

**Department of Energy**  
Richland Operations Office  
P.O. Box 550  
Richland, Washington 99352

05-AMRC-0055

**DEC 7 2004**

Mr. R. G. Gallagher, President  
and Chief Executive Officer  
Fluor Hanford, Inc.  
Richland, Washington 99352

Dear Mr. Gallagher:

CONTRACT NO. DE-AC06-96RL13200 - 2004 FINAL INSTITUTIONAL CONTROLS (ICs)  
ASSESSMENT REPORT, DOE/RL-2004-56-Rev. 0

The enclosed final subject report was recently approved by the Tri-Party agencies and is being provided for your information and action.

By this letter, you are hereby directed to ensure that all appropriate actions identified in the report are completed prior to the due dates and the U.S. Department of Energy, Richland Operations Office (RL) is notified at time of completion. This year's report identified actions that require close coordination among the Hanford Site prime contractors and RL. The action items No. 2, 3, and 5 identified in Table 9-1, of the subject report, require FHI's corrective actions and implementation. Please provide verification of the final deliverables to RL 30 days before their due dates to the regulatory agencies to ensure regulatory expectations are met. Also, based on lessons learned from this year's assessment activities, RL will shortly start a dialogue with the Tri-Party agencies regarding the scope of next year's assessments.

The Government considers this action to be within the scope of the existing contract and therefore, the action does not involve or authorize any delay in delivery or additional cost to the Government, either direct or indirect.

If you have questions regarding this letter, please contact me, or your staff may contact Leif Erickson, Assistant Manager for the River Corridor, on (509) 376-6628.

Sincerely,

A handwritten signature in black ink, appearing to read "Keith A. Klein".

Keith A. Klein  
Manager

AMRC:AET

Enclosure  
cc w/encl: See Page 2

Addressees

-2-

05-AMRC-0055

cc w/encl:

TL Aldridge, PNSO

JV Boreghese, FHI

J Chase, Energy NW

RH Engelmann, FHI

RH Gurske, FHI

H Hermanas, FHI

JS Hertzal, FHI

AK Ikenberry, PNNL

PW Kruger, PNSO

LK Peters, PNNL

DG Ranade, FHI

JP Shearer, FHI

RT Wilde, FHI

J Worden, LIGO

Administrative Record – 100, 200, 300, and 1100 Areas (CERCLA)

# 2004 Site Wide Institutional Controls Annual Assessment Report for Hanford CERCLA Response Actions



DOE/RL-2004-56  
Revision 0

# **2004 Site Wide Institutional Controls Annual Assessment Report for Hanford CERCLA Response Actions**

Prepared for the U.S. Department of Energy  
Assistant Secretary for Environmental Management



**United States  
Department of Energy**  
P.O. Box 550  
Richland, Washington 99352

DOE/RL-2004-56  
Revision 0

# 2004 Site Wide Institutional Controls Annual Assessment Report for Hanford CERCLA Response Actions

A. E. Teimouri  
Department of Energy - Richland Operations Office

Date Published  
October 2004

Prepared for the U.S. Department of Energy  
Assistant Secretary for Environmental Management



**United States  
Department of Energy**  
P.O. Box 550  
Richland, Washington 99352

*Chris Killingham*      10/28/04  
Release Approval      Date

DOE/RL-2004-56  
Revision 0

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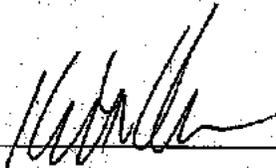
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**Title:** 2004 Sitewide Institutional Controls Assessments Report for Hanford CERCLA Response Actions

**Approval:** The U.S. Department of Energy, Richland Operations Office

Name:

Title:



Signature

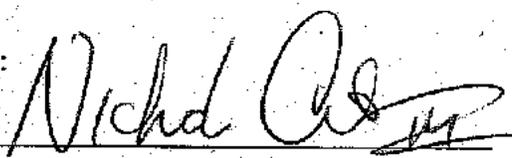
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Date

The U.S. Environmental Protection Agency, Region 10

Name:

Title:



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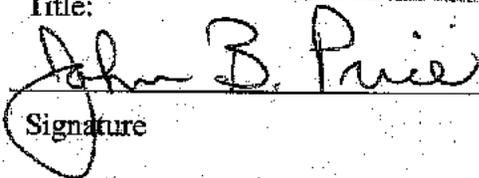
10/20/04

Date

Nuclear Waste Program, The State of Washington Department of Ecology

Name:

Title:



Signature

10/27/04

Date

## EXECUTIVE SUMMARY

This report describes the process and results from the 2004 annual institutional controls (IC) assessment conducted by the U.S. Department of Energy (DOE), Richland Operations Office (RL) and its contractors during April and May 2004 at operable units (OUs) for the waste sites located within 100, 200, 300, and deleted 1100 National Priorities List (NPL) areas on the Hanford Site managed by Bechtel Hanford, Inc. (BHI) and Fluor Hanford, Inc. (FHI). This report also incorporates assessments conducted of the groundwater wells used for water supply by FHI, Pacific Northwest National Laboratory (PNNL), and two independent facilities on the Hanford Site: Energy Northwest Columbia Generating Station (CGS) and the Laser Interferometer Gravitational Wave Observatory (LIGO).

Currently at the Hanford Site, five main categories of ICs are incorporated into each specific *Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA) interim action* record-of-decisions (RODs), as defined in the *Sitewide Institutional Controls Plan for the CERCLA Response Actions (IC Plan)*, DOE/RL-2001-41, dated July 30, 2002, for 100 and 300 Areas and groundwater and they are as follows: 1) warning notices; 2) entry restrictions; 3) land-use management; 4) groundwater use management; and 5) waste site information management. Appendix A of the IC Plan identifies a list of ICs associated with each interim action ROD for each operable unit (OU). For the deleted 1100 Area NPL, ICs include deed and groundwater use restrictions, notification to the public that the Horn Rapids Landfill (HRL) is an asbestos-containing landfill, and prevention of groundwater use or drilling of new wells until cleanup goals are attained. Section 4.2 of the IC Plan requires the U.S. DOE-RL and its contractors to conduct annual self-assessments to ensure the effectiveness of ICs associated with CERCLA RODs and to identify improvements to adjust ICs as necessary. With the exception of the Environmental Restoration and Disposal Facility (ERDF) and groundwater in the 200 Area, there are no other ICs imposed in current CERCLA decision documents in the 200 Area. DOE-RL has established a standard Surveillance and Maintenance (S&M) program to ensure protection of human health and the environment in the 200 Area.

This year's annual assessment framework and criteria were based on an agreement reached among Tri-Party agencies to conduct focused and specific topical assessments in eight areas, which were documented in the March 12, 2004, letter from RL to the U.S. Environmental Protection Agency (EPA) and the State of Washington Department of Ecology (Ecology). The approach to conducting the assessment was a combination of contractor and DOE activities with DOE-RL oversight of areas assigned to the Site contractors. The Site contractors provided individual assessment plans defining the scope of their responsibilities consistent with the criteria identified in the March letter.

The eight areas included in this year's IC assessment are: 1) Physical Assessment of the Waste Sites; 2) Trespass Incidents; 3) Evaluation Efforts of the Surveillance and Maintenance (S&M) Program (this was a voluntary evaluation of the S&M program conducted to determine if the existing effort is sufficient such that imposing formal ICs is unnecessary); 4) Assessment of Hanford Site Groundwater Use Controls; 5) Assessment of the Hanford Site Excavation Process; 6) Assessment of Real Property Controls for the Hanford Site; 7) Assessment of Audience and Needs of Post-Cleanup Site Information; and 8) Assessment of Deleted Portions of NPL or

Transferred Properties from DOE Ownership (including the deleted 1100 Area NPL site and two partially deleted waste sites located in the 100-IU-1 and 100-IU-3 OUs). Each assessment area specified criteria for assessment and is discussed in detail in Sections 1 through 8 of this report.

The assessment methods consisted of field inspections, personnel contacts, and review of records. Field inspections were used primarily to determine the presence and status of warning signs and to check for indications of unauthorized waste site disturbance. The criteria used to conduct the assessments are identified at the beginning of each section.

The results of this year's assessment indicated that the ICs are performing effectively, as designed; however, some observations were identified along with the suggested corrective actions. Also, the assessments identified other areas for further dialogue with the regulators to make the ICs consistent with final remedies.

The following is a summary of the recommended changes and observations for the eight assessment areas:

**General Observations**

The various interim action RODs contain IC requirements that were written over a span of several years, during which time the regulatory agencies' expectations regarding the scope and nature of ICs have changed. As a consequence, the IC provisions vary greatly between RODs. The ICs are generally written in an open-ended manner that does not contain a clear exit strategy.

Subject to the selection of final remedy RODs and completion of the ongoing risk assessment process, discussions and further negotiations among the Tri-Party agencies may be necessary to develop consistent long-term ICs. It is recommended that Tri-Party agencies develop a consistent set of NPL-wide post-cleanup controls that can be incorporated into the final remedy RODs in the near future.

**Specific Observations**

**Physical Assessment of the Sites Located in the 100 and 300 Areas that are Identified in CERCLA RODs:** The physical assessment found site access controls to be adequate in protecting human health and the environment. However, some areas were identified that required signage improvements along the access roads in the 300, 100-B/C, 100-D/DR, and 100-F Areas. Subsequently, signs on access roads in the 300 Area were improved upon discovery. The signs along access roads in the 100-B/C, 100-D/DR, and 100-F Areas were installed on June 11, 2004. Processes for addressing newly installed haul roads and the requisite signs are under development. The telephone numbers on some warning signs in the 300 Area were not current. A corrective action has been identified to institutionalize a requirement to update phone numbers on signs.

**Trespass Incidents:** There were no known trespass events onto the waste sites in calendar year 2003. There are no recommended changes to the notification program. For waste sites south of the Wye barricade, security patrolling, fences, and warning signs are used to restrict access.

Based on available information, there were no security incidents or breaches reported south of the Wye Barricade for calendar year 2003.

**Evaluation Efforts of Surveillance and Maintenance (S&M) Program:** Routine S&M activities are conducted as a standard RL operating practice throughout waste sites in the 200 Area. It is important to note that this evaluation of RL's 200 Area waste site S&M is not included for the purposes of assessing implementation of ICs for waste sites that are addressed in an existing CERCLA ROD because, to date, there are no waste sites in the 200 Areas under existing CERCLA RODs. Rather, as part of the 2004 IC assessment, a voluntary evaluation of the S&M program was conducted to determine if the existing effort is sufficient such that imposing formal ICs is unnecessary. During this assessment, 52 surveillance reports were reviewed. The 200 Area S&M program was found to be effective and resulted in no significant findings or observations.

**Assessment of Hanford Site Groundwater Use Controls:** The purpose of this portion of the assessment was to evaluate the effectiveness of the controls on the groundwater wells used for drinking water purposes. The assessment concluded that the use of these wells for consumptive purposes has been deemed appropriate because these wells are all monitored and sampled in compliance with the state and federal requirements. Any constituents in these wells from contaminated Hanford Site groundwater plumes are minor, and the drinking water supplies meet Drinking Water Standards. Overall, the assessment found that there are 1,621 "in use" groundwater wells on the Hanford Site. Of these wells, the assessment found that there were a total of 14 water supply wells as identified in Table 4-1. Of these 14 water supply wells, there are 7 that are used for drinking water. FHI manages three drinking water supply wells, Energy Northwest has three drinking water supply wells, and LIGO has one well. The remaining seven wells are used for supply needs other than drinking, such as dust suppression, fisheries research and development, and backup water for cell storage at Waste Encapsulation and Storage Facility (WESF). A summary discussion on water quality for these wells is provided in Section 4 of this report.

**Assessment of the Hanford Site Excavation Process:** A review of excavation permits issued near remediation or removal action sites indicated that the project environmental compliance officers have reviewed and signed the permits. However, RL's September 23, 2003, assessment suggested that the site selection and the excavation programs could be combined into a single process to eliminate redundancy and provide a strengthened approach for overall land-use management and controls at the Hanford Site. This year's IC assessment evaluated both processes and concluded that the excavation permit process alone did not control all access for land-use development. The site selection program does not adequately address this concern by itself either. Combining the two processes is still a valid recommendation. DOE-RL will direct the contractors to address this observation.

**Assessment of Real Property Controls for the Hanford Site:** Management Procedure MP-14, under the Hanford Federal Facility Agreement and Consent Order Action Plan (Tri-Party Agreement), establishes a mechanism for documenting the life-cycle of Waste Management Units and Potential Waste Management Units at the Hanford Site. To accomplish this, MP-14 establishes the responsibilities and the processes required to maintain and update waste site

information contained in the Waste Information Data System (WIDS) database and to update Appendix C of Tri-Party Agreement Action Plan based upon the contents of the WIDS.

Evaluation of the WIDS and RL real estate files identified two observations: specifically, 1) recorded deeds were not documented in WIDS, specifically under the Post Closure Requirements field, and 2) not all recorded deeds were included in the RL real estate files with documentation that the recording occurred at the Benton County Auditor's Office. The use of the Benton County Auditor's Office, WIDS, and RL real estate records helps ensure the retrieval and use of deeds are perpetuated. MP-14 does not specifically call out requirements for a deed notifications process in the event of transfer of ownership from the federal government. The contractors' procedures need to be modified to allow better use of WIDS in addressing this concern. RL will direct the Site contractors to address these observations.

**Assessment of Audience and Needs of Post-Cleanup Site Information:** Overall, maintenance of the WIDS database and the Administrative Records (AR) was found to be effective. The documents within the AR were retrievable. However, improvements could be made for locating documents retained in the AR, as the current format is difficult to navigate through. Given the regulators' concerns expressed over the usability and accessibility of databases to support current and future cleanup decisions, RL will evaluate whether any revisions to the content of information captured in WIDS is necessary as a follow-up action.

**Assessment of Deleted Portion of NPL or Transferred Properties from DOE Ownership:** The scope of this assessment included the deleted 1100 Area NPL, i.e., Horn Rapids Landfill (HRL) and two partially deleted waste sites from the 100 Area NPL. Overall, the ICs at HRL were found to be effective. Signs warning the public that it is an asbestos-containing landfill are present at HRL. The fence around HRL was in good condition. The FHI S&M program conducts an annual surveillance on this site. There are no ICs associated with the two deleted 100 Area NPL waste sites. However, access to the Hanford Reach National Monument, where these deleted waste sites are located, is controlled by locked gates, fences, and warning signs.

## ACKNOWLEDGMENTS

The 2004 IC assessment team included the following:

**Department of Energy**

Alex E. Teimouri, Team Lead  
Jamie Zeisloff  
Josef Christ  
Bryan Foley  
Boyd Hathaway  
Arlene Tortoso  
Cliff Clark  
Terri Aldridge  
Richard Mayo

**Bechtel Hanford Inc.**

Jennifer Ollero  
Barry Vedder  
Roger Landon  
Ray Colins

**Fluor Hanford Inc.**

Raja Ranade  
David Rasmussen

**Pacific Northwest National  
Laboratory POCs**

Kathryn Lauhala  
Stuart Luttrell  
Brian Opitz

**Energy Northwest POC**

Jim Chasse  
(509) 377-4477  
[jpchasse@energy-northwest.com](mailto:jpchasse@energy-northwest.com)

**LIGO Hanford Observatory POC**

John Worden, Facilities Manager  
Office: (509) 372-8136  
[worden\\_j@ligo-wa.caltech.edu](mailto:worden_j@ligo-wa.caltech.edu)  
<http://www.ligo-wa.caltech.edu/>

Staff from U.S. EPA and Ecology participated in monthly reviews and provided regulatory agencies' guidance into the assessment process. The regulatory staff members included the following:

Michael Goldstein, EPA  
John Price, Ecology  
Jeffrey Ayers, Ecology

**ASSESSMENT SCHEDULE**

The assessment was conducted from April 1, 2003, through May 31, 2004. The draft assessment report was prepared in June 2004.

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## Acronyms

ADP	Accelerated Deactivation Project
BGS	Below Ground Surface
BHI	Bechtel Hanford, Inc.
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act of 1980
CFR	Code of Federal Regulations
CGS	Columbia Generating Station
CVP	Cleanup Verification Package
CY	Calendar Year
DOE	U.S. Department of Energy
DOE-RL	U.S. Department of Energy, Richland Operations Office
EM	Environmental Management
ENW	Energy Northwest
EPA	U.S. Environmental Protection Agency
ERC	Environmental Restoration Contractor
ERDF	Environmental Restoration and Disposal Facility
ESHWSA	East Side hazardous Waste Storage Area
FHI	Fluor Hanford, Inc
FFTF	Fast Flux Test Facility
HAMMER	Hazardous Materials Management and Emergency Response Training Center
HEIS	Hanford Environmental Information System
HRNM	Hanford Reach National Monument
HRL	Horn Rapids Landfill
HWSA	Hazardous Waste Storage Area
IC	Institutional Control
IRM	Interim Remedial Measure
LLD	Lower Limit of Detection
NCP	National Contingency Plan
NPL	National Priorities List
NUTS	National Utility Training Services
NWPPA	Northwest Public Power Association
ONC	Occurrence Notification Center
OU	Operable Unit
PNNL	Pacific Northwest National Laboratory
POC	Point of Contact
PUD	Public Utility District
RARA	Radiation Area Remedial Action
REMP	Radiological Environmental Monitoring Program
RCRA	Resource Conservation and Recovery Act of 1976
R&D	Research and Development
RI/FS	Remedial Investigation/Feasibility Study
ROD	Record of Decision
SMF	Standard Monitoring Framework
UTM	Universal Transverse Mercators
WDOH	Washington State Department of Health
WESF	Waste Encapsulation and Storage Facility
WIDS	Waste Information Data System

## INTRODUCTION

### Purpose and Content

The purpose of this report is to provide the results of the 2004 self-assessments conducted by DOE-RL and its contractors according to a set of eight topical assessment areas agreed upon by the Tri-Party agencies. The primary focus of the assessment was to evaluate the effectiveness of ICs for the Hanford Site CERCLA interim action RODs, which was documented in the March 12, 2004, letter from RL to the other Tri-Party agencies. These requirements vary between RODs; however, all RODs provide for procedural restrictions to access, warning notices, and land-use controls.

*The 2004 IC assessment comprises eight topical assessment areas agreed upon by the Tri-Party agencies.*

Section 4.2 of the *Sitewide Institutional Controls Plan for Hanford CERCLA Response Actions* (DOE-RL 2002) requires an annual assessment. The 2004 IC assessment was conducted to assess the performance and effectiveness of the ICs and to identify any necessary adjustments to the ICs identified during the assessment. This report provides the results of the annual assessment conducted during April and May 2004 for site-specific ICs at waste sites within the 100, 200, 300, and NPL-deleted 1100/100 Areas. The Hanford Site prime contractors conducted separate assessments of ICs under their management responsibilities. The information contained in this report is based on consolidated and condensed results of the assessments of the Site contractors after an independent review by DOE-RL. The scope of the 2004 IC assessment focused on the eight assessment areas summarized below:

1. Physical Assessment of the Sites,
2. Trespass Incidents,
3. Evaluation Efforts of the Surveillance and Maintenance (S&M) Program,
4. Assessment of Hanford Site Groundwater Use Controls,
5. Assessment of the Hanford Site Excavation Process,
6. Assessment of Real Property Controls for the Hanford Site,
7. Assessment of Audience and Needs of Post-Cleanup Site Information, and
8. Assessment of Deleted Portions of NPL or Transferred Properties from DOE ownership (Including the deleted 1100 NPL site and two partially deleted waste sites located in the 100-IU-1 and 100-IU-3 OUs).

This report describes the assessment process, summarizes the status of data and findings for each item, and provides recommendations for improvements.

## **General Institutional Controls Assessment Requirements**

The following provides a list of requirements associated with the eight assessment areas for the ICs established in the CERCLA interim action RODs or the IC Plan. The following requirements formed the basis for the evaluation conducted for the 2004 IC assessments requirements: As stated in the IC Plan, "DOE will evaluate the implementation and effectiveness of institutional controls for the Hanford Site and the 100 Area operable units on an annual basis. The annual institutional controls monitoring report shall be written by DOE and submitted to EPA and Ecology as a primary document under the Tri-Party Agreement. The report shall be consistent with the requirements established in the Sitewide institutional controls plan. Justification will be provided for any information that is not included as required by the Sitewide plan. The annual monitoring report will be due on September 30 of each year and will summarize the results of the evaluation for the proceeding calendar year. In addition, after the comprehensive Sitewide approach is established and DOE has demonstrated its effectiveness, the frequency of future monitoring reports may be modified subject to approval by EPA and Ecology. The institutional controls monitoring report, at a minimum, must contain:

- A description of how DOE is meeting the Sitewide institutional controls requirements;
- A description of how DOE is meeting the operable unit specific objectives, including results of visual field inspections of all areas subject to operable unit specific requirements;
- An evaluation of whether or not all operable unit specific and Sitewide institutional controls requirements are being met; and
- A description of any deficiencies and what efforts or measures have been or will be taken to correct problems."

### **1. Physical Assessment of Sites**

#### **Requirements:**

"DOE shall maintain signs that warn river users of potential hazards along the shoreline from 100 Area waste sites." (100 Area Burial Ground ROD)

"DOE shall post and maintain in good condition 'No Trespassing' signs along the 100 Area Shoreline." (100 Area Burial Ground ROD)

"DOE shall maintain signs along access roads that warn Site visitors and workers of potential hazards from 100 Area waste sites." (100 Area Burial Ground ROD)

(Similar, although not necessarily identical provisions appear in the 100-NR-1 TSD ROD, the 100-NR-1 and 100-NR-2 ROD, the 100 Area Remaining Sites ROD, and the 300-FF-2 ROD.)

"DOE will evaluate the implementation and effectiveness of institutional controls for the Hanford Site and the 100 Area operable units on an annual basis." (100 Area Burial Grounds ROD. Similar provisions appear in the 100-NR-1 TSD ROD, the 100-NR-1 and 100-NR-2 ROD, and the 100 Area Remaining Sites ROD)

"The RL will conduct an annual assessment regarding the performance of the institutional controls described in this plan." (*Sitewide Institutional Controls Plan for Hanford CERCLA Response Actions*, Section 4.2)

## **2. Trespass Incidents**

### **Requirements:**

"DOE will provide notification to EPA and Ecology upon any trespass incidents." (100 Area Burial Ground ROD)

"Trespass incidents will be reported to the Benton County Sheriff's Office for investigation and evaluation for possible prosecution." (100-NR-1 and 100-NR-2 ROD)

(Similar provisions appear in the 100-NR-1 TSD ROD, the 100 Area Remaining Sites ROD, and the 300-FF-2 ROD.)

"The RL will conduct an annual assessment regarding the performance of the institutional controls described in this plan." (*Sitewide Institutional Controls Plan for Hanford CERCLA Response Actions*, Section 4.2)

## **3. Evaluation Efforts of Surveillance and Maintenance Program**

### **Requirements:**

"Surveillance is the primary tool used to measure the day-to-day performance of the institutional controls. Each contractor has surveillance procedures that address the planning, performance, and reporting of surveillance, along with the activities required to address any noted deficiencies." (*Sitewide Institutional Controls Plan for Hanford CERCLA Response Actions*, Section 4.2)

"The RL will conduct an annual assessment regarding the performance of the institutional controls described in this plan." (*Sitewide Institutional Controls Plan for Hanford CERCLA Response Actions*, Section 4.2)

**4. Assessment of Hanford Site Groundwater Use Controls**

**Requirements:**

“Groundwater use is prohibited, except for monitoring and treatment, as approved by EPA or Ecology.” (100 Area Burial Ground ROD)

“DOE will utilize the onsite excavation permit process to control land use (e.g., well drilling and excavation of soil) within the 100 Area operable units to prohibit any drilling or excavation except as approved by Ecology.” (100-NR-1 TSD ROD, 100-NR-1 and 100-NR-2 ROD, equivalent language in 100 Area Remaining Sites ROD)

“Institutional controls are required to prevent human exposure to groundwater.” (100-HR-3 and 100-KR-4 ROD)

“DOE will control access and use of the Site for the duration of the cleanup, including restrictions on the drilling of new groundwater wells in the existing plumes or their paths.” (100-BC-1, 100-DR-1, and 100-HR-1 ROD)

“Institutional controls are required to prevent human exposure to groundwater. The U.S. DOE is responsible for establishing and maintaining land-use and access restrictions until the final remedy is selected and implemented.” (200-UP-1 ROD)

“DOE shall prohibit well drilling in any waste site areas, except for monitoring or remediation wells authorized in EPA approved documents. Groundwater use is prohibited, except for limited research purposes and monitoring and treatment authorized in EPA approved documents. These restrictions apply until groundwater cleanup objectives (as established in the 300-FF-5 ROD) have been achieved.” (300-FF-2 ROD)

“DOE shall prevent the use of groundwater as a drinking water source as long as contaminant concentrations are above drinking water levels.” (300-FF-2 ROD)

“Institutional controls preventing the use of the 300 Area groundwater will remain in place.” (300 Area ESD for the 300-FF-5 ROD)

“Institutional controls are required to prevent human exposure to groundwater and to ensure that unanticipated changes in land use do not occur that could result in unacceptable exposure to residual contamination.” (300-FF-1 and 300-FF-5 ROD)

“The RL will conduct an annual assessment regarding the performance of the institutional controls described in this plan.” (*Sitewide Institutional Controls Plan for Hanford CERCLA Response Actions*, Section 4.2)

**5. Assessment of Hanford Site Excavation Permit Process**

**Requirements:**

“DOE will utilize the onsite excavation permit process to control land use (e.g., well drilling and excavation of soil) within the 100 Area operable units to prohibit any drilling or excavation as approved by Ecology.” (100-NR-1 OU ROD, 100-NR-1 and 100-NR-2 OU ROD; equivalent language in 100 Area Remaining Sites ROD)

“DOE shall control all intrusive work in any waste site areas addressed by this ROD.” (300-FF-2 ROD)

“No intrusive work is allowed on or near the waste sites covered in this ROD without prior approval of EPA or Ecology.” (100 Area Burial Ground ROD)

“A permit is required for excavation.” (*Sitewide Institutional Controls Plan for Hanford CERCLA Response Actions*, Section 2.2.3, Figure 2-5, “Summary of Land-Use Management of the Four National Priorities List Sites”)

“The RL will conduct an annual assessment regarding the performance of the institutional controls described in this plan.” (*Sitewide Institutional Controls Plan for Hanford CERCLA Response Actions*, Section 4.2)

**6. Assessment of Real Property Controls for the Hanford Site**

**Requirements:**

“[The Sitewide IC Plan shall] include a tracking mechanism that identifies all land areas under restriction or control.” (100 Area Burial Ground ROD)

“Institutional controls include placing written notification of the remedial action in the facility land-use master plan.” (200-UP-1 ROD)

“DOE shall establish and maintain a records system or database that tracks locations and estimated quantities of residual contamination left in place at waste sites that would preclude unlimited use or unrestricted exposure.” (300-FF-2 ROD)

“DOE will maintain a tracking mechanism that identifies all waste site land areas that are under restriction or control in accordance with the institutional control requirements of the CERCLA decision documents and as described in applicable work plans. The WIDS database, in combination with this plan and the Administrative Record, will initially be used to meet this requirement. In the future, a database that serves the stewardship on non-DOE entities by focusing on key stewardship data elements, such as institutional control information, may be made available to entities having jurisdiction.” (*Sitewide Institutional Controls Plan for Hanford CERCLA Response Actions*, Section 2.2.5)

"DOE will add access restriction language to any land transfer, sale, or lease of property that the U.S. Government considers appropriate while institutional controls are compulsory, and Ecology will have to approve any access restrictions before transfer, sale, or lease." (100-NR-1 TSD ROD, 100-NR-1 and 100-NR-2 ROD: similar language appears in the 100 Area Remaining Sites ROD, the 100-HR-3 and 100-KR-4 ROD, the 200-UP-1 ROD, the 300-FF-2 ROD, and the 300-FF-1 and 300-FF-5 ROD.)

"DOE will notify EPA and Ecology at least 6 months before any transfer, sale, or lease of any property subject to institutional controls required by a CERCLA decision document so that EPA and Ecology can be involved in discussions to ensure that appropriate provisions are included in the conveyance documents to maintain effective institutional controls. If it is not possible for DOE to notify EPA and Ecology at least 6 months before any transfer, sale, or lease, then DOE will notify EPA and Ecology as soon as possible, but no later than 60 days before the transfer, sale, or lease of any property subject to institutional controls." (100 Area Burial Ground ROD)

"Before the transfer, sale, or lease of any property subject to cleanup under CERCLA is conducted, the DOE will assess whether the property is subject to institutional requirements based on the corresponding CERCLA decision documents. The DOE will notify the EPA and the State before any such transaction in accordance with the Sitewide requirements listed in Section 1.4.3 and applicable requirements in the CERCLA decision documents and work plans." (*Sitewide Institutional Controls Plan for Hanford CERCLA Response Actions*, Section 2.2.3)

"DOE will record a notation on the deed to the Horn Rapids Landfill property as specified in the asbestos NESHAP (40 CFR 61)." (1100 Area ROD)

"The RL will conduct an annual assessment regarding the performance of the institutional controls described in this plan." (*Sitewide Institutional Controls Plan for Hanford CERCLA Response Actions*, Section 4.2)

## **7. Assessment of Audience and Needs of Post-Cleanup Site Information**

### **Requirements:**

"[The Sitewide IC Plan shall] include a tracking mechanism that identifies all land areas under restriction or control." (100 Area Burial Ground ROD)

"Institutional controls include placing written notification of the remedial action in the facility land-use master plan." (200-UP-1 ROD)

"DOE shall establish and maintain a records system or database that tracks locations and estimated quantities of residual contamination left in place at waste sites that would preclude unlimited use or unrestricted exposure." (300-FF-2 ROD)

"DOE will maintain a tracking mechanism that identifies all waste site land areas that are under restriction or control in accordance with the institutional control requirements of the CERCLA decision documents and as described in applicable work plans. The WIDS database, in combination with this plan and the Administrative Record, will initially be used to meet this requirement. In the future, a database that serves the stewardship on non-DOE entities by focusing on key stewardship data elements, such as institutional control information, may be made available to entities having jurisdiction." (*Sitewide Institutional Controls Plan for Hanford CERCLA Response Actions*, Section 2.2.5)

"The RL will conduct an annual assessment regarding the performance of the institutional controls described in this plan." (*Sitewide Institutional Controls Plan for Hanford CERCLA Response Actions*, Section 4.2)

**8. Assessment of Deleted Portions of NPL or Transferred Properties from DOE Ownership**

**Requirements:**

"DOE will add access restriction language to any land transfer, sale, or lease of property that the U.S. Government considers appropriate while institutional controls are compulsory, and Ecology will have to approve any access restrictions before transfer, sale, or lease." (100-NR-1 TSD ROD, 100-NR-1 and 100-NR-2 ROD; similar language appears in the 100 Area Remaining Sites ROD, the 100-HR-3 and 100-KR-4 ROD, the 200-UP-1 ROD, the 300-FF-2 ROD, and the 300-FF-1 and 300-FF-5 ROD.)

"DOE will notify EPA and Ecology at least six months before any transfer, sale, or lease of any property subject to institutional controls required by a CERCLA decision document so that EPA and Ecology can be involved in discussions to ensure that appropriate provisions are included in the conveyance documents to maintain effective institutional controls. If it is not possible for DOE to notify EPA and Ecology at least 6 months before any transfer, sale, or lease, then DOE will notify EPA and Ecology as soon as possible, but no later than 60 days before the transfer, sale, or lease of any property subject to institutional controls." (100 Area Burial Ground ROD)

"Before the transfer, sale, or lease of any property subject to cleanup under CERCLA is conducted, the DOE will assess whether the property is subject to institutional requirements based on the corresponding CERCLA decision documents. The DOE will notify the EPA and the State before any such transaction in accordance with the Sitewide requirements listed in Section 1.4.3 and applicable requirements in the CERCLA decision documents and work plans." (*Sitewide Institutional Controls Plan for Hanford CERCLA Response Actions*, Section 2.2.3)

"In addition, measures acceptable to EPA that are necessary to ensure the continuation of these restrictions will be taken before any transfer or lease of the property. A copy of the notification will be given to any prospective purchaser/transferee before any transfer or

lease. The DOE will provide EPA with written verification that these restrictions have been put in place." (300-FF-1 and 300-FF-5 ROD)

"The RL will conduct an annual assessment regarding the performance of the institutional controls described in this plan." (*Sitewide Institutional Controls Plan for Hanford CERCLA Response Actions*, Section 4.2)

### **Assessment Process/Scope/Methodology**

This year's annual assessment framework and criteria were based on an agreement reached among Tri-Party agencies to conduct focused and specific topical assessments in eight areas, which were documented in the March 12, 2004, letter from RL to EPA and Ecology. The annual IC assessments are intended to support the next CERCLA five-year review. The approach to conducting the assessment was a combination of contractor and DOE activities with DOE-RL oversight of areas assigned to the Site contractors. The Site contractors provided individual assessment plans defining the scope of their responsibilities consistent with the criteria identified in the March letter.

This report is a compilation of the self-assessments conducted by the prime contractors (BHI, FHI, and PNNL) as well as DOE-RL's assessment of the ICs at the Hanford Site. A list of team members responsible for the conduct of these assessments within the aforementioned organization is provided in the acknowledgment section of this document. Also, this year's review included participants from Energy Northwest and LIGO for the review of groundwater management and controls.

The assessment methods consisted of field inspections, personnel contacts, and review of records. Field inspections were used primarily to determine the presence and status of warning signs, and to check for indications of unauthorized waste site disturbance. The criteria and rationale used in selecting sites for field inspections are presented in Section I, "Physical Assessment of Sites."

Personnel contacts were conducted to verify any trespass events. Record reviews were also conducted to confirm land-use management controls via the excavation permit process and to determine adequacy of IC language at remediation waste sites within the WIDS. The assessment found that in order to enhance the usability and accessibility of the database to support the current and future cleanup and land use decisions, RL will evaluate whether any revisions to the content of the information captured in the WIDS is necessary as a follow-up corrective action.

The site-specific ICs listed in the applicable RODs were evaluated during this assessment for the waste sites assessed. For each IC, a "Hanford Site Waste Sites & Groundwater Institutional Controls Field Assessment Checklist" was completed. The completed forms state the IC requirement and identify the evaluation criteria for assessing the effectiveness of the IC, present the assessment results, and provide recommendations for repairs and improvements. Appendix A of this report provides a summary of the physical assessments for the 100, 200, and 300 Areas.

### Status of the 2003 Recommended Improvements and Findings

The 2003 Site Wide Institutional Controls Annual Assessment Report for Hanford CERCLA Response Action (DOE-RL 2003a) identified recommendations and actions to be addressed by the Hanford Site prime contractors. The contents of these actions have been shared with the Tri-Party agencies. BHI and FHI have taken corrective actions identified in the 2003 IC assessment report as provided in Table 1-1.

**Table 1-1. Status of the 2003 Recommended Improvements and Findings**

Action Item	Description	Due Date	Completion Status
IC-ERC-1	Review previously completed cleanup verification packages (CVPs) to identify sites requiring ICs against excavation to ensure appropriate land-use controls, i.e., if not unrestricted use, ICs may be required. RL will prepare a list of only 100 and 300 Areas sites where it is recommended that additional IC language be added to WIDS site description. The list will be provided to EPA and Ecology for their concurrence.	December 31, 2004	A transmittal will be prepared for regulators' concurrence reflecting changes that will be undertaken to the WIDS entries to ensure that the appropriate IC language is reflected. This transmittal will also document revisions to IC language in previously approved CVPs and associated Waste Site Reclassification Forms (WSRFs). The Administrative Record File will be amended to ensure that the revised IC language is traceable to the affected CVPs and WSRFs. RL completed a review and identified recommendations for revision of WIDS site descriptions. The evaluation and recommendations were transmitted to the Tri-Party agencies on July 8, 2004, as part of this year's report.
IC-ERC-2	Consistent with the last five-year CERCLA review observation, an Explanation of Significant Differences (ESD) may be warranted to adjust disparity in dates with regard to the timing of the IC annual reports. Also, discussions with EPA and Ecology need to take place aimed at establishing a single, cohesive set of IC standards to replace the disparate requirements reflected in the existing RODs. This effort should be completed in a time frame that allows the revised requirements to be assessed as part of the next annual IC report. Regulatory actions and concurrences are required to rectify these discrepancies via an ESD to change the ROD requirements and/or the IC Plan.	December 31, 2003	This action item is completed. The Tri-Party agencies issued the ESD for the 100-NR-1 OU Treatment, Storage, and Disposal Interim Action ROD and 100-NR-1/ 100-NR-2 OU Interim Action ROD (EPA 2003). This ESD was approved in May 2003 and completed the necessary adjustments to the IC report dates regarding the 100-NR-1/100-NR-2 OUs. The Tri-Party agencies also issued the ESD for the 100 Area Remaining Sites Interim Remedial Action ROD (EPA 2004). This ESD was approved in April 2004 and included a revision of the annual IC reporting date for the remaining sites. RL will continue to work with the other Tri-Party agencies to resolve these issues.
IC-FHI-1	Warning signs missing along the Hanford Site shoreline need to be replaced to maintain the voluntary 500-foot interval among signs.	January 31, 2004	This action item is completed. There are 624 signs along the shoreline. All the signs were visited during a 4-week period in October 2003. Approximately 50 to 75 signs defaced due to weather or completely missing were replaced. The remaining signs were repaired as needed. Weeds were growing around the signs making the

Action Item	Description	Due Date	Completion Status
			signs difficult to see from the river. The weeds were removed. FHI Site Services has instituted routine inspections to ensure the signs are maintained and weeds are removed. Additionally, DOE and other contractors conduct annual inspection of the Hanford Site shorelines.
IC-FHI-2	A single strand of the wire fence at the Horn Rapids Landfill entrance needs to be repaired.	December 1, 2003.	This action item was completed. The single strand of the wire fence was repaired in September 2003.

## SECTION 1: PHYSICAL ASSESSMENT OF THE SITES

The physical assessment of waste sites subject to a CERCLA ROD focused on waste sites located outside of the Hanford security barrier; therefore, the majority of those sites physically assessed were located within the 300 Area. Additionally, a sampling of 100 Area burial ground waste sites identified in CERCLA RODs was assessed. The 2004 IC assessments found that appropriate controls are in place as supported by no known incidents of intrusion onto the waste sites. Additionally, a separate assessment of the 200 Area Surveillance and Maintenance (S&M) program was conducted, which is presented in Section 3 of this report.

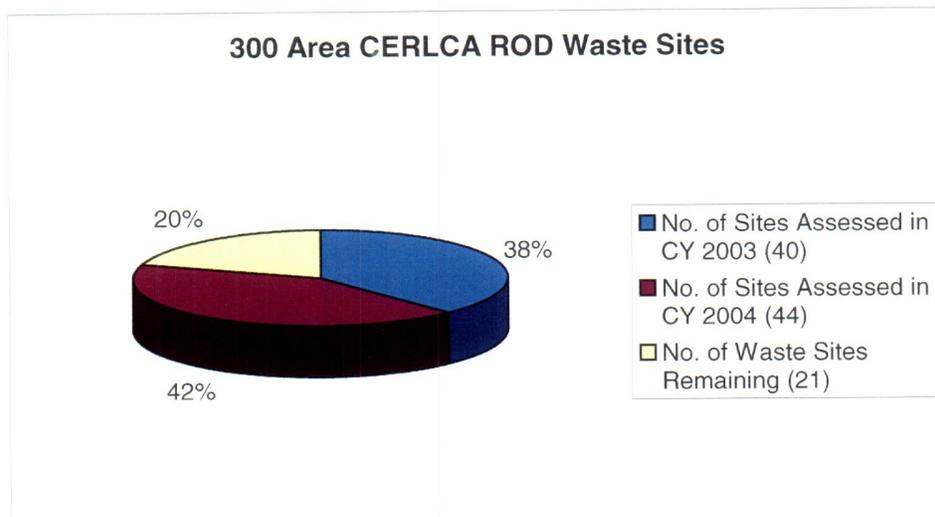
*The 2004 IC assessments found that appropriate controls are in place as supported by no known incidents of intrusion onto the waste sites.*

### Scope of 300 Areas Physical Assessments

The physical assessment focused on waste sites located in the 300 Area that are identified in the CERCLA interim and final RODs. These waste sites were located within the 300-FF-1 and 300-FF-2 OUs. The 300-FF-1 is the only final ROD in the 300 Area. The physical assessment focused on these sites because they are outside the barricaded area of the Hanford Site and are more susceptible to a potential intrusion by non-Hanford personnel. Only those waste sites awaiting remediation or in post-closure were evaluated as part of this assessment. Sites in active remediation are subject to rigorous control and are less susceptible to inadvertent intrusion.

There are 105 waste sites subject to a CERCLA ROD within the 300 Area. To date, 55 of the waste sites are managed by BHI, and 50 sites are managed by FHI. Two waste sites located in the 600 Area, 618-10 and 618-11, were selected for inspection as these are south of the Wye barricade.

Figure 1-1 summarizes the 300 Area CERCLA ROD waste sites that were evaluated in the 2003 and 2004 IC Assessment process.



**Figure 1-1. Summary of 300 Area CERCLA ROD Waste Sites**

### **FHI 300 Area Physical Assessments**

Of the 50 FHI waste sites, 24 (48%) were assessed. The ICs for these sites are addressed in the RODs for OUs 300-FF-1 and 300-FF-2. The 300 Area is fenced with warning signs posted at the entrance to the 300 Area Main Industrial Complex (Appendix C, Figures 6 to 8). Each waste site that FHI manages in the 300 Area has a sign identifying a WIDS site number and contact telephone numbers. The telephone numbers for the 300 Accelerated Deactivation Project (ADP) Job Control Center were not current. Although there is no specific requirement to identify telephone numbers on the signs, the 300 Area S&M organization has proposed a corrective action to fix this problem. The 618-10 waste site is located south of 400 Area. The waste site is fenced, and signs are posted on the fence (Appendix C, Figure 12). The 618-11 waste site is located on the area managed by Energy Northwest, and the access is through a guard gate. This waste site also is fenced, signed, and is within a secured area of Energy Northwest (Appendix C, Figure 13). Specific information on the waste sites assessed is included in Appendix A.

### **ERC 300 Area Physical Assessments**

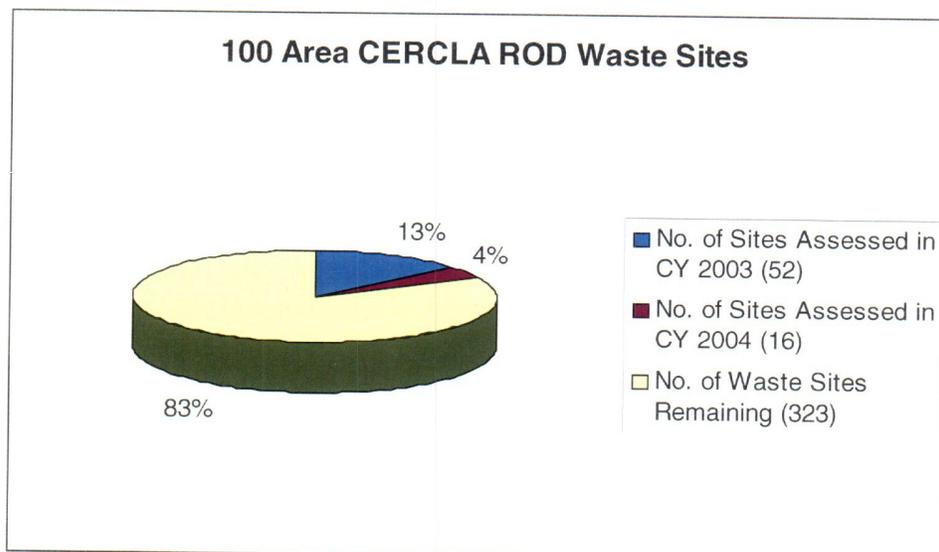
Nineteen (34.5%) of the 55 ERC waste sites were evaluated in the 300 Area. Appendix A provides a summary of the waste sites evaluated and identifies the assessment status for each unit. The physical assessment included an evaluation of signs in accordance with the 300-FF-2 ROD (EPA 2001) and the 300-FF-1 and 300-FF-5 ROD (EPA 1996).

The 300-FF-2 ROD states, “DOE shall post and maintain warning signs along access roads that caution Site visitors and workers of potential hazards from 300 Area waste sites.” Each of the waste sites associated with the 300-FF-2 ROD were evaluated for signage along the access roads. The assessment found that the main access roads into the 300 Area and at the entrance to the waste sites located north of the 300 Area main industrial complex, accessed from Route 4, were adequately signed. However, two secondary access roads from Route 4 were observed not to have warning signs posted.



Appendix A provides a summary of those waste sites evaluated as part of this assessment and includes a status of each unit.

The 100 Area physical assessment evaluated waste sites located within the 100-BC-1, 100-BC-2, 100-DR-1, 100-DR-2, 100-FR-2, 100-HR-1, 100-HR-2, and 100-KR-2 OUs. Figure 1-2 summarizes the 100 Area waste sites evaluated in the calendar years 2003 and 2004. Only those waste sites identified in a CERCLA ROD, consistent with the Sitewide IC Plan, are included. To date, there are 394 waste sites identified in the 100 Area CERCLA RODs, of which, a total of 68 (17%) waste sites have been physically assessed.



**Figure 1-2. Summary of 100 Area CERCLA ROD Waste Sites**

The physical assessment of the 100 Area waste sites included an evaluation of sign requirements and access controls, as identified in the 100 Area Burial Grounds ROD (EPA 2000), the 100-BC-1, 100-DR-1, 100-HR-1 ROD (EPA 1995), the amendment to the 100-BC-1, 100-DR-1, 100-HR-1 ROD (EPA 1997), and the 100 Area Remaining Sites ROD (EPA 1999). Signs at the individual waste sites were not evaluated; the assessment team focused their evaluation on access controls and signage along the access roads.

The 100 Area Burial Grounds ROD states that “*DOE shall maintain signs along access roads that warn Site visitors and workers of potential hazards from 100 Area waste sites.*” To evaluate the established requirement, the waste sites identified in the 100 Area Burial Grounds ROD (EPA 2000) were accessed using the access roads. Any signage, or lack of signage, was noted on the assessment checklist. The assessment findings are summarized as follows:

The 100-B/C Area had two locations identified in the 100 Area Burial Grounds ROD that required additional signage along secondary access roads in order to be in compliance with the ROD requirement (see Appendix C, Figure 2). **The warning signs were installed on June 11, 2004; no further actions are required.**

The secondary access road west of D Avenue did not have warning signs posted. A request was initiated to install warning signs at the entrance to the access road (see Appendix C, Figure 3). **The warning signs were installed on June 11, 2004; no further actions are required.**

Warning signs were not found at the secondary access roads from Route 4 to waste sites located in the 100-F Area. Warning signs were requested at the entrance to the access roads (see Appendix C, Figure 4). **The warning signs were installed on June 11, 2004; no further actions are required.**

The evaluation also identified the need to develop a strategy for maintaining signage on newly installed haul roads that are accessible from the main arterial roads. These roads are signed while remediation activities ensue; however, once remediation is complete, the roads may be left unmarked while providing access to waste sites identified in the 100 Area Burial Grounds ROD. The ERC is developing a process for implementation by December 30, 2004, to ensure that newly installed roads remain adequately signed once the use of the road has ended.

The 100-BC-1, 100-DR-1, 100-HR-1 ROD states that *"DOE will control access and use of the Site for duration of the cleanup, including restrictions on drilling of new groundwater wells in the existing plumes or their paths. It is expected that institutional controls will be enforced until the remedial action objectives have been attained,"* (EPA 1995)

The 100 Area Remaining Sites ROD states that *"DOE will maintain existing signs prohibiting public access,"* (EPA 1999)

Access controls for the waste sites evaluated from the 100-BC-1, 100-DR-1, 100-HR-1 ROD and the 100 Area Remaining Sites ROD (EPA 1995, 1999) were found to be adequately signed and in compliance with the ROD requirements identified above (see Appendix C, Figure 1). The 100 Areas are located within the Hanford security barrier, which prevents unauthorized access to the Hanford Site, thereby acting as the first layer of control for access to the waste sites. Additionally, the main entrances to the 100-D/DR, 100-F, 100-H, 100-N, and 100-K Areas are posted with the following warning sign:

**WARNING: HAZARDOUS AREA DO NOT ENTER. Area May Contain Hazardous Soil. Only Authorized Personnel Allowed. For Information Call: 509-376-7501**

The warning sign located at the entrance to the 100-B/C Area blew down during a windstorm. **The sign was reinstalled; no further action is required.**

## SECTION 2: TRESPASS INCIDENTS

FHI and BHI conducted an evaluation of trespass incidents during calendar year (CY) 2003. Project personnel confirmed that there were no known trespass incidents onto the waste sites located within the Hanford Site boundary in CY 2003. Overall, trespass incidents onto a waste site appear to have remained the same as the previous reporting period, i.e., zero incidents.

During this reporting period, there have been no significant changes to the Hanford Site security processes or procedures. The badging process is managed by a Hanford Site procedure, while access control processes are governed by a DOE-Headquarters complex-wide directive. Authorized personnel on the Hanford Site are required to wear, display, and present badges upon request. Additional levels of access control and badging could be required based on specialized needs. Special requirements are in place for visitors and foreign nationals.

Hanford Patrol conducts random patrols on the Hanford Site paying particular attention to trespass on the Site. Between July 2003 and April 2004, there were seven trespass violations and 62 incidents where Hanford Patrol denied Site access at the Site barricades (Wye, Yakima, and Rattlesnake) during attempts to gain access without badges, unauthorized badges, expired badges, and for other badge discrepancies. Of the seven trespasses, four trespassing incidents were reported to Benton County Sheriff's Office for action in CY 2003. Of the four referrals, one constituted a criminal trespass. Since trespass onto federal property constitutes a criminal act, DOE, as a matter of policy and agreement, refers such matters for prosecution the Benton County Sheriff's Office. The Hanford Patrol has specific procedures in place to pursue the incidents that require further action. For waste sites south of the Wye barricade, security patrolling, fences, and warning signs are used to restrict access. Based on available information, there were no security incidents or breaches reported south of the Wye Barricade for CY 2003.

*For waste sites south of the Wye barricade, security patrolling, fences, and warning signs are used to restrict access. Based on available information, there were no security incidents or breaches reported south of the Wye Barricade for calendar year 2003.*

### SECTION 3: EVALUATION EFFORTS OF SURVEILLANCE AND MAINTENANCE PROGRAM

The information contained in this section of the assessment report is being provided as a demonstration of RL's continued commitment to proper management of waste sites in portions of the 200 Area. Routine S&M activities are conducted as a standard RL operating practice throughout waste sites in the 200 Area. As part of the 2004 IC assessment, an evaluation of the S&M program was conducted to determine if the existing effort is sufficient such that imposing formal ICs is unnecessary. It is important to note that this evaluation of RL's 200 Areas waste site S&M is not included for the purpose of assessing implementation of ICs for waste sites that are addressed in an existing CERCLA ROD. With the exception of a couple of waste sites that are included in the Remaining Sites ROD, to date, there are no other waste sites in the 200 Areas under existing CERCLA RODs. There are 173 waste sites in the 200 Area. These waste sites are identified as CERCLA Past Practices Units, Tri-Party Agreement, Appendix C.

The S&M program is conducted in accordance with 10 CFR 835 for sites with radioactive contamination (although, the regulation does not give specific guidance on the frequency of the surveillance) and WAC-173-303-320, which requires the owner/operator to inspect the facility to prevent malfunctions and deterioration, operator errors, and discharges that may lead to release of dangerous waste constituents to the environment.

*The S&M program is conducted in accordance with 10 CFR 835 for sites with radioactive contamination (although, the regulation does not give specific guidance on the frequency of the surveillance) and WAC-173-303-320.*

DOE-RL requires FHI to conduct surveillance and maintenance as provided by 10 CFR 835. FHI has established procedures that are used to conduct safe, uniform surveillances on a routine, recurring frequency. The procedures include instructions for performing inspections on waste sites, which are the responsibility of FHI's Radiation Area Remedial Action (RARA) Project. The scope of the RARA Project involves managing the majority of inactive waste sites in the 200 areas (200E and 200W). The RARA program also manages one site in the 100 Area and several in the 600 Area. Other groups within FHI also manage inactive waste sites such as Central Plateau S&M and CP WM (Waste Management own several burial grounds). Other Hanford contractors, such as CH2M HILL Hanford Group, Inc. (CHG), own and manage numerous inactive waste sites in the 200 Areas as well.

The surveillances performed under the procedures are required to ensure that any unfavorable conditions or trends are recognized and evaluated so that appropriate action(s) can be taken. Surveillance technicians inspect the following areas:

- 1) posting requirements: to ensure signs provide proper site identification, adequate warning of potential hazards, and preclude inadvertent entry;
- 2) barriers: to ensure applicable barriers such as concrete marker posts, steel posts, and steel chains are in place and functional;

- 3) animal or insect intrusion: to check for evidence of animal or insect intrusion (e.g., burrows, ant hills, termite nests, etc.);
- 4) cave-in potential: to check for evidence of soil subsidence or depressions;
- 5) deep-rooted vegetation intrusion: to check for tumbleweeds and sagebrush whose root systems can grow deep and potentially come in contact with and absorb contamination;
- 6) vent cap integrity: ensures sealed passive vents (risers) are intact and in good condition; and
- 7) unidentified containers or items: check for the presence of unidentified containers or items.

FHI performs S&M activities on the following types of waste sites:

- 1) inactive past-practice waste sites;
- 2) active, currently operational waste sites;
- 3) inactive past-practice RCRA TSDs; and
- 4) waste sites located in the footprint of a facility.

Although there are multiple contractors (e.g., CHG, PNNL) responsible for S&M of waste sites on the Central Plateau, only FHI was required to provide input to this assessment because FHI manages the majority of the waste sites in the Central Plateau for DOE-RL. The specific FHI portion of this assessment focused on the 200 Area S&M Operations. FHI conducts surveillances on 478 sites in the 200 Area, 600 Area, and the Horn Rapids Landfill in the 1100 Area. Some sites are inspected three times a year whereas others have annual inspections. The frequency of surveillance depends on the specific waste site. Surveillances are conducted to identify deficient areas, including problems with access controls, and document the corrective actions. The access control problems are usually resolved on the spot. The surveillance technicians carry warning signs in their vehicles and replace the signs or perform minor repairs as necessary. As part of the FHI assessment, 52 surveillance reports were reviewed to find out if the surveillances identified institutional-control-related problems and whether they were corrected (see Figure 3-1).

*As part of the FHI assessment, 52 surveillance reports were reviewed to find out if the surveillances identified institutional-control-related problems and whether they were corrected.*

Three problems related to signs and chains were noted in the reports. The surveillance reports indicated that all three problems were corrected. Table 3-1 lists the sites for which the surveillance reports were reviewed. The last two columns of the table identify IC related and problems and the corrective actions.



Figure 3-1. 200 Area S&M Waste Sites

In addition to the FHI assessment, DOE-RL conducted a spot check of the FHI Central Plateau S&M operations to determine the extent to which those activities meet the intent of FY 2004 IC focus area #3: Evaluate the efforts of S&M Program. This assessment involved spot checking a subset of data sheets that report the results of S&M activities performed on waste sites on the Central Plateau. Interviews were conducted with both the FHI Central Plateau RARA manager (May 24, 2004) and the field work supervisor (June 9, 2004) to gain access to the applicable procedures. Also, a review was conducted of completed data sheets on selected waste sites and of surveillance reports on wastes sites where negative impacts had occurred (e.g., tumbleweed growth, ground subsidence, animal/insect burrowing) to spot check contractor compliance with implementing procedures. Numerous 200 Area non-tank farm soil waste site locations (216-A-25 Gable Mountain Pond, 216-A-29 ditch [TSD], 216-B-3 B Pond [TSD], 216-B-2-2 ditch, 216-B-26 trench, UPR-200-E-83 BC Controlled Area, 216-B-57 crib [prototype surface barrier], 216-A-36B crib [TSD], 216-S-10 pond and ditch, 216-S-17 pond, 216-U-10 pond, 216-A-36B trench, 200-W-3 north parking lot, 218-W-4-C burial ground) were visited to spot check posting, markers, barriers, biotic intrusion, and general condition of waste site surface stabilization.

*DOE-RL conducted a spot check of the FHI Central Plateau S&M Operations to determine the extent to which those activities meet the intent of FY 2004 IC focus area #3: Evaluate the efforts of S&M Program.*

*This assessment of the waste sites located on the Central Plateau, both inside the core zone and outside in the buffer areas, found a consistent process is in place to ensure appropriate physical controls to prevent intrusion into hazardous areas and maintain waste sites in a stabilized condition that minimizes exposure to subsurface contamination.*

FHI's results identified that for the waste sites south of the Wye barricade, fences and warning signs provide an effective barrier. Results of the RL portion of this assessment of the waste sites located on the Central Plateau, both inside the core zone and outside in the buffer areas, found a consistent process is in place to ensure appropriate physical controls to prevent intrusion into hazardous areas and maintain waste sites in a stabilized condition that minimizes exposure to subsurface contamination. Postings, markers and barriers/fencing were in place. Of the many radiological contamination warning signs

observed, only a few showed evidence of weathering (e.g., magenta trefoil had faded). On May 26, 2004, operation of the tractor mounted radiological survey equipment was observed during the conduct of the surveillance performed on Gable Mountain Pond. No corrective actions were identified by either FHI or RL as a result of this portion of the RL assessment. The evaluation of the 200 Area waste site S&M efforts indicated that the FHI waste site S&M program is effectively achieving its goal of reducing potential exposure to subsurface contamination by maintaining appropriate physical controls.

**Table 3-1. Surveillance Forms Reviewed and The Institutional Controls Related Problems Observed**

Operable Unit	Site Code	Description and other names	Maintenance Surveillance Frequency	Institutional Controls Problems Observed	Problems Corrected
1100-EM-1	HRD	Horn Rapids Landfill	A	No	Not applicable (NA)
200-CS-1	216-S-10P	216-S-10 Pond	Tri-Yearly (TY)	Two signs down and chain broken	Replaced two signs and fixed chain
200-CS-1	216-S-11	216-S-11 Swamp	TY	No	NA
200-CW-1	216-A-25	216-A-25, Gable Mountain Pond and Overflow	TY	No	NA
200-CW-1	216-A-42	216-A-42 Retention Basin	TY	No	NA
200-CW-1	216-B-3-2	216-B-3-2, 216-B Ditch, 216-B-1 Ditch, B Swamp Ditch, 216-B-2-2E	TY	No	NA
200-CW-1	216-B-59	216-B-59 Retention Basin and Trench, corner of 7th and Baltimore	TY	No	NA
200-CW-2	207-S	207-S, REDOX Retention Basin, 207-S, 207-S Retention Basin	TY	No	NA
200-CW-2	216-S-16P	216-S-16Pond	TY	No	NA
200-CW-2	UPR-200-W-13	Liquid release to the 207-S Basin	TY	No	NA
200-CW-5	216-W-LWC	Laundry Crib	TY	No	NA
200-CW-5	216-Z-19	216-Z-19, 216-U-10 Ditch, Z Plant Ditch, 216-Z-19 Ditch	TY	One of the several concrete markers down	Problem fixed
200-CW-5	UPR-200-W-139	Liquid release to 216-U-9 Ditch	5	No	NA
200-IS-1	UPR-200-E-1	UPR-200-E-1	TY	No	NA
200-LW-2	216-T-2	Reverse Well at the SW corner of 222-T	TY	No	NA

Operable Unit	Site Code	Description and other names	Maintenance Surveillance Frequency	Institutional Controls Problems Observed	Problems Corrected
200-MW-1	216-A-12	216-A-12	TY	No	NA
200-MW-1	216-A-26	216-A-26	TY	No	NA
200-MW-1	216-A-26A	216-A-26A	TY	No	NA
200-PW-2	200-W-22	200-W-22, 203-4 Underground Contaminated Zone 204-S Area	TY	No	NA
200-PW-2	216-A-3	216-A-3, 216-A-3 Cavern, 216-A-3 Crib	TY	No	NA
200-PW-2	216-A-36A	216-A-36A	TY	No	NA
200-PW-2	216-S-1&2	216-S-1&2, 216-S-5 Crib, 216-S-1 & 2	TY	No	NA
200-PW-3	216-A-24	216-A-24	TY	No	NA
200-PW-4	216-S-22	216-S-22	TY	No	NA
200-PW-5	216-S-21	216-S-21, 216-SX-1, 216-SX-1 Cavern or Crib	TY	No	NA
200-PW-5	216-S-9	216-S-9	TY	No	NA
200-SC-1	216-B-55	216-B-55 Crib	TY	Broken chain	Fixed chain
200-SW-1	600 OCL	Old Central Landfill	TY	No	NA
200-SW-2	218-E-2	218-E-2, 200 East Industrial Waste No. 002	TY	No	NA
200-SW-2	218-E-5	218-E-5, 200 East Industrial Waste No. 05, Equipment Burial Ground #5	TY	No	NA
200-SW-2	218-E-5A	218-E-5A, 200 East Industrial Waste No. 005A, Equipment Burial Ground #5A	TY	No	NA
200-SW-2	218-E-8	218-E-8, 200 East Construction Burial Grounds	TY	No	NA
200-SW-2	218-E-9	218-E-9, 200 East Regulated Equipment Storage Site No. 009, Burial Vault (HISS)	TY	No	NA
200-SW-2	UPR-200-E-35	UPR-200-E-35	TY	No	NA
200-SW-2	UPR-200-W-72	UPR-200-W-72	TY	No	NA
200-TW-1	216-B-14	216-B-14, 216-BC-1 Crib	TY	No	NA
200-TW-1	216-B-19	216-B-19, 216-BC-6 Crib	TY	No	NA
200-TW-1	216-B-21	216-B-21, 216-BC-8 Trench, 216-B-21 Trench	TY	No	NA
200-TW-1	216-B-44	216-B-44, 216-BY-2 Crib, 216-BY-2 Cavern	TY	No	NA

Operable Unit	Site Code	Description and other names	Maintenance Surveillance Frequency	Institutional Controls Problems Observed	Problems Corrected
200-TW-1	216-T-18	216-T-18, Test Crib for 221-T Building, Scavenged TBP Waste, 216-T-17, 216-U-10, 241-T-17 Crib	TY	No	NA
200-TW-2	216-B-36	216-B-36, 241-BX-2 Grave, 216-BX-2 Trench, 216-B-36 Trench	TY	No	NA
200-TW-2	216-T-15	216-T-15, 241-T-2 Trench, 241-T-2 Grave, 216-T-14, 216-T-15 Crib	TY	No	NA
200-UR-1	200-E-57	200-E-57, 241-C Waste line leak East of 201-C waste line leak #2	TY	No	NA
200-UR-1	200-W-63	Contaminated pad south of 23rd. Gravel covered	TY	No	NA
200-UR-1	600-262	West Lake Test Crib	TY	No	NA
200-UR-1	UPR-200-E-103	UPR-200-E-103	TY	No	NA
200-UR-1	UPR-200-E-79	Pipeline leak between 207-B Retention Basin and 242-B Evaporator	TY	No	NA
200-UR-1	UPR-200-E-112	RR tracks from 221-B to junction with tracks alongside 218-E-10	TY	No	NA
200-UR-1	UPR-200-E-144	UN-216-E-44. Consolidated contaminated soil. Located in mound on N side of B Tank Farm. Area also has 7A/7B, 11 A&B	TY	No	NA
200-UR-1	UPR-200-W-83	Spill near 204-S. Co-located with 204-S.	TY	No	NA
200-UR-1	UPR-200-W-116	UPR-200-W-116, UN-216-W-26, Ground Contamination North of 202-S, UN-200-W-116	TY	No	NA
200-UW-1	216-U-17	216-U-17 Crib	TY	No	NA

## SECTION 4: ASSESSMENT OF HANFORD SITE USE GROUNDWATER CONTROLS

The purpose of this portion of the assessment was to evaluate the effectiveness of controls on the groundwater wells used for purposes other than monitoring or remediation as agreed to by the Tri-Party agencies and documented in the March 12, 2004, letter from DOE-RL to EPA and Ecology. The assessment concluded that the use of these wells for consumptive purposes has been deemed appropriate because these wells are all monitored and sampled in compliance with the state and federal requirements. The drinking water supplies meet Drinking Water Standards.

Groundwater use at the Hanford Site is prohibited, except for monitoring, treatment, and as approved for other uses by EPA and Ecology. The construction and maintenance of wells on the Hanford Site are performed in accordance with WAC 173-160. Since this regulation was adopted in 1990, wells drilled and decommissioned at the Hanford Site have met the requirements of these regulations. Controls for these wells include access by authorized personnel, readily identifiable well manager, fencing and barriers to preclude unauthorized entry into well site, administrative procedures, routine sampling of water qualities, and compliance with state of Washington and federal requirements for well construction and management.

Currently, there are 1,621 “in use” groundwater wells on the Hanford Site. This number changes constantly depending on the number of wells decommissioned or construction of new wells. The “in use” category includes wells used by any Site contractor for many purposes, some of which are water chemistry monitoring, water level monitoring, remediation, and geophysical needs. The focus of this year’s groundwater well assessment was primarily on those wells that are used for water supply.

*The focus of this year’s groundwater well assessment was primarily on those wells that are used for water supply uses. Overall, this assessment found that there were a total of 14 water supply wells.*

Overall, this assessment found that there were a total of 14 water supply wells (Table 4-1) either used previously or currently in use. FHI manages six wells, PNNL manages one well, Energy Northwest has five wells, and LIGO has two wells. Of these 14 water supply wells, seven are used for drinking water. Five of the six wells managed by FHI are located in well houses. Access to these well houses is controlled. Three of the six FHI-managed wells are located in the 400 Area (Appendix C, Figures 15-17). These three wells supply drinking water to Fast Flux Test Facility complex and are classified as Group A non-transient non-community (NTNC) public water systems with a groundwater source. The water system is governed by WAC 246-290. All monitoring program plans are developed and all sampling is performed in accordance with the WAC or 40 CFR 141. Only one of the three drinking water wells (499-81-SJ) is used actively at the 400 Area. The other two are backup wells that are only used for short periods of time, if needed while the primary well is out of service for routine maintenance. Two other FHI-managed wells are located at the Waste Encapsulation and Storage Facility (WESF) in the 200 Area. In the event of loss of the raw water pressure to WESF, these wells will be

used to supply raw water for WESF. These two wells can also serve as a backup water source to the pool cells in the event of a loss of pool cell water accident. The sixth FHI managed well is located in the old Hanford town site area. This well is used as a tanker fill well for dust suppression. PNNL operates one well as a research and development well (399-4-12) for fisheries in the 300 Area. This well is located just outside and south of the 331 Building, inside a fenced area. Only badged personnel are allowed in this area. The fenced area is not locked. Access to the well "on and off" switch is outside the buildings, but the operating controls are inside the building, which is locked. The well has a large submersible pump installed, so direct access to the well can only be obtained by pulling the pump from the well with heavy equipment. All these wells are accessed only by authorized personnel.

Energy Northwest has had five wells installed as drinking water sources on property leased from DOE for the CGS and WNP-1 sites. Three of the five wells were installed on the CGS site, however only one remains serviceable and it is only used as an emergency (backup) supply on a very infrequent basis. The primary source for the CGS water system is the Columbia River. Two wells are installed on the WNP-1 site and serve as the primary source of drinking water for the site system. Both water systems are classified as Group A nontransient, noncommunity (NTNC) public water systems and are operated in accordance with WAC 246-290. All monitoring program plans are developed and all sampling is performed in accordance with WAC or 40 CFR 141. Details on the Energy Northwest wells are described below.

LIGO has two wells, one of which is unused. This water system is classified as Group A NTNC public water system with a groundwater source. The system is also managed in accordance with WAC 246-290. All monitoring program plans are developed and all sampling is performed in accordance with the WAC or 40 CFR 141.

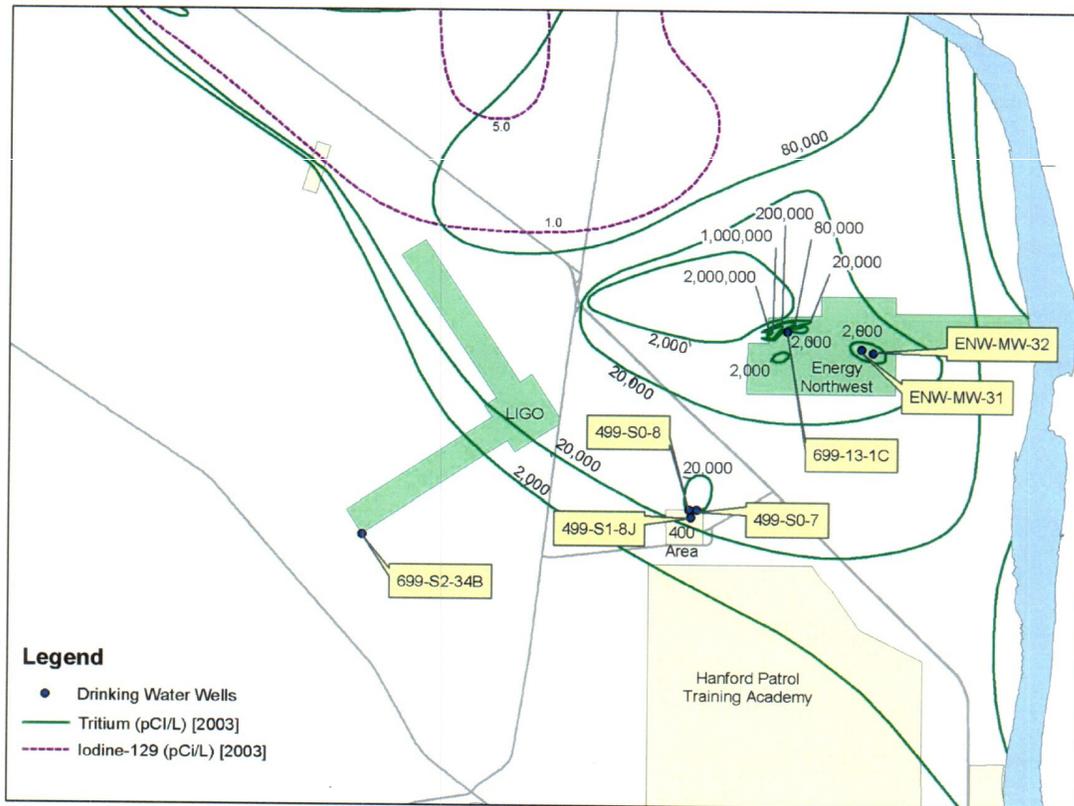
Figure 4-1 depicts the locations of these wells as contrasted against the existing groundwater plumes. A description of the wells, well use, and other information is given in Table 4-1. The assessment concluded that the use of these wells for consumptive purposes has been deemed appropriate because these wells are all monitored and sampled in compliance with state and federal requirements. Any constituents in these wells from contaminated Hanford Site groundwater plumes are minor, and the drinking water supplies meet drinking water standards.

Both federal and state regulations provided the basis for the well management programs. The sampling schedule/frequency is based on the Standard Monitoring Framework (SMF) developed by EPA [promulgated in the Phase II Rule on 1/30/1991 (56 FR 3526)] for inorganics, volatile organics, synthetic organics and radionuclides. The monitoring requirements are located in the following 141 CFR subsections:

- 40 CFR 141.23 - Inorganics (with the exception of asbestos & nitrates/nitrites)
- 40 CFR 141.24 - Volatile Organics and Synthetic Organic Chemicals
- 40 CFR 141.26 - Radionuclides

Other constituents that are monitored and not part of the SMF include:

- 40 CFR 141.21 - Coliform Bacteria
- 40 CFR 141.86 - 141.88 - Lead and Copper
- 40 CFR 141.132 - Disinfectant Residuals & Disinfectant Byproducts
- 40 CFR 141.23 - Asbestos
- 40 CFR 141.23 - Nitrates/Nitrites



**Figure 4-1. Drinking Water Supply Well Locations**

The schedule/frequency for these substances is based on the requirements set forth in each respective CFR subsection.

All state monitoring requirements that the water system complies with can be found in WAC 246-290-300, specifically they include the following subsections:

- (3) Bacteriological
- (4) Inorganic chemical and physical (includes asbestos and nitrites/nitrates)
- (5) Lead and copper
- (7) Disinfectant Residuals and Disinfectant Byproducts
- (8) Organic Chemicals

- (9) Unregulated Chemicals  
 (10) Radionuclides  
 (11) Other substances on the basis of public health concern

**Table 4-1. Groundwater Well Summary**

Well Name	Location	Responsible Company	Well Use	Aquifer Where Screened	Comments
499-S1-8J	400 Area Fast Flux Test Facility (FFTF) Complex Well	FHI	Drinking water	Deep Unconfined Aquifer Screen top >225 ft below the water table	This well is inside a wellhouse. FFTF has a fence around it. The access to FFTF is controlled by a proxy card reader.
499-S0-8	400 Area FFTF Well	FHI	Drinking water	Medium to Deep Unconfined Aquifer Top of perforations >55 ft below the water table	This well is inside a wellhouse. FFTF has a fence around it. The access to FFTF is controlled by a proxy card reader.
499-S0-7	400 Area FFTF Well	FHI	Drinking water	Upper Unconfined Aquifer Top of perforations >25 ft below the water table	This well is inside a wellhouse. FFTF has a fence around it. The access to FFTF is controlled by a proxy card reader.
299-E28-15	Waste Encapsulation Storage Facility	FHI	Backup water for WESP pool cells	Upper Unconfined Aquifer Perforations extend across the water table	Wellhouse 282BA has an Omni lock.
299-E28-11	Waste Encapsulation Storage Facility	FHI	Backup water for WESP pool cells	Upper Unconfined Aquifer No information on perforated interval is available	Wellhouse 282B has an Omni lock.
699-49-13E	Hanford Town Site	FHI	Tanker fill well for dust Control/ Monitor the site-wide tritium plume	Upper Unconfined Aquifer Top of perforations approximately 5 ft below the water table	Casing is covered by a plate supporting the gear drive unit for the pump; access pipe on side of casing is not locked.
399-4-12	Just outside and south of 331 Building	PNNL	Research (fisheries)	Upper Unconfined Aquifer Perforations extend across the water table	The operating controls are inside 331 Building that has a controlled access.
699-S2-34A	600 Area LIGO	LIGO	Not in use	No information	This well was primarily used for dust suppression.
699-S2-34B	600 Area LIGO	LIGO	Domestic water, fire water, landscape irrigation	Deep Confined Aquifer Open Hole from Below Mabton Interbed to Frenchman Springs Basalt	Both LIGO wells have administrative control process/procedures in place, i.e., lock and within control, adequate signs and barriers to ensure their protection. LIGO provides water

Well Name	Location	Responsible Company	Well Use	Aquifer Where Screened	Comments
					samples to the WDOH on a monthly basis.
699-13-1A	600 Area CGS	ENW (a)	Monitor tritium plume from 618-11	Upper Unconfined Aquifer Top of perforations >20 ft below the water table	Well casing is covered and well is in a locked pumphouse
699-13-1B	600 Area CGS	ENW	Not in use	Upper Unconfined Aquifer Top of perforations >20 ft below the water table	Well casing is covered and well is in a locked pumphouse
699-13-1C	600 Area CGS Well No.3	ENW	Backup (emergency) potable water system	Confined Aquifer (Basalt) Screened from: 504-519 ft bgs 563-573 ft bgs 685-695 ft bgs  Water table -45 ft bgs	Well is located inside a locked pumphouse.
ENW-MW-31	600 Area WNP-1 No. 1	ENW	Primary source of drinking water	Mid-Unconfined Aquifer (Middle) Screened intermittently from 250-340 ft bgs	Well is located inside a locked pumphouse.
ENW-MW-32	600 Area WNP-1 No. 2	ENW	Primary source of drinking water	Mid-Unconfined Aquifer Screened intermittently from 235-360 ft bgs	Well is located inside a locked pumphouse.

(a) ENW = Energy Northwest

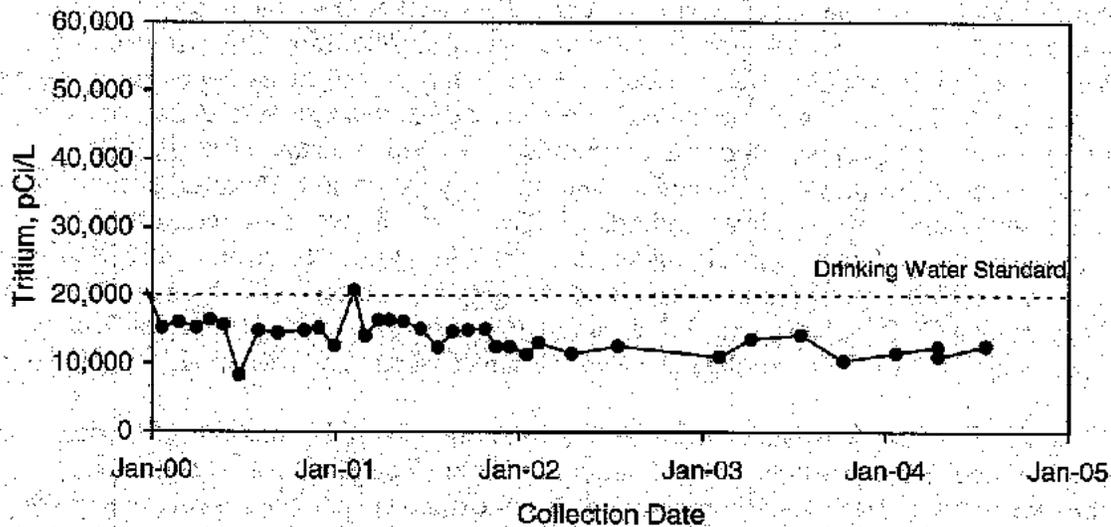
The following paragraphs present the results of the self-assessments conducted by FHL, PNNL, Energy Northwest, and LIGO. The ICs contained in the RODs expressly prohibit the use of groundwater with the exception of the well-management programs identified in these paragraphs.

Results show that the water quality of the 400 Area drinking water supply wells meet the MCL for tritium (20,000 pCi/L), which is the constituent of concern at the 400 Area. Tritium in the primary water supply well for the 400 Area (499-S1-8J) was reported as 2,830 pCi/L for the first quarter of 2004. Tritium concentrations in the backup wells 499-S0-7 and 499-S0-8, which are not used to supply drinking water unless necessary during maintenance outages of the primary system, were reported to be 11,600 pCi/L and 2,910 pCi/L, respectively for the first quarter 2004. All other constituents meet the applicable drinking water standard in these wells.

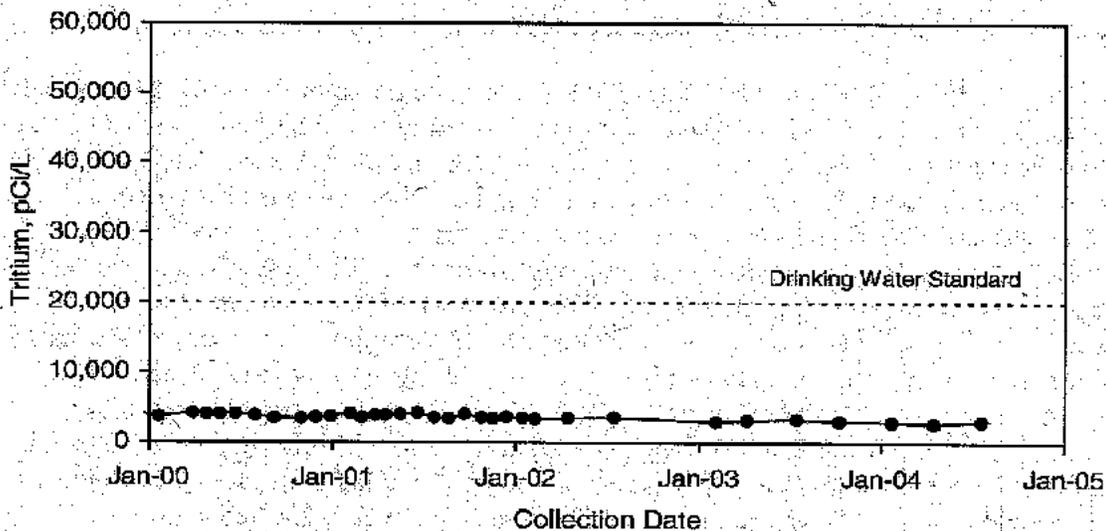
The primary water supply well (499-S1-8J) was put into use in late 1985, and has been the primary water-supply well since. Elevated tritium concentrations were detected on two occasions in previous years. One sample out of eight in 1991 and one sample out of twelve in 1994, indicated the elevated concentrations, which were isolated and of relatively short duration. Furthermore, routine monitoring of the 400 Area drinking water



**Figure 4-2. 499-S1-8J Well Tritium Level (primary water supply well)**



**Figure 4-3. 499-S0-7 Well Tritium Level (back up water supply well)**



**Figure 4-4. 499-S0-8 Well Tritium Level (backup supply well)**

Energy Northwest has had five wells installed as drinking water sources. Two of these wells are disabled and no longer in use. The water supply wells have been installed on Energy Northwest property leased from DOE for the CGS and WNP-1 sites. Routine monitoring of the three wells has disclosed no contamination from Hanford Site activities. A deep well at CGS serves as an emergency backup source for drinking water but has rarely been used for the past 20 years. This well draws from a deep confined aquifer and has no connection to the Hanford unconfined aquifer. The two wells at WNP-1 are used to supply water. Both of these wells draw from the semi-confined zones of the Ringold Formation. The three Energy Northwest wells that are in use, or available for use, are identified as public water system sources with the state of Washington Department of Health (WDOH) and are monitored per state and federal requirements and have always met water quality standards. Additionally, the wells are monitored for radiological parameters quarterly under the CGS Radiological Environmental Monitoring Program (REMP). In the annual REMP report prepared for the U.S. Nuclear Regulatory Commission (NRC) and state of Washington, it was reported that all samples from the three wells in 2003 were nondetectable for gamma emitters and tritium (LLD 300 pCi/L).

If the Energy Northwest wells at WNP-1 were to draw from the unconfined aquifer, the water would still not be unacceptably high in tritium. The 618-11 investigations have shown that the burial site tritium plume does not extend to the withdrawal zone of the WNP-1 wells (BHI-01567, Fig. 3-1, September 2001). Similarly, monitoring of the site-wide Hanford tritium contamination in the vicinity of WNP-1 shows concentrations less than 20,000 pCi/L which is the WDOH drinking water standard for continuous consumption (Hartman et al. 2004, Figures 2.1-5).

The following information was provided to DOE on April 30, 2004, by the Point of Contact (POC) at Energy Northwest.

**CGS Well No. 3 (USDOE Well No. 699-13-1C):** The depth of this well is 695 ft below ground surface (bgs) with a depth to the top of screen of 506 ft and an approximate depth to water of 45 ft. This well was constructed in 1978 and placed in service in April 1979 as a replacement source for CGS Well Nos. 1 and 2. The well was completed and screened in the confined aquifer. It was used as a primary water source for the Site until 1982. It is now used as a backup (emergency) source for the Energy Northwest potable water system (Source No. S03 for WDOH System No. 920240). Currently, the use of the well as a water supply source is very infrequent. The pump is only operated for sample collection. The water tends to be high in fluoride (2 mg/L to 4 mg/L). The drinking water standard for fluoride is 4 mg/L. The well is monitored quarterly as part the Radiological Environmental Monitoring Program (REMP Monitoring Station No. 52). Results have shown that the water is not tainted by contaminant plumes associated with the Hanford 200 Areas or the 618-11 Burial Site. This well is located inside a locked pump house.

**WNP-1 Well No. 1 (ENW-MW-31):** The depth of this well is 465 ft bgs with a depth to the top of screen of 247 ft and an approximate depth to water of 95 ft. This well was constructed in late 1975 as a source of drinking water and construction water for power

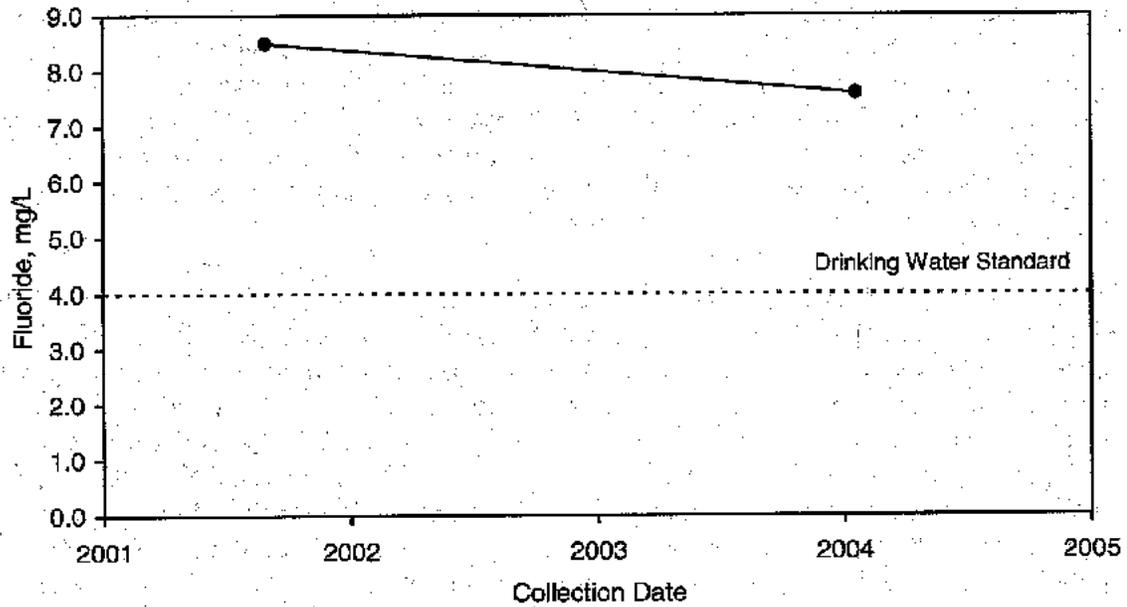
plant construction. The well is screened in the semi-confined zones of the Ringold Formation. It has remained in service as a primary source for WDOH Water System No. 92023F (Source No. S01). The well is sampled annually and analyzed for nitrite/nitrate, and is analyzed every three years for volatile organic chemicals. These analyses are conducted to meet WDOH requirements. No water quality issues have been identified. The well has been monitored for radiological parameters since its installation and is monitored quarterly as part the CGS REMP (Station No. 31). The well sampling results have shown that the water is not tainted by contaminant plumes associated with the Hanford 200 Areas or the 618-11 Burial Site. This well is also located inside a locked pump house.

WNP-1 Well No. 2 (ENW-MW-32): The depth of this well is 460 ft bgs with a depth to the top of screen of 245 ft and an approximate depth to water of 100 ft. It was constructed in early 1976 as a source of drinking water and construction water for power plant construction. In 1989, the well was deepened from 372 ft to 460 ft. The well is screened in the semi-confined zones of the Ringold Formation. It has remained in service as a primary source for the WDOH Water System No. 92023F (Source No. S02). The well is sampled annually and analyzed for nitrite/nitrate, and is analyzed every three years for volatile organic chemicals. These analyses are conducted to meet WDOH requirements. No water quality issues have been identified. This well also has been monitored for radiological parameters since installation and is monitored quarterly as part the CGS REMP (Station No. 32). Results have shown that the water is not tainted by contaminant plumes associated with the Hanford 200 Areas or the 618-11 Burial Site. This well is located inside a locked pump house.

The LIGO site is located in the Central Plateau of the Hanford Site through a permit dated August 23, 1993, and memorandum of understanding August 26, 1993 (as amended), between the National Science Foundation (NSF) and DOE. The site is being operated by the California Institute of Technology. The following information was provided to DOE on April 27, 2004, by the POC at LIGO.

LIGO has one water supply well under a "Public Water System" operating permit from the State of Washington. Well No. 2 (699-S2-34B) is used as the source of water supply for domestic water, fire water, landscape irrigation, etc. This well was drilled in 1994 and placed in use in 1997. It is 1,941 ft deep according to the well log. The identity number for Well No.2 is AHA157, B8101, Hanford well name 699-S2-34B. This well has administrative control processes/procedures in place, i.e., lock and within control, and adequate signs and barriers to ensure their protection. LIGO provides drinking water samples to the WDOH on a monthly basis. These samples, which are representative of drinking water quality, are taken after the water is treated using reverse osmosis. The well is also sampled by DOE prior to treatment and analyzed for Hanford sitewide constituents including tritium, iodine-129, and major ions (specifically for nitrate). Total dissolved constituents are very high in the well; however, no Hanford-derived contaminants are observed. The water prior to treatment exceeds the maximum contaminant level (4,000 ug/L) for fluoride (Figure 4-5), which occurs from natural sources in the deep confined aquifer. The most recent value, from a sample collected in

January 2004, was 7,600 ug/L. However the level of fluoride is below the drinking water standard after treatment.



**Figure 4-5. 699-S2-34B Fluoride Level (prior to treatment)**

## **SECTION 5: ASSESSMENT OF HANFORD SITE EXCAVATION PERMIT PROCESS**

The purpose of this area of the assessment were to 1) determine if there were any instances of unauthorized, non-remediation-related excavation work performed on or near any contractor-managed waste site and 2) determine how well the excavation process took into account the available information regarding waste sites to ensure the protection of human health and the environment.

The Hanford Site excavation permit is used as the primary mechanism for authorizing excavation activities at the Hanford Site to avoid unplanned disturbance or infiltration. As part of their contract, the excavation permit process is the responsibility of FHI and is being administered by Fluor Federal Services using FHI procedures. In accordance with DOE health and safety requirements, which adopt Federal Regulations 29 CFR 1926, Subpart P, "Safety, and Health Regulations for Construction," excavation permits are required for soil disturbances of any depth that use machinery to perform the digging. If hand digging, excavation permits are required for soil disturbances greater than 12 in. The assessment of the Hanford Site excavation process for non-remediation actions performed near waste site locations required an evaluation to confirm that the process was working. The evaluation focused on the issuance of excavation permits for non-remediation-related work being conducted near the waste sites. FHI and BHI performed individual assessments. The evaluation indicated that the excavation permitting process is working effectively by preventing unauthorized excavations into the waste sites. The results of their evaluations are discussed below.

*The evaluation indicated that the excavation permitting process is working effectively by preventing unauthorized excavations into the waste sites.*

### **ERC Excavation Permit Process Evaluation**

BHI conducted an evaluation of the excavations conducted and permits issued in CY 2003 to verify that approved permits were in place for sites undergoing excavations. BHI identified 35 excavation permits that were issued (see Table 5-1). Of the 35 excavation permits issued, three were issued for non-remediation activities: These permits were issued to 1) remove an electrical box from within the ERDF Queue; 2) repair a 100-N fire hydrant ; and 3) repair a leaking potable water line. However, none of these activities was conducted at or near a waste site. Additionally, BHI confirmed the presence of approved excavation permits for waste sites that were remediated in CY 2003. The BHI assessment found that there were no instances of unauthorized excavations work performed.

### **FHI Excavation Permit Process Evaluation**

An evaluation of the FHI excavation permits issued in CY 2003 was conducted to determine if any non-remediation-related intrusive work was performed on or near

any FHI-managed waste sites. Approximately 30 sites were identified where excavation permits were issued, and all the excavation permits were reviewed (see Table 5-1). Only three of these waste sites were managed under CERCLA remediation. These permits were all signed by the project environmental compliance officer. The excavation permit does not contain waste site information but indicates that, where applicable, the WIDS database was searched. The FHI assessment found that there were no instances of unauthorized excavations work performed.

**Table 5-1. 2004 Excavation Permits Evaluated**

Excavation Permit Number	Location or Site Name
<b>ERC Excavation Permits Evaluated</b>	
DAN-2154	Confirmatory Sampling of 100 H Remaining Sites
DAN-2155	Confirmatory Sampling of 100 IU (600 Area) Remaining Sites
DAN-2160	Core Sample from w/in Cell #5
DAN-2167	Demolition of 1720HA Arsenal Building at 100 H
DAN-2179	Removal of an Electrical Box from within the ERDF Queue
DAN-2187	<i>Additional</i> Confirmatory Sampling of 100 IU (600 Area) Remaining Sites
DAN-2200	1304N & 1300 N D&D
DAN-2200-1	Blk 9 Revisions
DAN-2209	100 D/DR Queue
DAN-2214	100 N Borrow Pit
DAN-2217	ERDF Expansion 5&6
DAN-2221	ERDF Drainage Trench
DAN-2234	B/C Conformatory Sampling
DAN-2235	B/C Pipelines Confirmatory Sampling
DAN-2243	Expansion Pit 6
DAN-2249	ERDF Expansion 5&6 Intersection Sign
DAN-2250	RAWD 116-KE&KW-1 Sites
DAN-2260	Hand excavation of one end of a culvert @ 100N
DAN-2262	Expansion Pit 9
DAN-417,421,1387,1444,1452,1672,1874	300-FF-1 Multiple Permits issued for Remedial Action Activities in the 300-FF-1 OU
DAN-2277	100 N Hydrant Water Line
DAN-2278	BPA Powerpole Relocate
DAN-2298	Use of Pit 25
DAN-2300	Repair of leaking 6-in. water line flooding 1330N Facility
DAN-2305	Use of Pit 23
DAN-2306	PIT 34 Expansion
DAN-2311	Remediation of two decon pads within 105-F Reactor Fence Area

Excavation Permit Number	Location or Site Name
DAN-2324	Prep for 105-D ISS
DAN-2332	Sampling 9 Remaining Sites 600-5, 109, 111, 120, 125, 127, 188, and UPR-600-16
<b>FHI Excavation Permits Evaluated</b>	
DAN-2116	One borehole south of 200 West Area, one east of 241-AP Tank Farm, one northwest of 207-B
DAN-2156	200 East Area, adjacent to 241-A and 241-C Tank Farms
DAN-2164	Southwest corner of 23rd Street and Dayton Avenue
DAN-2168	200 West Area, adjacent to the south side of the 216-Z-9 crib
DAN-2180	West of 100-H Area, adjacent to well 699-96-43
DAN-2196	400 Area, North of 4702 Bldg.
DAN-2203	100-N Area and 100-K Area
DAN-2204-1	Wells located west and northwest of U Plant
DAN-2220	South of 200 West Area, southwest of Route 240 on ALE
DAN-2225	Approximately 870 m north of 233-S (S-Plant)
DAN-2239	BC Cribs and Trenches Area, south of RT 4A, south of 200 East Area
DAN-2247	100-D Area, near 183-D
DAN-2248	200 West Area, north of 216-Z-9 crib
DAN-2257	Soil samples around 221-U
DAN-2258	200 West Area, west of Z Plant
DAN-2263	Near the perimeter of the 200 West Area
DAN-2265-1	200 West Area, east and southeast of 221-U
DAN-2266	200 West Area, waste sites near U Plant
DAN-2267a	Soil probe sampling at 216-U-1 & 2, 216-U-8 and 216-U-12
DAN-2288	600 Area, various well locations
DAN-2293	Along the shoreline of the Columbia River from 300 Area to 100 B/C Area
DAN-2295	East of the 200 West Area perimeter fence, north of original Cross Site Transfer Line
DAN-2308	Adjacent to 241-U, 241-B, 241-BX and 241-AZ
DAN-2309	200 West Area locations near PFP and 216-U-17 and also east of 200 West Area in 600 Area
DAN-2372	Northeast portion of 200 East Area
DAN-2373	200 West Area, east of 216-Z-9 crib
DAN-2374	East of 200 East Area
DAN-2376	200 East and 200 West Areas
DAN-2388	200 East Area, near 1st Street
DAN-2413	Inside 200 West Area, near 221-U

## **SECTION 6: ASSESSMENT OF REAL PROPERTY CONTROLS FOR THE HANFORD SITE**

DOE-RL conducted an evaluation of the real estate process and procedures for implementing real property controls, performed an inventory of existing real property controls (e.g., deeds) filed with the Benton County Auditor's Office, and evaluated the status of property transfers that were conducted on the Hanford Site. The assessment addressed adequacy of controls to ensure that: 1) land use is compatible with hazards, and 2) any changes in the use of land or when land is transferred out of federal control are restricted and/or controlled to ensure consistency with OU IC requirements. The following information on the realty program and an assessment of the appropriate contractors' procedures is being included as part of this year's overall IC assessment as requested by the regulators.

### **Real Estate Program**

DOE-RL has a Real Property Program for the management and disposal of real estate at the Hanford Site. This includes disposal by sale or lease, licenses, permits and easements, acquisition of commercial space through leases, and disposition of other site-use requests. The sole responsibility for approval and implementation of this program lies with the DOE-RL Realty Officer. Pursuant to the Secretary of Energy, delegation is provided to each DOE field office, which requires all real estate actions be subject to approval by a DOE-certified realty specialist. RL currently has a Realty Officer certified in Land Management and Disposal to meet this responsibility.

The program addresses day-to-day real estate activities and decisions, including changes in use, acquisition of commercial space, out leasing, disposal, project integration, and information management. The components of the program and means of implementation are specified in the RL Information Management System (RIMS) Real Estate and Real Property crosscutting processes, which include involvement by a cross section of RL staff and subject matter experts. In addition, the FHI Real Estate and Site Planning group supports RL in land, facility transfers (e.g., to private parties), siting of property (such as relocating mobile offices), or identifying areas suitable for construction on the Hanford Site. FHI procedures address siting and land uses on the Hanford Site.

This crosscutting process contains RL's roles and responsibilities to meet requirements in DOE Order, 430.1B, Real Property Asset Management; the Federal Property Management Regulations (FPMR), 41 CFR 101 and 102; the Federal Acquisition Regulations (FAR); and other requirements in managing real property at the Hanford Site. Further guidance on real property management is provided in the DOE Desk Guide for Real Estate Personnel, dated June 2000. All realty officers are certified through the DOE certification program.

## Real Property Controls

The use of land at OUs and the waste sites is restricted and controlled in accordance with the ICs requirements of the CERCLA ROD documents. ICs are documented in the WIDS and CVPs, which are used to manage and control the use of real property to ensure that: 1) the use of land is compatible with hazards; and 2) any changes in the use of land or when land is transferred out of federal control are restricted and/or controlled to ensure consistency with OU ICs requirements.

A process to identify IC restrictions placed on a site during the property transfer exists. The WIDS currently has a data field called "Post Closure Requirements" for noting ICs (e.g., deed restrictions) and other requirements for post closure. The Report of Excess (GSA Form SF-118) prepared for a property transfer is used to document the IC restrictions. The existing RL and BHI procedures require deed restrictions to be registered with the county only if there is land or property transferred outside of federal control or as required by other regulations. The contents of certain deeds would comply with CERCLA 120(h) and appropriate property restrictions and controls in accordance with the ICs requirements of the CERCLA ROD documents, WIDS, and CVP.

Only six deed restrictions have been recorded on the Hanford Site. The notices were recorded based on non-CERCLA regulatory requirements such as RCRA and the Clean Air Act. Some of the associated sites were remediated under CERCLA authority. Table 6-1 provides a list of deed restrictions required under WAC 173-303 and under the terms of 40 CFR 61.151 for an asbestos-containing landfill. All deeds were recorded at the Benton County Auditor's Office.

Management Procedure, MP-14, under the Hanford Federal Facility Agreement and Consent Order Action Plan (Tri-Party Agreement) establishes a mechanism for documenting the life-cycle of Waste Management Units and Potential Waste Management Units at the Hanford Site. To accomplish this, MP-14 establishes the responsibilities and the processes required to maintain and update waste site information contained in WIDS database and for updating Appendix C of Tri-Party Agreement Action Plan based upon the contents of the WIDS. Evaluation of the WIDS and RL real estate files revealed two observations: 1) recorded deeds were not documented in WIDS, specifically under the post closure requirements field, and 2) not all recorded deeds were included in the RL real estate files with documentation that the recording occurred at the Benton County Auditor's Office, as identified in Table 6-1. Copies of these documents are provided in Appendix D.

Further evaluation of the BHI's procedures indicated that deed information should have been included in WIDS. FHI procedures reference the TPA-MP-14 for CERCLA

*Evaluation of the WIDS and RL real estate files revealed two observations: 1) recorded deeds were not documented in WIDS, specifically under the post closure requirements field, and 2) not all recorded deeds were included in the RL real estate files with documentation that the recording occurred at the Benton County Auditor's Office.*

*The use of the Benton County Auditor's Office, WIDS, and RL real estate records will help ensure the retrieval and use of deeds are perpetuated.*

cleanup and closeout. MP-14 does not specifically call out requirements for a deed notifications process in the event of transfer of ownership from the federal government. In response to the above observations, copies of the deeds were obtained and are now being maintained with the RL real estate records. All real estate records associated with transferring property are provided at the time of transfer. The use of the Benton County Auditor's Office, WIDS, and RL real estate records will help ensure the retrieval and use of deeds are perpetuated. The contractors' procedures will need to be modified to allow better use of WIDS in addressing this concern. No immediate action is required. However, corrective actions for this observation will be completed as identified in the "2004 Summary of IC Evaluations and Recommended Improvements" table at the end of this report. DOE will reevaluate the MP-14 procedure to ensure appropriate institutional control information is included on a waste site reclassification form and to ensure institutional controls restricting access or use of land or groundwater resources are better recorded in WIDS.

**Table 6-1. Notice in Deeds on the Hanford Site**

Title And WIDSs Site Code	Certification Of Recording	Area/Location	Deed Restriction Description
100-D Ponds 120-D-1	Benton Co. Auditor: File No. 1999-025478 08/06/1999	100-D Area Located in Section 15, T14N, R26E	The 100-D Ponds were used to manage dangerous waste pursuant to WAC 173-303. The DOE-RL closed this facility by removal of dangerous waste constituents from the site during closure activities, meeting "clean closure standards under WAC 173-303-610 (2)(b). Groundwater contamination attributable to sources upgradient of the 100-D Ponds remains beneath the 100-D Ponds above cleanup standards at the time of preparation of this record of survey. Therefore, use of this groundwater is restricted until such time as cleanup standards are met, or it has been determined that cleanup is not necessary.
183-H Solar Evaporation Basins 116-E-6	Benton Co. Auditor: File No. 1996-29990 12/04/1996	100-H Area Located in Section 18, T14N, R27E	DOE-RL has disposed of hazardous and/or dangerous waste under the terms of regulations promulgated by the EPA and Ecology at the location known as the 183-H Solar Evaporation Basins. Future use of this described land is restricted under the

Title And WIDSs Site Code	Certification Of Recording	Area/Location	Deed Restriction Description
			terms of 40 CFR 264.117 (c) and WAC 173-303-610 (7) (d).
<p>1324-NA Percolation Pond 120-N-1</p> <p>and</p> <p>1324-N Surface Impoundment 102-N-2</p>	<p>Benton Co. Auditor: File No. 2003-013391 03/24/2003</p>	<p>100-N Area Located in Section 28, T14N, R26E</p>	<p>The 1324-NA Percolation Pond and the 1324-N Surface Impoundment were used to manage dangerous waste pursuant to WAC 173-303. The DOE-RL closed these units in December 2002 by removing wastes from the site during closure activities meeting soil "clean closure" standards under WAC 173-303-610 (2)(b). Groundwater contamination attributable to these facilities remains above the secondary drinking water standard for sulfate. Therefore, use of this groundwater is restricted until such time as cleanup standards are met.</p>
<p>300 Area Process Trenches (APT) 316-5</p>	<p>Benton Co. Auditor: File No. 1998-025988 09/03/1998</p>	<p>300 Area Located in Section 2, T10N, R28E</p>	<p>The 300 APT was used to manage dangerous waste pursuant to WAC 173-303. The DOE-RL closed this facility in May 1998 by removal of dangerous waste constituents from the site meeting "clean closure" standards under WAC 173-303-620 (2)(b). Radioactive contamination remains in the unit above unrestricted use limits. Groundwater contamination attributable to the 300 Area Process Trenches remains above cleanup standards at the time of preparation of this record of survey. Therefore, use of this groundwater is restricted until such time as cleanup standards are met.</p>
<p>Solid Waste Landfill 600 CL</p>	<p>Benton Co. Auditor: File No. 1997-006444 03/25/1997</p>	<p>600 Area Located in Sections 20 and 29, T12N, R27E</p>	<p>DOE-RL has disposed of asbestos-containing material under the terms of regulations promulgated by the EPA and Ecology at a location known as the Solid Waste Landfill. The future</p>

Title And WIDSs Site Code	Certification Of Recording	Area/Location	Deed Restriction Description
			use of the Solid Waste Landfill is restricted under the terms of 40 CFR 61.151 as an asbestos-containing landfill.
Horn Rapids Landfill HRD	Benton Co. Auditor: File No. 1997-008784 04/18/1997	1100 Area Located in Section 15, T10N, R28E	DOE-RL has disposed of hazardous and/or dangerous waste under the terms of regulations promulgated by EPA and Ecology at a location known as the Horn Rapids Landfill. The future use of the Horn Rapids Landfill is restricted under the terms of 40 CFR 61.151 as an asbestos-containing landfill.

**Property Transfers**

The RL Realty Officer has the responsibility for land transfers, sale, or lease of property, and required notifications to EPA and Ecology. As provided in RL’s internal procedures, the Realty Office would make necessary notifications regarding transfers of property out of federal ownership.

Currently, there are two transfer projects underway at the Hanford Site. Notifications to the EPA and Ecology were provided for both of the following transfers:

- 1) RL is considering the transfer of administrative responsibility of 267 square miles of the Hanford Reach National Monument (HRNM) (ALE, McGee Ranch, Riverland, and Wahluke Slope) to the U.S. Fish and Wildlife Service. The transfer is estimated to take place by September 30, 2005. This land is owned by the United States and would remain under United States ownership. This action is not technically a land transfer action. However, equivalent process of notification with EPA and Ecology is being followed.

*DOE will reevaluate the MP-14 procedure to ensure appropriate institutional control information is included on a waste site reclassification form and to ensure institutional controls restricting access or use of land or groundwater resources are better recorded in WIDS.*

- 2) Initiated in 2001, RL is in the process of transferring 77 acres of land located adjacent to and directly east of the Hazardous Materials Management and Emergency Response Training Center (HAMMER) to the National Utility Training Services (NUTS). NUTS is affiliated with the Northwest Public Power Association (NWPPA), which is a non-profit organization. NUTS has made improvements to the property to partner with Bonneville Power Administration (BPA) and approximately 200 public utilities, including four local public utilities (Benton Public Utility District (PUD), Franklin PUD, city of Richland, and Douglas PUD) for the purpose of providing education and training services. The goal of NUTS is to establish a state-of-the-art training facility for line, substation, meter, and relay personnel, along with electricians, engineers, and office personnel. A 90-day notification was given on May 18, 2004, to EPA and Ecology prior to U.S. General Services Administration completing the subject transfer to NUTS.

## SECTION 7: ASSESSMENT OF AUDIENCE AND NEEDS OF POST-CLEANUP SITE INFORMATION

The scope of this evaluation was limited to the processes of entering cleanup information into WIDS and identifying of ICs associated with the cleanup action. The purpose of this area of the assessment was to determine the accuracy and completeness of data in the WIDS, value of the information to potential site users, accessibility of the information, and whether the data were included in the Administrative Records (AR). Table 7-1 summarizes those CVPs evaluated in the WIDS database and within the Administrative Record. Additionally, any post-closure institutional control requirements identified in WIDS were noted.

DOE contractors prepare a TPA-MP-14 reclassification form with an attached CVP and submit it to the Environmental Information System organization for data entry. For purposes of this assessment, an evaluations of the WIDS and AR were conducted to ensure that necessary IC language for waste sites identified in the CVP were adequately reflected in WIDS and that the CVPs were placed in the AR.

The ERC evaluation focused on seven randomly chosen waste sites that were “closed out” in CY 2003. The WIDS summary reports were obtained for each of the seven waste sites and used to retrieve the CVP numbers and to confirm any post-closure restrictions to the waste sites. The CVP number was entered into the AR, where the CVP was then confirmed against the information in WIDS. The results of contractors’ evaluations are as follows: WIDS contained the most recent information (i.e., reference to the completed CVPs) for the waste sites evaluated; WIDS reflected the appropriate post-closure IC language for each of the seven waste sites evaluated; and all the associated CVPs were included in the AR and were retrievable.

Overall, maintenance of the WIDS database and the AR was found to be effective. The documents within the AR were retrieved and printed without incident. However, improvements could be made for locating documents retained in the AR, as the current format is difficult to navigate through.

To date, FHI has not submitted any CVPs or Waste Site Reclassification forms. During this assessment, 13 CVPs prepared by other site contractors were reviewed. The CVPs described cleanup of 29 waste sites. Information from the CVPs was entered into WIDS. Three CVPs, describing the cleanup of 15 waste sites, identified ICs. These ICs also were addressed in WIDS. ICs were not identified for waste sites addressed by the remaining 10 CVPs. The Waste Site Reclassification forms for two OUs addressing 13 waste sites were evaluated. All the information regarding unrestricted use of shallow

*WIDS contained the most recent information (i.e., reference to the completed CVPs) for the waste sites evaluated.*

*WIDS reflected the appropriate post-closure IC language for each of the seven waste sites evaluated.*

*All the associated CVPs were included in the AR and were retrievable.*

*Overall, maintenance of the WIDS database and the AR was found to be effective.*

zone soil (surface to 15 ft) found in all of the Waste Site Reclassification forms was incorporated into WIDS.

**Table 7-1. WIDS—CVP Evaluation Summary**

WIDS Site Number	CVP Number	Institutional Controls Identified in WIDS	CVP in Administrative Record?
116-F-1	CVP-2002-00009	No ICs identified/required.	Yes
116-KW-3	CVP-2004-00001	No ICs identified/required.	Yes
116-F-10	CVP-2003-00003	Yes, "Institutional controls to prevent uncontrolled drilling or excavation into the deep zone soils are required."	Yes
316-1 <sup>1</sup>	CVP-2003-00002	Yes, "Institutional controls limiting land use to industrial and preventing uncontrolled drilling or excavating are required."	Yes
628-4	CVP-2003-00001	Yes, "Institutional controls preventing uncontrolled drilling or excavating are required."	Yes
300-45	BHI-01136	No ICs identified/required.	Yes
100-B-5	CVP-2003-00014	Yes, "Institutional controls to prevent uncontrolled drilling or excavation into the deep zone (i.e., below 4.6m [15 ft]) are required."	Yes
1607-B7	CVP-2003-00004	No ICs identified/required	Yes
1607-B8	CVP-2003-00005	No ICs identified/required	Yes
1607-B9	CVP-2003-00006	No ICs identified/required	Yes
1607-B10	CVP-2003-00007	No ICs identified/required	Yes
1607-B11	CVP-2003-00008	No ICs identified/required	Yes
118-DR-2	CVP-2003-00016	No ICs identified/required	Yes
100-F-19 <sup>2</sup>	CVP-2001-00003	Yes, "Institutional controls to prevent uncontrolled drilling or excavation into deep zone soils are required."	Yes
100-C-3	CVP-2003-00009	No ICs identified/required	Yes
100-F-25 <sup>3</sup>	CVP-2003-00010	No ICs identified/required	Yes

<sup>1</sup> Additional waste sites evaluated with CVP-2003-00002 included 300 RFBP, 300-262, UPR-300-32, UPR-300-33, UPR-300-34, UPR-300-35, UPR-300-36, UPR-300-37, and UPR-300-FF-1.

<sup>2</sup> Additional waste sites evaluated with CVP-2001-00003 included 116-F-11, UPR-100-F-1, and 100-F-29.

WIDS Site Number	CVP Number	Institutional Controls Identified in WIDS	CVP in Administrative Record?
100-F-23 <sup>4</sup>	CVP-2003-00011	No ICs identified/required	Yes
100-F-24 <sup>5</sup>	CVP-2003-00012	No ICs identified/required	Yes

Although the assessment showed that the CVP IC information is being reflected in WIDS, a broader question remains regarding whether the IC statements in the CVPs (and associated WIDS reclassification forms) are consistent and sufficient. The CY 2003 Annual IC Assessment identified discrepancies in the IC information in WIDS, with inconsistencies noted between similar waste sites. To address these issues, RL recommends establishing a consistent set of post-cleanup land-use controls that can be used in future RODs, CVPs, closeout reports, waste site reclassification forms, and WIDS entries.

<sup>3</sup> Additional waste sites evaluated with CVP-2003-00010 included 146-FR and UPR-100-F-3

<sup>4</sup> Additional waste sites evaluated with CVP-2003-00011 included 141-C Drywell.

<sup>5</sup> Additional waste sites evaluated with CVP-2003-00012 included 145-F Drywell.

## SECTION 8: ASSESSMENT OF DELETED PORTIONS OF NPL OR TRANSFERRED PROPERTIES FROM DOE OWNERSHIP

As of this assessment period, one NPL site and two other OUs have been deleted from the NPL listings. They include the 1100 Area NPL site and 100-IU-1 and 100-IU-3 OUs at the HRNM. These waste sites were assessed to determine if the ICs stipulated in the ROD and the close out report have been effectively implemented. Following is a discussion on the deleted 1100 Area NPL and deleted operable units from the 100 Area NPL. See Table 8-1 for details.

The 1100 Area was divided into four operable units. All the remedies have been completed, and the 1100 Area was deleted from the NPL on September 30, 1996. The remedies at three of the OUs (1100-EM-2, 1100-EM-3, and 1100-IU-1) allow for unrestricted use and unlimited exposure. Hazardous substances remain in one operable unit (1100-EM-1) at levels that do not allow for unlimited use and unrestricted exposure. The Horn Rapids Landfill was used for asbestos disposal and was closed in accordance with asbestos regulations. Also, the groundwater in the vicinity of the Horn Rapids Landfill is contaminated with trichloroethene; the remedy was to allow the contamination to attenuate. Institutional controls are a component of the selected remedies, specifically to maintain the landfill fence and cap and to prevent use of the contaminated groundwater. The assessment found that the existing controls, i.e., fence, signage, and the cap, continue to provide adequate protection of the waste site and the groundwater.

*The assessment found that the existing controls, i.e., fence, signage, and the cap continue to provide adequate protection of the waste site and groundwater.*

EPA/ROD/R10-93/063 states that ICs, including deed and groundwater use restrictions, will be implemented to notify the public that the Horn Rapids Landfill is an asbestos-containing landfill, and to prevent groundwater use or drilling of new wells until cleanup goals are attained. Signs warning the public that it is an asbestos-containing landfill are present at the Horn Rapids Landfill. The fence around the Horn Rapids Landfill was in good condition. Additionally, five groundwater monitoring wells were installed in August 1995 to monitor the natural attenuation alternative as the remedial action for the trichloroethene plume beneath the Horn Rapids Landfill site. The 200 Area S&M program conducts annual surveillance on this site.

Waste sites located in the 100-IU-1 and 100-IU-3 OUs at the HRNM were deleted from the NPL on July 8, 1998. The EPA notice of intent to delete OUs 100-IU-1 and 100-IU-3 of the Hanford Site 100 Area Superfund Site from the NPL (Federal Register Volume 63, Number 130, *National Oil and Hazardous Substance Contingency Plan; National Priorities List*, July 8, 1998) did not specify any ICs for the deleted waste sites because these OUs were released for unrestricted use. During this assessment period, no waste sites have been transferred out of DOE ownership. In 2001, RL initiated the transfer of 77 acres of land located adjacent to and directly east of HAMMER to NUTS. This property was not associated with any known waste sites or an NPL. A 90-day

notification was given on May 18, 2004, to EPA and Ecology prior to U.S. General Services Administration completing the subject transfer to NUTS.

**Table 8-1. List of Waste Sites Deleted from the NPLs**

<b>Operable Waste Unit</b>	<b>Lead Regulatory Agency</b>		
	<b>Waste Unit Aliases</b>	<b>Unit Type</b>	<b>Status</b>
<b>1100-EM-1</b>	<b>EPA</b>	<b>CERCLA Past Practice Unit (CCP)</b>	
1100-1	1100-1, Battery Acid Pit, 1171 Building Sandpit Spills, UPR-1100-1	Depression/Pit (nonspecific)	Deleted From NPL (9/30/1996)
1100-2	1100-2, Paint and Solvent Pit, UPR-1100-2	Depression/Pit (nonspecific)	Deleted From NPL (9/30/1996)
1100-3	1100-3, Antifreeze and Degreaser Pit, Antifreeze Pit, UPR-1100-3	Depression/Pit (nonspecific)	Deleted From NPL (9/30/1996)
1100-4	1100-4, Antifreeze Tank Site, UN-1100-4, 1171 Building Spills, UPR-1100-4	Storage Tank	Deleted From NPL (9/30/1996)
1100-11	1100-11, Ephemeral Pool	Pond	Deleted From NPL (9/30/1996)
HRD	HRD, Horn Rapids Disposal, ITT Waste Disposal Landfill, Horn Rapid Landfill, Gravel Pit #4, Gravel Pit #5	Sanitary Landfill	Deleted From NPL (9/30/1996)
UPR-1100-5	UPR-1100-5, UN-1100-5, 1171 Parking Lot	Unplanned Release	Deleted From NPL (9/30/1996)
UPR-1100-6	UPR-1100-6, Discolored Soil Site, UN-1100-6	Depression/Pit (nonspecific)	Deleted From NPL (9/30/1996)
<b>1100-EM-2</b>	<b>EPA</b>	<b>CPP</b>	
700 WST	700 WST, 700 Area Waste Solvent Tank, 700 Area Underground Waste Solvent Tank	Storage Tank	Deleted From NPL (9/30/1996)
1100 BSUHR	1100 BSUHR, 1100 Area Bus Shop Underground Hoist Rams	Storage Tank	Deleted From NPL (9/30/1996)
1100 HWSA	1100 HWSA, 1100 Area HWSA, 1100 Area Hazardous Waste Storage Area	Storage Pad (<90 day)	Deleted From NPL (9/30/1996)
1100 UOT4	1100 UOT4, 1100 Area Used Oil Tank 4, (Tank #4) 1171-4	Storage Tank	Deleted From NPL (9/30/1996)
1100 UOT5	1100 UOT5, 1100 Area Used Oil Tank 5, 1100 Area Underground Used Oil Tank ((Tank #5), 1171-5	Storage Tank	Deleted From NPL (9/30/1996)
1100 UOT6	1100 UOT6, 1100 Area Used Oil Tank 6, 1100 Area Underground Used Oil Tank (Tank #6), 1171-6	Storage Tank	Deleted From NPL (9/30/1996)
1100 USPT2	1100 USPT2, 1100 Area Underground Steam Pad Tank 2, 1171-2	Storage Tank	Deleted From NPL (9/30/1996)
1100 USPT3	1100 USPT3, 1100 Area Underground Steam Pad Tank 3, 1171-3	Storage Tank	Deleted From NPL (9/30/1996)

<b>Operable Waste Unit</b>	<b>Lead Regulatory Agency</b>		
	<b>Waste Unit Aliases</b>	<b>Unit Type</b>	<b>Status</b>
1100-8	1100-8, 1171 Hoist Oil Leak	Unplanned Release	Deleted From NPL (9/30/1996)
1100-19	1100-19, Tar Flow and Stained Sands Areas	Unplanned Release	Deleted From NPL (9/30/1996)
<b>1100-EM-3</b>	<b>EPA</b>	<b>CPP</b>	
3000 JYHWSA	3000 JYHWSA, 3000 Area Jones Yard HWSA, 3000 Area Jones Yard Hazardous Waste Storage Area, Hazardous Waste Storage Area (Jones Yard)	Storage Pad (<90 day)	Deleted From NPL (9/30/1996)
3000 UUOT	3000 UUOT, 3000 Area Underground Used Oil Tank, 3000-12	Storage Tank	Deleted From NPL (9/30/1996)
3000/1208 HWSA	3000/1208 HWSA, 3000 Area 1208 HWSA, 3000 Area 1208 Building Hazardous Waste Storage Area, Hazardous Waste Storage Area (1208)	Storage Pad (<90 day)	Deleted From NPL (9/30/1996)
3000/1226 HWSA	3000/1226 HWSA, 3000 Area 1226 HWSA, 3000 Area 1226 Building Hazardous Waste Storage Area, Hazardous Waste Storage Area (1226)	Storage Pad (<90 day)	Deleted From NPL (9/30/1996)
3000/1234	3000/1234, 1234 Laydown Yard, 3000 Area 1234 Storage Yard, 1234 Building Storage Yard	Storage	Deleted From NPL (9/30/1996)
3000/1240 HWSA	3000/1240 HWSA, 3000 Area 1240 HWSA, 3000 Area 1240 Building Hazardous Waste Storage Area, Hazardous Waste Storage Area (1240)	Storage Pad (<90 day)	Deleted From NPL (9/30/1996)
UPR-3000-1	UPR-3000-1, UN-3000-1, Release from the Physical Science Laboratory	Unplanned Release	Deleted From NPL (9/30/1996)
<b>1100-IU-1</b>	<b>EPA</b>	<b>CPP</b>	
600-28	600-28, Rattlesnake Construction Dump	Dumping Area	Deleted From NPL (9/30/1996)
600-112*	600-112, 6652-C SSLAST, 6652-C SSL, Active Septic Tank, 6652-C Space Science Laboratory Active Septic Tank	Septic Tank	Deleted From NPL (9/30/1996)
600-113	600-113, 6652-C SSLIST, 6652-C SSL Inactive Septic Tank, 6652-C Space Science Laboratory Inactive Septic Tank	Septic Tank	Deleted From NPL (9/30/1996)
600-114	600-114, 6652-G ALEFSBST, 6652-G ALE Field Storage Building Septic Tank, 6607-14B	Septic Tank	Deleted From NPL (9/30/1996)
600-115	600-115, 6652-I ALEHST, 6652-I ALE Headquarters Septic Tank, 6652-I Arid Lands Ecology (ALE) Headquarters Septic Tank, 6607-14	Septic Tank	Deleted From NPL (9/30/1996)
600-116	600-116, RMNMB, Rattlesnake Mountain Nike Missile Base	Military Compound	Deleted From NPL (9/30/1996)
600-270	600-270, Horseshoe Landfill, Nike Missile	Dumping Area	Deleted From NPL (9/30/1996)
600-271	600-271, Nike Missile Base Landfill	Dumping Area	Deleted From NPL (9/30/1996)

<b>Operable Waste Unit</b>	<b>Lead Regulatory Agency</b>		
	<b>Waste Unit Aliases</b>	<b>Unit Type</b>	<b>Status</b>
<b>100-IU-1</b>	<b>EPA</b>	<b>CPP</b>	
600-44	600-44, Herbicide/Pesticide Empty Container Pile, Enyert Well Empty Pesticide Container Dump, 600-68	Dumping Area	Deleted From NPL (7/8/1998)
600-101	600-101, RRCWP, Riverland Railroad Car Wash Pit	Depression/Pit	Deleted From NPL (7/8/1998)
600-102	600-102, 600 AMBS, 600 Area Army Munitions Burial Site	Burial Ground	Deleted From NPL (7/8/1998)
600-274	600-274, 2,4-D Can Site at McGee Ranch,	Dumping Area	Deleted From NPL (7/8/1998)
<b>100-IU-3</b>	<b>Ecology</b>	<b>CPP</b>	
600-8	600-8, MIL - H-06C, Control Center for Battery A Nike Missile, Wahluke Slope Nike Missile Base, WSNMB, 600-103 (Part)	Military Compound	Deleted From NPL (7/8/1998)
600-9	600-9, MIL - H-06L, Battery A Nike Missile Installation Launch Site, Wahluke Slope Nike Missile Base, WSNMB, 600-103 (Part)	Military Compound	Deleted From NPL (7/8/1998)
600-104	600-104, USBR, USBR 2,4-D Burial Site,	Burial Ground	Deleted From NPL (7/8/1998)

## SECTION 9: 2004 SUMMARY OF IC EVALUATIONS AND RECOMMENDED IMPROVEMENTS

**Table 9-1 Summary of Evaluations and Recommended Improvements**

Number	Description of Observation	Due Date	Corrective Action
1. IC-04-1	<p><b>Signage;</b> Several newly installed haul roads in the 100 Area that provide access to waste sites were found not be adequately signed (e.g., no warning sign located on road, which leads to a waste site[s]).</p>	12-31-04	<p>BHI is developing a strategy for maintaining signage on newly installed haul roads that are accessible from the main arterial roads while remediation is ongoing.</p>
2. IC-04-1A	<p>Concerns have been raised by EPA and others regarding the effectiveness of institutional controls in the 300 Area due to its proximity to the City of Richland and the fact that it is outside the Wye Barricade.</p>	3-31-05	<p>Evaluate the effectiveness of the Surveillance and Maintenance Program for the 300 Area. Provide a draft report on nature and extent of existing administrative controls intended to protect individuals from environmental hazards posed by waste sites and contaminated facilities in the 300 Area (i.e., entry restrictions, warning signs, and fences). Identify and implement actions necessary to provide improved access control to mitigate risks from aging structures and waste sites in the 300 Area.</p>
3. IC-04-6	<p><b>Real Property Controls:</b> BHI procedures required 1) deed information to be included in WIDS, but it was not done; and 2) deed notifications to be transmitted to the RL Realty Officer for review and approval, but does not require confirmation that the notice has actually been recorded the Benton County Auditor's Office.</p> <p>FHI procedures reference the TPA-MP-14 for CERCLA cleanup and closeout. MP-14 does not specifically call out requirements for a deed notifications process in the event of transfer of ownership from the federal government. Contractors' procedures do not address documentation of recorded deeds in WIDS.</p>	6-30-05	<p>DOE will reevaluate the MP-14 procedure to ensure institutional controls restricting access or use of land or groundwater resources are recorded in WIDS and on Waste Site Reclassification forms and present a plan for updating the procedure to EPA and Ecology.</p>

Number	Description of Observation	Due Date	Corrective Action
4 IC-04-7	<p><b>Post-Cleanup Site Information:</b> The WIDS database and the AR were found to be adequate and effective in identifying IC requirements for units in post-closure, when applicable.</p> <p>Overall, maintenance of the WIDS database and the AR was found to be effective. The documents within the AR were retrieved and printed without incident. However, improvements could be made for locating documents retained in the AR, as the current format is difficult to navigate through.</p> <p>The regulators have expressed concerns over the usability and accessibility of database to support the current and future cleanup decisions.</p>	6-30-2005	DOE will assess the audience and needs for post-cleanup information and present a plan to EPA and Ecology for improving access to this information.
5 IC-04-7A	Inconsistencies in IC language have been noted between different CERCLA decision documents and this has resulted in inconsistent cleanup verification packages (CVPs), Waste Site Reclassification Forms, and Waste Information Data System (WIDS) site descriptions.	3-31-05	Develop a standard data dictionary of Hanford Site Institutional Controls for use in future CERCLA decision documents, CVPs, Waste Site Reclassification Forms, and WIDS site descriptions.

(Notes: The numbers associated with the findings are intended to correlate with the topical sections presented in this report. Some sections do not have findings or suggested improvements.)

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### APPENDICES

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B.	Summary of Spot-Checked Data Sheets.....	B-i
C.	Assessment Photographs.....	C-i
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**APPENDIX A**  
**PHYSICAL WASTE SITE ASSESSMENT SUMMARY**

Appendix A

ERC Waste Site Summary Table

CERCLA ROD	Waste Site	Operable Unit	Signage				Public Access Controlled? (Describe)	Physical Barriers to Site? (Describe)	Comments/Suggested Improvements
			Signs Visible ?	Located as Required ?	Informatio n Legible and Correct? ?	Contact Identified and Verified?			
<b>300 Area Waste Sites</b>									
No ROD <sup>a</sup>	618-9	300-FR-2	Yes	N/A	Yes	N/A	Yes. Warning and "No Trespassing" signs posted at main entrance/access road (located on west side of Rt. 4 [North]).	No	N/A
300-FR-2 ROD	618-8	300-FR-2	Yes	Yes	Yes	N/A	Yes. Warning signs posted on road (located on east side of Rt. 4 [North]), just north of the 300 Area Main Industrial Complex perimeter fence.	No	This waste site is physically located under a parking surface. There are warning signs posted along the access road approaching the waste site.
	300-8	300-FR-2	Yes	Yes	Yes	Yes	Yes. Warning signs posted along main entrance/road. Notices posted warning trespassers. Area susceptible to trespassers, as no gates or fences are present at entrance to waste site.	No	Signs located at many access points. Entrance to 300 Area well signed, however signs missing from south side of waste site. Sign installed at location, no further action required.

Appendix A

ERC Waste Site Summary Table

CERCLA ROD	Waste Site	Operable Unit	Signage				Public Access Controlled? (Describe)	Physical Barriers to Site? (Describe)	Comments/Suggested Improvements
			Signs Visible ?	Located as Required ?	Informatio n Legible and Correct?	Contact Identified and Verified?			
	300-7	300-FF-2	Yes	Yes	Yes	Yes	Yes. Warning signs posted along main entrance/road. Notices posted warning trespassers. Area susceptible to trespassers, as no gates or fences are present at entrance to waste site.	No	Signs located a many access points. Entrance to 300 Area well signed, however signs missing from south side of waste site. Sign installed at location, no further action required.
	300-268	300-FF-2	Yes	Yes	N/A	Yes	Yes. Waste site controlled with fences and gates (non-locking). Signs posted at entrance into 300 Area, but not specifically posted at waste site.	Yes. Gates and fencing present on perimeter of 300 Area main industrial complex, which is where the waste site is located.	Waste site located within the 300 Area Main Industrial Complex.
	618-2 & 618-3	300-FF-2	Yes	Yes	Yes	N/A	Yes. Access controlled through badging requirements. Warning signs are posted near and along access roads to waste site.	Yes, the waste sites are surrounded by a perimeter fence.	N/A
	300-9	300-FF-2	Yes	Yes	Yes	N/A	Yes. Warning signs posted along main entrance/road. Notices posted warning trespassers. Area susceptible to trespassers, as no gates or fences are present at entrance to waste site.	No	Signs located a many access points. Entrance to 300 Area well signed, however signs missing from south side of waste site. Sign installed at location, no further action required.

ERC Waste Site Summary Table

CERCLA ROD	Waste Site	Operable Unit	Signage				Public Access Controlled? (Describe)	Physical Barriers to Site? (Describe)	Comments/Suggested Improvements
			Signs Visible ?	Located as Required ?	Information Legible and Correct?	Contact Identified and Verified?			
	316-4	300-PF-2	Yes	Yes	Yes	N/A	No.	N/A	
	331 LSLDF	300-PF-2	Yes	Yes	Yes	N/A	Yes, perimeter fencing surrounds the 300 Area main industrial complex. There are gates, but they are not locked.	N/A	
	331 LSLD2	300-PF-2	Yes	Yes	Yes	N/A	Yes, perimeter fencing surrounds the 300 Area main industrial complex. There are gates, but they are not locked.	N/A	
	331 LSLT1	300-PF-2	Yes	Yes	Yes	N/A	Yes, perimeter fencing surrounds the 300 Area main industrial complex. There are gates, but they are not locked.	N/A	

## Appendix A

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ERC Waste Site Summary Table

CERCLA ROD	Waste Site	Operable Unit	Signage				Public Access Controlled? (Describe)	Physical Barriers to Site? (Describe)	Comments/Suggested Improvements
			Signs Visible ?	Located as Required ?	Informatio n Legible and Correct?	Contact Identified and Verified?			
	600-47	300-FF-2	Yes	Yes	Yes	N/A	No	This waste site is located outside the boundary of the 300 Area Main Industrial Complex; however, warning signs are present at waste site and on the main access roads.	
	600-259	300-FF-2	Yes	Yes	Yes	N/A	No	N/A	
	618-8	300-FF-2	Yes	Yes	Yes	N/A	No	N/A	
	618-13	300-FF-2	Yes	Yes	Yes	N/A	No	N/A	
	UPR-600-2	300-FF-2	Yes	Yes	Yes	N/A	No	N/A	
	UPR-300- FF-1	300-FF-1	Yes	Yes	N/A	N/A	N/A	N/A	
	UPR-300- 15	300-FF-1	Yes	Yes	N/A	N/A	N/A	N/A	

Appendix A

ERC Waste Site Summary Table

CERCLA ROD	Waste Site	Operable Unit	Signage				Public Access Controlled? (Describe)	Physical Barriers to Site? (Describe)	Comments/Suggested Improvements
			Signs Visible ?	Located as Required ?	Informatio n Legible and Correct?	Contact Identified and Verified?			
	300-45	300-FF-2	N/A	N/A	N/A	N/A	N/A	No restrictions on waste site. Area was cleaned up in 1997.	
	UPR-300-47	300-FF-1	Yes	Yes	Yes	N/A	Yes, barriers and fences are located around the 300 Area main industrial complex. Gates are not locked.	N/A	
	316-2	300-FF-1	Yes	Yes	N/A	N/A	No	N/A	
<b>100 Area Waste Sites</b>									
Burial Grounds ROD	118-B-5 118-B-7	100-BC-1 100-BC-1	Yes	No (see comment)	N/A	N/A	Yes, the waste sites are set inside the Hanford security barrier, which is fenced, gated and patrolled. These waste sites are not located within the fence-line of the 100-B/C Reactor Area.	At the time of the assessment, two secondary access roads were found to not have warning signs (these roads are located to the south/southwest of C Reactor, off Route 6). The Remedial Action Project is working with facilities to have warning signs posted along these two access roads.	

Appendix A

ERC Waste Site Summary Table

CERCLA ROD	Waste Site	Operable Unit	Signage				Public Access Controlled? (Describe)	Physical Barriers to Site? (Describe)	Comments/Suggested Improvements
			Signs Visible?	Located as Required?	Information Legible and Correct?	Contact Identified and Verified?			
Remaining Sites ROD	100-B-5 132-C-1	100-BC-1 100-BC-2	Yes	Yes	Yes	N/A	Yes. Entrance to 100 Areas is inside security barricade. Entrance to Hanford Site is controlled through badging program and training.	Yes, the waste sites are set inside the Hanford security barrier, which is fenced, gated and patrolled. These waste sites are not located within the fence-line of the 100-B/C Reactor Area.	N/A
100-BC-1, 100-DR-1, 100-HR-1	118-C-4	100-BC-2	Yes	Yes	Yes	N/A	Yes. Access to the 100 Areas is controlled by Hanford barricades (WYE and Rattlesnake Barricades). Entrance to Hanford Site is restricted to individuals that are properly badged and trained.	Yes, the waste sites are set inside the Hanford security barrier, which is fenced, gated and patrolled. These waste sites are not located within the fence-line of the 100-B/C Reactor Area.	N/A
Remaining Sites ROD	100-D-3	100-DR-1	Yes	Yes	Yes	Yes	Yes. Access to the 100 Areas is controlled by Hanford barricades (WYE and Rattlesnake Barricades). Entrance to Hanford Site is restricted to individuals that are properly badged and trained. Trespass is possible via the Columbia River.	Yes, the waste site is set inside the Hanford security barrier, which is fenced, gated and patrolled.	N/A

ERC Waste Site Summary Table

CERCLA ROD	Waste Site	Operable Unit	Signage				Public Access Controlled? (Describe)	Physical Barriers to Site? (Describe)	Comments/Suggested Improvements
			Signs Visible ?	Located as Required ?	Information Legible and Correct?	Contact Identified and Verified?			
Burial Grounds ROD	100-D-45 100-D-47 100-D-43	100-DR-1 100-DR-2 100-DR-2	Yes	No (see comment)	Yes	Yes	Yes. Access to the 100 Areas is controlled by Hanford barricades (WYE and Rattlesnake Barricades). Entrance to Hanford Site is restricted to individuals that are properly bagged and trained. Trespass is possible via the Columbia River.	Yes, the waste sites are set inside the Hanford security barrier, which is fenced, gated and patrolled.	At the time of the assessment, warning signs along the secondary access roads in the 100-D Area were not identified. The Remedial Action Project is in the process of installing additional signs.
Burial Grounds ROD	118-F-9 118-F-2	100-FR-2 100-FR-2	Yes	No (see comment)	Yes	Yes	Yes. Access to the 100 Areas is controlled by Hanford barricades (WYE and Rattlesnake Barricades). Entrance to Hanford Site is restricted to individuals that are properly bagged and trained. Trespass is possible via the Columbia River.	Yes, the waste sites are set inside the Hanford security barrier, which is fenced, gated and patrolled.	At the time of the assessment, warning signs along the secondary access roads from Route 4 were not identified. The Remedial Action Project is in the process of installing these additional signs (see Appendix C Photos).

ERC Waste Site Summary Table

CERCLA ROD	Waste Site	Operable Unit	Signage				Public Access Controlled? (Describe)	Physical Barriers to Site? (Describe)	Comments/Suggested Improvements
			Signs Visible ?	Located as Required ?	Information Legible and Correct?	Contact Identified and Verified?			
100-BC-1, 100-DR-1, 100-HR-1	116-F-1	100-FR-2	Yes	Yes	Yes	Yes	Yes. Access to the 100 Areas is controlled by Hanford barricades (WYB and Rattlesnake Barricades). Entrance to Hanford Site is restricted to individuals that are properly badged and trained. Trespass is possible via the Columbia River.	Yes, the waste sites are set inside the Hanford security barrier, which is fenced, gated and patrolled.	N/A
Remaining Sites ROD	100-F-35 (proximity site to 116- F-4)	100-FR-2	Yes	Yes	Yes	Yes	Yes. Access to the 100 Areas is controlled by Hanford barricades (WYB and Rattlesnake Barricades). Entrance to Hanford Site is restricted to individuals that are properly badged and trained. Trespass is possible via the Columbia River.	Yes, the waste sites are set inside the Hanford security barrier, which is fenced, gated and patrolled.	N/A

ERC Waste Site Summary Table

CERCLA ROD	Waste Site	Operable Unit	Signage				Public Access Controlled? (Describe)	Physical Barriers to Site? (Describe)	Comments/Suggested Improvements
			Signs Visible ?	Located as Required ?	Information Legible and Correct?	Contact Identified and Verified?			
Remaining Sites ROD	132-H-1	100-HR-1	Yes	Yes	Yes	Yes	Yes. Access to the 100 Areas is controlled by Hanford barricades (WYE and Rattlesnake Barricades). Entrance to Hanford Site is restricted to individuals that are properly badged and trained. Trespass is possible via the Columbia River.	Yes, the waste sites are set inside the Hanford security barrier, which is fenced, gated and patrolled.	N/A
100-BC-1, 100-DR-1, 100-HR-1	100-H-2	100-HR-2	Yes	Yes	Yes	Yes	Yes. Access to the 100 Areas is controlled by Hanford barricades (WYE and Rattlesnake Barricades). Entrance to Hanford Site is restricted to individuals that are properly badged and trained. Trespass is possible via the Columbia River.	Yes, the waste sites are set inside the Hanford security barrier, which is fenced, gated, and patrolled.	N/A

ERC Waste Site Summary Table

CERCLA ROD	Waste Site	Operable Unit	Signage				Public Access Controlled? (Describe)	Physical Barriers to Site? (Describe)	Comments/Suggested Improvements
			Signs Visible ?	Located as Required ?	Informatio n Legible and Correct?	Contact Identified and Verified?			
Burial Ground ROD	118-H-5	100-HR-2	Yes	Yes	Yes	Yes	Yes. Access to the 100 Areas is controlled by Hanford barricades (WYE and Rattlesnake Barricades). Entrance to Hanford Site is restricted to individuals that are properly badged and trained. Trespass is possible via the Columbia River.	Yes, the waste sites are set inside the Hanford security barrier, which is fenced, gated, and patrolled.	N/A
Burial Grounds ROD	118-K-1	100-KR-2	Yes	Yes	Yes	Yes	Yes, the 100-K Area is heavily signed with warning signs. These signs are posted near the waste sites. The Wye Barricade ensures visitors do not enter without authorization.	Yes, the 100-K Area is fenced and gated to regulate people entering the waste sites. This area is also located within the Hanford security barrier, which is also fenced, gated, and patrolled.	Signage in the 100-K Area were found to be excellent (see Appendix C, Photos).

<sup>a</sup> 618-9 Waste Site was remediated in 1991-1992 with an expedited response action. Not included in the waste site count in Section 1, Figure 1-1.

Fluor Hanford Waste Site Summary Table.

CERCLA ROD	Waste site	Operable unit	Signs visible?	Signage			Public access controlled? (describe)	Physical barriers to site? (describe)	Comments/ suggested improvements
				Located as required?	Information legible and correct?	Contact identified and verified?			
300-FF-1	UPR-300-33	Waste leak at the 333 Building	Yes	No requirements for location. Sign Clearly visible.	Information is legible Phone numbers not current.	Phone numbers are not current.	Access is controlled by fence around the 300 area and warning signs at the 300 Area entrances	Fence around the 300 Area and the warning signs provide barrier to the waste site.	The phone numbers are not current because of the organizational changes in the 300 Area ADP. Update the phone numbers or come up with information that is independent of the organizational changes.
300-FF-1	UPR-300-35	Leak at the 333 Building	Yes	No requirements for location. Sign Clearly visible.	Information is legible Phone numbers not current.	Phone numbers are not current.	Access is controlled by fence around the 300 area and warning signs at the 300 Area entrances	Fence around the 300 Area and the warning signs provide barrier to the waste site.	The phone numbers are not current because of the organizational changes in the 300 Area ADP. Update the phone numbers of come up with information that is independent of the organizational changes.
300-FF-1	UPR-300-36	Acid leak at the 333 Building	Yes	No requirements for location. Sign Clearly visible.	Information is legible Phone numbers not current.	Phone numbers are not current.	Access is controlled by fence around the 300 area and warning signs at the 300 Area entrances	Fence around the 300 Area and the warning signs provide barrier to the waste site.	The phone numbers are not current because of the organizational changes in the 300 Area ADP. Update the phone numbers or come up with information that is independent of the

Fluor Hanford Waste Site Summary Table.

CERCLA ROD	Waste site	Operable unit	Signs visible?	Signage			Public access controlled? (describe)	Physical barriers to site? (describe)	Comments/suggested improvements organizational changes.
				Located as required?	Information legible and correct?	Contact identified and verified?			
300-FF-1	UPR-300-37	333 Building leaks	Yes	No requirements for location. Sign Clearly visible.	Information is legible. Phone numbers not current.	Phone numbers are not current.	Access is controlled by fence around the 300 area and warning signs at the 300 Area entrances	Fence around the 300 Area and the warning signs provide barrier to the waste site.  The phone numbers are not current because of the organizational changes in the 300 Area ADP. Update the phone numbers or come up with information that is independent of the organizational changes.	
300-FF-2	300-2	Contaminated light water disposal	Yes	No requirements for location. Sign Clearly visible.	Information is legible. Phone numbers not current.	Phone numbers are not current.	Access is controlled by fence around the 300 area and warning signs at the 300 Area entrances	Fence around the 300 Area and the warning signs provide barrier to the waste site.  The phone numbers are not current because of the organizational changes in the 300 Area ADP. Update the phone numbers or come up with information that is independent of the organizational changes.	
300-FF-2	300-16	Solid waste near 314 Building.	Yes	No requirements for location. Sign Clearly visible.	Information is legible. Phone numbers not current.	Phone numbers are not current.	Access is controlled by fence around the 300 area and warning signs at the 300 Area entrances	Fence around the 300 Area and the warning signs provide barrier to the waste site.  The phone numbers are not current because of the organizational changes in the 300 Area ADP. Update the phone numbers or come up with information that is independent of the organizational changes.	

Fluor Hanford Waste Site Summary Table.

CERCLA ROD	Waste site	Operable unit.	Signage				Public access controlled? (describe)	Physical barriers to site? (describe)	Comments/ suggested improvements
			Signs visible?	Located as required?	Information legible and correct?	Contact identified and verified?			
300-FF-2	300-24	Soil contamination at the 314 Metal	Yes	No requirements for location. Sign Clearly visible.	Information is legible Phone numbers not current.	Phone numbers are not current.	Access is controlled by fence around the 300 area and warning signs at the 300 Area entrances	Fence around the 300 Area and the warning signs provide barrier to the waste site.	organizational changes. The phone numbers are not current because of the organizational changes in the 300 Area ADP. Update the phone numbers or come up with information that is independent of the organizational changes.
300-FF-2	300-43	Unplanned release	Yes	No requirements for location. Sign Clearly visible.	Information is legible Phone numbers not current.	Phone numbers are not current.	Access is controlled by fence around the 300 area and warning signs at the 300 Area entrances	Fence around the 300 Area and the warning signs provide barrier to the waste site.	The phone numbers are not current because of the organizational changes in the 300 Area ADP. Update the phone numbers or come up with information that is independent of the organizational changes.
300-FF-2	300-48	Thorium oxide and fuel fabrication	Yes	No requirements for location. Sign Clearly visible.	Information is legible Phone numbers not current.	Phone numbers are not current.	Access is controlled by fence around the 300 area and warning signs at the 300 Area entrances	Fence around the 300 Area and the warning signs provide barrier to the waste site.	The phone numbers are not current because of the organizational changes in the 300 Area ADP. Update the phone numbers or come up with information that is independent of the organizational changes.

Fluor Hanford Waste Site Summary Table.

CERCLA ROD	Waste site	Operable unit	Signage					Public access controlled? (describe)	Physical barriers to site? (describe)	Comments/ suggested improvements organizational changes.
			Signs visible?	Located as required?	Information legible and correct?	Contact identified and verified?				
300-FE-2	300-109	333 Building stormwater runoff, Miscellaneous Stream #455	Yes	No requirements for location. Sign Clearly visible.	Information is legible Phone numbers not current.	Phone numbers are not current.	Access is controlled by fence around the 300 area and warning signs at the 300 Area entrances	Fence around the 300 Area and the warning signs provide barrier to the waste site.	The phone numbers are not current because of the organizational changes in the 300 Area ADP. Update the phone numbers or come up with information that is independent of the organizational changes.	
300-FE-2	300-110	333 Building stormwater runoff, Miscellaneous Stream #456	Yes	No requirements for location. Sign Clearly visible.	Information is legible Phone numbers not current.	Phone numbers are not current.	Access is controlled by fence around the 300 area and warning signs at the 300 Area entrances	Fence around the 300 Area and the warning signs provide barrier to the waste site.	The phone numbers are not current because of the organizational changes in the 300 Area ADP. Update the phone numbers or come up with information that is independent of the organizational changes.	
300-FE-2	300-324	WATS and U-Bearing Piping Trench	Yes	No requirements for location. Sign Clearly visible.	Information is legible Phone numbers not current.	Phone numbers are not current.	Access is controlled by fence around the 300 area and warning signs at the 300 Area entrances	Fence around the 300 Area and the warning signs provide barrier to the waste site.	The phone numbers are not current because of the organizational changes in the 300 Area ADP. Update the phone numbers or come up with information that is independent of the organizational changes.	

Fluor Hanford Waste Site Summary Table.

CERCLA ROD	Waste site	Operable unit	Signage				Public access controlled? (describe)	Physical barriers to site? (describe)	Comments/ suggested improvements
			Signs visible?	Located as required?	Information legible and correct?	Contact identified and verified?			
300-FF-2	300-255	309 Tank Farm contaminated soil	Yes	No requirements for location. Sign Clearly visible.	Information is legible. Phone numbers not current.	Phone numbers are not current.	Access is controlled by fence around the 300 area and warning signs at the 300 Area entrances	Fence around the 300 Area and the warning signs provide barrier to the waste site.	organizational changes. The phone numbers are not current because of the organizational changes in the 300 Area ADP. Update the phone numbers or come up with information that is independent of the organizational changes.
300-FF-2	300-257	309 Process Sewer to River	Yes	No requirements for location. Sign Clearly visible.	Information is legible. Phone numbers not current.	Phone numbers are not current.	Access is controlled by fence around the 300 area and warning signs at the 300 Area entrances	Fence around the 300 Area and the warning signs provide barrier to the waste site.	The phone numbers are not current because of the organizational changes in the 300 Area ADP. Update the phone numbers or come up with information that is independent of the organizational changes.
300-FF-2	300-259	Contamination area surrounding 618-1 Burial Ground	Yes	No requirements for location. Sign Clearly visible.	Information is legible. Phone numbers not current.	Phone numbers are not current.	Access is controlled by fence around the 300 area and warning signs at the 300 Area entrances	Fence around the 300 Area and the warning signs provide barrier to the waste site.	The phone numbers are not current because of the organizational changes in the 300 Area ADP. Update the phone numbers or come up with information that is independent of the organizational changes.

Fluor Hanford Waste Site Summary Table.

CERCLA ROD	Waste site	Operable unit	Signage					Public access controlled? (describe)	Physical barriers to site? (describe)	Comments/ suggested improvements organizational changes.
			Signs visible?	Located as required?	Information legible and correct?	Contact identified and verified?				
300-FF-2	300-260	Contaminated soil west of 313 Building	Yes	No requirements for location. Sign Clearly visible.	Information is legible. Phone numbers not current.	Phone numbers are not current.	Access is controlled by fence around the 300 area and warning signs at the 300 Area entrances	Fence around the 300 Area and the warning signs provide barrier to the waste site.	The phone numbers are not current because of the organizational changes in the 300 Area ADP. Update the phone numbers or come up with information that is independent of the organizational changes.	
300-FF-2	303-M SA	303-M storage area, 303-M Building storage area	Yes	No requirements for location. Sign Clearly visible.	Information is legible. Phone numbers not current.	Phone numbers are not current.	Access is controlled by fence around the 300 area and warning signs at the 300 Area entrances	Fence around the 300 Area and the warning signs provide barrier to the waste site.	The phone numbers are not current because of the organizational changes in the 300 Area ADP. Update the phone numbers or come up with information that is independent of the organizational changes.	
300-FF-2	303-M UOP	303-M Uranium Oxide Facility	Yes	No requirements for location. Sign Clearly visible.	Information is legible. Phone numbers not current.	Phone numbers are not current.	Access is controlled by fence around the 300 area and warning signs at the 300 Area entrances	Fence around the 300 Area and the warning signs provide barrier to the waste site.	The phone numbers are not current because of the organizational changes in the 300 Area ADP. Update the phone numbers or come up with information that is independent of the organizational changes.	

Fluor Hanford Waste Site Summary Table.

CERCLA ROD	Waste site	Operable unit	Signage					Public access controlled? (describe)	Physical barriers to site? (describe)	Comments/ suggested improvements
			Signs visible?	Located as required?	Information legible and correct?	Contact identified and verified?				
300-FF-2	313 ESSP	313 east side storage pad, 313 Building east side storage pad	Yes	No requirements for location. Sign Clearly visible.	Information is legible Phone numbers not current.	Phone numbers are not current.	Access is controlled by fence around the 300 area and warning signs at the 300 Area entrances	Fence around the 300 Area and the warning signs provide barrier to the waste site.	organizational changes. The phone numbers are not current because of the organizational changes in the 300 Area ADP. Update the phone numbers or come up with information that is independent of the organizational changes.	
300-FF-2	316-3	307 Disposal Trenches, process water trenches	Yes	No requirements for location. Sign Clearly visible.	Information is legible Phone numbers not current.	Phone numbers are not current.	Access is controlled by fence around the 300 area and warning signs at the 300 Area entrances	Fence around the 300 Area and the warning signs provide barrier to the waste site.	The phone numbers are not current because of the organizational changes in the 300 Area ADP. Update the phone numbers or come up with information that is independent of the organizational changes.	
300-FF-2	333 ESHWSA	333 east side HWSA, 333 Building East Side Hazardous Waste Storage Area	Yes	No requirements for location. Sign Clearly visible.	Information is legible Phone numbers not current.	Phone numbers are not current.	Access is controlled by fence around the 300 area and warning signs at the 300 Area entrances	Fence around the 300 Area and the warning signs provide barrier to the waste site.	The phone numbers are not current because of the organizational changes in the 300 Area ADP. Update the phone numbers or come up with information that is independent of the	

Fluor Hanford Waste Site Summary Table.

CERCLA ROD	Waste site	Operable unit	Signs visible?	Signage				Public access controlled? (describe)	Physical barriers to site? (describe)	Comments/ suggested improvements organizational changes.
				Located as required?	Information legible and correct?	Contact identified and verified?				
300-FF-2	618-1	318-1 Solid Waste Burial Ground	Yes	No requirements for location. Sign Clearly visible.	Information is legible Phone numbers not current.	Phone numbers are not current.	Access is controlled by fence around the 300 area and warning signs at the 300 Area entrances	Fence around the 300 Area and the warning signs provide barrier to the waste site.	The phone numbers are not current because of the organizational changes in the 300 Area ADP. Update the phone numbers or come up with information that is independent of the organizational changes.	
300-FF-2	618-1.2	Limestone neutralization pit, WATS trench neutralization pit	Yes	No requirements for location. Sign Clearly visible.	Information is legible Phone numbers not current.	Phone numbers are not current.	Access is controlled by fence around the 300 area and warning signs at the 300 Area entrances	Fence around the 300 Area and the warning signs provide barrier to the waste site.	The phone numbers are not current because of the organizational changes in the 300 Area ADP. Update the phone numbers or come up with information that is independent of the organizational changes.	
300-FF-2	UPR-300-17	UN-300-17, metal shavings fire	Yes	No requirements for location. Sign Clearly visible.	Information is legible Phone numbers not current.	Phone numbers are not current.	Access is controlled by fence around the 300 area and warning signs at the 300 Area entrances	Fence around the 300 Area and the warning signs provide barrier to the waste site.	The phone numbers are not current because of the organizational changes in the 300 Area ADP. Update the phone numbers or come up with information that is independent of the	

Fluor Hanford Waste Site Summary Table.

CERCLA ROD	Waste site	Operable unit	Signage				Public access controlled? (describe)	Physical barriers to site? (describe)	Comments/ suggested improvements
			Signs visible?	Located as required?	Information legible and correct?	Contact identified and verified?			
300-FF-2	UPR-300-38	UPR-300-38, soil contamination beneath the 313 Building	Yes	No requirements for location. Sign Clearly visible.	Information is legible. Phone numbers not current.	Phone numbers are not current.	Access is controlled by fence around the 300 area and warning signs at the 300 Area entrances	Fence around the 300 Area and the warning signs provide barrier to the waste site.	organizational changes. The phone numbers are not current because of the organizational changes in the 300 Area ADP. Update the phone numbers or come up with information that is independent of the organizational changes.
300-FF-2	UPR-300-39	UN-300-39, sodium hydroxide leak at 311 Tank Farm	Yes	No requirements for location. Sign Clearly visible.	Information is legible. Phone numbers not current.	Phone numbers are not current.	Access is controlled by fence around the 300 area and warning signs at the 300 Area entrances	Fence around the 300 Area and the warning signs provide barrier to the waste site.	The phone numbers are not current because of the organizational changes in the 300 Area ADP. Update the phone numbers or come up with information that is independent of the organizational changes.
300-FF-2	UPR-300-40	Acid release at the 303-F pipe trench, UN-300-40, UPR-300-31, UN-300-31	Yes	No requirements for location. Sign Clearly visible.	Information is legible. Phone numbers not current.	Phone numbers are not current.	Access is controlled by fence around the 300 area and warning signs at the 300 Area entrances	Fence around the 300 Area and the warning signs provide barrier to the waste site.	The phone numbers are not current because of the organizational changes in the 300 Area ADP. Update the phone numbers or come up with information that is independent of the organizational changes.

Fluor Hanford Waste Site Summary Table.

CERCLA ROD	Waste site	Operable unit	Signs visible?	Signage				Public access controlled? (describe)	Physical barriers to site? (describe)	Comments/suggested improvements
				Located as required?	Information legible and correct?	Contact identified and verified?				
300-FF-2	UPR-300-45	303-F Building uranium-bearing acid spill, UN-300-45	Yes	No requirements for location. Sign Clearly visible.	Information is legible. Phone numbers not current.	Phone numbers are not current.	Access is controlled by fence around the 300 area and warning signs at the 300 Area entrances	Fence around the 300 Area and the warning signs provide barrier to the waste site.	The phone numbers are not current because of the organizational changes in the 300 Area ADP. Update the phone numbers or come up with information that is independent of the organizational changes.	
300-FF-2	UPR-300-46	Contamination north of 333 Building	Yes	No requirements for location. Sign Clearly visible.	Information is legible. Phone numbers not current.	Phone numbers are not current.	Access is controlled by fence around the 300 area and warning signs at the 300 Area entrances	Fence around the 300 Area and the warning signs provide barrier to the waste site.	The phone numbers are not current because of the organizational changes in the 300 Area ADP. Update the phone numbers or come up with information that is independent of the organizational changes.	
300-FF-2	300-219	300 Area waste acid transfer line	Yes	No requirements for location. Sign Clearly visible.	Information is legible. Phone numbers not current.	Phone numbers are not current.	Access is controlled by fence around the 300 area and warning signs at the 300 Area entrances	Fence around the 300 Area and the warning signs provide barrier to the waste site.	The phone numbers are not current because of the organizational changes in the 300 Area ADP. Update the phone numbers or come up with information that is independent of the organizational changes.	

Fluor Hanford Waste Site Summary Table.

CERCLA ROD	Waste site	Operable unit	Signage				Public access controlled? (describe)	Physical barriers to site? (describe)	Comments/ suggested improvements organizational changes.
			Signs visible?	Located as required?	Information legible and correct?	Contact identified and verified?			
300-FF-2	300-WS-1	309 Plutonium Recycle Test Reactor ion exchanger vault, reactor ion exchange pit, Plutonium Recycle Test Reactor ion exchange vault	Yes	No requirements for location. Sign Clearly visible.	Information is legible Phone numbers not current.	Phone numbers are not current.	Access is controlled by fence around the 300 area and warning signs at the 300 Area entrances	Fence around the 300 Area and the warning signs provide barrier to the waste site.	The phone numbers are not current because of the organizational changes in the 300 Area ADP. Update the phone numbers or come up with information that is independent of the organizational changes.
300-FF-2	618-10	300 North; 318-10 Solid Waste Burial Ground	Yes		Yes	Yes	The waste site is fenced and there are warning signs on the fence	Fence	No suggestions
300-FF-2	618-11	Y Burial ground	Yes		Yes	Yes	Access to the waste site is through Energy Northwest Checkpoint. The site is fenced and there are warning signs on the fence	Checkpoint, fence	No suggestions.

**Appendix B:**

**Summary of Spot Check Data Sheets for 200 Area S&M**

**Summary of Interviews:** Contacted both the FH Central Plateau RARA manager (5/24/04) and the field work supervisor (6/9/04) by telephone and we discussed the scope of their portion of the overall FH S&M program, the procedures used to conduct the surveillances, and how I could best gain access to both the procedures as well as the completed data sheets on select waste sites. Please note that the requested copies of surveillance reports are the same as the "data sheets" - which is described in error in the first draft IC report provided to EPA. It reads as if the data sheets and the surveillance reports are separate and they are not - they are the same.

**Summary of Spot-checked Data Sheets:**

- 216-A-25: The inactive waste site surveillance sheet for 216-A-25 (Gable Mtn Pond) was signed by the performing surveillant on 4-14-04 and reviewed by the supervising field work manager on 6-1-04. The data sheet listed the WIDS site code and identified the frequency of the surveillance as being tri-yearly as opposed to annual. The current radiological posting was identified as being an underground radioactive material area (URMA). The data sheet also requires the following: 1) identification as to whether or not the waste site requires cave-in potential posting and in this case 216-A-25 was identified as not requiring cave-in potential posting; 2) identification as to whether or not signs are properly posted at the waste site and in this case signs had not been properly posted which meant the surveillant had perform on-the-spot corrective action to ensure all signage problems were corrected; 3) identification as to whether or not barriers are in place and functional and in this case the surveillant indicated that the barrier (a soil cover over the pond surface as well as concrete marker posts) was in place and functional; 4) identification as to whether or not there was evidence of animal or insect intrusion and in this case there was no evidence of such intrusion; 5) identification of cave-in's or depressions of which none had been identified; 6) identification of the presence of sage brush or tumbleweeds (live, dead, or blown-in) and in this case dead tumbleweeds were identified as being present on the waste site; 7) check for vent cap integrity which was identified as not being applicable to this site; and finally 8) a check for unidentified containers and none were identified on this site.
- 216-B-2-2: The inactive waste site surveillance sheet for 216-B-2-2 Ditch was signed by the performing surveillant on 4-28-04 and reviewed by the supervising field work manager on 6-1-04. The data sheet listed the WIDS site code and identified the frequency of the surveillance as being tri-yearly as opposed to annual. The current radiological posting was identified as being an URMA and a surface contamination area (SCA). The data sheet also checks the following: 1) identification as to whether or not the waste site requires cave-in potential posting and in this case the site was identified as not requiring cave-in potential posting; 2) identification as to whether or not signs are properly posted at the waste site and in this case signs had been properly posted; 3) identification as to whether or not barriers are in place and

functional and in this case the surveillant indicated that the barrier (a soil cover over the ditch surface as well as concrete marker posts) was in place and functional; 4) identification as to whether or not there was evidence of animal or insect intrusion and in this case there was no evidence of such intrusion; 5) identification of cave-in's or depressions of which none had been identified; 6) identification of the presence of sage brush or tumbleweeds (live, dead, or blown-in) and in this case dead tumbleweeds were identified as being present on the waste site; 7) check for vent cap integrity which was identified as not being applicable to this site; and finally 8) a check for unidentified containers and none were identified on this site.

- 216-B-26: The inactive waste site surveillance sheet for 216-B-26 Trench was signed by the performing surveillant on 5-3-04 and reviewed by the supervising field work manager on 6-1-04. The data sheet listed the WIDS site code and identified the frequency of the surveillance as being tri-yearly as opposed to annual. The current radiological posting was identified as being an URMA and a SCA. The data sheet also checks the following: 1) identification as to whether or not the waste site requires cave-in potential posting and in this case the site was identified as not requiring cave-in potential posting; 2) identification as to whether or not signs are properly posted at the waste site and in this case signs had been properly posted; 3) identification as to whether or not barriers are in place and functional and in this case the surveillant indicated that the barrier (a soil cover over the trench surface as well as concrete marker posts) was in place and functional; 4) identification as to whether or not there was evidence of animal or insect intrusion and in this case there was no evidence of such intrusion; 5) identification of cave-in's or depressions of which none had been identified; 6) identification of the presence of sage brush or tumbleweeds (live, dead, or blown-in) and in this case none were identified as being present on the waste site; 7) check for vent cap integrity which was identified as not being applicable to this site; and finally 8) a check for unidentified containers and none were identified on this site.
- UPR-200-E-83: The inactive waste site surveillance sheet for this waste site was signed by the performing surveillant on 5-18-04 and reviewed by the supervising field work manager on 6-1-04. The data sheet listed the WIDS site code and identified the frequency of the surveillance as being tri-yearly as opposed to annual. The current radiological posting was identified as being an URMA. The data sheet also checks the following: 1) identification as to whether or not the waste site requires cave-in potential posting and in this case the site was identified as not requiring cave-in potential posting; 2) identification as to whether or not signs are properly posted at the waste site and in this case signs had been properly posted; 3) identification as to whether or not barriers are in place and functional and in this case the surveillant indicated that a barrier was in place and functional; 4) identification as to whether or not there was evidence of animal or insect

intrusion and in this case there was no evidence of such intrusion; 5) identification of cave-in's or depressions of which none had been identified; 6) identification of the presence of sage brush or tumbleweeds (live, dead, or blown-in) and in this case none were identified as being present on the waste site; 7) check for vent cap integrity which was identified as not being applicable to this site; and finally 8) a check for unidentified containers and none were identified on this site.

- **216-B-57:** The inactive waste site surveillance sheet for 216-B-57 crib was signed by the performing surveillant on 4-22-04 and reviewed by the supervising field work manager on 6-1-04. The data sheet listed the WIDS site code and identified the frequency of the surveillance as being tri-yearly as opposed to annual. The current radiological posting was identified as being an URMA. The data sheet also checks the following: 1) identification as to whether or not the waste site requires cave-in potential posting and in this case the site was identified as not requiring cave-in potential posting; 2) identification as to whether or not signs are properly posted at the waste site and in this case signs had been properly posted; 3) identification as to whether or not barriers are in place and functional and in this case the surveillant indicated that the barrier (an engineered barrier over the crib surface) was in place and functional; 4) identification as to whether or not there was evidence of animal or insect intrusion and in this case there was no evidence of such intrusion; 5) identification of cave-in's or depressions of which none had been identified; 6) identification of the presence of sage brush or tumbleweeds (live, dead, or blown-in) and in this case both live and dead tumbleweed and sagebrush were identified as being present on the waste site; 7) check for vent cap integrity which was identified as not being applicable to this site; and finally 8) a check for unidentified containers and none were identified on this site. The field work manager added a comment that he had initiated steps for tumbleweed removal and/or to become part of herbicide spray program.
- **216-A-36B:** The inactive waste site surveillance sheet used for this waste site is quarterly RCRA TSD inspection checklist. It was signed by the performing inspector on 4-7-04 and reviewed by the supervising manager on 5-10-04. The data sheet listed the WIDS site code, the TSD #, the date and time of the inspection. This checklist inspects the following: 1) check whether or not signs provide identification, are posted at each approach, are visible from 25 feet away, and are legible and unobstructed and in this case the site was properly posted; 2) identification of any corrective action taken and at this site none were listed; 3) identification as to whether or not barriers are in place and functional and in this case the surveillant indicated that the barrier (a soil cover over the crib surface as well as concrete marker posts) was in place and functional; 4) check for indications of unauthorized entry or use of the facility as well a description of any corrective action taken and none were detected for this site; 5) identification as to whether or not there

was evidence of animal burrows or digging, evidence of excessive wind or water erosion or subsidence, or evidence of tumbleweeds or other deep-rooted vegetation and in this case there was no evidence of such problems.

In addition to the quarterly inspection checklist, a recent radiological survey report, dated May 12, 2004, was reviewed. This reported contamination measurements in a 12"x12" area found during the tractor mounted portion of the radiological survey. The tractor mounted survey was followed up by a walking survey using hand held instruments of other suspect areas. The report stated that well drilling had been performed on the site within the last several months and that six inches of clean soil was placed over the contaminated area restoring the site to background readings. It also stated that the site had already been posted as an URMA, SCA, and radioactive material area (RMA) and that no additional postings were established as a result of this survey.

- 216-U-10: Two inactive waste site surveillance data sheets were reviewed for this site. The first was signed by the performing surveillant on 6-16-03 and reviewed by the supervising field work manager on 7-11-03 and the second report was signed by the performing surveillant on 3-5-04 and reviewed by the supervising field work manager on 4-19-04. The data sheets listed the WIDS site code and identified the frequency of the surveillance as being tri-yearly. The current radiological posting was identified as being an URMA. The data sheets checked the following: 1) identification as to whether or not signs are properly posted at the waste site and for the June 03 report one sign was reported down and was corrected on the spot; 2) identification as to whether or not barriers are in place and functional and in both cases the surveillant indicated that barriers (an soil cover over the pond surface as well as concrete marker posts) were in place and functional; 4) identification as to whether or not there was evidence of animal or insect intrusion and in both cases there was no evidence of such intrusion; 5) identification of cave-in's or depressions of which none had been identified; 6) identification of the presence of sage brush or tumbleweeds (live, dead, or blown-in) and in the June 03 report live tumbleweed was identified as being present on the waste site and in the April 04 report dead tumbleweeds were reported; 7) check for vent cap integrity which was identified as not being applicable to this site; and finally 8) a check for unidentified containers and none were identified on this site.

241-CX-70: The quarterly surveillance sheet for hot-semi-tank 241-CX-70 was signed by the performing surveillant on 4-27-04 and reviewed by the supervising field work manager on 4-27-04. The data sheet listed the site boundary as being secure and signs were properly posted. There was no excessive ground vegetation or signs of animal intrusion and no excessive debris. The wooden man-way and wooden caisson covers were reported in good condition. The report also showed risers were securely capped.

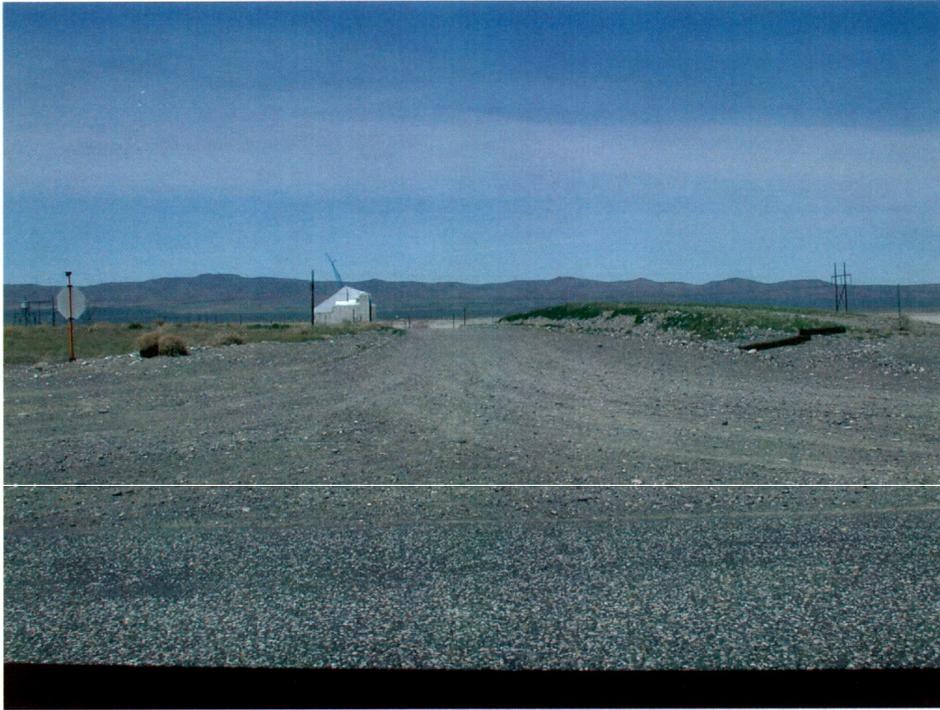
**APPENDIX C**  
**ASSESSMENT PHOTOGRAPHS**



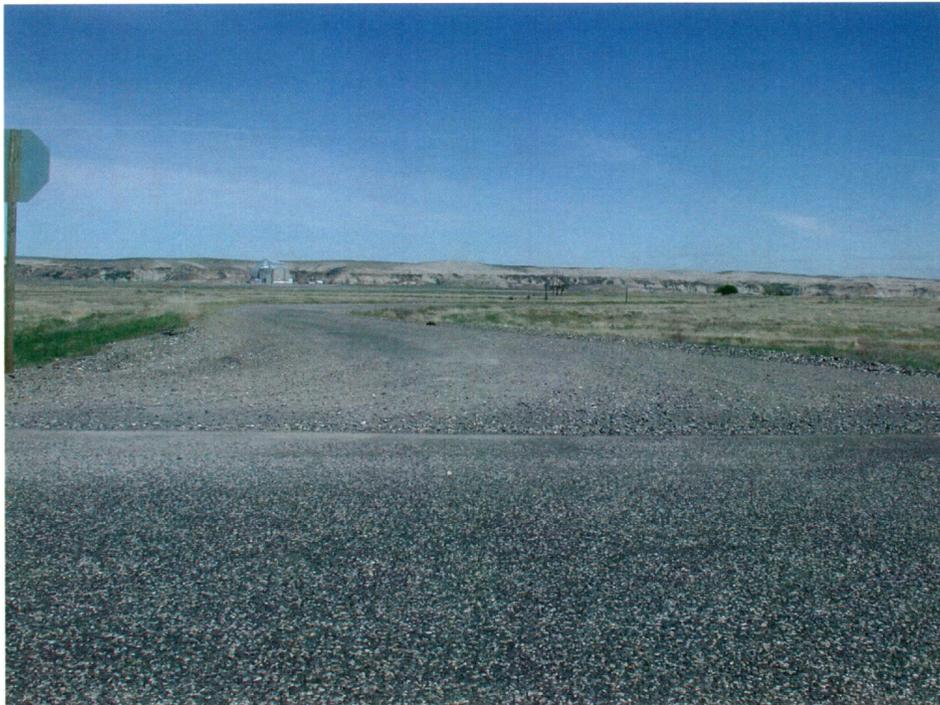
**Figure 1. Entrance to 100-K Area.**



**Figure 2. Alternative Access Road to 100-B/C Area Waste Sites – No Warning Signs Posted on Road.**



**Figure 3. Alternative Access Road to 100-D Area Waste Sites – No Warning Signs Posted on Road.**



**Figure 4. Alternative Access Road (from Route 4) to 100-F Area Waste Sites – No Warning Signs.**



**Figure 5. Warning Sign Posted Along Alternative Access Road to 300 Area Waste Sites (Near 300-7 and 300-8 Waste Sites).**



**Figure 6. Warning Signs at 300 Area Main Industrial Complex Entrance.**



Figure 7. Warning Signs at the 300 Area Entrance on the North Side of the Parking Lot.



Figure 8. Entrance Sign at the Road by 3790 Building in the 300 Area.



Figure 9. WIDS Site 300-257.



Figure 10. WIDS Site 316-3.



Figure 11. WIDS Site 300-48.



Figure 12. Signs at 618-10 Waste Site



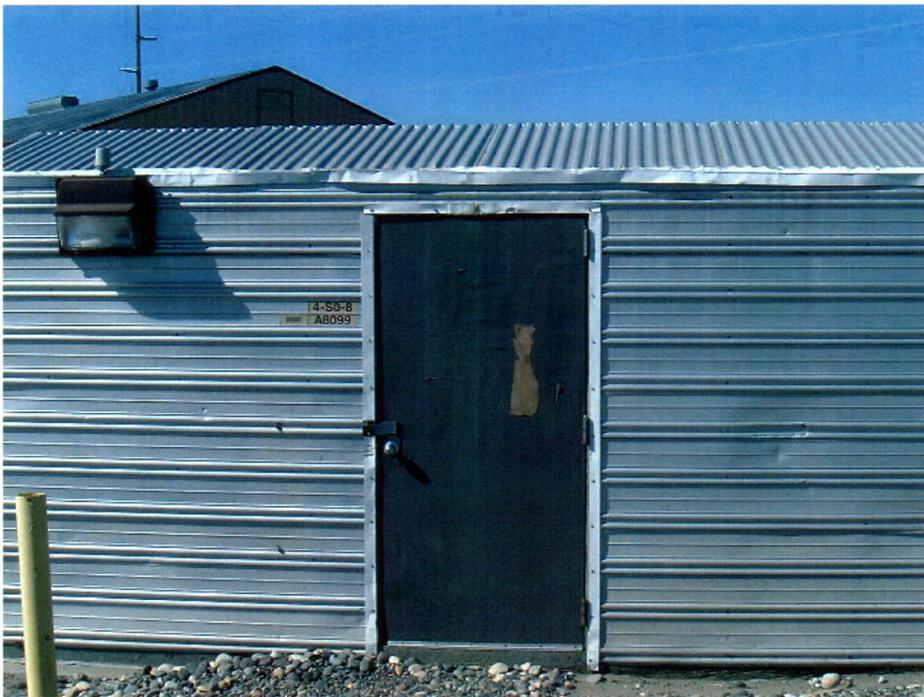
Figure 13. Signs At 618-11 Waste Site.



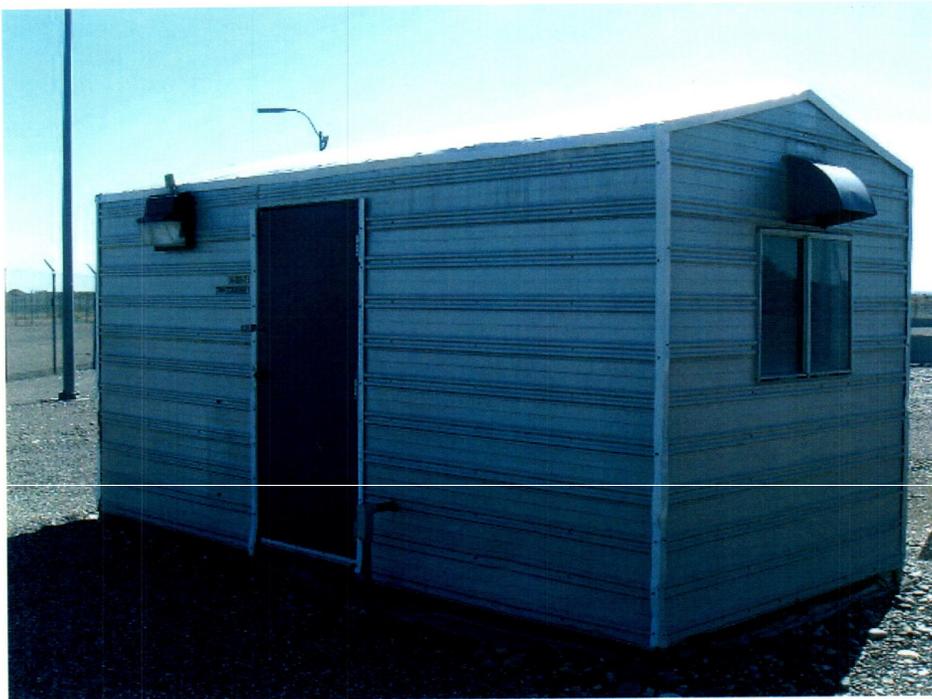
Figure 14. Picture of a Downed Sign Along the Columbia River Shoreline.



**Figure 15. 499-81-SJ Wellhouse in the 400 Area**



**Figure 16. 499-S0-8 Wellhouse in the 400 Area.**



**Figure 17. 499-S0-7 Wellhouse in the 400 Area**

**APPENDIX D – DEED NOTICES**





1999-025478  
Page: 1 of 2  
08/06/1999 02:41P

Return Address:  
Department of Energy  
Richland Operations Office  
P.O. Box 550  
Richland, Washington 99352

072187

**PLEASE PRINT OR TYPE INFORMATION:**

<p><b>Document Title(s)(or transactions contained therein):</b></p> <p>1. Notice In Deed 2. 3. 4.</p>
<p><b>Grantor(s)(Last name first, first name, middle initials):</b></p> <p>1. U.S. Department of Energy, Richland Operations Office 2. 3. 4. Additional names on page ___ of document.</p>
<p><b>Grantee(s)(Last name first, first name, middle initials):</b></p> <p>1. N/A 2. 3. 4. Additional names on page ___ of document.</p>
<p><b>Legal description (abbreviated: ie, lot, block, plat or section, township, range, qtr./qtr.)</b></p> <p>See attached Notice In Deed</p> <p>Additional legal is on page <u>1</u> of document.</p>
<p><b>Reference Number(s) of documents assigned or released:</b></p> <p>N/A Additional numbers on page ___ of document.</p>
<p><b>Assessor's Property Tax Parcel/Account Number</b></p> <p>N/A Property Tax Parcel ID is not yet assigned. Additional parcel numbers on page ___ of document.</p>
<p><b>The Auditor/Recorder will rely on the information provided on the form. The staff will not read the document to verify the accuracy or completeness of the indexing information.</b></p>



1999-025476  
Page: 2 of 2  
08/06/1999 02:41P  
Benton County

NOTICE IN DEED

072187

Legal Description

That portion of Section 15, Township 14 North, Range 26 East of the Willamette Meridian, Benton County, Washington, described as follows:

Commencing at GPS control point "D-4" aluminum cap having a coordinate value of N 498909.54, E 1881686.91; thence N69°05'57"W, 125.43 feet to the true point of beginning of this description; thence S00°02'17"E, 229.80 feet; thence N 87°24'48"W, 172.78 feet; thence N08°02'02"E, 211.87 feet; thence N43°59'27"E, 48.12 feet; thence S78°27'35"E, 111.99 feet to the true point of beginning.

Bearings & coordinates referenced herein are "grid", Washington Coordinate System, South Zone, NAD83/91 Datum.

Legal Notation

The property described above, known as the 100-D Ponds, was used to manage dangerous waste pursuant to WAC 173-303. The Department of Energy, Richland Operations Office, closed this facility by removal of dangerous waste constituents from the site during closure activities, meeting "clean closure" standards under WAC 173-303-610 (2)(b). Groundwater contamination attributable to sources upgradient of the 100-D Ponds, remains beneath the 100-D Ponds above cleanup standards at the time of preparation of this record of survey. Therefore, use of this groundwater is restricted until such time as cleanup standards are met or it has been determined that cleanup is not necessary. A survey plat which includes information concerning the type, location, and quantity of dangerous waste disposed to the 100-D Ponds has also been filed with the Benton County Planning Department and the Washington State Department of Ecology.

Roger A. Jacob, Sr.  
Realty Officer

State of Washington  
County of Benton

Subscribed and sworn to me this 5<sup>th</sup> day of August 1999.

Deanna K. Knuter  
Signature of Notary Public

Legal Assistant  
Title



My appointment expires:  
July 9, 2001

**183-H Solar Evaporation**  
**Basins**

***Benton County Auditor File No.***

***1996-29990***

***(Vol. 656, Pgs 2636 – 2638)***



*Mail*  
**Department of Energy**  
Richland Operations Office  
P.O. Box 550  
Richland, Washington 99352

038513  
OFFICIAL RECORDS

96 29990

FILED BY: Rex Miller  
Dec 4 11 55 AM '96

OCT 31 1996

CENTRO COUNTY AUDITOR

VOL. 656 PAGE 2636

Benton County Auditor  
P.O. Box 910  
Prosser, Washington 99350

Dear Sir:

**NOTICE IN DEED FOR 183-H SOLAR EVAPORATION BASINS**

The attached notice pertaining to closure of a dangerous waste unit at the Hanford Site is being provided to you in accordance with the requirements of Washington Administrative Code 173-303-610(10) and 40 Code of Federal Regulations 264.119(b). This notice should be formally recorded in the deed to the property maintained by your office.

If you have any questions on this matter, please contact Mr. Jeff Bruggeman at (509) 376-7121.

Sincerely,

Roger A. Jacob, Sr.  
Realty Officer

DDP:JMB

Attachment

cc w/o attach:  
L. R. Miller, BHI



VOL 656 PAGE 2637

Department of Energy  
Richland Operations Office  
P.O. Box 550  
Richland, Washington 99352

038513

OFFICIAL RECORDS

Benton County Auditor  
P.O. Box 910  
Prasser, Washington 99350

Dear Sir:

NOTICE IN DEED

The U.S. Department of Energy, Richland Operations Office (RL), an operations office of the U.S. Department of Energy, which is a department of the United States Government, the undersigned, whose local address is the Federal Building, 825 Jadwin Avenue, Richland, Washington, hereby gives the following notice as required by 40 Code of Federal Regulations (CFR) 264.119(b) and Washington Administrative Code (WAC) 173-303-610(10). In conjunction with this requirement RL hereby requests that this document be recorded, and become public record, for future inquiries regarding the history of said parcel.

- (a) The United States of America is, and since April 1943, has been in possession in fee simple of the following described lands:

Real property situated in a portion of section 18, township 14 north, range 27 east of the Willamette Meridian, DOE Hanford Site, Benton County, Washington, described as follows:

Commencing at the U.S. Corps of Engineers monument stamped HSWB-029 having a coordinate value of N 152646.761, E 578193.446; thence on a grid bearing, N 57°02'23"W, 334.75 meters to the true point of beginning; said point having a coordinate value of N 152828.88, E 577912.58; thence S 89°50'45"W, 65.72 meters; thence N 00°09'15"W, 31.18 meters; thence S 89°50'45"W, 0.91 meters; thence N 00°09'15"W, 10.06 meters; thence S 89°50'45"W, 3.78 meters; thence N 00°09'15"W, 6.92 meters; thence N 89°50'45"E, 10.06 meters; thence S 00°09'15"E, 4.79 meters; thence N 89°50'45"E, 61.42 meters; thence S 00°09'15"E, 12.19 meters; thence S 89°50'45"W, 1.07 meters; thence S 00°09'15"E, 31.18 meters to the true point of beginning.

Bearings, distances and coordinate values cited herein are grid, reference to the Washington Coordinate System, South Zone, North American Datum of 1983, 1991 adjustment.

YGL 656 PAGE 2638

038513

Ms. Bobbie Gagner

-2-

## OFFICIAL RECORDS

- (b) RL by operation of the 183-H Solar Evaporation Basins, has disposed of hazardous and/or dangerous waste under the terms of regulations promulgated by the U.S. Environmental Protection Agency (EPA) and the State of Washington Department of Ecology (Ecology) at the above described land.
- (c) The future use of this described land is restricted under the terms of 40 CFR 264.117 (c) and WAC 173-303-610(7)(d).
- (d) Any and all future purchasers of this land should inform themselves of the requirements of the regulations and ascertain the amount and nature of wastes disposed on this described property.
- (e) RL has filed a survey plat with the Benton County Planning Department, EPA, and Ecology, showing the location and dimensions of the 183-H Solar Evaporation Basins site, and a record of the type, location, and quantity of waste treated.

**1324-NA Percolation Pond**  
**1324-N Surface Impoundment**

*Benton County Auditor File No.*

**2003-013391**



2003-013391  
Pg: 1 of 2  
03/24/2003 04:37P  
Benton County

Return Name and Address:  
U.S. Department of Energy  
Richland Operations Office  
P.O. Box 550  
Richland, WA 99352

**PLEASE PRINT OR TYPE INFORMATION:**

<p><b>Document Title(s)(or transactions contained therein):</b></p> <p>1. Notice In Deed 2. 3. 4.</p>
<p><b>Grantor(s)(Last name first, first name, middle initials):</b></p> <p>1. U. S. Department of Energy, Richland Operations Office 2. 3. 4. Additional names on page ___ of document.</p>
<p><b>Grantee(s)(Last name first, first name, middle initials):</b></p> <p>1. N/A 2. 3. 4. Additional names on page ___ of document.</p>
<p><b>Legal description (abbreviated: is: lot, block, plat or section, township, range, qtr./qtr.)</b></p> <p>See Attached Notice In Deed Additional legal is on page 1 of document.</p>
<p><b>Reference Number(s) of documents assigned or released:</b></p> <p>Additional numbers on page ___ of document.</p>
<p><b>Assessor's Property Tax Parcel/Account Number</b></p> <p>N/A Property Tax Parcel ID is not yet assigned. Additional parcel numbers on page ___ of document.</p>
<p>The Auditor/Recorder will rely on the information provided on the form. The staff will not read the document to verify the accuracy or completeness of the indexing information.</p>



NOTICE IN DEED

Legal Description

1324-NA Percolation Pond

That portion of Section 28, Township 14 North, Range 26 East Willamette Meridian, Benton County, Washington, described as follows:

Commencing at U. S. Corps of Engineers Monument HSWB-041 as marked by a 3-1/2" aluminum cap having grid coordinates of N 492,677.654, E 1,876,047.175, South Zone, Washington Coordinate System; thence South 08°36'39"E, 3091.44 feet to BM-2, marked by a 2" diameter brass cap having grid coordinates of N 489,621.06, E 1,876,510.04; thence South 75°38'01" West, 2173.51 feet to BM-1, marked by a 2" diameter brass cap having grid coordinates of N 489,081.76, E 1,874,404.50; thence North 31°39'22" East, 206.04 feet to the Southeastly corner of the 1324-NA Percolation Pond and the point of beginning; said point having grid coordinates of N 489,257.15, E 1,874,512.63; thence North 21°47'08" East, 253.20 feet; thence North 66°11'19" West, 222.29 feet; thence South 25°39'19" West, 364.06 feet; thence south 67°45'49" East, 66.40 feet; thence North 82°07'32" East, 207.50 feet to the point of beginning.

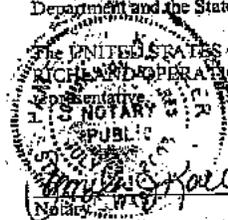
1324-N Surface Impoundment

That portion of Section 28, Township 14 North, Range 26 East Willamette Meridian, Benton County, Washington, described as follows:

Commencing at U. S. Corps of Engineers monument HSWB-041 as marked by a 3-1/2" aluminum cap having grid coordinates of N 492,677.654, E 1,876,047.175, South Zone, Washington Coordinate System; thence South 08°36'39"E, 3091.44 feet to BM-2, marked by a 2" diameter brass cap having grid coordinates of N 489,621.06, E 1,876,510.04; thence South 75°38'01" West, 2173.51 feet to BM-1, marked by a 2" diameter brass cap having grid coordinates of N 489,081.76, E 1,874,404.50; thence North 31°39'22" East, 206.04 feet; thence North 21°47'08" East, 253.20 feet; thence North 66°11'19" West to the Northeastly corner of the 1324-N Surface Impoundment and the point of beginning; said point having a grid coordinate of N 489,582.01, E 1,874,403.24; thence South 25°39'19" West, 162.71 feet; thence North 62°47'58" West, 109.12 feet; thence North 09°53'56" East, 7.89 feet; thence North 22°50'12" East, 148.53 feet; thence South 66°11'19" East, 118.59 feet to the point of beginning.

Legal Notation

The property described above, known as the 1324-N Surface Impoundment and the 1324-NA Percolation Pond, was used to manage dangerous waste pursuant to WAC-173-303. The Department of Energy, Richland Operations Office, closed these units in December of 2002, by removing wastes from the site during closure activities meeting soil "clean closure" standards under WAC 173-303-610(2)(b). Groundwater contamination attributable to these facilities remains above the secondary drinking water standard for sulfate. Therefore, use of this groundwater is restricted until such time as cleanup standards are met. A survey plat which includes information concerning the type, location, and quantity of dangerous waste disposed to the 1324-N Surface Impoundment and the 1324-NA Percolation Pond has also been filed with the Benton County Planning Department and the State of Washington Department of Ecology.



UNITED STATES OF AMERICA  
DEPARTMENT OF ENERGY

H. Boyd Hathaway  
Realty Specialist  
Date: 3/24/03

My Commission Expires July 18, 2003

**300 Area Process Trenches**

***Benton County Auditor File No.***

***1998-025988***



**Return Address:**  
 Department of Energy  
 Richland Operations Office  
 P.O. Box 550  
 Richland, Washington 99352

**PLEASE PRINT OR TYPE INFORMATION:**

<p>Document Title(s) (or transactions contained therein):</p> <ol style="list-style-type: none"> <li>1. Notice In Deed</li> <li>2.</li> <li>3.</li> <li>4.</li> </ol>
<p>Grantor(s) (Last name first, first name, middle initials):</p> <ol style="list-style-type: none"> <li>1. U.S. Department of Energy, Richland Operations Office</li> <li>2.</li> <li>3.</li> <li>4.</li> </ol> <p>Additional names on page ____ of document.</p>
<p>Grantee(s) (Last name first, first name, middle initials):</p> <ol style="list-style-type: none"> <li>1. N/A</li> <li>2.</li> <li>3.</li> <li>4.</li> </ol> <p>Additional names on page ____ of document.</p>
<p>Legal description (abbreviated: i.e. lot, block, plat or section, township, range, qr/qr):</p> <p>See attached Notice In Deed: <i>That portion of the west half of Section 2, Township 10 North, Range 28 East of the Willamette Meridian, Benton County, Washington.</i></p> <p>Additional legal is on page ____ of document.</p>
<p>Reference Number(s) of documents assigned or released:</p> <p>N/A</p> <p>Additional numbers on page ____ of document.</p>
<p>Assessor's Property Tax Parcel/Account Number:</p> <p>N/A None      Property Tax Parcel ID is not yet assigned.</p> <p>Additional parcel numbers on page ____ of document.</p>
<p>The Auditor/Recorder will rely on the information provided on the form. The staff will not read the document to verify the accuracy or completeness of the indexing information.</p>





**NOTICE OF DEED**

**Legal Description**

The portion of the west half of section 2, township 20 north, range 28 east of the Willamette meridian, Benton County, Washington and being more particularly described as follows:

Beginning at a brass cap monument designated as "COV", an order 8 station of the Washington State High Precision GPS Network having Washington State Plane Coordinates of north 111,263.393, east 593,463.034; thence north 00°40'48" east, 5,213.262 meters to the southeast corner of the 300 Area Process Trenches having Washington State Plane Coordinates of north 116,441.245, east 594,063.466 and the true point of beginning; thence north 02°02'20" west, 411,642 meters; thence north 89°30'45" west, 70.176 meters; thence north 00°22'35" west, 78.663 meters; thence north 80°00'50" east, 141.222 meters; thence north 80°34' east, 463.203 meters; thence south 82°44'12" west, 71.800 meters to the true point of beginning.

All bearings and distances are given based on the NAD 83/91 datum, Washington State Plane Coordinate System South Zone, coordinates are expressed in metric units.

Contains 4.07 hectares

**Legal History**

The property described above, known as the 300 Area Process Trenches, was used to manage dangerous waste pursuant to WAC 175-201. The Department of Ecology, Highest Operations Office, closed this facility in May 1993 by removal of dangerous waste constituents from the six existing "clean closure" units under WAC 175-201-5100(1)(b). Remaining contamination remains in the well above unexcavated pits. Groundwater contamination attributable to the 300 Area Process Trenches remains above cleanup standards at the time of preparation of this record of survey. Therefore, use of this groundwater is restricted well south of all cleanup standards as set. A survey plat which includes information concerning the type, location, and quantity of dangerous waste disposed to the 300 Area Process Trenches has also been filed with the Benton County Planning Department, the City of Richland Community Development Department, and the Washington State Department of Ecology.

*[Signature]*  
 Robert A. Adkins, Sr.  
 Realty Officer

*[Signature]*  
 Dennis K. Krout  
 Notary  
 State of Washington  
 County of Benton

My Commission Expires: July 09, 2001  
 Dated September 2, 1999





08/17/2004 11:14 FAX 5097665525

BC AUDITOR PROSSER

KENS ACD

4004

### Benton County Recording Cover Sheet

OFFICIAL RECORDS 15

57 6444

FILED BY

Mar 25 9 31 AM '97

REC'D BY: KEN PROSSER  
REC'D BY: KEN PROSSER

Return Address:  
Department of Energy  
Richland Operations Office  
P.O. Box 550 MSIN A2-45  
Richland WA 99352

VOL 662 PAGE 1120

**PLEASE PRINT OR TYPE INFORMATION:**

<p>Document Title(s) (or transaction contained therein):</p> <ol style="list-style-type: none"> <li>1. Notice</li> <li>2.</li> <li>3.</li> <li>4.</li> </ol>
<p>Grantor(s) (Last name first, first name, middle initials):</p> <ol style="list-style-type: none"> <li>1. U.S.A., Department of Energy</li> <li>2.</li> <li>3.</li> <li>4.</li> </ol> <p>Additional names on page _____ of document.</p>
<p>Grantee(s) (Last name first, first name, middle initials):</p> <ol style="list-style-type: none"> <li>1.</li> <li>2.</li> <li>3.</li> <li>4.</li> </ol> <p>Additional names on page _____ of document.</p>
<p>Legal description (abbreviated; i.e. lot, block, plat or section, township, range, qtr./qtr.)</p> <p>Portion of sections 20 and 29, T12N and R27E.</p> <p>Additional legal is on page <u>5</u> of document.</p>
<p>Reference Number(s) of documents assigned or released:</p> <p>Additional numbers on page _____ of document.</p>
<p>Assessor's Property Tax Parcel/Account Number</p> <p>Property Tax Parcel ID is not yet assigned.</p> <p>Additional parcel numbers on page _____ of document.</p>
<p>The Auditor/Recorder will rely on the information provided on the form. The staff will not read the document to verify the accuracy or completeness of the indexing information.</p>

08/17/2004 11:15 FAX 5097865528

BC AUDITOR PROSSEK

+ BEND ALM

12:00

OFFICIAL RECORDS

VOL 662 PAGE 1121



Department of Energy  
Richland Operations Office  
P.O. Box 550  
Richland, Washington 99352

MAR 18 1997

97-SID-075

Ms. Bobbie Eagner  
Benton County Auditor  
P.O. Box 470  
Prosser, Washington 99350

Dear Ms. Eagner:

## NOTATION OF HANFORD DEED LANDFILL

Please record this letter and its attachments to meet the requirements of the Code of Federal Regulations, Title 40, part 61, section 151, "Standard for Inactive Waste Disposal Sites for Asbestos Mills and Manufacturing and Fabrication Operations," which states:

- (e) "Within 60 days of a site becoming inactive and after the effective date of this subpart, record, in accordance with State law, a notation on the deed to the facility property and on any other instrument that would normally be examined during a title search; this notation will in perpetuity notify any potential purchaser of the property that":
- (1) The land has been used for the disposal of asbestos-containing waste material;
  - (2) The survey plot and record of the location and quantity of asbestos-containing waste disposed of within the disposal site; and
  - (3) The site is subject to 40-CFR, part 61, subpart M.

09/17/2004 11:15 FAX 6087885528

BC AUDITOR KRUSSEN

7 888 440

09/04

OFFICIAL RECORDS

VOL 662 PAGE 1122

Ms. Bobbie Gagner  
97-SID-075

-2-

MAR 18 1997

Attachment 1 is a map showing where the landfill is located in relation to the Hanford Site. Attachment 2 is a map showing the landfill in more detail, indicating where the asbestos-containing waste material is located. The legal description of the Solid Waste Landfill is as stated in Attachment 3.

If you have any questions or require additional information, please contact D. J. Ortiz, of my staff, on (509) 376-0960.

Sincerely,



W. A. Rutherford, Director  
Site Infrastructure Division

SID:DJ0

Attachments

cc w/attachs:

- T. Harper, FDH
- M. Jaraysi, Ecology
- R. Jim, YIN
- F. Ho, Ecology
- P. Neeso, Benton County Planner
- D. Powauke, NPT
- D. Rhodes, City of Richland
- D. Sherwood, EPA
- J. Wilkinson, CTUIR

cc w/o attachs:

- E. Dixon, DYN
- K. Johnson, DYN
- G. Mitchem, BHH
- S. Price, FDH
- J. Sonnichsen, RFSH



05/17/2004 11:16 FAX 5087865525

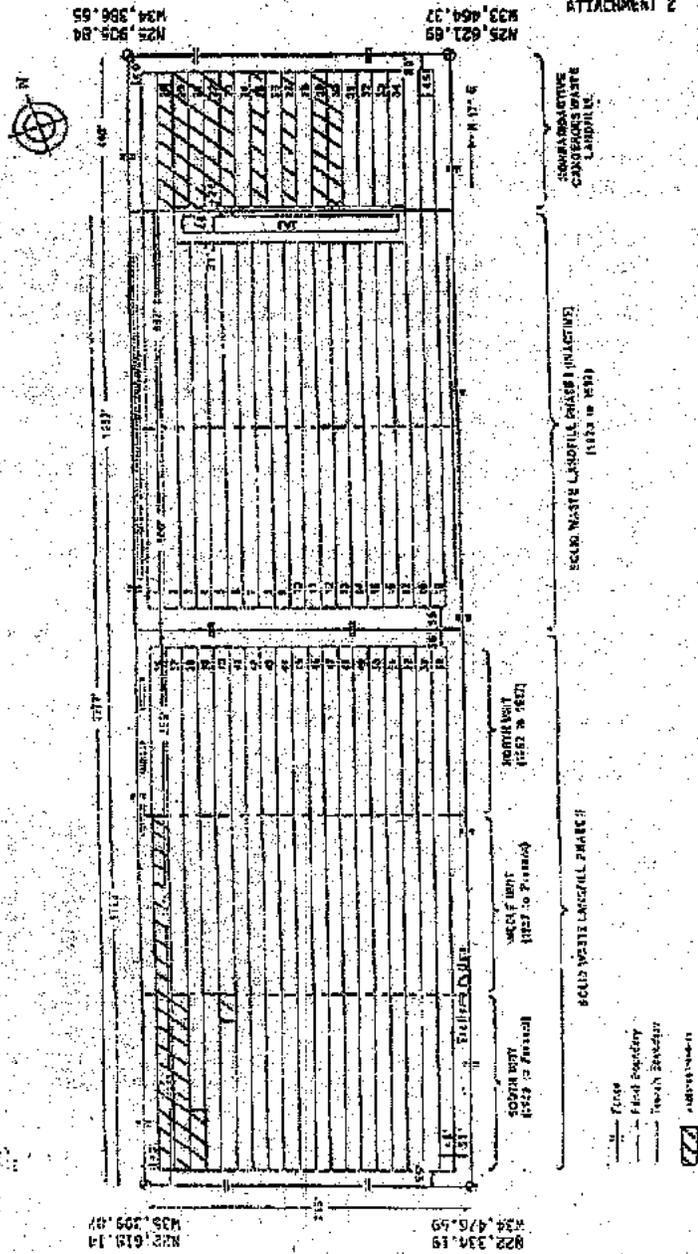
SC ALTIUK KRUDER

DESK 100

05/17

VOL 662 PAGE 1124

ATTACHMENT 2



06/17/2004 11:17 FAX 5097865528

BC AUDITOR PROSSER

- KENN AUD

ME 001

VOL 662 PAGE 1125

ATTACHMENT 3

DESCRIPTION

That part of the SW 1/4, Section 20 and the NW 1/4, Section 29, T12N, R27E, Willamette P.M., Benton County, Washington, more particularly described as follows:

commencing at National Geodetic Survey triangulation station MCKINLEY, where found a standard U.S.C.&G.S. disk, stamped MCKINLEY 1947; the coordinates for which monument in meters are N: 129737.552, E: 585140.920 referred to the Washington Coordinate System of 1983, South Zone (1991), which coordinate system is the basis of bearings, distances and area for this survey;

thence N 84°24'24" W 5756.019 meters to the point of beginning, where set a two inch aluminum monument, stamped "CEN3";

thence N 17°04'11" E 1051.960 meters to a point, where set a two inch aluminum monument, stamped "CEN2";

thence N 73°38'52" W 298.140 meters to a point, where found a concrete monument with metal plate, stamped "CEN1";

thence S 16°58'10" W 1048.237 meters to a point, where found a two inch aluminum monument, stamped "CEN4";

thence S 72°55'55" E 296.278 meters to the point of beginning;

encompassing 312087 square meters.



*Lewis*

# **Horn Rapids Landfill**

***Benton County Auditor File No.***

***1997-008784***

***(Vol. 663, Pgs 3633-3635)***

10

OFFICIAL RECORDS

97 8784

FILED BY

APR 18 9 33 AM '97

BOBBIE GAGNER  
BENTON COUNTY AUDITOR

VOL 663 PAGE 3633

Return Address: U.S. Department of Energy Richard Operations Office P.O. Box 550 Richland, WA 99352
---

PLEASE PRINT OR TYPE INFORMATION:

<b>Document Title(s) (or transactions contained therein):</b> 1. Notice in Deed for the Horn Rapids Land Co. II 2. 3. 4.
<b>Grantor(s) (Last name first, first name, middle initials):</b> 1. U.S. Department of Energy 2. 3. 4. Additional names on page _____ of document.
<b>Grantee(s) (Last name first, first name, middle initials):</b> 1. To the Public 2. 3. 4. Additional names on page _____ of document.
<b>Legal description (abbreviated: i.e. lot, block, plat or section, township, range, qr./qtr.):</b> Section 15, township 10 North, range 28 East Additional legal is on page _____ of document.
<b>Reference Number(s) of documents assigned or released:</b> Additional numbers on page _____ of document.
<b>Assessor's Property Tax Parcel/Account Number</b> 1-1508-100-0000-000 Property Tax Parcel ID is not yet assigned. Additional parcel numbers on page _____ of document.
<b>The Auditor/Recorder will rely on the information provided on the form. The staff will not read the document to verify the accuracy or completeness of the indexing information.</b>



OFFICIAL RECORDS 045116

U.S. Department of Energy

Richland Operations Office  
P.O. Box 550  
Richland, Washington 99352

VOL 663 PAGE 3634

Benton County Auditor  
P.O. Box 910  
Prosser, Washington 99350

Dear Sir:

NOTICE IN DEED

The U.S. Department of Energy, Richland Operations Office (RL), an operations office of the U.S. Department of Energy, which is a department of the United States Government, the undersigned, whose local address is the Federal Building, 825 Jadwin Avenue, Richland, Washington, hereby gives the following notice as required by 40 Code of Federal Regulations (CFR) 61.151. In conjunction with this requirement, RL hereby requests that this document be recorded, and become public record for future inquiries regarding the history of said parcel.

- 1. The United States of America is, and since April 1943, has been in possession in fee simple of the following lands:

Real property situated in the north one half of section 15, township 10 north, range 28 east, of the Willamette Meridian, Benton County, Washington, more particularly described as follows:

Beginning at the northwest corner of said section 15; thence south 00°44'52" east along the west line thereof, 849.40 feet; thence leaving said west line, north 89°15'08" east 2305.08 feet to the most northerly fence corner of the Horn Rapids Landfill (HRL) and the true point of beginning of this description.

Thence south 47°33'47" east, 705.38 feet; thence south 06°06'40" east, 915.11 feet; thence south 01°23'13" east, 347.61 feet; thence south 89°45'16" west, 1062.95 feet; thence north 08°08'24" west, 907.43 feet; thence north 19°33'09" east, 480.88 feet; thence north 46°16'52" east, 559.09 feet to the true point of beginning.

Contains 36.87 acres.

Bearings, distances, and coordinate valued cited herein are grid, reference to the Washington Coordinate System, South Zone, North American Datum of 1983, 1991 adjustment.

OFFICIAL RECORDS  
VBL 663 PAGE 3635 045116

Benton County Auditor

-2-

- 2. RL by operation of the HRL, has disposed of hazardous and/or dangerous waste under the terms of regulations promulgated by the U.S. Environmental Protection Agency (EPA) and the State of Washington Department of Ecology (Ecology) at the above described land.
- 3. The future use of this described land is restricted under the terms of 40 CFR 61.151 as an asbestos-containing landfill.
- 4. Any and all future purchasers of this land should inform themselves of the requirements of the regulations and ascertain the amount and nature of wastes disposed on this described property.
- 5. RL has filed a survey plat with the Benton County Planning Department, EPA, and Ecology, showing the location and dimensions of the HRL site, and a record of the type, location, and quantity of waste treated.

*Roger A. Jacob Sr.*  
 Roger A. Jacob Sr.  
 Realty Officer

*Eunice A. Riensche*  
 Notary in and for the  
 State of Washington  
 Residing in Benton Co.  
 Eunice A. Riensche

MY COMMISSION EXPIRES 4/19/97



MY \_\_\_\_\_