>R=Riser</div>									
105-A Laterals	218	07/15/91		Weekly					

Temperatures are taken in 34 thermocouples located beneath 105-A; although not regulated by SAR-006, the same criteria limits and reporting requirements are applied.

- (1) High heat loads as of 1988, evaluation completed April 20, 1989 (1 kW=3412 BTU/hr). The predominant heat load for these tanks is from CS 137 (half life of 30 yr) and SR 90 (half life of 28.1 yr).
- (2) Periodic water additions are required in these tanks to maintain evaporative cooling and thus prevent overheating. Both tanks are scheduled for interim stabilization in 1996, at which time cooling water additions will be discontinued.
- (3) Watch List Tanks: 106-C, and 109-SX which has the potential for flammable gas accumulation because other SX tanks vent through it.

TABLE 6. SINGLE-SHELL TANKS STABILIZATION AND ISOLATION SCHEDULE (Page 1 of 2)

July 1991																													
FY-91	FY-92	FY-93	FY-94	FY-95	FY-96																								
<u>Begin pumping:</u>																													
BY-102	C-103	BX-106	A-101																										
BY-109	S-102	BX-110*	AX-101																										
C-102	S-111	BX-111	B-104*																										
C-107	S-112	BY-103	B-107*																										
C-110	SX-101	BY-105	B-110*																										
S-101	SX-102	BY-106	B-111*																										
S-103	SX-103	T-101	U-102																										
S-106	SX-104	T-102*	U-103																										
S-107	SX-105	T-104	U-105																										
S-108	SX-106	T-107	U-106																										
S-109		T-110	U-107																										
S-110		T-111	U-108																										
		T-112*	U-109																										
			U-110*																										
			U-111																										
<u>Complete Interim</u>																													
<u>Stabilization:</u>																													
BY-102	C-103	BX-106	B-104*	A-101	C-105																								
BY-109	S-101	BX-110*	B-107*	AX-101	C-106																								
C-102	S-103	BX-111	B-110*	U-102																									
C-107	S-106	S-102	B-111*	U-103																									
C-110	S-107	S-111	BY-103	U-105																									
	S-103	S-112	BY-105	U-106																									
	S-109	SX-101	BY-106	U-107																									
	S-110	SX-102	T-101	U-108																									
		SX-103	T-102*	U-109																									
		SX-104	T-104	U-110*																									
		SX-105	T-107	U-111																									
		SX-106	T-110																										
			T-111																										
			T-112*																										
<div><div>Summary</div><table><tr><th colspan="2">Number of Tanks</th></tr><tr><th>Interim Stabilization</th><th>Isolation</th></tr><tr><td>FY-89</td><td>3</td></tr><tr><td>FY-90</td><td>4</td></tr><tr><td>FY-91</td><td>5</td></tr><tr><td>FY-92</td><td>8</td></tr><tr><td>FY-93</td><td>11 + 1 redo</td></tr><tr><td>FY-94</td><td>8 + 6 redos</td></tr><tr><td>FY-95</td><td>10 + 1 redo</td></tr><tr><td>FY-96</td><td>2</td></tr><tr><td></td><td>51 + 8 redos</td></tr><tr><td></td><td>62 + 6 redos</td></tr></table></div> <div>NOTE: This schedule has been adjusted to accommodate pumping restrictions imposed on Watch List Tanks. SEE PAGE 2 OF THIS TABLE. Pumping will not begin unless the associated safety concerns are resolved or mitigated; therefore there is no guarantee this schedule will be met.</div>						Number of Tanks		Interim Stabilization	Isolation	FY-89	3	FY-90	4	FY-91	5	FY-92	8	FY-93	11 + 1 redo	FY-94	8 + 6 redos	FY-95	10 + 1 redo	FY-96	2		51 + 8 redos		62 + 6 redos
Number of Tanks																													
Interim Stabilization	Isolation																												
FY-89	3																												
FY-90	4																												
FY-91	5																												
FY-92	8																												
FY-93	11 + 1 redo																												
FY-94	8 + 6 redos																												
FY-95	10 + 1 redo																												
FY-96	2																												
	51 + 8 redos																												
	62 + 6 redos																												

* Possible restabilization required

TABLE 6. SINGLE-SHELL TANKS STABILIZATION AND ISOLATION SCHEDULE (Page 2 of 2)

July 1991

Interim Stabilization (IS)			Interim Stabilization (IS)			Watch List Tanks		
Tank No.	Begin IS	Complete IS	Tank No.	Begin IS	Complete IS	Tank No.	Begin IS	Complete IS
<u>(1) Pumping on hold due to Ferrocyanide content.</u>								
BX-106	1993	1993	<u>(4) Pumping on hold due to high concentrations of Organic Salts.</u>			A-101	1994	1995
BX-110	1993	1993	C-103	1992	1992	AX-101	1994	1995
BX-111	1993	1993	S-102	1992	1993	BX-106	1993	1993
BY-103	1993	1994	SX-106	1992	1993	BX-111	1993	1993
BY-105	1993	1994	U-106	1994	1995	BY-103	1993	1994
BY-106	1993	1994	U-107	1994	1995	BY-105	1993	1994
T-101	1993	1994	<u>(5) Possible restabilization required</u>			BY-106	1993	1994
T-107	1993	1994	B-104 *	1994	1994	C-103	1992	1992
<u>(2) Pumping on hold due to High Heat loads.</u>						C-106	1996	1996
C-105 *	1996	1996	B-107 *	1994	1994	S-102	1992	1993
C-106	1996	1996	B-110 *	1994	1994	S-111	1992	1993
<u>(3) Pumping on hold due to potential for Hydrogen or flammable gas accumulation above flammability limits.</u>						S-112	1992	1993
A-101	1994	1995	B-111 *	1994	1994	SX-101	1992	1993
AX-101	1994	1995	BX-110	1993	1993	SX-102	1992	1993
S-102	1992	1993	T-102 *	1993	1994	SX-103	1992	1993
S-111	1992	1993	T-112 *	1993	1994	SX-104	1992	1993
S-112	1992	1993	U-110 *	1994	1995	SX-105	1992	1993
SX-101	1992	1993	<u>NOTE: Following tanks are listed in more than one category</u>			SX-106	1992	1993
SX-102	1992	1993	BX-110	(1)(5)		T-101	1993	1994
SX-103	1992	1993	S-102	(3)(4)		T-107	1993	1994
SX-104	1992	1993	SX-106	(3)(4)		T-110	1993	1994
SX-105	1992	1993				U-103	1994	1995
SX-106	1992	1993				U-105	1994	1995
T-110	1993	1994				U-106	1994	1995
U-103	1994	1995				U-107	1994	1995
U-105	1994	1995				U-108	1994	1995
U-108	1994	1995				U-109	1994	1995
U-109	1994	1995				27 Tanks		
						(BX-110, a candidate for restabilization, is not included in this list)		
						* These tanks are not Watch List tanks		

TABLE 7. INTERIM STABILIZATION STATUS FOR WATCH LIST TANKS

July 1991

Tank No.	Interim		Scheduled		Interim		Scheduled	
	Stabilized	Date	Stabilized	Date	Tank No.	Stabilized	Date	Date
101-A	N/A	N/A	1994		102-S	N/A	N/A	1992
101-AX	N/A	N/A	1994		111-S	N/A	N/A	1992
103-AX	8/87	8/87	N/A		112-S	N/A	N/A	1992
103-B	2/85	2/85	N/A		101-SX	N/A	N/A	1992
102-BX	11/78	11/78	N/A		102-SX	N/A	N/A	1992
106-BX	N/A	N/A	1993		103-SX	N/A	N/A	1992
110-BX	8/85	8/85	N/A		104-SX	N/A	N/A	1992
111-BX	N/A	N/A	1993		105-SX	N/A	N/A	1992
101-BY	5/84	5/84	N/A		106-SX	N/A	N/A	1992
103-BY	N/A	N/A	1993		109-SX	5/81	N/A	N/A
104-BY	1/85	1/85	N/A		101-T	N/A	N/A	1993
105-BY	N/A	N/A	1993		107-T	N/A	N/A	1993
106-BY	N/A	N/A	1993		110-T	N/A	N/A	1993
107-BY	7/79	7/79	N/A		105-TX	9/83	N/A	N/A
108-BY	2/85	2/85	N/A		118-TX	4/83	N/A	N/A
110-BY	1/85	1/85	N/A		101-TY	8/83	N/A	N/A
111-BY	1/85	1/85	N/A		103-TY	2/83	N/A	N/A
112-BY	5/85	5/85	N/A		104-TY	1/83	N/A	N/A
103-C	N/A	N/A	1992		103-U	N/A	N/A	1994
106-C	N/A	N/A	1996		105-U	N/A	N/A	1994
108-C	3/85	3/85	N/A		106-U	N/A	N/A	1994
109-C	11/83	11/83	N/A		107-U	N/A	N/A	1994
111-C	3/84	3/84	N/A		108-U	N/A	N/A	1994
112-C	9/90	9/90	N/A		109-U	N/A	N/A	1994

48 Tanks on Watch Lists
21 Tanks Interim Stabilized

N/A = Not Applicable

TABLE 8. DOUBLE-SHELL TANK WASTE TYPE AND SPACE ALLOCATION

July 1991

DOUBLE-SHELL TANK INVENTORY BY WASTE TYPE		TOTAL DOUBLE-SHELL TANK SPACE
Complexant Concentrate (102-AN, 107-AN, 101-AY, 101-SY, 103-SY)	5.0 Mgal	24 Tanks at 1140 Kgal 4 Tanks at 980 Kgal 27.4 Mgal 3.9 Mgal 31.3 Mgal
Concentrate Phosphate (106-AN)	1.0 Mgal	Double-Shell Tank Inventory Space Designated for Specific Use Remaining Unallocated Space - 24.0 Mgal - 7.1 Mgal 0.6 Mgal
Double-Shell Slurry and Slurry Feed (103-AN, 104-AN, 105-AN, 105-AP, 101-AW)	5.1 Mgal	
Neutralized Current Acid Waste (101-AZ, 102-AZ)	1.5 Mgal	<u>SPACE DESIGNATED FOR SPECIFIC USE</u>
Dilute Waste (101-AN, 101-AP, 103-AP, 106-AP, 107-AP, 108-AP, 102-AW, 103-AW, 104-AW, 105-AW, 106-AW, 101-AY, 102-AY, 102-AZ, 102-SY)	10.4 Mgal *	Spare Tanks (1 Aging & 1 Non-Aging Waste Tank) 2.3 Mgal Segregation (CC) (102-AN, 107-AN, 101-SY) .2 Mgal Segregation (NCRW) (103-AW, 105-AW) .6 Mgal Head Space .5 Mgal
NCR and PFP Settled Solids (103-AW, 105-AW, 102-SY)	1.0 Mgal <u>24.0 Mgal</u>	Operational (Grout & West Transfer) (102-AP, 104-AP, 102-SY) 2.8 Mgal Watch List Tanks (103-AN, 104-AN, 105-AN, 101-SY, 103-SY) .7 Mgal 7.1 Mgal

* Easily reduced in volume by Evaporator/LERF

Note: Change since last month - Dilute Waste increased 183 Kgal
+/- .01 Mgal differences are the result of rounding

Figure 1. Tank 101-SY Surface Level Readings

This page intentionally left blank.

APPENDIX A

TANK AND EQUIPMENT CODE/STATUS DEFINITIONS

This page intentionally left blank.

TANK AND EQUIPMENT CODE/STATUS DEFINITIONS July 1991

1. TANK STATUS CODES

WASTE TYPE

AGING	Aging Waste (Neutralized Current Acid Waste [NCAW])
CC	Complexant Concentrate Waste
CP	Concentrated Phosphate Waste
DC	Dilute Complexed Waste
DN	Dilute Non-Complexed Waste
DSS	Double-Shell Slurry
DSSF	Double-Shell Slurry Feed
NCPLX	Non-Complexed Waste
PD/PN	Plutonium-Uranium Extraction (PUREX) Neutralized Cladding Removal Waste (NCRW), transuranic waste (TRU)
PT	Plutonium Finishing Plant (PFP) TRU Solids

TANK USE (DOUBLE-SHELL TANKS ONLY)

CWHT	Concentrated Waste Holding Tank
DRCVR	Dilute Receiver Tank
EVFD	Evaporate Feed Tank
GRTFD	Grout Feed Tank
SRCVR	Slurry Receiver Tank

2. SOLID AND LIQUID VOLUME DETERMINATION METHODS

F	Food Instrument Company (FIC) Automatic Surface Level Gauge
M	Manual Tape Surface Level Gauge
P	Photo Evaluation
S	Sludge Level Measurement Device

3. DEFINITIONS

WASTE TYPES

Aging Waste (AGING)	High level, first cycle solvent extraction waste from the PUREX plant (NCAW).
Concentrated Complexant (CC)	Concentrated product from the evaporation of dilute complexed waste.
Concentrated Phosphate Waste (CP)	Waste originating from the decontamination of 100N Area reactor. Concentration of this waste produces concentrated phosphate waste.
Dilute Complexed Waste (DC)	Characterized by a high content of organic carbon including organic complexants: ethylenediametetraacetic acid (EDTA), citric acid, N-(hydroxyethyl)-ethylenediaminetriacetic acid (HEDTA), and

iminodiacetate (IDA) being the major complexants used. Main sources of DC waste are saltwell liquid inventory.

Dilute Non-Complexed Waste (DN)	Low activity liquid waste originating from T and S Plants, the 300 and 400 Areas, PUREX facility (decladding supernatant and miscellaneous wastes), 100 N Area (sulfate waste), B Plant, saltwells, and PFP (supernatant).
Double-Shell Slurry (DSS)	Waste evaporated almost to its sodium aluminate saturation boundary or 6.5 M hydroxide in the evaporator. For reporting purposes, DSS is considered a solid.
Double-Shell Slurry Feed (DSSF)	Waste evaporated just before reaching the sodium aluminate saturation boundary or 6.5 M hydroxide in the evaporator. This form is not as concentrated as DSS.
Non-complexed (NCPLX)	General waste term applied to all Hanford site liquors not identified as complexed.
PUREX Decladding (PD/PN)	PUREX Neutralized Cladding Removal Waste (NCRW) is the solids portion of the PUREX plant neutralized cladding removal waste stream; received in Tank Farms as a slurry. Classified as transuranic (TRU) waste.
PFP TRU Solids (PT)	TRU solids from West Area operations.
Drainable Interstitial Liquid (DIL)	Interstitial liquid that is not held in place by capillary forces, and will therefore migrate or move by gravity.
Supernatant	The liquid above the solids in waste storage tanks.

WASTE STATUS

In-Service Tank	The waste classification of a tank being used, or planned for use, for the storage of liquid (in excess of a minimum supernatant liquid heel) in conjunction with production and/or waste processing.
Out-of-Service Tank	A tank which does not meet the definition of an in-service tank. Before September 1988, these tanks were defined as inactive in this report. (Note: All single-shell tanks [SST] are out of service.)

STABILIZATION (Single-Shell Tanks only)

Interim Stabilized (IS)	A tank which contains less than 50,000 gal of drainable interstitial liquid and less than 5,000 gal of supernatant liquid.
-------------------------	--

ISOLATION (Single-Shell Tanks only)

Partially Interim Isolated (PI)	The administrative designation reflecting the completion of the physical effort required for Interim Isolation except for isolation of risers and piping that is required for jet pumping or for other methods of stabilization.
---------------------------------	--

Interim Isolated (II)	The administrative designation reflecting the completion of the physical effort required to minimize the addition of liquids into an inactive storage tank, process vault, sump, catch tank, or diversion box.
-----------------------	--

TANK INTEGRITY

Sound	The integrity classification of a waste storage tank for which surveillance data indicate no loss of liquid attributed to a breach of integrity.
-------	--

Assumed Leaker	The integrity classification of a waste storage tank for which surveillance data indicate a loss of liquid attributed to a breach of integrity.
----------------	---

TANK INVESTIGATION

Intrusion	A term used to describe the infiltration of liquid into a waste tank.
-----------	---

SURVEILLANCE INSTRUMENTATION

Drywells	Drywells are vertical carbon steel casings positioned radially around SSTs. Periodic monitoring is done by gamma radiation or neutron sensors to obtain scan profiles of radiation or moisture in the soil as a function of well depth, which could be indicative of tank. These wells range between 50 and 250 ft in depth, and are monitored between the range of 50 to 150 ft. The wells are sealed when not in use.
----------	---

Laterals	Laterals are horizontal drywells positioned under single-shell waste storage tanks to detect radionuclides in the soil which could be indicative of tank leakage. These drywells are monitored by radiation detection probes. Laterals are 4-in. inside diameter steel pipes located 8 to 10 ft below
----------	---

the tank's concrete base. There are three laterals per tank. Laterals are located only in A and SX farms.

Surface Levels	The surface level measurements in all waste storage tanks are monitored by manual or automatic conductivity probes, and recorded and transmitted or inputted to the Computer Automated Surveillance System (CASS).
Automatic FIC	An automatic waste surface level measurement device is manufactured by the Food Instrument Company (FIC). The instrument consists of a conductivity electrode (plummet) connected to a calibrated steel tape, a steel tape reel housing and a controller that automatically raises and lowers the plummet to obtain a waste surface level reading. The controller can provide a digital display of the data and also transmit the reading to the CASS. Some tanks have gauges connected to CASS and others are read manually.
Annulus	The annulus is the space between the inner and outer shells on DSTs. Drain channels in the insulating and/or supporting concrete carry any leakage to the annulus space where conductivity probes are installed. Alarms from the annunciators are received by CASS. Continuous Air Monitoring (CAM) alarms are also located in the annulus. The annulus conductivity probes and radiation detectors are the primary means of leak detection for all DSTs.
Liquid Observation Well (LOW)	In-tank liquid observation wells are used for monitoring the interstitial liquid level (ILL) in single-shell waste storage tanks. The wells are constructed of fiberglass, tefzel-reinforced epoxy-polyester resin, sized to extend to within 1 in. of the bottom of the tank steel liner. They are sealed at their bottom ends and have a nominal outside diameter of 3.5 in. Three probes are used to monitor changes in the ILL: acoustic; gamma; and neutron, which can indicate intrusions or leakage by increases or decreases in the ILL. There are 58 LOWs (57 are in operation) installed in SSTs that contain or are capable of containing greater than 50,000 gal of drainable interstitial liquid, and in two DSTs only. The LOWs installed in two DSTs (102-SY and 103-AW Tanks only) are used for special surveillance purposes only.
Thermocouple (TC)	A thermocouple is a thermoelectric device used to measure temperature. More than one thermocouple on a device (probe) is called a thermocouple tree. In

DSTs there may be one or more thermocouple trees in risers in the primary tank. In addition, in DSTs only, there are thermocouple elements installed in the insulating concrete, the lower primary tank knuckle, the secondary tank concrete foundation, and in the outer structural concrete. These monitor temperature gradients within the concrete walls, bottom of the tank, and the domes. In SSTs, there may be one or more thermocouple trees installed directly in a tank. A single thermocouple may be installed in a riser, or lowered down an existing riser or LOW. There are also thermocouple laterals beneath Tank 105-A in which temperature readings are taken in 34 thermocouples.

In-tank
Photography

In-tank photographs are taken to aid in resolving in-tank measurement anomalies and determine tank integrity. Photographs help determine sludge and liquid levels by visual examination.

4. INVENTORY AND STATUS BY TANK - COLUMN CALCULATIONS (SINGLE-SHELL TANKS)

COLUMN HEADING

Total Waste	Solids Volume plus Supernatant liquid.
Supernatant Liquid	Drainable Liquid Remaining minus Drainable Interstitial. Supernatant is usually derived by subtracting the solids level measurement from the liquid level measurement.
Drainable Interstitial	Drainable Liquid Remaining minus Supernatant. Drainable Interstitial Liquid is calculated based on the saltcake and sludge volumes, using average porosity values or actual data for each tank, when available.
Total Jet Pumped	Cumulative total pumped 1979 to date.
Drainable Liquid Remaining	Supernatant plus Drainable Interstitial.
Pumpable Liquid Remaining	Drainable Liquid Remaining less undrainable heel volume.
Sludge	Solids formed during sodium hydroxide additions to waste. Sludge usually was in the form of suspended solids when the waste was originally received in the tank from the waste generator. In-tank photographs may be used to estimate the volume.

Saltcake	Results from crystalization and precipitation after concentration of liquid waste, usually in an evaporator. If saltcake is layered over sludge, it is only possible to measure total solids volume. In-tank photographs may be used to estimate the saltcake volume.
Solids Volume	Indicates the latest update of any change in the solids volume.
Solids Update Source - See Footnote	Indicates the source or basis of the latest solids volume update.
Last Photo Date	Date of latest in-tank photographs taken.
Change Since Last Monthly Report	Indicates any change made since the previous month. Explanation for the change follows the Inventory and Status by Tank section.

APPENDIX B

TANK FARM CONFIGURATION, STATUS AND FACILITY CHARTS

This page intentionally left blank.

Figure B-1. High-Level Waste Tank Configuration

29103062.1a

28905008.1c

Figure B-2. Double-Shell Tank Instrumentation Configuration

28905008.2

Figure B-3. Single-Shell Tank Instrumentation Configuration

This page intentionally left blank.

Figure B-4. Double-Shell Tank Status

1,000,000 gal. tanks Constructed 1954-55

A		41 6 15		371 17 366	28 0 28	19 4 19	125 7 125
	101 ^H 102	IS/PI	IS/II	IS/II	IS/II	IS/II	IS/II
	104 ^{AL} 105 ^{AL} 106 ^H						

1,000,000 gal. tanks Constructed 1963-64

AX		748 320 3	39 17 7	112 36 2	7 0 7
	101 ^H 102 ^{AL} 103 ^H 104 ^{AL}	PI	IS/II	IS/II	IS/II

500,000 gal. tanks Constructed 1943-44

B		113 6 113	32 4 18	59 0 59	371 47 301	306 28 40	117 7 116	165 13 164	127 8 127	246 28 245	237 22 236	39 9 30
	101 ^{AL} 102	IS/II	IS/II	IS/II	IS/II	IS/II	IS/II	IS/II	IS/II	IS/II	IS/II	IS/II
	103 ^{AL} 104											
	105 ^{AL} 106											
	107 ^{AL} 108											
	109											
	110 ^{AL} 111 ^{AL} 112 ^{AL}											

55,000 gal. tanks

29 4 28		27 3 27	51 6 50	50 6 49
201 ^{AL} 202	IS/II	IS/II	IS/II	IS/II	IS/II
203 ^{AL} 204 ^{AL}					

500,000 gal. tanks Constructed 1946-47

BX		49 1 42		96 4 96	66 4 62	99 33 96	51 11 43	46 15 31
	101 ^{AL} 102 ^{AL} 103	IS/II	IS/II	IS/PI	IS/II	IS/II	PI	
	104 105 106 ^F							
	199							
	230							
	165							

1U/ 108^{AL} 109 110^{AL} 111^{AL} 112
IS/PI IS/II IS/PI IS/II PI IS/PI

750,000 gal. tanks Constructed 1948-49

500,000 gal. tanks Constructed 1943-44

55,000 gal. tanks

Studge

Saltcake

XXX - Total Waste Volume (in K gal.)

XXX - Total liquids (in K gal.)

XXX - Studge (in K gal.)

(Saltcake Totals Not Shown)

AL - Assumed Leaker

HH - High Heat Tanks

F - Ferrocyanide
(WHC-EP-0399)

O - Organics

H - Potential Flammable Gases
(Hydrogen)(WHC-EP-0416)

Updated Quarterly 06/30/91

SST-ALL/S.G. SPENCER/8-91

□ - Interim Isolated

IS - Interim Stabilized

PI - Partially Interim Isolated

Figure B-5. 200E Single-Shell Tank Status

750,000 gal. tanks Constructed 1950-51

S						
	101	102 ^H	103	104 ^{AL}	105	106
	PI	PI	PI	IS//	IS//	PI
	107	108	109	110	111 ^H	112 ^H
	PI	PI	PI	PI	PI	PI

1,000,000 gal. tanks Constructed 1953-54

SX							
	101 ^H	102 ^H	103 ^H	104 ^{AL}	105 ^H	106 ^H	107 ^{AL}
	PI	PI	PI	PI	PI	PI	IS//
	108 ^{AL}	109 ^{AL}	110 ^{AL}	111 ^{AL}	112 ^{AL}	113 ^{AL}	114 ^{AL}
	IS//	IS//	IS//	IS//	IS//	IS//	IS//

500,000 gal. tanks Constructed 1943-44

T												
	101 ^F	102	103	104	105	106	107 ^{AL}	108 ^{AL}	109 ^{AL}	110 ^H	111 ^{AL}	112
	PI	IS//	IS//	PI	IS//	IS//	PI	IS//	IS//	PI	PI	IS//

55,000 gal. tanks

201	202	203	204
IS//	IS//	IS//	IS//

TX		101	102	103	104	105 ^{AL}	106	107 ^{AL}	108	109
	IS//	IS//	IS//	IS//	IS//	IS//	IS//	IS//	IS//	IS//
		110 ^{AL}	111	112	113 ^{AL}	114 ^{AL}	115 ^{AL}	116 ^{AL}	117 ^{AL}	118 ^F
	IS//	IS//	IS//	IS//	IS//	IS//	IS//	IS//	IS//	IS//

750,000 gal. tanks Constructed 1951-52

TY		101 ^{AL}	102	103 ^F	104 ^{AL}	105 ^{AL}	106 ^{AL}
	IS//	IS//	IS//	IS//	IS//	IS//	IS//

500,000 gal. tanks Constructed 1943-44

U		101 ^{AL}	102	103 ^H	104 ^{AL}	105 ^H	106 ^o	107 ^o	108 ^H	109 ^H	110 ^{AL}	111	112 ^{AL}
	IS//	PI	PI	IS//	PI	PI	PI	PI	PI	PI	IS/PI	PI	IS//

55,000 gal. tanks

		201	202	203	204
	IS//	IS//	IS//	IS//	IS//

Sediment
 Sulfate
 Studge

XXX - Total Waste Volume (in K gal.)
 XXX - Total Liquids (in K gal.)
 XXX - Studge (in K gal.)
 (Sulfate Totals Not Shown)

AL - Assumed Leaker
 HH - High Heat Tanks
 F - Ferrocyanide (WHC-EP-0399)
 O - Organics
 H - Potential Flammable Gases (Hydrogen) (WHC-EP-0416)

I - Interim Isolated
 IS - Interim Stabilized
 PI - Partially Interim Isolated

Updated Quarterly 06/30/91

SST-ALL/S.G. SPENCER/8-91

Fig. B-6. 200W Single-Shell Tank Status

APPENDIX C

**MONTHLY SUMMARY
TANK USE SUMMARY
INVENTORY SUMMARY BY TANK FARM
INVENTORY AND STATUS BY TANK**

This page intentionally left blank.

TABLE C-1. MONTHLY SUMMARY

TANK STATUS

July 1991

	200		
	EAST AREA	WEST AREA	TOTAL
IN SERVICE	25	3	28 (2)
OUT OF SERVICE	66	83	149
SOUND	59	52	111
ASSUMED LEAKER	32	34	66
INTERIM STABILIZED (1)	51	54	105
ISOLATED			
PARTIAL INTERIM	25	30	55
INTERIM	41	53	94

WASTE VOLUMES (Kgal/ons)

	200		
	EAST AREA	WEST AREA	TOTAL
SUPERNATANT			
AGING	1796	0	1796
CC	1955	173	2128
CP	1001	0	1001
DC	815	1	816
DN	8262	0	8262
DN/PT	891	0	891
DN/PT	0	571	571
DSSF	3812	48	3860
NCPLX	242	310	552
TOTAL SUPERNATANT	18774	1103	19877
SOLIDS			
Double-shell slurry	937	1134	2071
Sludge	8261	6215	14476
Saltcake	6577	17654	24231
TOTAL SOLIDS	15775	25003	40778
TOTAL WASTE	34549	26106	60655
AVAILABLE SPACE IN TANKS	6260	907	7167
DRAINABLE INTERSTITIAL	2340	4298	6638
DRAINABLE LIQUID REMAINING	21114	5401	26515
SST TANKS	612	19265	19877
DST TANKS	0	2071	2071
TOTAL	0	12538	12538
TOTAL	36009	4769	40778
TOTAL	36621	24034	60655
AVAILABLE SPACE IN TANKS	0	7167	7167
DRAINABLE INTERSTITIAL	6202	436	6638
DRAINABLE LIQUID REMAINING	6814	19701	26515

(1) Includes tanks that do not meet current established supernatant and interstitial liquid stabilization criteria, B-104, B-107, B110, B-111, BX-110, T-102, T-112, and U-110.

(2) Includes five double-shell tanks on Hydrogen Watch List not currently in service, 103-AN, 104-AN, 104-AN, 105-AN, 101-SY, and 103-SY.
Note: +/- 1 Kgal differences are the result of computer rounding

TABLE C-2. TANK USE SUMMARY

July 1991

TANK FARMS	IN SERVICE	OUT OF SERVICE	SOUND	ASSUMED LEAKER	ISOLATED TANKS		INTERIM STABILIZED TANKS
					PARTIAL	INTERIM	
EAST							
A	0	6	3	3	2	4	5
AN	7 (2)	0	7	0	0	0	0
AP	8	0	8	0	0	0	0
AW	6	0	6	0	0	0	0
AX	0	4	2	2	1	3	3
AY	2	0	2	0	0	0	0
AZ	2	0	2	0	0	0	0
B	0	16	6	10	0	16	16 (1)
BX	0	12	7	5	7	5	10 (1)
BY	0	12	7	5	8	4	7
C	0	16	9	7	7	9	10
Total	25	66	59	32	25	41	51
WEST							
S	0	12	11	1	10	2	2
SX	0	15	5	10	6	9	9
SY	3 (2)	0	3	0	0	0	0
T	0	16	10	6	5	11	11 (1)
TX	0	18	10	8	0	18	18
TY	0	6	1	5	0	6	6
U	0	16	12	4	9	7	8 (1)
Total	3	83	52	34	30	53	54
TOTAL	28	149	111	66	55	94	105

(1) Includes tanks that do not meet current established supernatant and interstitial liquid stabilization criteria (B-104, B-107, B-110, B-111, BX-110, T-102, T-112, and U-110).

(2) Five Double-Shell Tanks on the Hydrogen Tank Watch List are not currently in service.

TABLE C-3. INVENTORY SUMMARY BY TANK FARM

WASTE VOLUMES (Kgallons)

July 1991

SUPERNATANT LIQUID VOLUMES														SOLIDS VOLUME			
TANK FARM	TOTAL WASTE	AVAIL SPACE	AGING	CC	CP	DC	DN	DN/PT	DN/PT DSSF	NCPLX	TOTAL	DSS	SLUDGE	CAKE	TOTAL		
EAST																	
A	1536	0	0	0	0	0	0	0	8	0	8	0	556	972	1528		
AN	6831	1149	0	1952	1001	0	498	0	1939	0	5390	937	504	0	1441		
AP	5612	3508	0	0	0	0	4786	0	826	0	5612	0	0	0	0		
AW	5358	1482	0	0	0	0	2110	891	1039	0	4040	0	1122	196	1318		
AX	906	0	0	3	0	0	0	0	0	0	3	0	19	884	903		
AY	1797	83	0	0	0	815	868	0	0	0	1683	0	115	0	115		
AZ	1922	38	1796	0	0	0	0	0	0	0	1796	0	126	0	126		
B	2057	0	0	0	0	0	0	0	0	15	15	0	1697	345	2042		
BX	1559	0	0	0	0	0	0	0	0	50	50	0	1354	155	1509		
BY	4744	0	0	0	0	0	0	0	0	0	0	0	719	4025	4744		
C	2226	0	0	0	0	0	0	0	0	177	177	0	2049	0	2049		
Total	34548	6260	1796	1955	1001	815	8262	891	0	3812	242	937	8261	6577	15775		
WEST																	
S	5982	0	0	0	0	0	0	0	17	29	46	0	1171	4765	5936		
SX	4453	0	0	0	0	1	0	0	0	62	63	0	1532	2858	4390		
SY	2513	907	0	173	0	0	0	571	0	0	744	1134	71	564	1769		
T	2065	0	0	0	0	0	0	0	0	74	74	0	1991	0	1991		
TX	6905	0	0	0	0	0	0	0	0	5	5	0	241	6659	6900		
TY	638	0	0	0	0	0	0	0	0	3	3	0	571	64	635		
U	3550	0	0	0	0	0	0	0	31	137	168	0	638	2744	3382		
Total	26106	907	0	173	0	1	0	571	48	310	1103	1134	6215	17654	25003		
TOTAL	60654	7167	1796	2128	1001	816	8262	891	571	3860	552	2071	14476	24231	40778		

Note: +/- 1 Kgal differences are the result of computer rounding

TABLE C-4. INVENTORY AND STATUS BY TANK
DOUBLE-SHELL TANKS

July 1991

TANK STATUS			LIQUID VOLUME				SOLIDS VOLUME				VOLUME DETERMINATION				CHANGE SINCE LAST MONTHLY REPORT			
TANK	WASTE TANK	TANK INTEGRITY USE	EQUIVA- LENT WASTE INCHES (Kgal)	DRAIN- ABLE INTER- STIT. (Kgal)		PUMPED THIS MONTH (Kgal)	TOTAL PUMPED (Kgal)	DRAIN- ABLE LIQUID REMAIN (Kgal)	PUMP- ABLE LIQUID REMAIN (Kgal)	DSS SLDG (Kgal/lons)	SALT LIQ VOL	SOL VOLUME	LAST DATE	PHOTO	DATE			
				TOTAL WASTE INCHES (Kgal)	SPACE LIQUID (Kgal)											AVAIL SPACE (Kgal)	SUPER- ABLE	
***** AN FARM STATUS *****																		
101AN	DN	SOUND	DRCVR	181.0	498	642	498	0	0.0	0.0	498	498	0	0	0	0	0	0
102AN	CC	SOUND	CWHT	399.0	1097	43	1008	3	0.0	0.0	1011	1008	0	89	0	0	0	0
103AN	DSS	SOUND	CWHT	345.3	950	190	13	0	0.0	0.0	13	13	937	0	0	0	0	0
104AN	DSSF	SOUND	CWHT	385.4	1060	80	796	25	0.0	0.0	821	799	0	264	0	0	0	0
105AN	DSSF	SOUND	CWHT	410.8	1130	10	1130	0	0.0	0.0	1130	1130	0	0	0	0	0	0
106AN	CP	SOUND	CWHT	370.2	1018	122	1001	0	0.0	0.0	1001	1001	0	17	0	0	0	0
107AN	CC	SOUND	CWHT	392.1	1078	62	944	9	0.0	0.0	953	944	0	134	0	0	0	0
7 DOUBLE-SHELL TANKS				TOTALS:	6831	1149	5390	37	0.0	0.0	5427	5393	937	504	0			
***** AP FARM STATUS *****																		
101AP	DN	SOUND	DRCVR	386.5	1063	77	1063	0	0.0	0.0	1063	1063	0	0	0	0	0	0
102AP	DN	SOUND	GRTFD	48.5	133	1007	133	0	0.0	0.0	133	133	0	0	0	0	0	0
103AP	DN	SOUND	DRCVR	412.8	1135	5	1135	0	0.0	0.0	1135	1135	0	0	0	0	0	0
104AP	DN	SOUND	GRTFD	7.6	21	1119	21	0	0.0	0.0	21	21	0	0	0	0	0	0
105AP	DSSF	SOUND	CWHT	300.3	826	314	826	0	0.0	0.0	826	826	0	0	0	0	0	0
106AP	DN	SOUND	DRCVR	412.3	1134	6	1134	0	0.0	0.0	1134	1134	0	0	0	0	0	0
107AP	DN	SOUND	DRCVR	410.3	1128	12	1128	0	0.0	0.0	1128	1128	0	0	0	0	0	0
108AP	DN	SOUND	DRCVR	62.4	172	968	172	0	0.0	0.0	172	172	0	0	0	0	0	0
8 DOUBLE-SHELL TANKS				TOTALS:	5612	3508	5612	0	0.0	0.0	5612	5612	0	0	0			

TABLE C-4. INVENTORY AND STATUS BY TANK
DOUBLE-SHELL TANKS
July 1991

TANK STATUS			LIQUID VOLUME										SOLIDS VOLUME										VOLUME DETERMINATION				CHANGE SINCE LAST MONTHLY REPORT	
TANK	WASTE TANK	TANK INTEGRITY USE	EQUIVA-LENT WASTE INCHES (Kgal)	TOTAL WASTE SPACE (Kgal)	AVAIL SPACE (Kgal)	SUPER-NATANT LIQUID STIT. (Kgal)	DRAIN-ABLE INTER-PUMPED THIS MONTH (Kgal)	TOTAL PUMPED (Kgal)	DRAIN-ABLE LIQUID REMAIN (Kgal)	PUMP-ABLE LIQUID REMAIN (Kgal)	DSS (Kgal)	SLDG (Kgal)	CAKE VOL	SALT LIQ VOL	SOLIDS VOL	VOLUME UPDATE	PHOTO DATE	LAST PHOTO DATE	MONTHLY REPORT	CHANGE SINCE LAST MONTHLY REPORT								
+++++ AW FARM STATUS +++++																												
101AW	DSSF	SOUND	CWHT	408.3	1123	17	1039	2	0.0	0.0	1041	1039	0	84	0	FM	S	10/22/84	03/17/88									
102AW	DN	SOUND	EVFD	373.3	1027	113	1026	0	0.0	0.0	1026	1026	0	1	0	FM	S	02/29/84	02/02/83									
103AW	DN/PD	SOUND	DRCVR	235.5	648	492	285	37	0.0	0.0	322	300	0	363	0	FM	S	02/01/89	0/ 0/ 0									
104AW	DN	SOUND	DRCVR	409.8	1127	13	837	49	0.0	0.0	886	864	0	179	111	FM	S	03/05/87	02/02/83									
105AW	DN/PD	SOUND	DRCVR	328.4	903	237	606	29	0.0	0.0	635	613	0	297	0	FM	S	03/05/87	0/ 0/ 0									
106AW	DN	SOUND	SRCVR	192.8	530	610	247	40	0.0	0.0	287	265	0	198	85	FM	S	06/24/89	02/02/83									
6 DOUBLE-SHELL TANKS				TOTALS:	5358	1482	4040	157	0.0	0.0	4197	4107	0	1122	196													
+++++ AY FARM STATUS +++++																												
101AY	DC	SOUND	DRCVR	326.3	897	83	815	2	0.0	0.0	817	815	0	83	0	FM	S	02/02/87	12/28/82									
102AY	DN	SOUND	DRCVR	327.1	900	0	868	0	0.0	0.0	868	868	0	32	0	FM	S	02/10/88	04/28/81									
2 DOUBLE-SHELL TANKS				TOTALS:	1797	83	1683	2	0.0	0.0	1685	1683	0	115	0													
+++++ AZ FARM STATUS +++++																												
101AZ	AGING	SOUND	CWHT	347.0	954	26	919	0	0.0	0.0	919	919	0	35	0	FM	S	09/30/90	08/18/83									
102AZ	AGING	SOUND	DRCVR	352.0	968	12	877	3	0.0	0.0	880	877	0	91	0	FM	S	09/30/90	12/24/84									
2 DOUBLE-SHELL TANKS				TOTALS:	1922	38	1796	3	0.0	0.0	1799	1796	0	126	0													

TABLE C-4. INVENTORY AND STATUS BY TANK
DOUBLE-SHELL TANKS
July 1991

TANK STATUS		LIQUID VOLUME				SOLIDS VOLUME				VOLUME DETERMINATION				CHANGE SINCE LAST MONTHLY REPORT						
TANK	WASTE TANK MATL INTEGRITY USE	EQUIVA-		DRAIN-		PUMP-		DSS SLDG (Kgallons)	MTHD	MTHD	UPDATE	VOLUME	PHOTO		DATE					
		WASTE INCHES (Kgal)	TANK SPACE (Kgal)	WASTE SPACE (Kgal)	TANK SPACE (Kgal)	WASTE SPACE (Kgal)	TANK SPACE (Kgal)													
																WASTE INCHES (Kgal)	TANK SPACE (Kgal)	WASTE SPACE (Kgal)	TANK SPACE (Kgal)	
																				WASTE INCHES (Kgal)
***** SY FARM STATUS *****																				
101SY	CC	SOUND	CWHT	409.6	1126	14	5	237	0.0	0.0	242	236	561	0	560	FM	S	10/15/84	04/12/89	
102SY	DN/PT	SOUND	DRCVR	233.3	642	498	571	0	0.0	0.0	571	571	0	71	0	FM	S	05/12/87	04/29/81	
103SY	CC	SOUND	CWHT	271.0	745	395	168	0	0.0	0.0	168	168	573	0	4	FM	S	10/22/84	10/01/85	
TOTALS:				2513	907	744	237	0.0	0.0	0.0	981	975	1134	71	564					
3 DOUBLE-SHELL TANKS																				

TABLE C-5. INVENTORY AND STATUS BY TANK
SINGLE-SHELL TANKS

July 1991

TANK STATUS			LIQUID VOLUME				SOLIDS VOLUME				VOLUME DETERMINATION						
TANK	WASTE MATERIAL	TANK INTEGRITY	STABIL/ ISOLATION STATUS	TOTAL WASTE (Kgal)	SUPER- NATANT LIQUID (Kgal)	DRAIN- ABLE INTER- STIT. (Kgal)	PUMPED THIS MONTH	TOTAL PUMPED (Kgal)	DRAIN- ABLE LIQUID REMAIN (Kgal)	PUMP- ABLE LIQUID REMAIN (Kgal)	SLUDGE (Kgal)	SALTCAKE (Kgal)	LIQUIDS VOLUME METHOD	SOLIDS VOLUME UPDATE	SOLIDS UPDATE SOURCE SEE FOOTNOTE	CHG SINCE LAST MONTHLY REPORT	
+++++ A FARM STATUS +++++																	
101A	DSSF	SOUND	/PI	953	0	413	0.0	0.0	413	391	3	950	P	F	11/21/80	08/21/85	
102A	DSSF	SOUND	IS/PI	41	4	2	0.0	39.5	6	0	15	22	P	FP	07/27/89 (1)	07/20/89	
103A	DSSF	ASMD LKR	IS/II	370	4	13	0.0	111.0	17	0	366	0	-	FP	06/03/88 (1)	12/28/88	
104A	NCPLX	ASMD LKR	IS/II	28	0	0	0.0	0.0	0	0	28	0	M	PS	01/27/78	06/25/86	
105A	NCPLX	ASMD LKR	IS/II	19	0	4	0.0	0.0	4	0	19	0	P	MP	08/23/79 (1)	08/20/86	
106A	CP	SOUND	IS/II	125	0	7	0.0	0.0	7	0	125	0	P	M	09/07/82	08/17/86	
6 SINGLE-SHELL TANKS				TOTALS	1536	8	439	0.0	150.5	447	391	556	972				
+++++ AX FARM STATUS +++++																	
101AX	DSSF	SOUND	/PI	748	0	320	0.0	0.0	320	298	3	745	P	F	05/06/82	08/18/87	
102AX	CC	ASMD LKR	IS/II	39	3	14	0.0	13.0	17	3	7	29	F	S	09/06/88	06/05/89	
103AX	CC	SOUND	IS/II	112	0	36	0.0	0.0	36	3	2	110	F	S	08/19/87	08/13/87	
104AX	NCPLX	ASMD LKR	IS/II	7	0	0	0.0	0.0	0	0	7	0	P	M	04/28/82	08/18/87	
4 SINGLE-SHELL TANKS				TOTALS:	906	3	370	0.0	13.0	373	304	19	884				

WHC-EP-0182-40

TABLE C-5. INVENTORY AND STATUS BY TANK
SINGLE-SHELL TANKS
July 1991

TANK STATUS			LIQUID VOLUME					SOLIDS VOLUME			VOLUME DETERMINATION						CHG			
TANK	WASTE	TANK MATERIAL INTEGRITY	STATUS	STABIL/ ISOLATION	TOTAL WASTE (Kgal)	SUPER- NATANT LIQUID (Kgal)	DRAIN- ABLE INTER- STIT. (Kgal)	PUMPED THIS MONTH	TOTAL PUMPED (Kgal)	DRAIN- ABLE LIQUID REMAIN (Kgal)	PUMP- ABLE LIQUID REMAIN (Kgal)	SLUDGE (Kgal)	SALTCAKE (Kgal)	LIQUIDS VOLUME METHOD	SOLIDS VOLUME METHOD	SOLIDS VOLUME UPDATE	SOLIDS SOURCE SEE FOOTNOTE	LAST PHOTO DATE	CHG SINCE LAST MONTHLY REPORT	
+++++ B FARM STATUS +++++																				
101B	NCPLX	ASND LKR	IS/11		113	0	6	0.0	0.0	6	0	113	0	P	F	04/28/82		05/19/83		
102B	NCPLX	SOUND	IS/11		32	4	0	0.0	0.0	4	0	18	10	P	F	08/22/85	(1)	08/22/85		
103B	NCPLX	ASND LKR	IS/11		59	0	0	0.0	0.0	0	0	59	0	F	F	02/28/85	(1)	02/05/85		
104B	NCPLX	SOUND	IS/11		371	1	46	0.0	0.0	47	25	301	69	M	M	06/30/85	(1)	10/13/88		
105B	NCPLX	ASND LKR	IS/11		306	0	23	0.0	0.0	23	0	40	266	P	MP	12/27/84	(1)	05/19/88		
106B	NCPLX	SOUND	IS/11		117	1	6	0.0	0.0	7	0	116	0	F	F	03/31/85	(1)	02/28/85		
107B	NCPLX	ASND LKR	IS/11		165	1	12	0.0	0.0	13	0	164	0	M	M	03/31/85	(1)	02/28/85		
108B	NCPLX	SOUND	IS/11		94	0	4	0.0	0.0	4	0	94	0	F	F	05/31/85	(1)	05/10/85		
109B	NCPLX	SOUND	IS/11		127	0	8	0.0	0.0	8	0	127	0	M	M	04/08/85	(1)	04/02/85		
110B	NCPLX	ASND LKR	IS/11		246	1	22	0.0	0.0	23	17	245	0	MP	MP	02/28/85	(1)	03/17/88		
111B	NCPLX	ASND LKR	IS/11		237	1	21	0.0	0.0	22	0	236	0	F	F	06/28/85	(1)	06/26/85		
112B	NCPLX	ASND LKR	IS/11		33	3	0	0.0	0.0	3	0	30	0	F	F	05/31/85	(1)	05/29/85		
201B	NCPLX	ASND LKR	IS/11		29	1	3	0.0	0.0	4	0	28	0	M	M	04/28/82		11/12/86		
202B	NCPLX	SOUND	IS/11		27	0	3	0.0	0.0	3	0	27	0	P	M	05/31/85	(1)	05/29/85		
203B	NCPLX	ASND LKR	IS/11		51	1	5	0.0	0.0	6	0	50	0	PM	PM	05/31/84	(1)	11/13/86		
204B	NCPLX	ASND LKR	IS/11		50	1	5	0.0	0.0	6	0	49	0	P	M	05/31/84	(1)	10/21/87		
16 SINGLE-SHELL TANKS					2057	15	164	0.0	0.0	179	42	1697	345							
TOTALS					2057	15	164	0.0	0.0	179	42	1697	345							

TABLE C-5. INVENTORY AND STATUS BY TANK
SINGLE-SHELL TANKS
July 1991

TANK STATUS			LIQUID VOLUME					SOLIDS VOLUME					VOLUME DETERMINATION										CHG	
TANK	WASTE MATERIAL	TANK INTEGRITY	STATUS	STABIL/ ISOLATION	TOTAL WASTE (Kgal)	SUPER- NATANT LIQUID (Kgal)	DRAIN- ABLE INTER- STIT. (Kgal)	PUMPED THIS MONTH	TOTAL PUMPED (Kgal)	DRAIN- ABLE LIQUID REMAIN (Kgal)	PUMP- ABLE LIQUID REMAIN (Kgal)	SLUDGE (Kgal)	SALTCAKE (Kgal)	LIQUIDS VOLUME	SOLIDS VOLUME	METHOD	UPDATE	SOLIDS UPDATE	SOURCE	SEE	FOOTNOTE	DATE	PHOTO	LAST MONTHLY REPORT
+++++ BX FARM STATUS +++++																								
101BX	NCPLX	ASMD LKR	IS/II		43	1	0	0.0	0.0	1	0	42	0	P	M	04/28/82							11/24/88	
102BX	NCPLX	ASMD LKR	IS/II		96	0	4	0.0	0.0	4	0	96	0	P	M	04/28/82							09/18/85	
103BX	NCPLX	SOUND	IS/II		66	4	0	0.0	0.0	4	0	62	0	P	F	11/29/83							10/31/86	
104BX	NCPLX	SOUND	IS/PI		99	3	30	0.0	17.4	33	27	96	0	F	F	09/22/89	(1)						09/21/89	
105BX	NCPLX	SOUND	IS/II		51	5	6	0.0	15.0	11	4	43	3	F	S	09/03/86	(1)						10/23/86	
106BX	NCPLX	SOUND	/PI		46	15	0	0.0	0.0	15	15	31	0	MP	PS	04/28/82							05/19/88	
107BX	NCPLX	SOUND	IS/PI		345	1	29	0.0	23.1	30	23	344	0	MP	P	09/18/90	(2)						09/11/90	
108BX	NCPLX	ASMD LKR	IS/II		26	0	1	0.0	0.0	1	0	26	0	M	PS	07/31/79	(1)						10/23/86	
109BX	NCPLX	SOUND	IS/PI		193	0	13	0.0	8.2	13	8	193	0	FP	P	09/17/90	(2)						09/11/90	
110BX	NCPLX	ASMD LKR	IS/PI		199	1	20	0.0	0.0	21	0	189	9	MP	M	08/22/85	(1)						07/31/85	
111BX	NCPLX	ASMD LKR	/PI		230	19	50	0.0	0.0	69	47	68	143	M	M	07/26/77							09/18/85	
112BX	NCPLX	SOUND	IS/PI		165	1	7	0.0	4.1	8	2	164	0	FP	P	09/17/90	(2)						09/11/90	
12 SINGLE-SHELL TANKS					TOTALS:	1559	50	160	0.0	67.8	210	126	1354	155										
+++++ BY FARM STATUS +++++																								
101BY	NCPLX	SOUND	IS/II		387	0	5	0.0	35.8	5	0	109	278	P	M	05/30/84							09/19/89	*
102BY	NCPLX	SOUND	/PI		341	0	100	63.9	90.5	100	78	0	341	MP	M	08/05/91	(2)						09/11/87	
103BY	NCPLX	ASMD LKR	/PI		400	0	108	0.0	78.5	108	86	5	395	MP	M	04/03/90	(2)						09/07/89	
104BY	NCPLX	SOUND	IS/II		406	0	18	0.0	329.5	18	0	40	366	P	M	04/28/82							04/27/83	
105BY	NCPLX	ASMD LKR	/PI		503	0	194	0.0	0.0	194	172	44	459	P	MP	04/28/82							12/02/88	
106BY	NCPLX	ASMD LKR	/PI		642	0	235	0.0	0.0	235	213	95	547	P	MP	04/28/82							11/04/82	
107BY	NCPLX	ASMD LKR	IS/II		266	0	25	0.0	56.4	25	0	60	206	P	MP	04/28/82							10/15/86	

TABLE C-5. INVENTORY AND STATUS BY TANK
SINGLE-SHELL TANKS
July 1991

TANK STATUS		LIQUID VOLUME										SOLIDS VOLUME				VOLUME DETERMINATION					
TANK	WASTE MATERIAL INTEGRITY	TANK	STABIL/ ISOLATION STATUS	ASMD LKR	IS/PI	TOTAL WASTE (Kgal)	SUPER- NATANT LIQUID (Kgal)	DRAIN- ABLE INTER- STIT. (Kgal)	PUMPED THIS MONTH	TOTAL PUMPED (Kgal)	DRAIN- ABLE LIQUID REMAIN (Kgal)	PUMP- ABLE LIQUID REMAIN (Kgal)	SLUDGE (Kgal)	SALTCAKE (Kgal)	LIQUIDS VOLUME METHOD	SOLIDS VOLUME METHOD	SOLIDS VOLUME UPDATE	SOLIDS SOURCE SEE FOOTNOTE	SOLIDS UPDATE	CHG SINCE LAST MONTHLY REPORT	
108BY	NCPLX	ASMD LKR	IS/PI		228	0	9	0.0	27.5	9	0	154	74	MP	M	04/28/82	10/15/86				
109BY	NCPLX	SOUND	/PI		423	0	129	34.6	50.1	129	107	83	340	F	PS	08/05/91	(2)			*	
110BY	NCPLX	SOUND	IS/II		398	0	9	0.0	213.3	9	0	103	295	M	S	09/10/79	07/26/84				
111BY	NCPLX	SOUND	IS/PI		459	0	0	0.0	313.2	0	0	21	438	P	M	04/28/82	10/31/86				
112BY	NCPLX	SOUND	IS/PI		291	0	8	0.0	116.4	8	0	5	286	P	M	04/28/82	04/14/88				
12 SINGLE-SHELL TANKS				TOTALS:	4744	0	840	98.5	1311.2	840	656	719	4025								
+++++ C FARM STATUS +++++																					
101C	NCPLX	ASMD LKR	IS/II		88	0	3	0.0	0.0	3	0	88	0	M	M	11/29/83	11/17/87				
102C	NCPLX	SOUND	/PI		427	3	45	0.0	0.0	48	42	424	0	P	FP	04/28/82	05/18/76				
103C	NCPLX	SOUND	/PI		195	133	0	0.0	0.0	133	133	62	0	F	S	10/22/90	(1)				
104C	CC	SOUND	IS/II		295	0	11	0.0	0.0	11	5	295	0	FP	P	09/22/89	(1)				
105C	NCPLX	SOUND	/PI		150	0	11	0.0	0.0	11	5	150	0	F	S	05/31/85	04/01/88				
106C	NCPLX	SOUND	/PI		229	32	16	0.0	0.0	48	42	197	0	F	PS	04/28/82	04/05/79				
107C	NCPLX	SOUND	/PI		337	0	34	0.0	0.0	34	28	337	0	F	S	07/19/78	00/00/00				
108C	NCPLX	SOUND	IS/II		66	0	0	0.0	0.0	0	0	66	0	M	S	02/24/84	(1)				
109C	NCPLX	SOUND	IS/II		66	4	0	0.0	0.0	4	0	62	0	M	PS	11/29/83	01/30/76				
110C	NCPLX	ASMD LKR	/PI		201	5	16	0.0	0.0	21	15	196	0	P	FHP	05/31/85	08/12/86				
111C	NCPLX	ASMD LKR	IS/II		57	0	0	0.0	0.0	0	0	57	0	M	S	04/28/82	02/25/70				
112C	NCPLX	SOUND	IS/PI		104	0	32	0.0	0.0	32	26	104	0	M	PS	09/18/90	(2)				

WHC-EP-0182-40

TABLE C-5. INVENTORY AND STATUS BY TANK
SINGLE-SHELL TANKS
July 1991

TANK STATUS		LIQUID VOLUME				SOLIDS VOLUME				VOLUME DETERMINATION						
		STABIL/ ISOLATION STATUS	TOTAL WASTE (Kgal)	SUPER- NATANT LIQUID (Kgal)	DRAIN- ABLE INTER- STIT. (Kgal)	PUMPED THIS MONTH (Kgal)	TOTAL PUMPED (Kgal)	DRAIN- ABLE LIQUID REMAIN (Kgal)	PUMP- ABLE LIQUID REMAIN (Kgal)	SLUDGE (Kgal)	SALTCAKE (Kgal)	LIQUIDS VOLUME METHOD	SOLIDS VOLUME UPDATE	SOLIDS SOURCE SEE FOOTNOTE	CHG SINCE LAST MONTHLY REPORT	
201C	NCPLX	ASMD LKR	IS/11	2	0	0	0.0	0.0	0	0	2	0	P	MP	03/31/82	12/02/86
202C	EMPTY	ASMD LKR	IS/11	1	0	0	0.0	0.0	0	0	1	0	P	M	01/19/79	12/09/86
203C	NCPLX	ASMD LKR	IS/11	5	0	0	0.0	0.0	0	0	5	0	P	MP	04/28/82	12/09/86
204C	NCPLX	ASMD LKR	IS/11	3	0	0	0.0	0.0	0	0	3	0	P	MP	04/28/82	12/09/86
16 SINGLE-SHELL TANKS		TOTALS:		2226	177	168	0.0	0.0	345	296	2049	0				
***** S FARM STATUS *****																
101S	NCPLX	SOUND	/PI	427	12	84	0.0	0.0	96	74	244	171	F	PS	09/16/80	03/18/88
102S	DSSF	SOUND	/PI	549	0	230	0.0	0.0	230	208	4	545	P	FP	04/28/82	03/18/88
103S	DSSF	SOUND	/PI	248	17	85	0.0	0.0	102	80	10	221	M	S	11/20/80	06/01/89
104S	NCPLX	ASMD LKR	IS/11	294	1	28	0.0	0.0	29	23	293	0	M	M	12/20/84	12/12/84
105S	NCPLX	SOUND	IS/11	456	0	35	0.0	114.3	35	13	2	454	MP	S	09/26/88	04/12/89
106S	NCPLX	SOUND	/PI	543	0	115	0.0	99.8	115	93	32	511	P	FP	06/28/82	03/17/89
107S	NCPLX	SOUND	/PI	368	6	45	0.0	0.0	51	29	293	69	F	PS	09/25/80	03/12/87
108S	NCPLX	SOUND	/PI	604	0	103	0.0	151.6	103	81	4	600	P	MP	04/28/82	03/12/87
109S	NCPLX	SOUND	/PI	568	0	124	0.0	111.0	124	102	13	555	F	PS	09/30/75	08/24/84
110S	NCPLX	SOUND	/PI	692	0	60	0.0	185.9	60	38	131	561	F	PS	01/31/79	03/12/87
111S	NCPLX	SOUND	/PI	596	10	192	0.0	3.3	202	180	139	447	P	FP	04/28/82	08/10/89
112S	NCPLX	SOUND	/PI	637	0	144	0.0	125.1	144	122	6	631	P	FP	06/28/82	03/24/87
12 SINGLE-SHELL TANKS		TOTALS:		5982	46	1245	0.0	791.0	1291	1043	1171	4765				

TABLE C-5. INVENTORY AND STATUS BY TANK
SINGLE-SHELL TANKS
July 1991

TANK STATUS			LIQUID VOLUME					SOLIDS VOLUME					VOLUME DETERMINATION					
TANK	WASTE MATERIAL	TANK INTEGRITY	STABIL/ ISOLATION STATUS	TOTAL WASTE (Kgal)	SUPER- NATANT LIQUID (Kgal)	DRAIN- ABLE INTER- STIT. (Kgal)	PUMPED THIS MONTH	TOTAL PUMPED (Kgal)	DRAIN- ABLE LIQUID REMAIN (Kgal)	PUMP- ABLE LIQUID REMAIN (Kgal)	SLUDGE (Kgal)	SALTCAKE (Kgal)	LIQUIDS VOLUME METHOD	SOLIDS VOLUME METHOD	SOLIDS VOLUME UPDATE	SOLIDS SOURCE	CHG SINCE LAST MONTHLY REPORT	
+++++ SX FARM STATUS +++++																		
101SX	DC	SOUND	/PI	456	1	145	0.0	0.0	146	124	112	343	P	FP	04/28/82		03/10/89	
102SX	DSSF	SOUND	/PI	543	0	183	0.0	0.0	183	161	117	426	P	M	04/28/82		01/07/88	
103SX	NCPLX	SOUND	/PI	652	1	242	0.0	0.0	243	223	115	536	F	S	07/15/91		12/17/87	*
104SX	DSSF	ASMD LKR	/PI	614	0	138	0.0	113.2	138	116	136	478	F	S	07/07/89		09/08/88	
105SX	DSSF	SOUND	/PI	683	0	261	0.0	0.0	261	239	73	610	P	F	04/28/82		06/15/88	
106SX	NCPLX	SOUND	/PI	538	61	194	0.0	0.0	255	233	12	465	F	PS	10/28/80		06/01/89	
107SX	NCPLX	ASMD LKR	IS/II	104	0	5	0.0	0.0	5	0	104	0	P	M	04/28/82		03/06/87	
108SX	NCPLX	ASMD LKR	IS/II	115	0	6	0.0	0.0	6	0	115	0	P	M	04/28/82		03/06/87	
109SX	NCPLX	ASMD LKR	IS/II	250	0	10	0.0	0.0	10	0	250	0	P	M	04/28/82		05/21/86	
110SX	NCPLX	ASMD LKR	IS/II	62	0	0	0.0	0.0	0	0	62	0	M	PS	10/06/76		02/20/87	
111SX	NCPLX	ASMD LKR	IS/II	125	0	7	0.0	0.0	7	0	125	0	M	PS	05/31/74		03/10/87	
112SX	NCPLX	ASMD LKR	IS/II	92	0	3	0.0	0.0	3	0	92	0	P	M	04/28/82		03/10/87	
113SX	NCPLX	ASMD LKR	IS/II	26	0	0	0.0	0.0	0	0	26	0	P	M	04/28/82		03/18/88	
114SX	NCPLX	ASMD LKR	IS/II	181	0	14	0.0	0.0	14	0	181	0	P	M	04/28/82		02/26/87	
115SX	NCPLX	ASMD LKR	IS/II	12	0	0	0.0	0.0	0	0	12	0	P	M	04/28/82		03/31/88	
TOTALS:				4453	63	1208	0.0	113.2	1271	1096	1532	2858						
15 SINGLE-SHELL TANKS																		

WHC-EP-0182-40

TABLE C-5. INVENTORY AND STATUS BY TANK
SINGLE-SHELL TANKS
July 1991

TANK STATUS		LIQUID VOLUME					SOLIDS VOLUME					VOLUME DETERMINATION					CHG SINCE LAST MONTHLY REPORT
		STABIL/ ISOLATION STATUS	WASTE (Kgal)	TOTAL WASTE (Kgal)	SUPER- NATANT LIQUID (Kgal)	DRAIN- ABLE INTER- STIT. (Kgal)	PUMPED THIS MONTH (Kgal)	TOTAL PUMPED (Kgal)	DRAIN- ABLE LIQUID REMAIN (Kgal)	PUMP- ABLE LIQUID REMAIN (Kgal)	SLUDGE (Kgal)	SALTCAKE (Kgal)	LIQUIDS VOLUME METHOD	SOLIDS VOLUME METHOD	SOLIDS UPDATE SOURCE SEE FOOTNOTE		
+++++ T FARM STATUS +++++																	
101T	HCPLX	SOUND	133	30	5	0.0	0.0	35	30	103	0	0	F	S	08/31/84	07/03/84	
102T	HCPLX	SOUND	32	13	0	0.0	0.0	13	13	19	0	0	P	FP	08/31/84	06/28/89	
103T	HCPLX	ASMD LKR	27	4	0	0.0	0.0	4	0	23	0	0	F	FP	11/29/83	07/02/84	
104T	HCPLX	SOUND	445	3	47	0.0	0.0	50	44	442	0	0	P	MP	04/28/82	06/29/89	
105T	HCPLX	SOUND	98	0	23	0.0	0.0	23	17	98	0	0	P	F	05/29/87	05/14/87	
106T	HCPLX	ASMD LKR	21	2	0	0.0	0.0	2	0	19	0	0	P	FP	04/28/82	06/29/89	
107T	HCPLX	ASMD LKR	180	9	13	0.0	0.0	22	16	171	0	0	P	FP	08/31/84	07/12/84	
108T	HCPLX	ASMD LKR	44	0	0	0.0	0.0	0	0	44	0	0	P	M	04/28/82	07/17/84	
109T	HCPLX	ASMD LKR	58	0	0	0.0	0.0	0	0	58	0	0	M	M	12/30/84	07/03/84	
110T	HCPLX	SOUND	379	3	39	0.0	0.0	42	36	376	0	0	P	FP	04/28/82	07/12/84	
111T	HCPLX	ASMD LKR	458	2	49	0.0	0.0	51	45	456	0	0	P	FP	04/28/82	08/02/84	
112T	HCPLX	SOUND	67	7	0	0.0	0.0	7	7	60	0	0	P	FP	04/28/82	08/01/84	
201T	HCPLX	SOUND	29	1	3	0.0	0.0	4	0	28	0	0	M	PS	05/31/78	04/15/86	
202T	HCPLX	SOUND	21	0	2	0.0	0.0	2	0	21	0	0	FP	P	07/12/81	07/06/89	
203T	HCPLX	SOUND	35	0	4	0.0	0.0	4	0	35	0	0	M	PS	01/31/78	08/03/89	
204T	HCPLX	SOUND	38	0	4	0.0	0.0	4	0	38	0	0	FP	P	07/22/81	08/03/89	
16 SINGLE-SHELL TANKS		TOTALS:	2065	74	189	0.0	0.0	263	208	1991	0	0					

TABLE C-5. INVENTORY AND STATUS BY TANK
SINGLE-SHELL TANKS
July 1991

TANK STATUS			LIQUID VOLUME				SOLIDS VOLUME				VOLUME DETERMINATION										CHG		
TANK	WASTE MATERIAL	TANK INTEGRITY	STABIL/ ISOLATION STATUS	TOTAL WASTE (Kgal)	NATANT LIQUID (Kgal)	SUPER- ABLE	DRAIN- ABLE	INTER- STIT.	PUMPED THIS MONTH	TOTAL PUMPED	DRAIN- ABLE LIQUID REMAIN (Kgal)	PUMP- ABLE LIQUID REMAIN (Kgal)	SLUDGE (Kgal)	SALTCAKE (Kgal)	LIQUIDS VOLUME METHOD	SOLIDS VOLUME METHOD	SOLIDS UPDATE	SOLIDS SOURCE	LAST DATE	PHOTO	MONTHLY REPORT	CHG SINCE LAST MONTHLY REPORT	
+++++ TX FARM STATUS +++++																							
101TX	NCLPX	SOUND	IS/11	87	3	2	0.0	0.0	0.0	5	0	0	84	0	F	P	02/02/84	(1)			10/24/85		
102TX	NCPLX	SOUND	IS/11	113	0	22	0.0	94.4	22	0	0	0	113	0	M	S	08/31/84				10/31/85		
103TX	NCPLX	SOUND	IS/11	157	0	15	0.0	68.3	15	0	0	0	157	0	F	S	08/14/80				10/31/85		
104TX	NCPLX	SOUND	IS/11	65	1	14	0.0	3.6	15	0	0	0	0	64	F	FP	04/06/84				10/16/84		
105TX	NCPLX	ASMD LKR	IS/11	609	0	20	0.0	121.5	20	0	0	0	0	609	M	PS	08/22/77				10/24/89		
106TX	NCPLX	SOUND	IS/11	453	0	10	0.0	134.6	10	0	0	0	0	453	M	S	08/29/77				10/31/85		
107TX	NCPLX	ASMD LKR	IS/11	36	1	1	0.0	0.0	2	0	0	0	0	35	FP	FP	01/20/84	(1)			10/31/85		
108TX	NCPLX	SOUND	IS/11	134	0	0	0.0	13.7	0	0	0	0	0	134	P	FP	05/30/83				09/12/89		
109TX	NCPLX	SOUND	IS/11	384	0	10	0.0	72.3	10	0	0	0	0	384	F	PS	05/30/83				10/24/89		
110TX	NCPLX	ASMD LKR	IS/11	462	0	15	0.0	115.1	15	0	0	0	0	462	M	PS	05/30/83				10/24/89		
111TX	NCPLX	SOUND	IS/11	370	0	9	0.0	98.4	9	0	0	0	0	370	M	PS	07/26/77				09/12/89		
112TX	NCPLX	SOUND	IS/11	649	0	24	0.0	94.0	24	0	0	0	0	649	P	PS	05/30/83				11/19/87		
113TX	NCPLX	ASMD LKR	IS/11	607	0	16	0.0	19.2	16	0	0	0	0	607	M	PS	05/30/83				04/11/83		
114TX	NCPLX	ASMD LKR	IS/11	535	0	15	0.0	104.3	15	0	0	0	0	535	M	PS	05/30/83				04/11/83		
115TX	NCPLX	ASMD LKR	IS/11	640	0	19	0.0	99.1	19	0	0	0	0	640	M	S	03/25/83				06/15/88		
116TX	NCPLX	ASMD LKR	IS/11	631	0	23	0.0	23.8	23	0	0	0	0	631	M	PS	03/31/72				10/17/89		
117TX	NCPLX	ASMD LKR	IS/11	626	0	8	0.0	54.3	8	0	0	0	0	626	M	PS	12/31/71				04/11/83		
118TX	NCPLX	SOUND	IS/11	347	0	27	0.0	89.1	27	0	0	0	0	347	F	S	11/17/80				12/19/79		
18 SINGLE-SHELL TANKS			TOTALS:	6905	5	250	0.0	1205.7	255	0	0	0	241	6659									

WHC-EP-0182-40

TABLE C-5. INVENTORY AND STATUS BY TANK
SINGLE-SHELL TANKS
July 1991

TANK STATUS			LIQUID VOLUME										SOLIDS VOLUME					VOLUME DETERMINATION									
TANK	WASTE MATERIAL	TANK INTEGRITY	STATUS	STABIL/ ISOLATION	TOTAL WASTE (Kgal)	SUPER- NATANT LIQUID (Kgal)	DRAIN- ABLE INTER- STIT. (Kgal)	PUMPED THIS MONTH	TOTAL PUMPED (Kgal)	DRAIN- ABLE LIQUID REMAIN (Kgal)	PUMP- ABLE LIQUID REMAIN (Kgal)	SLUDGE (Kgal)	SALTCAKE (Kgal)	LIQUIDS VOLUME	SOLIDS VOLUME	SOLIDS UPDATE	SEE FOOTNOTE	DATE	PHOTO	LAST MONTHLY REPORT							
+++++ TY FARM STATUS +++++																											
101TY	NCPLX	ASMD LKR	IS/11		118	0	0	0.0	8.2	0	0	118	0	P	F	04/28/82			08/22/89								
102TY	NCPLX	SOUND	IS/11		64	0	14	0.0	6.6	14	0	0	64	P	FP	06/28/82			07/07/87								
103TY	NCPLX	ASMD LKR	IS/11		162	0	5	0.0	11.5	5	0	162	0	P	FP	07/09/82			08/22/89								
104TY	NCPLX	ASMD LKR	IS/11		46	3	12	0.0	0.0	15	0	43	0	P	FP	06/27/90	(1)		11/03/87								
105TY	NCPLX	ASMD LKR	IS/11		231	0	0	0.0	3.6	0	0	231	0	P	M	04/28/82			09/07/89								
106TY	NCPLX	ASMD LKR	IS/11		17	0	0	0.0	0.0	0	0	17	0	P	M	04/28/82			08/22/89								
6 SINGLE-SHELL TANKS																											
TOTALS:					638	3	31	0.0	29.9	34	0	571	64														
+++++ U FARM STATUS +++++																											
101U	NCLPX	ASMD LKR	IS/11		25	3	0	0.0	0.0	3	0	22	0	P	MP	04/28/82			06/19/79								
102U	NCLPX	SOUND	/PI		374	18	126	0.0	0.0	144	122	43	313	P	MP	04/28/82			06/08/89								
103U	NCPLX	SOUND	/PI		468	13	176	0.0	0.0	189	167	32	423	P	FP	04/28/82			09/13/88								
104U	NCLPX	ASMD LKR	IS/11		122	0	7	0.0	0.0	7	0	122	0	P	MP	04/28/82			08/10/89								
105U	NCPLX	SOUND	/PI		418	37	142	0.0	0.0	179	157	32	349	FM	PS	09/30/78			07/07/88								
106U	NCPLX	SOUND	/PI		226	15	68	0.0	0.0	83	61	26	185	F	PS	12/30/83			07/07/88								
107U	DSSF	SOUND	/PI		406	31	147	0.0	0.0	178	156	15	360	F	S	12/30/83			10/27/88								
108U	NCPLX	SOUND	/PI		468	24	172	0.0	0.0	196	174	29	415	F	S	12/30/83			09/12/84								
109U	NCPLX	SOUND	/PI		463	19	163	0.0	0.0	182	160	48	396	F	F	11/13/77			07/07/88								
110U	NCPLX	ASMD LKR	IS/PI		186	0	15	0.0	0.0	15	9	186	0	M	M	12/30/84	(1)		12/11/84								
111U	DSSF	SOUND	/PI		329	0	122	0.0	0.0	122	100	26	303	PS	FPS	04/28/82			06/23/88								
112U	NCPLX	ASMD LKR	IS/11		49	4	0	0.0	0.0	4	0	45	0	P	MP	02/10/84	(1)		08/03/89								

WHC - EP - 0182 - 40

TABLE C-5. INVENTORY AND STATUS BY TANK
SINGLE-SHELL TANKS
July 1991

TANK STATUS		LIQUID VOLUME				SOLIDS VOLUME				VOLUME DETERMINATION																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																						
TANK	WASTE TANK MATERIAL INTEGRITY	STABIL/ ISOLATION STATUS	TOTAL WASTE (Kgal)	SUPER- TANT LIQUID (Kgal)	DRAIN- ABLE INTER- STIT. (Kgal)	PUMPED THIS MONTH	TOTAL PUMPED (Kgal)	DRAIN- ABLE LIQUID REMAIN (Kgal)	PUMP- ABLE LIQUID REMAIN (Kgal)	SLUDGE (Kgal)	SALTCAKE (Kgal)	LIQUIDS VOLUME	SOLIDS VOLUME	SOLIDS METHOD	SOLIDS UPDATE	SOLIDS SOURCE	SOLIDS SEE	FOOTNOTE	CHG SINCE LAST MONTHLY REPORT																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																													

18

NOTE: +/- 1K gal differences are the result of rounding

(1) WHC-SD-RE-TI-178 SST STABILIZATION RECORD

(2) TANK FARMS COGNIZANT ENGINEER MONTHLY INPUT (RETAINED 5 YR)

* in CHG SINCE LAST MONTHLY REPORT column - SEE NEXT PAGE

CHANGES TO THE INVENTORY AND STATUS BY TANK FOR SINGLE-SHELL TANKS
July 1991

<u>Tank No.</u>	<u>Comments</u>
102-BY	<p>Information per SST Stabilization Engineering: Jet pumping began June 13, 1991. Following entries were changed in the Inventory and Status by Tank section: Total Waste from 405 to 341 Kgal Supernatant remains at 0 Drainable Interstitial Liquid from 164 to 100 Kgal Drainable Liquid Remaining from 164 to 100 Kgal Pumpable Liquid Remaining from 142 to 78 Kgal Sludge remains 0 Saltcake from 405 to 341 Kgal Pumped This Month was 63.9 and Total Pumped is 90.5 Kgal Solids Volume Update from 07/08/91 to 08/05/91</p>
109-BY	<p>Information per SST Stabilization Engineering: Jet pumping began June 16, 1991. Following entries were changed in the Inventory and Status by Tank section: Total Waste from 458 to 423 Kgal Supernatant from 17 to 0 Kgal Drainable Interstitial Liquid from 147 to 129 Kgal Drainable Liquid Remaining from 164 to 129 Kgal Pumpable Liquid Remaining from 142 to 107 Kgal Sludge from 87 to 83 Kgal Saltcake from 354 to 340 Kgal Pumped This Month was 34.6 Kgal and Total Pumped is 50.2 Kgal Solids Volume Update from 07/08/91 08/05/91</p>
103-SX	<p>Information per SST Stabilization Engineering: Examination of 12/17/87 photographs and FIC level on 7/12/91. Total Waste from 667 to 652 Kgal</p>

CHANGES TO THE INVENTORY AND STATUS BY TANK FOR SINGLE-SHELL TANKS

July 1991

<u>Tank No.</u>	<u>Comments</u>
	Supernatant from 32 to 1 Kgal
	Drainable Interstitial Liquid from 226 to 242 Kgal
	Drainable Liquid Remaining from 258 to 243 Kgal
	Pumpable Liquid Remaining from 236 to 233 Kgal
	Sludge from 112 to 115 Kgal
	Saltcake from 523 to 536 Kgal
	Solids Volume Update from 04/28/82 to 07/15/91

Note: +/- 1 Kgal differences are the result of rounding

APPENDIX D

PERFORMANCE SUMMARY

This page intentionally left blank.

TABLE D-1. PERFORMANCE SUMMARY (Sheet 1 of 3)

WASTE VOLUMES (Kgallons)

July 1991

INCREASES/DECREASES IN WASTE VOLUMES STORED IN DOUBLE-SHELL TANKS			CUMULATIVE EVAPORATION - 1950 TO PRESENT	
SOURCE	THIS MONTH	FY1991 TO DATE	WASTE VOLUME REDUCTION	
SOURCE	THIS MONTH	FY1991 TO DATE	FACILITY	
B PLANT	20	327	242-B EVAPORATOR (8)	7172
PUREX TOTAL (1)	3	256	242-T EVAPORATOR (1950's) (8)	9181
PFP (1)	0	0	IN-TANK SOLIDIFICATION UNIT 1 (9)	11876
T PLANT (1)	17	37	IN-TANK SOLIDIFICATION UNIT 2 (9)	15295
S PLANT (1)	5	39	IN-TANK SOLID. UNIT 1 & 2 (9)	7965
300/400 AREAS (1)	13	40	(after conversion of Unit 1 to a cooler for Unit 2)	
SULFATE WASTE -100 N (2)	0	0	242-T (Modified) (8)	24471
TANK FARMS & SWL (6)	121	390	242-S EVAPORATOR (10)	41983
Tank Farms	14		242-A EVAPORATOR (11)	65227
Saltwell Liquid	107		B PLANT (Cell 23) (12)	1185
OTHER GAINS	12	202	REDOX (12)	12393
Slurry increase (3)	9		Total	196748
Condensate	0			
Instrument change (7)	0			
Unknown (5)	3			
OTHER LOSSES	-8	-340		
Slurry decrease	-5			
Evaporation (4)	0			
Instrument change (7)	0			
Unknown (5)	-3			
EVAPORATED	0	0	242-A EVAPORATOR (11)	182437
GROUTED	0	0	242-S EVAPORATOR (10)	134587
THIS MONTH	183		Total	317024
FY1991 TO DATE		951		

Footnotes: See next page

TABLE D-1. Performance Summary. (sheet 2 of 3)

Footnotes:

INCREASES/DECREASES IN WASTE VOLUMES

- (1) Including Flush
- (2) Sulfate waste is generated from ion exchange backflushing and sand filter clean out, resulting in sulfate waste (Na_2SO_4).
- (3) Slurry increase/growth is caused by gas generation within the waste. The gas which is trapped in the waste expands the waste in the tank causing the surface level and volume to increase.
- (4) Aging waste tanks
- (5) Unknown waste gains or losses may be due to rounding calculations, clean water slowly leaking through a valve, changes in levels due to ambient temperature changes, different measuring devices being used by Tank Farm operators, transfers taking place during the end of the month, Tank Farm activities such as miscellaneous water additions not associated with facility waste generation, or the addition of water which is added to aging waste tanks and then evaporated off.
- (6) Tank Farms miscellaneous flushes.
- (7) Liquid level measurement instrument changes from the automatic FIC to manual tape (and vice versa) result in unusual gains or losses because the manual tape may rest on an uneven crust surface giving a different reading from that of the automatic FIC. These instrument changes are made when the automatic FIC is out of service and the reading from the manual tape is used for reporting purposes. The reported reading reverts back to the automatic FIC when it is repaired.

WASTE VOLUME REDUCTION

- (8) Currently inoperative. These evaporator systems (242-B and 242-T) were installed in 1952 in each of the two operating areas to remove water from the waste, and ran for approximately 4 yr after which both units were shut down. The 242-T Evaporator was reactivated in December 1965, and shut down again in April 1976.
- (9) Currently inoperative. These two in-tank solidification (ITS) units accomplished in-tank heating. ITS Unit #1 started up March 1965, and ITS Unit 2 started up February 1968. In August 1971, ITS Unit 1 was converted from an evaporator to a cooler for ITS Unit 2. Both units were shut down June 1974.

TABLE D-1. Performance Summary. (sheet 3 of 3)

- (10) Currently inoperative. The 242-S Evaporator-Crystallizer was started up November 1973, and shut down March 1980, when its processing project was completed. It is in standby mode with no future mission. This evaporator operates under a vacuum, employing evaporative concentration with subsequent crystallization and precipitation of salt crystals.
- (11) Currently inoperative. The 242-A Evaporator-Crystallizer was started up March 1977, and shut down April 1989 because of regulatory issues, and has remained shut down for subsequent upgrading. It is planned that the upgrade will be completed and the evaporator restarted in December 1991. This evaporator operates under a vacuum, employing evaporative concentration with subsequent crystallization and precipitation of salt crystals.
- (12) Currently inoperative. Additional concentration of wastes was obtained by using the concentrators at REDOX and B Plant. The REDOX concentrator was used from July 1967 to June 1972, while the B Plant concentrator was used from July 1967 to February 1968.

This page intentionally left blank.

APPENDIX E
LIQUID STATUS AND PUMPABLE LIQUID
REMAINING IN TANKS

This page intentionally left blank.

**TABLE E-1. LIQUID STATUS AND PUMPABLE LIQUID
REMAINING IN TANKS**

WASTE VOLUMES (Kgallons)

July 1991

TANK FARMS	SUPERNATANT LIQUID	DRAINABLE INTERSTITIAL LIQUID	DRAINABLE LIQUID REMAINING	PUMPABLE LIQUID REMAINING
EAST				
A	8	439	447	391
AN	5390	37	5427	N/A
AP	5612	0	5612	N/A
AW	4040	157	4197	N/A
AX	3	370	373	304
AY	1683	2	1685	N/A
AZ	1796	3	1799	N/A
B	15	164	179	42
BX	50	160	210	126
BY	0	840	840	656
C	177	168	345	296
Total	18774	2340	21114	1815
WEST				
S	46	1245	1291	1043
SX	63	1208	1271	1096
SY	744	237	981	N/A
T	74	189	263	208
TX	5	250	255	0
TY	3	31	34	0
U	168	1138	1306	1106
Total	1103	4298	5401	3453
TOTAL	19877	6638	26515	5268 (1)

(1) Volume based on 12.5% (sludge waste) and 45% (saltcake waste) liquid in solid (porosity) value. This is a conservative (high) estimate.

Note: +/- 1 Kgal differences are the result of computer rounding

N/A = Not applicable

This page intentionally left blank.

WHC-EP-0182-40

APPENDIX F
PUMPING RECORD

This page intentionally left blank.

TABLE F-1. PUMPING RECORD

		(Kgallons)		July 1991		CUMULATIVE	
TANK	FARMS	PUMPED THIS MONTH	PUMPED FY TO DATE	TOTAL PUMPED 1979 TO DATE			
EAST							
A		0.0	0.0	150.5			
AN		N/A	N/A	N/A			
AP		N/A	N/A	N/A			
AW		N/A	N/A	N/A			
AX		0.0	0.0	13.0			
AY		N/A	N/A	N/A			
AZ		N/A	N/A	N/A			
B		0.0	0.0	0.0			
BX		0.0	1.1	68.9			
BY		98.5	98.5	1311.3			
C		0.0	0.0	0.0			
Total		98.5	99.6	1543.7			
WEST							
S		0.0	0.0	791.0			
SX		0.0	0.0	113.2			
SY		N/A	N/A	N/A			
T		0.0	0.0	0.0			
TX		0.0	0.0	1205.7			
TY		0.0	0.0	29.9			
U		0.0	0.0	0.0			
Total		0.0	0.0	2139.8			
TOTAL		98.5	99.6	3683.5			

NA = Not Applicable

This page intentionally left blank.

APPENDIX G
CATCH TANKS AND SPECIAL
SURVEILLANCE FACILITIES

This page intentionally left blank.

TABLE G-1. EAST AND WEST AREA CATCH TANKS AND SPECIAL SURVEILLANCE FACILITIES

ACTIVE - still running transfers through the associated diversion boxes or pipeline encasements
July 1991

VOLUME OF		CONTENTS MONITORED		REMARKS		
FACILITY	LOCATION	PURPOSE (receives waste from:)	(Gallons)		BY	
EAST AREA						
A-302-A	A FARM	151-A DB	3616	CASS/FIC	PUMPED JUNE 29, 1991 DIAL O/S, USING ZIP CORD VOLUME CHANGES DAILY AUTOMATIC PUMP DIRECT GAL READING USING MANUAL TAPE FOR TANK	
311-ER	B PLANT	151-ER, 152-ER DB	1735	CASS/FIC		
152-AX	AX FARM	152-AX DB	O/S	MANUALLY		
151-AZ	AZ FARM	152-AZ DB, AZ LOOP SEAL	1650	CASS/FIC		
154-AZ	AZ FARM	102-AZ HTG COIL STEAM CONDENSATE	0	CASS/MT		
244-A-TK/SMP	AR VAULT	DCRT - RECEIVES FROM SEVERAL FARMS	2139	MCS		
244-BX-TK/SMP	BX FARM	DCRT - RECEIVES FROM SEVERAL FARMS	16397	MANUALLY		
VENT STATION		CROSS COUNTRY LINE	587	CASS/MT		
204-AR	AY FARM	RR CARS DURING TRANSFER TO REC. TKS	150	DIP TUBE		ALARMS ON CASS
417-A	A FARM	702-A PROCESS CONDENSATE	27140	DIP TUBE		
WEST AREA						
TX-302-C	TX FARM	154-TX DB	2958	CASS/FIC	CWF, TANK MANUAL TAPE O/S	
U-301-B	U FARM	151-U, 152-U, 153-U, 252-U DB	5273	CASS/FIC		
UX-302-A	U PLANT	154-UX DB	7675	CASS/MFIC		
244-S-TK/SMP	S FARM	DCRT - RECEIVES FROM SEVERAL FARMS	10639	MANUALLY		CWF
244-TX-TK/SMP	TX FARM	DCRT - RECEIVES FROM SEVERAL FARMS	25674	MANUALLY		
Total active facilities						15
LEGEND: C'B - Diversion Box DCRT - Double-Contained Receiver Tank FIC - Food Instrument Corporation MFIC - Manual FIC MT - Manual Tape O/S - Out of Service CWF - Weight Factor/SpG = Corrected Weight Factor CASS - Computer Automated Surveillance System MCS - Monitor and Control System						

LEGEND: DB - Diversion Box
DCRT - Double-Contained Receiver Tank
FIC - Food Instrument Corporation
MFIC - Manual FIC
MT - Manual Tape
O/S - Out of Service
CWF - Weight Factor/SpG = Corrected Weight Factor
CASS - Computer Automated Surveillance System
MCS - Monitor and Control System

TABLE G-2. EAST AREA CATCH TANKS AND SPECIAL SURVEILLANCE FACILITIES

INACTIVE - no longer receiving waste transfers
July 1991

VOLUME
OF

FACILITY	LOCATION	RECEIVED WASTE FROM:	CONTENTS		MONITORED		REMARKS
			(Gallons)	BY	BY		
A-302-B	A-FARM	152-A DB	3240	CASS/MT			ISOLATED 1985, PROJECT B-138 INTERIM STABILIZED 1990
B-301-B	B FARM	151-B, 152-B, 153-B, 252-B DB	UNKNOWN	NM			ISOLATED 1985(1)
B-302-B	B FARM	154-B DB	UNKNOWN	NM			ISOLATED 1985(1)
BX-302-A	BX FARM	152-BR, 153-BX, 152-BXR, 152-BYR DB	UNKNOWN	NM			ISOLATED 1985(1)
BX-302-B	BX FARM	154-DB	UNKNOWN	NM			ISOLATED 1985(1)
BX-302-C	BX FARM	155-B DB	UNKNOWN	NM			ISOLATED 1985(1)
C-301-C	C FARM	151-C, 152-C, 153-C, 252-C DB	UNKNOWN	NM			ISOLATED 1985(1)
241-CX-70	HOT SEMI- WORKS	TRANSFER LINES	UNKNOWN	NM			ISOLATED, DECOMMISSION PROJ.
241-CX-72	WORKS	TRANSFER LINES	UNKNOWN	NM			SEE DWG H-2-95-501, 2/5/87
244-AR	A COMPLEX	DCRT - RECEIVES FROM SEVERAL FARMS	UNKNOWN	NM			BEING UPGRADED
001-BXR-TK/SMP	BX FARM	TRANSFER LINES	UNKNOWN	NM			INTERIM STABILIZED 1985(1)
002-BXR-TK/SMP	BX FARM	TRANSFER LINES	UNKNOWN	NM			INTERIM STABILIZED 1985(1)
003-BXR-TK/SMP	BX FARM	TRANSFER LINES	UNKNOWN	NM			INTERIM STABILIZED 1985(1)
011-BXR-TK/SMP	BX FARM	TRANSFER LINES	UNKNOWN	NM			INTERIM STABILIZED 1985(1)
361-B-TANK	B PLANT	DRAINAGE FROM B-PLANT	UNKNOWN	NM			INTERIM STABILIZED 1985(1)

Total East Area inactive facilities 15

LEGEND: DB - Diversion Box
DCRT - Double-Contained Receiver Tank
MT - Manual Tape
CASS - Computer Automated Surveillance System
NM - Not Monitored

(1) SOURCE: WASTE STORAGE TANK STATUS & LEAK DETECTION CRITERIA document

TABLE G-3. WEST AREA CATCH TANKS AND SPECIAL SURVEILLANCE FACILITIES

INACTIVE - no longer receiving waste transfers
July 1991

VOLUME
OF

CONTENTS

FACILITY	LOCATION	RECEIVED WASTE FROM:	BY	REMARKS
S-302	S FARM	240-S-151 DB	CASS/FIC	ASSUMED LEAKER EPDA 85-04
S-302-A	S FARM	241-S-151 DB	CASS/FIC	ASSUMED LEAKER TF-EFS-90-042
				FILLED WITH GROUT 2/91, DETERMINED
				STILL ASSUMED LEAKER AFTER LEAK TEST
S-302-B	S FARM	S ENCASEMENTS	NM	ISOLATED 1985(1)
SX-304(302)	SX FARM	152-SX TRANSFER BOX, 151-SX DB	NM	ISOLATED 1985(1)
T-301-B	T FARM	151-T, 152-T, 153-T, 252-T DB	NM	ISOLATED 1985(1)
TX-302	TX FARM	153-TX DB	NM	ISOLATED 1985(1)
TX-302-X-B	TX FARM	TX ENCASEMENTS	NM	ISOLATED 1985(1)
TX-302-B	TX FARM	155-TX DB	CASS/MT	WORK REQ. ISSUED TO REPLACE O/S MT
TY-302-A	TY FARM	153-TX DB	NM	ISOLATED 1985(1)
TY-302-B	TY FARM	TY ENCASEMENTS	NM	ISOLATED 1985(1)
001-UR-TK/SMP	U FARM	TRANSFER LINES	NM	INTERIM STABILIZED, MT REMOVED 1985(1)
002-UR-TK/SMP	U FARM	TRANSFER LINES	NM	INTERIM STABILIZED, MT REMOVED 1985(1)
003-UR-TK/SMP	U FARM	TRANSFER LINES	NM	INTERIM STABILIZED, MT REMOVED 1985(1)
001-TXR-TK/SMP	TX FARM	TRANSFER LINES	NM	INTERIM STABILIZED, MT REMOVED 1984(1)
002-TXR-TK/SMP	TX FARM	TRANSFER LINES	NM	INTERIM STABILIZED, MT REMOVED 1984(1)
003-TXR-TK/SMP	TX FARM	TRANSFER LINES	NM	INTERIM STABILIZED, MT REMOVED 1984(1)
361-T-TANK	T PLANT	DRAINAGE FROM T-PLANT	NM	ISOLATED 1985(1)
361-U-TANK	U PLANT	DRAINAGE FROM U-PLANT	NM	INTERIM STABILIZED, MT REMOVED 1985(1)
244-U-TK/SMP	U FARM	DCRT - RECEIVES FROM SEVERAL FARMS	NM	NOT YET IN USE

Total West Area inactive facilities 19

LEGEND: DB - Diversion Box
DCRT - Double-Contained Receiver Tank
FIC - Food Instrument Corporation
MT - Manual Tape
O/S - Out of Service
CASS - Computer Automated Surveillance System
NM - Not Monitored

(1) SOURCE: WASTE STORAGE TANK STATUS & LEAK DETECTION CRITERIA document

This page intentionally left blank.

APPENDIX H
LEAK VOLUME ESTIMATES

This page intentionally left blank.

**TABLE H-1. LEAK VOLUMES ESTIMATED AND REPORTED
BEFORE 1989 (39 Tanks) (5) (Sheet 1 of 2)**

TANK	LEAK IDENTIFIED (3)	VOLUME (2) (Gallons)	ASSOCIATED 137 CS (4)	INTERIM STABILIZED
241-A-103	1987	5500		8/88
241-A-104	1975	2500		9/78
241-A-105	1963	5000 (1)		7/79
241-AX-102	1988	3000		9/88
241-B-107	1980	8000		3/85
241-B-110	1981	10000		12/84
241-B-201	1980	1200		8/81
241-B-203	1983	300		6/84
241-BX-102	1971	70000	50000	11/78
241-BX-108	1974	2500	500	7/79
241-BY-103	1973	<5000		N/A
241-BY-108	1972	<5000		2/85
241-C-101	1980	20000		11/83
241-C-201	1988	550		3/82
241-C-202	1988	450		8/81
241-C-203	1984	400		3/82
241-C-204	1988	350		9/82
241-SX-104	1988	6000		N/A
241-SX-107	1964	<5000		10/79
241-SX-108	1962	2400	20000	8/79
241-SX-109	1965	5000		5/81
241-SX-110	1976	5500		8/79
241-SX-111	1974	2000	2000	7/79
241-SX-112	1969	30000	40000	7/79
241-SX-113	1962	15000	8000	11/78
241-SX-115	1965	50000	40000	9/78
241-T-106	1973	115000	40000	8/81
241-T-108	1974	<1000		11/78
241-T-111	1984	<1000		N/A
241-TX-107	1984	2500		10/79
241-TY-101	1973	<1000		8/83
241-TY-103	1973	3000	700	2/83
241-TY-104	1981	1400		1/83
241-TY-105	1960	35000	4000	2/83
241-TY-106	1959	20000	2000	11/78
241-U-101	1959	30000	20000	9/79
241-U-104	1961	55000	90	10/78
241-U-110	1975	8100		12/84
241-U-112	1980	8500		9/78
Subtotal		542000	(39 tanks)	

N/A = not applicable (not yet interim stabilized)

FOOTNOTES: SEE NEXT PAGE

TABLE H-1. Leak Volumes Estimated and Reported
Before 1989 (39 Tanks). (sheet 2 of 2)

Footnotes:

- (1) Perhaps as much as 1 Mgal of clean cooling water was sprayed into single-shell Tank 241-A-105 in the 1970's to aid in evaporative cooling. It is likely that much of this water (50,000 to 800,000 gal) did not evaporate and, therefore, may have leached or entrained some of the sludge and added to the waste released from this tank. In accordance with Washington Administrative Code 173-303-070 (2)(a)(ii)¹, this leachate is also a waste. Past practice was to exclude the cooling water from the leak volume estimate. This practice has been continued in current reports for the following reasons:
 1. Estimates of cooling water additions have varied from approximately 100,000 gal up to 1.5 Mgal
 2. There is no accurate method to estimate the amount of cooling water that leaked from the tank (as of October 1990, the estimates ranged from 50,000 to 800,000 gal)
 3. There is no method to accurately determine the amount of additional waste that was released by being dissolved or entrained from the cooling water that leaked from the tank. The waste content (concentration) in the cooling water that leaked should be less than in the original liquid waste in the tank (the sludge is relatively insoluble).
- (2) These volumes do not include (with some exceptions) such things as (a) cooling/raw water leaks; (b) intrusions (rain infiltration) and subsequent leaks; (c) leaks inside the tank farm but not through the tank liner (surface leaks, pipeline leaks, leaks at the joint for the overflow or fill lines, etc.); and (d) leaks from catch tanks, diversion boxes, encasements, etc.
- (3) In many cases a leak was suspected long before it was identified or confirmed. In 1984, the criteria designations of "suspected leaker," "questionable integrity," and "confirmed leaker" were merged into one category now reported as "assumed leaker."
- (4) Source: ERDA-1538 (Final Environmental Statement, Waste Management). The ¹³⁷Cs leakage can be used to estimate the amount of other radionuclides leaked.
- (5) There is effort currently in progress to reevaluate these leak volume estimates.

¹WAC, 1989, *Dangerous Waste Regulations*, Washington Administrative Code 173-303, Washington State Department of Ecology, Olympia, Washington.

TABLE H-2. LEAK VOLUMES ESTIMATED IN 1989 (27 Tanks)

<i>TANK</i>	<i>LEAK IDENTIFIED</i>	<i>VOLUME (Gallons)</i>	<i>INTERIM STABILIZED</i>
241-B-204	1984	400	6/84
241-BY-107	1984	15100	7/79
241-C-111	1968	5500	3/84
241-S-104	1968	24000	12/84
241-T-103	1974	<1000	11/83
241-T-109	1974	<1000	12/84
Subtotal		47000 (6 Tanks)	
241-B-112	1978	2000	5/85
241-C-110	1984	2000	N/A
Subtotal		4000 (2 Tanks)	
241-AX-104	1977	--	8/81
241-B-101	1974	--	3/81
241-B-103	1978	--	2/85
241-B-105	1978	--	12/84
241-B-111	1978	--	6/85
241-BX-101	1972	--	9/78
241-BX-110	1976	--	8/85
241-BX-111	1984	--	N/A
241-BY-105	1984	--	N/A
241-BY-106	1984	--	N/A
241-SX-114	1972	--	7/79
241-T-107	1984	--	N/A
241-TX-105	1977	--	9/83
241-TX-110	1977	--	4/83
241-TX-113	1974	--	4/83
241-TX-114	1974	--	4/83
241-TX-115	1977	--	9/83
241-TX-116	1977	--	4/83
241-TX-117	1977	--	3/83
Subtotal		150000 (a) (19 Tanks)	
Subtotal		201000 Table G-2	
Subtotal		542000 Table G-1	
TOTAL		750000 (b)	

(a) Estimate rounded to nearest 10000 gal.

(b) Rounded to nearest 50000 gal.

N/A = not applicable (not yet interim stabilized)

WHC-EP-0182-40

This page intentionally left blank.

DISTRIBUTION

Number of copiesOFFSITE

7	<u>U.S. Department of Energy-Headquarters</u> 1000 Independence Avenue SW Washington, D.C. 20585	A. Griffith EM-322 TREV/II/343 R. Hansen EH-361 GTN/J-112 G. Hardcastle EH-222 FORS/3G-089 J. S. Kang EM-351 TREV II/368 J. C. Lehr EM-442 TREV II/160 J. C. Tseng EM-35 TREV II/366 H. F. Walter EM-343 TREV II/312
1	<u>U.S. Department of Energy-</u> <u>Oak Ridge Operations Office</u> P. O. Box 2001 Oak Ridge, TN 37831	W. D. Adams EW-40
4	<u>U.S. Department of Energy-</u> <u>Savannah River Site</u> P. O. Box A Aiken, SC 29802	C. Anderson 707-H, Room 3 C. W. Terrell 704-S L. Sjostrom V. Wheeler 704-S
3	<u>U.S. Department of Energy-</u> <u>Idaho Operations</u> 785 D.O.E. Place Idaho Falls, ID 83402	C. Enos MS-1139 J. E. Solecki MS-115 G. Woodall MS-1139
1	<u>Oregon State Water Resources</u> <u>Department</u> Ground Water Hanford Studies 3850 Portland Road Salem, OR 97310	R. O. Patt

Distribution (continued)

Number of copies

OFFSITE

1	<p><u>Washington State Department of Ecology</u> Olympia, WA 98504-8711</p> <p>R. Stanley</p>	PV-11
1	<p><u>Washington State Department of Health</u> Radiation Protection Section Industrial Park Building 5 Olympia, WA 98504</p> <p>A. Conklin</p>	LE-13
1	<p><u>Massachusetts Institute of Technology</u> 77 Massachusetts Avenue Cambridge, MA 02139</p> <p>Mujid S. Kazimi Professor and Head Department of Nuclear Engineering</p>	
3	<p><u>Los Alamos National Laboratory</u> P. O. Box 1663 Los Alamos, NM 87545</p> <p>T. Larson A. Nuels H. Sulliva</p>	<p>C-920 N-6 N-6</p>
3	<p><u>Oak Ridge National Laboratories</u> P. O. Box 2008 Oak Ridge, TN 37831</p> <p>D. O. Campbell C. Forsberg T. S. Kress</p>	<p>MS-6268 MS-6273 MS-8088</p>
1	<p><u>Lawrence Livermore National Laboratory</u> Box 808, East Avenue Livermore, CA 94550</p> <p>B. C. Hudson</p>	L-221

Distribution (continued)

Number of copies

OFFSITE

2	<u>Brookhaven National Laboratory</u> Building 129 Upton, NY 11973 K. K. Bandyopadhyay M. Reich
1	<u>Sandia National Laboratories</u> Department 6463, 1515 Eubank, NE Albuquerque, NM 87185 Scott Slezak
2	<u>BDM International, Inc.</u> 20030 Century Blvd, Suite 101 Germantown, MD 20874 P. Kiang K. J. Mahoney
2	<u>SAIC</u> 20030 Century Blvd, Suite 201 Germantown, MD 20874 R. S. Daniels J. R. Pearing
1	<u>SAIC</u> 1845 Terminal Drive, Suite 130 Richland, WA 99352 J. Michima
1	<u>Harvard School of Public Health</u> 665 Huntington Avenue Boston, MA 02115 M. First
1	<u>Air Products and Chemicals, Inc.</u> 7201 Hamilton Blvd. Allentown, PA 18195 G. Schmauch

Distribution (continued)

Number of copies

OFFSITE

2	<p><u>West Valley</u> P. O. Box 191 West Valley, NY 14171</p> <p>S. Ketola D. K. Ploetz</p>	<p>MS-191 MS-305</p>
1	<p><u>General Accounting Office</u> P. O. Box 321 Richland, WA 99352</p> <p>C. R. Abraham</p>	
2	<p><u>Defense Nuclear Facilities Safety Board</u> 625 Indiana Ave, N.W. Washington, D.C. 20004</p> <p>Dan Burnfield Dermot M. Winters, Geological Engineer</p>	
1	<p><u>Westinghouse Idaho Nuclear Corporation</u> P. O. Box 4000 Idaho Falls, ID 83403-4000</p> <p>A. P. Hoskins</p>	<p>MS-5217</p>
2	<p><u>Westinghouse Savannah River Co.</u> Building 703-H P. O. Box 616 Aiken, SC 29802</p> <p>P. D. d'Entremont W. R. West</p>	<p>703-H 704-8H</p>
1	<p>C. Abrams 1987 Virginia Drive Idaho Falls, ID 83404</p>	
1	<p>F. Carlson 6965 North, 5th West Idaho Falls, ID 83401</p>	

Distribution (continued)

Number of copies

OFFSITE

1	Joseph J. DiNunno, Engineering Consultant 44 Carriage Lane Annapolis, MD 21401
1	D. Oakley 409 12th Street, SW, #310 Washington, D.C. 20024
12	<u>National Research Council, National Academy of Sciences</u> 2101 Constitution Ave., N. W. Washington D.C. 20418 Robert S. Andrews, Senior Staff Officer Board on Radioactive Waste Management
6	<u>Waste Management External Advisory Committee Members</u> Dr. Frank L. Parker Professor of Environmental and Water Resources Engineering Vanderbilt University P. O. Box 1596, Station B Nashville, TN 37235 Dr. Bruce R. Kowalski Professor of Chemistry, Co-director of Center for Process Analytical Chemistry University of Washington Chemistry Department, Bldg 10 Seattle, WA 98195 Dr. Greg R. Choppin Professor of Chemistry Florida State University Department of Chemistry, B-164 Tallahassee, FL 32306 Dr. Chester Grelecki President, Chief Scientist Hazards Research Corporation 200 Valley Road Mt. Arlington, NJ 07856

Distribution (continued)

Number of copies

OFFSITE

Waste Management External Advisory
Committee Members (continued)

Dr. Alfred Schneider
Consulting Engineer
5005 Hidden Branches Drive
Dunwood, GA 30338

Dr. Gary Powers
President
Design Science, Inc.
163 Witherow Road
Sewickley, PA 15143

EBASCO Services Incorporated
1201 Jadwin Avenue, Suite 202
Richland, WA 99352-3429

J. C. Janus
Regional Manager

ONSITE

12

U.S. Department of Energy Field
Office, Richland

G. E. Bishop	R2-62
G. J. Bracken	R4-04
R. E. Gerton	A4-02
W. F. Hendrickson	A4-02
R. D. Hildebrand	A5-55
J. E. Little	A5-22
K. L. Morgan	A7-75
J. E. Newson	R2-62
G. W. Rosenwald	A4-02
R. Sweeney	A4-02
A. D. Toth	R2-62
Reading Room	A1-65

1

Stone and Webster Engineering Co.

E. L. Richards	A4-35
----------------	-------

Distribution (continued)

Number of copiesONSITE

9

Pacific Northwest Laboratory

L. L. Burger	P7-25
D. H. Denham (2)	A3-60
L. C. Morgan	P8-07
R. D. Scheele	P7-25
P. A. Scott	P7-44
J. C. Spanner	K2-05
J. R. Weber	K3-53
R. S. Wegeng	R6-31

149

Westinghouse Hanford Company

A. T. Alstad	R1-49
J. D. Anderson	N3-11
H. Babad	H4-23
D. L. Becker	H5-57
D. B. Bechtold	T6-50
M. L. Bell	H4-23
M. V. Berriochoa	B3-30
D. C. Board (3)	S1-57
K. D. Boomer	H5-49
G. L. Borsheim	R2-11
V. C. Boyles	R1-49
D. R. Bratzel	T6-50
S. A. Bryan	P7-25
W. W. Burk	L6-13
J. G. Burk, Jr.	B3-25
J. H. Bussell	L7-05
K. G. Carothers	R1-51
R. J. Cash	H4-23
G. Christensen	H4-23
W. L. Cowley	H5-31
D. S. Cunningham	S0-02
G. M. Crummel	R1-51
J. E. Dearing	H5-58
D. E. Deaton	S0-04
J. L. Drichman	H4-23
D. R. Dickinson	L5-31
R. A. Dodd	R1-51
G. T. Dukelow	R2-97
G. L. Dunford	R1-51
J. A. Eaker	R1-51
W. G. Farley	H5-32
K. O. Fein	H5-34
K. D. Fowler	R2-11

Distribution (continued)

Westinghouse Hanford Company (continued)

G. L. Fox, Jr.	L5-01
G. T. Frater	R1-51
J. R. Freeman-Pollard	H4-55
K. A. Gasper	H4-23
G. J. Gauck	R2-07
R. L. Gilchrist	L5-63
S. D. Godfrey	R1-51
D. J. Green	H5-53
W. O. Greenhalgh	L5-31
V. W. Hall	L4-88
D. G. Hamrick	R1-51
B. M. Hanlon (25)	R1-80
J. M. Hanson	R2-40
H. D. Harmon	R2-52
J. M. Henderson	S0-09
D. W. Hendrickson	R4-03
E. G. Hess	R3-09
M. C. Higginson	A4-25
J. G. Hill	R2-12
R. C. Hill	H4-23
N. A. Homan	H4-52
B. K. Horsager	S4-68
R. D. House	R2-83
K. J. Hull	H5-71
J. E. Hysjulien	H5-09
M. N. Islam	R3-80
G. D. Johnson	H4-23
J. L. Juette	S5-11
L. J. Julyk	H5-53
S. E. Kelly	R2-12
N. W. Kirch	R2-11
E. M. Koellermeier	N1-29
G. M. Koreski	R1-51
M. Kummerer	H5-32
E. L. Kunkler	H5-10
D. L. Lenseigne	R2-75
S. Marchetti	R2-50
R. M. Marusich	H5-32
V. D. Maupin	R1-49
J. D. McCormack	L5-31
D. E. McKenney	R1-48
T. E. Mensinger	R1-08
N. R. Miller	B3-55
W. J. Millsap	H5-68
L. D. Muhlestein	N1-28
B. E. Opitz	R2-83
A. Padilla, Jr.	H0-32

Distribution (continued)

Westinghouse Hanford Company (continued)

D. B. Pabst	B2-35
T. B. Powers	H0-31
A. L. Prignano	H4-57
J. G. Propson	R2-18
T. E. Rainey	R1-49
R. E. Raymond (2)	R1-80
R. W. Reed	R1-51
J. H. Roecker	R2-28
J. A. Ryan	H5-57
F. A. Schmorde	R2-88
K. V. Scott	H5-52
J. E. Shapley	N1-83
R. A. Shea	S5-11
E. M. Sheen	L7-05
P. K. Shen	H0-39
L. C. Shoemaker	L6-29
A. T. Shook	T4-10
S. G. Spencer	S0-09
D. D. Stepnewski	H5-32
C. M. Stout	B2-19
J. N. Strobe	R1-51
D. G. Sutherland	L5-55
L. M. Swanson	H5-34
J. F. Thompson	H5-71
J. M. Thurman	R1-51
S. R. Tifft	H4-57
R. E. Vandercook	S6-07
R. J. Van Vleet	H5-32
J. A. Voogd	R4-03
R. K. Welty	R1-80
J. C. Wiborg	R3-09
G. R. Wilson	H4-23
D. D. Wodrich	R2-23
D. E. Wood	B2-19
W. H. Yunker	N1-36
272-AW Shift Office	S5-04
Publication Services (3)	R1-08
Central Files (2)	L8-04
Tank Farms Info Center	R1-28

This page intentionally left blank.

END

**DATE
FILMED**

12/18/91