Quarterly Environmental Radiological Survey Summary

**Second Quarter 1991 100, 200, 300,
and 600 Areas**

C. R. Huckfeldt

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MASTER

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EXECUTIVE SUMMARY

This report provides a summary of the radiological surveys performed on environmental waste sites near facilities located in the 100, 200, 300 and 600 areas. The Second Quarter 1991 survey results and the status of actions required from current and past reports are summarized below:

- There were 105 routine environmental radiological surveys completed during April, May and June 1991.
- Five Surveillance and Compliance Inspection Reports (SCIR) were issued for sites found out of compliance with standards identified in the Environmental Compliance Manual, WHC-CM-7-5. They are summarized in Section 5.1 of this report.
- Six SCIRs were closed as a result of corrective actions taken during the second quarter of 1991 and are summarized in Section 5.2 of this report.
- Forty-two SCIRs, summarized in Table 5.4, had not been resolved. Landlord responsibilities for the unresolved SCIRs are as follows:

<u>LANDLORD</u>	<u>OPEN INSPECTION REPORTS</u>
Hanford Restoration Operations (HRO)	27
B Plant	2
PUREX	1
Tank Farm Operations (TFO)	12

TOP TEN PRIORITY RANKING

An explanation of the prioritization system is on page 5 of this report. Priority rankings for all open SCIRs are listed in Table 5.4. The ten sites with the highest numerical ranking for contamination control include:

<u>SITE</u>	<u>CUSTODIAN</u>
1. Cross Country Transfer Line	TF0
2. UN-216-E-17 Contamination Migration	HRO
3. 241-B Tank Farm Perimeters	TF0
4. 241-BX-BY Farm Perimeters	TF0
5. 241-C Farm Perimeters	TF0
6. 216-U-14 Active Ditch	TF0
7. UN-216-E-36 Contamination Migration	B-Plant
8. UN-216-E-43 (near 244-A Lift Station)	TF0
9. UN-216-E-16 (TC-4 SPUR)	Purex
10. UN-216-E-44 Contamination Migration (North of 241-B)	TF0

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INTRODUCTION

Routine radiological surveys to monitor conditions of outdoor sites are performed by Westinghouse Hanford Company's Health and Safety Group. Areas surveyed include the road surfaces, radioactive waste sites (cribs, trenches, burial grounds, stabilized ponds and ditches), and unplanned release sites. (see fig.1-9)

A site-wide survey schedule is developed by Environmental Assurance. Environmental Review and Integration reviews the radiological survey reports and files a copy for historical purposes and reference. Radiological conditions are tracked and trends noted. All sites are surveyed at least once each year. The survey frequencies for particular sites are based on site history, radiological conditions, and general maintenance. Special surveys may be requested at irregular frequencies if conditions warrant. Radiological surveys are conducted on sites to detect surface contamination and document changes in vegetation growth, biological intrusion, erosion, and general site maintenance conditions. Survey data are compared with standards identified in WHC-CM-7-5, Environmental Compliance Manual, as well as previous surveys to recognize possible trends, assess environmental impacts, and help determine where corrective actions are needed.

Landlords of sites found out of compliance may be issued a Radiological Problem Report (RPR) from the Health and Safety Group. Should the landlord fail to respond to the identified problem in a timely manner, or if it will require a long-term corrective action, Environmental Assurance will issue a Surveillance and Compliance Inspection Report (SCIR). Environmental Review and Integration tracks the compliance violation to completion and enters the SCIR on the Quality, Environmental, Safety Tracking System (QUEST) database. Open SCIRs are listed in Section 5.4 of this report.

It should be noted that the surveys scheduled for this program consist of environmentally impacted areas only and do not include active facilities or inside tank farms. Surveillance of these areas is the responsibility of the facility. Also, a survey to determine surface radiological conditions does not equate to a release survey. Therefore, a radiological survey that detects no contamination within a radiation control area does not release the site from control, but may result in a posting status change. Sites with known surface contamination and/or migrating contamination are shown on figures 1 through 9.

ENVIRONMENTAL RADIOLOGICAL SURVEY PROGRAM OBJECTIVES

- Identify environmental priorities for cleanup of surface contamination.
- Determine compliance with Department of Energy requirements and Westinghouse policy and standards regarding operational control, and environmental and radiological protection.
- Identify trends in radioactive contamination levels and radioactive migration at waste sites and other radiation areas in the Hanford area environment.
- Assess the surface integrity of solid and liquid waste disposal sites.
- Monitor for unplanned releases of radioactivity to the operations area environment.

PRIORITY RANKING SYSTEM

A numerical system is used for sorting open SCIRs in reference to environmental radiological concerns and provides a priority guide to responsible landlords for clean-up efforts of surface contaminated areas.

A numerical value is assigned for level of contamination, site accessibility, and contamination mobility. Site histories are examined by reviewing past and present radiological surveys. Contamination levels from 1000 cpm to greater than 10 mR/hr are considered and assigned a numerical value of 1 (lowest value) to 5 (greatest value). Any removable alpha contamination will be considered a high priority and will receive a contamination value of 5. Location is evaluated for accessibility. A restricted area would receive the lowest point value of 1 progressing up to a value of 5 where the public could have access. Mobility refers to contamination that can be or has a history of being transported from where it was originally identified to places outside of the radiologically posted area. Fixed contamination would receive a value of 1 progressing to contamination that is blown by the wind or the result of biological uptake receiving a value of 5. The rankings, with a maximum of 15 points, are noted on Table 5.4.

It should be noted that this system is not intended to be a total risk assessment, but rather a way of communicating environmental significance to the landlords and their program offices. Other elements of the site clean-up process are considered such as costs, location, political emphasis and engineering strategies before a site is actually remediated.

Environmental Assurance 7-1-91
200 East Area 1991

29103008.7

Figure 1

Environmental Assurance 7-1-91
200 West Area 1991

29103008.6

Figure 2

Environmental Assurance 7-1-91

600 Area

212-N, P, R

25002553.3

Figure 3

Environmental Assurance 7-1-91

100-H Area

29103008.1

Figure 4

Environmental Assurance 7-1-91
100-B and C Area

Surface Contamination
Underground Radioactive Material

Figure 5

Environmental Assurance 7-1-91
100-K Area

Figure 6

Environmental Assurance 7-1-91

100-D and DR Area

Surface Contamination

Underground Radioactive Material

Environmental Assurance 7-1-91

100-F Area

Surface Contamination

Underground Radioactive Material

Figure 8

Environmental Assurance 7-1-91
300 Area 1991

Figure 9

Environmental Assurance 7-1-91

100 - N Reactor Area

29105057.1

Figure 10

1.0 SURVEY RESULTS FORMAT

This report provides a list of environmental radiological surveys conducted during April, May and June of 1991. It includes brief descriptions of noteworthy survey results, cites SCIRs issued (Section 5.1), SCIRs which were closed (Section 5.2) and the status of previously issued SCIRs including priority ranking points (Table 5.4).

1991 2nd QUARTER SURVEY SCHEDULE

100 Area Surveys

SA	100 F URM Area
SA	105 F Exclusion Area
SA	107 F Basin Area
SA	Ash Disposal Area
SA	Lewis Canal and zone extention
SA	118-F-1
SA	118-F-2
SA	118-F-5
SA	118-F-6
SA	100 H-URM Area
SA	105 H Exclusion Area
SA	107 H Basin Area
SA	183 H Solar Basin
SA	118-H-1
SA	118-H-2
SA	118-H-3
SA	100 K URM Area
SA	105 KE/KW Exclusion Area
SA	107 KE Basin / 107 KW Basin
SA	SC Zone Flood Plain
SA	118-K-1
SA	116-K-1
SA	116-K-2 (Mile Long Trench)

200/600 Area Surveys

SA	BC Cribs Controlled Roads and Firebreaks
SA	Vent Station Perimeters
SP	216-S-5 Stabilized Crib
SP	216-S-6 Stabilized Crib
SP	216-S-172 and 2904-S-160 Weirs
A	UN-300-17 (near 333 Bldg.)
A	UN-300-XX (near 333 Bldg.)
A	618-1 Burial Ground
A	S/SX/SY Tank Farm Perimeters
A	Inactive Diversion Boxes Not Located Inside "S" Tank Farms
A	216-A-Cribs and Trenches and Reverse Wells (9 surveys)
SA	216-B-2-1, 2-2, 2-3 Ditches
SA	216-B-35-42 Trenches
SA	218-E-1 Burial Ground
SA	218-E-2A Burial Ground
SA	218-E-4 Burial Ground
SA	218-E-12A Burial Ground
SA	218-E-12B Burial Ground
SA	218-C-9 Burial Ground

1991 2nd QUARTER SURVEY SCHEDULE (continued)

SA	BC Crib Ground Plots
BM	Road Survey - Inside 200 East Area
BM	Road Survey - Inside 200 West Area
Q	Road Survey - Rt 4S from 200 W Gate to 200 E Hill
A	216-T-1 Ditch
SA	218-E-2, 5 A&B, 9 Burial Ground
SA	218-E-10 Burial Ground
SA	BC Cribs (14 - 19)
SA	BC Trenches
Q	216-A-37-1 Crib
Q	216-A-37-2 Crib
Q	OUTSIDE TLD EXCHANGE (SITE WIDE)
Q	216-S-26 Crib
Q	216-B-55 Crib
Q	216-B-62 Crib
Q	216-A-10 Crib
Q	216-A-30 Crib
Q	216-A-36 A&B Crib
Q	216-A-45 Crib
Q	216-W-LWC Crib
Q	216-U-17 Crib
SA	UN-216-W-5
A	T, TX-TY, U Tank Farm Perimeters
A	Inactive Diversion Boxes not located inside "T" or "U" Farms
A	216-U-14 Ditch (Active Section)
A	216-T Cribs and Trenches and Reverse Wells (15 surveys)
SA	204-S Covered Pond
SA	218-W-2A Burial Ground
SA	216-T-14-17 Trenches
SA	218-W-3 Burial Ground
SA	216-U-10 Covered Pond
SA	216-Z-19 & 20 Covered Ditches
SA	UN-216-W-23
SA	218-W-1A Burial Ground
A	216-T-21-25 Trenches

300 Area Surveys

Q	300 Area RR Spur
Q	400 Area RR Spur
A	316-1 South Process Pond
A	316-2 North Process Pond
A	400 Area Process Pond - Perimeters
A	UN-300-44 (near 313 Bldg)
A	UN-300-XY (near 303-K Bldg)

** Abbreviations

M - Monthly, Q - Quarterly, SA - Semiannual, A - Annual, BM - Bi-monthly

2.0 ENVIRONMENTAL PROTECTION STANDARDS

In this document, radiation survey data are used to determine compliance of Inactive Radioactive Waste Sites with the following WHC-CM-7-5, Environmental Compliance Manual Section L (REV 1) requirements:

Section L4.0 (3): Environmental Assurance shall:

- * Establish a radiological survey schedule of waste sites
- * Review and trend radiological survey data
- * Conduct surveillance inspections of waste sites
- * Issue Surveillance/Compliance Inspection Reports (SCIR) to appropriate managers for corrective actions

Section L4.0 (1a): Facility operations management shall provide a barrier over the contamination source which inhibits radionuclide transport to the surface.

Section L5.2 (1): Facility management shall perform appropriate actions when contamination is identified.

Section L5.2 (4): Maintenance shall include herbicide application to reduce deep rooted vegetation that could provide transport of contamination to the surface.

Section L5.3 (4): Engineered barriers shall also limit biotransport of contamination.

These requirements apply to all inactive radioactive waste sites which include cribs, trenches, ditches, ponds, French drains, burial grounds and other areas of concern such as tank farm perimeters and radioactive contamination due to spills or releases. Interiors of tank farms and radiation areas where operations are ongoing are not included.

In order to compare standards [as established in WHC-CM-7-5, Section L] and field instrument values, a conversion factor is necessary. This conversion factor has been established where 20,000 dpm (2000 c/m) are approximately equivalent to one millirem per hour or 10 microsieverts per hour for beta-emitting radionuclides. It must be understood that converting field instrument values, which included both beta and gamma energies, is approximate and does not allow for absolute precision.

3.0 SURVEILLANCE AND COMPLIANCE INSPECTION REPORTS

When it is determined that conditions at a site are not in compliance with the standards established in WHC-CM-7-5, the appropriate area landlord will be notified. Environmental Assurance will issue a Surveillance and Compliance Inspection Report (SCIR). Resolution of a SCIR is considered initiated when a formal corrective action plan is provided to and accepted by Environmental Review and Integration. However, for tracking purposes it will remain on file and appear in subsequent Environmental Radiological Survey Reports and the QUEST data base until satisfactory completion of the plan is demonstrated. A visual inspection by Environmental Review and Integration and/or a post-corrective action radiation survey by Health Physics is required before closing a SCIR. If a compliance plan is not provided to Environmental Assurance within one month, a second notice is issued.

An SCIR may be issued for conditions which pose a probable threat of radiological contamination to uncontrolled areas. These conditions include the presence of deep-rooted vegetation, animal intrusion, or obvious migrating contamination. Once the contamination is contained on or removed from a site for which a SCIR has been issued, the report will be closed after a follow-up radiation survey has indicated that no further environmental impact is evident. For example, fixed contamination may remain and the site may be properly posted as a Surface Contamination area. The site will no longer be out of compliance, therefore, the SCIR can be closed.

4.0 SURVEY METHODS AND PROCEDURES

Surveys documented by this report include road surfaces, cribs, stabilized burial grounds, covered ponds and ditches, tank farm perimeters, unplanned release sites and other radiation areas. Methods and procedures for these surveys can be found in WHC-CM-7-4, Operational Environmental Monitoring, WHC-CM-4-10, Radiation Protection, and WHC-IP-0692, Health Physics Procedures.

4.1 ROAD SURVEYS

Road Surveys are performed with the Mobile Surface Contamination Monitor (MSCM Tractor) or a vehicle equipped with sodium iodide detectors mounted on the undercarriage. The detector height is adjustable. The average survey height is one foot.

The vehicle is driven at less than seven miles per hour. When activity is detected, the vehicle is stopped and a thorough survey is made with an Eberline Model BNW-1 portable survey instrument equipped with a P-11 probe to identify the extent of the contamination. Appropriate management is notified when road contamination is identified and corrective actions initiated.

4.2 WASTE SITES AND OTHER RADIATION AREA SURVEYS

Surveys at waste sites and other radiation areas may be conducted with vehicles equipped with radiation detection instruments or with hand-held field instruments. Field instrument survey results are reported in disintegrations per minute as detected by a P-11 mica window probe attached to an Eberline Model BNW-1 count rate meter. Alpha survey results are reported in disintegrations per minute and are measured with a portable alpha meter (PAM) or a portable alpha counter (PAC-6). Surveys include the perimeter and portions of the ground surface of radiation areas. Wherever possible, smear surveys are made on the surface of exposed equipment within a radiation area. Vegetation, animal burrows, and animal feces are also monitored to detect biological transport. Detailed survey practices and procedures are described in WHC-CM-4-10, Radiation Protection Manual, WHC-IP-0692, Health Physics Procedures, and WHC-CM-7-4, Operational Environmental Monitoring.

5.0 SURVEY RESULTS

One hundred and five routine environmental radiological surveys were completed during April May and June 1991. These are surveillances of inactive waste facilities which include cribs, trenches, burial grounds, covered ponds and covered ditches. The survey schedule for environmental sites is outlined in WHC-CM-7-4, Section 12.

Landlords for areas found out of compliance with guidelines described in WHC-CM-7-5 are issued a Surveillance and Compliance Inspection Report (SCIR).

5.1 SURVEILLANCE AND COMPLIANCE INSPECTION REPORTS ISSUED

During the second quarter of 1991 five SCIRs were issued and are as follows: (see Figures 11, 12, and 13)

9104EP200-028	Surface contamination (East of 221-U/UX-154 DB) issued to Tank Farm Operations (TFO)	Fig. 11
9104EP200-030	Contaminated equipment and specks at 618-1 Burial Site issued to N Reactor Operations (contamination removed)	
9105EP200-037	216-S-1,2 Cribs (contaminated vegetation removed) issued to Hanford Restoration Operations (HRO)	
9105EP200-038	216-S-172 Weir surface contamination issued to Hanford Restoration Operations (HRO)	Fig. 12
9105EP200-039	216-Z-7 Crib (contaminated vegetation) issued to Hanford Restoration Operations (HRO)	Fig. 13

5.2 SURVEILLANCE AND COMPLIANCE INSPECTION REPORTS CLOSED

During the second quarter of 1991 six SCIRs were closed.

ECU-86-036	218-E-12B termites	Stabilized contaminated area
ECU-87-10	216-C-8 Fr. Drain	Stabilized
9102EP200-011	216-U-10 zone ext.	Stabilized contaminated area
9102EP200-012	218-E-2,5.5a.9	Stabilized contaminated area
9104EP200-030	618-1 Burial Ground	Contamination removed
9105EP200-037	216-S-1,2 Cribs	Contaminated vegetation removed

UN-216-W-37

Surface Contamination levels from 250 c/m to 35,000 c/m

FIGURE 11

risers

concrete pad

Contamination levels 400 c/m to 7 mR/hr

216-S-172 and 2904-S-160 Weirs

Figure 12

216-Z-7 Crib & Tile Field

- △ Ground water well
- Capped Riser
- ▨ Cave-in Potential area
- * Contaminated vegetation and specks 400 c/m to 40,000 c/m

Figure 13

5.3 STATUS OF OPEN SURVEILLANCE AND COMPLIANCE REPORTS

When sites are found to be out of compliance with the Environmental Compliance Manual, WHC-CM-7-5, appropriate landlords are issued an SCIR. Corrective actions are submitted to Environmental Review and Integration by the responsible organization. Forty-three SCIRs remain open in the second quarter of 1991. These reports are summarized on Table 5.4 to include the referenced site number, priority ranking points (maximum of 15 points based on contamination levels, location and mobility), responsible custodian, SCIR report number, and estimated completion date.

Abbreviations used on Table 5.4 include:

SCIR - Surveillance and Compliance Inspection Report

ECD - Estimated Completion Date

HRO - Hanford Restoration Operations

TFO - Tank Farm Operations

PTS - Points

TBD - To Be Determined

TABLE 5.4
OPEN SURVEILLANCE AND COMPLIANCE INSPECTION REPORTS
(maximum 15 pts.)

<u>SITE</u>	<u>RANKING PTS</u>	<u>CUSTODIAN</u>	<u>SCIR NUMBER</u>	<u>ECD</u>
UN-216-E-31	11	HRO	ESC-84-02-04	1991
UN-216-E-23	9	B-PLANT	ESC-85-019	1995
207-S BASIN	7	HRO	ECU-86-022	1995
216-Z-5 CRIB	7	HRO	ECU-86-026	1993
216-Z-7 CRIB	10	HRO	ECU-86-028	1993
UN-216-W-24	9	HRO	ECU-86-046	1991
UN-216-W-29	7	HRO	ECU-86-047	1995
UN-216-W-30	7	HRO	ECU-86-048	1992
UN-216-W-31	10	HRO	ECU-86-049	1992
216-A-6 CRIB	7	HRO	ECU-87-21	1992
216-A-7 CRIB	8	HRO	ECU-87-22	1992
204-S AREA	8	HRO	ECU-87-28	1992
218-W-9 VAULT	7	HRO	EP-87-34	1992
UN-216-W-26	8	HRO	EP-87-38	1991
216-B-7A&B Cribs	10	HRO	EP-87-45	1992
216-B-9 Crib	10	HRO	EP-87-46	1992
UN-216-E-37	11	HRO	EP-87-50	1991
276-U-Basin	8	HRO	EP-88-7	1992
WR Vault	8	HRO	EP-88-10	1995
216-U-1&2 Cribs	9	HRO	EP-88-15	1994

TABLE 5.4 (continued)
OPEN SURVEILLANCE AND COMPLIANCE INSPECTION REPORTS

<u>SITE</u>	<u>RANKING PTS</u>	<u>CUSTODIAN</u>	<u>SCIR NUMBER</u>	<u>ECD</u>
UN-216-W-33	10	TFO	8810EP200-012	TBD
216-B-11A&B WELLS	9	HRO	8810EP200-025	TBD
UN-216-E-16 (TC-4 SPUR)	11	PUREX	8901EP200-001	1991
216-T-14-17 TRENCHES	10	HRO	8907EP200-032	1995
241-B PERIMETERS	13	TFO	8909EP200-036	TBD
UN-216-E-5	10	TFO	8910EP200-043	TBD
211-S Tank Storage	10	HRO	9001EP200-013	1992
UN-216-E-36	12	B-Plant	9002EP200-024	TBD
241-S, SX Perimeters	8	TFO	9006EP200-052	TBD
216-A-40 Basin	11	TFO	9007EP200-053	1991
216-U-14 Active Ditch	13	TFO	9007EP200-054	1991
BX-BY Farm Perimeters	13	TFO	9007EP200-056	1991
C Farm Perimeters	13	TFO	9008EP200-068	1991
100 Area Sites	7	HRO	9008EP100-137	1991
Cross Country Line (UN-216-E-41)	14	TFO	9012EP200-095	1991
UN-216-E-43	13	TFO	9012EP200-099	1991
UN-216-E-44	11	TFO	9101EP200-001	1992
UN-216-E-17	13	HRO	9101EP200-002	1991
216-S-7 Crib	10	HRO	9102EP200-010	TBD
UN-216-W-37	10	TFO	9104EP200-028	TBD
216-S-1 & 2 Cribs	9	HRO	9105EP200-038	1991
216-Z-7 Crib	9	HRO	9105EP200-039	1991

6.0 SUMMARY

One hundred and five outdoor radioactive sites were surveyed during April, May and June of 1991 in the 100, 200 E&W, 300 and 600 areas.

Five SCIRs were issued (Table 5.1)

Six SCIRs were closed (Table 5.2)

Forty-two SCIRs remain open (Table 5.4). Open reports have been addressed and clean-up plans with completion dates are being developed or to be provided to Environmental Assurance.

RADIOLOGICAL POSTING CHANGES

Radiological posting changes noted during the second quarter of 1991 are as follows:

618-9 Burial Ground exhumed - posting removed
216-B-57 crib - SC to URM
216-B-43-50 cribs - SC to URM
UN-216-W-36 - SC to URM
216-U-10 Pond zone extention - SC to URM
216-T-8 crib with cave-in potential - SC to URM (zone size reduction)
218-W-3A Burial Ground - SC to URM/Radiological Controlled Area

(SC = Surface Contamination URM = Underground Radioactive Material)

Environmental Assurance

100,200,300,600 Areas Environmental
Review and Integration

July 30,1991

Quarterly Environmental Radiological Survey Summary

WHC-SP-0665-1 2nd Quarter 1991

WESTINGHOUSE HANFORD COMPANY

M. R. Adams	H4-55	X
M. I. Armatis	T6-02	X
D. A. Berg	R1-67	X
T. D. Blankenship	S5-04	X
R. J. Bliss	B3-04	X
J. W. Bloom	S6-05	X
J. A. Brockman	S4-39	X
G. D. Carpenter	B2-16	X
L. P. Diediker	T1-30	X
J. J. Dorian	B2-16	X
G. T. Dukelow	R1-81	X
G. L. Dunford	S5-15	X
J. A. Eacker	R1-51	X
R. E. Elder	L8-16	X
D. B. Erb	R1-51	X
L. E. Eyre	T4-01	X
K. A. Gano	X0-21	X
D. L. Gardner	R3-20	X
L. A. Garner	B2-19	X
E. M. Greager	L6-60	X
M. L. Grygiel	S6-65	X
K. A. Hadley	R2-42	X
D. G. Hamrick	R1-51	X
W. F. Heine	B2-35	X
R. E. Heineman	R3-12	X
M. E. Hevland	R3-60	X
N. A. Homan	H4-52	X
C. R. Huckfeldt (2)	T1-30	X
M. C. Hughes	L4-88	X
A. R. Johnson	T1-30	X
S. R. Johnson	R3-12	X
D. H. Jones	H4-16	X
R. E. Lerch	B2-35	X
K. R. Jordan	B3-51	X
J. S. Lee	T4-01	X
J. B. Levine	R3-12	X
D. J. McCain	S0-08	X
M. A. Mihalic	L4-88	X
R. M. Mitchell	H4-55	X
L. A. Nelson	T1-25	X
W. L. Osborne	T3-29	X
R. D. Pierce	R2-80	X

Environmental Assurance

100,200,300,600 Areas Environmental
Review and Integration

July 30,1991

Quarterly Environmental Radiological Survey Summary
WHC-SP-0665-1 2nd Quarter 1991WESTINGHOUSE HANFORD COMPANY
DISTRIBUTION CONTINUED

P. R. Praetorius	S1-56	X
J. A. Rivera	B2-16	X
L. W. Roberts	R2-80	X
A. E. Sampson	S0-09	X
D. R. Speer	R2-77	X
J. W. Stiffler	R3-20	X
M. K. Strankman	S5-51	X
R. R. Thompson	R1-10	X
G. E. VanSickle	R2-81	X
R. L. Watts	L6-52	X
B. F. Weaver	T3-29	X
B. W. Wyrick	T3-21	X
M. T. York	S6-65	X
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