



07/3540.0810

START

0045196  
036012

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

**AUG 22 1996**

Mr. Steve M. Alexander  
Perimeter Areas Section Manager  
Nuclear Waste Program  
State of Washington  
Department of Ecology  
1315 W. Fourth Avenue  
Kennewick, Washington 99336-6018

Mr. Douglas R. Sherwood  
Hanford Project Manager  
U.S. Environmental Protection Agency  
712 Swift Boulevard, Suite 5  
Richland, Washington 99352-0539



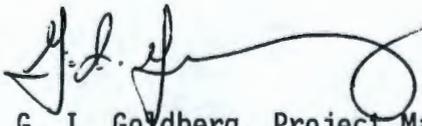
Dear Messrs. Alexander and Sherwood:

100 AREA WASTE SITE RECLASSIFICATION PACKAGES (ATTACHMENT 1)

This letter transmits the subject packages for 26 waste sites from the 100 Area that are being submitted to the U.S. Environmental Protection Agency and the State of Washington, Department of Ecology. All packages have been prepared in accordance with the Maintenance of the Waste Information Data System (WIDS), Tri-Party Agreement Handbook Management Guidelines, Document Number RL-TPA-90-001, Draft Procedure Number TPA-MG-08, dated May 31, 1996. A table summarizing the 26 waste site packages being nominated for reclassification in WIDS is provided in Attachment 2. Attachment 3 is a map identifying the location of the 26 wastes sites.

This submittal is the culmination of an intensive effort by the U.S. Department of Energy, Richland Operations Office, to review 100 Area waste sites for purposes of reclassification in WIDS. Attachment 4 is regulatory and other considerations applied during evaluation of these sites.

If you have any questions, please contact me on at 376-9552.

Sincerely,  
  
G. I. Goldberg, Project Manager  
Remedial Actions Project

RAP:GIG

Attachments: As stated

cc w/o attaches:  
C. E. Corriveau, BHI  
D. A. Faulk, EPA  
L. E. Gadbois, EPA

C. W. Hedel, CHI  
K. K. Holliday, Ecology  
J. R. James, BHI  
W. W. Soper, Ecology

9713540.0811

036012

Attachment 1

# 26 Waste Site Reclassification Packages

9713540 0812

<u>Date Submitted:</u> August 30, 1996  Originator: J.R. James, BHI  Phone: 372-9563	<b>WASTE SITE RECLASSIFICATION FORM</b>  <u>Operable Unit(s):</u> 100-BC-1  <u>Waste Site ID:</u> 126-B-4, B Area Brine and Salt Dilution Pits; 126-B-4 Brine Pit  <u>Type of Reclassification Action:</u>  Rejected <input type="checkbox"/> Closed Out <input type="checkbox"/> No Action <input checked="" type="checkbox"/>	<u>Control Number:</u>
---	---	------------------------

This form documents agreement among the parties listed below authorizing classification of the subject waste site from the TPA solid waste management unit listing as rejected, closed out, or no action and authorizing backfill of the waste site, if appropriate. Final removal from the NPL will occur at a future date.

Description of current waste site condition:

The 126-B-4 Brine and Salt Dilution Pits are located in the 100-BC-1 Operable Unit north of former 184-B Building and just south of the railroad tracks, at approximately Washington State Plane coordinates (E) 564913.9 (N) 144901.3. Operational from about 1944 to 1969, the brine pit and the salt dissolving pit were belowgrade concrete vaults with internal void spaces (brine pit: 500 cu. ft., salt dissolving pit: 900 cu. ft.) divided into chambers by interior walls. The chambers were covered with either a wooden or metal hatch through which salt was unloaded from rail cars. The vaults were used for mixing salt and water to produce a brine solution (sodium chloride/water). The brine solution was used to regenerate the zeolite ion exchange demineralizers that were a part of the treatment of water used for steam generation. The vaults were cleaned out by removing all liquid waste and salt cake, and were certified clean before in situ demolition and final grading, which occurred in March, 1988. The vaults were partially backfilled with rubble, poked with drainage holes, and leveled to grade with clean fill. Today, there is no evidence of the site remaining on the surface which appears as a cobble- and ash-covered field, with natural vegetation growth.

No CERCLA hazardous substances, pollutants, or contaminants were known or anticipated to have been received, stored, or disposed at this site. Samples showed sodium chloride concentrations less than 1 percent.

Reference list:

1. *Environmental Sites Database General Summary Report*, WIDS, Site Code: 126-B-4, August 12, 1996.
2. Carpenter, R. W., 1994, *100-B Area Technical Baseline Report*, WHC-SD-EN-TI-220, Rev. 0, Westinghouse Hanford Company, Richland, Washington, May 18, 1994.
3. Griffin, P. W., 1988, *184-B Powerhouse, 184-D Powerhouse, 1717-F Maintenance Shop Facility Decommissioning Report*, SD-DD-TI-033, Rev. 0, October 5, 1988.

Basis for reclassification:

This site is nominated as "No Action" because it has already been adequately remediated. Process knowledge indicates that the vaults were only used to prepare brine solution. No CERCLA hazardous substances were known, or anticipated to have been received, stored, or disposed at the vaults. Sodium chloride concentrations were less than 1 percent, and therefore, did not designate as dangerous waste under WAC 173-303. In March, 1988, Northwest Environmental Services, Inc. removed all the waste and salt cake from the vaults and certified them to be clean before in situ demolition and final grading. No further action under RCRA or CERCLA is required at this site.

DOE Project Manager	Signature	Date
Ecology Project Manager	Signature	Date
EPA Project Manager	Signature	Date

## Environmental Sites Database General Summary Report

Site Code: 126-B-4      Site Classification: Accepted      12-Aug-96      Page 1

Site Names: 126-B-4, B Area Brine and Salt Dilution Pits; 126-B-4 Brine Pit.

Site Type: Brine Pit

Programmatic Responsibility: Undefined

Site Description: North of 184-B and just south of the railroad tracks. This unit consists of two pits: A salt-dissolving pit and a brine pit. Salt was off-loaded from railroad cars into these pits. The brine solutions were used as part of the zeolite water treatment system in the 184-B Building. Both pits were below grade concrete vaults with internal void spaces. The brine pit had a capacity of 500 ft<sup>3</sup> (14.2 m<sup>3</sup>), and the dissolving pit had a capacity of 900 ft<sup>3</sup> (25.5 m<sup>3</sup>). 12/16/95

Status: Inactive

Start Date: 1944

End Date: 1969

Operable Unit: 100-BC-1

Hanford Area: 100B

Coordinates: (E) 564913.9      (N) 144901.3      Washington State Plane

Associated Structures:

Site Accessible: No

Access Requirements:

Site Hazards:

Location Description:

Environmental Monitoring Desc:

Release Desc:

Release Potential Desc:

Site Comment: The site was demolished in situ March 1988. Both pits were sampled for radiation and EP toxic metals. Samples showed less than 1% NaCl concentration, and no reportable concentrations of heavy metals were found. The samples also showed no significant radiation above background. Northwest Environmental Services, Inc. removed all waste and salt cake from the pits and certified them clean before in situ demolition and final grading. The pits were partially backfilled with rubble and leveled to grade with clean fill. Since the pits were used in the zeolite water treatment process, which was in use when the 184-B Powerhouse was in operation, it is presumed that the operating dates were from 1944 to 1969.

Process Desc:

References:

1. M. S. Kitts, 10-3-91, WIDS Site Addition, 126-B-4.
2. P. W. Griffin, 10-5-88, 184-B Powerhouse, 184-D Powerhouse, 1717-F Maintenance Shop Facility Decommissioning Report, SD-DD-PI-033.
3. M-1600-B SHT5.
4. R. W. Carpenter, 05-18-94, 100-B Area Technical Baseline Report, WHC-SD-EN-TI-220.

---

**Regulatory Information:**

Part A Permit Application Written:	No	Interim Closure Plan Written:	No
Part B Permit Application Written:	No	Covered under TPA Action Plan:	Yes
Registered Class V Underground Injection Well:	No	Solid Waste Management Unit:	Yes
Regulatory Authority:	CERCLA Past Practice		
TSD Number:			

**References:**

1. Regulatory Analysis to J. L. Waite, 10-17-90, Solid Waste Management Units at the Hanford Site, 81150-90-129 (Internal Memo).
2. M. S. Kitts, 10-3-91, WIDS Site Addition, 126-B-4.

---

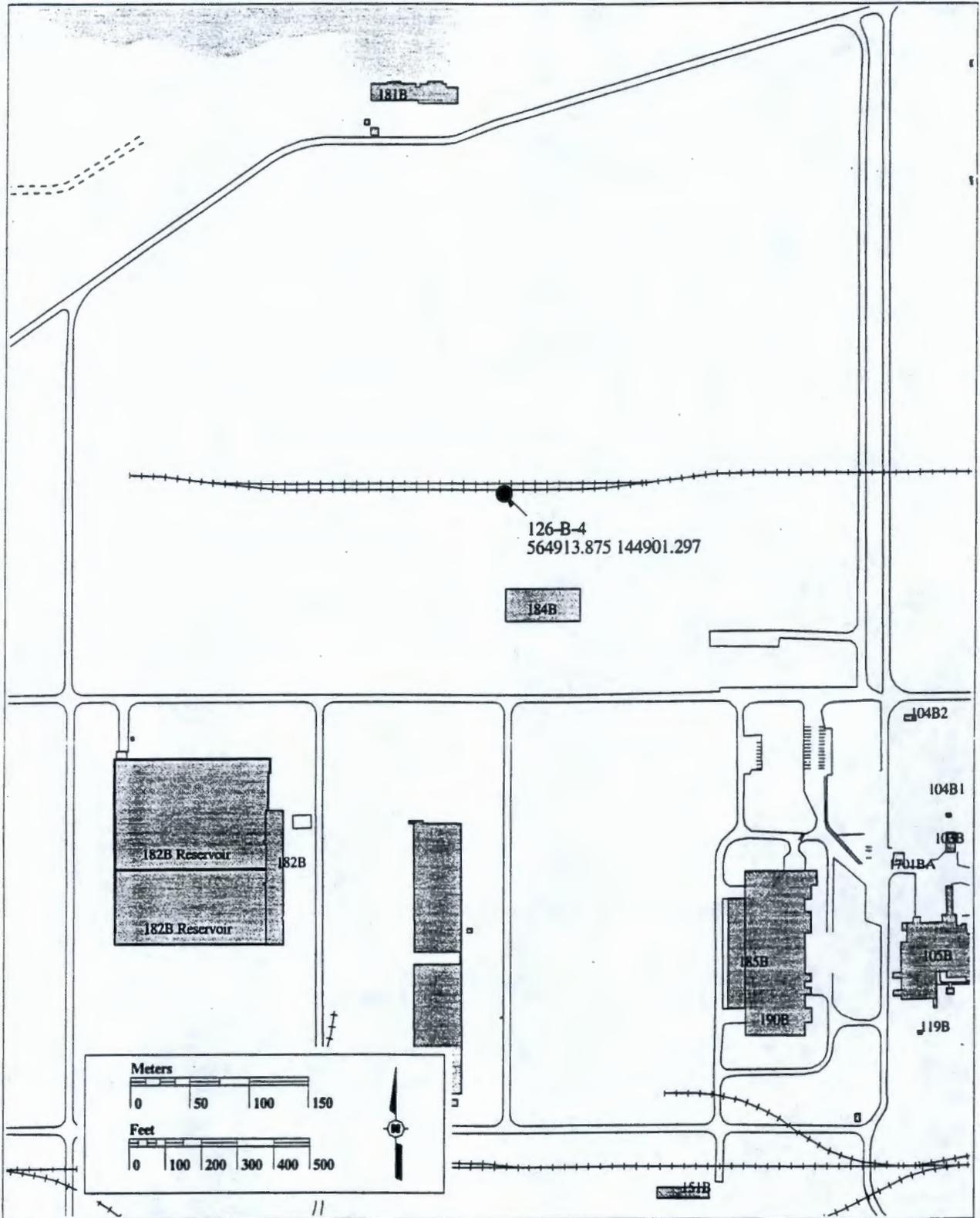
**Waste Information:**

**Type:** Demolition and Inert Waste <sup>12/16/95</sup> **Physical State:** Solid  
**Category:** Nonhazardous/nonradioactive  
**Amount:** **Units:**  
**Reported Date:**  
**Start Date:**  
**End Date:**

**Waste Desc:****References:**

1. M. S. Kitts, 10-3-91, WIDS Site Addition, 126-B-4.
-

# 126-B-4



# 100-B Area Technical Baseline Report

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



**Westinghouse**  
**Hanford Company** Richland, Washington

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

**PLEASE RETURN TO:  
ENVIRONMENTAL DIVISION  
RESOURCE CENTER**

## SUPPORTING DOCUMENT

1. Total Pages 297

2. Title 100-B Area Technical Baseline Report	3. Number WHC-SD-EN-TI-220	4. Rev No. 0
5. Key Words 100-B Area, B Reactor, C Reactor, solid wastes, liquid wastes, storage basins, septic systems, burial grounds, waste sites	6. Author Name: R. W. Carpenter  Signature Organization/Charge Code 8B200/P7113F	
7. Abstract <p>This document supports the environmental remediation effort of the 100-B Area by providing remediation planners with key data that characterize the 100-B and 100-C Reactor sites. It provides operational histories of the 100-B and 100-C Reactors and each of their associated liquid and solid waste sites.</p> <p>Carpenter, R. W., S. L. Cote, D. H. Deford, and M. W. Einan, 1994, <i>100-B/C Area Technical Baseline Report</i>, WHC-SD-EN-TI-220, Rev. 0, Westinghouse Hanford Company, Richland, Washington.</p>		
8. <del>PURPOSE AND USE OF DOCUMENT - This document was prepared for use within the U.S. Department of Energy and its contractors. It is to be used only to perform, direct, or integrate work under U.S. Department of Energy contracts. This document is not approved for public release until reviewed.</del> <del>PATENT STATEMENT - This document is not to be published nor its contents otherwise disseminated or used for purposes other than specified above before patent approval for such release of use has been secured, upon request, from the Patent Counsel, U.S. Department of Energy Field Office, Richland, WA.</del>  DISCLAIMER - This report was prepared as an account of work sponsored by an agency of the United States Government. Neither the United States Government nor any agency thereof, nor any of their employees, nor any of their contractors, subcontractors or their employees, makes any warranty, express or implied, or assumes any legal liability or responsibility for the accuracy, completeness, or any third party's use or the results of such use of any information, apparatus, product, or process disclosed, or represents that its use would not infringe privately owned rights. Reference herein to any specific commercial product, process, or service by trade name, trademark, manufacturer, or otherwise, does not necessarily constitute or imply its endorsement, recommendation, or favoring by the United States Government or any agency thereof or its contractors or subcontractors. The views and opinions of authors expressed herein do not necessarily state or reflect those of the United States Government or any agency thereof.	10. RELEASE STAMP  <div style="border: 1px solid black; padding: 5px; text-align: center;">OFFICIAL RELEASE (11) BY WHC DATE MAY 18 1994 <i>Station # 12</i></div>	
9. Impact Level NA		

aw  
11-94  
A. ROVED FOR  
PUBLIC RELEASE

#### 4.28 126-B-4 (B AREA BRINE AND SALT DILUTION PIT SITES)

126-B-4 is an inactive, nonhazardous/nonradioactive solid waste site that ceased operation prior to 1980. It is located north of the former 184-B Building, and just south of the railroad tracks, at Hanford coordinates N70371 W81908 (WHC 1991). The site is commonly known as the B Area Brine and Salt Dilution Pits, although it has also been known as the 126-B-4 Brine Pit Site.

This waste site consists of two pit sites: a salt-dissolving pit and a brine pit. Salt was offloaded from railroad cars into these pits. The brine solutions were used as part of the zeolite water treatment system in the 184-B Building. Both pits were below-grade concrete vaults with internal void spaces. The brine pit had a capacity of 500 ft<sup>3</sup>, and the dissolving pit had a capacity of 900 ft<sup>3</sup> (DOE-RL 1992, Griffin 1988).

Because the pits were used in the Zeolite Water Treatment process, which was in use when the 184-B Powerhouse was in operation, it is presumed that the operating dates were 1944 to 1969.

The brine pits were demolished, in situ, in March 1988 and were sampled for radiation and EP toxic metals. Samples showed an NaCl concentration of less than 1%, and no reportable concentrations of heavy metals were found. The samples also showed no significant radiation above background. Northwest Environmental Services, Incorporated, removed all waste and salt cake from the pits and certified them clean before in situ demolition and final grading. Although not radioactive or hazardous, the release of large quantities of brine would have an effect on soil and groundwater quality, as well as a potential effect on groundwater flow directions. The pits were partially backfilled with rubble and leveled to grade with clean fill (DOE-RL 1992, Griffin 1988).

No HRS migration score has been assigned to this waste site.

The brine pit appears today as a cleared area covered by cobbles and coal ashes, with natural vegetation growing on the surface. No evidence of the site remains on the surface. The pit can be identified by the section of railroad ties that are missing. There are no other signs or markers.

**ENGINEERING DATA TRANSMITTA**  
(USE BLACK INK OR TYPE)

OCT 5 1988

(2) To: (Receiving Organization) See Signature Block	(3) From: (Originating Organization) Decommissioning Engineering	(1) EDT 101286
(5) Proj/Prog/Dep/Div: 80423	(6) Cog/Proj Engr: P.W. Giffin 3-3916 R2-77	(4) Related EDT No: N/A
(8) Originator Remarks: The attached FDR has incorporated all review comments per EDT 101276 and is submitted for approval. The response date is required to meet issue commitment date of 09/30/88.		(7) Purchase Order No: N/A
		(9) Equip/Component No: N/A
		(10) System/Div/Facility: N/A
		(12) Major Acam Uwg No: N/A
(11) Receiver Remarks:		(13) Required Response Date: September 30, 1988

**(14) DATA TRANSMITTED**

(A) Item No.	(B) Document/ Drawing, No.	(C) Sht. No.	(D) Rev. No.	(E) Title or Description of Data Transmitted	(F) Impact Level	(G) Reason for Transmittal	(H) Originator Disposition	(I) Receiver Disposition
1	SD-DD-TI-033		0	184-B Powerhouse, 184-D Powerhouse and 1717-F Maintenance Shop Facility	3	1		

**(15) KEY**

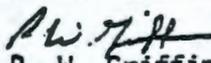
Impact Level (F)	Reason for Transmittal (G)	Disposition (H) & (I)
1, 2, 3, or 4 see MRP 5.43 and EP 1.7	1. Approval 2. Release 3. Information	4. Review 5. Post-Review 6. Receipt acknowledged

**(16) SIGNATURE/DISTRIBUTION**  
(See Impact Level for required signatures)

Reason Disp	(K) Signature		(L) Date		Reason Disp
	(J) Name	(K) Signature	(L) Date	(J) Name	
1	D.R. Soeer (3)	<i>[Signature]</i>	R2-77	5-30-88	
1	R. G. Dieffenbacher	<i>[Signature]</i>	X7-05	10/13/88	
1	L.P. Diediker	<i>[Signature]</i>	X0-21	10/3/88	
1	W. F. Heine (2)	<i>[Signature]</i>	R1-15	10/13/88	
1	N.C. Hughes	<i>[Signature]</i>	R1-15	9-30-88	
1	S.G. Hodge	<i>[Signature]</i>	R3-54	10/13/88	

(17) <i>[Signature]</i> 9/25/88 Signature of EDT Originator	(18) _____ Authorized Representative for Receiving Organization	(19) <i>[Signature]</i> 9-30-88 Cognizant/Project Engineer's Date
(20) DOE APPROVAL (if required) LTR No. _____ <input type="checkbox"/> Approved <input type="checkbox"/> Approved w/comments <input type="checkbox"/> Disapproved w/comments		

## SUPPORTING DOCUMENT

<b>Title</b> 184-B Powerhouse, 184-D Powerhouse, 1717-F Maintenance Shop Facility Decommissioning Report	<b>Number</b> SD- DD-TI-033	<b>Rev. No.</b> 0	<b>Page</b> A
<b>Key Words</b> Final Site Cleanup. Standard Demolition, Work Sequence, Cost, Schedule.	<b>Author</b>  P. W. Griffin <b>Signature</b>  80423 <b>Organization Code</b>		

## Abstract

This report documents the final site cleanup of the previously decommissioned 184-B Powerhouse, 184-D Powerhouse, and 1717-F Maintenance Shop. The report includes the three site cleanup projects because their like-work effort and contiguous FY 88 work schedule. The site projects started in January 1988 and were completed in April 1988.

The superstructures of each facility were previously demolished, leaving the foundation slabs, footings, tunnels, pits and other associated concrete structures at or near grade level for site cleanup.

The facilities concrete structures were exposed by excavating and demolishing to at least three feet below grade. The tasks were accomplished using conventional heavy equipment including a crane with a wrecking ball, earth-moving bulldozer, backhoe, front-end loader, and trucks for demolition, rubble removal/disposal and site backfill.

No Radiological Work Procedures (RWP) were required based on prior usage, operating history and project site surveys.

**PURPOSE AND USE OF DOCUMENT** - this document was prepared for use within Westinghouse Hanford Company and is to be used only to perform, direct, or integrate work under USDOE contracts. THIS DOCUMENT IS NOT APPROVED FOR PUBLIC RELEASE UNTIL REVIEWED.

**PATENT STATUS** - This document copy, since it is transmitted in advanced of patent clearance, is made available in confidence solely for use in performance of work under contracts with the USDOE. This document is not to be published nor its contents otherwise disseminated or used for purposes other than specified above before patent approval for such release or use has been secured, upon request, from the USDOE Patent Attorney, Richland Operations Office, Richland, WA.

(Place an "X" in the box that applies)

RELEASE STAMP

**UNCLASSIFIED CONTROLLED NUCLEAR INFORMATION** - Not for public dissemination. May contain Unclassified Controlled Nuclear Information subject to Section 148 of the Atomic Energy Act of 1954, as amended (42 USC 2168). Approval by the USDOE is required before release. Attach Blue Cover RLF-5635-3.

**APPLIED TECHNOLOGY** - Any further distribution by any holder of this document or of the data therein to third parties representing foreign interests, foreign governments, foreign companies and foreign subsidiaries or foreign divisions of United States companies should be coordinated with the USDOE, Deputy Assistant Secretary for Reactor Systems Development and Technology.

OFFICIAL RELEASE  
BY WHC  
DATE OCT 5 1988



sta #4

Impact Level 3

### 2.3 PHYSICAL DESCRIPTION

The 184 Powerhouse Buildings were of steel frame and concrete block construction. The roofs were of precast concrete with built-up gravel surface. The 184-B Facility contained four coal fired boilers and the 184-D Facility had five boilers, each boiler had a 290 ton capacity coal banker which was fed by gravity into a stoker-feeder hopper serving five steam turbine stokers. Draft for each boiler was provided by 45,000 ft<sup>3</sup>/min turbine driven blowers.

Furnace gas discharge was through two 300 ft stacks located adjacent to the 184-B Building and three 300 ft stacks at 184-D. The stacks were of reinforced concrete construction, round, with a base diameter of 22 ft-5 in. Maximum wall thickness of concrete was 1-1/2 ft at the stack base. Each stack rested on a double octagonal shaped base which extended 10 ft-3 in. below grade. The upper octagon measured 25 ft across the flats and was 3 ft-3 in. thick. The lower octagon was 34 ft across the flats and 7 ft thick.

The previous excessing demolition program left the powerhouse foundation slabs, footings and several associated concrete structures intact. The foundation slabs were exposed, with concrete equipment mounts rising 1 to 3 ft above the main slabs. The 184-D three massive stack bases were left intact. The general area was littered with demolition rubble.

The salt dissolving pits and brine pumping stations were located adjacent to the railroad tracks north of the powerhouse slab. A small wood structure was left standing at the 184-B brine pump pit. The two dissolving pits at each site were below grade concrete vaults with an internal void space of about 900 ft<sup>3</sup> each. The brine pump pit was also below grade and comprised of 500 ft<sup>3</sup> of void space. The 184-B pits were partially backfilled with rubble and only the brine pump pit contained water (about 500 gal). The 184-D brine pits contained water (about 4,100 gal) and salt cake (about 8.3 yd<sup>3</sup>).

## 4.0 MATERIAL CHARACTERIZATION

### 4.1 HAZARDOUS MATERIALS

The subject sites were thoroughly surveyed for both radiological and nonradiological hazardous materials as the first step in the decommissioning process. The water in the 184-B brine water pump pit (approximately 500 gal), 184-B septic tank (approximately 4,900 gal) and 184-D salt dissolving pits (approximately 4,100 gal) were sampled for analysis. The 184-B brine water pump pit water analysis results found no significant radioactivity above background, NaCl concentration less than 1%, and HEHF Laboratory detected no reportable concentrations of heavy metals (EP Toxicity Test). The 184-B septic tank water analysis results found no significant radioactivity above background and HEHF Laboratory detected no reportable concentrations of heavy metals. The 184-D salt dissolving pits water analysis results found no significant radioactivity above background, HEHF Laboratory detected no reportable concentration of heavy metals, however, the NaCl concentrations were greater than 10% (Hazardous Material limit). The 184-D salt dissolving pits also contained approximately 8.3 yd<sup>3</sup> of salt (NaCl) cake.

The in-progress site cleanup excavation found friable asbestos insulation debris placed in a concrete valve box (460 ft<sup>3</sup>) in the 184-B Powerhouse floor slab and covering a 1-1/2 in. diameter heater pipe (approximately 10 ft<sup>3</sup>) in the 184-D Coal Tunnel. A 4-in. diameter cemented asbestos pipe was also found under the 184-D Powerhouse floor slab and transite siding fragments were found at the 184-D Coal Facility and 1717-F site (approximately 768 ft<sup>3</sup>). This asbestos waste was removed for proper disposal at the 200 Area Central Landfill. Some fragments of transite siding were irretrievable from the 184-D Coal Tunnel and were left mixed with the demolition debris.

### 4.2 RADIOLOGICAL

Radiological controls were based on the usage and operating history of the facilities. These facilities were never radiologically controlled sites, nor were radioactive materials stored on the sites. No Radiation Work Procedures (RWP) were required because project radiological surveys did not identify contaminated material prior to or during site cleanup activities.

## 5.0 DECOMMISSIONING WORK SEQUENCE

### 5.1 SITE PREPARATION

The following site preparations were completed before any final site cleanup work began. All preparations complied with the approved Decommissioning Work Procedure (DWP) and Job Safety Analysis (JSA).

- Decommissioning Engineering and Decommissioning Operations inspection determined there were no energized power sources or active underground utilities in the area. They also provided an excavation permit.
- The abandoned railroad track adjacent to the coal pits and salt dissolving pits at the Powerhouse sites had track sections removed prior to demolition.
- Initial site surveys by Radiation and Operational Health Physics found no significant radioactivity above background. The surveys substantiated a Radiation Work Procedure (RWP) would not be required to initiate site cleanup. Follow-on surveys verified no RWPs were needed during site cleanup.
- Decommissioning Health Physics obtained samples from the pits and tanks containing water and performed analyses which verified that no significant radiological readings above background were present. Health Physics also, obtained hazardous waste analysis for heavy metals and NaCl concentration on the samples prior to starting site cleanup.

### 5.2 SITE CLEANUP ACTIVITIES

Work began the fourth week of January 1988 for the 184-B site, second week of February 1988 for the 184-D site, and fourth week of March for the 1717-F site after the site specific Decommissioning Work Procedures including Job Safety Analysis and Operations Readiness Checklist were approved and issued.

An access control point was established and posted at the cleanup sites for each of the Areas. All equipment, vehicles and personnel entered and exited through the control point. Radiological surveys were performed by Operational Health Physics, including the initial site survey and periodic in-progress work surveys which verified that no radiological controls were warranted. No special protective clothing or equipment was required.

Equipment mobilization and preparation work was fairly repetitive for the three site cleanup efforts. The water from the brine pits and septic tank was all sampled and analyzed at the same time in January 1988. The railroad tracks were removed consecutively. The Railroad Maintenance and Decommissioning Operations started removing track at 184-B the last week of January and completed the 184-D track removal the second week of February 1988. The water

and salt cake (NaCl concentration greater than 10%) was removed from the 184-D brine pits and disposed of as hazardous waste by an offsite subcontractor, Northwest Enviro Services Inc., during the first week of March 1988 prior to demolition and backfill.

Concrete structures at all sites were exposed by excavating and demolished to at least 3 ft below grade (Figures 9, 10, and 11). The demolition, rubble removal/disposal and site backfill tasks were accomplished using conventional heavy equipment including a crane with a wrecking ball, earth moving bulldozer, backhoe, front-end loader, and trucks. Dust control was maintained with water spray before and during demolition activities. As excavation uncovered friable asbestos insulation (184-B Powerhouse Valve Pit Box and 184-D Coal Tunnel heater pipe) and nonfriable cemented asbestos (transite) siding fragments, (mainly in 184-D Coal Handling Facility and 1717-F Building slab area) the material was handled, packaged and transported for disposal in the Hanford central landfill in compliance with the regulations and requirements described in UNI-M-38, Industrial Safety Manual (Reference 5) and UNI-M-29, Shipment of Radioactive and Other Hazardous Material (Reference 6). The 184-D Coal Facility has transite (non-friable asbestos) mixed with other inert demolition debris from a previous program. Transite buried deeper than 3 ft was left in situ by covering with clean backfill as concurred with by 100 Areas Environmental Protection on March 18, 1988 in compliance with requirements of UNI-M-31, Environmental Control Manual (Reference 7).

Prior to backfilling over the demolished in situ rubble and components, holes were punched in the tunnels, pits, and tank bottoms for drainage. The concrete rubble left in situ was worked into position to reduce voids and minimize future subsidence. The material was also compacted to increase the distance below grade to assure room for at least 3 ft of clean backfill. Heavy equipment was driven over the backfill to insure compaction. The in situ rubble was buried at least 3 ft deep for all site facilities.

No radioactive materials were found within the site structures.

## 6.0 PROJECT BUDGET AND SCHEDULE

### 6.1 PROJECT COSTS

The estimated cost and budget baseline amount for the final site cleanup of the 184-B Powerhouse, 184-D Powerhouse, and 1717-F Maintenance Shop was \$128,200. Initially, work progressed very well with indications that hazardous waste disposal costs would be absorbed by the Hanford Waste Management contract and would not be charged back to the project, which would result in a budget underrun. The budget was revised in April 1988 as part of the Hanford Facilities Decommissioning Programs FY 1988 mid-year budget review. The budget rebaseline effort is documented on Change Request No. U88-017, dated April 22, 1988. The rebaselined final site cleanup budget was adjusted to \$119,300. Actual costs were \$128,700. The \$9,400 (7.9%) cost overrun was primarily due to the costs for disposing of the brine water and salt cake via offsite hazardous waste disposal contractor services being charged back to the project. Table 1 summarizes the final site cleanup costs.

### 6.2 PROJECT SCHEDULE

Final site cleanup activities were authorized to proceed when the site specific Decommissioning Work Procedures and Operations Readiness Checklists were approved and issued on January 19, 1988 for the 184-B site, February 3, 1988 for the 184-D site, and February 26, 1988 for the 1717-F site. Site preparation including surveys, sampling, track removal (184-B and -D), and mobilization preceded site cleanup activities. The 184-B site cleanup activities were initiated January 26 and final grading of the site was completed March 1, 1988. The 184-D site cleanup mobilization was started February 16 and demolition of the structure began February 22, 1988. The 184-D final site grading and inspection of work area was completed March 29, 1988. The 1717-F site cleanup demolition started March 22, 1988 and final grading of the site was completed April 5, 1988. Decommissioning Engineering and Operations site walk down on April 6, 1988 officially verified completion of the project.

9713510.0026

<u>Date Submitted:</u> August 30, 1996	<b>WASTE SITE RECLASSIFICATION FORM</b>	<u>Control Number:</u>
Originator: J.R. James, BHI	<u>Operable Unit(s):</u> 100-BC-1	
Phone: 372-9563	<u>Waste Site ID:</u> 1607-B1, 1607-B1 Septic Tank System, 124-B-1, 1607-B1 Sanitary Sewer System	
	<u>Type of Reclassification Action:</u>	
	Rejected <input checked="" type="checkbox"/> Closed Out <input type="checkbox"/> No Action <input type="checkbox"/>	

This form documents agreement among the parties listed below authorizing classification of the subject waste site from the TPA solid waste management unit listing as rejected, closed out, or no action and authorizing backfill of the waste site, if appropriate. Final removal from the NPL will occur at a future date.

Description of current waste site condition:

The 1607-B1 Septic Tank System is an inactive system consisting of a septic tank and associated drain field located in the 100-BC-1 Operable Unit, at approximately Washington State Plane coordinates (E) 566035.6 (N) 144762.5, north of the 1720-B Patrol Change Room and offices, well removed from any former operational facilities. The tank is a reinforced concrete structure; the drain field was constructed of vitrified and concrete pipe and drain tiles. Today, 1607-B1 appears as a vegetation and gravel covered area that is raised approximately 4 feet above the surrounding terrain; with no other posts or markings. The system supported the 1701-B Badgehouse, 1709-B Fire Station, and the 1720-B Patrol Change Room and offices between 1944 and 1960. There were no documented activities conducted in these buildings involving the use of hazardous chemicals or the receipt or generation of dangerous waste. Based on the use of these facilities, no such activities would have been likely.

Reference list:

1. *Environmental Sites Database General Summary Report*, WIDS, Site Code: 1607-B1, August 12, 1996.
2. Carpenter, R. W., 1994, *100-B Area Technical Baseline Report*, WHC-SD-EN-TI-220, Rev. 0, Westinghouse Hanford Company, Richland, Washington, May 18, 1994.

Basis for reclassification:

This site is nominated as "Rejected" because there have been no dangerous wastes or CERCLA hazardous substances used or released at this site. This is an inactive site that received only sanitary waste associated with personal comfort needs of personnel assigned to the 1701-B Badgehouse, 1709-B Fire Station, and 1720-B Patrol Change Room and offices. Activities at these buildings were generally administrative and did not involve the use or processing of any hazardous or dangerous substances. These buildings were physically separated from operational facilities. Available documentation does not indicate any incidence of hazardous substance or dangerous waste discharges. Further action at this site, if required, will be conducted in accordance with the State of Washington Department of Health regulations for On-Site Sewage Systems (WAC 246-272).

_____ DOE Project Manager	_____ Signature	_____ Date
_____ Ecology Project Manager	_____ Signature	_____ Date
_____ EPA Project Manager	_____ Signature	_____ Date

9713540-0827

<u>Date Submitted:</u> August 30, 1996  Originator: J.R. James, BHI  Phone: 372-9563	<b>WASTE SITE RECLASSIFICATION FORM</b>  <u>Operable Unit(s):</u> 100-BC-1  <u>Waste Site ID:</u> 1607-B1, 1607-B1 Septic Tank System, 124-B-1, 1607-B1 Sanitary Sewer System  <u>Type of Reclassification Action:</u>  Rejected <input checked="" type="checkbox"/> Closed Out <input type="checkbox"/> No Action <input type="checkbox"/>	<u>Control Number:</u>
---	---	------------------------

This form documents agreement among the parties listed below authorizing classification of the subject waste site from the TPA solid waste management unit listing as rejected, closed out, or no action and authorizing backfill of the waste site, if appropriate. Final removal from the NPL will occur at a future date.

Description of current waste site condition:

The 1607-B1 Septic Tank System is an inactive system consisting of a septic tank and associated drain field located in the 100-BC-1 Operable Unit, at approximately Washington State Plane coordinates (E) 566035.6 (N) 144762.5, north of the 1720-B Patrol Change Room and offices, well removed from any former operational facilities. The tank is a reinforced concrete structure; the drain field was constructed of vitrified and concrete pipe and drain tiles. Today, 1607-B1 appears as a vegetation and gravel covered area that is raised approximately 4 feet above the surrounding terrain, with no other posts or markings. The system supported the 1701-B Badgehouse, 1709-B Fire Station, and the 1720-B Patrol Change Room and offices between 1944 and 1960. There were no documented activities conducted in these buildings involving the use of hazardous chemicals or the receipt or generation of dangerous waste. Based on the use of these facilities, no such activities would have been likely.

Reference list:

1. *Environmental Sites Database General Summary Report*, WIDS, Site Code: 1607-B1, August 12, 1996.
2. Carpenter, R. W., 1994, *100-B Area Technical Baseline Report*, WHC-SD-EN-TI-220, Rev. 0, Westinghouse Hanford Company, Richland, Washington, May 18, 1994.

Basis for reclassification:

This site is nominated as "Rejected" because there have been no dangerous wastes or CERCLA hazardous substances used or released at this site. This is an inactive site that received only sanitary waste associated with personal comfort needs of personnel assigned to the 1701-B Badgehouse, 1709-B Fire Station, and 1720-B Patrol Change Room and offices. Activities at these buildings were generally administrative and did not involve the use or processing of any hazardous or dangerous substances. These buildings were physically separated from operational facilities. Available documentation does not indicate any incidence of hazardous substance or dangerous waste discharges. Further action at this site, if required, will be conducted in accordance with the State of Washington Department of Health regulations for On-Site Sewage Systems (WAC 246-272)..

\_\_\_\_\_  
DOE Project Manager

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Date

\_\_\_\_\_  
Ecology Project Manager

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Date

\_\_\_\_\_  
EPA Project Manager

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Date

## Environmental Sites Database General Summary Report

Site Code: 1607-B1                      Site Classification: Accepted                      12-Aug-96    Page 1

Site Names:                      1607-B1, 1607-B1 Septic Tank System, 124-B-1, 1607-B1 Sanitary Sewer System

Site Type:                      Septic Tank

Programmatic  
Responsibility:                      EM-40

Site Description:                      North of the 1720-B Building site. The unit includes a septic tank and tile field. The septic tank was constructed of reinforced concrete and has a 125 person capacity (35 gal [132 L] per capita) with an average detention period of 24 hours. The walls and floor are 10 in (25 cm) thick. The tile field is constructed of 4-in (10 cm) vitrified pipe, concrete pipe or drain tile with a minimum of 8 linear feet (2.4 m) per capita. The laterals are open-jointed and spaced 8 feet (2.4 m) apart. A gravel-covered field is located just west of the raised septic tank site. It may be the drain field for the 1607-B1 septic tank. The tile field was reported to be located in the field adjacent to the septic tank, but the exact location is not known. The unit currently appears as a vegetation and gravel covered area that is raised about four feet (1.2 m) above the surrounding terrain. The septic tank is clearly marked on historical drawings in the location of the raised mound.

10/19/95

Status:                      Inactive

Start Date:                      1944

End Date:                      1960

Operable Unit:                      100-BC-1

Hanford Area:                      100B

Coordinates:                      (E) 566035.6                      (N) 144762.5                      Washington State Plane

Associated Structures:

Site Accessible:                      No

Access Requirements:

Site Hazards:

Location Description:

Environmental  
Monitoring Desc:

Release Desc:

Release Potential Desc:

Site Comment:                      The septic tank is located across the road from and due west of the former site of the 1701-B badgehouse. Additionally, a change room and the 1709-B fire station were located across the perimeter road from, and south of, the septic tank (Hanford Site Drawing M-1904-B, Sheet 4). Unknown amounts of non-hazardous and non-radioactive wastes were received from those buildings between 1944 and 1960 (WHC 1991).

Process Desc:

References:

1. K. H. Cramer, Hanford Site Waste Management Units Report, May 1987.
2. 2-89, Preliminary Operable Units Designation Project, WHC-EP-0216.
3. K. A. Gano, 6-3-87, Designation Numbers for UNC Controlled Waste Sites in the 100 Areas, UNI-4433.
4. Septic Tanks Plan and Sections, W-71192 R31.
5. M-1904-B SHTS 2,3,4,5,8,9.

6. R. W. Carpenter, 05-18-94, 100-B Area Technical Baseline Report, WHC-SD-EN-TI-220.

**Dimensions:**

	<u>Meters</u>	<u>Feet</u>	
Length:	4.27	14.00	
Width:	2.13	7.00	
Depth / Height:	3.35	11.00	09/28/95
Diameter:			
Area:			
Overburden Depth:			

**References:**

1. Septic Tanks Plan and Sections, W-71192 R31.
2. R. W. Carpenter, 05-18-94, 100-B Area Technical Baseline Report, WHC-SD-EN-TI-220.

**Regulatory Information:**

Part A Permit Application Written:	No	Interim Closure Plan Written:	No
Part B Permit Application Written:	No	Covered under TPA Action Plan:	Yes
Registered Class V Underground Injection Well:	No	Solid Waste Management Unit:	No
Regulatory Authority:	CERCLA Past Practice		
TSD Number:			

**References:**

1. 12-88, Hanford Site Dangerous Waste Part A Permit Application. Vol. 1,2,3, DOE/RL 88-21.
2. 2-27-89, Action Plan For Implementation of the Hanford Facility Agreement and Consent Order.
3. Prepared by DOE, 3-11-88, Registration of Hanford Site Class V Underground Injection Wells.
4. 2-89, Preliminary Operable Units Designation Project, WHC-EP-0216.
5. Jack Waite to Sherry Griffin, 11-12-90, Review Comments on the 1990 Hanford Site Waste Management Units Report, DSI.

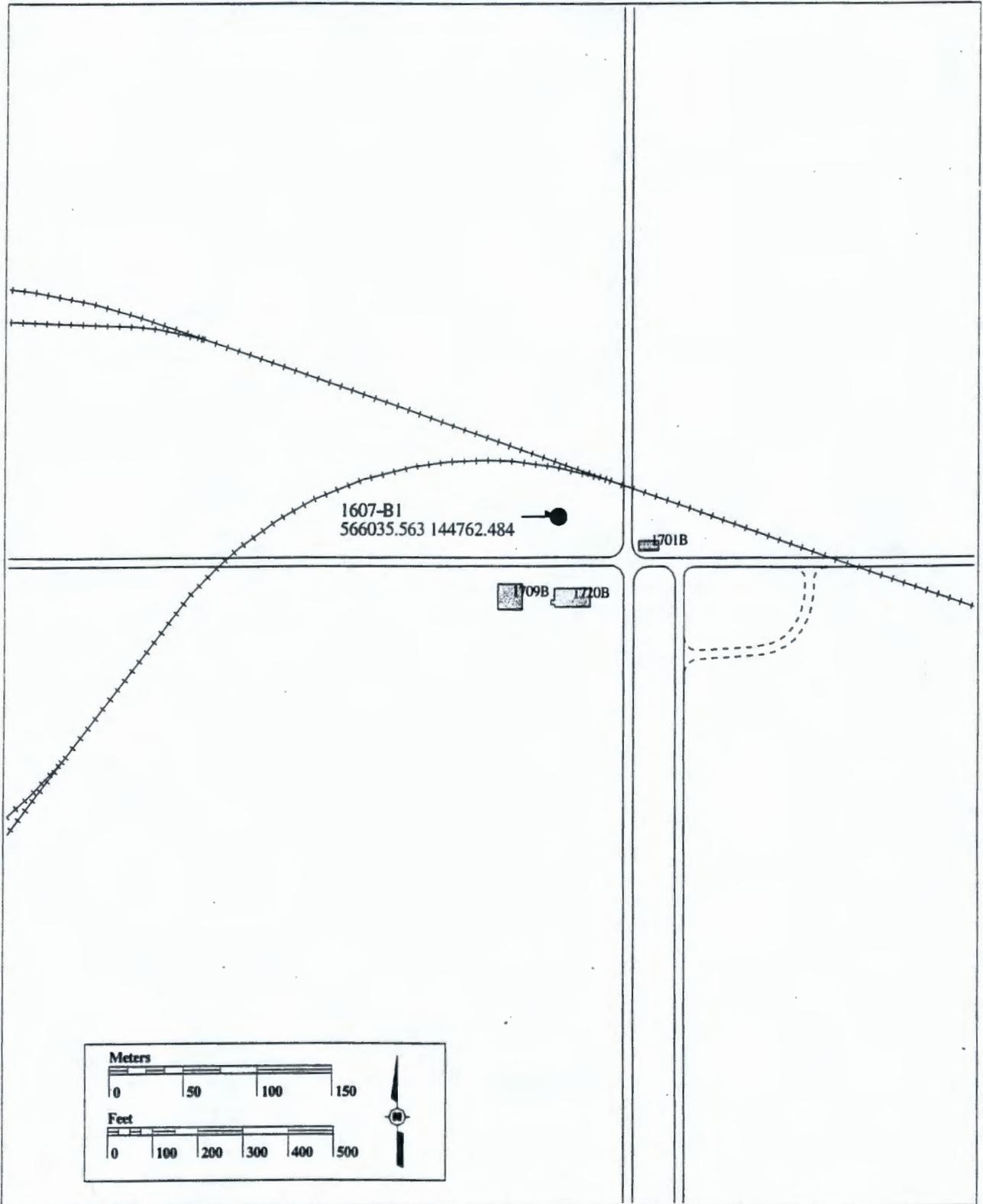
**Waste Information:**

Type:	Sanitary Sewage	12/15/95	Physical State:	Liquid
Category:	Nonhazardous/nonradioactive			
Amount:	Units:			
Reported Date:				
Start Date:	1944			
End Date:	1960			
Waste Desc:	The unit received unknown amounts of sanitary sewage from 1701-B Badgehouse (security checkpoint), 1709-B Fire Station, and 1720-B Patrol Change Room and offices.			

**References:**

1. K. H. Cramer, Hanford Site Waste Management Units Report, May 1987.

# 1607-B1



# 100-B Area Technical Baseline Report

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



**Westinghouse**  
**Hanford Company** Richland, Washington

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

9713040-0032

<p>2. Title 100-B Area Technical Baseline Report</p>	<p>3. Number WHC-SD-EN-TI-220</p>	<p>4. Rev No. 0</p>
<p>5. Key Words 100-B Area, B Reactor, C Reactor, solid wastes, liquid wastes, storage basins, septic systems, burial grounds, waste sites</p>	<p>6. Author Name: R. W. Carpenter <i>RWC</i> Signature Organization/Charge Code 88200/P7118F</p>	

7. Abstract

This document supports the environmental remediation effort of the 100-B Area by providing remediation planners with key data that characterize the 100-B and 100-C Reactor sites. It provides operational histories of the 100-B and 100-C Reactors and each of their associated liquid and solid waste sites.

Carpenter, R. W., S. L. Cote, D. H. Deford, and M. W. Einan, 1994, *100-B/C Area Technical Baseline Report*, WHC-SD-EN-TI-220, Rev. 0, Westinghouse Hanford Company, Richland, Washington.

APPROVED FOR RELEASE  
5-11-94

8. PURPOSE AND USE OF DOCUMENT - This document was prepared for use within the U.S. Department of Energy and its contractors. It is to be used ONLY to perform, direct, or integrate work under U.S. Department of Energy contracts. This document is not approved for public release until reviewed.

~~AGENT STATE~~ This document ~~copy~~, since it is transmitted in advance of patent clearance, is made available in confidence solely for use in performance of work under contracts with the U.S. Department of Energy. This document is not to be published nor its contents otherwise disseminated or used for purposes other than specified above before patent approval for such release or use has been secured, upon request, from the Patent Counsel, U.S. Department of Energy Field Office, Richland, WA.

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

10. RELEASE STAMP

OFFICIAL RELEASE (11)  
BY WHC  
DATE MAY 18 1994  
*Station # 12*

9. Impact Level NA

#### 4.39 1607-B1 (1607-B1 SEPTIC TANK AND ASSOCIATED DRAIN FIELD)

1607-B1 is an inactive liquid waste site located approximately 300 ft north of the 1720-B Patrol Change Room at Hanford coordinates N69900 W78206. This site is commonly known as the 1607-B1 Septic Tank and Associated Drain Field, although it has also been known as the 1607-B1 Sanitary Sewer System and as 124-B-1.

The septic tank is 14 ft long, 7 ft wide, and 11 ft deep. It is constructed of reinforced concrete, and its walls are 10 in. thick. The tile field is constructed of "4-in. vitrified pipe, concrete pipe, or drain tile with a minimum of 8 linear feet per capita." Additionally, the laterals are open jointed and spaced 8 ft apart (Hanford Site Drawing W-71182 R31). The septic tank reportedly had the capacity to handle the wastes for 125 people at 35 gal per capita and had an average detention period of 24 h (Hanford Site Drawing W-71182 R31).

A gravel-covered field is located just west of the raised septic tank site. It may be the drain field for the 1607-B1 Septic Tank. The drawing mentioned above states that the tile field was "to be located in the field" adjacent to the septic tank (Hanford Site Drawing M-1904-B, Sheet 4), but does not show the exact location.

The septic tank is located across the road from, and due west of, the former site of the 1701-B Badgehouse. Additionally, a change room and the 1709-B Fire Station were located across the perimeter road from, and south of, the septic tank (Hanford Site Drawing M-1904-B, Sheet 4). Unknown amounts of nonhazardous and nonradioactive wastes were received from those buildings between 1944 and 1960 (WHC 1991).

No HRS migration score has been assigned to this site.

1607-B1 currently appears as a vegetation- and gravel-covered area that is raised approximately 4 ft above the surrounding terrain. The exact location of the septic tank cannot be pinpointed, since no posts or other markings separate it from its surroundings. However, the septic tank is clearly marked on a historical drawing in the location of the raised mound (Hanford Site Drawing M-1904-B, Sheet 4). A historical photograph (Photograph No. 9626) appears to support that information by showing a small structure at the site.

9713540 0834

<u>Date Submitted:</u> August 30, 1996  Originator: J.R. James, BHI  Phone: 372-9563	<b>WASTE SITE RECLASSIFICATION FORM</b>  <u>Operable Unit(s):</u> 100-BC-1  <u>Waste Site ID:</u> 1607-B3, Septic Tank System  <u>Type of Reclassification Action:</u>  Rejected <input checked="" type="checkbox"/> Closed Out <input type="checkbox"/> No Action <input type="checkbox"/>	<u>Control Number:</u>
---	---	------------------------

This form documents agreement among the parties listed below authorizing classification of the subject waste site from the TPA solid waste management unit listing as rejected, closed out, or no action and authorizing backfill of the waste site, if appropriate. Final removal from the NPL will occur at a future date.

Description of current waste site condition:

The 1607-B3 Septic Tank System is an inactive sanitary waste site approximately 200 feet north of the former 184-B Building consisting of a septic tank and associated drain field located in the 100-BC-1 Operable Unit, at approximately Washington State Plane coordinates (E) 564924.8 (N) 144874.3. The tank was constructed of reinforced concrete; the drain was constructed of concrete and vitrified pipe, and drain tile. Today, there is no evidence of the site and it appears as a cobble-covered field with natural vegetation on the surface. When active, 1944 through 1974, the tank supported the 184-B Powerhouse restroom facilities. The Powerhouse provided steam and emergency backup power via coal-fired boilers. According to engineering drawings (Ref. #4), the Powerhouse had separate lines for disposal of process waste and boiler ash. The septic system received only sanitary waste associated with the personal comfort needs of personnel assigned to the 184-B Powerhouse. There is no documented evidence that the septic system received any hazardous substances or dangerous waste. Based on the configuration of the facility it supported, no such releases would have been likely. The septic tank was reportedly pumped dry and demolished in December 1987 (Ref. #1). The Facility Decommissioning Report (Ref. #2) indicates that the contents of the septic tank were analyzed for radionuclides and heavy metals (using EP Toxicity Test) and were below regulatory limits. The 184-B Facility cleanup, which occurred in early 1988, included demolition of the septic tank and sewer manholes and grading to conform with surrounding terrain.

Reference list:

1. *Environmental Sites Database General Summary Report*, WIDS, Site Code: 1607-B3, August 12, 1996.
2. Carpenter, R. W., 1994, *100-B Area Technical Baseline Report*, WHC-SD-EN-TI-220, Rev. 0, Westinghouse Hanford Company, Richland Washington, May 1994.
3. Griffin, P. W., 1988, *184-B Powerhouse, 184-D Powerhouse and 1717-F Maintenance Shop Facility Decommissioning Report*, SD-DD-TI-033, Rev. 0, October 5, 1988.
4. *Hanford Site Drawing M-1904-B*, sheet 5 and computer enhanced clarification.

Basis for reclassification:

This site is nominated as "Rejected" because there have been no dangerous wastes or CERCLA hazardous substances used or released at the septic tank site. This is an inactive site that received only sanitary waste associated with personal comfort needs of personnel assigned to the 184-B Powerhouse. When analyzed using EP Toxicity Test, the sanitary waste was found to contain no radionuclides or heavy metals above regulatory limits. Any activities at the Powerhouse that might have involved hazardous or dangerous substances were accommodated by separate pipelines and disposal areas and would not have been expected to be disposed of or discharged to this site. Available documentation does not indicate any incidence of hazardous substance or dangerous waste discharges to the septic system nor would any have been expected to occur. This site has been demolished and meets the criteria for abandonment under WAC 246-272-18501, therefore, no further action is deemed necessary.

_____ DOE Project Manager	_____ Signature	_____ Date
_____ Ecology Project Manager	_____ Signature	_____ Date
_____ EPA Project Manager	_____ Signature	_____ Date

## Environmental Sites Database General Summary Report

**Site Code:** 1607-B3      **Site Classification:** Accepted      13-Aug-96      Page 1

**Site Names:** 1607-B3, 1607-B3 Septic Tank System, 124-B-3, 1607-B3 Sanitary Sewer System Site

**Site Type:** Septic Tank

**Programmatic Responsibility:** EM-40

**Site Description:** North of the 184-B Building. This unit is no longer apparent and appears as a cobble-covered field with natural vegetation growing on its surface.

10/19/95

**Status:** Inactive

**Start Date:** 1944

**End Date:** 1974

**Operable Unit:** 100-BC-1

**Hanford Area:** 100B

**Coordinates:** (E) 564924.8      (N) 144874.3      Washington State Plane

**Associated Structures:**

**Site Accessible:** No

**Access Requirements:**

**Site Hazards:**

**Location Description:**

**Environmental Monitoring Desc:**

**Release Desc:**

**Release Potential Desc:**

**Site Comment:** The unit was pumped dry and demolished in December 1987. The remaining contents were taken to 124-N-10 Sanitary Sewer System for disposal.

**Process Desc:**

**References:**

1. K. H. Cramer, Hanford Site Waste Management Units Report, May 1987.
2. 2-89, Preliminary Operable Units Designation Project, WHC-EP-0216.
3. L. P. Diediker to F. A. Ruck III, 3-17-88, WHC Mem.: Comment and Revisions to 100 Area Waste Units Listed in 3004(u).
4. M-1904-B SHTS 2,3,4,5,8,9.
5. R. W. Carpenter, 05-18-94, 100-B Area Technical Baseline Report, WHC-SD-EN-TI-220.

**Dimensions:**

	<u>Meters</u>	<u>Feet</u>	
<b>Length:</b>	2.90	9.50	
<b>Width:</b>	1.37	4.50	
<b>Depth / Height:</b>	3.17	10.40	09/28/95
<b>Diameter:</b>			
<b>Area:</b>			
<b>Overburden Depth:</b>			

---

**Overburden Depth:****References:**

1. Septic Tanks Plan and Sections, W-71192 R31.
2. R. W. Carpenter, 05-18-94, 100-B Area Technical Baseline Report, WHC-SD-EN-TI-220.

---

**Regulatory Information:**

Part A Permit Application Written:	No	Interim Closure Plan Written:	No
Part B Permit Application Written:	No	Covered under TPA Action Plan:	Yes
Registered Class V Underground Injection Well:	No	Solid Waste Management Unit:	No

Regulatory Authority: CERCLA Past Practice

TSD Number:

**References:**

1. 12-88, Hanford Site Dangerous Waste Part A Permit Application. Vol. 1,2,3, DOE/RL 88-21.
2. 2-27-89, Action Plan For Implementation of the Hanford Facility Agreement and Consent Order.
3. Prepared by DOE, 3-11-88, Registration of Hanford Site Class V Underground Injection Wells.
4. 2-89, Preliminary Operable Units Designation Project, WHC-EP-0216.
5. Jack Waite to Sherry Griffin, 11-12-90, Review Comments on the 1990 Hanford Site Waste Management Units Report, DSI.

---

**Waste Information:**

Type: Sanitary Sewage 12/15/95 Physical State: Liquid

Category: Nonhazardous/nonradioactive

Amount: Units:

Reported Date:

Start Date: 1944

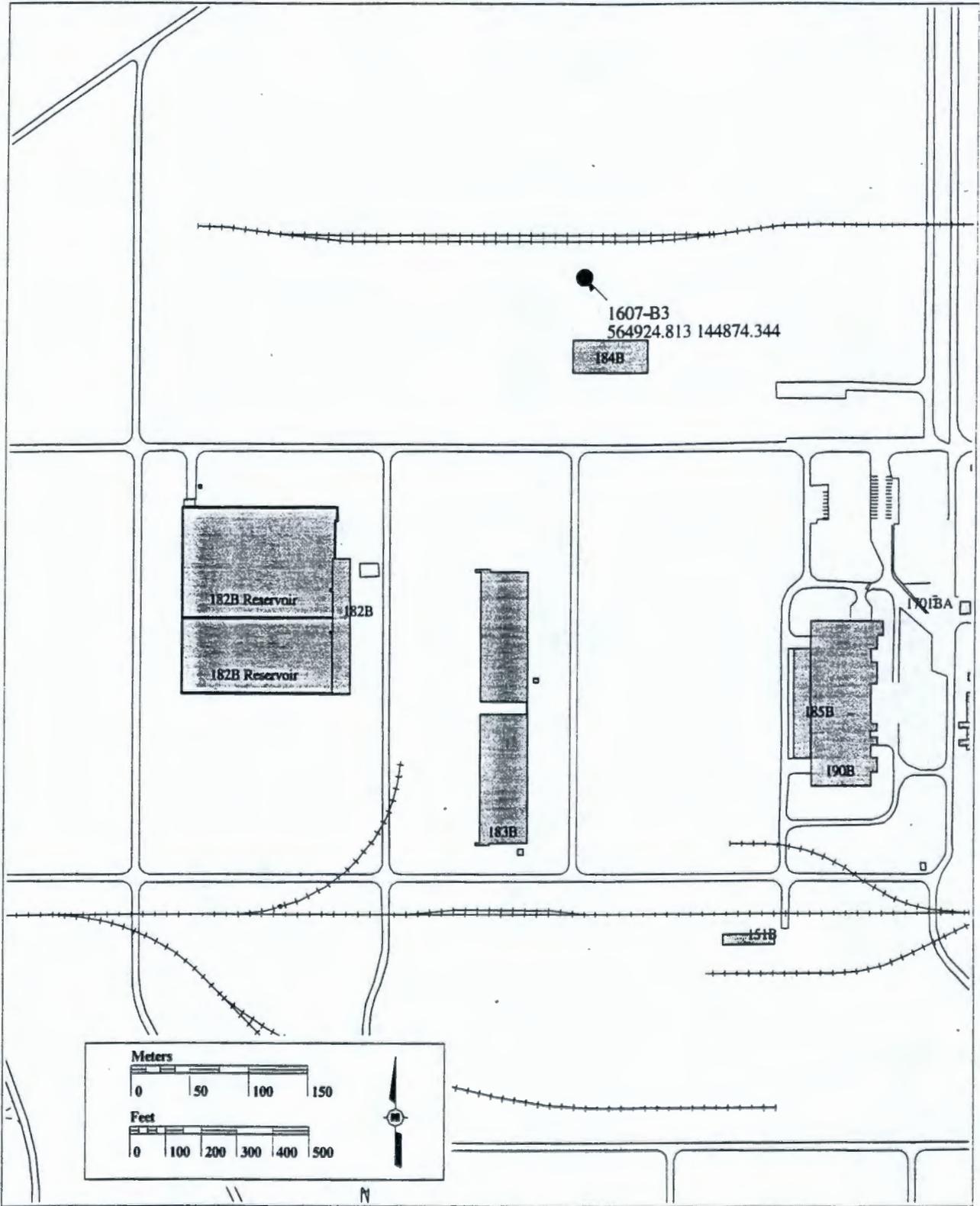
End Date: 1974

Waste Desc: This unit received sanitary sewage from 184-B Powerhouse, amount unknown.

**References:**

1. K. H. Cramer, Hanford Site Waste Management Units Report, May 1987.
-

# 1607-B3



# 100-B Area Technical Baseline Report

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



**Westinghouse**  
**Hanford Company** Richland, Washington

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

2. Title

100-B Area Technical Baseline Report

3. Number

WHC-SD-EN-TI-220

4. Rev No.

0

5. Key Words

100-B Area, B Reactor, C Reactor, solid wastes, liquid wastes, storage basins, septic systems, burial grounds, waste sites

6. Author

Name: R. W. Carpenter

*RWC*  
Signature

Organization/Charge Code 8B200/P7118 F

7. Abstract

This document supports the environmental remediation effort of the 100-B Area by providing remediation planners with key data that characterize the 100-B and 100-C Reactor sites. It provides operational histories of the 100-B and 100-C Reactors and each of their associated liquid and solid waste sites.

Carpenter, R. W., S. L. Cote, D. H. Deford, and M. W. Einan, 1994, 100-B/C Area Technical Baseline Report, WHC-SD-EN-TI-220, Rev. 0, Westinghouse Hanford Company, Richland, Washington.

8. PURPOSE AND USE OF DOCUMENT - This document was prepared for use within the U.S. Department of Energy and its contractors. It is to be used only to perform, direct, or integrate work under U.S. Department of Energy contracts. This document is not approved for public release until reviewed.

20  
5-11-94

**APPROVED FOR RELEASE**

~~INVENTION STATEMENT - This document is made available in confidence solely for use in performance of work under contracts with the U.S. Department of Energy. This document is not to be published nor its contents otherwise disseminated or used for purposes other than specified above before patent approval for such release or use has been secured, upon request, from the Patent Counsel, U.S. Department of Energy Field Office, Richland, WA.~~

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

10. RELEASE STAMP

OFFICIAL RELEASE **(11)**  
BY WHC  
DATE **MAY 18 1994**  
*Station # 12*

9. Impact Level NA

#### 4.41 1607-83 (1607-83 SEPTIC TANK AND ASSOCIATED DRAIN FIELD SITE)

1607-83 is an inactive sanitary waste site approximately 200 ft north of the 184-B Building at Hanford coordinates N70275 W81850 (Hanford Site Drawing M-1904-B, Sheet 5). The 1607-83 Septic Tank and Associated Drain Field, also known as the 1607-83 Sanitary Sewer System, was located at this site.

The septic tank was approximately 9 ft, 6 in. long; 4 ft, 6 in. wide; and 10 ft, 5 in. deep. It was constructed of reinforced concrete, and its walls and floor were 10 in. thick. The tile field was constructed of "4-in. vitrified pipe, concrete pipe, or drain tile with a minimum of 8 linear feet per capita." Additionally, the laterals were open jointed and spaced 8 ft apart (Hanford Site Drawing W-71182 R31). The septic tank had the capacity to handle the wastes for 48 people at 35 gal per capita and had an average detention period of 24 h (Hanford Site Drawing W-71182 R31).

An unknown amount of sanitary sewage from the 184-B Powerhouse was received by this septic tank. The waste was considered nonhazardous and nonradioactive (WHC 1991).

The septic tank was reportedly pumped dry and demolished in December 1987. Its contents were taken to the 124-N-10 Sanitary Sewer System for disposal (WHC 1991).

No HRS migration score has been assigned to the former septic tank site.

The 1607-83 site has been separated into two aboveground sections. The first section currently appears as a cobble-covered field, approximately 15 ft long and 5 ft wide, that is surrounded by four yellow posts. To the east, the second section appears as a brick manhole with a steel lid that is posted with a "Danger: Confined Space" sign; it is bounded by four yellow posts, two of which are marked with blue-and-white "Septic Tank" signs. The septic tank drain field is probably located to the west of the two aboveground sections; that area is currently cobble covered, with some vegetation, and is undifferentiated from the surrounding terrain. A historical drawing states that the tile field was "to be located in [the] field" near the septic tank, but does not show an exact location (Hanford Site Drawing M-1904-B, Sheet 5).

<b>ENGINEERING DATA TRANSMITTA</b> (USE BLACK INK OR TYPE)		(1) EDT <u>101286</u>
OCT 5 1988	(2) To: (Receiving Organization) See Signature Block	(3) From: (Originating Organization) Decommissioning Engineering
(5) Proj/Prog/Dept/Div: <u>80423</u>	(6) Cog/Proj Engr: <u>P.W. Giffin 3-3916 R2-77</u>	(7) Purchase Order No: N/A
(8) Originator Remarks: The attached FDR has incorporated all review comments per EDT 101276 and is submitted for approval. The response date is required to meet issue commitment date of 09/30/88.		(9) Equip/Component No: N/A
		(10) System/Bldg/Facility: N/A
(11) Receiver Remarks:		(12) Major Assem Uwg No: N/A
		(13) Required Response Date: September 30, 1988

(14) DATA TRANSMITTED					(F)	(G)	(H)	(I)
(A) Item No.	(B) Document/Drawing No.	(C) Sht. No.	(D) Rev. No.	(E) Title or Description of Data Transmitted	Impact Level	Reason for Transmittal	Originator Disposition	Receiver Disposition
1	SD-DD-TI-033		0	184-B Powernouse, 184-D Powernouse and 1717-F Maintenance Shop Facility	3	1		

(15) KEY		
Impact Level (F)	Reason for Transmittal (G)	Disposition (H) & (I)
1, 2, 3, or 4 see MRP 3.43 and EP 1.7	1. Approval 2. Release 3. Information	4. Review 5. Post-Review 6. Receipt acknowledged

(16) SIGNATURE/DISTRIBUTION (See Impact Level for required signatures)									
Reason	Disp	(J) Name (K) Signature (L) Date			(J) Name (K) Signature (L) Date			Reason	Disp
		1	1	D.R. Soeer (3)	R2-77	9-30-88			
1	1	R. G. Dieffenbacher	X7-05	10/13/88					
1	1	L.P. Diediker	X0-21	10/13/88					
1	1	W. F. Heine (2)	R1-15	10/13/88					
1	1	N.C. Hughes	R1-15	9-30-88					
1	1	S.G. Hodge	R3-54	10/13/88					

(17) <u>W. Heine</u> 9/29/88 Signature of EDT Date Originator	(18) _____ Authorized Representative Date for Receiving Organization	(19) <u>W. Heine</u> 9-30-88 Cognizant/Project Engineer's Date Manager
(20) DOE APPROVAL (if required) LTR No. _____ <input type="checkbox"/> Approved <input type="checkbox"/> Approved w/comments <input type="checkbox"/> Disapproved w/comments		

9773540-0892

## SUPPORTING DOCUMENT

RIFLID 759

Title 184-B Powerhouse, 184-D Powerhouse, 1717-F Maintenance Shop Facility Decommissioning Report	Number SD- DD-TI-033	Rev. No. 0	Page A
Key Words  Final Site Cleanup. Standard Demolition, Work Sequence, Cost, Schedule.	Author: <i>P. W. Griffin</i> P. W. Griffin Signature  80423 Organization Code		

## Abstract

This report documents the final site cleanup of the previously decommissioned 184-B Powerhouse, 184-D Powerhouse, and 1717-F Maintenance Shop. The report includes the three site cleanup projects because their like-work effort and contiguous FY 88 work schedule. The site projects started in January 1988 and were completed in April 1988.

The superstructures of each facility were previously demolished, leaving the foundation slabs, footings, tunnels, pits and other associated concrete structures at or near grade level for site cleanup.

The facilities concrete structures were exposed by excavating and demolishing to at least three feet below grade. The tasks were accomplished using conventional heavy equipment including a crane with a wrecking ball, earth-moving bulldozer, backhoe, front-end loader, and trucks for demolition, rubble removal/disposal and site backfill.

No Radiological Work Procedures (RWP) were required based on prior usage, operating history and project site surveys.

**PURPOSE AND USE OF DOCUMENT** - this document was prepared for use within Westinghouse Hanford Company and is to be used only to perform, direct, or integrate work under USDOE contracts. THIS DOCUMENT IS NOT APPROVED FOR PUBLIC RELEASE UNTIL REVIEWED.

**PATENT STATUS** - This document copy, since it is transmitted in advanced of patent clearance, is made available in confidence solely for use in performance of work under contracts with the USDOE. This document is not to be published nor its contents otherwise disseminated or used for purposes other than specified above before patent approval for such release or use has been secured, upon request, from the USDOE Patent Attorney, Richland Operations Office, Richland, WA.

(Place an "X" in the box that applies)

RELEASE STAMP

**UNCLASSIFIED CONTROLLED NUCLEAR INFORMATION** - Not for public dissemination. May contain Unclassified Controlled Nuclear Information subject to Section 148 of the Atomic Energy Act of 1954, as amended (42 USC 2168). Approval by the USDOE is required before release. Attach Blue Cover RLF-5635-3.

**APPLIED TECHNOLOGY** - Any further distribution by any holder of this document or of the data therein to third parties representing foreign interests, foreign governments, foreign companies and foreign subsidiaries or foreign divisions of United States companies should be coordinated with the USDOE, Deputy Assistant Secretary for Reactor Systems Development and Technology.

OFFICIAL RELEASE  
BY WHC

DATE OCT 5 1988

sta # 4

8

Impact Level 3

## FACILITY DECOMMISSIONING REPORT

### 1.0 INTRODUCTION

This report documents the final site cleanup of the previously decommissioned 184-B Powerhouse, 184-D Powerhouse, and 1717-F Maintenance Shop. The report includes the three site cleanup projects because of their like-work effort and the contiguous FY 88 work schedule. The site cleanup projects were worked consecutively from the 184-B site, to the 184-D site and finally the 1717-F site. The site projects started in January 1988 and were completed in April of 1988. The superstructures of each facility were previously demolished, leaving the foundation slabs, footings, tunnels, pits and other associated concrete structures at or near grade level for site cleanup. Radiological controls were based on facility usage and operating history. These facilities were never radiologically controlled sites, nor were radioactive materials stored on the sites.

The scope of the final site cleanup work included:

- Planning and Engineering that included preparation of Decommissioning Work Procedures (DWP) and Job Safety Analysis (JSA). No Radiation Work Procedures (RWP) were required because project radiological surveys did not identify contaminated material prior to or during site cleanup. The completion of the procedures and Operations readiness checklist authorized site cleanup to proceed on January 25, 1988 for the 184-B site, February 5, 1988 for the 184-D site and February 26, 1988 for the 1717-F site
- Radiological and Hazardous Material surveys and sampling
- Site preparation
- Site cleanup
- Site restoration and grading
- Preparation of final cleanup reports.

The projects involved successfully cleaning up facility foundations and potential hazards left by the previous excessing demolition program. The final site cleanup projects accomplished the following:

- The 184-B Facility cleanup removed equipment mounts and conveyor supports; demolished and backfilled the coal conveyor tunnel and crusher house pit; demolished the salt dissolving pits and brine pumping station; demolished the 184-B Powerhouse foundation slabs;

- demolished septic tank and two sewer manholes after transporting septic water to the 100-N septic pond for disposal; and graded the site to conform with surrounding terrain. The contents from the brine pit and the septic tank were analyzed for radionuclides and heavy metals (using the EP Toxicity Test) and were below levels of regulatory concern. The water from the brine pit was also analyzed for salinity and contained less than 1% NaCl, therefore it was allowed to seep into the ground as the pit was demolished.
- The 184-D Facility cleanup removed equipment mounts and conveyor supports; demolished and backfilled the coal conveyor tunnel and crusher house pit; demolished salt dissolving pits and brine pumping station; demolished the 184-D Powerhouse foundation slabs and three stack foundation footings; and graded the site to conform with surrounding terrain. The water from the 184-D salt dissolving and brine pits was greater than 10% NaCl (Hazardous Material limit, WAC 173-303) and was sent offsite for disposal by a regulated shipper.
  - The 1717-F Facility cleanup demolished the maintenance shop slab and foundation footings; demolished the shop gas cylinder storage shed; removed power poles and surrounding wire fence; and graded the site to conform with surrounding terrain.

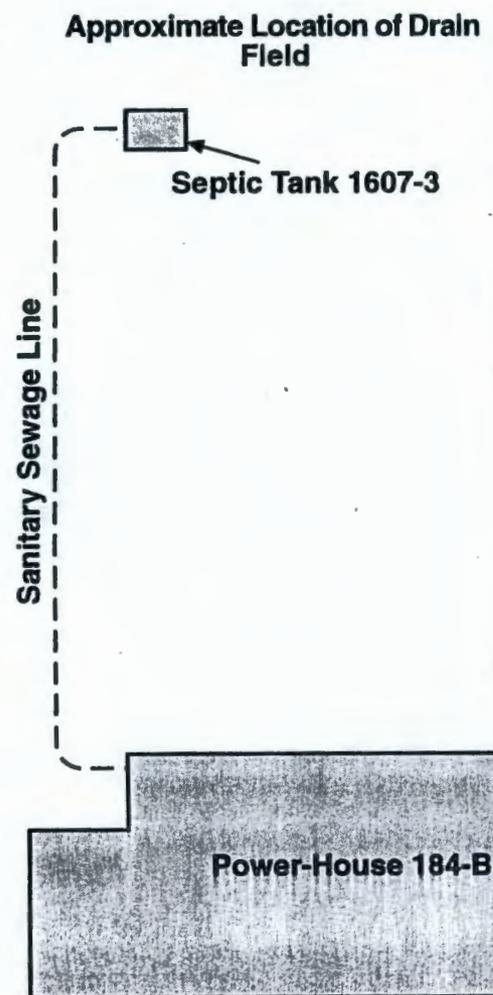
Work on the projects was performed by WHC Surplus Facilities (SF) Operations forces and other facilities maintenance crafts under the supervision of SF Operations. The 184-B and -D work was prefaced by removing approximately 300 ft of abandoned railroad track prior to working on the adjacent coal pits and salt dissolving pits.



9713540.0846

**Computer Enhanced Clarification  
of applicable portion of  
Hanford Site Drawing M-1904-B, Sheet 5**

# 184-B Power House Showing Separate Sanitary Waste Pipeline



Ashcolite (Ash From Boilers)

Process Waste Pipeline

9713540.0047

9713540-0040

<u>Date Submitted:</u> August 30, 1996	<b>WASTE SITE RECLASSIFICATION FORM</b>	<u>Control Number:</u>
Originator: J.R. James, BHI	<u>Operable Unit(s):</u> 100-DR-1	
Phone: 372-9563	<u>Waste Site ID:</u> 126-D-3, D Area Brine and Salt Dilution Pits	
<u>Type of Reclassification Action:</u>		
Rejected <input type="checkbox"/> Closed Out <input type="checkbox"/> No Action <input checked="" type="checkbox"/>		

This form documents agreement among the parties listed below authorizing classification of the subject waste site from the TPA solid waste management unit listing as rejected, closed out, or no action and authorizing backfill of the waste site, if appropriate. Final removal from the NPL will occur at a future date.

Description of current waste site condition:

The 126-D-3 Brine and Salt Dilution Pits are located in the 100-DR-1 Operable Unit north of the former 184-D Building and just south of the railroad tracks, at approximately Washington State Plane coordinates (E) 573387.6 (N) 151974.4. The brine pit and the salt dissolving pit were belowgrade concrete vaults with internal void spaces (brine pit: ~500 cu. ft., salt dissolving pit: ~900 cu. ft.) divided into chambers by interior walls. The chambers were covered with either a wooden or metal hatch through which salt was unloaded from rail cars. The vaults were used for mixing salt and water to produce a brine solution (sodium chloride/water). The brine solution was used to regenerate the zeolite ion exchange demineralizers that were a part of the treatment of water used for steam generation. The site ceased operation prior to 1980. The vaults were cleaned out by removing all liquid waste and salt cake, and were certified clean before in situ demolition and final grading, which occurred in March, 1988. The vaults were partially backfilled with rubble, poked with drainage holes, and leveled to grade with clean fill. Today, the site appears as a cobble-covered field.

No CERCLA hazardous substances, pollutants, or contaminants were known or anticipated to have been received, stored, or disposed at this site. Prior to demolition of the vaults, they were sampled. Residual brine solution exceeding a sodium chloride concentration of 10 percent was present in the vaults prior to cleanout. This concentration exceeds the criteria and designates as a dangerous waste under state dangerous waste criteria for toxicity (WAC 173-303-100).

Reference list:

1. *Environmental Sites Database General Summary Report*, WIDS, Site Code: 126-D-3, August 12, 1996.
2. Carpenter, R. W., 1993, *100-D Area Technical Baseline Report*, WHC-SD-EN-TI-181, Rev. 0, Westinghouse Hanford Company, Richland, Washington, September 20, 1993.
3. Griffin, P. W., 1988, *184-B Powerhouse, 184-D Powerhouse, 1717-F Maintenance Shop Facility Decommissioning Report*, SD-DD-TI-033, Rev. 0, October 5, 1988.

Basis for reclassification:

This site is nominated as "No Action" because it has already been adequately remediated. Process knowledge indicates that the vaults were only used to prepare brine solution. No CERCLA hazardous substances were known, or anticipated to have been received, stored, or disposed at the vaults. However, the salt dilution vault contained sodium chloride concentrations greater than 10 percent. Under state dangerous waste criteria for toxicity, this concentration would designate as dangerous waste. In March, 1988, Northwest Environmental Services, Inc. removed the residual solution from the vaults and certified them to be clean before in situ demolition and final grading. No further action under RCRA or CERCLA is required at this site.

\_\_\_\_\_  
DOE Project Manager

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Date

\_\_\_\_\_  
Ecology Project Manager

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Date

\_\_\_\_\_  
EPA Project Manager

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Date

## Environmental Sites Database General Summary Report

---

**Site Code:** 126-D-3**Site Classification:** Accepted12-Aug-96 Page 1

---

**Site Names:** 126-D-3, D Area Brine and Salt Dilution Pits**Site Type:** Brine Pit**Programmatic  
Responsibility:** EM-40**Site Description:** North of 184-D and just south of the railroad tracks. The salt dissolving pit and brine pit were both below-grade concrete vaults with internal void spaces (brine pit 14 cubic meters dissolving pit 25 cubic meters). No evidence of the site remains on the surface.**Status:** Inactive**Start Date:****End Date:****Operable Unit:** 100-DR-1**Hanford Area:** 100D**Coordinates:** (E) 573387.6 (N) 151974.4 Washington State Plane**Associated Structures:****Site Accessible:** No**Access Requirements:****Site Hazards:****Location Description:****Environmental  
Monitoring Desc:****Release Desc:****Release Potential Desc:**

**Site Comment:** The site was demolished in situ March 1988. Both pits were sampled for radiation and EP toxic metals. Samples showed the NaCl concentrations were greater than 10% (hazardous material limit). No significant radioactive materials were found. Northwest Environmental Services, Inc. removed all hazardous waste and salt cake from the pits and certified them clean before in situ demolition and final grading. The pits were partially backfilled with rubble and leveled to grade with clean fill. Recently, a soil subsidence has appeared at the site that contains steel grating and concrete debris.

**Process Desc:****References:**

1. P. W. Griffin, 10-5-88, 184-B Powerhouse, 184-D Powerhouse, 1717-F Maintenance Shop Facility Decommissioning Report, SD-DD-PI-033.
2. M. S. Kitts, 10-7-91, WIDS Site Addition, 126-D-3.
3. R. W. Carpenter, 09/20/93, 100-D Area Technical Baseline Report, WHC-SD-EN-TI-181, REV 0.

**Dimensions:**

	<u>Meters</u>	<u>Feet</u>	
Length:			
Width:			
Depth / Height:	3.05	10.00	10/10/95
Diameter:			
Area:			
Overburden Depth:			

**References:****Regulatory Information:**

Part A Permit Application Written:	No	Interim Closure Plan Written:	No
Part B Permit Application Written:	No	Covered under TPA Action Plan:	Yes
Registered Class V Underground Injection Well:	No	Solid Waste Management Unit:	Yes
Regulatory Authority:	CERCLA Past Practice		
TSD Number:			

**References:**

1. Regulatory Analysis to J. L. Waite, 10-17-90, Solid Waste Management Units at the Hanford Site, 81150-90-129 (Internal Memo).
2. M. S. Kitts, 10-7-91, WIDS Site Addition, 126-D-3.
3. Ecology, 8/28/95, Redesignation of 100-HR-1 and 100-DR-1 Operable Units (OUs) from RCRA Past Practice Units to CERCLA Past Practice Units, TPA C-95-01A.

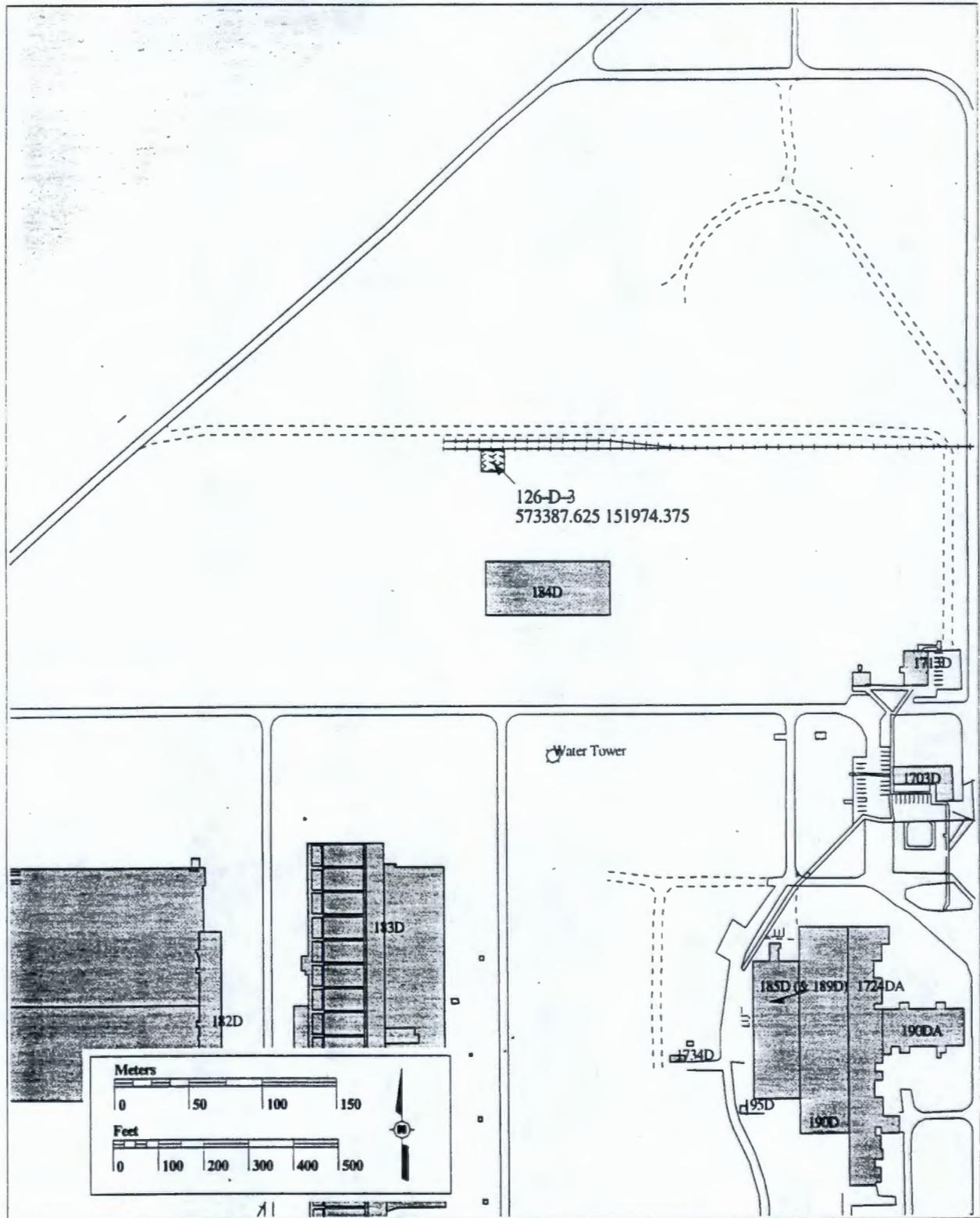
**Waste Information:**

Type:	Abandoned Chemicals	Physical State:	Solid
Category:	Nondangerous/nonradioactive		
Amount:		Units:	
Reported Date:			
Start Date:			
End Date:			
Waste Desc:			

**References:**

1. M. S. Kitts, 10-7-91, WIDS Site Addition, 126-D-3.

# 126-D-3



9713540.0852

Reference 2

WHC-SD-EN-TI-181  
Revision 0

# 100-D Area Technical Baseline Report

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



**Westinghouse**  
**Hanford Company** Richland, Washington

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

PLEASE RETURN TO:  
ENVIRONMENTAL DIVISION  
RESOURCE CENTER

Approved for Public Release

9713540-085X

**SUPPORTING DOCUMENT**

1. Total Pages 189

2. Title

100-D Area Technical Baseline Report

3. Number

WHC-SD-EN-TI-181

4. Rev No.

0

5. Key Words

100-D Area, 100-D Reactor, 100-DR Reactor, 100-DR-1 OU, 100-DR-2 OU, 100-DR-3 OU, solid wastes, liquid wastes, storage basins, septic systems, burial grounds, waste sites

6. Author

Name: R. W. Carpenter

*RW Carpenter*  
Signature

**APPROVED FOR**

Organization/Charge Code 81300/EA63K

7. Abstract

**PUBLIC RELEASE 8/17/93 N. Soler**

This document supports the environmental remediation effort of the 100 Area by providing remediation planners with key data that characterize the 100-D and 100-DR Reactor sites. It provides operational histories of 100-D, 100-DR, and each of their associated liquid and solid waste sites.

Carpenter, RW, 1993, *100-D Area Technical Baseline Report*, WHC-SD-EN-TI-181, Westinghouse Hanford Company, Richland, Washington.

8. ~~PURPOSE AND USE OF DOCUMENT - This document was prepared for use within the U.S. Department of Energy and its contractors. It is to be used only to perform, direct, or integrate work under U.S. Department of Energy contracts. This document is not approved for public release until reviewed.~~

~~PATENT STATUS - This document copy, since it is transmitted in advance of patent clearance, is made available in confidence solely for use in performance of work under contracts with the U.S. Department of Energy. This document is not to be published nor its contents otherwise disseminated or used for purposes other than specified above before patent approval for such release or use has been secured, upon request, from the Patent Counsel, U.S. Department of Energy Field Office, Richland, W.~~

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

10. RELEASE STAMP

OFFICIAL RELEASE **11**  
BY WHC  
DATE AUG 20 1993  
*Station # 12*

9. Impact Level 4

#### 4.20 126-D-3 (D-AREA BRINE AND SALT DILUTION PIT SITE)

The 126-D-3 is an inactive solid waste site that ceased operation prior to 1980. The pits were located at Hanford coordinates N93550 W54050, which is north of 184-D and just south of the railroad tracks.

The salt dissolving pit and brine pit were both below grade concrete vaults with internal void spaces (brine pit: 500 ft<sup>3</sup>; dissolving pit: 900 ft<sup>3</sup>). The salt and brine solution was used to regenerate the zeolite ion exchange demineralizers that were a part of the treatment of water used for steam generation.

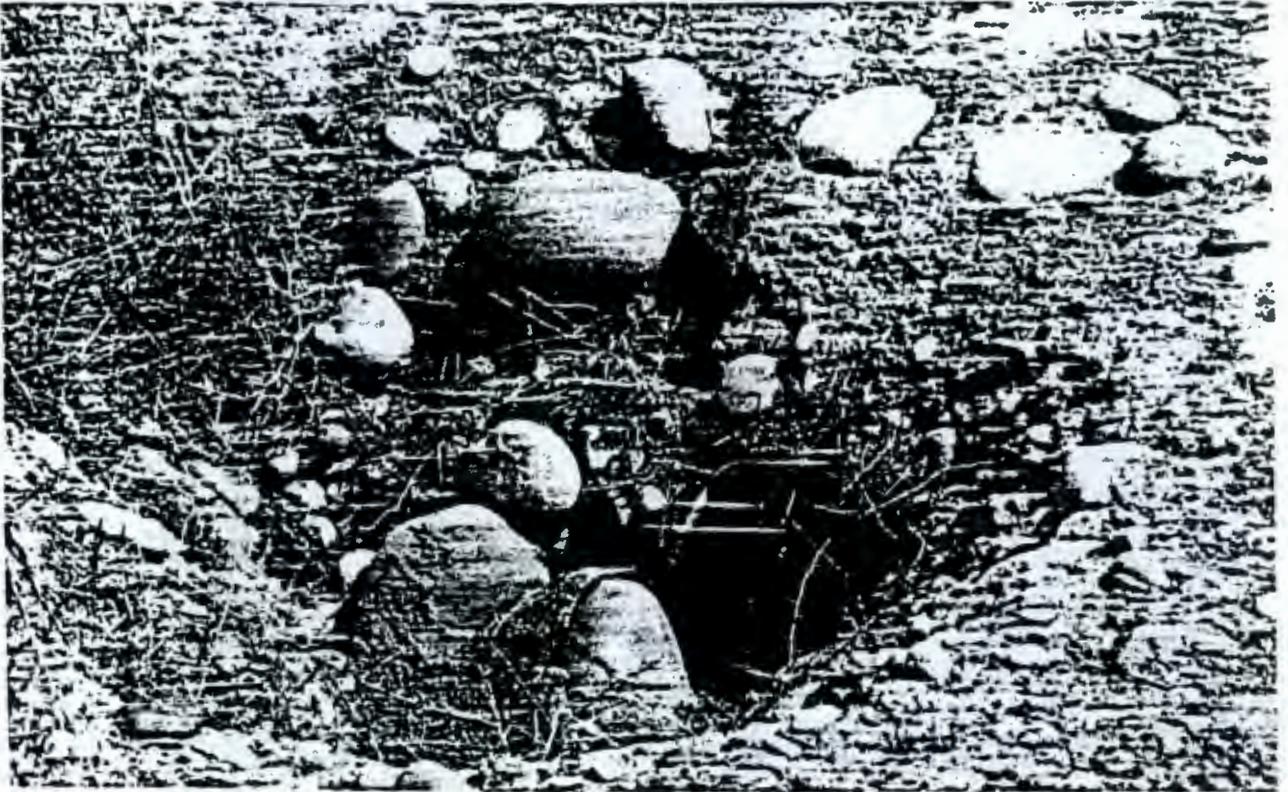
Both pits were sampled for radiation and EP toxic metals. Samples showed the NaCl (salt) concentrations were greater than the 10% hazardous material limit. No significant radioactive materials were found. Northwest Environmental Services, Inc. removed all liquid hazardous waste (4,100 gal) and salt cake (8.3 yd.<sup>3</sup>) from the pits and certified them clean before in situ demolition and final grading in March 1988. The pits were partially backfilled with rubble and leveled to grade with clean fill (Griffin 1988).

The current appearance is that of a cobble-covered field. There is evidence of heavy equipment activity at the site. Nearby to the east there is a soil subsidence that contains concrete and steel grating debris (Figures 4-31, and 4-32).

Figure 4-31. Salt and Brine Pit.



Figure 4-32. Subsidence Near Salt and Brine Pit.



This waste site has not been assigned an HRS Migration score.



## SUPPORTING DOCUMENT

Title 184-B Powerhouse, 184-D Powerhouse, 1717-F Maintenance Shop Facility Decommissioning Report	Number SD- DD-TI-033	Rev. No. 0	Page A
Key Words Final Site Cleanup. Standard Demolition, Work Sequence, Cost, Schedule.	Author <i>P. W. Griffin</i> P. W. Griffin Signature 80423 Organization Code		

## Abstract

This report documents the final site cleanup of the previously decommissioned 184-B Powerhouse, 184-D Powerhouse, and 1717-F Maintenance Shop. The report includes the three site cleanup projects because their like-work effort and contiguous FY 88 work schedule. The site projects started in January 1988 and were completed in April 1988.

The superstructures of each facility were previously demolished, leaving the foundation slabs, footings, tunnels, pits and other associated concrete structures at or near grade level for site cleanup.

The facilities concrete structures were exposed by excavating and demolishing to at least three feet below grade. The tasks were accomplished using conventional heavy equipment including a crane with a wrecking ball, earth-moving bulldozer, backhoe, front-end loader, and trucks for demolition, rubble removal/disposal and site backfill.

No Radiological Work Procedures (RWP) were required based on prior usage, operating history and project site surveys.

**PURPOSE AND USE OF DOCUMENT** - this document was prepared for use within Westinghouse Hanford Company and is to be used only to perform, direct, or integrate work under USDOE contracts. THIS DOCUMENT IS NOT APPROVED FOR PUBLIC RELEASE UNTIL REVIEWED.

**PATENT STATUS** - This document copy, since it is transmitted in advanced of patent clearance, is made available in confidence solely for use in performance of work under contracts with the USDOE. This document is not to be published nor its contents otherwise disseminated or used for purposes other than specified above before patent approval for such release or use has been secured, upon request, from the USDOE Patent Attorney, Richland Operations Office, Richland, WA.

(Place an "X" in the box that applies)

RELEASE STAMP

**UNCLASSIFIED CONTROLLED NUCLEAR INFORMATION** - Not for public dissemination. May contain Unclassified Controlled Nuclear Information subject to Section 148 of the Atomic Energy Act of 1954, as amended (42 USC 2168). Approval by the USDOE is required before release. Attach Blue Cover RLF-5635-3.

**APPLIED TECHNOLOGY** - Any further distribution by any holder of this document or of the data therein to third parties representing foreign interests, foreign governments, foreign companies and foreign subsidiaries or foreign divisions of United States companies should be coordinated with the USDOE, Deputy Assistant Secretary for Reactor Systems Development and Technology.

OFFICIAL RELEASE  
BY WHC  
DATE OCT 5 1988

8

etc #4

Impact Level 3

9713540.0858

### 2.3 PHYSICAL DESCRIPTION

The 184 Powerhouse Buildings were of steel frame and concrete block construction. The roofs were of precast concrete with built-up gravel surface. The 184-B Facility contained four coal fired boilers and the 184-D Facility had five boilers, each boiler had a 290 ton capacity coal banker which was fed by gravity into a stoker-feeder hopper serving five steam turbine stokers. Draft for each boiler was provided by 45,000 ft<sup>3</sup>/min turbine driven blowers.

Furnace gas discharge was through two 300 ft stacks located adjacent to the 184-B Building and three 300 ft stacks at 184-D. The stacks were of reinforced concrete construction, round, with a base diameter of 22 ft-5 in. Maximum wall thickness of concrete was 1-1/2 ft at the stack base. Each stack rested on a double octagonal shaped base which extended 10 ft-3 in. below grade. The upper octagon measured 25 ft across the flats and was 3 ft-3 in. thick. The lower octagon was 34 ft across the flats and 7 ft thick.

The previous excessing demolition program left the powerhouse foundation slabs, footings and several associated concrete structures intact. The foundation slabs were exposed, with concrete equipment mounts rising 1 to 3 ft above the main slabs. The 184-D three massive stack bases were left intact. The general area was littered with demolition rubble.

The salt dissolving pits and brine pumping stations were located adjacent to the railroad tracks north of the powerhouse slab. A small wood structure was left standing at the 184-B brine pump pit. The two dissolving pits at each site were below grade concrete vaults with an internal void space of about 900 ft<sup>3</sup> each. The brine pump pit was also below grade and comprised of 500 ft<sup>3</sup> of void space. The 184-B pits were partially backfilled with rubble and only the brine pump pit contained water (about 500 gal). The 184-D brine pits contained water (about 4,100 gal) and salt cake (about 8.3 yd<sup>3</sup>).

9713540.0859

## 4.0 MATERIAL CHARACTERIZATION

### 4.1 HAZARDOUS MATERIALS

The subject sites were thoroughly surveyed for both radiological and nonradiological hazardous materials as the first step in the decommissioning process. The water in the 184-B brine water pump pit (approximately 500 gal), 184-B septic tank (approximately 4,900 gal) and 184-D salt dissolving pits (approximately 4,100 gal) were sampled for analysis. The 184-B brine water pump pit water analysis results found no significant radioactivity above background, NaCl concentration less than 1%, and HEHF Laboratory detected no reportable concentrations of heavy metals (EP Toxicity Test). The 184-B septic tank water analysis results found no significant radioactivity above background and HEHF Laboratory detected no reportable concentrations of heavy metals. The 184-D salt dissolving pits water analysis results found no significant radioactivity above background, HEHF Laboratory detected no reportable concentration of heavy metals, however, the NaCl concentrations were greater than 10% (Hazardous Material limit). The 184-D salt dissolving pits also contained approximately 8.3 yd<sup>3</sup> of salt (NaCl) cake.

The in-progress site cleanup excavation found friable asbestos insulation debris placed in a concrete valve box (460 ft<sup>3</sup>) in the 184-B Powerhouse floor slab and covering a 1-1/2 in. diameter heater pipe (approximately 10 ft<sup>3</sup>) in the 184-D Coal Tunnel. A 4-in. diameter cemented asbestos pipe was also found under the 184-D Powerhouse floor slab and transite siding fragments were found at the 184-D Coal Facility and 1717-F site (approximately 768 ft<sup>3</sup>). This asbestos waste was removed for proper disposal at the 200 Area Central Landfill. Some fragments of transite siding were irretrievable from the 184-D Coal Tunnel and were left mixed with the demolition debris.

### 4.2 RADIOLOGICAL

Radiological controls were based on the usage and operating history of the facilities. These facilities were never radiologically controlled sites, nor were radioactive materials stored on the sites. No Radiation Work Procedures (RWP) were required because project radiological surveys did not identify contaminated material prior to or during site cleanup activities.

## 5.0 DECOMMISSIONING WORK SEQUENCE

### 5.1 SITE PREPARATION

The following site preparations were completed before any final site cleanup work began. All preparations complied with the approved Decommissioning Work Procedure (DWP) and Job Safety Analysis (JSA).

- Decommissioning Engineering and Decommissioning Operations inspection determined there were no energized power sources or active underground utilities in the area. They also provided an excavation permit.
- The abandoned railroad track adjacent to the coal pits and salt dissolving pits at the Powerhouse sites had track sections removed prior to demolition.
- Initial site surveys by Radiation and Operational Health Physics found no significant radioactivity above background. The surveys substantiated a Radiation Work Procedure (RWP) would not be required to initiate site cleanup. Follow-on surveys verified no RWPs were needed during site cleanup.
- Decommissioning Health Physics obtained samples from the pits and tanks containing water and performed analyses which verified that no significant radiological readings above background were present. Health Physics also, obtained hazardous waste analysis for heavy metals and NaCl concentration on the samples prior to starting site cleanup.

### 5.2 SITE CLEANUP ACTIVITIES

Work began the fourth week of January 1988 for the 184-B site, second week of February 1988 for the 184-D site, and fourth week of March for the 1717-F site after the site specific Decommissioning Work Procedures including Job Safety Analysis and Operations Readiness Checklist were approved and issued.

An access control point was established and posted at the cleanup sites for each of the Areas. All equipment, vehicles and personnel entered and exited through the control point. Radiological surveys were performed by Operational Health Physics, including the initial site survey and periodic in-progress work surveys which verified that no radiological controls were warranted. No special protective clothing or equipment was required.

Equipment mobilization and preparation work was fairly repetitive for the three site cleanup efforts. The water from the brine pits and septic tank was all sampled and analyzed at the same time in January 1988. The railroad tracks were removed consecutively. The Railroad Maintenance and Decommissioning Operations started removing track at 184-B the last week of January and completed the 184-D track removal the second week of February 1988. The water

9713540.0861

and salt cake (NaCl concentration greater than 10%) was removed from the 184-D brine pits and disposed of as hazardous waste by an offsite subcontractor, Northwest Enviro Services Inc., during the first week of March 1988 prior to demolition and backfill.

Concrete structures at all sites were exposed by excavating and demolished to at least 3 ft below grade (Figures 9, 10, and 11). The demolition, rubble removal/disposal and site backfill tasks were accomplished using conventional heavy equipment including a crane with a wrecking ball, earth moving bulldozer, backhoe, front-end loader, and trucks. Dust control was maintained with water spray before and during demolition activities. As excavation uncovered friable asbestos insulation (184-B Powerhouse Valve Pit Box and 184-D Coal Tunnel heater pipe) and nonfriable cemented asbestos (transite) siding fragments, (mainly in 184-D Coal Handling Facility and 1717-F Building slab area) the material was handled, packaged and transported for disposal in the Hanford central landfill in compliance with the regulations and requirements described in UNI-M-38, Industrial Safety Manual (Reference 5) and UNI-M-29, Shipment of Radioactive and Other Hazardous Material (Reference 6). The 184-D Coal Facility has transite (non-friable asbestos) mixed with other inert demolition debris from a previous program. Transite buried deeper than 3 ft was left in situ by covering with clean backfill as concurred with by 100 Areas Environmental Protection on March 18, 1988 in compliance with requirements of UNI-M-31, Environmental Control Manual (Reference 7).

Prior to backfilling over the demolished in situ rubble and components, holes were punched in the tunnels, pits, and tank bottoms for drainage. The concrete rubble left in situ was worked into position to reduce voids and minimize future subsidence. The material was also compacted to increase the distance below grade to assure room for at least 3 ft of clean backfill. Heavy equipment was driven over the backfill to insure compaction. The in situ rubble was buried at least 3 ft deep for all site facilities.

No radioactive materials were found within the site structures.

## 6.0 PROJECT BUDGET AND SCHEDULE

### 6.1 PROJECT COSTS

The estimated cost and budget baseline amount for the final site cleanup of the 184-B Powerhouse, 184-D Powerhouse, and 1717-F Maintenance Shop was \$128,200. Initially, work progressed very well with indications that hazardous waste disposal costs would be absorbed by the Hanford Waste Management contract and would not be charged back to the project, which would result in a budget underrun. The budget was revised in April 1988 as part of the Hanford Facilities Decommissioning Programs FY 1988 mid-year budget review. The budget rebaseline effort is documented on Change Request No. U88-017, dated April 22, 1988. The rebaselined final site cleanup budget was adjusted to \$119,300. Actual costs were \$128,700. The \$9,400 (7.9%) cost overrun was primarily due to the costs for disposing of the brine water and salt cake via offsite hazardous waste disposal contractor services being charged back to the project. Table 1 summarizes the final site cleanup costs.

### 6.2 PROJECT SCHEDULE

Final site cleanup activities were authorized to proceed when the site specific Decommissioning Work Procedures and Operations Readiness Checklists were approved and issued on January 19, 1988 for the 184-B site, February 3, 1988 for the 184-D site, and February 26, 1988 for the 1717-F site. Site preparation including surveys, sampling, track removal (184-B and -D), and mobilization preceded site cleanup activities. The 184-B site cleanup activities were initiated January 26 and final grading of the site was completed March 1, 1988. The 184-D site cleanup mobilization was started February 16 and demolition of the structure began February 22, 1988. The 184-D final site grading and inspection of work area was completed March 29, 1988. The 1717-F site cleanup demolition started March 22, 1988 and final grading of the site was completed April 5, 1988. Decommissioning Engineering and Operations site walk down on April 6, 1988 officially verified completion of the project.

<u>Date Submitted:</u> August 30, 1996  Originator: J.R. James, BHI  Phone: 372-9563	<b>WASTE SITE RECLASSIFICATION FORM</b>  <u>Operable Unit(s):</u> 100-DR-2  <u>Waste Site ID:</u> 1607-D1, 1607-D1 Septic Tank and Associated Drain Field; 124-D-1,; 1607-D1 Sanitary Sewer System; 1607-D1 Septic Tank  <u>Type of Reclassification Action:</u>  Rejected <input checked="" type="checkbox"/> Closed Out <input type="checkbox"/> No Action <input type="checkbox"/>	<u>Control Number:</u>   
---	---	------------------------------------

This form documents agreement among the parties listed below authorizing classification of the subject waste site from the TPA solid waste management unit listing as rejected, closed out, or no action and authorizing backfill of the waste site, if appropriate. Final removal from the NPL will occur at a future date.

Description of current waste site condition:

The 1607-D1 Septic Tank System is located in the 100-DR-2 Operable Unit, approximately 3000 feet from any former operational facilities, at approximately Washington State Plane coordinates (E) 574516.8 (N) 150964.2, and consists of a septic tank, and associated drain field. The tank is a concrete structure with a steel lid surrounded by a steel pipe barricade fence; the drain field was constructed of vitrified and concrete pipe and drain tiles. Today, the tank is not evident on the surface, and there is a large cobble field where the drain field was located. The system supported the 1701-D Badgehouse (a security checkpoint and badging house), and the 1709-D Patrol Change Room and offices from 1944 to 1965. There were no documented activities conducted in these buildings involving the use of dangerous or hazardous chemicals or the receipt or generation of waste. Based on the use of these facilities, no such activities would have been likely.

Reference list:

1. *Environmental Sites Database General Summary Report*, WIDS, Site Code: 1607-D1, August 12, 1996.
2. Carpenter, R. W., 1993, *100-D Area Technical Baseline Report*, WHC-SD-EN-TI-181, Rev. 0, Westinghouse Hanford Company, Richland, Washington, September 20, 1993.

Basis for reclassification:

This site is nominated as "Rejected" because there have been no dangerous wastes or CERCLA hazardous substances used or released at this site. This is an inactive site that received only sanitary waste associated with personal comfort needs of personnel assigned to the 1701-D and 1709-D Buildings. Activities at these buildings were generally administrative and did not involve the use or processing of any hazardous or dangerous substances. These buildings were physically separated from operational facilities. Available documentation does not indicate any incidence of hazardous substance or dangerous waste discharges. Further action at this site, if required, will be conducted in accordance with the State of Washington Department of Health regulations for On-Site Sewage Systems (WAC 246-272).

\_\_\_\_\_  
DOE Project Manager

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Date

\_\_\_\_\_  
Ecology Project Manager

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Date

\_\_\_\_\_  
EPA Project Manager

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Date

## Environmental Sites Database General Summary Report

Site Code: 1607-D1

Site Classification: Accepted

12-Aug-96 Page 1

**Site Names:** 1607-D1, 1607-D1 Septic Tank and Associated Drain Field; 124-D-1; 1607-D1 Sanitary Sewer System; 1607-D1 Septic Tank

**Site Type:** Septic Tank

**Programmatic Responsibility:** EM-40

**Site Description:** The unit includes a tile field. It is 11 ft (3.4 m) deep, constructed of reinforced concrete, and has a 125-person capacity (35 gal [130 L] per capita) with an average detention period of 24 h. The walls and floor are 10 in (25 cm) thick. The tile field is constructed of 4 in (10 cm) vitrified pipe, concrete pipe, or drain tile with a minimum of 8 ft (2.4 m) per capita. The laterals are open jointed and spaced 8 ft (2.4 m) apart. 12/19/95

**Status:** Inactive

**Start Date:** 1944

**End Date:** 1965

**Operable Unit:** 100-DR-2

**Hanford Area:** 100D

**Coordinates:** (E) 574533.7 (N) 150829.2 Washington State Plane

**Associated Structures:**

**Site Accessible:** No

**Access Requirements:**

**Site Hazards:**

**Location Description:**

**Environmental Monitoring Desc:**

**Release Desc:**

**Release Potential Desc:**

**Site Comment:**

**Process Desc:**

**References:**

1. K. H. Cramer, Hanford Site Waste Management Units Report, May 1987.
2. K. A. Gano, 6-3-87, Designation Numbers for UNC Controlled Waste Sites in the 100 Areas, UNI-4433.
3. L. P. Diediker to F. A. Ruck III, 3-17-88, WHC Mem.: Comment and Revisions to 100 Area Waste Units Listed in 3004(u).
4. N. A. Homan, 2-6-90, DSI: Comments on the September 1988 Draft Hanford Site Waste Management Units Report.
5. Septic Tanks Plan and Sections, W-71192 R31.
6. G. I. Goldberg, WIDS Site Modification: Consolidate 100-DR-2 and 100-DR-3 (#94-437).

Site Code: 1607-D1

Site Classification: Accepted

12-Aug-96 Page 2

**Dimensions:**

	<u>Meters</u>	<u>Feet</u>
Length:	4.27	14.00
Width:	2.13	7.00
Depth / Height:		
Diameter:		
Area:		
Overburden Depth:		

**References:**

1. Septic Tanks Plan and Sections, W-71192 R31.

**Regulatory Information:**

Part A Permit Application Written:	No	Interim Closure Plan Written:	No
Part B Permit Application Written:	No	Covered under TPA Action Plan:	Yes
Registered Class V Underground Injection Well:	No	Solid Waste Management Unit:	No
Regulatory Authority:	RCRA Past Practice		
TSD Number:			

**References:**

1. 12-88, Hanford Site Dangerous Waste Part A Permit Application. Vol. 1,2,3, DOE/RL 88-21.
2. 2-27-89, Action Plan For Implementation of the Hanford Facility Agreement and Consent Order.
3. Prepared by DOE, 3-11-88, Registration of Hanford Site Class V Underground Injection Wells.
4. 2-89, Preliminary Operable Units Designation Project, WHC-EP-0216.
5. Jack Waite to Sherry Griffin, 11-12-90, Review Comments on the 1990 Hanford Site Waste Management Units Report, DSI.

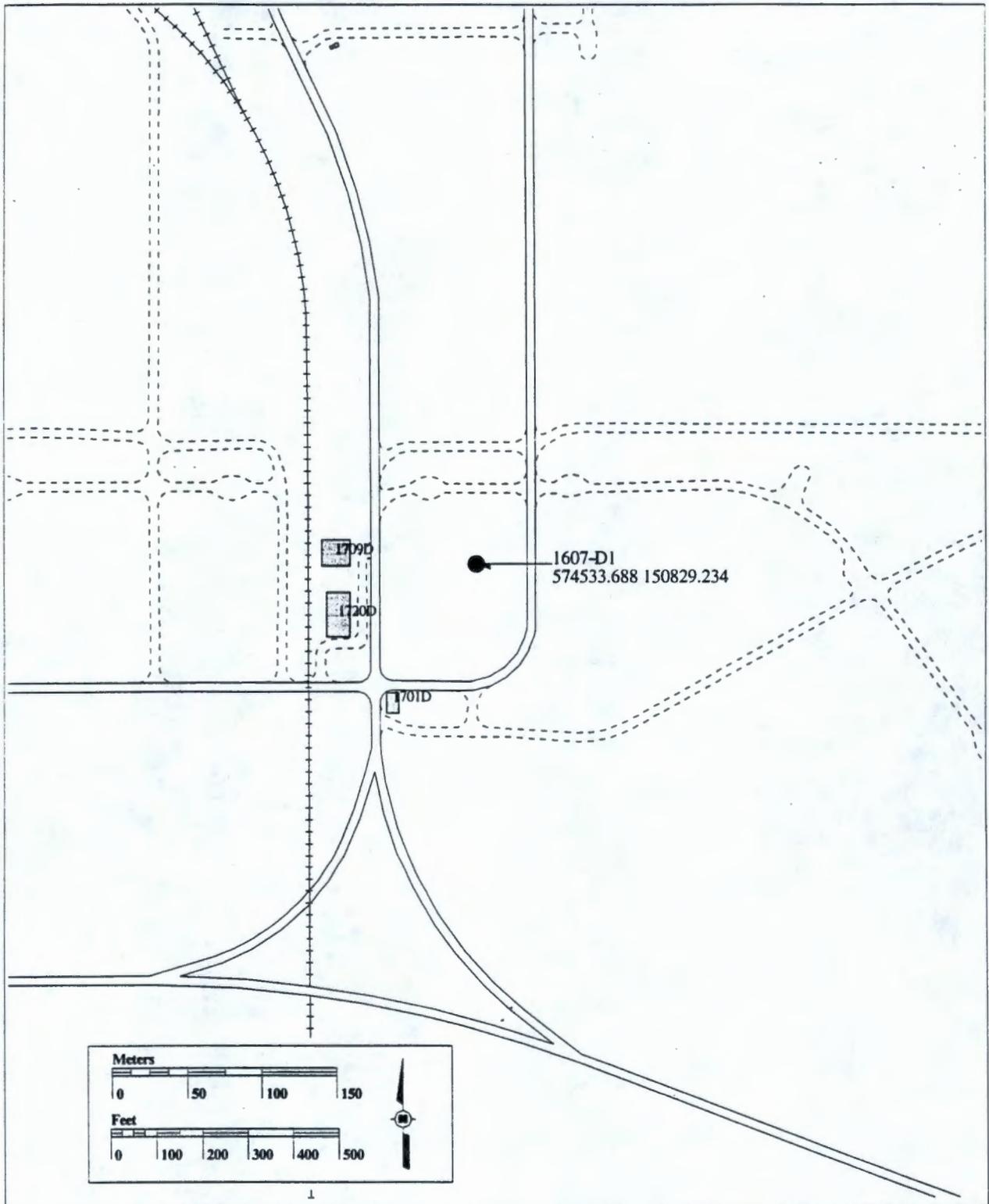
**Waste Information:**

Type:	Sanitary Sewage	Physical State:	Liquid
Category:	Nondangerous/nonradioactive		
Amount:	Units:		
Reported Date:			
Start Date:			
End Date:			
Waste Desc:	This unit received sanitary waste from the 1701-D Badgehouse (security check point) and the 1709-D Patrol Change Room and offices, amount unknown.		

**References:**

1. K. H. Cramer, Hanford Site Waste Management Units Report, May 1987.

# 1607-D1



# 100-D Area Technical Baseline Report

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



**Westinghouse**  
**Hanford Company** Richland, Washington

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

**PLEASE RETURN TO:  
ENVIRONMENTAL DIVISION  
RESOURCE CENTER**

Approved for Public Release

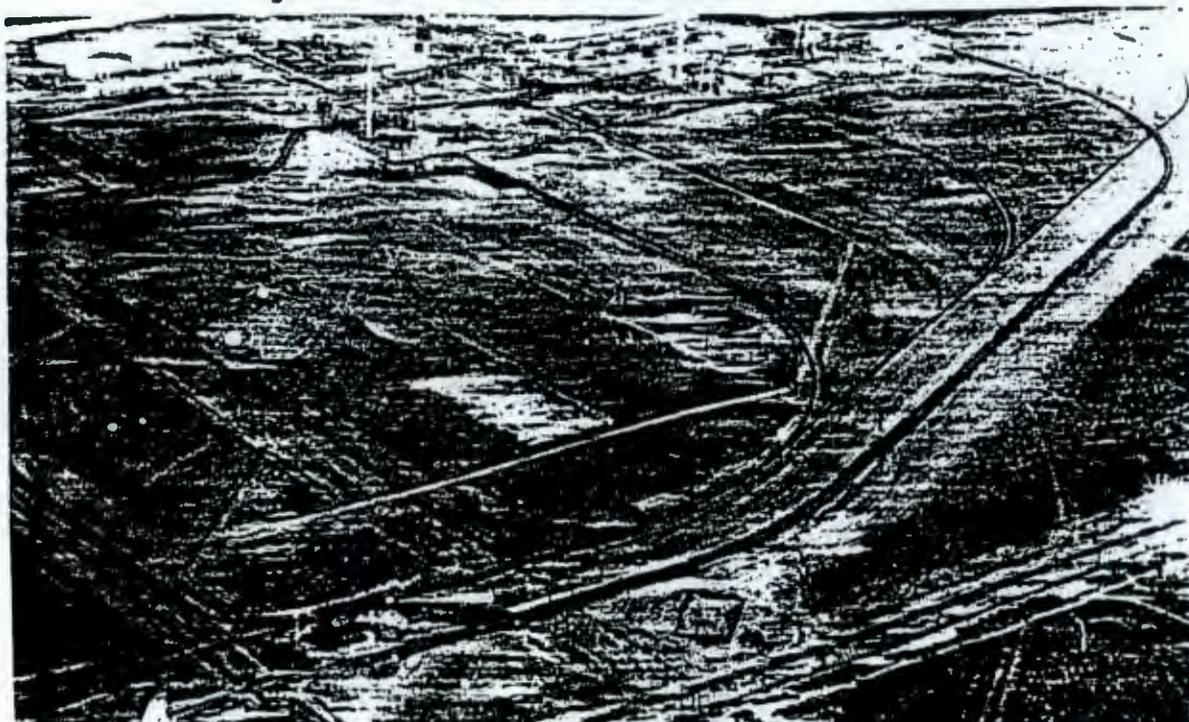
SUPPORTING DOCUMENT		1. Total Pages 189
2. Title 100-D Area Technical Baseline Report	3. Number WHC-SD-EN-TI-181	4. Rev No. 0
5. Key Words 100-D Area, 100-D Reactor, 100-DR Reactor, 100-DR-1 OU, 100-DR-2 OU, 100-DR-3 OU, solid wastes, liquid wastes, storage basins, septic systems, burial grounds, waste sites	6. Author Name: R. W. Carpenter <i>RW Carpenter</i> Signature Organization/Charge Code 81300/EA63K	
7. Abstract This document supports the environmental remediation effort of the 100 Area by providing remediation planners with key data that characterize the 100-D and 100-DR Reactor sites. It provides operational histories of 100-D, 100-DR, and each of their associated liquid and solid waste sites.  Carpenter, RW, 1993, <i>100-D Area Technical Baseline Report</i> , WHC-SD-EN-TI-181, Westinghouse Hanford Company, Richland, Washington.	APPROVED FOR PUBLIC RELEASE 8/17/93 N. Solid	
8. PURPOSE AND USE OF DOCUMENT - This document was prepared for use within the U.S. Department of Energy and its contractors. It is to be used only to perform, direct, or integrate work under U.S. Department of Energy contracts. This document is not approved for public release until reviewed.  PATENT STATUS - This document copy, since it is transmitted in advance of patent clearance, is made available in confidence solely for use in performance of work under contracts with the U.S. Department of Energy. This document is not to be published nor its contents otherwise disseminated or used for purposes other than specified above before patent approval for such release or use has been secured, upon request, from the Patent Counsel, U.S. Department of Energy Field Office, Richland, WA.  DISCLAIMER - This report was prepared as an account of work sponsored by an agency of the United States Government. Neither the United States Government nor any agency thereof, nor any of their employees, nor any of their contractors, subcontractors or their employees, makes any warranty, express or implied, or assumes any legal liability or responsibility for the accuracy, completeness, or any third party's use or the results of such use of any information, apparatus, product, or process disclosed, or represents that its use would not infringe privately owned rights. Reference herein to any specific commercial product, process, or service by trade name, trademark, manufacturer, or otherwise, does not necessarily constitute or imply its endorsement, recommendation, or favoring by the United States Government or any agency thereof or its contractors or subcontractors. The views and opinions of authors expressed herein do not necessarily state or reflect those of the United States Government or any agency thereof.	10. RELEASE STAMP  OFFICIAL RELEASE BY WHC (11) DATE AUG 20 1993 <i>Station # 12</i>	
9. Impact Level 4		

Table 6-4. Septic Systems.

SEPTIC TANK DESIGNATION	HANFORD LOCATION	COMMENTS
1607-D1 DRAIN FIELD	N89740 W50280 N90155 W50330	Supported 1701-D and 1709-D. The tank is not evident on the surface, there is a large cobble field (about 50 yards north of the power line) that is the drain field for this septic system (Figure 6-9)
UNNUMBERED	N90900 W51900	Supported temporary construction facilities and overflow from the high tanks located at 100-DR and the 100-DR Reactor. The system consisted of an IMHOFF tank and drain field. The tank is a concrete structure with a steel lid surrounded by a steel pipe barricade fence. There are two access cover plates and three vents on the top cover plate. There is standing liquid in the tank bottom. The drain field is about 100 yards north-east of the tank and is a large pit surrounded by a steel post and light chain barricade that is unmarked (a sign found on the ground near the fence identifies the area as a septic drain field). A large concrete weir box is located on the west side that has a deteriorated wooden lid. The pit bottom is a cobble surface. A dispersion manifold lays on the surface that has been capped. There are several small access covers to the lines leading to this septic system: three are located south and east of the 100-DR Reactor facility outside the exclusion area fence and two more are located within the 100-DR-2 Operable Unit to the south west and south of the 100-DR Reactor facility. These access covers are surface level concrete boxes with a steel lid rectangular or square in shape (Figures 6-10 and 6-11)
UNNUMBERED	N89380 W52870	Supported Construction Badgehouse before relocation (H-1-8090). It is located about 40 yds. south of the roadway and 25 ft northeast of a small soil pile. There is a 4-in. concrete vent pipe and a nearby depression that most likely is the septic tank, although the tank is not evident on the surface. (Figure 6-12)

Figure 6-9. 100-D Area Patrol and Fire Station.

\* Reproduced from photocopy image of photograph. Best available copy.



<u>Date Submitted:</u> August 30, 1996  Originator: J.R. James, BHI  Phone: 372-9563	<b>WASTE SITE RECLASSIFICATION FORM</b>  <u>Operable Unit(s):</u> 100-DR-3  <u>Waste Site ID:</u> 100-D-14, SS-100D-017, Unnumbered Septic Tank #2, Unnumbered Septic System (b)  <u>Type of Reclassification Action:</u>  Rejected <input checked="" type="checkbox"/> Closed Out <input type="checkbox"/> No Action <input type="checkbox"/>	<u>Control Number:</u>
---	--	------------------------

This form documents agreement among the parties listed below authorizing classification of the subject waste site from the TPA solid waste management unit listing as rejected, closed out, or no action and authorizing backfill of the waste site, if appropriate. Final removal from the NPL will occur at a future date.

Description of current waste site condition:

The 100-D-14 Septic System and associated drain field is an inactive system located in the 100-DR-2 (formerly known as 100-DR-3) Operable Unit, at approximately Washington State Plane coordinates (E) 573743 (N) 150720.6. The tank is located south of the 105-DR Building. The system supported the H-1-8090 Construction Badgehouse before it was relocated. The system's service dates are unknown. There were no documented activities conducted in this building involving the use of hazardous chemicals or the receipt or generation of dangerous waste. Based on the use of this facility, no such activities would have been likely. Today, the tank is not evident on the surface, but there is a depression at the site where the septic system was likely to have been located.

Reference list:

1. *Environmental Sites Database General Summary Report*, WIDS, Site Code: 100-D-14, August 12, 1996.
2. Carpenter, R. W., *100-D Area Technical Baseline Report*, 1993, WHC-SD-EN-TI-181, Rev. 0, Westinghouse Hanford Company, Richland, Washington, August 20, 1993.

Basis for reclassification:

This site is nominated as "Rejected" because there have been no dangerous wastes or CERCLA hazardous substances at this site. This is an inactive site that received only sanitary waste associated with personal comfort needs of personnel assigned to the H-1-8090 Badgehouse. Activities at this building were administrative and did not involve the use or processing of any dangerous wastes or hazardous substances. Available documentation does not indicate any incidence of dangerous wastes or hazardous substance discharges. Any further action at this site, if necessary, will be conducted in accordance with the State of Washington Department of Health regulations for On-Site Sewage Systems (WAC 246-272).

\_\_\_\_\_  
DOE Project Manager

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Date

\_\_\_\_\_  
Ecology Project Manager

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Date

\_\_\_\_\_  
EPA Project Manager

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Date

## Environmental Sites Database General Summary Report

Site Code: 100-D-14

Site Classification: Accepted

12-Aug-96 Page 1

Site Names: 100-D-14, SS-100D-017, Unnumbered Septic Tank #2, Unnumbered Septic System (b)

Site Type: Septic Tank

09/13/95

Programmatic  
Responsibility: Undefined

Site Description: The tank is located south of the 105-DR Building, adjacent to the security perimeter fence on the south side. The site appears as a vegetation covered field. A small depression may indicate the presence of the tank. A 4-in (10 cm) cement pipe is likely to be a vent pipe to the drain field. The site is adjacent to a small soil pile.

11/27/95

Status: Inactive 09/13/95

Start Date:

End Date:

Operable Unit: 100-DR-2

Hanford Area: 100D

Coordinates: (E) 573743 (N) 150720.6 Washington State Plane

Associated Structures:

Site Accessible: No

Access Requirements:

Site Hazards:

Location Description:

Environmental  
Monitoring Desc:

Release Desc:

Release Potential Desc:

Site Comment:

11/13/95

Process Desc:

References:

1. R. W. Carpenter, 09/20/93, 100-D Area Technical Baseline Report, WHC-SD-EN-TI-181, REV 0.

## Regulatory Information:

Part A Permit Application Written:	No	Interim Closure Plan Written:	No	09/13/95	
Part B Permit Application Written:	No	Covered under TPA Action Plan:	No	09/13/95	
Registered Class V Underground Injection Well:	No	09/13/95	Solid Waste Management Unit:	No	09/13/95
Regulatory Authority:	Other	09/13/95			
TSD Number:					

References:

9713540.0872

---

Site Code: 100-D-14

Site Classification: Accepted

12-Aug-96 Page 2

---

**Waste Information:**

Type: Sanitary Sewage 09/13/95 Physical State: Liquid 09/13/95

Category: Nondangerous/nonradioactive 09/13/95

Amount: Units:

Reported Date:

Start Date:

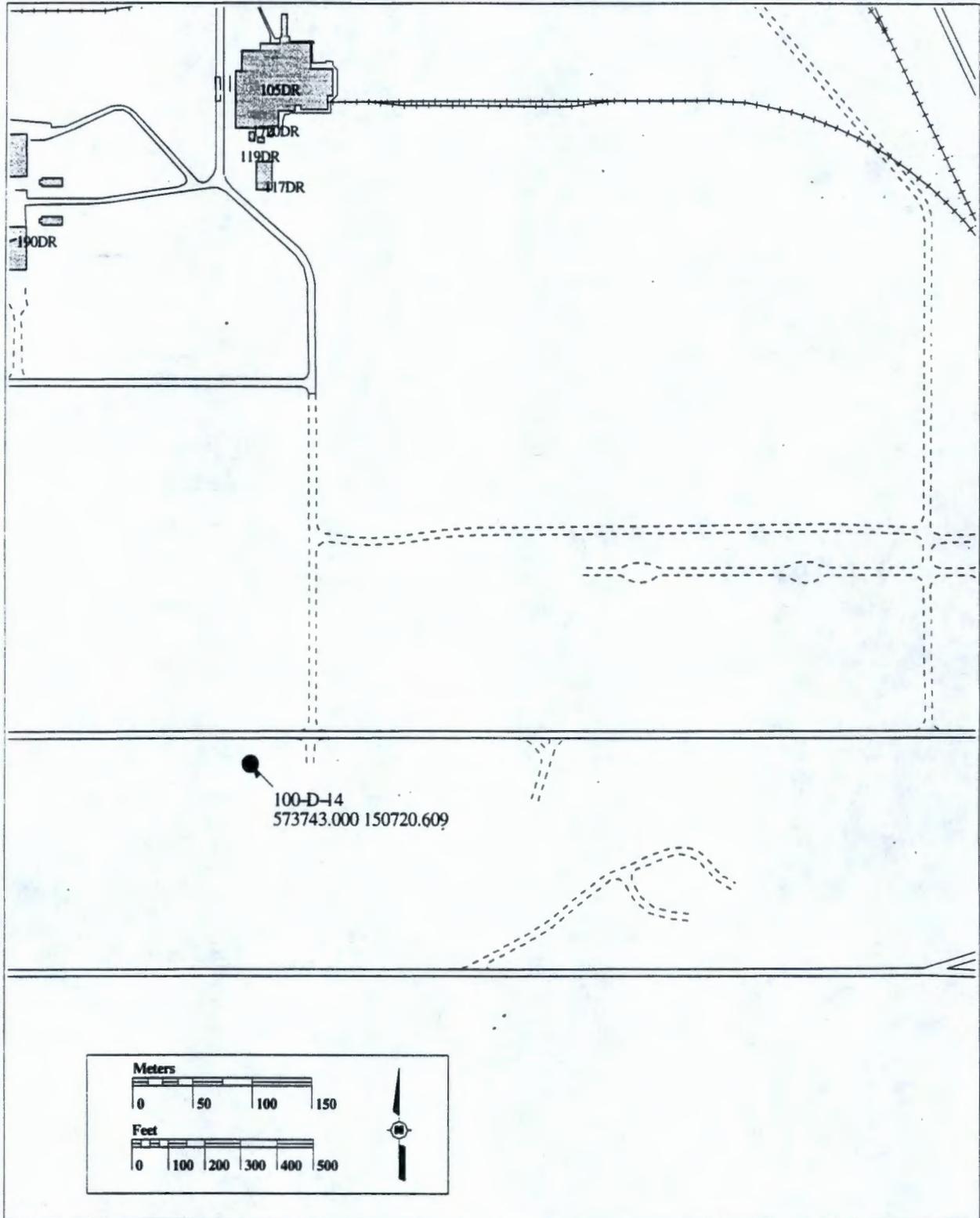
End Date:

Waste Desc: The unit received sanitary wastes.

**References:**

1. R. W. Carpenter, 09/20/93, 100-D Area Technical Baseline Report, WHC-SD-EN-TI-181, REV 0.
-

# 100-D-14



9713540.0874

Reference 2

WHC-SD-EN-TI-181  
Revision 0

# 100-D Area Technical Baseline Report

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



**Westinghouse**  
**Hanford Company** Richland, Washington

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

**PLEASE RETURN TO:  
ENVIRONMENTAL DIVISION  
RESOURCE CENTER**

Approved for Public Release

SUPPORTING DOCUMENT		1. Total Pages 189
2. Title 100-D Area Technical Baseline Report	3. Number WHC-SD-EN-TI-181	4. Rev No. 0
5. Key Words 100-D Area, 100-D Reactor, 100-DR Reactor, 100-DR-1 OU, 100-DR-2 OU, 100-DR-3 OU, solid wastes, liquid wastes, storage basins, septic systems, burial grounds, waste sites	6. Author Name: R. W. Carpenter <i>RW Carpenter</i> Signature	Organization/Charge Code 81300/EA63K
<p style="text-align: center;"><b>APPROVED FOR PUBLIC RELEASE 8/17/93 N. Soler</b></p> <p>7. Abstract This document supports the environmental remediation effort of the 100 Area by providing remediation planners with key data that characterize the 100-D and 100-DR Reactor sites. It provides operational histories of 100-D, 100-DR, and each of their associated liquid and solid waste sites.</p> <p>Carpenter, RW, 1993, <i>100-D Area Technical Baseline Report</i>, WHC-SD-EN-TI-181, Westinghouse Hanford Company, Richland, Washington.</p>		
<p>8. <del>PURPOSE AND USE OF DOCUMENT - This document was prepared for use within the U.S. Department of Energy and its contractors. It is to be used only to perform, direct, or integrate work under U.S. Department of Energy contracts. This document is not approved for public release until reviewed.</del></p> <p><del>PATENT STATUS - This document copy, since it is transmitted in advance of patent clearance, is made available in confidence solely for use in performance of work under contracts with the U.S. Department of Energy. This document is not to be published nor its contents otherwise disseminated or used for purposes other than specified above before patent approval for such release or use has been secured, upon request, from the Patent Counsel, U.S. Department of Energy Field Office, Richland, WA.</del></p> <p>DISCLAIMER - This report was prepared as an account of work sponsored by an agency of the United States Government. Neither the United States Government nor any agency thereof, nor any of their employees, nor any of their contractors, subcontractors or their employees, makes any warranty, express or implied, or assumes any legal liability or responsibility for the accuracy, completeness, or any third party's use or the results of such use of any information, apparatus, product, or process disclosed, or represents that its use would not infringe privately owned rights. Reference herein to any specific commercial product, process, or service by trade name, trademark, manufacturer, or otherwise, does not necessarily constitute or imply its endorsement, recommendation, or favoring by the United States Government or any agency thereof or its contractors or subcontractors. The views and opinions of authors expressed herein do not necessarily state or reflect those of the United States Government or any agency thereof.</p>	<p>10. RELEASE STAMP</p> <div style="border: 1px solid black; padding: 5px; text-align: center;"> <p>OFFICIAL RELEASE <span style="border: 1px solid black; border-radius: 50%; padding: 2px 5px;">11</span></p> <p>BY WHC</p> <p>DATE AUG 20 1993</p> <p><i>Nation # 12</i></p> </div>	
9. Impact Level 4		

6.8 1607-D SEPTIC TANKS AND ASSOCIATED DRAIN FIELDS

Three septic tanks are located in the 100-DR-3 Operable Unit. They are inactive systems constructed of reinforced concrete with associated drain fields. They are not known to have received hazardous or radioactive wastes, although they may have received materials associated with cleaning solvents and materials that were likely used in the facilities they supported. One has been assigned a designation number and the other two are identified as "unnumbered" in Table 6-4.

Table 6-4. Septic Systems.

SEPTIC TANK DESIGNATION	HANFORD LOCATION	COMMENTS
1607-D1 DRAIN FIELD	N89740 W50280 N90155 W50330	Supported 1701-D and 1709-D. The tank is not evident on the surface, there is a large cobble field (about 50 yards north of the power line) that is the drain field for this septic system (Figure 6-9)
UNNUMBERED	N90900 W51900	Supported temporary construction facilities and overflow from the high tanks located at 100-DR and the 100-DR Reactor. The system consisted of an IMHOFF tank and drain field. The tank is a concrete structure with a steel lid surrounded by a steel pipe barricade fence. There are two access cover plates and three vents on the top cover plate. There is standing liquid in the tank bottom. The drain field is about 100 yards north-east of the tank and is a large pit surrounded by a steel post and light chain barricade that is unmarked (a sign found on the ground near the fence identifies the area as a septic drain field). A large concrete weir box is located on the west side that has a deteriorated wooden lid. The pit bottom is a cobble surface. A dispersion manifold lays on the surface that has been capped. There are several small access covers to the lines leading to this septic system: three are located south and east of the 100-DR Reactor Facility outside the exclusion area fence and two more are located within the 100-DR-2 Operable Unit to the south west and south of the 100-DR Reactor Facility. These access covers are surface level concrete boxes with a steel lid rectangular or square in shape (Figures 6-10 and 6-11)
UNNUMBERED	N89380 W52870	Supported Construction Badgehouse before relocation (H-1-8090). It is located about 40 yds. south of the roadway and 25 ft northeast of a small soil pile. There is a 4-in. concrete vent pipe and a nearby depression that most likely is the septic tank, although the tank is not evident on the surface. (Figure 6-12)



Figure 6-12. Undocumented Septic Tank and Drain Field.



<u>Date Submitted:</u> August 30, 1996  Originator: J.R. James, BHI  Phone: 372-9563	<b>WASTE SITE RECLASSIFICATION FORM</b>  <u>Operable Unit(s):</u> 100-FR-2  <u>Waste Site ID:</u> 1607-F1, 1607-F1 Septic Tank and Associated Drain Field; 124-F-1; 1607-F1 Sanitary Sewer System; 1607-F1 Septic Tank  <u>Type of Reclassification Action:</u>  Rejected <input checked="" type="checkbox"/> Closed Out <input type="checkbox"/> No Action <input type="checkbox"/>	<u>Control Number:</u>
---	--	------------------------

This form documents agreement among the parties listed below authorizing classification of the subject waste site from the TPA solid waste management unit listing as rejected, closed out, or no action and authorizing backfill of the waste site, if appropriate. Final removal from the NPL will occur at a future date.

Description of current waste site condition:

The 1607-F1 Septic Tank System is an inactive system located in the 100-FR-2 Operable Unit at the southern extremity of the 100-F Area, at approximately Washington State Plane coordinates (E) 580524.1 (N) 146823.3, well removed from any former operational facilities, and consists of a septic tank and associated drain field. The tank is a reinforced concrete structure; the drain field was constructed of vitrified and concrete pipe and drain tiles. Today, the approximate area is covered with sage and grass, and no markers exist that identify the location of the septic tank or drain field. The system supported the 100-F Area 1701-F Badgehouse, 1709-F Fire Station, and the 1720-F Administrative Offices and Patrol Room from 1944 to about 1965. There were no documented activities conducted in these buildings involving the use of hazardous chemicals or the receipt or generation of dangerous waste. Based on the use of these facilities, no such activities would have been likely.

Reference list:

1. *Environmental Sites Database General Summary Report*, WIDS, Site Code: 1607-F1, August 12, 1996.
2. Deford, D. H., 1993, *100-F Reactor Site Technical Baseline Report Including Operable Units 100-FR-1 and 100-FR-2*, WHC-SD-EN-TI-169, Rev. 0, Westinghouse Hanford Company, Richland, Washington, June 18, 1993.

Basis for reclassification:

This site is nominated as "Rejected" because there have been no dangerous wastes or CERCLA hazardous substances used or released at this site. This is an inactive site that received only sanitary waste associated with personal comfort needs of personnel assigned to the 1701-F Badgehouse, 1709-F Fire Station, 1720-F Administrative Offices and Patrol Room. Activities at these buildings were generally administrative and did not involve the use or processing of any dangerous or hazardous substances. These buildings were physically separated from operational facilities. Available documentation does not indicate any incidence of dangerous or hazardous substance discharges. Further action at this site, if required, will be conducted in accordance with the State of Washington Department of Health regulations for On-Site Sewage Systems (WAC 246-272).

\_\_\_\_\_  
DOE Project Manager

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Date

\_\_\_\_\_  
Ecology Project Manager

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Date

\_\_\_\_\_  
EPA Project Manager

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Date

## Environmental Sites Database General Summary Report

Site Code: 1607-F1

Site Classification: Accepted

12-Aug-96 Page 1

**Site Names:** 1607-F1, 1607-F1 Septic Tank and Associated Drain Field; 124-F-1, 1607-F1 Sanitary Sewer System; 1607-F1 Septic Tank

**Site Type:** Septic Tank

**Programmatic Responsibility:** EM-40

**Site Description:** The unit includes a tile field. It is 11 ft (3.4 m) deep, constructed of reinforced concrete, and has a 125-person capacity (35 gal [130 L] per capita) with an average detention period of 24 h. The walls and floor are 10 in (25 cm) thick. The tile field is constructed of 4-in (10 cm) vitrified pipe, concrete pipe, or drain tile with a minimum of 8 linear feet (2.4 m) per capita. The laterals are open jointed and spaced 8 ft (2.4 m) apart.

03/01/96

**Status:** Inactive

**Start Date:** 1944

**End Date:** 1965 03/01/96

**Operable Unit:** 100-FR-2

**Hanford Area:** 100F

**Coordinates:** (E) 580524.1 (N) 146823.3 Washington State Plane

**Associated Structures:**

**Site Accessible:** No

**Access Requirements:**

**Site Hazards:**

**Location Description:**

**Environmental Monitoring Desc:**

**Release Desc:**

**Release Potential Desc:**

**Site Comment:** The reactor operated until June, 1965. It is likely that the septic system was active until 1965 as well.

03/01/96

**Process Desc:**

**References:**

1. K. H. Cramer, Hanford Site Waste Management Units Report, May 1987.
2. 2-89, Preliminary Operable Units Designation Project, WHC-EP-0216.
3. K. A. Gano, 6-3-87, Designation Numbers for UNC Controlled Waste Sites in the 100 Areas, UNI-4433.
4. L. P. Diediker to F. A. Ruck III, 3-17-88, WHC Mem.: Comment and Revisions to 100 Area Waste Units Listed in 3004(u).
5. N. A. Homan, 2-6-90, DSI: Comments on the September 1988 Draft Hanford Site Waste Management Units Report.
6. Septic Tanks Plan and Sections, W-71192 R31.

Site Code: 1607-F1

Site Classification: Accepted

12-Aug-96 Page 2

**Dimensions:**

	<u>Meters</u>	<u>Feet</u>
Length:	4.27	14.00
Width:	2.13	7.00
Depth / Height:		
Diameter:		
Area:		
Overburden Depth:		

**References:**

1. Septic Tanks Plan and Sections, W-71192 R31.

**Regulatory Information:**

Part A Permit Application Written:	No	Interim Closure Plan Written:	No
Part B Permit Application Written:	No	Covered under TPA Action Plan:	Yes
Registered Class V Underground Injection Well:	No	Solid Waste Management Unit:	No
Regulatory Authority:	Undefined		
TSD Number:			

**References:**

1. 12-88, Hanford Site Dangerous Waste Part A Permit Application. Vol. 1,2,3, DOE/RL 88-21.
2. 2-27-89, Action Plan For Implementation of the Hanford Facility Agreement and Consent Order.
3. Prepared by DOE, 3-11-88, Registration of Hanford Site Class V Underground Injection Wells.
4. 2-89, Preliminary Operable Units Designation Project, WHC-EP-0216.
5. Jack Waite to Sherry Griffin, 11-12-90, Review Comments on the 1990 Hanford Site Waste Management Units Report, DSI.

**Waste Information:**

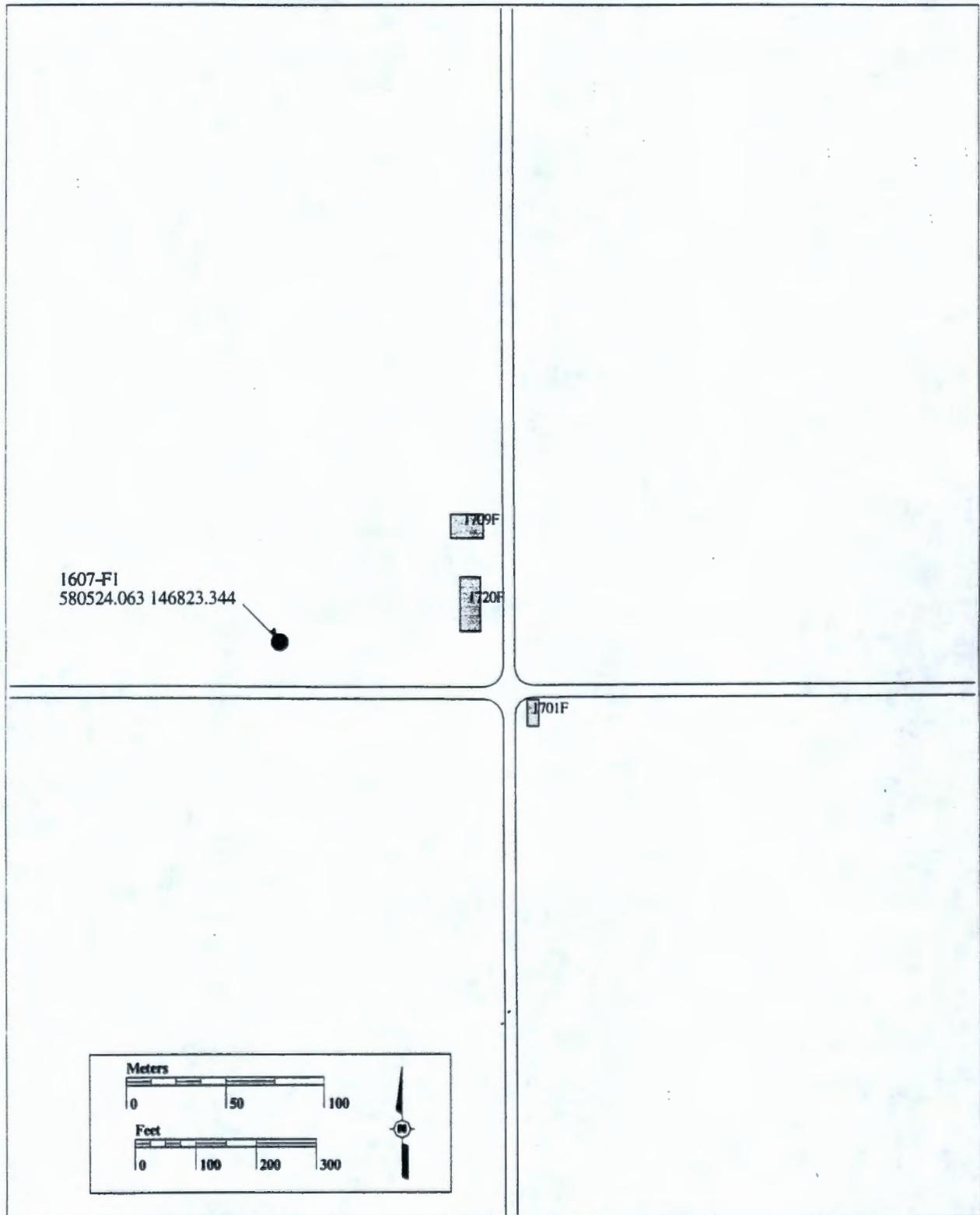
Type:	Sanitary Sewage	03/01/96	Physical State:	Liquid	03/01/96
Category:	Nondangerous/nonradioactive				03/01/96
Amount:	Units:				
Reported Date:					
Start Date:					
End Date:					

**Waste Desc:** This unit received sanitary sewage from 1701-F Badge House (security checkpoint), 1709-F Fire Station, and 1720-F Administrative Office and change room for security patrol personnel. The flow rate to this unit is estimated at 1,225 gal/day (4,640 L/day).

**References:**

1. K. H. Cramer, Hanford Site Waste Management Units Report, May 1987.

# 1607-F1



# 100-F Reactor Site Technical Baseline Report Including Operable Units 100-FR-1 and 100-FR-2

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



**Westinghouse**  
**Hanford Company** Richland, Washington

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

Approved for Public Release

SUPPORTING DOCUMENT		1. Total Pages 290
<p>2. Title</p> <p>100-F Reactor Site Technical Baseline Report Including Operable Units 100-FR-1 and 100-FR-2</p>	<p>3. Number</p> <p>WHC-SD-EN-TI-169</p>	<p>4. Rev No.</p> <p>0</p>
<p>5. Key Words</p> <p>experimental animal farm, cribs, french drain, solid waste burial grounds, ash pit, cooling water retention basin and outfall structure</p>	<p>6. Author</p> <p>Name: D. H. DeFord</p> <p style="text-align: center;"><i>Dennis DeFord</i></p> <hr/> <p>Signature</p> <p>Organization/Charge Code 81300/EA63D</p>	
<p><b>APPROVED FOR</b></p> <p><b>PUBLIC RELEASE</b></p> <p><i>6/14/93 N.S. Sals</i></p>		
<p>7. Abstract</p> <p>This document supports the environmental remediation effort of the 100 Area by providing remediation planners with key data that characterize the 100-F Reactor site. It provides an operational history of the 100-F Reactor and each of its associated liquid and solid waste sites.</p> <p>Deford, D. H., 1993, <i>100-F Reactor Site Technical Baseline Report Including Operable Units 100-FR-1 and 100-FR-2</i>, WHC-SD-EN-TI-169, Rev. 0, Westinghouse Hanford Company, Richland, Washington.</p>		
<p>8. PURPOSE AND USE OF DOCUMENT - This document was prepared for use within the U.S. Department of Energy and its contractors. It is to be used only to perform, direct, or integrate work under U.S. Department of Energy contracts. This document is not approved for public release until reviewed.</p> <p><b>PATENT NOTICE</b> - This document copy, since it is transmitted in advance of patent clearance, is made available in confidence solely for use in the performance of work under contracts with the U.S. Department of Energy. This document is not to be published nor its contents otherwise disseminated or used for purposes other than specified above before patent approval for such release or use has been secured, upon request, from the Patent Counsel, U.S. Department of Energy Field Office, Richland, WA.</p> <p><b>DISCLAIMER</b> - This report was prepared as an account of work sponsored by an agency of the United States Government. Neither the United States Government nor any agency thereof, nor any of their employees, nor any of their contractors, subcontractors or their employees, makes any warranty, express or implied, or assumes any legal liability or responsibility for the accuracy, completeness, or any third party's use or the results of such use of any information, apparatus, product, or process disclosed, or represents that its use would not infringe privately owned rights. Reference herein to any specific commercial product, process, or service by trade name, trademark, manufacturer, or otherwise, does not necessarily constitute or imply its endorsement, recommendation, or favoring by the United States Government or any agency thereof or its contractors or subcontractors. The views and opinions of authors expressed herein do not necessarily state or reflect those of the United States Government or any agency thereof.</p>		<p>10. RELEASE STAMP</p> <div style="border: 1px solid black; padding: 5px; margin-top: 10px;"> <p style="text-align: center;">OFFICIAL RELEASE <span style="border: 1px solid black; border-radius: 50%; padding: 2px;">11</span></p> <p style="text-align: center;">BY WHC</p> <p style="text-align: center;">DATE JUL 06 1993</p> <p style="text-align: center;"><i>Station # 12</i></p> </div>
<p>9. Impact Level 4</p>		

## 5.12 1607-F-1 SEPTIC TANK

The 1607-F-1 Septic Tank is an inactive nonhazardous/nonradioactive liquid waste site that operated from 1944 to 1960 to receive sanitary waste from the 100-F Area badge house, fire station, and administrative offices. Its flow rate was about 1,225 gal/day.

Located at the southern extremity of the 100-F Area at Hanford coordinates N76550 W30375, the septic tank was 14- by 7- by 11-ft-deep reinforced concrete and included an east-west trending tile field. Its walls and floor were 10 in. thick. The tile field was constructed of 4-in. vitrified pipe, concrete pipe, or drain tile. The laterals were open jointed and spaced 8 ft apart (WHC 1991).

No Hazardous Ranking System Migration Score has been assigned to this waste site.

The approximate area is sage and grass covered, and no markers exist that identify the location of the septic tank or drain field.

9713540-0005

<u>Date Submitted:</u> August 30, 1996  Originator: J.R. James, BHI  Phone: 372-9563	<b>WASTE SITE RECLASSIFICATION FORM</b>  <u>Operable Unit(s):</u> 100-FR-2  <u>Waste Site ID:</u> 100-F-1, 100-FR-2 Depression Site  <u>Type of Reclassification Action:</u>  Rejected <input checked="" type="checkbox"/> Closed Out <input type="checkbox"/> No Action <input type="checkbox"/>	<u>Control Number:</u>
---	---	------------------------

This form documents agreement among the parties listed below authorizing classification of the subject waste site from the TPA solid waste management unit listing as rejected, closed out, or no action and authorizing backfill of the waste site, if appropriate. Final removal from the NPL will occur at a future date.

Description of current waste site condition:  
 The 100-F-1 Depression Site is located about 300 ft SW of the 100-FR-2 Vent Pipe and 100 Ft N of the NW corner of 118-F-1 Burial Ground, at approximately Washington State Plane coordinates (E) 580058.2 (N) 147336.5. This site is a grass-covered, tumbleweed-filled surface depression surrounded by a degraded wooden barrier; and a chain fence with a "Danger Keep Away" sign hanging from the fence. The fence is assumed to be for pedestrian protection to guard against tripping in the tumbleweed-filled depression.

No anomalous features were detected within the depression during a Ground Penetrating Radar (GPR) conducted at the site. However, in the area immediately surrounding the depression, there appeared to be two linear anomalies suspected to be buried pipelines. The attached drawing, SK-1-2847 (Ref. #6), indicates that the pipeline is a high purity water system for the 100-F biology experiments. The approximate location of the depression coincides with a valve box on the water pipeline. Radiological surveys indicated that the surface depression contained no radiological contamination.

No volatile organic compounds nor methane gas were detected in a Soil Gas survey (Ref. 5). No dangerous waste or CERCLA hazardous wastes, pollutants, or contaminants were known, or anticipated to have been received, stored, or disposed at this site.

- Reference list:
1. *Environmental Sites Database General Summary Report*, WIDS, Site Code: 100-F-1, August 12, 1996.
  2. Deford, D. H., 1993, *100-F Reactor Site Technical Baseline Report*, WHC-SD-ED-TI-169, Rev 0, Westinghouse Hanford Company, Richland, Washington, July 6, 1993.
  3. Bergstrom, K. A. et al, 1995, *Geophysical Investigations of the 100-F-1 Depression, 100-F-14 Vent Pipe, PNL Parallel Pits, 100-FR-2 Operable Unit*, BHI-00343, Rev 00, Bechtel Hanford, Inc., Richland, Washington, July 1995.
  4. Redford, C. L., 1995, *100-FR-2 OU Man Carried Radiological Detection System (MRDS) Radiological Surveys*, BHI-00339, Rev. 00, Richland, Washington, June 1995.
  5. *Memo*, from R. B. Kerkow to J. M. Ayres, "Results of Soil Gas Sampling at the 100-F Depression and the 100-F-14 Vent Pipe Suspect Waste Sites," CCN 017597, dated June 20, 1995.
  6. *Site Drawing SK-1-2847* and computer enhanced clarification.

Basis for reclassification:  
 This site is nominated as "Rejected" because there is no evidence that dangerous waste or CERCLA hazardous substances, contaminants, or pollutants ever existed at the site, and no potential for release existed. The site appears to be a depression affiliated with a valve box for a purity water system. This site will be referred to the EM-70 program (site infrastructure) for final disposition.

_____	_____	_____
DOE Project Manager	Signature	Date
_____	_____	_____
Ecology Project Manager	Signature	Date
_____	_____	_____
EPA Project Manager	Signature	Date

## Environmental Sites Database General Summary Report

---

Site Code: 100-F-1                      Site Classification: Accepted                      12-Aug-96    Page 1

---

Site Names:            100-F-1, 100-FR-2 Depression

Site Type:             Pit

Programmatic  
Responsibility:        EM-40

Site Description:     SW 1/4 of NE 1/4 of SE 1/4 of Section 32, R27E, T14N, Locke Island Quadrangle. The depression is ~300 ft SW of the 100-FR-2 Vent Pipe and 100 ft N of the NW corner of 118-F-1 Burial Ground. The depression is protected by a degraded wooden barrier. The surface of the depression is grass-covered. The site is rounded by a chain fence and a sign stating "DANGER, KEEP AWAY" is hanging from the fence.

Status:                Inactive

Start Date:

End Date:

Operable Unit:        100-FR-2

Hanford Area:        100F

Coordinates:        (E) 580058.2            (N) 147336.5            Washington State Plane

Associated Structures:

Site Accessible:        No

Access Requirements:

Site Hazards:

Location Description:

Environmental  
Monitoring Desc:

Release Desc:

Release Potential Desc:

Site Comment:

Process Desc:

References:

1. D. H. DeFord, 07/06/93, 100-F Reactor Site Technical Baseline Report Including Operable Units 100-FR-1 and 100-FR-2, WHC-SD-EN-TI-169 REV 0.
2. U.S. Geological Survey, Locke Island, WA, provisional edition-1986, 46119-F4-TF-024.
3. D. B. Blumenkranz, 8/2/94, WIDS Site Addition: 100-F-1 (#94-098), 100-F-1.

---

Dimensions:	<u>Meters</u>	<u>Feet</u>
Length:	2.44	8.00
Width:	2.44	8.00
Depth / Height:		
Diameter:		
Area:	5.95	64.00
Overburden Depth:		

---

**Overburden Depth:****References:**

1. D. H. DeFord, 07/06/93, 100-F Reactor Site Technical Baseline Report Including Operable Units 100-FR-1 and 100-FR-2, WHC-SD-EN-TI-169 REV 0.

---

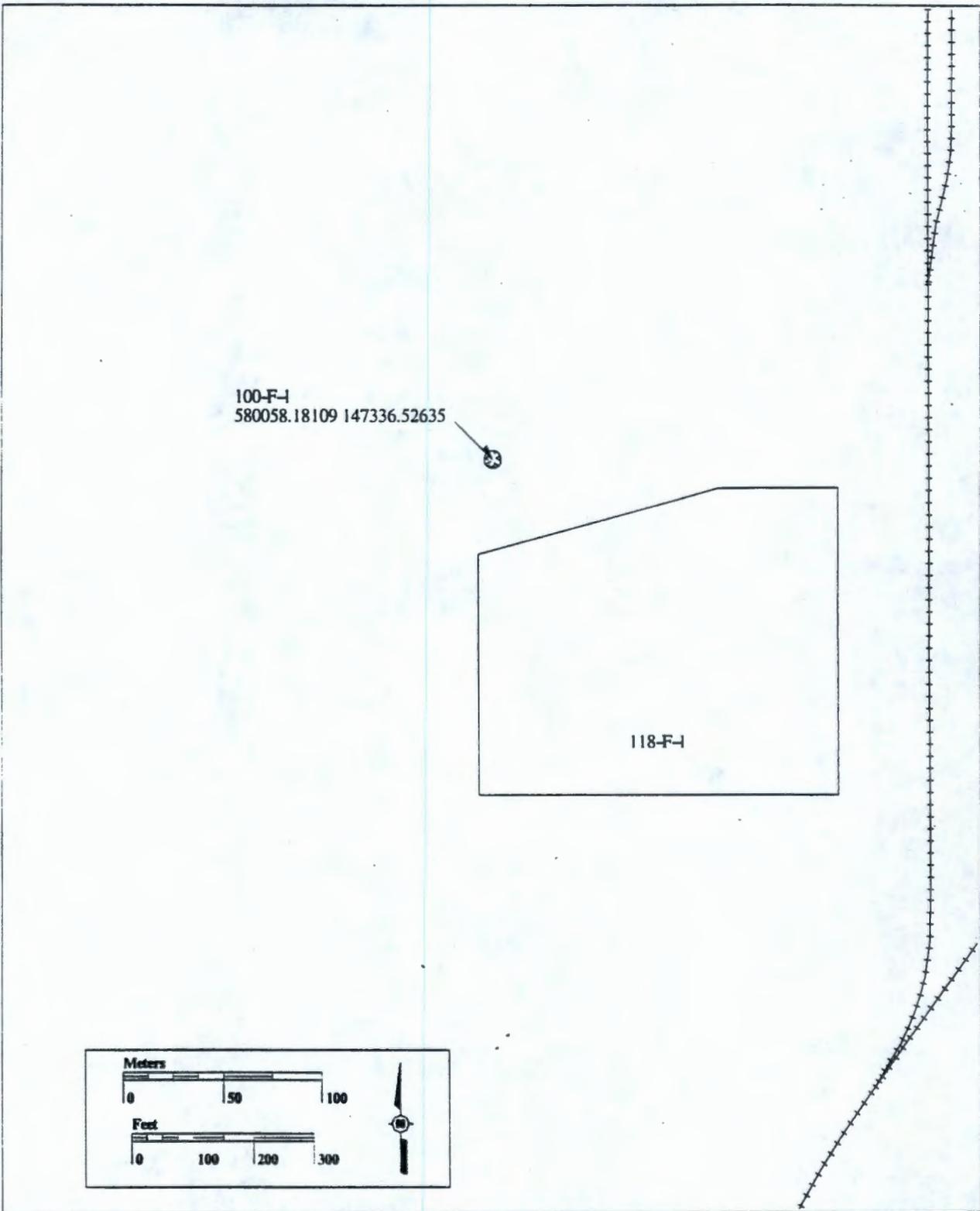
**Regulatory Information:**

Part A Permit Application Written:	No	Interim Closure Plan Written:	No
Part B Permit Application Written:	No	Covered under TPA Action Plan:	Yes
Registered Class V Underground Injection Well:	No	Solid Waste Management Unit:	Yes
Regulatory Authority:	CERCLA Past Practice		
TSD Number:			

**References:**

1. D. H. DeFord, 07/06/93, 100-F Reactor Site Technical Baseline Report Including Operable Units 100-FR-1 and 100-FR-2, WHC-SD-EN-TI-169 REV 0.
  2. D. B. Blumenkranz, 8/2/94, WIDS Site Addition: 100-F-1 (#94-098), 100-F-1.
-

# 100-F-1



# 100-F Reactor Site Technical Baseline Report Including Operable Units 100-FR-1 and 100-FR-2

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



**Westinghouse**  
**Hanford Company** Richland, Washington

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

**PLEASE RETURN TO:  
ENVIRONMENTAL DIVISION  
RESOURCE CENTER**

SUPPORTING DOCUMENT

1. Total Pages 290

2. Title 100-F Reactor Site Technical Baseline Report Including Operable Units 100-FR-1 and 100-FR-2	3. Number WHC-SD-EN-TI-169	4. Rev No. 0
--	-------------------------------	-----------------

5. Key Words experimental animal farm, cribs, french drain, solid waste burial grounds, ash pit, cooling water retention basin and outfall structure	6. Author Name: D. H. DeFord <i>Dennis DeFord</i> Signature Organization/Charge Code 81300/EA63D
---	--

APPROVED FOR  
PUBLIC RELEASE

6/14/93 N.S. Sullivan

7. Abstract

This document supports the environmental remediation effort of the 100 Area by providing remediation planners with key data that characterize the 100-F Reactor site. It provides an operational history of the 100-F Reactor and each of its associated liquid and solid waste sites.

Deford, D. H., 1993, *100-F Reactor Site Technical Baseline Report Including Operable Units 100-FR-1 and 100-FR-2*, WHC-SD-EN-TI-169, Rev. 0, Westinghouse Hanford Company, Richland, Washington.

8. PURPOSE AND USE OF DOCUMENT - This document was prepared for use within the U.S. Department of Energy and its contractors. It is to be used only to perform, direct, or integrate work under U.S. Department of Energy contracts. This document is not approved for public release until reviewed.

PATENT - This document copy, since it is transmitted in advance of patent clearance, is made available in confidence solely for use in the performance of work under contract with the U.S. Department of Energy. This document is not to be published nor its contents otherwise disseminated or used for purposes other than specified above, before patent approval for such release or use has been secured, upon request, from the Patent Counsel, U.S. Department of Energy Field Office, Richland, WA.

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

10. RELEASE STAMP

OFFICIAL RELEASE (11)

BY WHC

DATE JUL 06 1993

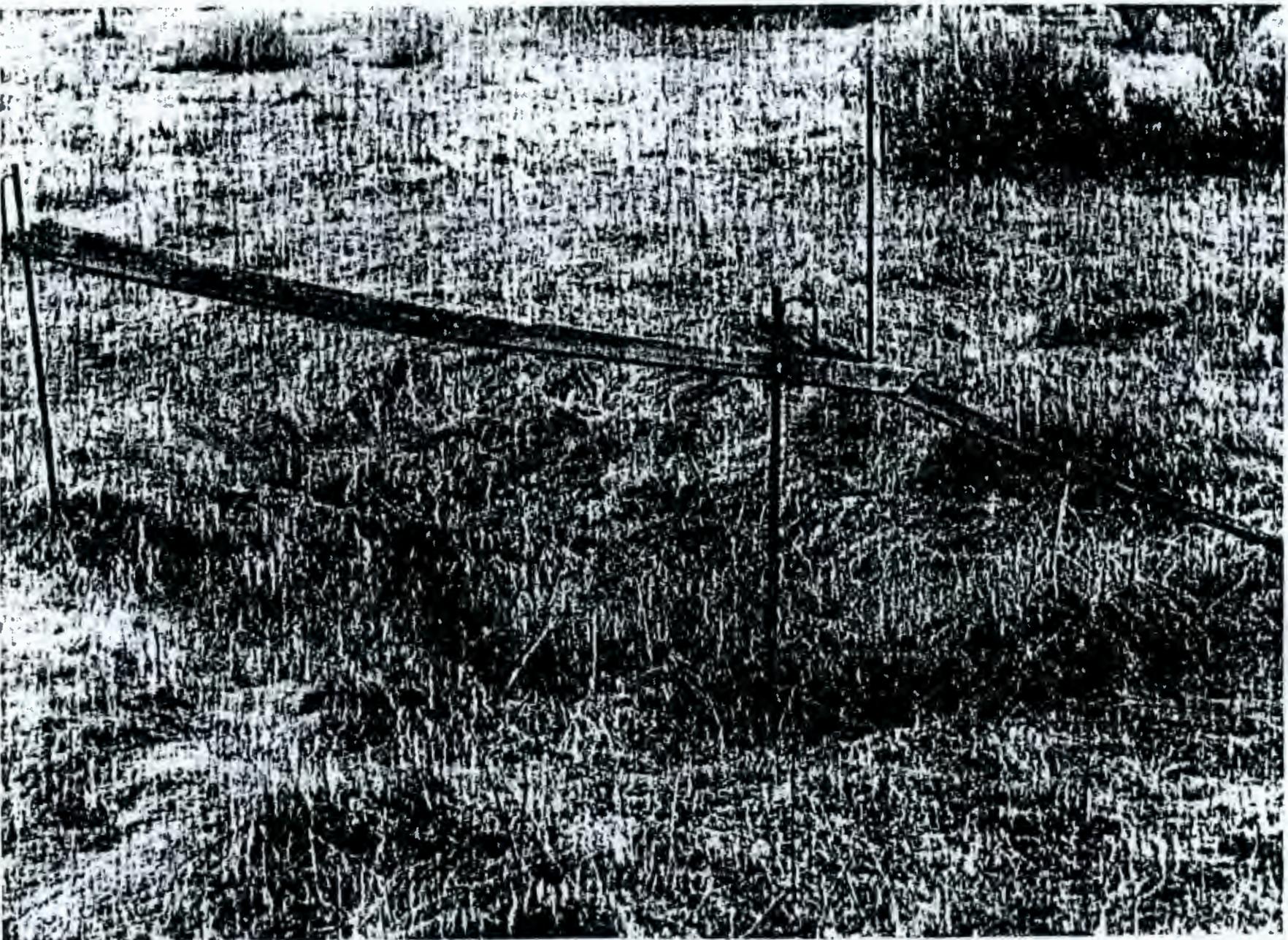
*Station #12*

9. Impact Level 4

#### 5.14 SUSPECT WASTE SITE--DEPRESSION IN SURFACE

About 300 ft southwest of the above-described vent pipe and 100 ft north of the northwest corner of the 118-F-1 Burial Ground is a 8- by 8- by 3-ft-deep depression protected by a degraded wooden barrier. The surface of the depression is grass covered. See Figure 5-6.

Figure 5-6. Suspect Waste Site--Depression in Surface (93020446-6CN).



BHI-00343  
Rev. 00

# Geophysical Investigations of the 100-F-1 Depression, 100-F-14 Vent Pipe, PNL Parallel Pits, 100-FR-2 Operable Unit

## Authors

K. A. Bergstrom  
T. H. Mitchell

Date Published  
July 1995



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

**Bechtel Hanford, Inc.**  
Richland, Washington

Approved for Public Release

9713540.0894

BHI-00343  
REV: 00  
OU: 100-FR-2  
TSD: N/A  
ERA: N/A

APPROVAL PAGE

Title of Document: GEOPHYSICAL INVESTIGATIONS OF THE 100-F-1  
DEPRESSION, 100-F-14 VENT PIPE, PNL PARALLEL PITS,  
100-FR-2 OPERABLE UNIT

Author(s): K. A. Bergstrom  
T. H. Mitchell

Approval: A. D. Krug, Project Manager

A. D. Krug  
Signature

7/11/95  
Date

The approval signature on this page indicates that this document has been authorized for issue to U.S. Department of Energy, Richland Operations Office through appropriate channels. No other forms or signatures are required to document this information release.

BHI-DIS ~~7/11/95~~ 7/12/95 CAP  
CDX

#### 4.2 100-F-1 DEPRESSION

There were no anomalous features detected within the depression. However, in the area immediately surrounding the depression, there are several notable subsurface features. A small pocket of shallow anomalies was identified near the southern edge of the survey area, between E120 and E130. The anomalies have the characteristic of metallic debris but do not appear to be associated with the depression.

The most conspicuous features detected were two linear anomalies that have the characteristic of buried pipelines (Figure 5). Each are 2 to 3 ft below the surface. Both appear to terminate at the depression and extend well beyond the survey area. The linears were followed with GPR beyond the extent of the original survey area (Figure 6). The north-south linear was traced roughly 90 ft to the south where it terminated in an area that appears to be part of the excavation for the 118-F-1 Burial Ground. The east-west linear was traced over 700 ft to the east to the edge of an abandon, north-south trending railroad track.

The linear 'T's' at this point and continues both to the north and south along the railroad track. The northern arm of the linear continues over 800 ft to the north. At roughly the center of the 105-F reactor building, the linear doglegs 90 degrees to the east heading towards the 105-F building. The linear was tracked to the edge of the perimeter fence that surrounds 105-F. No attempt was made to track the linear inside of the fence. The southern leg of the linear continues roughly 600 ft to the south along the railroad track where it turns back to the west in to the 118-F-6 Burial Ground (Figure 6). No attempt was made to trace the linear into the burial ground.

\*The above-listed figures are not attached; however, Reference 6 shows the pertinent points of reference.

BHI-00339

Rev. 00

# 100-FR-2 Operable Unit Man-Carried Radiological Detection System (MRDS) Radiological Surveys



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

**Bechtel Hanford, Inc.**  
Richland, Washington

Approved for Public Release

9713540.0897

BHI-00339  
REV: 00  
OU: 100-FR-2  
TSD: N/A  
ERA: N/A

APPROVAL PAGE

Title of Document: 100-FR-2 OPERABLE UNIT MAN-CARRIED RADIOLOGICAL  
DETECTION SYSTEM (MRDS) RADIOLOGICAL SURVEYS

Author: C. L. Radford

Approval: A. D. Krug, 100 Area Task Lead

  
Signature 6/15/95  
Date

The approval signature on this page indicates that this document has been authorized for information release to the public through appropriate channels. No other forms or signatures are required to document this information release.

BHI-DIS 6-15-95 019

---

## 1.0 SCOPE

This report summarizes and documents the results of the radiological surveys conducted from March 31, 1995 through April 4, 1995 at the Pacific Northwest Laboratory (PNL) Strontium Garden 100-F-2, PNL Parallel Pits, 100-F-1 surface depression site, 100-F-14 vent pipe site, and 100-F-1 glass dump site at 100-F Area (Figure 7 provides an overview of each area), Hanford Site, Richland, Washington.

The radiological survey at the above-mentioned areas at 100-F was conducted by the Site Investigative Surveys/Survey Technology Development Health Physics Organization of the ThermoAnalytical Hanford Company. The survey methodology was based on using the Man-carried Radiological Detection System (MRDS) for automated recording of the gross beta/gamma radiation levels at or near 15.2 cm (6 in.) from the surface soil.

## 2.0 PURPOSE

The purpose was to perform an initial radiological survey of the area, providing data to assist in the development of a Remedial Action Work Plan.

## 3.0 PROCEDURE

BHI-SH-O4, 6.7.6 Operation of Man carried Radiological Data System

The radiological surveys were conducted following the procedures contained in the *Environmental Restoration Health Physics Radiological Protection Procedures Manual*, (RPP); in particular, Section 6.7.5, *Operation of the Mobile Surface Contamination Monitor II*.

## 4.0 INTRODUCTION

The surveys were conducted using the MRDS (see Survey Records). Followup surveys of areas where the MRDS indicated radioactive contamination were conducted using handheld count rate meters outfitted with 5.08 by 5.08 cm (2 by 2 in.) NaI detectors and GM probes. Surveys of the surface depression site, vent pipe site, and glass dump site were performed only with handheld count meters.

establish a radio reception lock on at least four individual NAVSTAR Global Positioning Satellites to ensure valid positional information.

Every attempt was made to traverse the survey area on parallel passes ensuring 10% coverage of the area; however, this was not always possible because of the roughness of the terrain. Speed of the survey was average human walking speed. The MRDS detectors were maintained as near as practical to 15.2 cm (6 in.) from the soil surface by lifting or lowering the boom, which the NaI Detector is attached to. Detector geometry remained relatively constant throughout the entire survey.

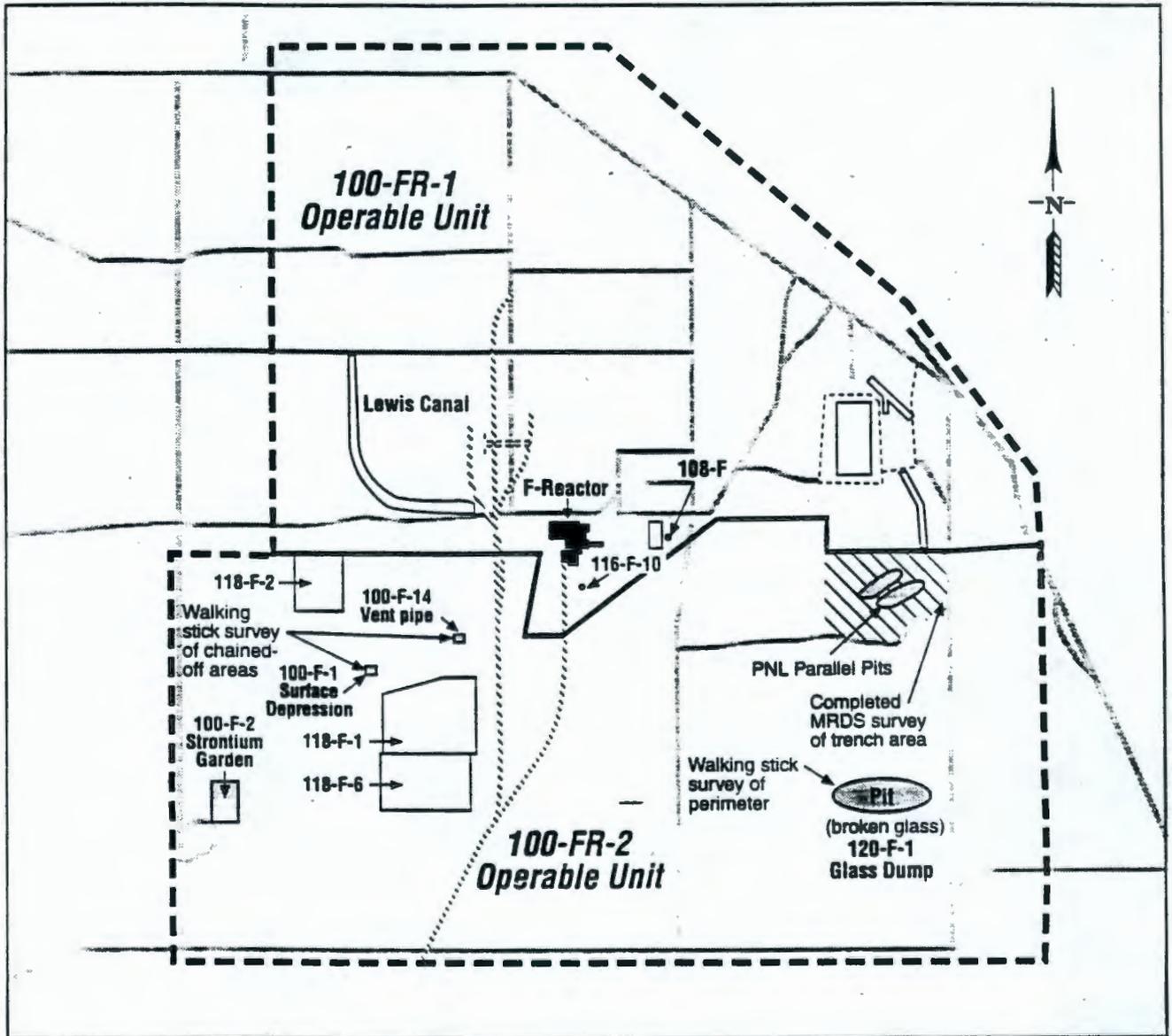
The methodology to determine whether radiation emanating from the soil is caused by surface contamination or underground radioactive material, is as follows. A small amount of soil from the area of concern is removed. This removed soil is surveyed, as is the site of soil removal. Suspected underground radioactive material can be identified as follows: the removed soil is found not to be contaminated, and the radiation levels from the removal site are increasing. It is typical to only remove soil to a depth of 5.08 cm (2 in.) (not to exceed 15.2 cm [6 in.]); the site of removal is a small area ( $\leq 0.19 \text{ m}^2$  [2 ft<sup>2</sup>]).

## 5.2 SURVEY RESULTS

A total of 8,783 data points for the Ash Pit and 5,460 data points for the PNL Strontium Garden were collected. Each data point represents the radiological information from the SRM-300 controller along with the physical coordinates of the readings. The MRDS records these data points in electronic files in the on-board-computer system. This allows downloading of these files into a Geographic Information System (GIS) to generate maps of the surveyed area and create a data base relevant to the positions and radiological readings.

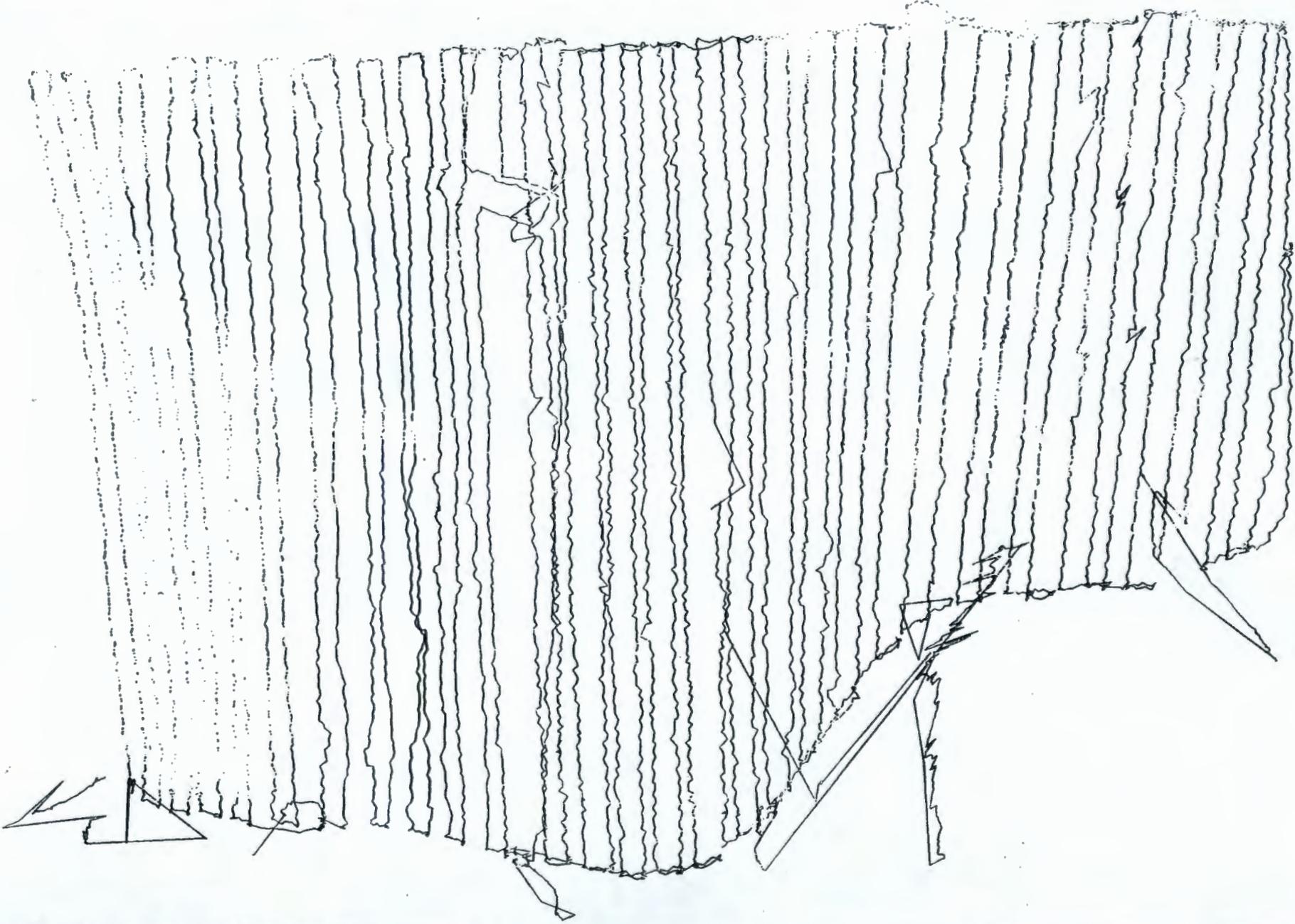
The principle findings for the 100-F MRDS Radiological Survey are as follows: (1) there were no areas of surface contamination identified and (2) the radiological readings were much higher close to the cage surrounding the Strontium Garden. The readings increased traveling west at the Ash Pit. The attached figures contain more information on these findings. Figure 1 is a Survey and Alarm Track Map for the area east of the 100-F Ash Pit (PNL Parallel Pits). Figures 2 and 3 are Surface Radiation Contour Map, and Surface Radiation Topological Map (respectively) for the area east of 100-F Ash Pit (PNL Parallel Pits). Figure 4 is a Survey and Alarm Track Map for the PNL Strontium Garden at 100-F. Figures 5 and 6 are Surface Radiation Contour Map, and a Surface Radiation Topological Map (respectively) for the PNL Strontium Garden at 100-F. No contamination was found at the surface depression, vent pipe, and light bulb sites.

Figure 7. Location of the 100-FR-1 Interim Remedial Measure Waste Sites.



E9505028.1a

9713540.0901



7

100-F (Area East of Ash Pit)  
Survey and Alarm Track Map  
Figure 1



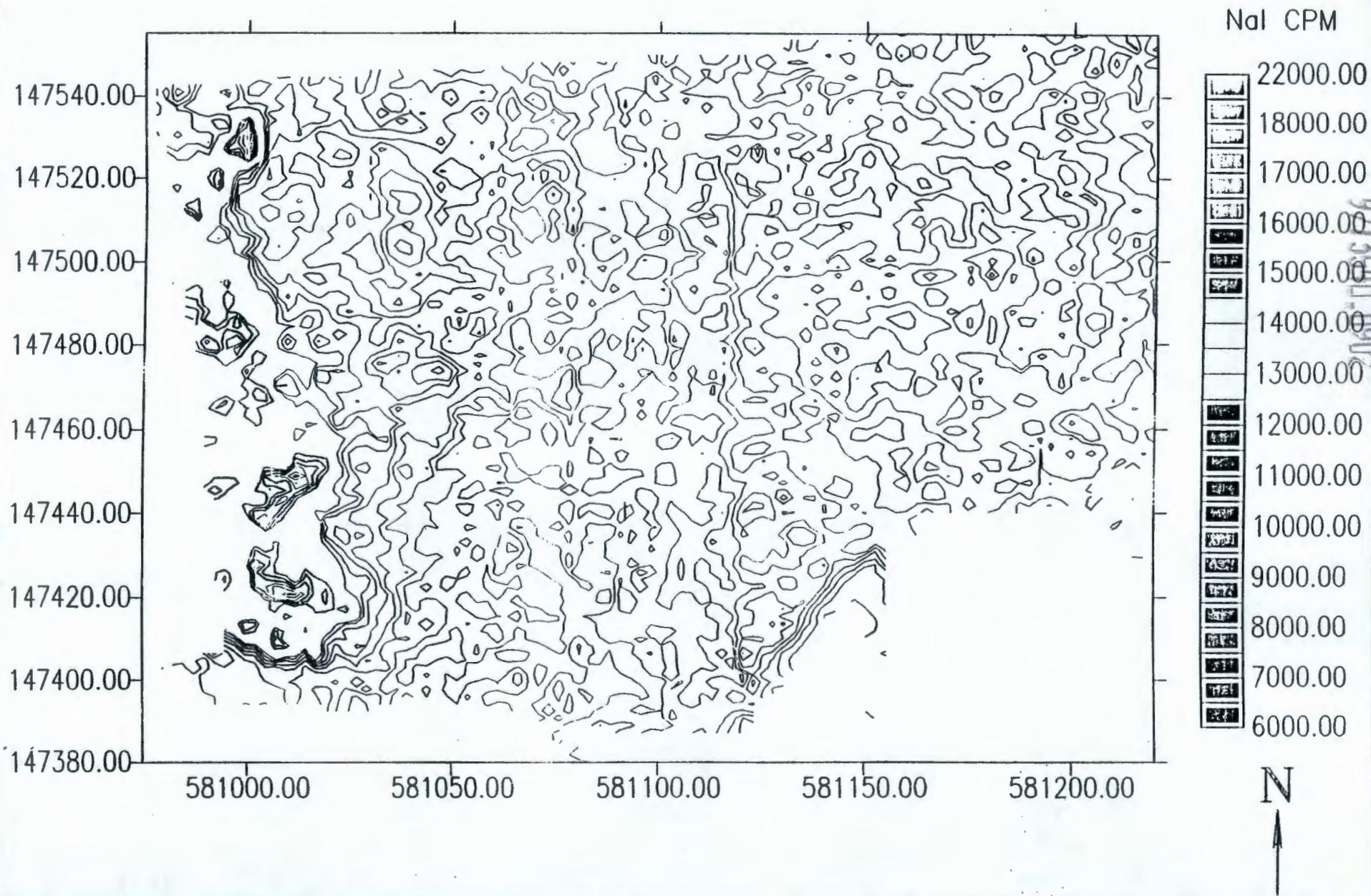
Survey Track

MAP LEGEND

Readings > 11,000 cpm NaI (1484 total)

MRDS SURVEY

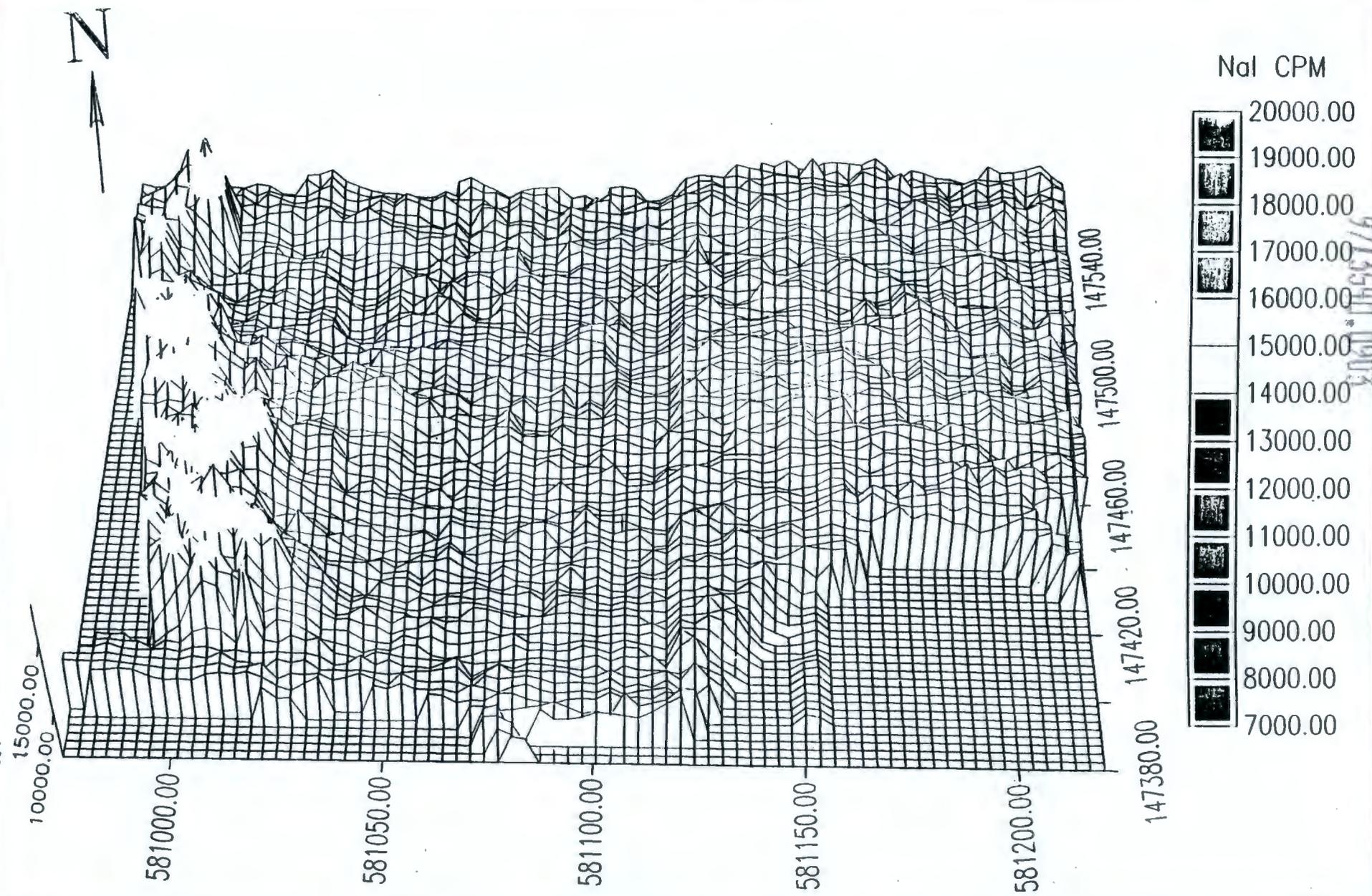
TMA HANFORD INVESTIGATIVE SURVEYS



100-F (Area East of Ash Pit)  
Surface Radiation Contour Map  
Figure 2

MAP LEGEND  
See above color scale

MRDS SURVEY  
TMA HANFORD INVESTIGATIVE SURVEYS

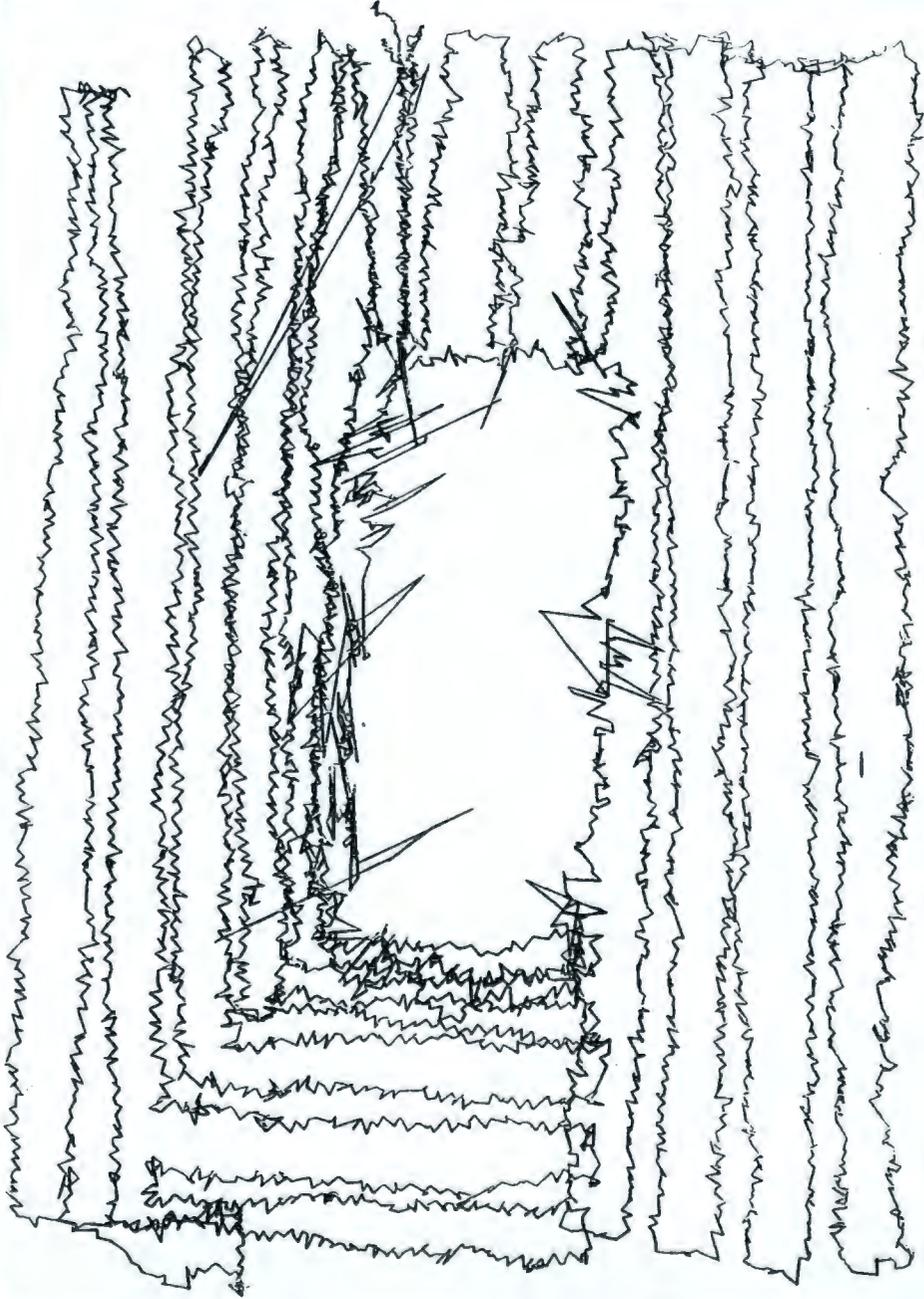


100-F (Area East Of Ash Pit)  
 Surface Radiation Topological Map  
 Figure 3

MAP LEGEND  
 See above color scale

MRDS SURVEY  
 TMA HANFORD INVESTIGATIVE SURVEYS

9713540-1002  
 2060



100-F PNL Strontium Garden  
Survey and Alarm Track Map  
Figure 4



Survey Track

MAP LEGEND



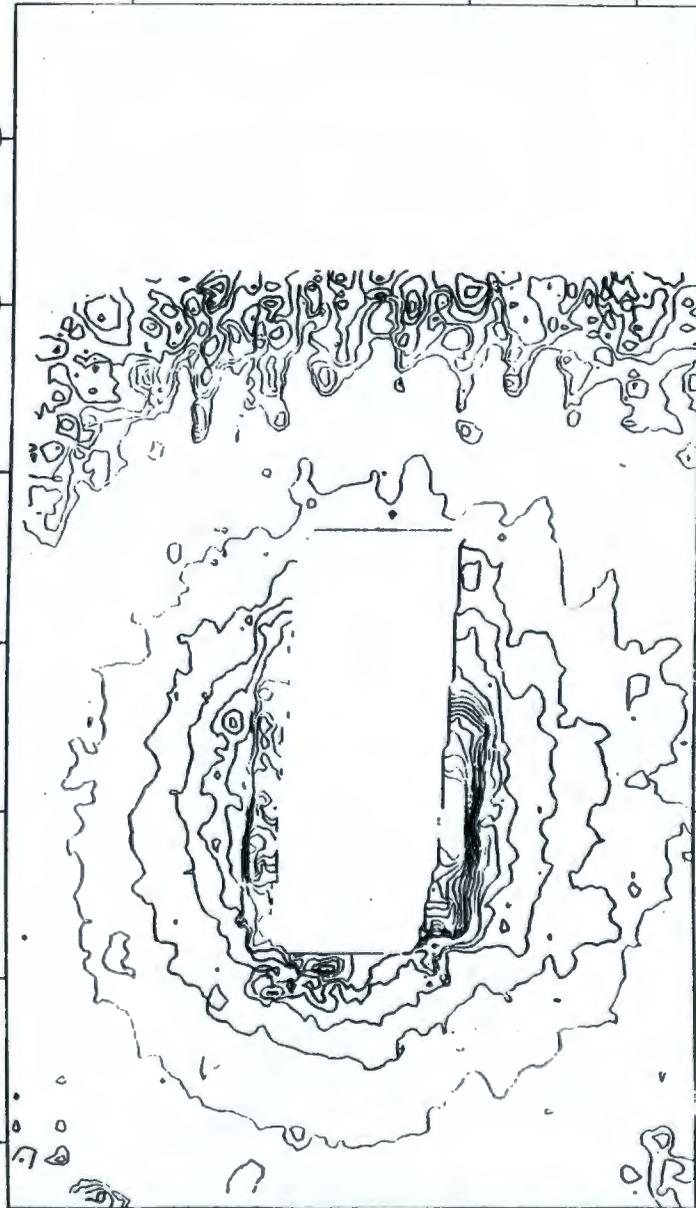
Readings > 23,000 cpm NaI (1980 total)

MRDS SURVEY

TMA HANFORD INVESTIGATIVE SURVEYS

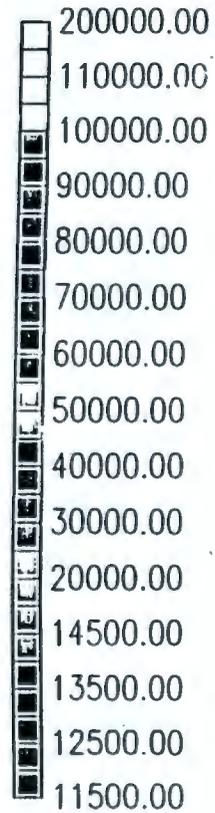


147000.00  
146990.00  
146980.00  
146970.00  
146960.00  
146950.00  
146940.00



579680.00 579690.00 579700.00 579710.00

NaI CPM

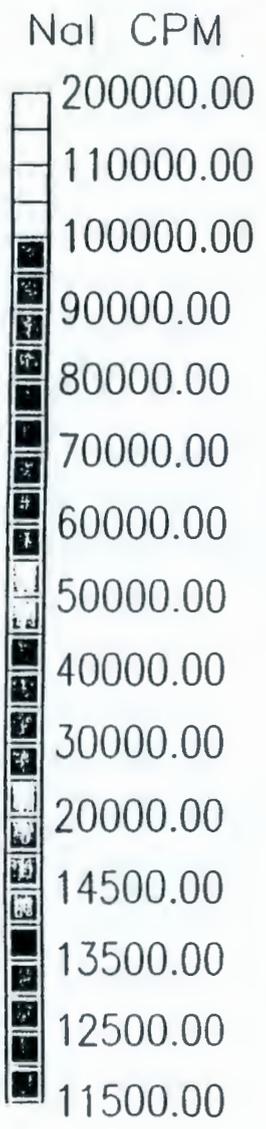
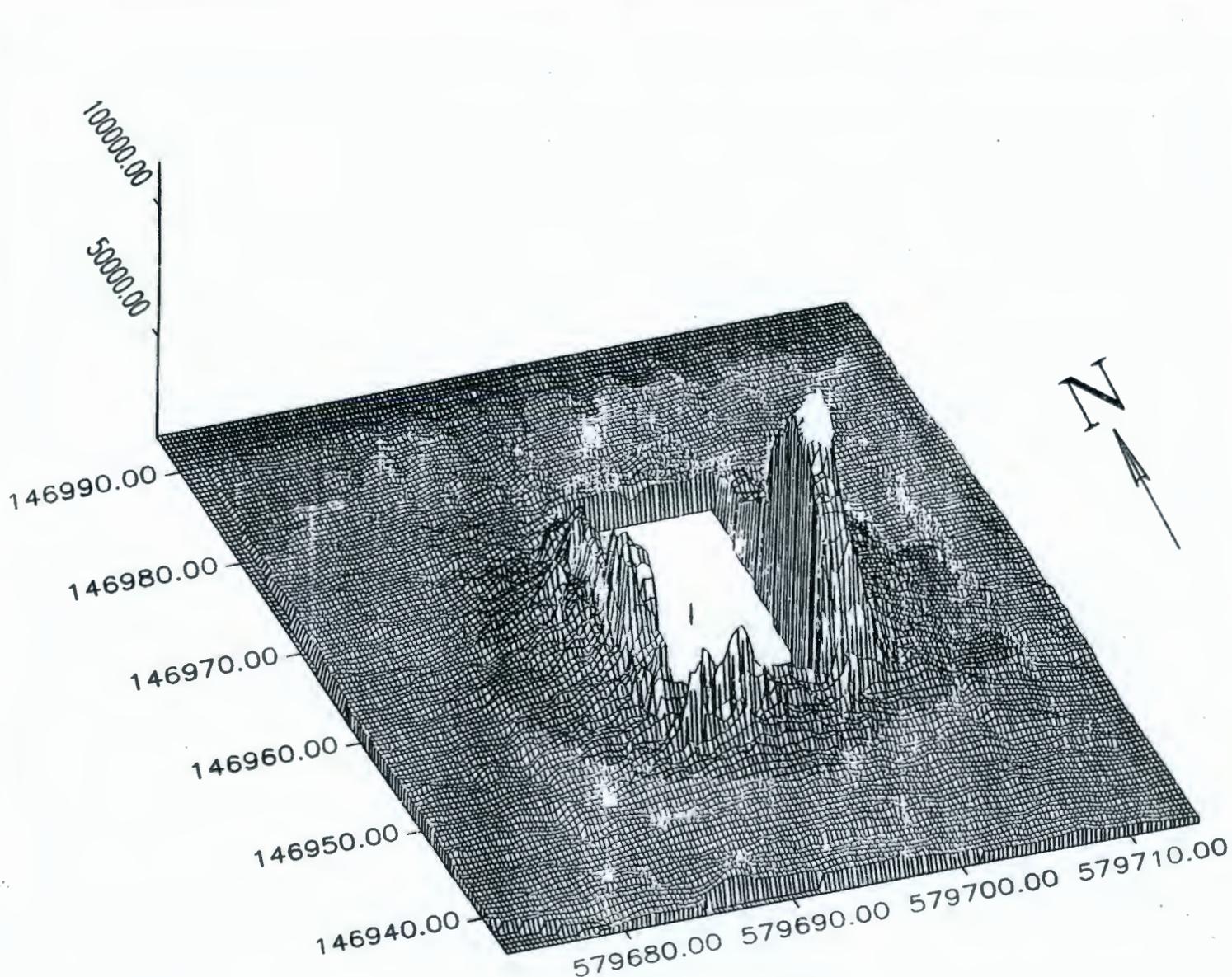


9713540-0905

100-F PNL Strontium Garden  
Surface Radiation Contour Map  
Figure 5

MAP LEGEND  
See above color scale

MRDS SURVEY  
TMA HANFORD INVESTIGATIVE SURVEYS



97135901.0906

**100-F PNL Strontium Garden**  
**Surface Radiation Topological Map**  
**Figure 6**

**MAP LEGEND**  
 See above color scale

**MRDS SURVEY**  
 TMA HANFORD INVESTIGATIVE SURVEYS



9713540.0908

011591

Environmental  
Restoration  
Contractor

**ERC Team**

Job No. 22192

Written Response Required? NO

Class CCN: N/A

OU: 100-R

TSD: N/A

ERA: N/A

Subject Code: 6870, 8660

*Interoffice Memorandum*

TO: J. M. Ayres, H4-90      DATE: June 20, 1995

COPIES: W. G. Avolio, H4-79      FROM: *R.B. Kerkow*  
K. R. Fecht, H6-04      Richard B. Kerkow  
K. A. Gano, H6-02      Analytical Services / Field Screening  
D. R. Jordan, X2-10      H6-01, 372-9282  
I. D. Jacques, H6-04  
A. D. Krug, H4-91  
J. A. Lerch, H4-14  
W. H. Price, H6-04  
Field File X2-10  
BHI Document Control H4-79

SUBJECT: RESULTS OF SOIL-GAS SAMPLING AT THE 100-F-1 "DEPRESSION" and THE 100-F-14 "VENT PIPE" SUSPECT WASTE SITES

**INTRODUCTION and SUMMARY**

This document reports the results of a soil-gas survey conducted by the Analytical Services, Field Screening Team, at the 100-F-1 and 100-F-14 suspect waste sites located in the southwestern portion of 100-F Area, in the 100-FR-2 Operable Unit.

A soil-gas survey was requested to determine if significant concentrations of volatile organic compounds (VOCs) or landfill gases (LFGs) could be detected in the vadose zone associated with the suspect waste sites. The investigation consisted of installing dedicated soil-gas probes into the vadose zone approximately 6 to 10 feet beneath the ground surface. Soil-gas vapor was then monitored directly from each sample point using two total-organic-vapor monitoring instruments, and an infrared landfill gas analyzer. No VOCs were detected by the total-vapor instruments, and readings on the landfill gas analyzer showed no indication of methane gas (CH<sub>4</sub>). In addition, the levels of carbon dioxide (CO<sub>2</sub>) and oxygen (O<sub>2</sub>) were in the range considered normal for uncontaminated soils.

Subsequent to the direct monitoring, soil-gas vapor samples were collected in 1-liter tedlar bags and analyzed for VOCs using a gas chromatograph (GC). No VOCs were detected by the gas chromatograph.

RESULTS OF SOIL-GAS SAMPLING AT THE 100-F-1 and 100-F-14 WASTE SITES  
June 20, 1995

### SAMPLE COLLECTION FOR GC ANALYSIS

On June 12, 1995, soil-gas samples were collected from each sample point for analysis by Gas Chromatograph (GC). Vapor samples of approximately 500 to 750 mL volume were collected in 1-Liter tedlar bags. Bag samples were obtained using a vacuum sampler to fill the sample bag. Prior to collecting the bag sample each sample point was purged for a minimum of 15 seconds using the OVM Model 580B (PID) as a purge pump.

Bag samples were transported to the Field Screening Mobile Laboratory GC for analysis. The GC used is a Sentex Scentograph II (a trademark of Sentex Systems Incorporated), serial number 71K-384. This Scentograph GC is a self-contained, battery-powered portable gas chromatograph that is equipped with a 30-meter, non-polar, .053 mm I.D., wide-bore, capillary column and an argon ionization detector (AID). The AID is a broad-spectrum detector with an effective ionization potential of 11.7 eV. Each sample aliquot is drawn into the Scentograph from the sample bag by an on-board pump. The sample is routed via a tenax trap preconcentrator then desorbed at high temperature into the GC column for chromatographic separation. For this investigation the Scentograph column was operated at an isothermal temperature of 40 °C and carrier gas flow rate of 4.8 mL/min.

In the Scentograph GC, qualitative identification of an analyte compound is accomplished by direct comparison between observed elution time of the compound and previously established retention times for VOC compounds in the method library. Quantification of analyte compounds is based on direct comparison between total peak area of the analyte compound and the peak area of a known concentration of the compound established, during calibration, in the method library. Two commercially prepared calibration mixtures were used to verify compound retention times and establish calibration concentrations in the method library. The first mixture consisted of five (5) compounds: methylene chloride ( $\text{CH}_2\text{Cl}_2$ ) at a concentration of 1.5 ppm by volume, carbon tetrachloride ( $\text{CCl}_4$ ) at a concentration of 0.8 ppm by volume, chloroform ( $\text{CHCl}_3$ ) at a concentration of 1.0 ppm by volume, trichloroethylene ( $\text{ClCH}=\text{CCl}_2$ ) at a concentration of 0.96 ppm by volume, and 1,1,2-trichloroethane ( $\text{CHCl}_2\text{CH}_2\text{Cl}$ ) at a concentration of 0.94 ppm by volume. The second mixture consisted of three (3) compounds: cis-1,2-dichloroethylene ( $\text{ClCH}=\text{CHCl}$ ) at a concentration of 1.1 ppm by volume, trichloroethylene ( $\text{ClCH}=\text{CCl}_2$ ) at a concentration of 1.3 ppm by volume, and tetrachloroethylene ( $\text{Cl}_2\text{C}=\text{CCl}_2$ ) at a concentration of 1.2 ppm by volume.

## RESULTS AND DISCUSSION

### Probe Installation

A total of ten dedicated soil-gas probes and one sample tube placed inside the vent pipe were installed in this investigation. Sample points are depicted on the attached GPR maps (Figure 2 for the 100-F-1 "Depression" and Figure 3 for the 100-f-14 "Vent Pipe").

Target depths for probe installation were determined for each probe based upon the waste site features adjacent to the probe. Two probes adjacent to the depression (D-1 and D-2) and two

## RESULTS OF SOIL-GAS SAMPLING AT THE 100-F-1 and 100-F-14 WASTE SITES

June 20, 1995

probes adjacent to the vent pipe (VP-1 and VP-2) were implanted at depths of between 9 and 10 feet. The probe closest to the vent pipe (VP-6) was the deepest probe at a depth of 10.5 feet. The remaining probes were implanted at the relatively intermediate depth of approximately 6 feet, except for probe VP-7 which was implanted at a relatively shallow depth of approximately 1.5 feet to allow monitoring of the soil-gas just underneath the concrete slab. All probes appear to be fully functional, as each provided normal flow indications when sampled.

### Field Screening Results

No significant levels of VOCs or LFGs were detected during the initial field screening phase of the investigation. Field Screening data for each sample point is reported on Table 1-1.

The total-vapor PID reading of 1.0 ppm and total-vapor FID reading of 0.3 ppm from sample point VP-8 (tubing down the vent pipe) are not considered significant because they are such low concentrations and are not supported by GC or IRGA data. The most probable explanation for these readings is that they are a combination of high ambient humidity condition inside the pipe due to moisture from condensation or free standing water and trace concentrations of methane gas from the decomposition of algae or mosses inside the pipe. LFG readings on the IRGA indicate oxygen (O<sub>2</sub>) and carbon dioxide (CO<sub>2</sub>) levels, inside the pipe, that are at or near ambient air conditions at the site.

The total-vapor FID readings that are reported as "N-R" indicate a "negative-response" by the instrument. In each case the instrument reading moved from an ambient setting of around 0.0 ppm to a negative reading of between negative 1.0 to negative 1.5 ppm when attached to the sample point. This is apparently due to a decrease in the efficiency of the FID flame associated with slightly reduced oxygen content and slightly decreased airflow when drawing soil-gas vapor via the screened implant. This "negative-response" is considered a normal response, under these conditions, for this instrument.

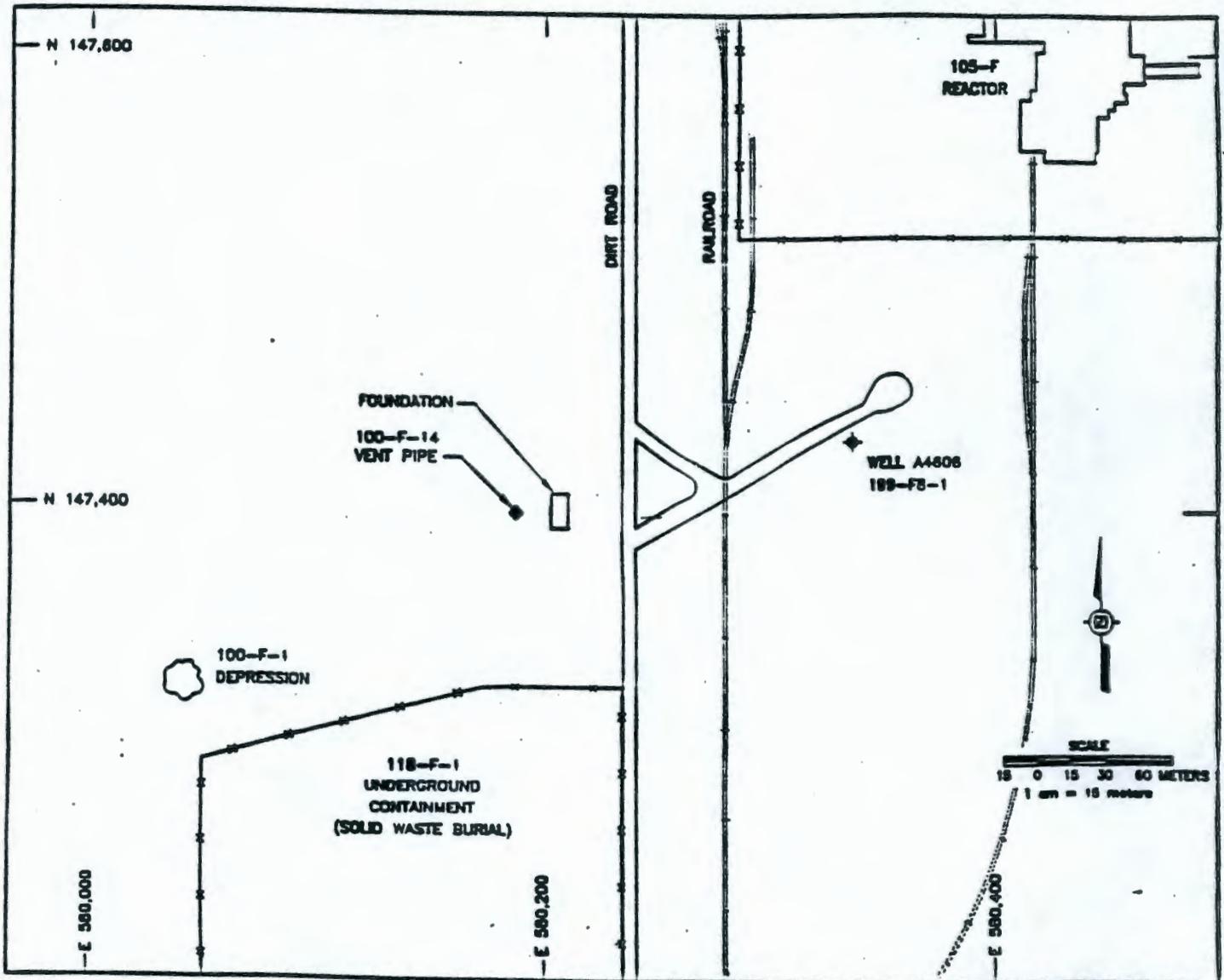
IRGA readings did not show any LFG levels of concern. Methane gas (CH<sub>4</sub>) was not detectable at or above the minimum detection limit of the instrument (0.1%), at any of the sample points. And, the oxygen (O<sub>2</sub>) and carbon dioxide (CO<sub>2</sub>) readings are considered normal for soils where the microbial decomposition of organic materials is minimal.

### Gas Chromatography Results

No VOC contaminants were detected in excess of the minimum detection levels established for the GC used in this survey. Minimum GC detection levels for a number of VOCs commonly associated with hazardous waste sites are identified on Table 1-2, *Soil-Gas Analytes*. Minimum detection levels were established for each contaminant by ensuring that reported values are greater than at least twice the baseline noise level on the instrument (ASTM 1993).

RESULTS OF SOIL-GAS SAMPLING AT THE 100-F-1 and 100-F-14 WASTE SITES  
June 20, 1995

Figure 1. Location of the 100-F-1 and 100-F-14 Waste Sites

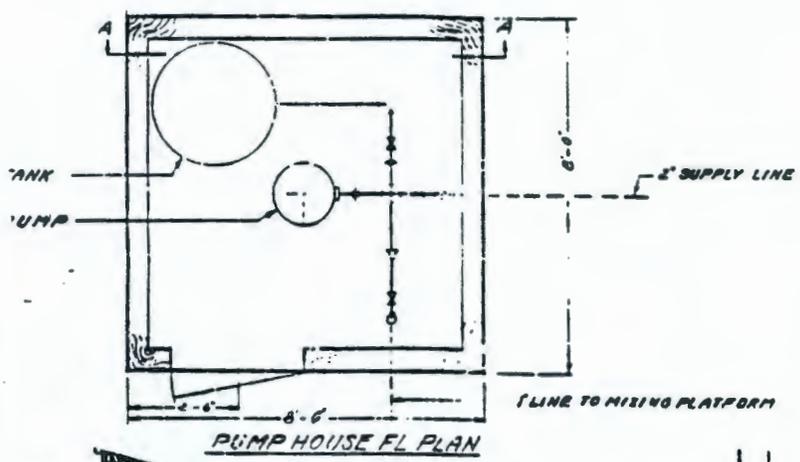
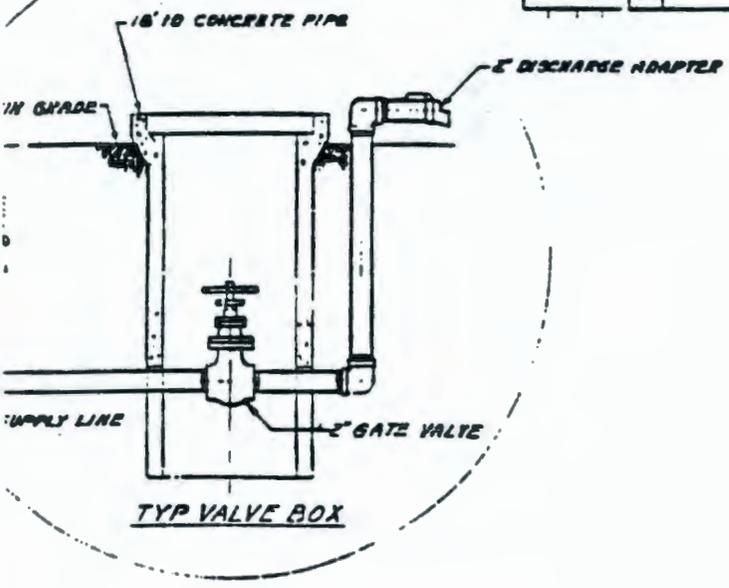


ITW/LIA-PC3B1-A2

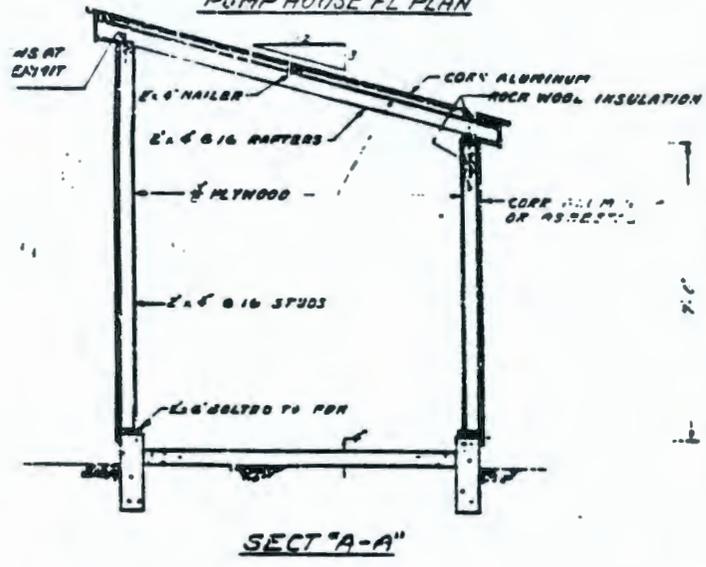
9713540-0912

QTY.	IN.	DESCRIPTION
------	-----	-------------

Reference 6



**APPROVED**



NO.	DESCRIPTION	REV. BY	DATE	APP. BY	DATE
	REVISIONS				
	<b>SK-1-2847</b>		<b>2 2 0</b>		
CLASSIFICATION		CLASSIFIED BY			
<b>NONE</b>		<i>S. P. ...</i>			
SCALE		APPROVALS			
DESIGN	DATE	BY	DATE	BY	DATE
ENGINEER	DATE				
DRW. BY	DATE				
CHECKED BY	DATE				
PREPARED BY	DATE				
U. S. ATOMIC ENERGY COMMISSION HANFORD ATOMIC PRODUCTS OPERATION GENERAL ELECTRIC					
HIGH PURITY WATER SYSTEM FOR 100-F BIOLOGY					
DRAWING TITLE		DATE			
REFERENCE DRAWINGS		BY			
REVISED BY		DATE			
		<b>SK-1-2847</b>			

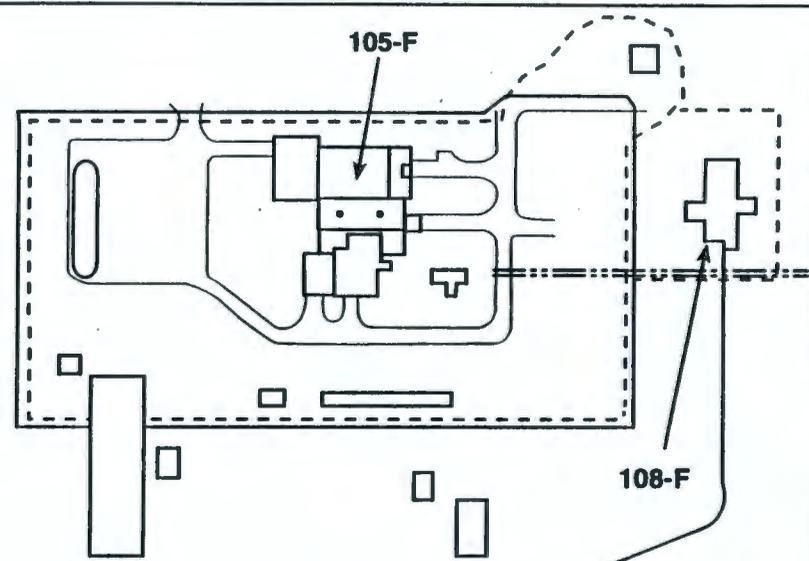
Historical Drawing

8358

9713540.0913

**Computer Enhanced Clarification  
of applicable portion of  
SK-1-2847 Drawing**

# 100-F-1 Depression Site Showing Approximate Location of Suspected Buried High Purity Water Pipelines



100-F-1 Depression Site  
580058.18109 147336.52635

High Purity Water Pipeline

118-F-1

118-F-4

100-F-2 Strontium Garden



9713540.0914

<u>Date Submitted:</u> August 30, 1996  Originator: J.R. James, BHI  Phone: 372-9563	<b>WASTE SITE RECLASSIFICATION FORM</b>  <u>Operable Unit(s):</u> 100-IU-6  <u>Waste Site ID:</u> 600-107, 213-J & 213-K Gable Mountain Plutonium Storage Vault Cribs  <u>Type of Reclassification Action:</u>  Rejected <input type="checkbox"/> Closed Out <input type="checkbox"/> No Action <input checked="" type="checkbox"/>	<u>Control Number:</u>
---	--	------------------------

This form documents agreement among the parties listed below authorizing classification of the subject waste site from the TPA solid waste management unit listing as rejected, closed out, or no action and authorizing backfill of the waste site, if appropriate. Final removal from the NPL will occur at a future date.

Description of current waste site condition:

The 600-107 unit, located in the 100-IU-6 Operable Unit, consisted of two cribs located on each side of the 213-J /213-K Gable Mountain Plutonium Storage Vaults front entrance, at approximately Washington State Plane coordinates (E) 759293.4 (N) 140157.8 (Ref. #1). Both cribs received unspecified liquid wastes from the vaults through 2-in. steel or iron pipes. The vaults were constructed to store Hanford plutonium, although they were used only briefly, if at all, for that purpose. There is no historical reference for the intended use of the cribs, nor are there any drawings for either the cribs or vaults that provide information on floor drains or feed lines. The service dates were from about 1944 to 1950. Today, there are no visual signs of the cribs, which are now covered with gravel.

On November 11, 1974, excavations were made to uncover the 213-J and 213-K cribs designated as radioactive liquid waste disposal sites. A thorough radiation survey of the inlet piping, crib gravel beds, and rust scale taken from the interior of the piping was analyzed and showed no radioactivity above world fallout levels (Refs. #2 and #3). World fallout is included in the natural background radiation levels as defined in WAC 173-340.

Reference list:

1. *Environmental Sites Database General Summary Report*, WIDS, Site Code: 600-107, August 12, 1996.
2. *Memo*, from G. E. Backman to B. J. Saueressig, "Radiation Monitoring Monthly Activity Report, The," dated November 25, 1974.
3. Stenner, R. D., et al, 1988, *Hazard Ranking System Evaluation of CERCLA Inactive Waste Sites at Hanford*, PNL-6456, Volume 2. Pacific Northwest Laboratory, Richland, Washington, October 1988.

Basis for reclassification:

This site is nominated as "No Action" because the cribs were excavated in 1974 with a thorough radiation survey indicating there is no radioactive contamination. They were removed from "Radiation Zone" status at that time. No further action at this site is required under CERCLA or RCRA corrective action regulations.

\_\_\_\_\_  
DOE Project Manager

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Date

\_\_\_\_\_  
Ecology Project Manager

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Date

\_\_\_\_\_  
EPA Project Manager

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Date

## Environmental Sites Database General Summary Report

Site Code: 600-107

Site Classification: Accepted

12-Aug-96 Page 1

Site Names: 600-107, 213-J&amp;K Cribs, Gable Mountain Plutonium Storage Vault Cribs; 213-J &amp; K Cribs

Site Type: Crib

Programmatic  
Responsibility: EM-40

Site Description: The sites consist of two small cribs located one on each side of the 213-J & K storage vault facility. They were gravel filled concrete culverts. Each had a black iron distributor pipe, 2 in. diameter, running its length ~4 ft below ground level. Each was covered by a 2 inch thick concrete slab.

08/12/96

Status: Inactive

Start Date: 1944

End Date: 1950

08/12/96

Operable Unit: 100-IU-6

Hanford Area: 600

Coordinates: (E) 579293.4 (N) 140157.8 Washington State Plane

Associated Structures:

Site Accessible: No

Access Requirements:

Site Hazards:

Location Description:

Environmental  
Monitoring Desc:

Release Desc:

Release Potential Desc:

Site Comment:

A backhoe was used in November 1974 to excavate down to the crib structures to allow for radiological surveys and sampling of the soil and inlet piping. No contamination was found above background limits. The backhoe essentially destroyed the crib structures. The excavated material was returned to the hole and backfilled. The cribs were removed from radiation zone status. The words "Contaminated Material" had been inscribed on the concrete cover slabs. The words were removed with a jack hammer.

08/12/96

Process Desc:

References:

1. R. D. Stenner, K. H. Cramer, D. A. Lamar, 10-88, Hazard Ranking System Evaluation of CERCLA Inactive Waste Sites at Hanford. Vol. 1,2,3, PNL-6456 Vol. 1 UC-70.
2. R. D. Fox to M. K. Britton, Waste Site Name Changes Due to New Site Name Data Value Standard., 81260-92-068.
3. WIDS Site Modification: 200-IU-4 becomes 100-IU-6 (#94-276).
4. Dennis Deford, 1/10/95, WIDS Site Modification: 213 J&K (#95-011).
5. D. H. Deford, 1995, Technical Baseline Report of the 100-IU-6 Operable Unit, BHI-00146.
6. B.J. Saueressig, 11/25/74, Letter Report: Radiation Monitoring Monthly Activity Report for November 1974 (from B.J. Saueressig to G.E. Backman).
7. CR Webb, 08/12/96, TELECON: From Chris Webb to Bernie Saueressig - Related to the Status of the Cribs at

213-J &amp; K.

8. 04-20-44, Building 213-J &amp; K Architectural Concrete and Electrical Plans and Details, M-6000 - W-74519.

**Dimensions:**

	Meters	Feet	
Length:			08/12/96
Width:			08/12/96
Depth / Height:	4.57	15.00	08/12/96
Diameter:	2.44	8.00	08/12/96
Area:			
Overburden Depth:	1.22	4.00	08/12/96

**References:**

1. R. D. Stenner, K. H. Cramer, D. A. Lamar, 10-88, Hazard Ranking System Evaluation of CERCLA Inactive Waste Sites at Hanford. Vol. 1,2,3, PNL-6456 Vol. 1 UC-70.

**Regulatory Information:**

Part A Permit Application Written:	No	Interim Closure Plan Written:	No
Part B Permit Application Written:	No	Covered under TPA Action Plan:	Yes
Registered Class V Underground Injection Well:	No	Solid Waste Management Unit:	Yes
Regulatory Authority:	RCRA Past Practice		
TSD Number:			

**References:**

1. 12-88, Hanford Site Dangerous Waste Part A Permit Application. Vol. 1,2,3, DOE/RL 88-21.
2. Prepared by DOE, 3-11-88, Registration of Hanford Site Class V Underground Injection Wells.
3. 2-89, Preliminary Operable Units Designation Project, WHC-EP-0216.
4. Jack Waite to Sherry Griffin, 11-12-90, Review Comments on the 1990 Hanford Site Waste Management Units Report, DSI.
5. WIDS Site Modification: 200-IU-4 becomes 100-IU-6 (#94-276).

**Waste Information:**

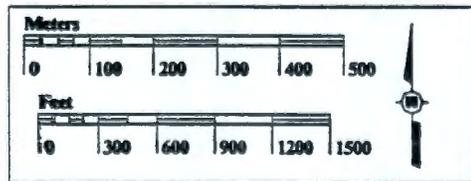
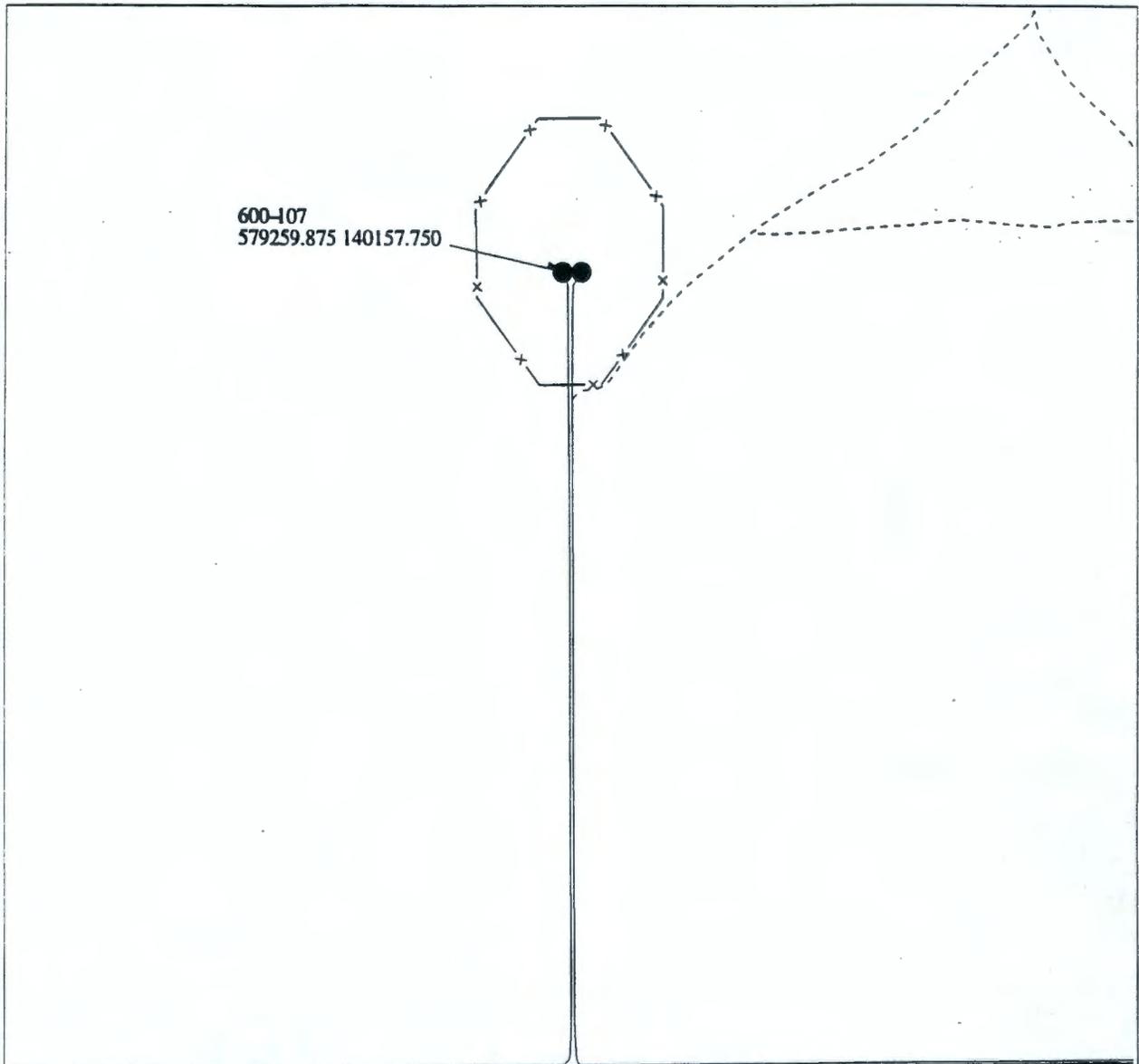
Type:	Water	Physical State:	Liquid
Category:	Nondangerous/nonradioactive		
Amount:		Units:	
Reported Date:			
Start Date:			
End Date:			

**Waste Desc:** Very little water solution ever entered this unit. The distributor piping was removed and inspected. Rust scale taken from the interior of the pipes was found to be free of radioactivity above world fallout levels. The unit was removed from radiation-zone status on November 11, 1974.

**References:**

1. R. D. Stenner, K. H. Cramer, D. A. Lamar, 10-88, Hazard Ranking System Evaluation of CERCLA Inactive Waste Sites at Hanford. Vol. 1,2,3, PNL-6456 Vol. 1 UC-70.

# 600-107



Date: November 25, 1974  
To: G. E. Backman  
From: B. J. Saueressig  
Subject: RADIATION MONITORING MONTHLY ACTIVITY REPORT -  
NOVEMBER 1974

#### Site Cleanup

On November 11, 1974 excavations were made to uncover the 213-J and 213-K cribs designated as radioactive liquid waste disposal sites in the Gable Mountain Vault Area. A thorough radiation survey of the inlet piping and crib gravel beds did not reveal any radioactivity. Rust scale taken from the interior of the piping was analyzed and found to be free of radioactivity above that of world fallout. Radioactive markings were obliterated and both cribs were removed from "Radiation Zone" status.

Cleanup work was initiated during the month for the decontamination of two old contaminated ground surface sites. One site directly north of the 202-S Building and east of the 204-S Tanker Unloading Station contained spotty low level ground surface contamination to a maximum of 20,000 c/m. The surface was bladed into windrows and the contaminated soil disposed of in the 200 West Area Dry Waste Burial Grounds. The site was then released from a Radiation Zone status. Work continues at the second site from which approximately 85 yards of contaminated soil has been removed. (This area was contaminated during the winter of 1956 from an overflow of the 216-U-361 Process Waste Tank). Soil contamination to 8000 c/m, beta-gamma, still remains at a depth of approximately one foot. Work will continue until the Radiation Zone is reduced in size to the area in the immediate vicinity of the tank. Contamination control during the removal of the soil has been excellent.

#### Miscellaneous

The Routine Control Program of the 200 West Area Tank Farm Radiation Monitoring Unit has been revised and put into effect. The new program reflects significant changes in a number of areas that are designed to signal developing radioactive control problems.

G. E. Backman  
Page 2  
November 25, 1974

### 200 East Area Tank Farms & Purex

Radiation Monitoring is supporting J. A. Jones work forces with the installation of a salt well system in the 241-BX Tank Farm, construction of a sample monitoring building and meter pit adjacent to the 244-AR Vault, back-up filtration system for the PR Room, N-Cell, and Q-Cell in Purex, and modification to scrubber and condensate piping on the south side of the Purex Building. Radiation and contamination control has been excellent.

Tank Farm weed growth areas, open water ditch banks, and the shoreline of the 216-B Pond were treated with KROVAR, a herbicide, to prevent future radioactive weed growth in those areas.

### Z And T Plants

A concrete cap has been laid over the floor area in Room 41 of the 236-Z Building where Hood #2 was removed from service. Contamination control was good during this project. The room has now been removed from "Respiratory Protection" status.

Construction has started on the installation of water sewer and electrical service lines to the 216-Z-9 trench area. In conjunction with this, an attempt is being made to reduce the present size of the Radiation Zone in order to facilitate construction of support facilities at that site.

A Nuclear Chemical Operator in Tank Farm Surveillance was taking the day shift routine liquid level readings October 31, 1974. Upon completion of the morning readings at 11:00 a.m., he detected contamination to a maximum of 25,000 c/m on his hands with lesser amounts on other parts of his body. Subsequent surveys showed the source to be a contaminated liquid level measurement wire that he had used at the 241-CX, Tank 72. The contamination was also found to have spread to his pickup, the 154-B Catch-Tank liquid level reel, a toilet facility at the 221-B Building, a hand rail at the 151-ER Diversion Box and a padlock at the vent station between 200 East and 200 West Areas. The Operator was decontaminated the same day to a degree that allowed release with some hand protection. The residual contamination on his hands was completely cleaned within six days. All other contaminated items were also cleaned. The primary cause of the incident was failure of the operator to follow the procedure for self-survey when leaving a Radiation Zone.

---

# **Hazard Ranking System Evaluation of CERCLA Inactive Waste Sites at Hanford**

**Volume 2 - Engineered-Facility Sites  
(HISS Data Base)**

<b>R. D. Stenner</b>	<b>D. A. Lamar</b>
<b>K. H. Cramer</b>	<b>T. J. McLaughlin</b>
<b>K. A. Higley</b>	<b>D. R. Sherwood</b>
<b>S. J. Jette</b>	<b>N. C. Van Houten</b>

---

**October 1988**

**Prepared for the U.S. Department of Energy  
under Contract DE-AC06-76RLO 1830**

**Pacific Northwest Laboratory  
Operated for the U.S. Department of Energy  
by Battelle Memorial Institute**



SITE ID NO.: 213-J and K

ALIAS: Gable Mt. Plutonium Storage Vaults

STATUS: Exhumed

## DIMENSIONS:

Length: 15 ft

Width: 8 ft

Depth: 5 ft

Diameter: 0 ft

FACILITY: Cribs

ELEVATION: 560 ft

WATERTABLE: 170 ft

HRS Migration Score: 0.000

LOCATION: 600 Area

COORDINATES: N54675/W34855, N54675/W34745

## SITE DESCRIPTION:

Two small cribs built, one on each side of the storage vaults. Each crib had a black iron distributor pipe (2" diameter) running the length of the crib approximately 4 ft. below ground level. The cribs were filled with gravel and capped over with a two inch thick concrete dome.

SERVICE DATES: 1944-1950

## SERVICE HISTORY:

Very little water solution ever entered these cribs. The distributor piping was removed and inspected. Rust scale taken from the interior of the pipes was found to be free of radioactivity above world fallout levels. The cribs were removed from Radiation Zone status on November 11, 1974.

## REFERENCES:

Documents: ARH-2164, RHO-CD-673

Photographs: 122440-21-CN

Drawings: H-3-57210

SITE ID NO.: 213 J &amp; K

## CHEMICALS DISPOSED

No chemical inventory is available.

RADIONUCLIDE INVENTORY  
(in curies)

H-3:	0.00000	CE-144:	0.00000
C-14:	0.00000	PR-144:	0.00000
MN-54:	0.00000	PM-147:	0.00000
CO-60:	0.00000	EU-152:	0.00000
NI-63:	0.00000	EU-154:	0.00000
KR-85:	0.00000	EU-155:	0.00000
SR-90:	0.00000	NP-237:	0.00000
Y-91:	0.00000	PU-238:	0.00000
NB-95:	0.00000	PU-239:	0.00000
ZR-95:	0.00000	PU-240:	0.00000
TC-99:	0.00000	PU-241:	0.00000
RU-103:	0.00000	AM-241:	0.00000
RU-106:	0.00000	U-233:	0.00000
SN-113:	0.00000	U-235:	0.00000
SB-125:	0.00000	U-238:	0.00000
I-129:	0.00000	TH-232:	0.00000
CS-134:	0.00000	BETA:	0.00000
CS-137:	0.00000	GAMMA:	0.00000
CE-141:	0.00000	ALPHA:	0.00000

This site had been exhumed, therefore no radioactivity is present.

These values are decayed through April 1, 1986.

9713540.0924

<p><u>Date Submitted:</u> August 30, 1996</p> <p>Originator: J.R. James, BHI</p> <p>Phone: 372-9563</p>	<p align="center"><b>WASTE SITE RECLASSIFICATION FORM</b></p> <p><u>Operable Unit(s):</u> 100-KR-2</p> <p><u>Waste Site ID:</u> 1607-K1, 1607-K1 Septic Tank and Associated Drain Field; 124-K1; 1607-K1 Sanitary Sewer System, 1607-K1 Septic Tank</p> <p><u>Type of Reclassification Action:</u></p> <p>Rejected <input checked="" type="checkbox"/> Closed Out <input type="checkbox"/> No Action <input type="checkbox"/></p>	<p><u>Control Number:</u></p>
---	---	-------------------------------

This form documents agreement among the parties listed below authorizing classification of the subject waste site from the TPA solid waste management unit listing as rejected, closed out, or no action and authorizing backfill of the waste site, if appropriate. Final removal from the NPL will occur at a future date.

Description of current waste site condition:

The 1607-K1 Septic Tank System is an active system located in the 100-KR-2 Operable Unit (formerly 100-KR-3), at approximately Washington State Plane coordinates (E) 569072.1 (N) 146097.5, and consists of a septic tank and associated drain field. The tank is a reinforced concrete structure; the drain field was constructed of vitrified and concrete pipe and drain tiles. Today, the site appears as a vegetation-free, cobble-covered field surrounded by a 4 ft wooden fence. The system has been supporting the 1701-K Badgehouse (security checkpoint), 1720-K Patrol Change Room and Offices, and the 1721-K Trailer since 1955. There are no documented activities conducted in these buildings involving the use of hazardous chemicals or the receipt or generation of dangerous waste, nor are there expected to be in the future.

Reference list:

1. *Environmental Sites Database General Summary Report*, WIDS, Site Code: 1607-K1, August 12, 1996.
2. Carpenter, R.W. et al, 1994, *100-K Area Technical Baseline Report*, WHC-SD-EN-TI-239, Rev. 0, Westinghouse Hanford Company, Richland, Washington, April 12, 1994.

Basis for reclassification:

This site is nominated as "Rejected" because there have been no dangerous wastes or CERCLA hazardous substances used or released at this site. This is an active site that receives only sanitary waste associated with personal comfort needs of personnel assigned to the 1701-K and 1720-K Buildings and the 1721-K Trailer. Activities at these buildings are generally administrative and do not involve the use or processing of any dangerous wastes or hazardous substances. These buildings are physically separated from operational facilities. Available documentation does not indicate any incidence of dangerous wastes or hazardous substance discharges, nor would any be expected in the future. When this site is no longer needed, any necessary action will be conducted in accordance with the State of Washington Department of Health regulations for On-Site Sewage Systems (WAC 246-272).

\_\_\_\_\_  
DOE Project Manager

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Date

\_\_\_\_\_  
Ecology Project Manager

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Date

\_\_\_\_\_  
EPA Project Manager

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Date

## Environmental Sites Database General Summary Report

---

Site Code: 1607-K1                      Site Classification: Accepted                      12-Aug-96    Page 1

---

**Site Names:**                      1607-K1, 1607-K1 Septic Tank and Associated Drain Field; 124-K-1;, 1607-K1 Sanitary Sewer System, 1607-K1 Septic Tank

**Site Type:**                      Septic Tank

**Programmatic Responsibility:**                      EM-40

**Site Description:**                      The unit includes a tile field.

**Status:**                      Active

**Start Date:**                      1955

**End Date:**

**Operable Unit:**                      100-KR-2

**Hanford Area:**                      100K

**Coordinates:**                      (E) 569072.1                      (N) 146097.5                      Washington State Plane

**Associated Structures:**

**Site Accessible:**                      No

**Access Requirements:**

**Site Hazards:**

**Location Description:**

**Environmental Monitoring Desc:**

**Release Desc:**

**Release Potential Desc:**

**Site Comment:**

**Process Desc:**

**References:**

1. K. H. Cramer, Hanford Site Waste Management Units Report, May 1987.
2. L. P. Diediker to F. A. Ruck III, 3-17-88, WHC Mem.: Comment and Revisions to 100 Area Waste Units Listed in 3004(u).
3. N. A. Homan, 2-6-90, DSI: Comments on the September 1988 Draft Hanford Site Waste Management Units Report.
4. A. D. Krug, WIDS Site Modification: Consolidate OUs 100-KR-2 and 100-KR-3 (#94-421).

---

**Regulatory Information:**

<b>Part A Permit Application Written:</b>	No	<b>Interim Closure Plan Written:</b>	No
<b>Part B Permit Application Written:</b>	No	<b>Covered under TPA Action Plan:</b>	Yes
<b>Registered Class V Underground Injection Well:</b>	No	<b>Solid Waste Management Unit:</b>	No
<b>Regulatory Authority:</b>	CERCLA Past Practice		
<b>TSD Number:</b>			

---

**References:**

1. 12-88, Hanford Site Dangerous Waste Part A Permit Application. Vol. 1,2,3, DOE/RL 88-21.
2. 2-27-89, Action Plan For Implementation of the Hanford Facility Agreement and Consent Order.
3. Prepared by DOE, 3-11-88, Registration of Hanford Site Class V Underground Injection Wells.
4. 2-89, Preliminary Operable Units Designation Project, WHC-EP-0216.
5. Jack Waite to Sherry Griffin, 11-12-90, Review Comments on the 1990 Hanford Site Waste Management Units Report, DSI.

---

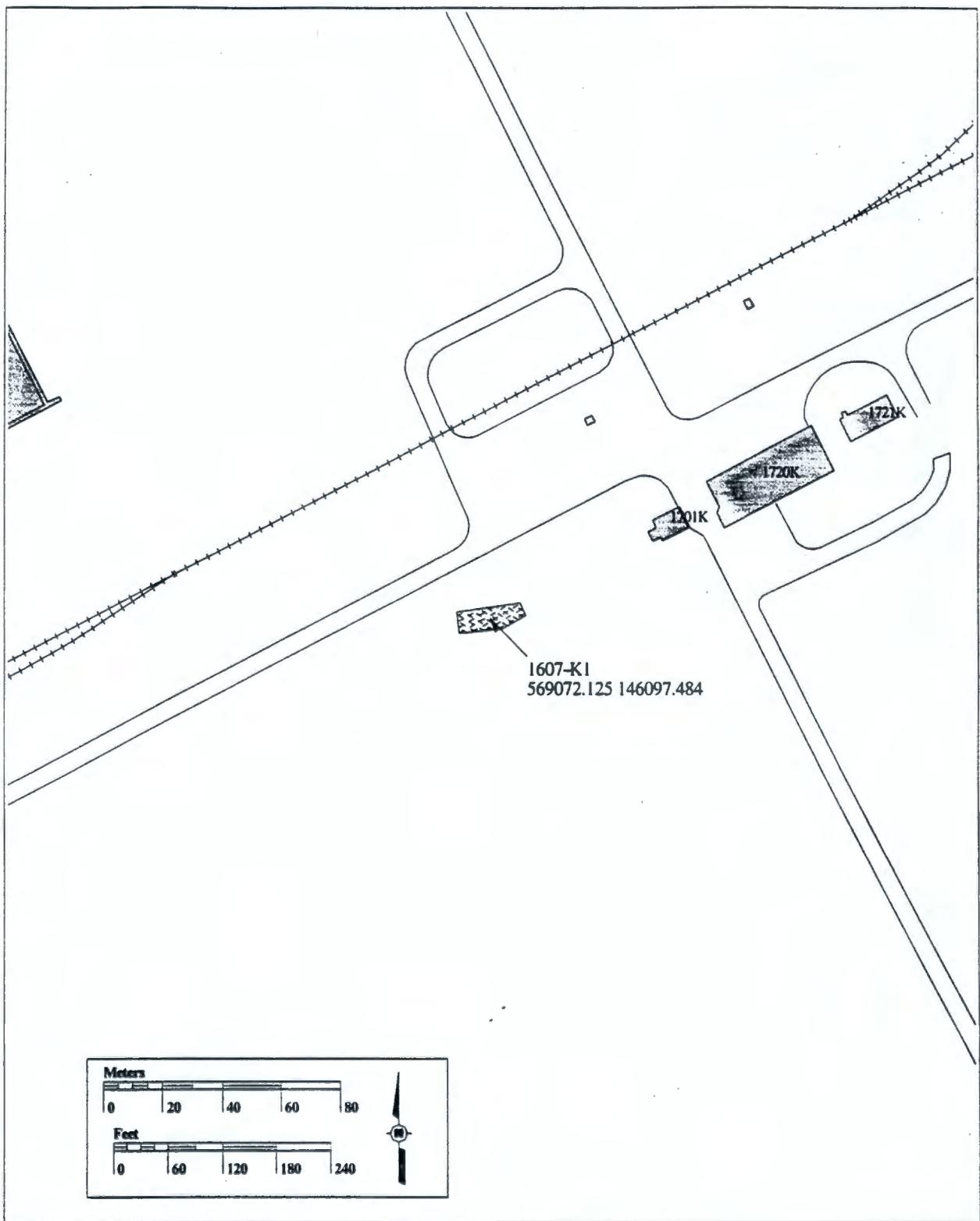
**Waste Information:****Type:** Needs Updating**Physical State:****Category:****Amount:****Units:****Reported Date:****Start Date:****End Date:**

**Waste Desc:** This unit receives sanitary sewage from 1701-K Badgehouse (security checkpoint), 1720-K Patrol Change Room and offices, and 1721-K Trailer. The flow rate to this unit is estimated at 525 gal/d.

**References:**

1. K. H. Cramer, Hanford Site Waste Management Units Report, May 1987.
-

# 1607-K1



WHC-SD-EN-TI-239  
Revision 0

# 100-K Area Technical Baseline Report

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



**Westinghouse**  
**Hanford Company** Richland, Washington

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

SUPPORTING DOCUMENT		1. Total Pages <i>241</i>
2. Title 100-K Area Technical Baseline Report	3. Number WHC-SD-EN-TI-239	4. Rev No. 0
5. Key Words history decontamination reactor basins cooling water	6. Author Name: R.W. Carpenter  <i>RWC</i> Signature  Organization/Charge Code 8B200/P711B	
7. Abstract <i>OK for release 4/10/94</i> Carpenter, R. W., and S. L. Cote', 1994, <i>100-K Area Technical Baseline Report</i> , WHC-SD-EN-TI-239, Westinghouse Hanford Company, Richland, Washington.		
8. <del>PURPOSE AND USE OF DOCUMENT - This document was prepared for use within the U.S. Department of Energy and its contractors. It is to be used only to perform, direct, or integrate work under U.S. Department of Energy contracts. This document is not approved for public release until reviewed.</del>  <del>PATENT STATUS - This document copy, since it is transmitted in advance of patent clearance, is made available in confidence solely for use in performance of work under contracts with the U.S. Department of Energy. This document is not to be published nor its contents otherwise disseminated or used for purposes other than specified above before patent approval for such release or use has been secured upon request, from the Patent Counsel, U.S. Department of Energy Field Office, Richland, WA.</del>  DISCLAIMER - This report was prepared as an account of work sponsored by an agency of the United States Government. Neither the United States Government nor any agency thereof, nor any of their employees, nor any of their contractors, subcontractors or their employees, makes any warranty, express or implied, or assumes any legal liability or responsibility for the accuracy, completeness, or any third party's use or the results of such use of any information, apparatus, product, or process disclosed, or represents that its use would not infringe privately owned rights. Reference herein to any specific commercial product, process, or service by trade name, trademark, manufacturer, or otherwise, does not necessarily constitute or imply its endorsement, recommendation, or favoring by the United States Government or any agency thereof or its contractors or subcontractors. The views and opinions of authors expressed herein do not necessarily state or reflect those of the United States Government or any agency thereof.		10. RELEASE STAMP  <div style="border: 1px solid black; padding: 5px; text-align: center;">                 OFFICIAL RELEASE <span style="border: 1px solid black; border-radius: 50%; padding: 2px 5px;">11</span>                  BY WHC                  DATE APR 12 1994  <i>Station # 12</i> </div>
9. Impact Level NA		

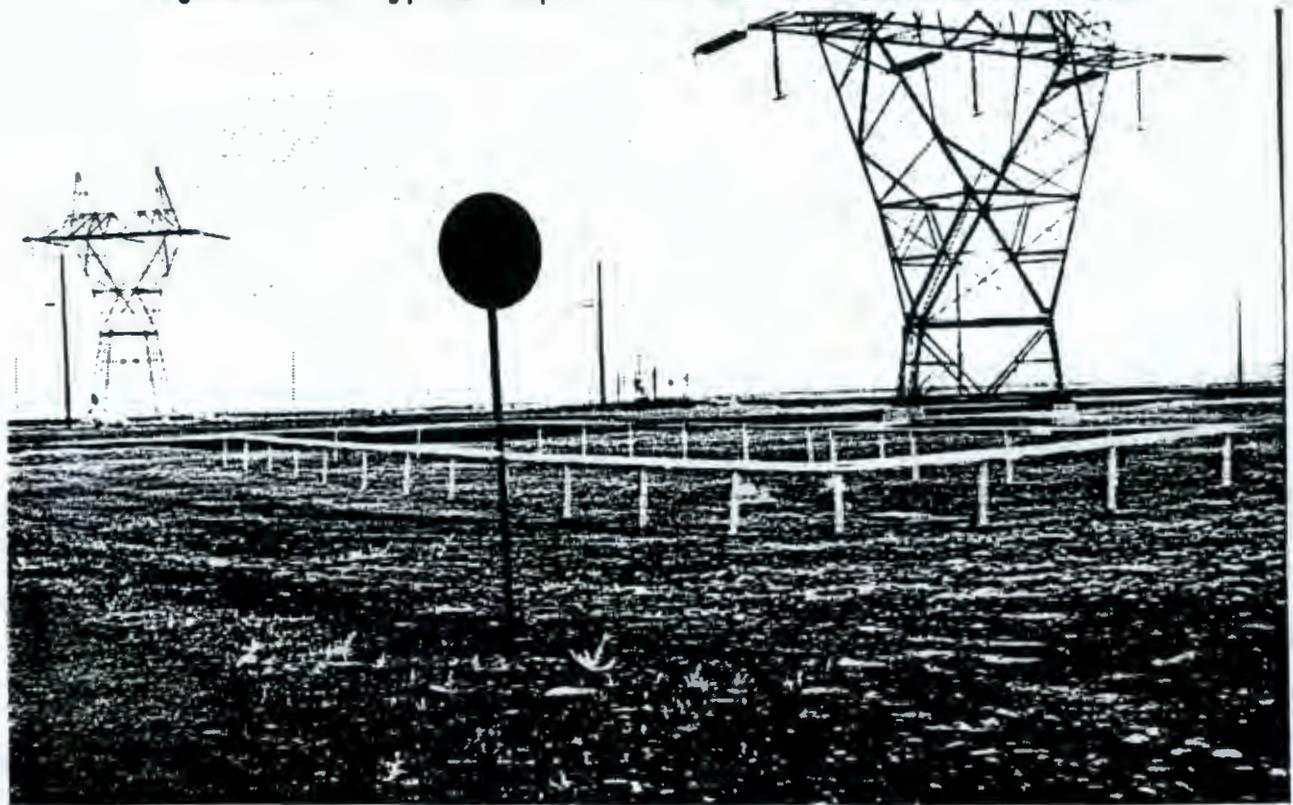
## 6.21 1607-K (SEPTIC TANK SYSTEMS)

Four septic tanks are located in the 100-KR-3 Operable Unit. They are both active and inactive systems constructed of reinforced concrete with associated drain fields. Cast iron pipes were used to conduct wastes to the septic tanks and 6-in. vitrified clay tiles laid with open joints comprised the drain fields (Hale 1957b). They are not known to have received hazardous or radioactive wastes, although they may have received materials associated with cleaning solvents and materials that were likely used in the facilities they supported. These septic systems are more completely described in Table 6-2. Refer to Figure 5-18 for a typical photograph.

Table 6-2. 100-KR-3 Operable Unit Septic Systems.

Septic tank designation	Hanford location	Comments
1607-K1 and associated drain field	NK2900 WK5900	Supported 1701-K Badgehouse, 1720-K Patrol Change Room and Offices, and 1721-K Trailer. This active since 1955 system receives an estimated flowrate of 525 gal/d (WHC 1991). This site appears today as a vegetation-free, cobble-covered field surrounded by a 4-ft wooden fence.
1607-K2 and associated drain field	NK3240 WK4780	Supported the 183-KE Water Treatment Plant. This active since 1955 system receives an estimated 350 gal/d (WHC 1991). This site appears today as a vegetation-free, cobble-covered field surrounded by a 4-ft wooden fence.
1607-K3 and associated drain field	NK3208 WK6705	Supported 183-KW Water Treatment Plant. It is currently inactive and operated from 1955 to 1970. The volume of wastes received in this system are unknown (WHC 1991). This site appears today as a vegetation-free, cobble-covered field surrounded by a 4 ft wooden fence.
1607-K5 and associated drain field	NK4400 WK3730	Supported 1706-KER Flow Laboratory, 1706-K Water Treatment Laboratory, 165-KE Powerhouse, 105-KE Reactor Building, and the 115-KE Gas Recirculation System. The estimated flowrate was 700 gal/d (WHC 1991). This site appears today as a vegetation-free, cobble-covered field surrounded by a 4-ft wooden fence.

Figure 5-18. Typical Septic Tank and Associated Drain Field.



<u>Date Submitted:</u> August 30, 1996  Originator: J.R. James, BHI  Phone: 372-9563	<b>WASTE SITE RECLASSIFICATION FORM</b>  <u>Operable Unit(s):</u> 100-KR-2  <u>Waste Site ID:</u> 100-K-24, 183-KW Bauxite Tank  <u>Type of Reclassification Action:</u>  Rejected <input checked="" type="checkbox"/> Closed Out <input type="checkbox"/> No Action <input type="checkbox"/>	<u>Control Number:</u>   
---	---	------------------------------------

This form documents agreement among the parties listed below authorizing classification of the subject waste site from the TPA solid waste management unit listing as rejected, closed out, or no action and authorizing backfill of the waste site, if appropriate. Final removal from the NPL will occur at a future date.

Description of current waste site condition:

The 100-K-24 Bauxite Tank is located 38 ft SE of the 183-KW Head House in the 100-KR-2 Operable Unit. It is located at the 100-K Area, at approximately Washington State Plane coordinates (E) 568846.1 (N) 146068. The tank is 18 ft in dia., ~56 ft tall, and located in the NW part of the original sodium silicate tank concrete base (Refs. #1 and #2). The tank was used to store dry bauxite, and appears to have been emptied, although dry powder can be seen through the plexiglass cover indicating that no additional cleanup was performed. The dates of use are not documented.

Bauxite is not listed in 40 CFR 302.4 as a hazardous substance and is not a CERCLA pollutant. Therefore, no dangerous wastes or CERCLA hazardous substances, pollutants, or contaminants were known, or anticipated to have been received, stored, or disposed at this site.

Reference list:

1. *Environmental Sites Database General Summary Report*, WIDS, Site Code: 100-K-24, August 12, 1996.
2. Carpenter, R.W. et al, 1994, *100-K Area Technical Baseline Report*, WHC-SD-EN-TI-239, Rev. 0, Westinghouse Hanford Company, Richland, Washington, April 12, 1994.

Basis for reclassification:

This site is nominated as "Rejected" because it was never used to receive, store, or discharge dangerous wastes or CERCLA hazardous substances. This inactive site once stored dry bauxite which is not listed in 40 CFR 302.4 list of hazardous substances, and is not considered a CERCLA pollutant. There is residual bauxite in the tank that will be removed under RCRA Subtitle D, solid waste regulations. No further action at this site is required under CERCLA or RCRA corrective action regulations. The remaining structures will be managed in accordance with DOE Decontamination and Decommissioning program.

\_\_\_\_\_  
DOE Project Manager

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Date

\_\_\_\_\_  
Ecology Project Manager

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Date

\_\_\_\_\_  
EPA Project Manager

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Date

## Environmental Sites Database General Summary Report

Site Code: 100-K-24      Site Classification: Accepted      12-Aug-96      Page 1

Site Names: 100-K-24, 183-KW Bauxite Tank

Site Type: Storage Tank

Programmatic  
Responsibility: Undefined

Site Description: The unit is located 38 ft SE of the 183-KW Head House, on the NW portion of the original sodium silicate tank concrete base. The tank is 18-ft in dia, ~56 ft in height, and located in the NW part of the original sodium silicate tank concrete base.

Status: Inactive

Start Date:

End Date:

Operable Unit: 100-KR-2

Hanford Area: 100K

Coordinates: (E) 568846.1      (N) 146068      Washington State Plane

Associated Structures:

Site Accessible: No

Access Requirements:

Site Hazards:

Location Description:

Environmental  
Monitoring Desc:

Release Desc:

Release Potential Desc:

Site Comment:

Process Desc:

References:

1. R. W. Carpenter, 04/12/94, 100-K Area Technical Baseline Report, WHC-SD-EN-TI-239, Rev 0.
2. Kathryn Moss, 9/1/94, WIDS Site Addition: 100-K-24 (#94-290).

Dimensions:

	<u>Meters</u>	<u>Feet</u>
Length:		
Width:		
Depth / Height:		
Diameter:	5.49	18.00
Area:		
Overburden Depth:		

References:

1. Kathryn Moss, 9/1/94, WIDS Site Addition: 100-K-24 (#94-290).

---

**Regulatory Information:**

Part A Permit Application Written:	No	Interim Closure Plan Written:	No
Part B Permit Application Written:	No	Covered under TPA Action Plan:	No
Registered Class V Underground Injection Well:	No	Solid Waste Management Unit:	No
Regulatory Authority:	Other		
TSD Number:			

**References:**

1. R. W. Carpenter, 04/12/94, 100-K Area Technical Baseline Report, WHC-SD-EN-TI-239, Rev 0.
2. Kathryn Moss, 9/1/94, WIDS Site Addition: 100-K-24 (#94-290).

---

**Waste Information:**

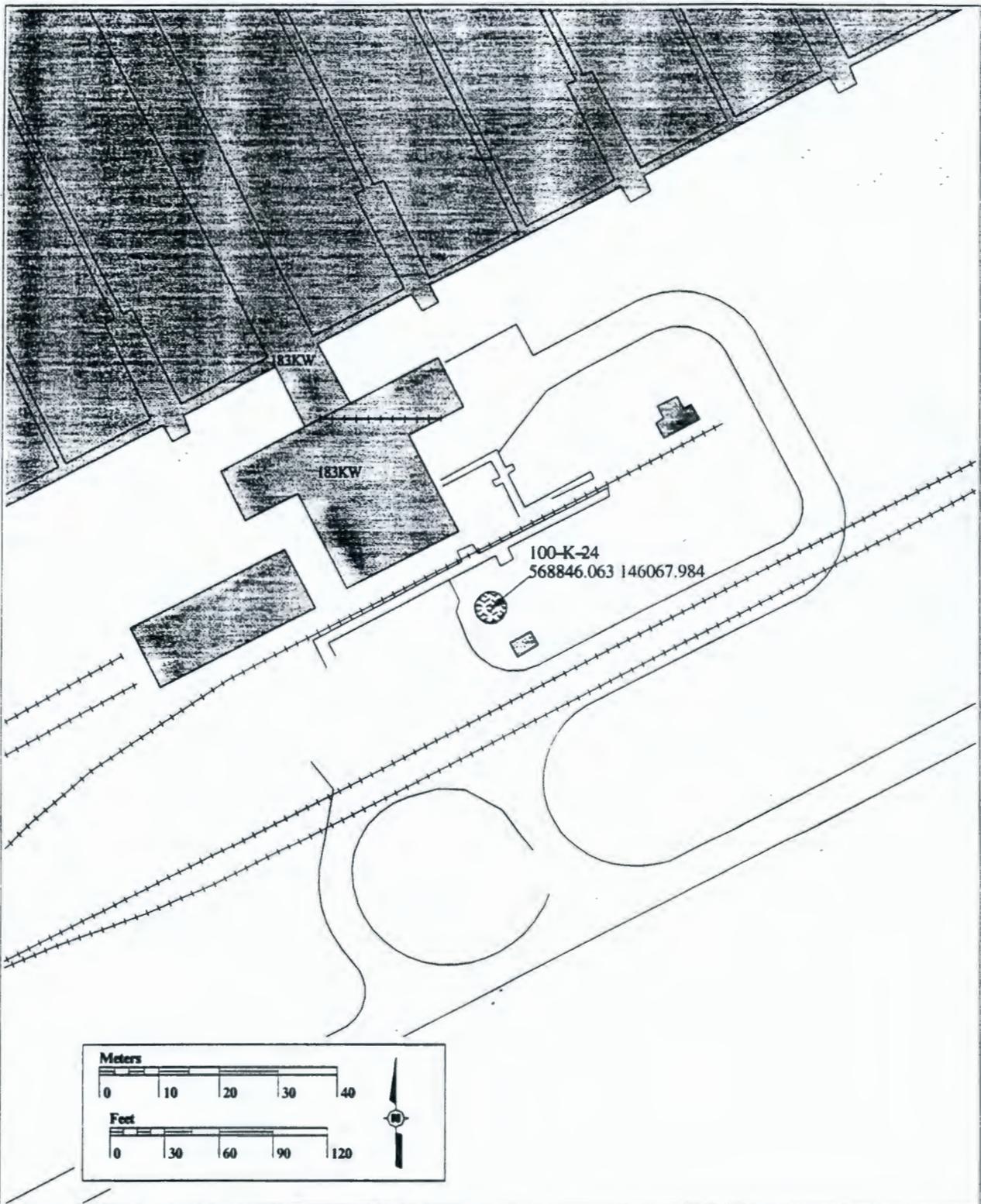
Type:	Needs Updating	Physical State:
Category:		
Amount:		Units:
Reported Date:		
Start Date:		
End Date:		

**Waste Desc:** The tank was used to store dry bauxite (hydrous aluminum oxide or hydroxides with various impurities). The tank appears to have been emptied, although dry powder can be seen through the plexiglass cover indicating that no additional cleanup was performed.

**References:**

1. R. W. Carpenter, 04/12/94, 100-K Area Technical Baseline Report, WHC-SD-EN-TI-239, Rev 0.
  2. Kathryn Moss, 9/1/94, WIDS Site Addition: 100-K-24 (#94-290).
-

# 100-K-24



# 100-K Area Technical Baseline Report

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



**Westinghouse**  
**Hanford Company** Richland, Washington

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

## SUPPORTING DOCUMENT

1. Total Pages 241

2. Title 100-K Area Technical Baseline Report	3. Number WHC-SD-EN-TI-239	4. Rev No. 0
5. Key Words history decontamination reactor basins cooling water	6. Author Name: R.W. Carpenter  Signature Organization/Charge Code 8B200/P711B	
7. Abstract Carpenter, R. W., and S. L. Cote', 1994, 100-K Area Technical Baseline Report, WHC-SD-EN-TI-239, Westinghouse Hanford Company, Richland, Washington.		
8. <del>PURPOSE AND USE OF DOCUMENT - This document was prepared for use within the U.S. Department of Energy and its contractors. It is to be used only to perform, direct, or integrate work under U.S. Department of Energy contracts. This document is not approved for public release until reviewed.</del> <del>PATENT STATUS - This document copy, since it is transmitted in advance of patent clearance, is made available in confidence solely for use in performance of work under contracts with the U.S. Department of Energy. This document is not to be published nor its contents otherwise disseminated or used for purposes other than specified above before patent approval for such release or use has been secured, upon request, from the Patent Counsel, U.S. Department of Energy Field Office, Richland, WA.</del> <del>DISCLAIMER - This report was prepared as an account of work sponsored by an agency of the United States Government. Neither the United States Government nor any agency thereof, nor any of their employees, nor any of their contractors, subcontractors or their employees, makes any warranty, express or implied, or assumes any legal liability or responsibility for the accuracy, completeness, or any third party's use or the results of such use of any information, apparatus, product, or process disclosed, or represents that its use would not infringe privately owned rights. Reference herein to any specific commercial product, process, or service by trade name, trademark, manufacturer, or otherwise, does not necessarily constitute or imply its endorsement, recommendation, or favoring by the United States Government or any agency thereof or its contractors or subcontractors. The views and opinions of authors expressed herein do not necessarily state or reflect those of the United States Government or any agency thereof.</del>	10. RELEASE STAMP <div style="border: 1px solid black; padding: 5px; text-align: center;">OFFICIAL RELEASE BY WHC DATE APR 12 1994 <i>Station #12</i></div>	
9. Impact Level NA		

### 6.30 UNDOCUMENTED BAUXITE TANKS

A Bauxite storage (Figures 6-18 and 6-19) tank was constructed on the site of each of the former number 1 sodium silicate tanks at 100-K Area coordinates NK3131 WK4680 in 100-KE and NK3131 WK6620 in 100-KW (H-1-25117).

The tanks appear today as they did during operations. They appear to have been emptied, although dry bauxite powder can be seen through a plexiglass cover indicating that no additional clean-up was performed.

#### Bauxite Tanks During Construction and Operation in 1966.

Figure 6-18. Bauxite Tank, August 25, 1966.

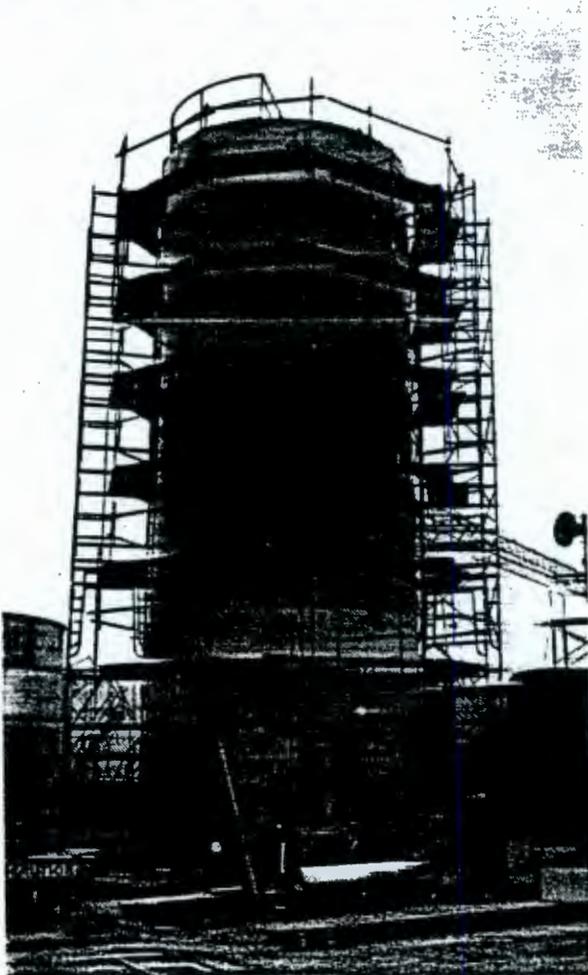
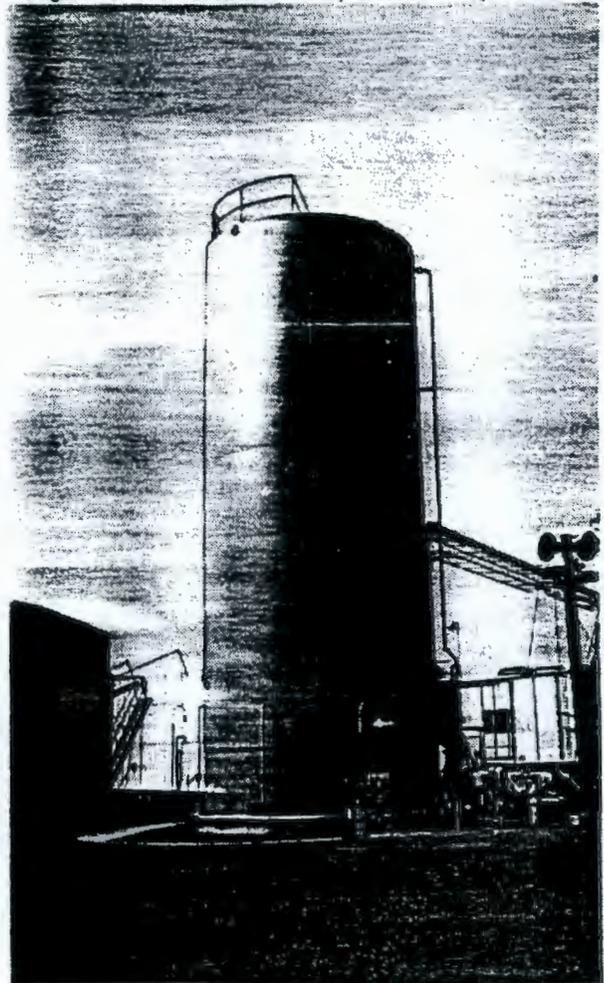


Figure 6-19. Bauxite Tank, October 25, 1966.



<u>Date Submitted:</u> August 30, 1996  Originator: J.R. James, BHI  Phone: 372-9563	<b>WASTE SITE RECLASSIFICATION FORM</b>  <u>Operable Unit(s):</u> 100-KR-2  <u>Waste Site ID:</u> 100-K-28, 183-KE Bauxite Tank  <u>Type of Reclassification Action:</u>  Rejected <input checked="" type="checkbox"/> Closed Out <input type="checkbox"/> No Action <input type="checkbox"/>	<u>Control Number:</u>
---	---	------------------------

This form documents agreement among the parties listed below authorizing classification of the subject waste site from the TPA solid waste management unit listing as rejected, closed out, or no action and authorizing backfill of the waste site, if appropriate. Final removal from the NPL will occur at a future date.

Description of current waste site condition:

The 100-K-28 bauxite tank is located approximately 40 ft SE of the 183-KW Head House. It is located at the 100-KR-2 Operable Unit, at approximately Washington State Plane coordinates (E) 569387.6 (N) 146347.7. The tank is 18 ft in dia., ~56 ft in height, and located in the NW part of the original sodium silicate tank concrete base ( Refs. #1 and #2). The tank was used to store dry bauxite, and appears to have been emptied, although dry powder can be seen through the plexiglass cover indicating that no additional cleanup was performed. Dates of operation per Figure 6-19 of Ref. #2 included October 25, 1966.

Bauxite is not listed in 40 CFR 302.4 as a hazardous substance and is not a CERCLA pollutant. Therefore, no dangerous wastes or CERCLA hazardous substances, pollutants, or contaminants were known, or anticipated to have been received, stored, or disposed at this site.

Reference list:

1. *Environmental Sites Database General Summary Report*, WIDS, Site Code: 100-K-28, August 12, 1996.
2. Carpenter, R.W. et al, 1994, *100-K Area Technical Baseline Report*, WHC-SD-EN-TI-239, Rev. 0, Westinghouse Hanford Company, Richland, Washington, April 12, 1994.

Basis for reclassification:

This site is nominated as "Rejected" because it was never used to receive, store, or discharge dangerous wastes or CERCLA hazardous substances. This inactive site once stored dry bauxite which is not listed in 40 CFR 302.4 list of hazardous substances, and is not considered a CERCLA pollutant. There is residual bauxite in the tank that will be removed under RCRA Subtitle D, solid waste regulations. No further action at this site is required under CERCLA or RCRA corrective action regulations. Remaining structures will be managed in accordance with DOE Decontamination and Decommissioning program.

\_\_\_\_\_  
DOE Project Manager

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Date

\_\_\_\_\_  
Ecology Project Manager

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Date

\_\_\_\_\_  
EPA Project Manager

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Date

## Environmental Sites Database General Summary Report

---

**Site Code:** 100-K-28                      **Site Classification:** Accepted                      12-Aug-96    Page 1

---

**Site Names:** 100-K-28, 183-KE Bauxite Tank

**Site Type:** Storage Tank

**Programmatic Responsibility:** Undefined

**Site Description:** The unit is located 38 ft SE of the 183-KE Head House on the NW portion of the original sodium silicate tank concrete base. The tank is 18-ft in dia, ~56-ft in height, and is located in the NW part of the original sodium silicate tank concrete base.

**Status:** Inactive

**Start Date:**

**End Date:**

**Operable Unit:** 100-KR-2

**Hanford Area:** 100K

**Coordinates:** (E) 569387.6                      (N) 146347.7                      Washington State Plane

**Associated Structures:** The bauxite stored in this tank was used in the water treatment process at 183-KE. It was mixed with sulfuric acid to make alum. The alum was used as a flocculant to remove suspended solids from raw river water.

**Site Accessible:** No

**Access Requirements:**

**Site Hazards:**

**Location Description:**

**Environmental Monitoring Desc:**

**Release Desc:**

**Release Potential Desc:**

**Site Comment:**

**Process Desc:**

**References:**

1. R. W. Carpenter, 04/12/94, 100-K Area Technical Baseline Report, WHC-SD-EN-TI-239, Rev 0.
2. Kathryn Moss, 9/1/94, WIDS Site Addition: 100-K-28 (#94-296).

---

**Dimensions:**

	<u>Meters</u>	<u>Feet</u>
<b>Length:</b>		
<b>Width:</b>		
<b>Depth / Height:</b>		
<b>Diameter:</b>	5.49	18.00
<b>Area:</b>		
<b>Overburden Depth:</b>		

---

**References:**

1. Kathryn Moss, 9/1/94, WIDS Site Addition: 100-K-28 (#94-296).

---

**Regulatory Information:**

Part A Permit Application Written:	No	Interim Closure Plan Written:	No
Part B Permit Application Written:	No	Covered under TPA Action Plan:	No
Registered Class V Underground Injection Well:	No	Solid Waste Management Unit:	No
Regulatory Authority:	Other		
TSD Number:			

---

**References:**

1. Kathryn Moss, 9/1/94, WIDS Site Addition: 100-K-28 (#94-296).

---

**Waste Information:**

Type:	Needs Updating	Physical State:
Category:		
Amount:		Units:
Reported Date:		
Start Date:		
End Date:		

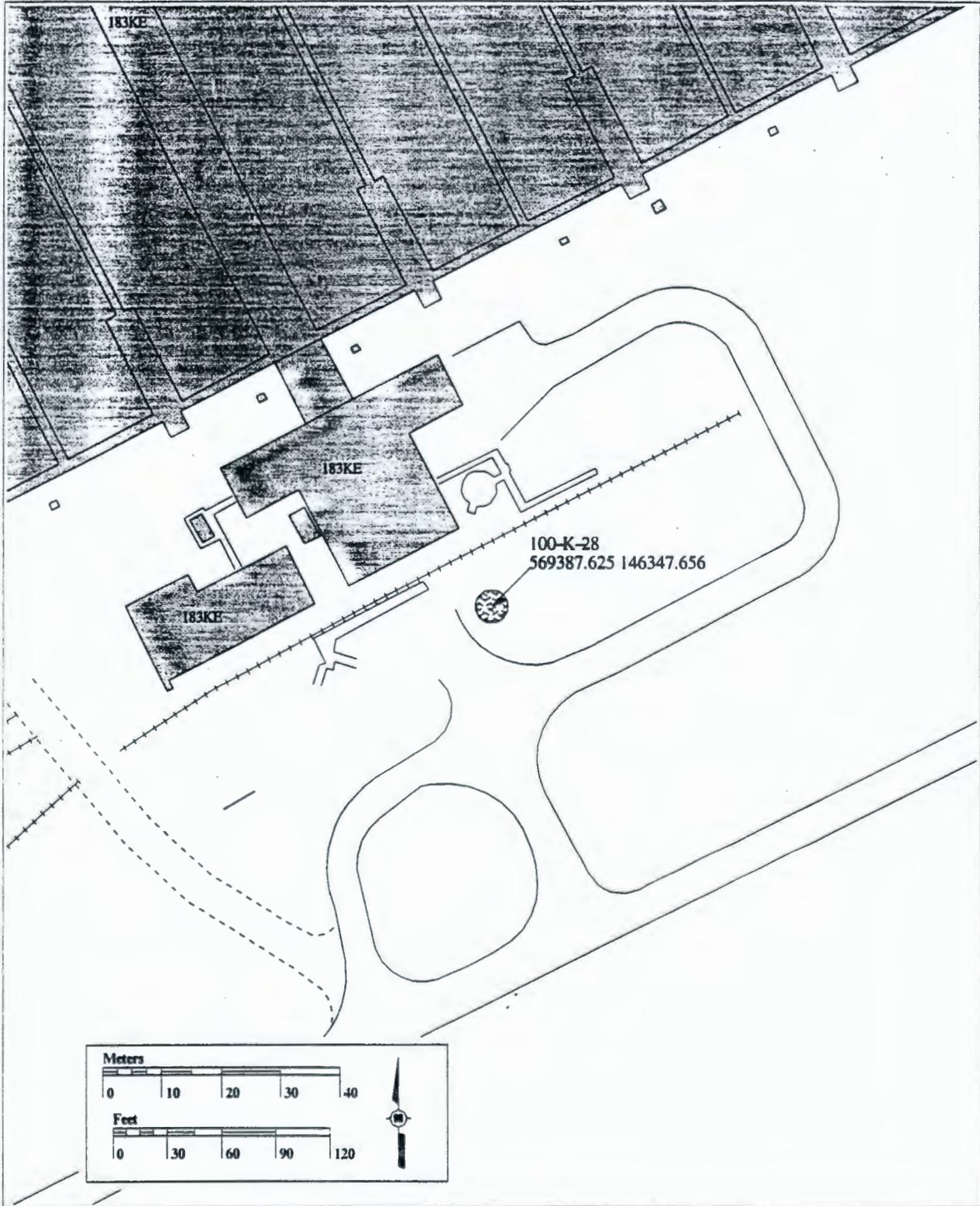
**Waste Desc:** The tank was used to store dry bauxite aluminum oxide or hydroxides with various impurities). The tank appears to have been emptied, although dry powder can be seen through the plexiglass cover, indicating that no additional cleanup was performed.

---

**References:**

1. R. W. Carpenter, 04/12/94, 100-K Area Technical Baseline Report, WHC-SD-EN-TI-239, Rev 0.
  2. Kathryn Moss, 9/1/94, WIDS Site Addition: 100-K-28 (#94-296).
-

# 100-K-28



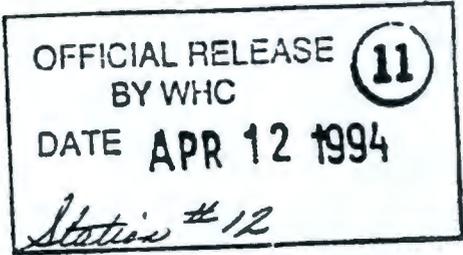
# 100-K Area Technical Baseline Report

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



**Westinghouse**  
**Hanford Company** Richland, Washington

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

SUPPORTING DOCUMENT		1. Total Pages 241
2. Title 100-K Area Technical Baseline Report	3. Number WHC-SD-EN-TI-239	4. Rev No. 0
5. Key Words history decontamination reactor basins cooling water	6. Author Name: R.W. Carpenter  Signature Organization/Charge Code 8B200/P711B	
7. Abstract <i>CE for all 4/10/94</i> Carpenter, R. W., and S. L. Cote', 1994, 100-K Area Technical Baseline Report, WHC-SD-EN-TI-239, Westinghouse Hanford Company, Richland, Washington.		
8. PURPOSE AND USE OF DOCUMENT - This document was prepared for use within the U.S. Department of Energy and its contractors. It is to be used only to perform, direct, or integrate work under U.S. Department of Energy contracts. This document is not approved for public release until reviewed.  PATENT STATUS - This document copy, since it is transmitted in advance of patent clearance, is made available in confidence solely for use in performance of work under contracts with the U.S. Department of Energy. This document is not to be published nor its contents otherwise disseminated or used for purposes other than specified above before patent approval for such release or use has been secured, upon request, from the Patent Counsel, U.S. Department of Energy Field Office, Richland, WA.  DISCLAIMER - This report was prepared as an account of work sponsored by an agency of the United States Government. Neither the United States Government nor any agency thereof, nor any of their employees, nor any of their contractors, subcontractors or their employees, makes any warranty, express or implied, or assumes any legal liability or responsibility for the accuracy, completeness, or any third party's use or the results of such use of any information, apparatus, product, or process disclosed, or represents that its use would not infringe privately owned rights. Reference herein to any specific commercial product, process, or service by trade name, trademark, manufacturer, or otherwise, does not necessarily constitute or imply its endorsement, recommendation, or favoring by the United States Government or any agency thereof or its contractors or subcontractors. The views and opinions of authors expressed herein do not necessarily state or reflect those of the United States Government or any agency thereof.		10. RELEASE STAMP  
9. Impact Level NA		

### 6.30 UNDOCUMENTED BAUXITE TANKS

A Bauxite storage (Figures 6-18 and 6-19) tank was constructed on the site of each of the former number 1 sodium silicate tanks at 100-K Area coordinates NK3131 WK4680 in 100-KE and NK3131 WK6620 in 100-KW (H-1-25117).

The tanks appear today as they did during operations. They appear to have been emptied, although dry bauxite powder can be seen through a plexiglass cover indicating that no additional clean-up was performed.

#### Bauxite Tanks During Construction and Operation in 1966.

Figure 6-18. Bauxite Tank, August 25, 1966.

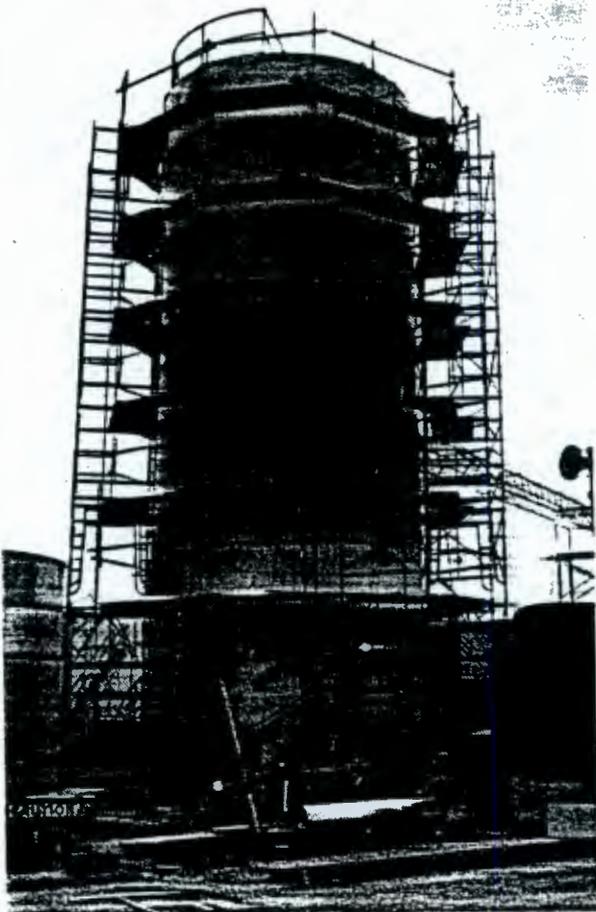
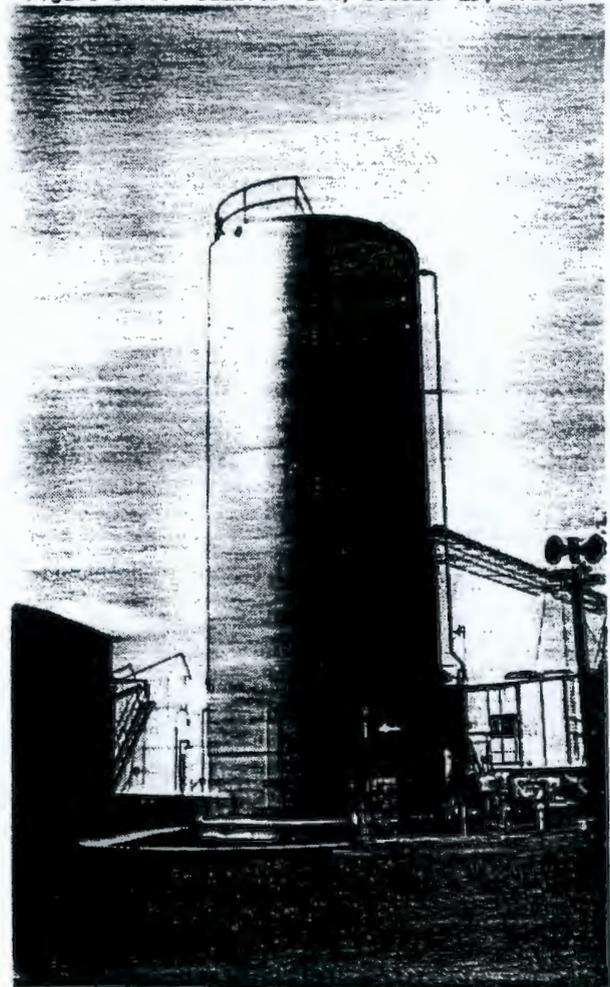


Figure 6-19. Bauxite Tank, October 25, 1966.



<u>Date Submitted:</u> August 30, 1996  Originator: J.R. James, BHI  Phone: 372-9563	<b>WASTE SITE RECLASSIFICATION FORM</b>  <u>Operable Unit(s):</u> 100-KR-2  <u>Waste Site ID:</u> 100-K-20, 183-KW Sodium Silicate Storage Tank (West)  <u>Type of Reclassification Action:</u>  Rejected <input checked="" type="checkbox"/> Closed Out <input type="checkbox"/> No Action <input type="checkbox"/>	<u>Control Number:</u>
---	--	------------------------

This form documents agreement among the parties listed below authorizing classification of the subject waste site from the TPA solid waste management unit listing as rejected, closed out, or no action and authorizing backfill of the waste site, if appropriate. Final removal from the NPL will occur at a future date.

Description of current waste site condition:

The 100-K-20 Sodium Silicate Storage Tank (West) was located southeast (150 degrees) of the 183-KW Head House. It was located in the 100-K Area, at approximately Washington State Plane coordinates (E) 568844.2 (N) 146070.6. The tank was 30 ft in diameter, and had a capacity of 104,400 gallons. The storage tank was removed but the grade level concrete base remains. The NW portion of this concrete base is being used as the base for a bauxite tank that was constructed in 1966. The operation periods of this tank are unknown.

The sodium silicate stored in the tanks was used to treat raw river water at times of high turbidity. Originally the sodium silicate used was the liquid form, later the dry powder form was used. No dangerous waste or CERCLA hazardous substances, pollutants, or contaminants were known, or anticipated to have been received, stored, or disposed at this site.

Reference list:

1. *Environmental Sites Database General Summary Report*, WIDS, Site Code: 100-K-20, August 12, 1996.
2. Carpenter, R.W. et al, 1994, *100-K Area Technical Baseline Report*, WHC-SD-EN-TI-239, Rev. 0, Westinghouse Hanford Company, Richland, Washington, April 12, 1994.

Basis for reclassification:

This site is nominated as "Rejected" because it was never used to receive, store, or discharge dangerous wastes or CERCLA hazardous substances. This inactive site once stored sodium silicate which is not listed in 40 CFR 302.4 list of hazardous substances, and is not considered a CERCLA pollutant. The sodium silicate tank has been removed. The remaining concrete base is being used as the base for a bauxite tank which was constructed in 1966. There is residual bauxite in the tank which will be removed under RCRA Subtitle D, solid waste regulations. No further action at this site is required under CERCLA or RCRA corrective action regulations. The remaining structures will be managed in accordance with DOE Decontamination and Decommissioning program.

\_\_\_\_\_  
DOE Project Manager

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Date

\_\_\_\_\_  
Ecology Project Manager

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Date

\_\_\_\_\_  
EPA Project Manager

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Date

## Environmental Sites Database General Summary Report

Site Code: 100-K-20      Site Classification: Accepted      12-Aug-96      Page 1

Site Names: 100-K-20, 183-KW Sodium Silicate Storage Tank Site (West)

Site Type: Storage Tank

Programmatic  
Responsibility: Undefined

Site Description: Westernmost of two sodium silicate storage tanks that were located southeast of the 183-KW Head House. The unit was 30 ft (9.1 m) in diameter and had a capacity of 104,400 gal (395,200 L). The unit has been removed and the grade level concrete base remains. The tank base is occupied by a bauxite storage tower and transfer system.

07/17/96

Status: Inactive

Start Date:

End Date:

Operable Unit: 100-KR-2

Hanford Area: 100K

Coordinates: (E) 568844.2      (N) 146070.6      Washington State Plane

Associated Structures:

07/17/96

Site Accessible: No

Access Requirements:

Site Hazards:

Location Description:

Environmental  
Monitoring Desc:

Release Desc:

Release Potential Desc:

Site Comment: The sodium silicate stored in the two tanks was used to treat raw river water at times of high turbidity. Sodium silicate was activated by mixing sulfuric acid in large tanks in the 183-KW Water Treatment Buildings. Originally the sodium silicate used was the liquid form, later the dry powder form was used. From the tanks, it was metered and injected into the supply headers at the flocculation basins north of the facility.

07/17/96

Process Desc:

References:

1. R. W. Carpenter, 04/12/94, 100-K Area Technical Baseline Report, WHC-SD-EN-TI-239, Rev 0.
2. Kathryn Moss, 9/1/94, WIDS Site Addition: 100-K-20 (#94-288).

Dimensions:

Meters

Feet

Length:

Width:

Depth / Height:

Diameter:      9.14      30.00

---

**Area:****Overburden Depth:****References:**

1. R. W. Carpenter, 04/12/94, 100-K Area Technical Baseline Report, WHC-SD-EN-TI-239, Rev 0.

---

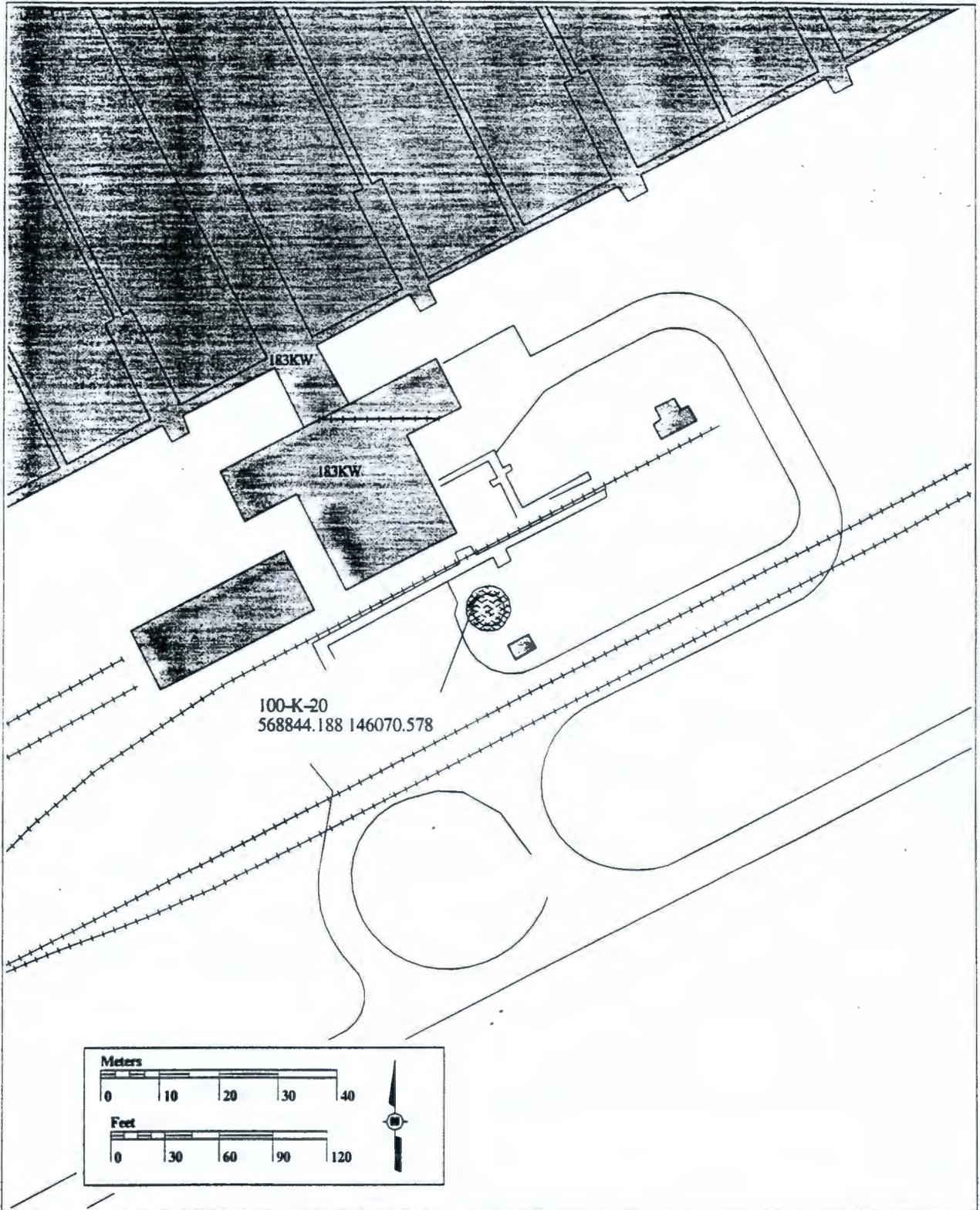
**Regulatory Information:**

<b>Part A Permit Application Written:</b>	No	<b>Interim Closure Plan Written:</b>	No
<b>Part B Permit Application Written:</b>	No	<b>Covered under TPA Action Plan:</b>	No
<b>Registered Class V Underground Injection Well:</b>	No	<b>Solid Waste Management Unit:</b>	No
<b>Regulatory Authority:</b>	Other		
<b>TSD Number:</b>			

**References:**

1. R. W. Carpenter, 04/12/94, 100-K Area Technical Baseline Report, WHC-SD-EN-TI-239, Rev 0.
  2. Kathryn Moss, 9/1/94, WIDS Site Addition: 100-K-20 (#94-288).
-

# 100-K-20



# 100-K Area Technical Baseline Report

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

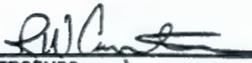


**Westinghouse**  
**Hanford Company** Richland, Washington

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

## SUPPORTING DOCUMENT

1. Total Pages 241

2. Title 100-K Area Technical Baseline Report	3. Number WHC-SD-EN-TI-239	4. Rev No. 0
5. Key Words history decontamination reactor basins cooling water	6. Author Name: R.W. Carpenter  Signature Organization/Charge Code 8B200/P711B	
7. Abstract <i>CE for WWC 4/10/94</i> Carpenter, R. W., and S. L. Cote', 1994, <i>100-K Area Technical Baseline Report</i> , WHC-SD-EN-TI-239, Westinghouse Hanford Company, Richland, Washington.		
8. <del>PURPOSE AND USE OF DOCUMENT - This document was prepared for use within the U.S. Department of Energy and its contractors. It is to be used only to perform, direct, or integrate work under U.S. Department of Energy contracts. This document is not approved for public release until reviewed.</del> <del>PATENT STATUS - This document copy, since it is transmitted in advance of patent clearance, is made available in confidence solely for use in performance of work under contracts with the U.S. Department of Energy. This document is not to be published nor its contents otherwise disseminated or used for purposes other than specified above before patent approval for such release or use has been secured, upon request, from the Patent Counsel, U.S. Department of Energy Field Office, Richland, WA.</del> <del>DISCLAIMER - This report was prepared as an account of work sponsored by an agency of the United States Government. Neither the United States Government nor any agency thereof, nor any of their employees, nor any of their contractors, subcontractors or their employees, makes any warranty, express or implied, or assumes any legal liability or responsibility for the accuracy, completeness, or any third party's use or the results of such use of any information, apparatus, product, or process disclosed, or represents that its use would not infringe privately owned rights. Reference herein to any specific commercial product, process, or service by trade name, trademark, manufacturer, or otherwise, does not necessarily constitute or imply its endorsement, recommendation, or favoring by the United States Government or any agency thereof or its contractors or subcontractors. The views and opinions of authors expressed herein do not necessarily state or reflect those of the United States Government or any agency thereof.</del>	10. RELEASE STAMP  <div style="border: 1px solid black; padding: 5px; text-align: center;">OFFICIAL RELEASE BY WHC DATE APR 12 1994 <i>Station # 12</i></div>	
9. Impact Level NA		

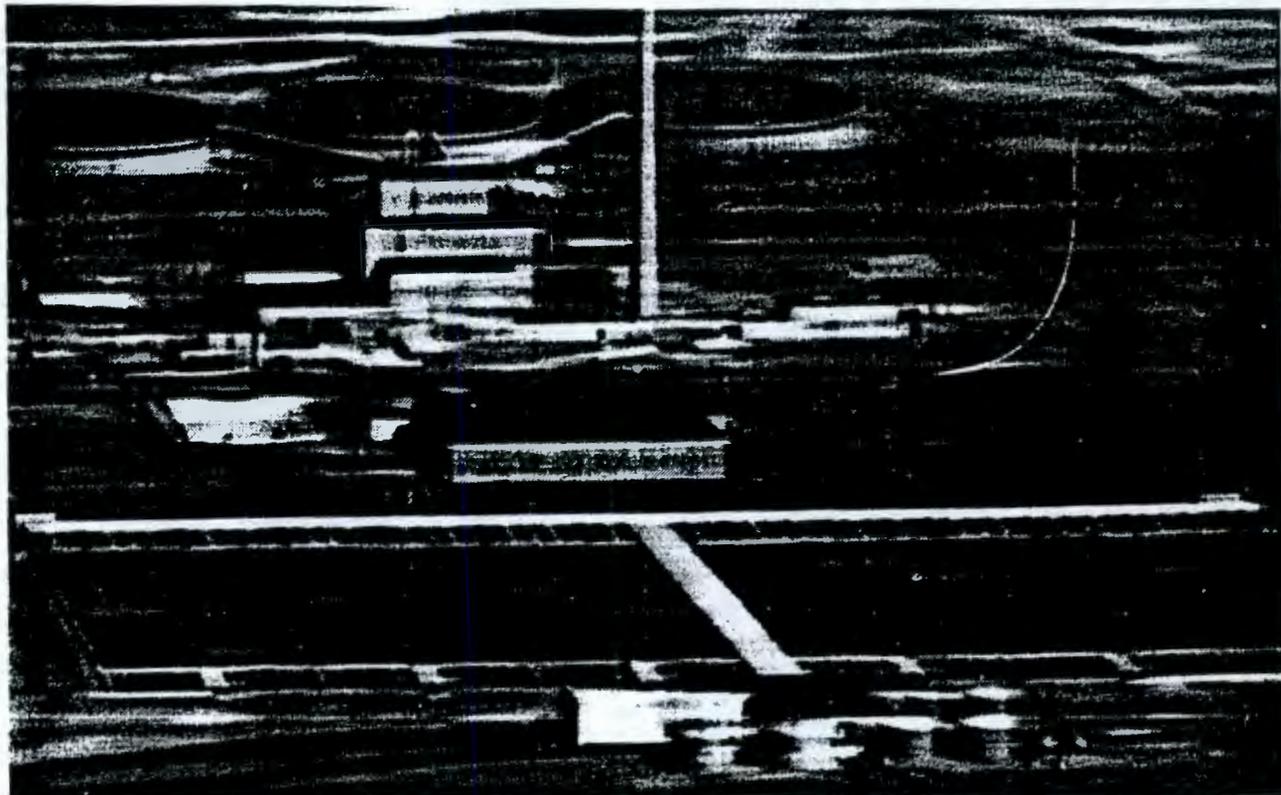
## 6.22 UNDOCUMENTED SODIUM SILICATE STORAGE TANK SITE

Two sodium silicate storage tank sites are located at both the 183-KE and -KW water treatment plants. These tanks, which were directly south of the 183 Buildings and adjacent to the sulfuric acid tanks, were located at 100-K Area coordinates NK3131 WK4680 and NK3131 WK4725 at 100-KE and at NK3131 WK6620 and NK3131 WK6605 at 100-KW prior to removal. These 30-ft diameter vertical tanks had a capacity of 104,400 gal each (Hale 1957b and Hanford Drawing H-1-25264).

Sodium silicate was used as an aid in coagulation in raw river water at times of high turbidity. Originally the sodium silicate was purchased and stored in liquid form, later the tanks were removed and it was purchased and stored in bagged dry powder form. The sodium silicate was activated by the addition of sulfuric acid. This mixing was performed in large tanks constructed for the purpose within the 183-Water Treatment Buildings. From the tanks it was metered and injected into the supply headers to the flocculation basins north of the facility. These tanks are apparent in Figure 6-1.

After the storage tanks were removed, the west tank base at both the 183-KE and -KW water treatment plants were converted and reused as a base for the present bauxite storage tower and transfer system.

Figure 6-1. 100-KE Area with 183-KE Facility in Foreground, March 15, 1956.



Subject Tanks ↗

9713540.0953

<u>Date Submitted:</u> August 30, 1996  Originator: J.R. James, BHI  Phone: 372-9563	<b>WASTE SITE RECLASSIFICATION FORM</b>  <u>Operable Unit(s):</u> 100-KR-2  <u>Waste Site ID:</u> 100-K-21, 183-KW Sodium Silicate Storage Tank (East)  <u>Type of Reclassification Action:</u>  Rejected <input checked="" type="checkbox"/> Closed Out <input type="checkbox"/> No Action <input type="checkbox"/>	<u>Control Number:</u>
---	--	------------------------

This form documents agreement among the parties listed below authorizing classification of the subject waste site from the TPA solid waste management unit listing as rejected, closed out, or no action and authorizing backfill of the waste site, if appropriate. Final removal from the NPL will occur at a future date.

Description of current waste site condition:

The 100-K-21 Sodium Silicate Storage Tank (East) was located southeast (150 degrees) of the 183-KW Head House in the 100-KR-2 Operable Unit. It is located in the 100-K Area, at approximately Washington State Plane coordinates (E) 568855.1 (N) 146072.6. The tank was 30 ft in diameter, and had a capacity of 104,400 gallons. The storage tank was removed but the grade level concrete base remains (Refs. #1 and #2). Dates of use are not well documented.

The sodium silicate stored in the tank was used to treat raw river water at times of high turbidity. Originally the sodium silicate used was the liquid form, later the dry powder form was used. No dangerous wastes or CERCLA hazardous substances, pollutants, or contaminants were known, or anticipated to have been received, stored, or disposed at this site.

Reference list:

1. *Environmental Sites Database General Summary Report*, WIDS, Site Code: 100-K-21, August 13, 1996.
2. Carpenter, R.W. et al, 1994, *100-K Area Technical Baseline Report*, WHC-SD-EN-TI-239, Rev. 0, Westinghouse Hanford Company, Richland, Washington, April 12, 1994.

Basis for reclassification:

This site is nominated as "Rejected" because it was never used to receive, store, or discharge dangerous wastes or CERCLA hazardous substances. This inactive site once stored sodium silicate which is not listed in 40 CFR 302.4 list of hazardous substances, and is not considered a CERCLA pollutant. The tank has been removed. No further action at this site is required under CERCLA or RCRA corrective action regulations. The remaining concrete base will be managed in accordance with the DOE Decontamination and Decommissioning program.

_____ DOE Project Manager	_____ Signature	_____ Date
_____ Ecology Project Manager	_____ Signature	_____ Date
_____ EPA Project Manager	_____ Signature	_____ Date

---

**Area:****Overburden Depth:****References:**

1. R. W. Carpenter, 04/12/94, 100-K Area Technical Baseline Report, WHC-SD-EN-TI-239, Rev 0.

---

**Regulatory Information:**

<b>Part A Permit Application Written:</b>	No	<b>Interim Closure Plan Written:</b>	No
<b>Part B Permit Application Written:</b>	No	<b>Covered under TPA Action Plan:</b>	No
<b>Registered Class V Underground Injection Well:</b>	No	<b>Solid Waste Management Unit:</b>	No

**Regulatory Authority:** Other**TSD Number:****References:**

1. R. W. Carpenter, 04/12/94, 100-K Area Technical Baseline Report, WHC-SD-EN-TI-239, Rev 0.
2. Kathryn J. Moss, 9/14/94, WIDS Site Addition: 100-K-21 (#94-311).

---

**Waste Information:**

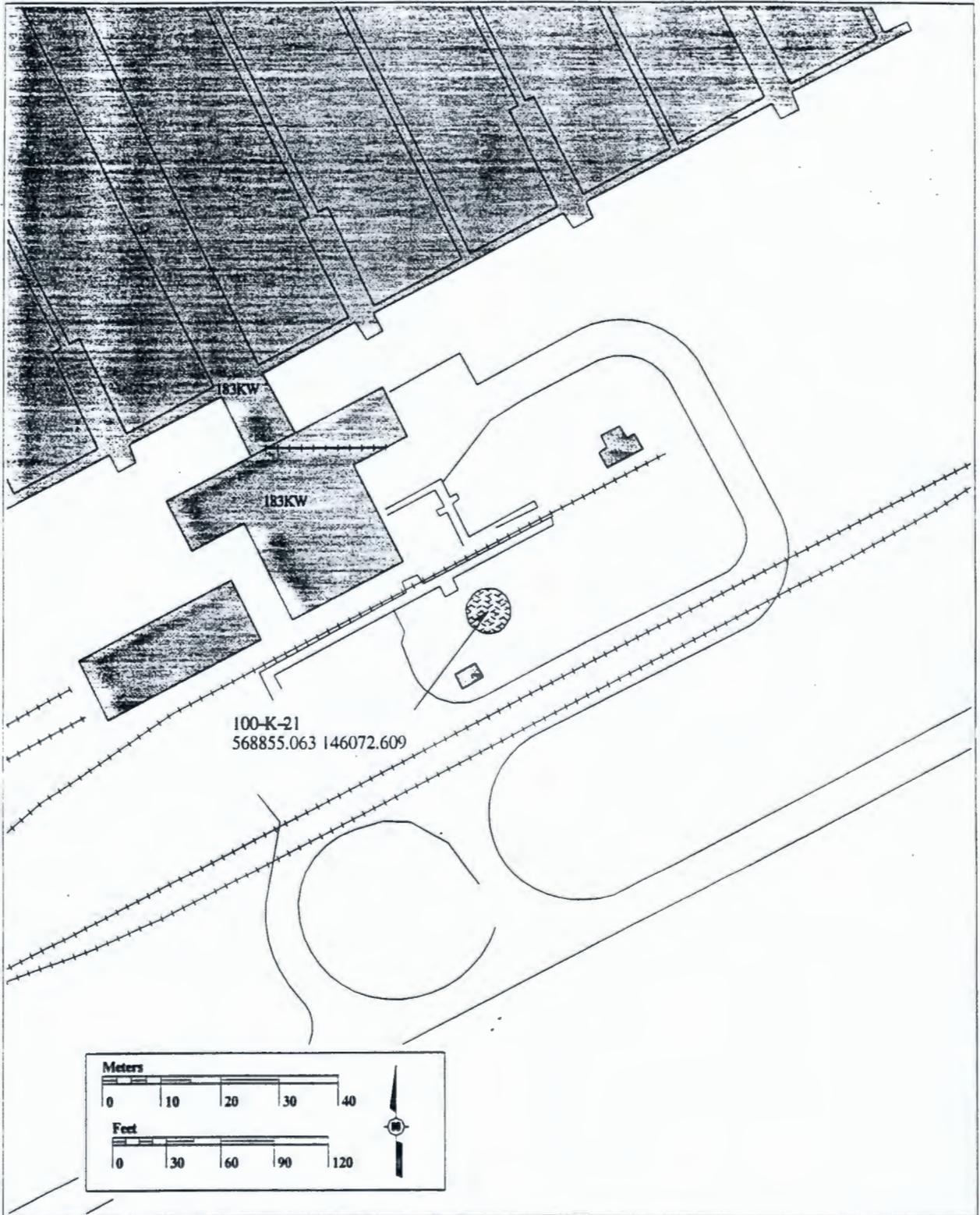
<b>Type:</b>	Needs Updating	<b>Physical State:</b>	
<b>Category:</b>			
<b>Amount:</b>		<b>Units:</b>	
<b>Reported Date:</b>			
<b>Start Date:</b>			
<b>End Date:</b>			

**Waste Desc:** The two tanks stored sodium silicate. Originally, the sodium silicate was purchased and stored in liquid form. Later, the tanks were removed and it was purchased and stored in bagged dry powder form.

**References:**

1. R. W. Carpenter, 04/12/94, 100-K Area Technical Baseline Report, WHC-SD-EN-TI-239, Rev 0.
-

# 100-K-21



# 100-K Area Technical Baseline Report

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



**Westinghouse**  
**Hanford Company** Richland, Washington

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

## SUPPORTING DOCUMENT

1. Total Pages 241

2. Title 100-K Area Technical Baseline Report	3. Number WHC-SD-EN-TI-239	4. Rev No. 0
5. Key Words history decontamination reactor basins cooling water	6. Author Name: R.W. Carpenter  Signature Organization/Charge Code 8B200/P711B	
7. Abstract Carpenter, R. W., and S. L. Cote', 1994, 100-K Area Technical Baseline Report, WHC-SD-EN-TI-239, Westinghouse Hanford Company, Richland, Washington.		
8. <del>PURPOSE AND USE OF DOCUMENT - This document was prepared for use within the U.S. Department of Energy and its contractors. It is to be used only to perform, direct, or integrate work under U.S. Department of Energy contracts. This document is not approved for public release until reviewed.</del> <del>PATENT STATUS - This document copy, since it is transmitted in advance of patent clearance, is made available in confidence solely for use in performance of work under contracts with the U.S. Department of Energy. This document is not to be published nor its contents otherwise disseminated or used for purposes other than specified above before patent approval for such release or use has been secured, upon request, from the Patent Counsel, U.S. Department of Energy Field Office, Richland, WA.</del> <del>DISCLAIMER - This report was prepared as an account of work sponsored by an agency of the United States Government. Neither the United States Government nor any agency thereof, nor any of their employees, nor any of their contractors, subcontractors or their employees, makes any warranty, express or implied, or assumes any legal liability or responsibility for the accuracy, completeness, or any third party's use or the results of such use of any information, apparatus, product, or process disclosed, or represents that its use would not infringe privately owned rights. Reference herein to any specific commercial product, process, or service by trade name, trademark, manufacturer, or otherwise, does not necessarily constitute or imply its endorsement, recommendation, or favoring by the United States Government or any agency thereof or its contractors or subcontractors. The views and opinions of authors expressed herein do not necessarily state or reflect those of the United States Government or any agency thereof.</del>	10. RELEASE STAMP <div style="border: 1px solid black; padding: 5px; text-align: center;">OFFICIAL RELEASE BY WHC DATE APR 12 1994 <i>Station #12</i></div>	
9. Impact Level NA		

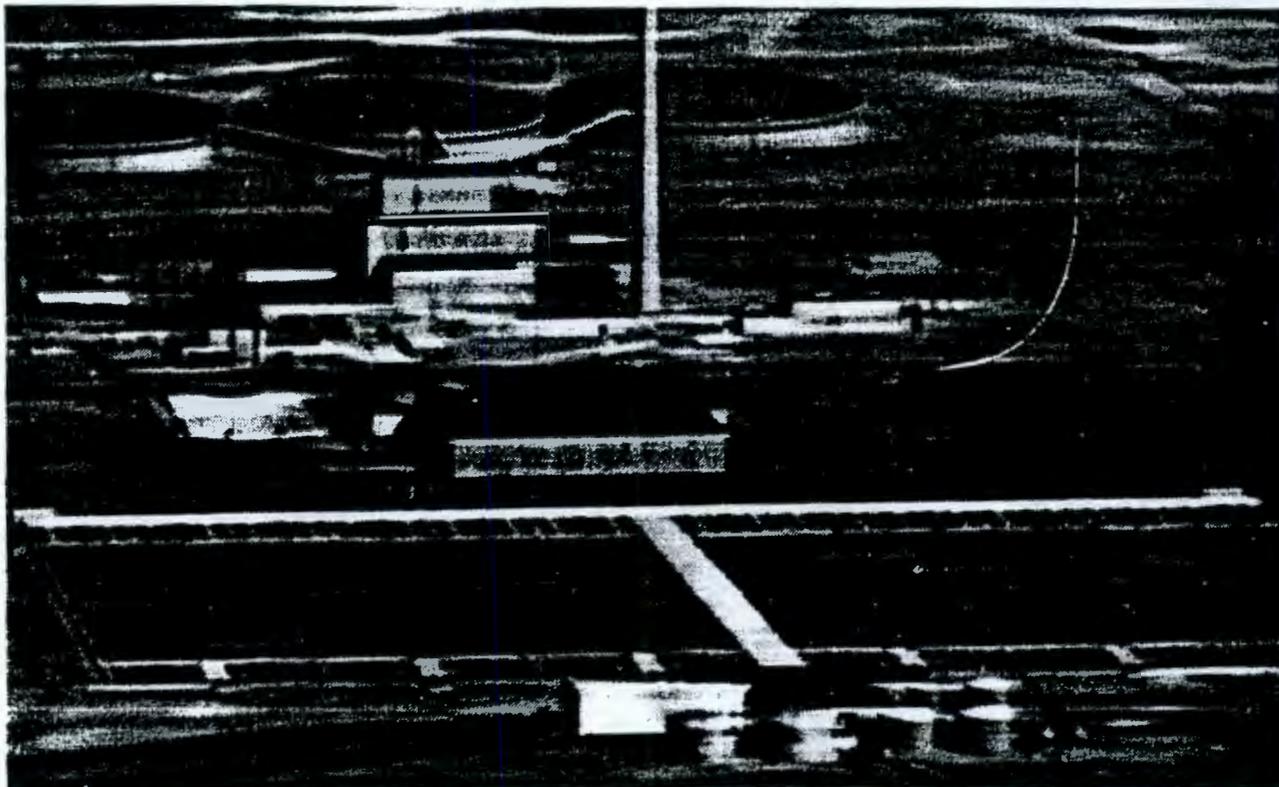
### 6.22 UNDOCUMENTED SODIUM SILICATE STORAGE TANK SITE

Two sodium silicate storage tank sites are located at both the 183-KE and -KW water treatment plants. These tanks, which were directly south of the 183 Buildings and adjacent to the sulfuric acid tanks, were located at 100-K Area coordinates NK3131 WK4680 and NK3131 WK4725 at 100-KE and at NK3131 WK6620 and NK3131 WK6605 at 100-KW prior to removal. These 30-ft diameter vertical tanks had a capacity of 104,400 gal each (Hale 1957b and Hanford Drawing H-1-25264).

Sodium silicate was used as an aid in coagulation in raw river water at times of high turbidity. Originally the sodium silicate was purchased and stored in liquid form, later the tanks were removed and it was purchased and stored in bagged dry powder form. The sodium silicate was activated by the addition of sulfuric acid. This mixing was performed in large tanks constructed for the purpose within the 183-Water Treatment Buildings. From the tanks it was metered and injected into the supply headers to the flocculation basins north of the facility. These tanks are apparent in Figure 6-1.

After the storage tanks were removed, the west tank base at both the 183-KE and -KW water treatment plants were converted and reused as a base for the present bauxite storage tower and transfer system.

Figure 6-1. 100-KE Area with 183-KE Facility in Foreground, March 15, 1956.



Subject Tanks →

9713540.0959

<p><u>Date Submitted:</u> August 30, 1996</p> <p>Originator: J.R. James, BHI</p> <p>Phone: 372-9563</p>	<p align="center"><b>WASTE SITE RECLASSIFICATION FORM</b></p> <p><u>Operable Unit(s):</u> 100-KR-2</p> <p><u>Waste Site ID:</u> 100-K-22, 183-KE Sodium Silicate Storage Tank (West)</p> <p><u>Type of Reclassification Action:</u></p> <p>Rejected <input checked="" type="checkbox"/> Closed Out <input type="checkbox"/> No Action <input type="checkbox"/></p>	<p><u>Control Number:</u></p>
---	--	-------------------------------

This form documents agreement among the parties listed below authorizing classification of the subject waste site from the TPA solid waste management unit listing as rejected, closed out, or no action and authorizing backfill of the waste site, if appropriate. Final removal from the NPL will occur at a future date.

Description of current waste site condition:

The 100-K-22 Sodium Silicate Storage Tank (West) was located about 35 ft SE of 183-KE Head House. It was located in the 100-K Area, at approximately Washington State Plane coordinates (E) 569385.4 (N) 146350. The tank was 30 ft in diameter, and had a capacity of 104,400 gallons. The storage tank was removed but the grade level concrete base remains. This concrete base was used as the base for a bauxite tank which was constructed at a later date ( Refs. #1 and #2). The operational periods of this tank are unknown.

The sodium silicate stored in the tank was used to treat raw river water at times of high turbidity. Originally, the sodium silicate used was the liquid form, later the dry powder form was used. No dangerous wastes or CERCLA hazardous substances, pollutants, or contaminants were known, or anticipated to have been received, stored, or disposed at this site.

Reference list:

1. *Environmental Sites Database General Summary Report*, WIDS, Site Code: 100-K-22, August 12, 1996.
2. Carpenter, R.W. et al, 1994, *100-K Area Technical Baseline Report*, WHC-SD-EN-TI-239, Rev. 0, Westinghouse Hanford Company, Richland, Washington, April 12, 1994.

Basis for reclassification:

This site is nominated as "Rejected" because it was never used to receive, store, or discharge dangerous wastes or CERCLA hazardous substances. This inactive site once stored sodium silicate which is not listed in 40 CFR 302.4 list of hazardous substances, and is not considered a CERCLA pollutant. The sodium silicate tank has been removed. The remaining concrete base is being used as the base for a bauxite tank. There is residual bauxite in the tank which will be removed under RCRA Subtitle D, solid waste regulations. No further action at this site is required under CERCLA or RCRA corrective action regulations. Remaining structures will be managed in accordance with DOE Decontamination and Decommissioning program.

<p>_____ DOE Project Manager</p>	<p>_____ Signature</p>	<p>_____ Date</p>
<p>_____ Ecology Project Manager</p>	<p>_____ Signature</p>	<p>_____ Date</p>
<p>_____ EPA Project Manager</p>	<p>_____ Signature</p>	<p>_____ Date</p>

## Environmental Sites Database General Summary Report

Site Code: 100-K-22      Site Classification: Accepted      12-Aug-96      Page 1

Site Names: 100-K-22, 183-KE Sodium Silicate Storage Tank (West)

Site Type: Storage Tank

Programmatic  
Responsibility: Undefined

Site Description: In 100-KE Area, western most of two sodium silicate storage tanks that were located south of the 183-KE Head House. The most westerly tank was 35 ft SE of the 183-KE Head House. The unit was 30 ft in diameter and had a capacity of 104,400 gal. The unit has been removed and the grade level concrete base remains. The most westerly tank base is occupied by a bauxite storage tower and transfer system.

Status: Inactive

Start Date:

End Date:

Operable Unit: 100-KR-2

Hanford Area: 100K

Coordinates: (E) 569385.4      (N) 146350      Washington State Plane

Associated Structures: The sodium silicate stored in the tank was used to treat raw river water at times of high turbidity. Sodium silicate was activated by mixing with sulfuric acid in large tanks in the 183-KE Water Treatment Buildings. Originally the sodium silicate used was the liquid form. Later, the dry powder form was used. From the tanks, it was metered and injected into the supply headers at the flocculation basins north of the facility.

Site Accessible: No

Access Requirements:

Site Hazards:

Location Description:

Environmental  
Monitoring Desc:

Release Desc:

Release Potential Desc:

Site Comment: The storage tank has been removed and the grade level concrete base remains.

Process Desc:

References:

1. R. W. Carpenter, 04/12/94, 100-K Area Technical Baseline Report, WHC-SD-EN-TI-239, Rev 0.
2. Kathryn Moss, 9/1/94, WIDS Site Addition: 100-K-22 (#94-294).

---

**Dimensions:**

	<u>Meters</u>	<u>Feet</u>
Length:		
Width:		
Depth / Height:		
Diameter:	9.14	30.00
Area:		
Overburden Depth:		

**References:**

1. R. W. Carpenter, 04/12/94, 100-K Area Technical Baseline Report, WHC-SD-EN-TI-239, Rev 0.

---

**Regulatory Information:**

Part A Permit Application Written:	No	Interim Closure Plan Written:	No
Part B Permit Application Written:	No	Covered under TPA Action Plan:	No
Registered Class V Underground Injection Well:	No	Solid Waste Management Unit:	No
Regulatory Authority:	Other		
TSD Number:			

**References:**

1. R. W. Carpenter, 04/12/94, 100-K Area Technical Baseline Report, WHC-SD-EN-TI-239, Rev 0.
2. Kathryn Moss, 9/1/94, WIDS Site Addition: 100-K-22 (#94-294).

---

**Waste Information:**

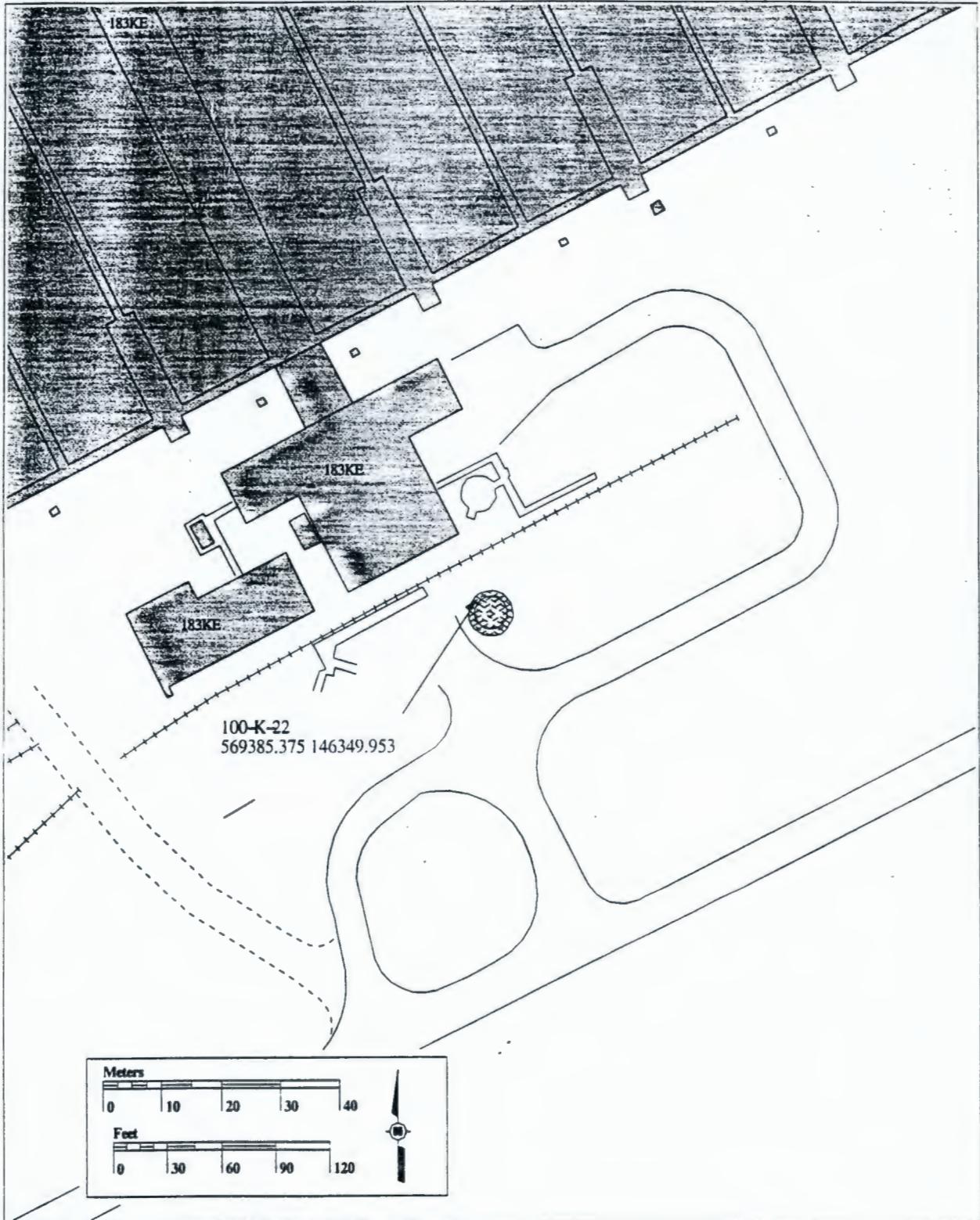
Type:	Needs Updating	Physical State:	
Category:		Units:	
Amount:			
Reported Date:			
Start Date:			
End Date:			

**Waste Desc:** The unit stored sodium silicate. Originally the sodium silicate was purchased and stored in liquid form, later the tanks were removed and it was purchased and stored in bagged dry powder form.

**References:**

1. R. W. Carpenter, 04/12/94, 100-K Area Technical Baseline Report, WHC-SD-EN-TI-239, Rev 0.
-

# 100-K-22



9713540.0963

Reference 2

WHC-SD-EN-TI-239  
Revision 0

# 100-K Area Technical Baseline Report

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



**Westinghouse**  
**Hanford Company** Richland, Washington

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

Approved for Public Release

## SUPPORTING DOCUMENT

1. Total Pages 241

2. Title 100-K Area Technical Baseline Report	3. Number WHC-SD-EN-TI-239	4. Rev No. 0
5. Key Words history decontamination reactor basins cooling water	6. Author Name: R.W. Carpenter  Signature Organization/Charge Code 8B200/P711B	
7. Abstract <i>CE for all 4/10/94</i> Carpenter, R. W., and S. L. Cote', 1994, 100-K Area Technical Baseline Report, WHC-SD-EN-TI-239, Westinghouse Hanford Company, Richland, Washington.		
8. <del>PURPOSE AND USE OF DOCUMENT - This document was prepared for use within the U.S. Department of Energy and its contractors. It is to be used only to perform, direct, or integrate work under U.S. Department of Energy contracts. This document is not approved for public release until reviewed.</del> <del>PATENT STATUS - This document copy, since it is transmitted in advance of patent clearance, is made available in confidence solely for use in performance of work under contracts with the U.S. Department of Energy. This document is not to be published nor its contents otherwise disseminated or used for purposes other than specified above before patent approval for such release or use has been secured upon request, from the Patent Counsel, U.S. Department of Energy Field Office, Richland, WA.</del> <del>DISCLAIMER - This report was prepared as an account of work sponsored by an agency of the United States Government. Neither the United States Government nor any agency thereof, nor any of their employees, nor any of their contractors, subcontractors or their employees, makes any warranty, express or implied, or assumes any legal liability or responsibility for the accuracy, completeness, or any third party's use or the results of such use of any information, apparatus, product, or process disclosed, or represents that its use would not infringe privately owned rights. Reference herein to any specific commercial product, process, or service by trade name, trademark, manufacturer, or otherwise, does not necessarily constitute or imply its endorsement, recommendation, or favoring by the United States Government or any agency thereof or its contractors or subcontractors. The views and opinions of authors expressed herein do not necessarily state or reflect those of the United States Government or any agency thereof.</del>	10. RELEASE STAMP <div style="border: 1px solid black; padding: 5px; text-align: center;">OFFICIAL RELEASE BY WHC DATE APR 12 1994 <i>Station # 12</i></div>	
9. Impact Level NA		

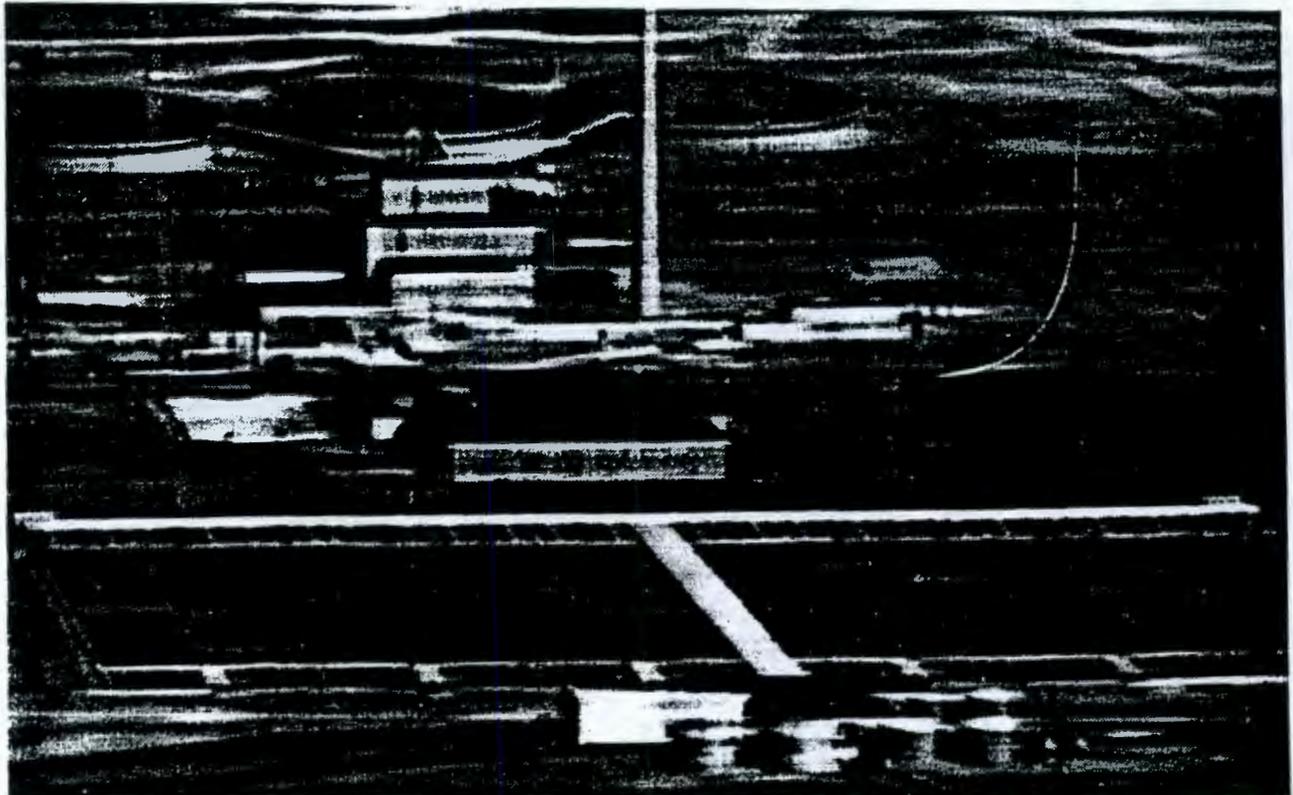
## 6.22 UNDOCUMENTED SODIUM SILICATE STORAGE TANK SITE

Two sodium silicate storage tank sites are located at both the 183-KE and -KW water treatment plants. These tanks, which were directly south of the 183 Buildings and adjacent to the sulfuric acid tanks, were located at 100-K Area coordinates NK3131 WK4680 and NK3131 WK4725 at 100-KE and at NK3131 WK6620 and NK3131 WK6605 at 100-KW prior to removal. These 30-ft diameter vertical tanks had a capacity of 104,400 gal each (Hale 1957b and Hanford Drawing H-1-25264).

Sodium silicate was used as an aid in coagulation in raw river water at times of high turbidity. Originally the sodium silicate was purchased and stored in liquid form, later the tanks were removed and it was purchased and stored in bagged dry powder form. The sodium silicate was activated by the addition of sulfuric acid. This mixing was performed in large tanks constructed for the purpose within the 183-Water Treatment Buildings. From the tanks it was metered and injected into the supply headers to the flocculation basins north of the facility. These tanks are apparent in Figure 6-1.

After the storage tanks were removed, the west tank base at both the 183-KE and -KW water treatment plants were converted and reused as a base for the present bauxite storage tower and transfer system.

Figure 6-1. 100-KE Area with 183-KE Facility in Foreground, March 15, 1956.



Subject Tanks →

<u>Date Submitted:</u> August 30, 1996  Originator: J.R. James, BHI  Phone: 372-9563	<b>WASTE SITE RECLASSIFICATION FORM</b>  <u>Operable Unit(s):</u> 100-KR-2  <u>Waste Site ID:</u> 100-K-23, 183-KE Sodium Silicate Storage Tank (East)  <u>Type of Reclassification Action:</u> Rejected <input checked="" type="checkbox"/> Closed Out <input type="checkbox"/> No Action <input type="checkbox"/>	<u>Control Number:</u>   
---	--	------------------------------------

This form documents agreement among the parties listed below authorizing classification of the subject waste site from the TPA solid waste management unit listing as rejected, closed out, or no action and authorizing backfill of the waste site, if appropriate. Final removal from the NPL will occur at a future date.

Description of current waste site condition:

The 100-K-23 Sodium Silicate Storage Tank (East) was the eastern most of two tanks located south (150 degrees) of the 183-KE Head House. 100-K-23 was approximately 14 ft NE of the other sodium silicate tank. It was located in the 100-K Area, at approximately Washington State Plane coordinates (E) 569401.0 (N) 146353.7. The tank was 30 ft in diameter, and had a capacity of 104,400 gallons. The storage tank was removed but the grade level concrete base remains (Refs. #1 and #2). The operation periods of this tank are unknown.

The sodium silicate stored in the tank was used to treat raw river water at times of high turbidity. Originally, the sodium silicate used was the liquid form, later the dry powder form was used. No dangerous wastes or CERCLA hazardous substances, pollutants, or contaminants were known, or anticipated to have been received, stored, or disposed at this site.

Reference list:

1. *Environmental Sites Database General Summary Report*, WIDS, Site Code: 100-K-23, August 12, 1996.
2. Carpenter, R.W. et al, 1994, *100-K Area Technical Baseline Report*, WHC-SD-EN-TI-239, Rev. 0, Westinghouse Hanford Company, Richland, Washington, April 12, 1994.

Basis for reclassification:

This site is nominated as "Rejected" because it was never used to receive, store, or discharge dangerous wastes or CERCLA hazardous substances. This inactive site once stored sodium silicate which is not listed in 40 CFR 302.4 list of hazardous substances, and is not considered a CERCLA pollutant. The tank has been removed. No further action at this site is required under CERCLA or RCRA corrective action regulations. The remaining concrete base will be managed in accordance with DOE Decontamination and Decommissioning program.

\_\_\_\_\_  
DOE Project Manager

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Date

\_\_\_\_\_  
Ecology Project Manager

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Date

\_\_\_\_\_  
EPA Project Manager

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Date

## Environmental Sites Database General Summary Report

Site Code: 100-K-23      Site Classification: Accepted      12-Aug-96      Page 1

Site Names: 100-K-23, 183-KE Sodium Silicate Storage Tank (East)

Site Type: Storage Tank

Programmatic  
Responsibility: Undefined

Site Description: Eastern most of two sodium silicate storage tanks that were located south of the 183-KE Head House. The most easterly tank was 14 ft NE of the other sodium silicate tank and 14 ft SW of 120-KE-5. The unit was 30 ft in diameter and had a capacity of 104,400 gal. The unit has been removed and the grade level concrete base remains.

Status: Inactive

Start Date:

End Date:

Operable Unit: 100-KR-2

Hanford Area: 100K

Coordinates: (E) 569396.6      (N) 146352      Washington State Plane

Associated Structures: The sodium silicate stored in the tank was used to treat raw river water at times of high turbidity. Sodium silicate was activated by mixing with sulfuric acid in large tanks in the 183-KE Water Treatment Buildings. Originally the sodium silicate was the liquid form. Later, the dry powder form was used. From the tanks, it was metered and injected into the supply headers at the flocculation basins north of the facility.

Site Accessible: No

Access Requirements:

Site Hazards:

Location Description:

Environmental  
Monitoring Desc:

Release Desc:

Release Potential Desc:

Site Comment: The storage tank has been removed and the grade level concrete base remains.

Process Desc:

References:

1. R. W. Carpenter, 04/12/94, 100-K Area Technical Baseline Report, WHC-SD-EN-TI-239, Rev 0.
2. Kathryn J. Moss, 9/14/94, WIDS Site Addition: 100-K-23 (#94-312).

Dimensions:

	<u>Meters</u>	<u>Feet</u>
Length:		
Width:		
Depth / Height:		
Diameter:	9.14	30.00

Site Code: 100-K-23

Site Classification: Accepted

12-Aug-96 Page 2

---

**Area:**

Overburden Depth:

**References:**

1. R. W. Carpenter, 04/12/94, 100-K Area Technical Baseline Report, WHC-SD-EN-TI-239, Rev 0.

---

**Regulatory Information:**

Part A Permit Application Written:	No	Interim Closure Plan Written:	No
Part B Permit Application Written:	No	Covered under TPA Action Plan:	No
Registered Class V Underground Injection Well:	No	Solid Waste Management Unit:	No
Regulatory Authority:	Other		
TSD Number:			

**References:**

1. R. W. Carpenter, 04/12/94, 100-K Area Technical Baseline Report, WHC-SD-EN-TI-239, Rev 0.
2. Kathryn J. Moss, 9/14/94, WIDS Site Addition: 100-K-23 (#94-312).

---

**Waste Information:**

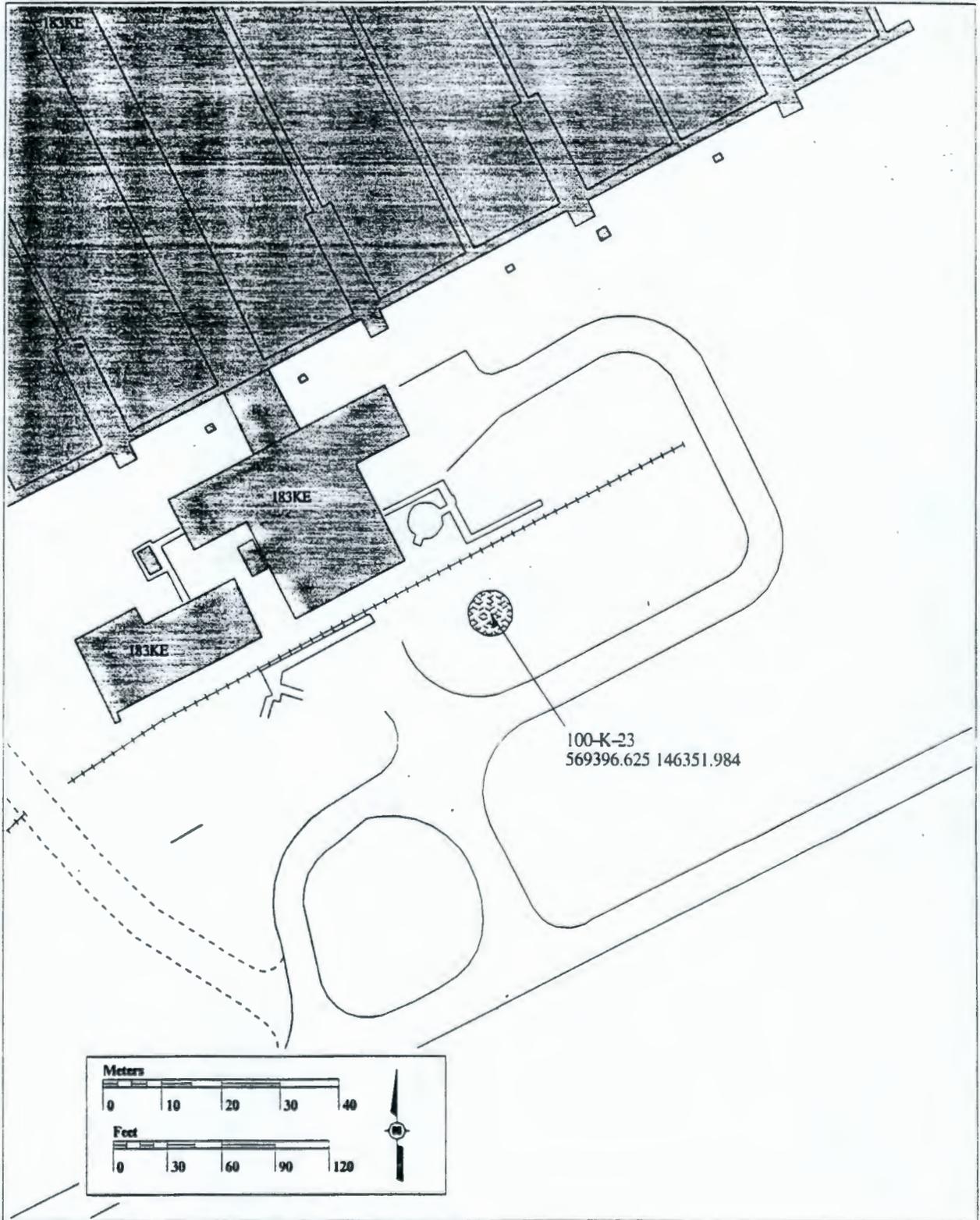
Type:	Needs Updating	Physical State:
Category:		
Amount:		Units:
Reported Date:		
Start Date:		
End Date:		

**Waste Desc:** The unit stored sodium silicate. Originally the sodium silicate was purchased and stored in liquid form. Later, the tanks were removed and it was purchased and stored in bagged dry powder form.

**References:**

1. R. W. Carpenter, 04/12/94, 100-K Area Technical Baseline Report, WHC-SD-EN-TI-239, Rev 0.
-

# 100-K-23



WHC-SD-EN-TI-239  
Revision 0

# 100-K Area Technical Baseline Report

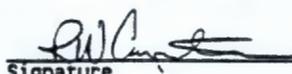
Prepared for the U.S. Department of Energy  
Office of Environmental Restoration and  
Waste Management



**Westinghouse**  
**Hanford Company** Richland, Washington

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

Approved for Public Release

SUPPORTING DOCUMENT		1. Total Pages <i>241</i>
2. Title 100-K Area Technical Baseline Report	3. Number WHC-SD-EN-TI-239	4. Rev No. 0
5. Key Words history decontamination reactor basins cooling water	6. Author Name: R.W. Carpenter  Signature Organization/Charge Code 8B200/P711B	
<p><b>APPROVED FOR PUBLIC RELEASE</b></p> <p><i>CE for WWC 4/10/74</i></p>		
7. Abstract Carpenter, R. W., and S. L. Cote', 1994, <i>100-K Area Technical Baseline Report</i> , WHC-SD-EN-TI-239, Westinghouse Hanford Company, Richland, Washington.		
8. PURPOSE AND USE OF DOCUMENT - This document was prepared for use within the U.S. Department of Energy and its contractors. It is to be used only to perform, direct, or integrate work under U.S. Department of Energy contracts. This document is not approved for public release until reviewed.  PATENT STATUS - This document copy, since it is transmitted in advance of patent clearance, is made available in confidence solely for use in performance of work under contracts with the U.S. Department of Energy. This document is not to be published nor its contents otherwise disseminated or used for purposes other than specified above before patent approval for such release or use has been secured upon request, from the Patent Counsel, U.S. Department of Energy Field Office, Richland, WA.  DISCLAIMER - This report was prepared as an account of work sponsored by an agency of the United States Government. Neither the United States Government nor any agency thereof, nor any of their employees, nor any of their contractors, subcontractors or their employees, makes any warranty, express or implied, or assumes any legal liability or responsibility for the accuracy, completeness, or any third party's use or the results of such use of any information, apparatus, product, or process disclosed, or represents that its use would not infringe privately owned rights. Reference herein to any specific commercial product, process, or service by trade name, trademark, manufacturer, or otherwise, does not necessarily constitute or imply its endorsement, recommendation, or favoring by the United States Government or any agency thereof or its contractors or subcontractors. The views and opinions of authors expressed herein do not necessarily state or reflect those of the United States Government or any agency thereof.		10. RELEASE STAMP  <div style="border: 1px solid black; padding: 10px; text-align: center;">                         OFFICIAL RELEASE <span style="border: 1px solid black; border-radius: 50%; padding: 2px 5px;">11</span>                          BY WHC                          DATE APR 12 1994  <i>Station #12</i> </div>
9. Impact Level NA		

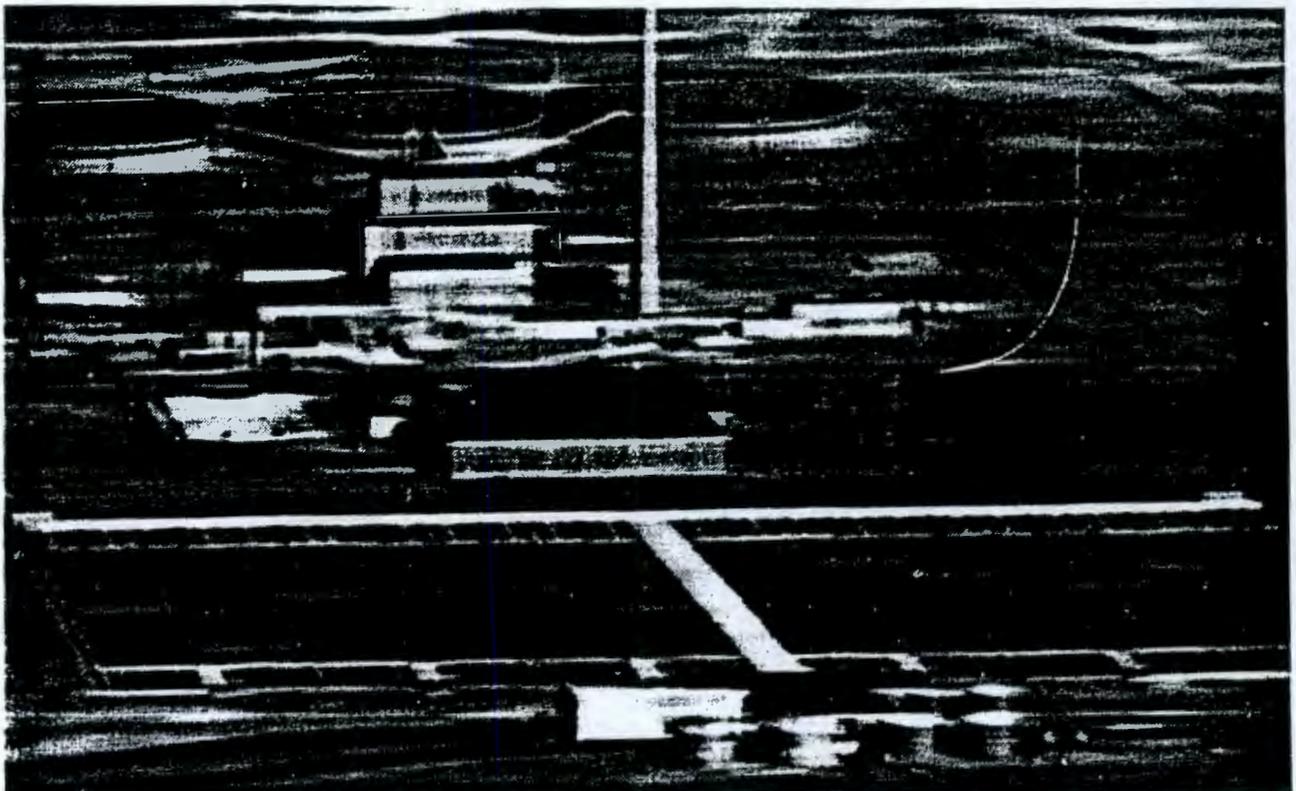
## 6.22 UNDOCUMENTED SODIUM SILICATE STORAGE TANK SITE

Two sodium silicate storage tank sites are located at both the 183-KE and -KW water treatment plants. These tanks, which were directly south of the 183 Buildings and adjacent to the sulfuric acid tanks, were located at 100-K Area coordinates NK3131 WK4680 and NK3131 WK4725 at 100-KE and at NK3131 WK6620 and NK3131 WK6605 at 100-KW prior to removal. These 30-ft diameter vertical tanks had a capacity of 104,400 gal each (Hale 1957b and Hanford Drawing H-1-25264).

Sodium silicate was used as an aid in coagulation in raw river water at times of high turbidity. Originally the sodium silicate was purchased and stored in liquid form, later the tanks were removed and it was purchased and stored in bagged dry powder form. The sodium silicate was activated by the addition of sulfuric acid. This mixing was performed in large tanks constructed for the purpose within the 183-Water Treatment Buildings. From the tanks it was metered and injected into the supply headers to the flocculation basins north of the facility. These tanks are apparent in Figure 6-1.

After the storage tanks were removed, the west tank base at both the 183-KE and -KW water treatment plants were converted and reused as a base for the present bauxite storage tower and transfer system.

Figure 6-1. 100-KE Area with 183-KE Facility in Foreground, March 15, 1956.



Subject Tanks →

<u>Date Submitted:</u> August 30, 1996  Originator: J.R. James, BHI  Phone: 372-9563	<b>WASTE SITE RECLASSIFICATION FORM</b>  <u>Operable Unit(s):</u> 100-KR-2  <u>Waste Site ID:</u> 130-KW-1, 105-KW Emergency Diesel Oil Storage Tank, 105-KW Emergency Diesel Fuel Tank  <u>Type of Reclassification Action:</u>  Rejected <input type="checkbox"/> Closed Out <input type="checkbox"/> No Action <input checked="" type="checkbox"/>	<u>Control Number:</u>
---	---	------------------------

This form documents agreement among the parties listed below authorizing classification of the subject waste site from the TPA solid waste management unit listing as rejected, closed out, or no action and authorizing backfill of the waste site, if appropriate. Final removal from the NPL will occur at a future date.

Description of current waste site condition:

The 130-KW-1A Emergency Diesel Oil Storage Tank and the 130-KW-1B Emergency Diesel Fuel Tank were 2,000-gallon capacity tanks located adjacent to the 105-KW Reactor Ventilation Stack at the 100-K Area, at approximately Washington State Plane coordinates (E) 568691.3 (N) 146452.6 (Refs. #1 and #3). Used from 1955 to about 1970, both tanks were removed October 22, 1992. During the excavation the site and the tanks were found to be radioactively contaminated. Both tanks were inspected for leaks when lifted out of the pit and appeared in very good condition. No visible soil discoloration or other unusual features were observed in the pit (Ref. #2). Discussion with the Department of Ecology determined that the radiological contamination overrides any potential fuel contamination. Therefore, no samples were to be taken from the excavation pit (Ref. #2). The removed tanks were wrapped with plastic and disposed of at the low-level burial grounds. Since the tanks were adjacent to the 105-KW reactor, the radiological contamination was assumed to be associated with the activity from the reactor area. During tank removal, it was not deemed necessary to remove contamination that was not directly associated with the tanks. Therefore, the site was backfilled to grade with clean fill material and covered with gravel to match the surrounding area (Refs. #1 and #2).

Reference list:

1. *Environmental Sites Database General Summary Report*, WIDS, Site Code: 130-KW-1, August 12, 1996.
2. Carpenter, R.W. et al, 1994, *100-K Area Technical Baseline Report*, WHC-SD-EN-TI-239, Rev. 0, Westinghouse Hanford Company, Richland, Washington, April 12, 1994.

Basis for reclassification:

This site is nominated as "No Action" because the tanks have been removed. The removed tanks were determined to be in very good condition. No visible soil discoloration or other unusual features were observed in the pit. After the removal of the tanks, the site was backfilled with clean fill. Therefore, no further action at the tank site is deemed necessary. The soil in the vicinity of the former tank site which was found to be radiologically contaminated will be addressed with the 105-KW reactor.

\_\_\_\_\_  
DOE Project Manager

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Date

\_\_\_\_\_  
Ecology Project Manager

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Date

\_\_\_\_\_  
EPA Project Manager

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Date

## Environmental Sites Database General Summary Report

Site Code: 130-KW-1

Site Classification: Accepted

12-Aug-96 Page 1

Site Names: 130-KW-1, 105-KW Emergency Diesel Oil Storage Tank,, 105-KW Emergency Diesel Fuel Tank

Site Type: Storage Tank

Programmatic  
Responsibility: EM-40

Site Description: Adjacent to the 105-KW Ventilation Stack The unit has a 2,000-gal capacity.

Status: Inactive

Start Date: 1955

End Date: 1970

Operable Unit: 100-KR-2

Hanford Area: 100K

Coordinates: (E) 568691.3 (N) 146452.6 Washington State Plane

Associated Structures:

Site Accessible: No

Access Requirements:

Site Hazards:

Location Description:

Environmental  
Monitoring Desc:

Release Desc:

Release Potential Desc:

Site Comment:

Process Desc:

References:

1. K. H. Cramer, Hanford Site Waste Management Units Report, May 1987.
2. 2-89, Preliminary Operable Units Designation Project, WHC-EP-0216.
3. K. A. Gano, 6-3-87, Designation Numbers for UNC Controlled Waste Sites in the 100 Areas, UNI-4433.
4. L. P. Diediker to F. A. Ruck III, 3-17-88, WHC Mem.: Comment and Revisions to 100 Area Waste Units Listed in 3004(u).

## Regulatory Information:

Part A Permit Application Written:	No	Interim Closure Plan Written:	No
Part B Permit Application Written:	No	Covered under TPA Action Plan:	Yes
Registered Class V Underground Injection Well:	No	Solid Waste Management Unit:	No
Regulatory Authority:	CERCLA Past Practice		
TSD Number:			

References:

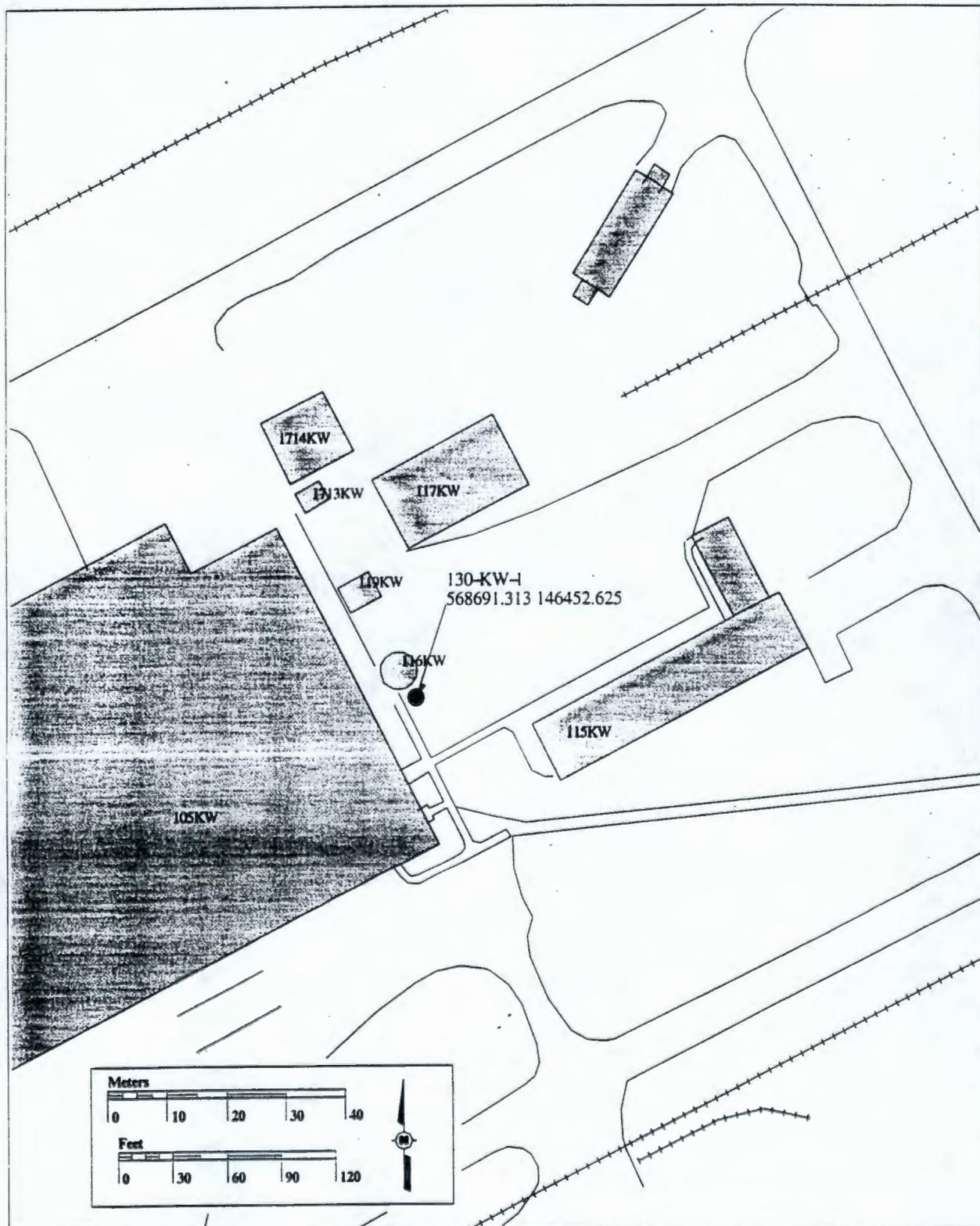
1. 12-88, Hanford Site Dangerous Waste Part A Permit Application. Vol. 1,2,3, DOE/RL 88-21.
2. 2-27-89, Action Plan For Implementation of the Hanford Facility Agreement and Consent Order.
3. Prepared by DOE, 3-11-88, Registration of Hanford Site Class V Underground Injection Wells.
4. 2-89, Preliminary Operable Units Designation Project, WHC-EP-0216.
5. Jack Waite to Sherry Griffin, 11-12-90, Review Comments on the 1990 Hanford Site Waste Management Units Report, DSI.

---

**Waste Information:****Type:** Needs Updating**Physical State:****Category:****Amount:****Units:****Reported Date:****Start Date:****End Date:****Waste Desc:** The unit was used for storage of diesel fuel (product).**References:**

1. K. H. Cramer, Hanford Site Waste Management Units Report, May 1987.
-

# 130-KW-1



# 100-K Area Technical Baseline Report

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



**Westinghouse**  
**Hanford Company** Richland, Washington

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

Approved for Public Release

SUPPORTING DOCUMENT

<p>2. Title</p> <p>100-K Area Technical Baseline Report</p>	<p>3. Number</p> <p>WHC-SD-EN-TI-239</p>	<p>4. Rev No.</p> <p>0</p>
<p>5. Key Words</p> <p>history decontamination reactor basins cooling water</p> <p style="text-align: center;"><b>APPROVED FOR PUBLIC RELEASE</b></p> <p><i>CE for all 4/10/74</i></p>	<p>6. Author</p> <p>Name: R.W. Carpenter</p> <p><i>RWC</i> Signature</p> <p>Organization/Charge Code 8B200/P711B</p>	
<p>7. Abstract</p> <p>Carpenter, R. W., and S. L. Cote', 1994, <i>100-K Area Technical Baseline Report</i>, WHC-SD-EN-TI-239, Westinghouse Hanford Company, Richland, Washington.</p>		
<p>8. PURPOSE AND USE OF DOCUMENT - This document was prepared for use within the U.S. Department of Energy and its contractors. It is to be used only to perform, direct, or integrate work under U.S. Department of Energy contracts. This document is not approved for public release until reviewed.</p> <p><del>PATENT STATUS - This document copy, since it is transmitted in advance of patent clearance, is made available in confidence solely for use in performance of work under contracts with the U.S. Department of Energy. This document is not to be published nor its contents otherwise disseminated or used for purposes other than specified above before patent approval for such release or use has been secured, upon request, from the Patent Counsel, U.S. Department of Energy Field Office, Richland, WA.</del></p> <p>DISCLAIMER - This report was prepared as an account of work sponsored by an agency of the United States Government. Neither the United States Government nor any agency thereof, nor any of their employees, nor any of their contractors, subcontractors or their employees, makes any warranty, express or implied, or assumes any legal liability or responsibility for the accuracy, completeness, or any third party's use or the results of such use of any information, apparatus, product, or process disclosed, or represents that its use would not infringe privately owned rights. Reference herein to any specific commercial product, process, or service by trade name, trademark, manufacturer, or otherwise, does not necessarily constitute or imply its endorsement, recommendation, or favoring by the United States Government or any agency thereof or its contractors or subcontractors. The views and opinions of authors expressed herein do not necessarily state or reflect those of the United States Government or any agency thereof.</p>	<p>10. RELEASE STAMP</p> <div style="border: 1px solid black; padding: 10px; text-align: center;"> <p>OFFICIAL RELEASE <span style="border: 1px solid black; border-radius: 50%; padding: 2px 5px;">11</span></p> <p>BY WHC</p> <p>DATE APR 12 1994</p> <p><i>Station #12</i></p> </div>	
<p>9. Impact Level NA</p>		

**5.27 130-KW-1 (105-KW EMERGENCY DIESEL FUEL TANK)**

The 130-KW-1 is an inactive liquid waste site that was used from 1955 to 1970 for the storage of diesel fuel. The site, which consists of two storage tanks, is located adjacent to the 105-KW Reactor ventilation stack.

Each tank had a 2,000-gal capacity. They were removed on October 22, 1992. No leaks were reported to have occurred from these tanks, although during excavation, the site was found to be radioactively contaminated. After the tanks were removed from the pit, they were found to be radioactively contaminated as well. An account of the removal of these tanks can be found in Appendix D. The site was backfilled with clean fill material and covered with gravel to match the surrounding area. There are no analytical data on this site (DOE-RL 1992b).

Today, this waste site appears as a vegetation-free, gravel parking lot.

## SITE ASSESSMENT REPORT

UST Site Owner: U.S. Department of Energy , Field Office, Richland

Owners Address: 825 Jadwin P.O. Box 550, Richland, WA 99352

Site ID Number: 012763

Tank ID Number: 130-KW-1A,1B

### I. Site Conditions Maps

The following maps and drawings are provided:

- Figure 1: Hanford Site Boundary Map
- Figure 2: 100 K Area (with Building List)
- Figure 3: Ground Penetrating Radar Map

### III. Site Conditions Description

The Hanford Site (Figure 1) is located northwest of the city of Richland, Washington (population 33,000). The 100 K Area of the Hanford Site is located approximately 30 miles north of Richland and contains two inactive reactors and associated facilities (Figure 2). The site is approximately one half mile south of the Columbia River.

### IV. Site Investigation and Sampling Activities

#### Tank Site Description

The 130-KW-1A,1B diesel fuel tank system was used for emergency generators, but was abandoned in 1971. A ground penetrating radar map of the tank site is also presented (Figure 3). These tanks were identified as orphans and undergoing removal. During excavation the site was found to be radioactively contaminated. After the tanks were removed from the pit on October 22nd, the tanks were found to be radioactively contaminated as well.

### Site Assessment

Safety hazards were addressed prior to tank removal and site assessment during prejob safety meetings. The UST removal was performed according to a detailed work procedure and safety plan prepared by Westinghouse Hanford Company (WHC) (WHC 1992) based on Ecology's guidance documents (Ecology 1991a; Ecology 1991b). The site was monitored for both organic vapors and radiological hazards to ensure worker safety. Due to the radiological hazards of the site, an incomplete site assessment was done.

Field samples were taken, but no samples were sent offsite due to the radioactive contamination. Two field samples were taken from the tank impression and field analyzed. A Thermo Environmental Instruments model 580B Organic Vapor Monitor (OVM) photoionization detector with a 10.6 eV lamp was used to determine the Volatile Organic Compound (VOC). The total VOC concentration for each sample taken from the tank impressions was 0.2 ppm. The reading varied from 0.0 to 0.2 ppm. The OVM detection limit is 0.1 ppm. No visible soil discoloration or other unusual features were observed during excavation or removal.

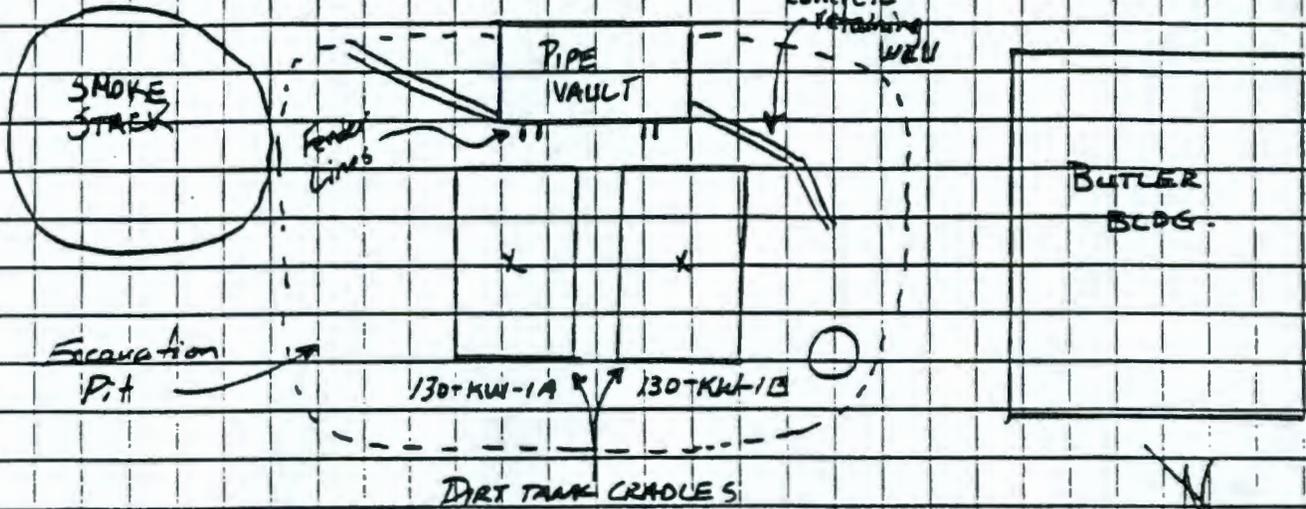
There was nothing indicating the presence of free product during the excavation of the tank or the tank removal.

### Planned Activities

Due to the radioactive contamination of the site and tanks, the pit was backfilled with uncontaminated soil and posted appropriately. Attempts to decontaminate the tanks was unsuccessful. The tanks have been wrapped with plastic and a plan to dispose of the tanks onsite is in progress.

Since the tanks are very close to the reactor building, the long term plan for the site is to decontaminate or remove any contaminated soil when the reactor and surrounding site is remediated. Since the field sample analyses indicated low organic vapor values and the site is radioactively contaminated, no attempts to collect soil samples for lab analysis will be made at this time.

105-KW Building



X = Sample location for OVM/plastic bag shake method test. (Field Screening)

Continued on Page

Read and Understood By

2E Herden

10/21/92

D-52

10/22/92

General Weather Conditions: Cloudy, ~55°F, Wind <sup>Calan</sup> 8 mph  
 with

Field Team Leader - C.E. Heiden

Site Assessor - R.M. Mitchell

Site Safety Officer - Judy Vaughn

Samplers - LIND GUERRA (DMZ99)

Tank Description(s): Two steel tanks (diesel), 1000 gallon, 11' x 6'  
 (long) (dia.)

0830 Arrived at UST storage tank site. (130-KW-1A and 130-KW-1B)  
 Photos of tanks taken prior to removal.

0900 Tailgate safety meeting conducted by Dan Riley (Supervisor - Site Services)

0915 130-KW-1A Diesel Tank lifted from excavation pit. Health Physics Technician (HPT) surveyed the tank. No radiation detected. The site safety officer (SSO) took OVM readings from soil adhering to the tank; readings were less than detectable. Dirt was cleaned off tank and loaded onto flatbed.

0945 130-KW-1B Diesel Tank lifted from excavation pit. HPT surveyed tank; contamination found in end of tank (~400cpm). SSO took OVM readings from soil adhering to the tank; readings were less than detectable. Tank remained in roped area at top of excavation pit.

1010 130-KW-1A Diesel Tank was resurveyed on the flatbed. Contamination was found which was missed on the first survey. Contamination was on lower end of tank.

HPT stopped work until an updated RWP was available and the excavation site was properly secured.

Both tanks were inspected for leaks when lifted. Both appeared in very good condition.

Continued on Page \_\_\_\_\_

Read and Understood By

C.E. Heiden

10/22/92 D-53

1015 Contacted Mike Douglas to notify of situation. The Lab se in earth to take UST soil samples can not accept radiation contaminated soil (Sound Analytical). HPT would not allow any personnel into excavation pit until the proper RWP was in hand and site secured. Mike Douglas will contact State Dept. of Ecology.

1030 Contacted Mike Douglas. Response from Dept. of Ecology was that radiological contamination overrides any potential fuel contamination. Decided no soil samples were to be taken from the excavation pit. Following lunch and after the RWP is hand and site secured, the HPT will collect a couple of bags of soil from bottom of dirt cradles. The OUM/ plastic bag shake method will be conducted.

1315 Returned to UST removal site. HPT <sup>agreed</sup> to collect a bag of soil from the bottom center of each tank cradle site. The following readings were obtained using the OUM/ plastic bag shake method:

130-KW-1A → .2ppm  
130-KW-1B → .2ppm

No visible discolored sites or other unusual features were observed in the excavation pit.

130-KW-1A is to be removed from flatbed and placed back in secured area with 130-KW-1B. Both tanks will be wrapped with plastic. Soil will be placed back in excavation pit within 3ft. of grade level. Tanks will be decontaminated over the pit.

9713540.0985

**FIGURES**

Figure 1. Hanford Site Boundary Map.

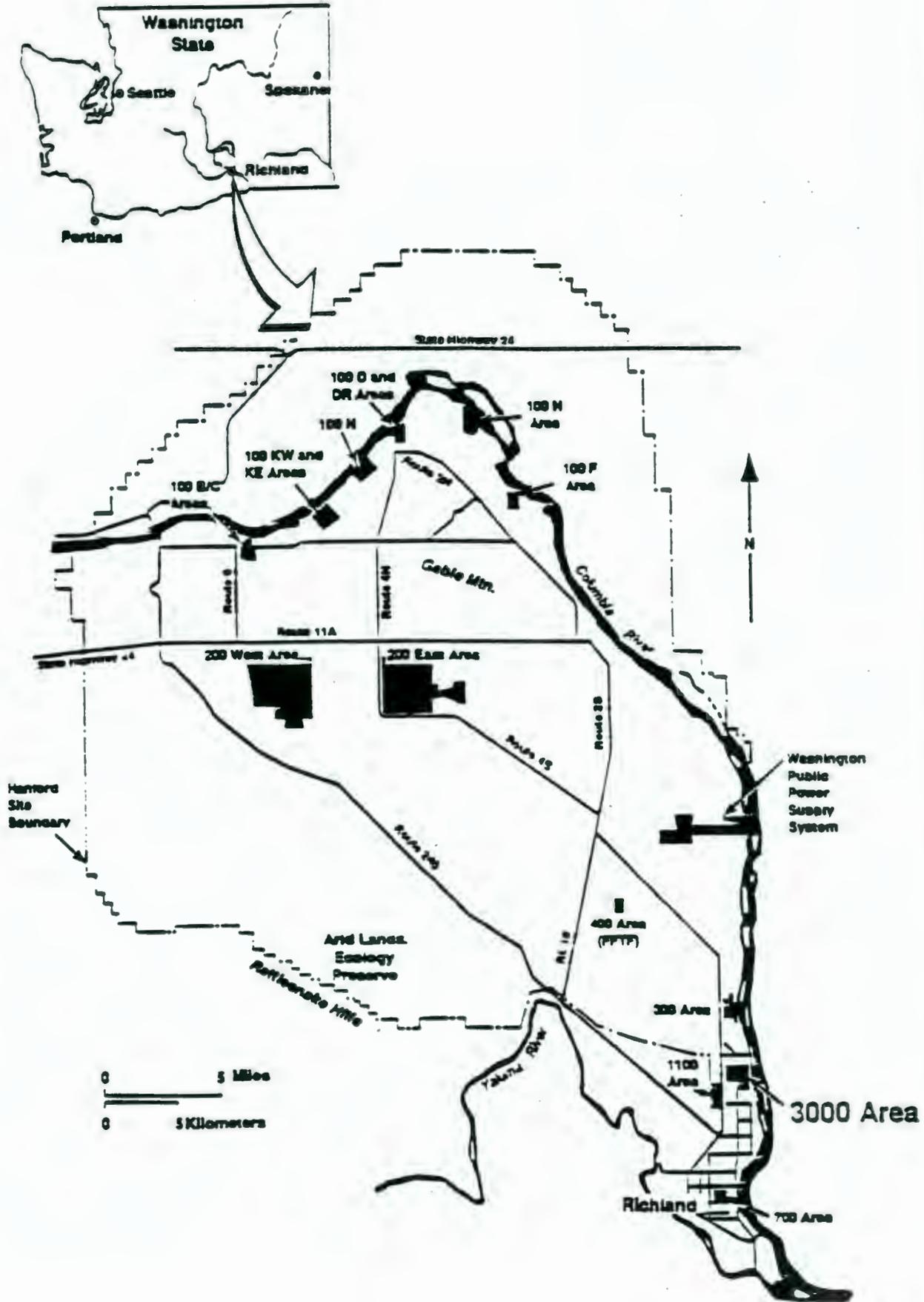
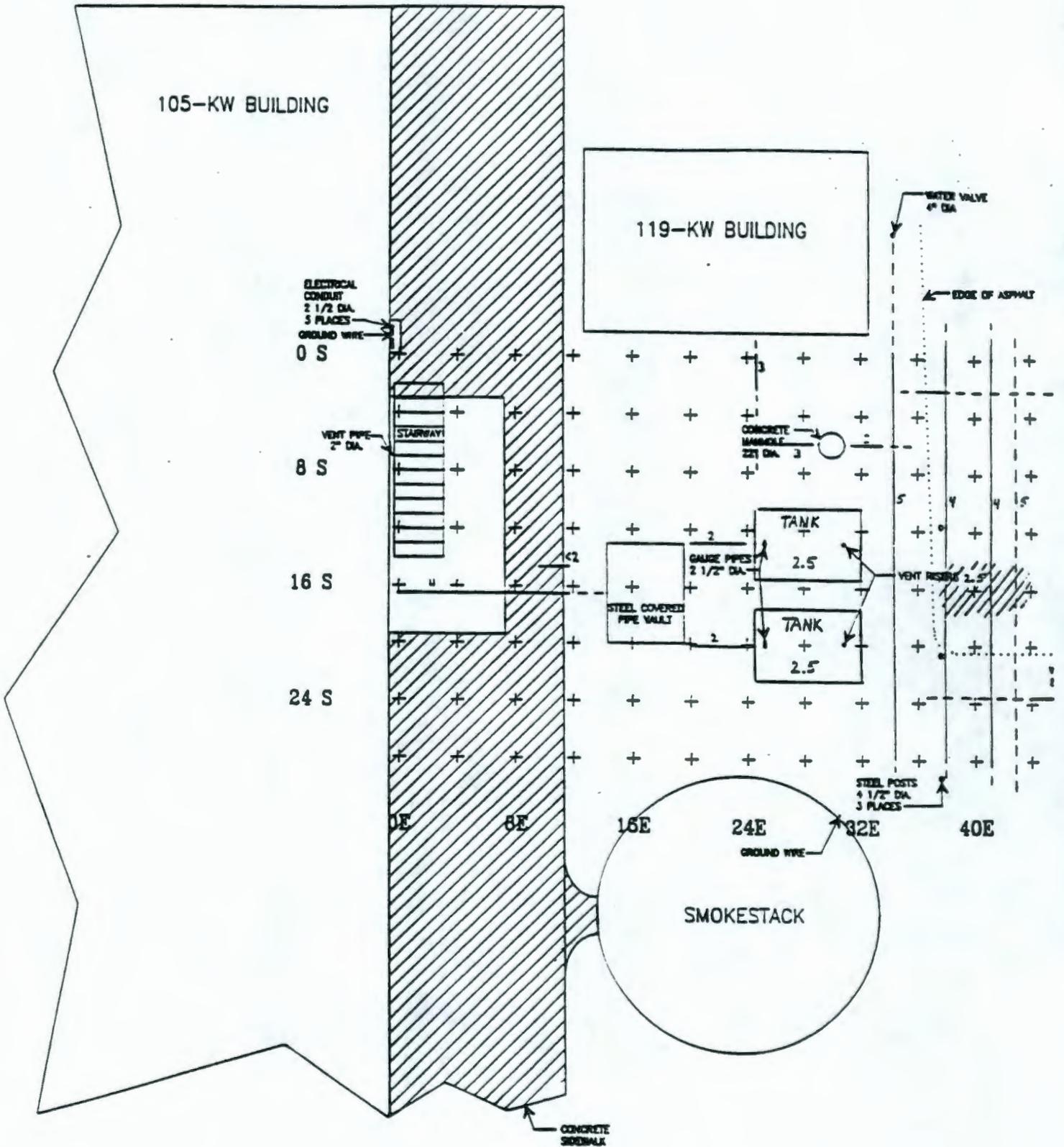




Figure 3. Ground Penetrating Radar Map



<u>Date Submitted:</u> August 30, 1996  Originator: J.R. James, BHI  Phone: 372-9563	<b>WASTE SITE RECLASSIFICATION FORM</b>  <u>Operable Unit(s):</u> 100-KR-2  <u>Waste Site ID:</u> 130-K-3, 182-K Emergency Diesel Oil Storage Tank, 182-K Emergency Cooling Flow Diesel  <u>Type of Reclassification Action:</u>  Rejected <input type="checkbox"/> Closed Out <input type="checkbox"/> No Action <input checked="" type="checkbox"/>	<u>Control Number:</u>
---	---	------------------------

This form documents agreement among the parties listed below authorizing classification of the subject waste site from the TPA solid waste management unit listing as rejected, closed out, or no action and authorizing backfill of the waste site, if appropriate. Final removal from the NPL will occur at a future date.

Description of current waste site condition:

The 130-K-3 site consisted of two 17,498-gallon capacity underground Emergency Diesel Storage Tanks located near the 182-K Building in the 100-K Area, at approximately Washington State Plane coordinates (E) 569122.6 (N) 146564.9 (Refs. #1 and #2). The tanks were used between 1955 to 1971 to store diesel fuel used in the operation of three emergency cooling water pumps located in the 182-K Building (Refs. #1 and #2). Both tanks were excavated and removed on May 13, 1993. The tanks did not have any known leaks. A visual inspection of the site, tank and surrounding surface indicated that possible releases of diesel occurred due to overfills. The inside surfaces of the concrete boxes showed overfill stains. These fill boxes contained drains on the sides which allowed overfills to potentially contaminate the soil. The potentially contaminated soils were segregated during removal activities. One sample was taken from the segregated soil to characterize the extent of contamination. The sample result was 130 ppm (mg/kg) of total petroleum hydrocarbons (TPH) for diesel, below the cleanup standard of 200 mg/kg TPH for diesel. An additional 20 samples were taken through the site and all sample results were less than or equal to 110 ppm (mg/kg) (Ref. #3). These results verified that the soils surrounding the diesel tanks were below the 200 mg/kg cleanup level specified in the Model Toxics Control Act. The site was backfilled to grade with clean fill.

Reference list:

1. *Environmental Sites Database General Summary Report*, WIDS, Site Code: 130-K-3, August 12, 1996.
2. Carpenter, R.W. et al, 1994, *100-K Area Technical Baseline Report*, WHC-SD-EN-TI-239, Rev. 0, Westinghouse Hanford Company, Richland, Washington, April 12, 1994.
3. Thoren, S. D., 1993, *Site Assessment Checklist and Report for Underground Storage Tanks 130K-3A and 130K-3B Removal*, CCN 9355152D, Westinghouse Hanford Company, Richland, Washington, June 21, 1993.

Basis for reclassification:

This site is nominated as "No Action" because the tanks have been removed and the surrounding soil was not found to be contaminated at levels above regulatory cleanup standards promulgated in the Model Toxics Control Act Cleanup regulations. Upon removal of the diesel tanks, the soil was inspected and 21 samples were collected as indicated in attached documentation. All soil analysis results for the TPH diesel were below the clean up standard of 200 mg/kg (WAC 173-340). Therefore, no additional action is deemed necessary at this site.

\_\_\_\_\_  
DOE Project Manager

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Date

\_\_\_\_\_  
Ecology Project Manager

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Date

\_\_\_\_\_  
EPA Project Manager

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Date

## Environmental Sites Database General Summary Report

Site Code: 130-K-3

Site Classification: Accepted

12-Aug-96 Page 1

**Site Names:** 130-K-3, 182-K Emergency Diesel Oil Storage Tank, 182-K Emergency Cooling Flow Diesel Tank

**Site Type:** Storage Tank

**Programmatic Responsibility:** EM-40

**Site Description:** The unit consisted of two storage tanks with storage capacity of 17,498.

**Status:** Inactive

**Start Date:** 1955

**End Date:** 1971

**Operable Unit:** 100-KR-2

**Hanford Area:** 100K

**Coordinates:** (E) 569122.6 (N) 146564.9 Washington State Plane

**Associated Structures:**

**Site Accessible:** No

**Access Requirements:**

**Site Hazards:**

**Location Description:**

**Environmental Monitoring Desc:**

**Release Desc:**

**Release Potential Desc:** The tanks are empty. Removed in 1993. Exposed piping leaking on absorbent material and soil beneath.

**Site Comment:**

**Process Desc:**

**References:**

1. K. H. Cramer, Hanford Site Waste Management Units Report, May 1987.
2. K. A. Gano, 6-3-87, Designation Numbers for UNC Controlled Waste Sites in the 100 Areas, UNI-4433.
3. L. P. Diediker to F. A. Ruck III, 3-17-88, WHC Mem.: Comment and Revisions to 100 Area Waste Units Listed in 3004(u).
4. Carpenter, RW and SL Cote, 1994, 100K Area Technical Baseline Report, WHC-SD-EN-TI-0239 Rev 0.
5. A. D. Krug, WIDS Site Modification: Consolidate OUs 100-KR-2 and 100-KR-3 (#94-421).

**Regulatory Information:**

<b>Part A Permit Application Written:</b>	No	<b>Interim Closure Plan Written:</b>	No
<b>Part B Permit Application Written:</b>	No	<b>Covered under TPA Action Plan:</b>	Yes
<b>Registered Class V Underground Injection Well:</b>	No	<b>Solid Waste Management Unit:</b>	No
<b>Regulatory Authority:</b>	CERCLA Past Practice		
<b>TSD Number:</b>			

---

~~TSD-Number:~~

---

**References:**

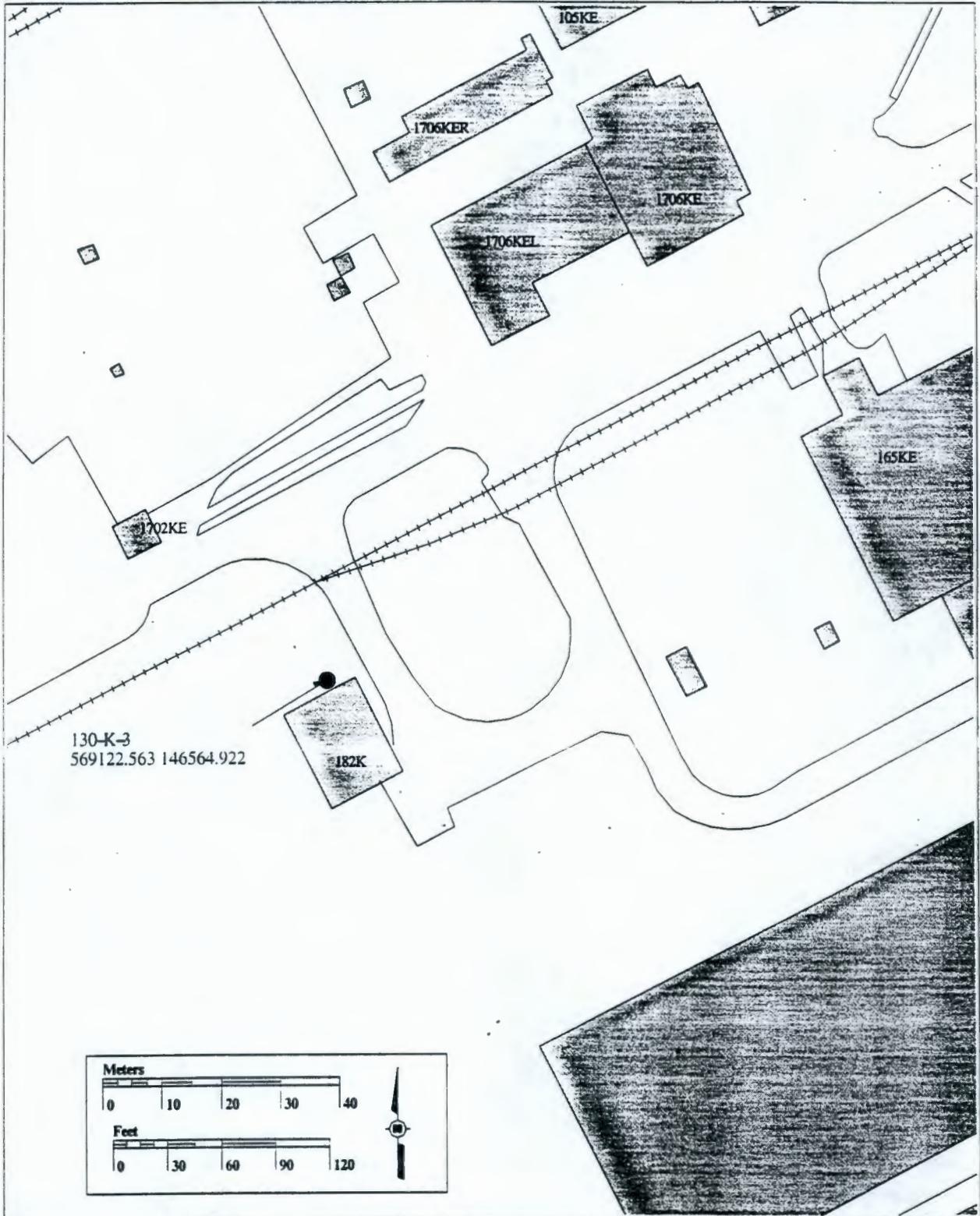
1. 12-88, Hanford Site Dangerous Waste Part A Permit Application. Vol. 1,2,3. DOE/RL 88-21.
2. 2-27-89, Action Plan For Implementation of the Hanford Facility Agreement and Consent Order.
3. Prepared by DOE, 3-11-88, Registration of Hanford Site Class V Underground Injection Wells.
4. 2-89, Preliminary Operable Units Designation Project, WHC-EP-0216.
5. Jack Waite to Sherry Griffin, 11-12-90, Review Comments on the 1990 Hanford Site Waste Management Units Report, DSI.

---

**Waste Information:****Type:** Needs Updating **Physical State:****Category:****Amount:****Units:****Reported Date:****Start Date:****End Date:****Waste Desc:** The two tanks were used for storage of diesel oil (product).**References:**

1. K. H. Cramer, Hanford Site Waste Management Units Report, May 1987.
-

# 130-K-3



130-K-3  
569122.563 146564.922

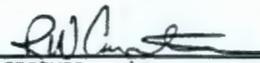
# 100-K Area Technical Baseline Report

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



**Westinghouse**  
**Hanford Company** Richland, Washington

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

SUPPORTING DOCUMENT		1. Total Pages 241
2. Title 100-K Area Technical Baseline Report	3. Number WHC-SD-EN-TI-239	4. Rev No. 0
5. Key Words history decontamination reactor basins cooling water	6. Author Name: R.W. Carpenter  Signature Organization/Charge Code 8B200/P711B	
7. Abstract <i>CE for WLD 4/10/94</i> Carpenter, R. W., and S. L. Cote', 1994, 100-K Area Technical Baseline Report, WHC-SD-EN-TI-239, Westinghouse Hanford Company, Richland, Washington.		
8. PURPOSE AND USE OF DOCUMENT - This document was prepared for use within the U.S. Department of Energy and its contractors. It is to be used only to perform, direct, or integrate work under U.S. Department of Energy contracts. This document is not approved for public release until reviewed.  PATENT STATUS - This document copy, since it is transmitted in advance of patent clearance, is made available in confidence solely for use in performance of work under contracts with the U.S. Department of Energy. This document is not to be published nor its contents otherwise disseminated or used for purposes other than specified above before patent approval for such release or use has been secured, upon request, from the Patent Counsel, U.S. Department of Energy Field Office, Richland, WA.  DISCLAIMER - This report was prepared as an account of work sponsored by an agency of the United States Government. Neither the United States Government nor any agency thereof, nor any of their employees, nor any of their contractors, subcontractors or their employees, makes any warranty, express or implied, or assumes any legal liability or responsibility for the accuracy, completeness, or any third party's use or the results of such use of any information, apparatus, product, or process disclosed, or represents that its use would not infringe privately owned rights. Reference herein to any specific commercial product, process, or service by trade name, trademark, manufacturer, or otherwise, does not necessarily constitute or imply its endorsement, recommendation, or favoring by the United States Government or any agency thereof or its contractors or subcontractors. The views and opinions of authors expressed herein do not necessarily state or reflect those of the United States Government or any agency thereof.		10. RELEASE STAMP  <div style="border: 1px solid black; padding: 5px; text-align: center;"> OFFICIAL RELEASE BY WHC  DATE APR 12 1994  <i>Station # 12</i> </div>
9. Impact Level NA		

#### 6.18 130-K-3 (182-K EMERGENCY DIESEL OIL STORAGE TANK)

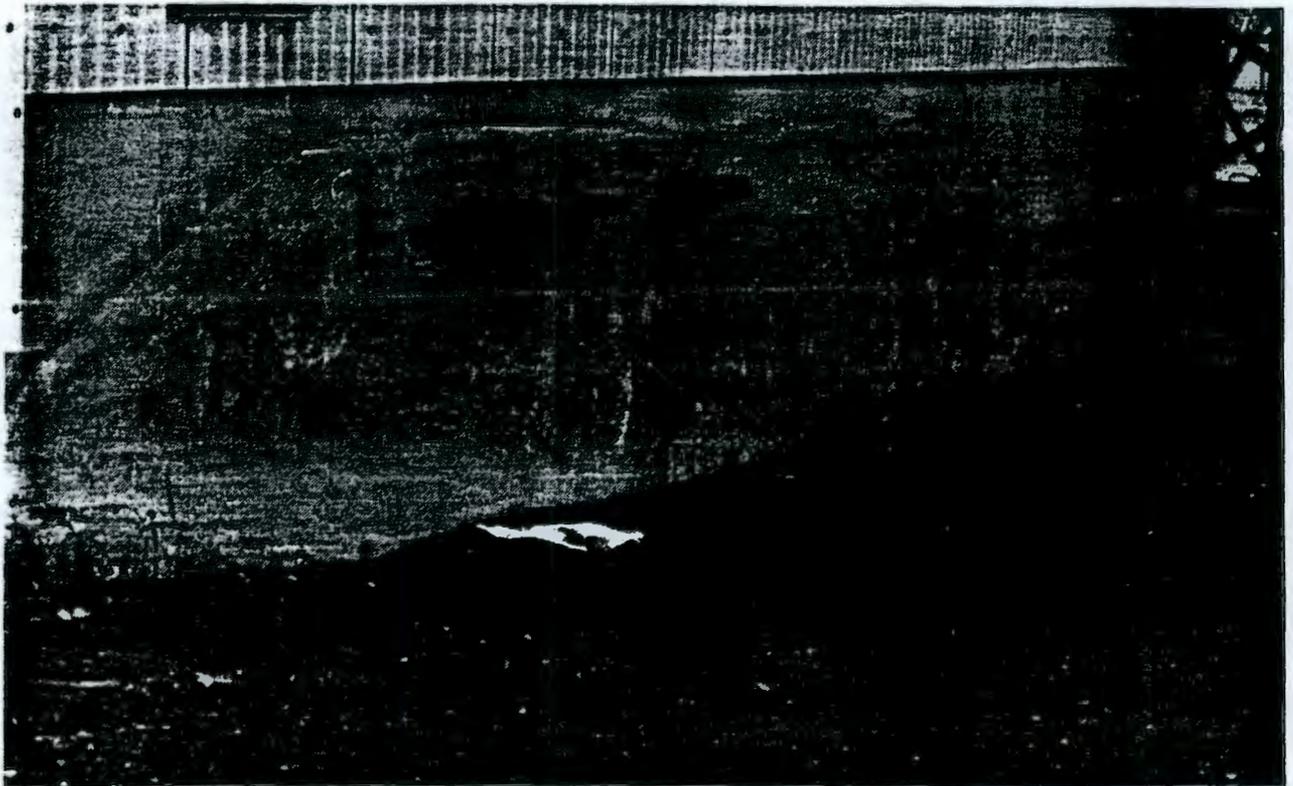
The 130-K-3 tanks are an inactive liquid waste site that operated from 1955 to 1971. They were located at 100-K Area coordinates NK4120 WK5040 (WHC 1991), which is just north of the 182-K Building.

The site consisted of two 6-ft-diameter 33-ft-long underground tanks with a capacity of 17,498 gal. They were used for the storage of diesel fuel used in the operation of three diesel emergency cooling water pumps located in the 182-K Building.

Site employees report that the tanks were removed in 1993 and that the site was backfilled with clean fill material. Evidence at the site confirms that the tanks have been removed.

Currently, the earth berm that covered the tanks is gone and piping through the foundation wall remains exposed. This exposed piping has leaked a small quantity of fuel oil onto absorbent materials and the soil beneath the exposed pipe ends (Figure 6-7).

Figure 6-7. 182-K Emergency Diesel Oil Storage Tank, December 1993.





7.0) Information has been provided indicating the number and types of samples collected (7.1), methods used to collect and analyze the samples (7.2), and the name and address of the laboratory used to perform the analyses (7.3).

7.1) Information has been provided indicating the number and types of samples collected.

21 soil samples were taken:

Sample ID	Sample Location
B08JG7	Directly under elbow of 130-K-3B piping as it entered the 182K building.
B08JG8	Under piping at the end of the 130-K-3B tank.
B08JG9	Under the 130-K-3A piping as it entered the building.
B08JH0	Under 130-K-3A piping as it exited the tank.
B08JH1	Under the roll of the 130-K-3A tank, SE corner.
B08JH2	Between 3A and 3B tanks 12' north of south end.
B08JH3	Under the roll of the 3B tank, center on west side.
B08JH4	SW corner of 3B under roll
B08JH5	NW corner of 3B under roll
B08JH6	NE corner of 3A under roll
B08JH7	NW coner of 3A under roll
B08JH8	NE corner of 3B under roll

Sample ID	Sample Location
B08JH9	2' north of south end of 3A cradle
B08JJ0	2' south of north end of 3A cradle
B08JJ1	North end of 3A excavation
B08JJ2	South end of 3B excavation
B08JJ3	Duplicate of B08JJ1
B08JJ4	2' south of north end of 3B cradle
B08JJ5	North end of 3B excavation
B08JJ6	South end of 3B cradle
B08JJ7	Suspect contaminated soil sample for characterization

10.0) A table is provided showing laboratory results for each sample collected including; sample ID number, constituents analyzed for and corresponding concentration, analytical method and detection limit for that method.

SOIL SAMPLES ANALYTICAL METHOD -- 8020 (BEIX)				
Sample ID	Benzene (Det. Limits) ppm	Toluene (Det. Limits) ppm	Ethyl Benzene (Det. Limits) ppm	Xylenes (Det. Limits) ppm
B08JG7	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)
B08JG8	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)
B08JG9	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)
B08JH0	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)
B08JH1	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)
B08JH2	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)
B08JH3	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)
B08JH4	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)
B08JH5	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)
B08JH6	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)
B08JH7	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)
B08JH8	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)

SOIL SAMPLES ANALYTICAL METHOD - 8020 (BETX)				
Sample ID	Benzene (Det. Limits) ppm	Toluene (Det. Limits) ppm	Ethyl Benzene (Det. Limits) ppm	Xylenes (Det. Limits) ppm
B08JH9	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)
B08JJ0	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)
B08JJ1	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)
B08JJ2	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)
B08JJ3	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)
B08JJ4	ND (0.05)	ND (0.05)	ND (0.05)	ND 0.05()
B08JJ5	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)
B08JJ6	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)
B08JJ7	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)

SOIL SAMPLES ANALYTICAL METHOD -- WTPH-D		
Sample ID	TPH (ppm) Action Level = 200ppm	Practical Quantitative Limit (ppm)
B08JG7	ND	25
B08JG8	26	25
B08JG9	26	25
B08JH0	110	25
B08JH1	31	25
B08JH2	27	25
B08JH3	31	25
B08JH4	25	25
B08JH5	39	25
B08JH6	ND	25
B08JH7	ND	25
B08JH8	26	25
B08JH9	ND	25
B08JJO	ND	25
B08JJI	ND	25

SOIL SAMPLES ANALYTICAL METHOD -- WTPH-D		
Sample ID	TPH (ppm) Action Level = 200ppm	Practical Quantitative Limit (ppm)
B08JJ2	ND	25
B08JJ3	ND	25
B08JJ4	ND	25
B08JJ5	ND	25
B08JJ6	ND	25
B08JJ7	110	25

11.0) Any factors that may have compromised the quality of the data or validity of the results are described.

None

12.0) The results of this site check/site assessment indicate that a confirmed release of a regulated substance has not occurred.

A confirmed release has not occurred at this site. The soil potentially contaminated from overfills was segregated and sampled, but the contamination levels were less than the action levels. The former UST site was backfilled to match the surrounding grade.

<u>Date Submitted:</u> August 30, 1996  Originator: J.R. James, BHI  Phone: 372-9563	<b>WASTE SITE RECLASSIFICATION FORM</b>  <u>Operable Unit(s):</u> 100-KR-2  <u>Waste Site ID:</u> 130-KE-1, 105-KE Emergency Diesel Oil Storage Tank, 105-KE Emergency Diesel Fuel Tank  <u>Type of Reclassification Action:</u>  Rejected <input type="checkbox"/> Closed Out <input type="checkbox"/> No Action <input checked="" type="checkbox"/>	<u>Control Number:</u>
---	---	------------------------

This form documents agreement among the parties listed below authorizing classification of the subject waste site from the TPA solid waste management unit listing as rejected, closed out, or no action and authorizing backfill of the waste site, if appropriate. Final removal from the NPL will occur at a future date.

Description of current waste site condition:

The 130-KE-1A and 130-KE-1B Diesel Storage Tanks were 2,000-gallon capacity tanks located adjacent to the 105-KE Reactor Ventilation Stack at the 100-K Area, located at approximately Washington State Plane coordinates (E) 569235.9 (N) 146727.3 (Refs. #1 and #3). The tanks were operational from about 1955 to 1971, and were removed October 5, 1992. No oil contamination was found. Ten soil samples were taken and all sample results were <25 mg/kg total petroleum hydrocarbons (TPH) diesel. These results verified that the soils surrounding the tank were below the 200 mg/kg cleanup level for (TPH) diesel (Refs. #1 and #2). However, the insulating material covering the tank exteriors had detectable radioactive contamination. The removed tanks were treated as radioactive waste and disposed accordingly. The radiological contamination was assumed to be either naturally occurring or associated with the activity from the reactor, since the tanks were adjacent to the 105-KE reactor. During tank removal, it was not deemed necessary to remove contamination that was not directly associated with the tanks. Therefore, the site was backfilled to grade with clean material and covered with gravel to match the surrounding area (Refs. #1 and #2).

Reference list:

1. *Environmental Sites Database General Summary Report*, WIDS, Site Code: 130-KE-1, August 12, 1996.
2. Carpenter, R.W. et al, 1994. *100-K Area Technical Baseline Report*, WHC-SD-EN-TI-239, Rev. 0, Westinghouse Hanford Company, Richland, Washington, April 12, 1994.

Basis for reclassification:

This site is nominated as "No Action" because the tanks have been removed and the surrounding soil was determined to be below regulatory cleanup standards promulgated in the Model Toxics Control Act Cleanup (MTCA) regulations. Upon removal of the diesel tanks, soil was inspected and ten samples collected as indicated in attached documentation. All soil analysis results for the (TPH) diesel were below the clean up standard of 200 mg/kg, per MTCA. After removal of the tank and the completion of the sampling analysis for TPH, the site was backfilled with clean fill. Therefore, no further action at the tank site is deemed necessary; however, the soil in the vicinity of the former tank site which was radiologically contaminated, (either from naturally occurring substances or associated with the reactor) will be addressed with the 105-KE reactor.

\_\_\_\_\_  
DOE Project Manager

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Date

\_\_\_\_\_  
Ecology Project Manager

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Date

\_\_\_\_\_  
EPA Project Manager

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Date

## Environmental Sites Database General Summary Report

Site Code: 130-KE-1

Site Classification: Accepted

12-Aug-96 Page 1

Site Names: 130-KE-1, 105-KE Emergency Diesel Oil Storage Tank, 105-KE Emergency Diesel Fuel Tank

Site Type: Storage Tank

Programmatic  
Responsibility: EM-40

Site Description: Adjacent to the 105-KE Ventilation Stack The unit has a 2,000-gal capacity.

Status: Inactive

Start Date: 1955

End Date: 1971

Operable Unit: 100-KR-2

Hanford Area: 100K

Coordinates: (E) 569235.9 (N) 146727.3 Washington State Plane

Associated Structures:

Site Accessible: No

Access Requirements:

Site Hazards:

Location Description:

Environmental  
Monitoring Desc:

Release Desc:

Release Potential Desc:

Site Comment: Removed in late 1992, no contamination, backfilled to grade. The tank is empty.

Process Desc:

References:

1. K. H. Cramer, Hanford Site Waste Management Units Report, May 1987.
2. 2-89, Preliminary Operable Units Designation Project, WHC-EP-0216.
3. K. A. Gano, 6-3-87, Designation Numbers for UNC Controlled Waste Sites in the 100 Areas, UNI-4433.
4. L. P. Diediker to F. A. Ruck III, 3-17-88, WHC Mem.: Comment and Revisions to 100 Area Waste Units Listed in 3004(u).
5. Carpenter, RW and SL Cote, 1994, 100K Area Technical Baseline Report, WHC-SD-EN-TI-0239 Rev 0.

**Regulatory Information:**

Part A Permit Application Written:	No	Interim Closure Plan Written:	No
Part B Permit Application Written:	No	Covered under TPA Action Plan:	Yes
Registered Class V Underground Injection Well:	No	Solid Waste Management Unit:	No
Regulatory Authority:	CERCLA Past Practice		
TSD Number:			

---

**References:**

1. 12-88, Hanford Site Dangerous Waste Part A Permit Application. Vol. 1,2,3, DOE/RL 88-21.
  2. 2-27-89, Action Plan For Implementation of the Hanford Facility Agreement and Consent Order.
  3. Prepared by DOE, 3-11-88, Registration of Hanford Site Class V Underground Injection Wells.
  4. 2-89, Preliminary Operable Units Designation Project, WHC-EP-0216.
  5. Jack Waite to Sherry Griffin, 11-12-90, Review Comments on the 1990 Hanford Site Waste Management Units Report, DSI.
- 

**Waste Information:**

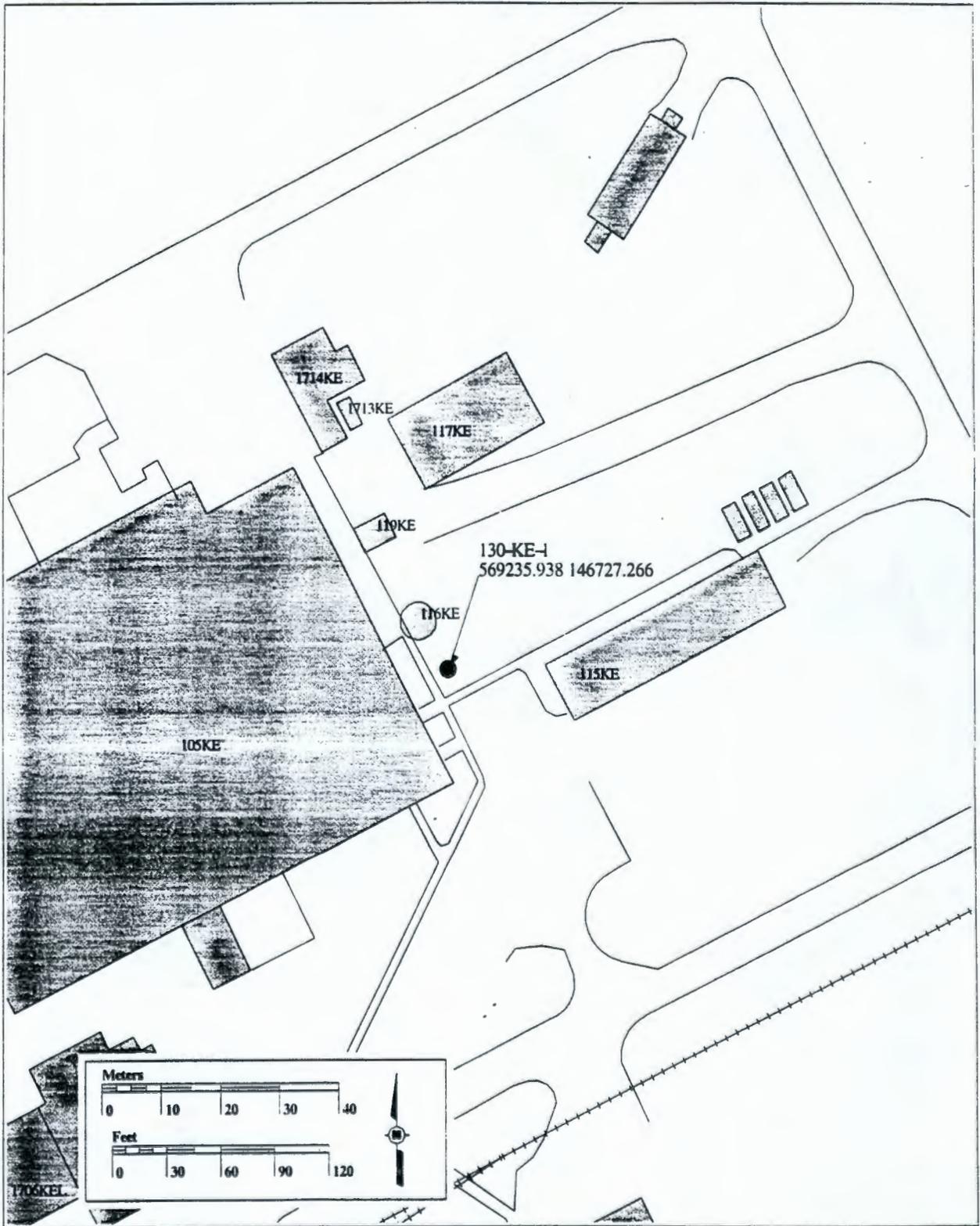
**Type:** Needs Updating **Physical State:**  
**Category:**  
**Amount:** **Units:**  
**Reported Date:**  
**Start Date:**  
**End Date:**

**Waste Desc:** The unit was used for storage of diesel fuel (product).

**References:**

1. K. H. Cramer, Hanford Site Waste Management Units Report, May 1987.
-

# 130-KE-1



# 100-K Area Technical Baseline Report

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



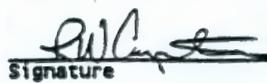
**Westinghouse**  
**Hanford Company** Richland, Washington

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

SUPPORTING DOCUMENT

1. Total Pages 241

2. Title 100-K Area Technical Baseline Report	3. Number WHC-SD-EN-TI-239	4. Rev No. 0
--	-------------------------------	-----------------

5. Key Words history decontamination reactor basins cooling water	6. Author Name: R.W. Carpenter  Signature Organization/Charge Code 88200/P711B
--	--

APPROVED FOR PUBLIC RELEASE

CE for WWC 4/10/94

7. Abstract  
Carpenter, R. W., and S. L. Cote', 1994, 100-K Area Technical Baseline Report, WHC-SD-EN-TI-239, Westinghouse Hanford Company, Richland, Washington.

8. PURPOSE AND USE OF DOCUMENT - This document was prepared for use within the U.S. Department of Energy and its contractors. It is to be used only to perform, direct, or integrate work under U.S. Department of Energy contracts. This document is not approved for public release until reviewed.

PATENT STATUS - This document copy, since it is transmitted in advance of patent clearance, is made available in confidence solely for use in performance of work under contracts with the U.S. Department of Energy. This document is not to be published nor its contents otherwise disseminated or used for purposes other than specified above before patent approval for such release or use has been secured, upon request, from the Patent Counsel, U.S. Department of Energy Field Office, Richland, WA.

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

10. RELEASE STAMP

OFFICIAL RELEASE BY WHC (11)  
DATE APR 12 1994  
*Station #12*

9. Impact Level NA

### 5.23 130-KE-1 (105-KE EMERGENCY DIESEL OIL STORAGE TANK)

The 130-KE-1 is an inactive liquid waste site that was used from 1955 to 1971 for storing diesel fuel. It is located adjacent to the 105-KE Reactor ventilation stack at 100-K Area coordinates NK4458 WK4407. This site, which consists of two tanks, is also referred to as 105-KE emergency diesel fuel tank (Cramer 1987 and WHC 1991).

Each tank has a 2,000-gal capacity (Cramer 1987). It has been reported that soil around the tanks may be contaminated from spillage. Although these tanks may represent a substantial source of contamination, no leaks were reported (DOE-RL 1992b). They were removed on October 5, 1992. An account of the removal of these tanks can be found in Appendix D. No oil contamination was found although the insulating material covering the tank exteriors had detectable radioactive contamination and is therefore being treated as radioactive waste. Sampling of the radioactive contamination indicates the contamination is the same as naturally occurring contamination that produces radon in the environment.

The site was backfilled with clean fill material and covered with gravel to match the surrounding area. Today, it appears as a vegetation-free, gravel parking lot.

**SITE ASSESSMENT REPORT**

UST Site Owner: U.S. Department of Energy , Field Office, Richland

Owners Address: 825 Jadwin P.O. Box 550, Richland, WA 99352

Site ID Number: 012763

Tank ID Number: 130-KE-1A,1B

### I. Site Conditions Maps

The following maps and drawings are provided:

- Figure 1: Hanford Site Boundary Map
- Figure 2: 100 K Area (with Building List)
- Figure 3: Ground Penetrating Radar Map

### III. Site Conditions Description

The Hanford Site (Figure 1) is located northwest of the city of Richland, Washington (population 33,000). The 100 K Area of the Hanford Site is located approximately 30 miles north-north west of Richland and contains two inactive reactors and associated facilities (Figure 2). The site is approximately on half mile south of the Columbia River.

### IV. Site Investigation and Sampling Activities

#### Tank Site Description

The 130-KE-1A,1B diesel fuel tank system was permanently closed by removal of the tank and accessible piping on October 5, 1992. A ground penetrating radar map of the tank site is also presented (Figure 3).

#### Site Assessment

Safety hazards were addressed prior to tank removal and site assessment during prejob safety meetings. Both the removal and site assessment were performed according to a detailed work procedure and safety plan prepared by Westinghouse Hanford Company (WHC) (WHC 1992) based on Ecology's guidance documents (Ecology 1991a; Ecology 1991b). The site was intermittently monitored for both organic vapors and radiological hazards to ensure worker safety.

10-6-92 of 10-6-92  
5

Field Team Leader - Jonathan G. Lucas  
 Field Screening/Analysis - I.D. Jacques (Duane)  
 Site Safety Officer - Judy Vaughn  
 Site Assessor - Ron M. Mitchell  
 Soil Samplers - Chuck S. McClellan  
 Jim G. Hogan

Tank description -  
 Two steel tanks  
 approx. 6' diameter  
 and 11' long, 1000 gal.  
 tanks each. Tanks  
 were used to hold  
 diesel fuel

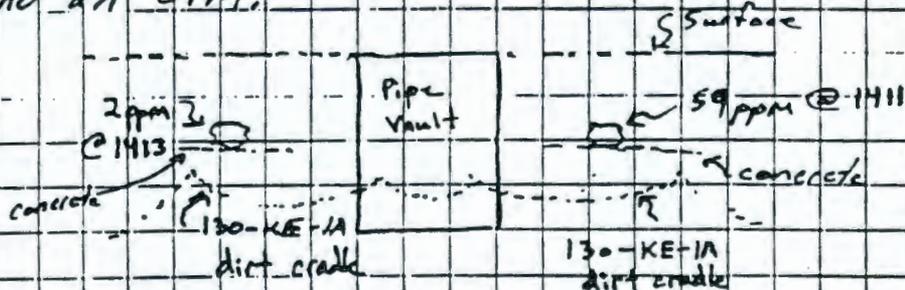
1230 - Arrived at UST storage tanks site. Assessed project site and photos of tanks 130-KE-1A & 1B were taken.

1330 - Diesel UST 130-KE-1A was lifted from excavated pit and photos of ~~tank~~ <sup>10-6-92</sup> tank ~~was~~ <sup>10-6-92</sup> were taken as outside of tank was inspected for leaks. Tank looked in good condition. Tank was placed on flatbed truck for removal.

1348 - UST 130-KE-1B was lifted from excavated pit. Tank was inspected for leaks and photos were taken. Tank looked in good condition. Tank was placed on flatbed truck for removal.

1405 HRS - Tank excavation was surveyed by HPT. Less than background.

1411 (1413) - Two discolored soil spots were analyzed using a plastic bag and an OVM.



Drawing not to scale - looking SSW toward 105-KE building

Read and Understood By

Signed

Date

D-43

Signed

Date

PROJECT 130-KE-1A and 1B UST Removal

Continued From Page 40

10-5-92

- 1415 - Performed OVM/plastic bag shake method at bottom of tank 130-KE-1A where lines attached to the tank. Reading of 0.3 ppm was recorded. See following drawing for location. Soil will be collected from this location (point A).
- 1418 - Performed OVM/plastic bag shake method at sidewall next to smokestack, on tank 130-KE-1A. Reading of 1.1 ppm was recorded. See following drawing for location. Soil will be collected from this location (point B).
- 1420 - Performed OVM/plastic bag shake method at <sup>opposite</sup> sidewall next on tank 130-KE-1A. Reading of 1.1 ppm was recorded. See following drawing for location. Soil will be collected from this location (point C).
- 1422 - Performed OVM/plastic bag shake method at bottom of tank 130-KE-1B next to where lines attached to the tank. Reading of 1.1 ppm was recorded. See following drawing for location. Soil will be collected from this location (point E).
- 1427 - Performed OVM/plastic bag shake method below two pipe elbows extending from pipe vault. The pipes were connected to tank 130-KE-1B. Reading of 1.1 ppm was recorded. See following drawing for location. Soil will be collected from this location (point E).
- 1428 - Performed OVM/plastic bag shake method below two pipe elbows extending from pipe vault. The pipes were connected to tank 130-KE-1A. Reading of 1.1 ppm was recorded. See following drawing for location. Soil will be collected from this location (point D).
- 1435 - Performed OVM/plastic bag shake method at NE side of middle excavation pit. Reading of 0.7 ppm was recorded. See following drawing for location. Soil will be collected from this location (point H).

Continued on Page 42

Read and Understood By

Signed

Date

D-44

Signed

Date

10-5-92

1440 - Performed OVM/plastic bag shake method at SW side of middle excavation pile. Reading of 0.3 ppm was recorded. See following drawing for location. Soil will be collected from this location (point G).

1435 - Soil sample # BOTJ16 was collected at point A from UST 130-KE-1A. See following drawing for location. Soil was also collected for field analysis using a ENSYS Petro Rise Kit (see data sheet for results). Duplicate soil sample # BOTJ17 was collected this location (point A).

1440 - Soil sample # BOTJ18 was collected at point B from UST 130-KE-1A. See following drawing for location.

1442 - Soil sample # BOTJ19 was collected at point C from UST 130-KE-1A. See following drawing for location.

145 - Soil sample # BOTJ20 was collected at point D from UST 130-KE-1A. See following drawing for location.

1455 - Soil sample # BOTJ21 was collected at point E from UST 130-KE-1B. See following drawing for location.

1455 - Soil sample # BOTJ22 was collected at point F from UST 130-KE-1B. See following drawing for location.

1510 - Soil sample # BOTJ23 was collected at point G from SW side of middle excavation pile. See following drawing for location.

1515 - Soil sample # BOTJ24 was collected at point H from NE side of middle excavation pile. See following drawing for location.

Continued on Page 43

Read and Understood By

Signed

Date

D-45

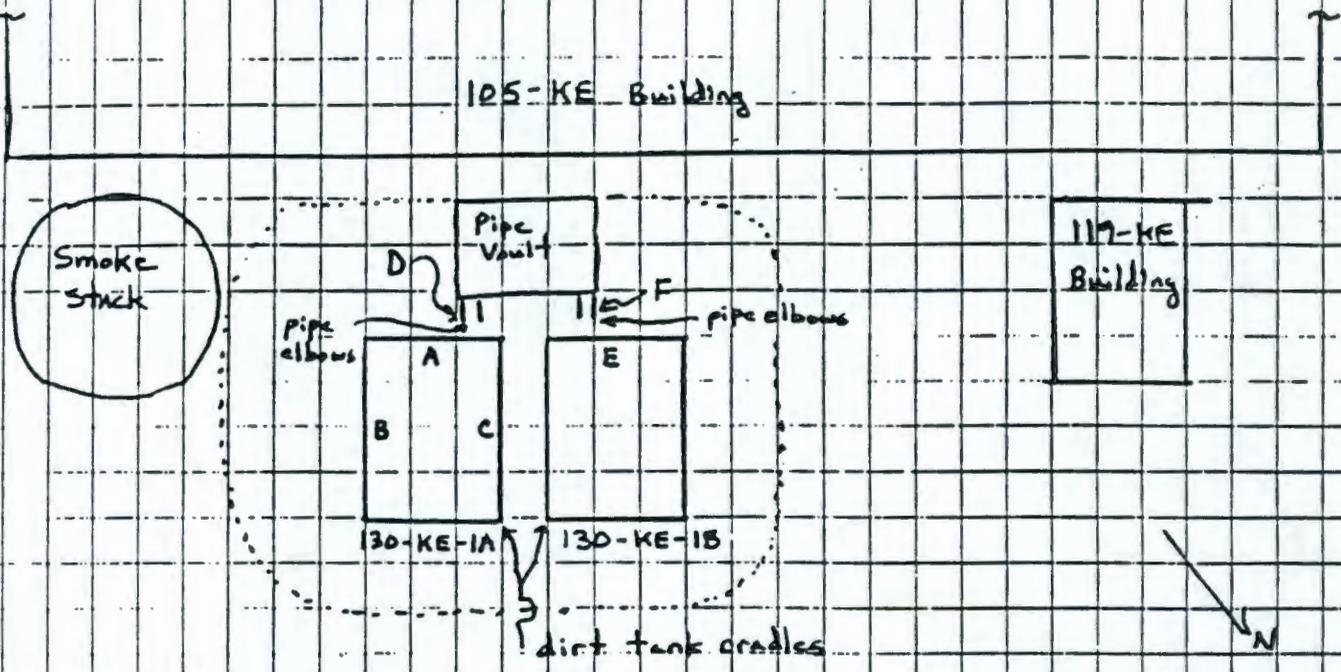
Signed

Date

PROJECT 130-KE-1A and 1B UST Removal

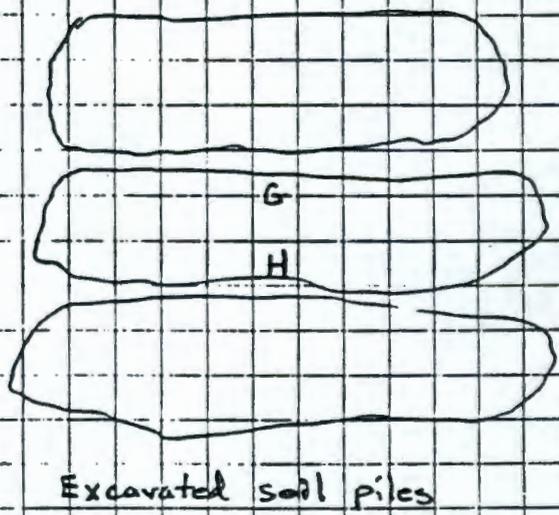
Continued From Page 42

5-92



Legend

Sample Location = "X", eg - A



"Drawing not to scale"

Continued on Page 44

Read and Understood By

Signed

Date

D-46

Signed

Date

10-5-92

Field QC Sample

HB

HB 1130 - Silica sand trip blank was prepared by Chuck McClellan. Sample # B07J15 was assigned to this blank sample.

Sample Bottle Lot Number

120 ml aG (Eagle Picher) - 11294010

Continued on Page 45

Read and Understood By

Signed

Date

Signed

Date

PROJECT 130-KE-1A and 1B UST Removal

Continued From Page 44

2-5-92

50

10/5/92

Duane Jaczma

Days  
entry for  
field/  
screening  
analysis

1230 Arrived at 100-KE Area. Inspected tank sites. 130-KE-1A & 130-KE-1B tanks scheduled for removal. Will support sampling w/ field screening.

1250 Calibrated OVM 580B Serial Number 35382-250 w/ 101 ppm isobutylene span. Reading span gas as 101.2 ppm.

1255 Verified calibration w/ 9.51 ppm isobutylene check gas.  
Readings: 9.8, 9.8, 9.8, 9.8, 9.8  
OVM is within acceptable calibration range of  $\pm 1.0$  ppm.

1320 Set up EnSys Petro Risk Test kit materials.

1440 Began EnSys Test of 130-KE-1A

1535 Completed EnSys Test. Packed up equipment. Left site.

Continued on Page 46

Read and Understood By

Signed

Date

D-48

Signed

Date

9713540.1017

WHC-SD-EN-TI-239, Rev. 0

Notebook No. EFL-1009

46

PROJECT 130-KE-1A and 1B UST Removal

Continued From Page 45

EnSys PetroRisc Test Data Sheet

10-5-92

Project UST 130-KE-1A & 1B Removal Site 100-KE Area

EnSys Lot Number	Sample	Photometer		use:	Photometer		Results/Comments
		S1:S2	S2:S1		100ppm	1000ppm	
870	130-KE-1A Soil	0.11	-0.11	52	0.29	0.35	<100 ppm TPH
870	130-KE-1B Soil	0.05	-0.05	52	0.42	0.43	<100 ppm TPH

Notes: Soils were moist coarse sand with some small pebbles. No <sup>by 10-6-92</sup> odor or visible signs of petroleum product contamination

Samples Collected By: Chuck McClellan (JPG)  
Date: 10-5-92

Samples Analyzed By: Deane Jacques  
Date: 10-5-92

on Page 47

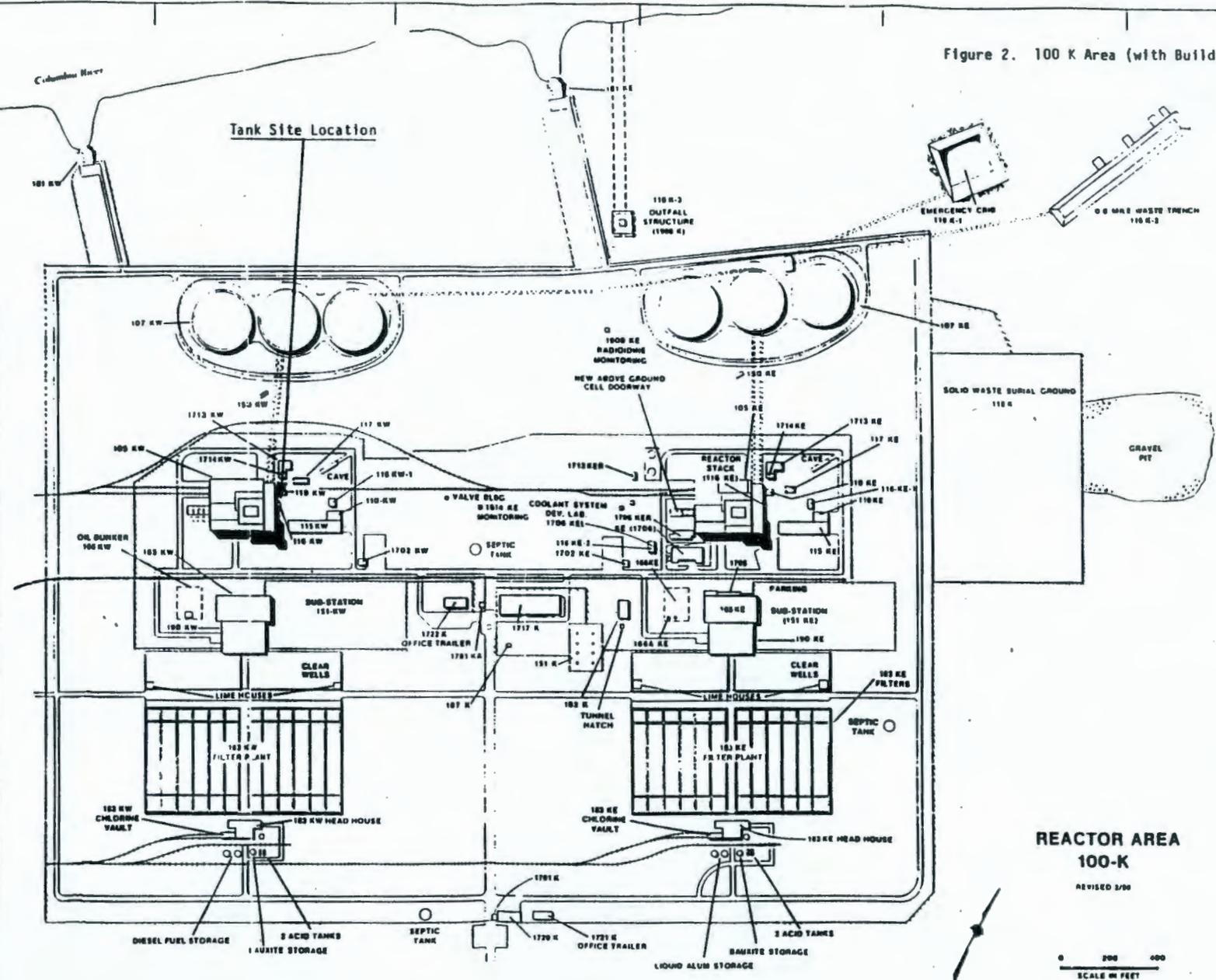
9713540.1018

FIGURES

Figure 2. 100 K Area (with Building List)

971354D-1019

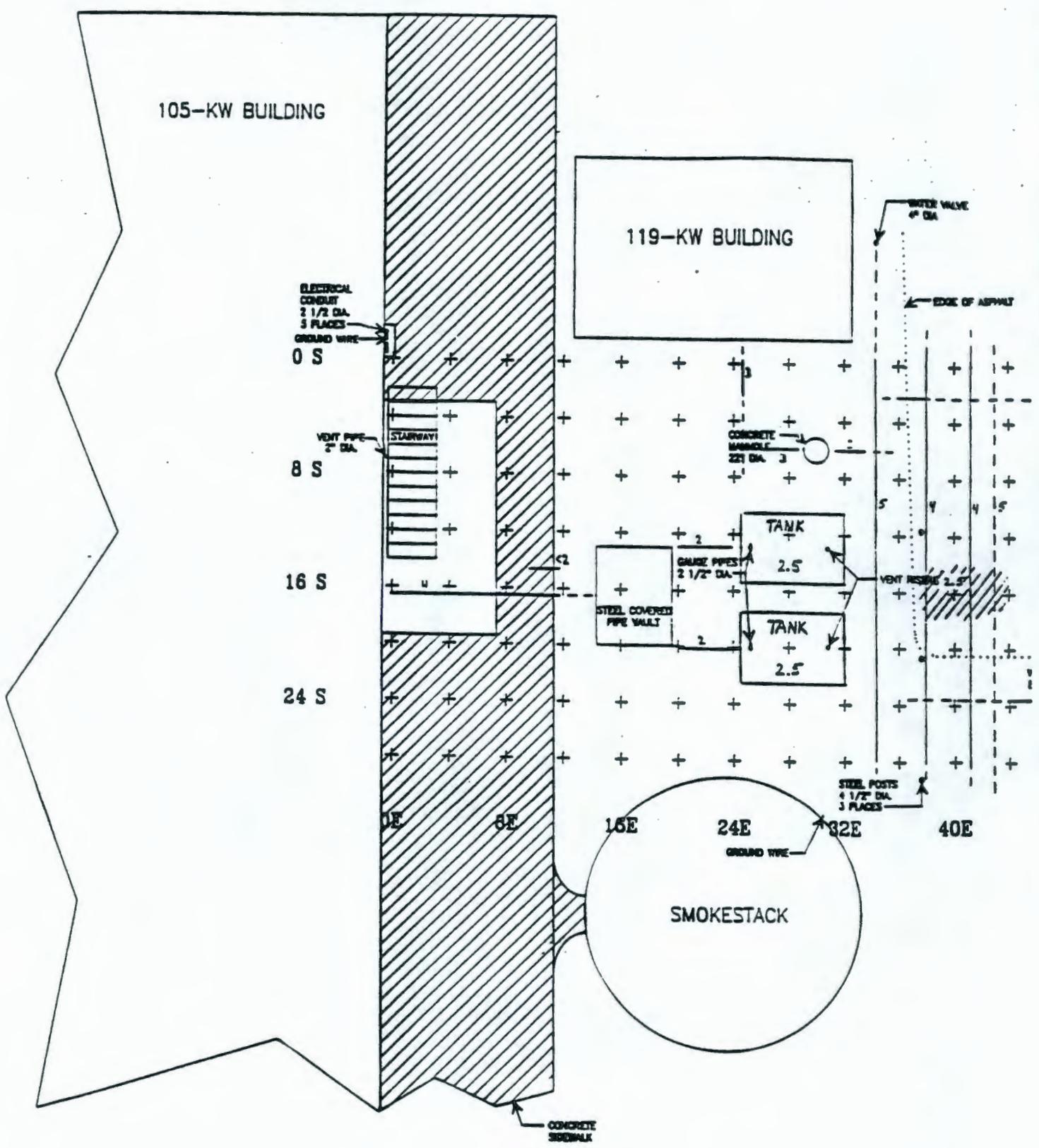
BUILDING LIST	
BUILDING NUMBER	DESCRIPTION
105 KW	REACTOR BUILDING
107 KW	WATER RETENTION BASIN
110 KW	GAS STORAGE
118 KW	GAS RECIRCULATION BUILDING
119 KW	REACTOR STACK
117 KW	EXHAUST AIR FILTER BUILDING
116 KW	EXHAUST AIR SAMPLE BUILDING
120 KW	HEAT RECOVERY FACILITY
151 K	SWITCHING STATION
105 KW	SUBSTATION 220-KV
106 KW	POWER CONTROL BUILDING
107 K	DR BUNKER
107 K	CROSS TILE TUNNEL BUILDING
101 KW	RIVER PUMP STATION
103 K	EMERGENCY WATER PUMP HOUSE
103 KW	FILTER PLANT
103 KW	CHLORINE VAULT
103 KW	HEAD HOUSE
100 KW	BADGE PUMP HOUSE
1701 K	BADGE HOUSE
1701 KA	EXCLUSION AREA BADGE HOUSE
1701 KW	BADGE HOUSE
1701 KW	WAREHOUSE
1714 KW	OIL STORAGE
1717 K	MAINTENANCE & TRANSPORTATION
1720 K	OFFICES & TELEPHONE EXCHANGE
1721 K	OFFICE TRAILER
1722 K	OFFICE TRAILER
100 KW	REACTOR FACILITY
107 KW	WATER RETENTION BASIN
110 KW	GAS STORAGE
118 KW	GAS RECIRCULATION BUILDING
119 KW	REACTOR STACK
117 KW	EXHAUST AIR FILTER BUILDING
116 KW	EXHAUST AIR SAMPLE BUILDING
120 KW	HEAT RECOVERY FACILITY
105 KW	POWER CONTROL BUILDING
106 KW	DR HOUSE
100 KW	OIL BUNKER
101 KW	RIVER PUMP STATION
103 KW	CHLORINE VAULT
103 KW	HEAD HOUSE
1701 KW	BADGE HOUSE
1701 KA	EXCLUSION AREA WATER TREATMENT PILOT PLANT
1701 KW	WATER STUDIES SEMIWORKS FACILITY
1701 KW	WATER STUDIES RECIRCULATION BUILDING
1713 KW	SHOP BUILDING
1715 KW	WAREHOUSE
1716 KW	OIL & PAINT STORAGE
RADIOLOGICAL UNDERGROUND SITES (RETURNS)	
118 K	SOLID WASTE BURIAL GROUNDS
110 K-1	EMERGENCY CRIB
110 K-2	3 MI. WASTE TRENCH
107 KW	RETENTION BASIN TANKS
107 KW	RETENTION BASIN TANKS
116 KW-1	515 KE CRIB
116 KW-1	515 KW CRIB
116 KW-2	1706 KE CRIB
116 KW-3	1908 OUTFALL



**REACTOR AREA  
100-K**  
REVISED 3/60

0 200 400  
SCALE IN FEET

Figure 3. Ground Penetrating Radar Map



9713540-1021

<u>Date Submitted:</u> August 30, 1996  Originator: J.R. James, BHI  Phone: 372-9563	<b>WASTE SITE RECLASSIFICATION FORM</b>  <u>Operable Unit(s):</u> 100-KR-2  <u>Waste Site ID:</u> 100-K-8, 165-KW Ethylene Glycol Tanks  <u>Type of Reclassification Action:</u>  Rejected <input type="checkbox"/> Closed Out <input type="checkbox"/> No Action <input checked="" type="checkbox"/>	<u>Control Number:</u>
---	---	------------------------

This form documents agreement among the parties listed below authorizing classification of the subject waste site from the TPA solid waste management unit listing as rejected, closed out, or no action and authorizing backfill of the waste site, if appropriate. Final removal from the NPL will occur at a future date.

Description of current waste site condition:  
 The 100-K-8 is an inactive site located in the 100-KR-2 Operable Unit. The site consisted of two 10,000-gallon capacity underground ethylene glycol tanks located adjacent to the 165-KW Building (also known as the 150-KW Heat Recovery Station) in the 100-K Area, at approximately Washington State Plane coordinates (E) 568699 (N) 146352.8 (Refs. #1). The tank was in operation from approximately 1955 - 1970. The tanks stored ethylene glycol which supplied mixed and pure ethylene glycol for injection into process water lines to prevent freezing during cold periods (Ref. #2). Both tanks were excavated and removed for reuse in August, 1993. All piping was blanked at the foundation of the 165-KW Building and exterior piping from the foundation of the building to the tanks was removed (Figure 9 in Ref. #2 shows that the piping needed to be removed in order to remove the tanks). The tanks did not have any known leaks. Eleven soil samples were taken throughout the site and all sample results were less than detectable. These results verified that the soils surrounding the tanks were below the 160,000 mg/kg cleanup level promulgated in the Model Toxics Control Act (MTCA). The site is gravel covered (Ref. #1).

- Reference list:
1. *Environmental Sites Database General Summary Report*, WIDS, Site Code: 100-K-8, August 12, 1996.
  2. Thoren, S. D., 1993, *Underground Storage Tanks 165-KW and 165-KE Site Assessment Report*, CCN 9357772, Bechtel Hanford, Inc. , Richland, Washington, September 20, 1993.

Basis for reclassification:  
 This site is nominated as "No Action" because the tanks have been removed and the surrounding soil has been determined to be below regulatory cleanup standards promulgated in the MTCA regulations. Upon removal of the ethylene glycol tanks, the soil was inspected and samples collected as indicated in attached documentation. All soil analysis results were far below the cleanup standard of 160,000 mg/kg for ethylene glycol calculated using MTCA Method B. Therefore, no additional action is deemed necessary at this site. It should be noted that the piping left in the 165-KW Building will be removed in the decontamination and decommissioning of the building.

_____	_____	_____
DOE Project Manager	Signature	Date
_____	_____	_____
Ecology Project Manager	Signature	Date
_____	_____	_____
EPA Project Manager	Signature	Date

## Environmental Sites Database General Summary Report

Site Code: 100-K-8                      Site Classification: Accepted                      12-Aug-96    Page 1

Site Names:                      100-K-8, 165-KW Ethylene Glycol Tanks

Site Type:                      Storage Tank

Programmatic Responsibility:                      EM-40

Site Description:                      The unit is located just north of the 165-KW Building and west of the personnel entry door. The area is directly north of the 165-KW Building and is gravel covered.

Status:                      Inactive

Start Date:

End Date:

Operable Unit:                      100-KR-2

Hanford Area:                      100K

Coordinates:                      (E) 568699                      (N) 146352.8                      Washington State Plane

Associated Structures:                      165-KW Building, 116-KW-4 (150-KW Heat Recovery Station).

Site Accessible:                      No

Access Requirements:

Site Hazards:

Location Description:

Environmental Monitoring Desc:

Release Desc:

Release Potential Desc:

Site Comment:                      Exhumed. These tanks were removed in 1993. See BHI/D&D Programs for record files. Two underground tanks were positioned horizontally and the longest dimension extended from 165-KW to the north.

Process Desc:

References:

1. R. W. Carpenter, 04/12/94, 100-K Area Technical Baseline Report, WHC-SD-EN-TI-239, Rev 0.
2. Kathryn J. Moss, 08/26/94, WIDS Site Addition: 100-K-8 (#94-273).

---

Dimensions:	<u>Meters</u>	<u>Feet</u>
Length:	8.23	27.00
Width:		
Depth / Height:		
Diameter:	2.44	8.00
Area:		
Overburden Depth:		
References:		

---

1. Kathryn J. Moss, 08/26/94, WIDS Site Addition: 100-K-8 (#94-273).

---

**Regulatory Information:**

Part A Permit Application Written:	No	Interim Closure Plan Written:	No
Part B Permit Application Written:	No	Covered under TPA Action Plan:	Yes
Registered Class V Underground Injection Well:	No	Solid Waste Management Unit:	No
Regulatory Authority:	CERCLA Past Practice		
TSD Number:			

**References:**

1. Kathryn J. Moss, 08/26/94, WIDS Site Addition: 100-K-8 (#94-273).

---

**Waste Information:**

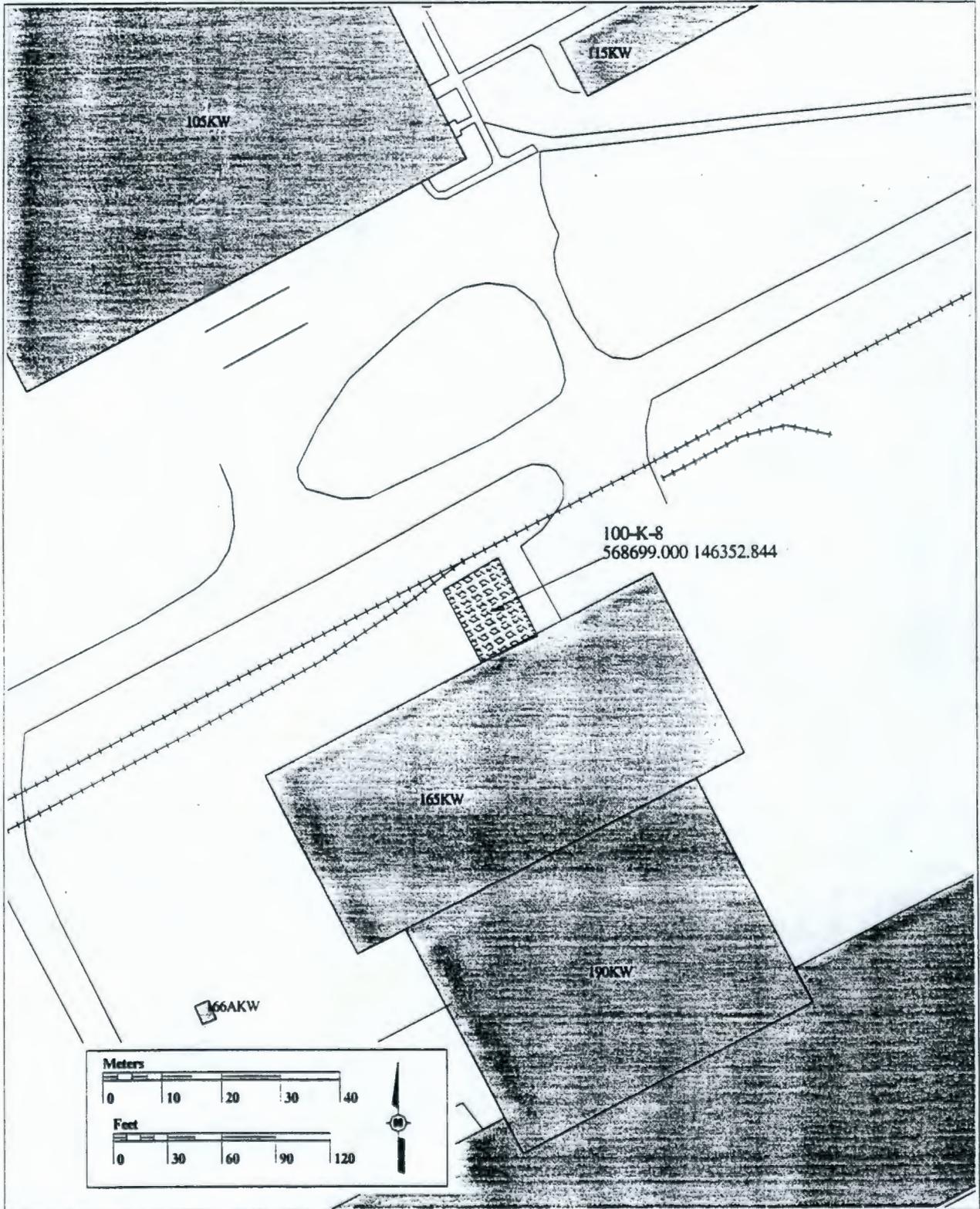
Type:	Needs Updating	Physical State:
Category:		
Amount:		Units:
Reported Date:		
Start Date:		
End Date:		
Waste Desc:	Ethylene glycol	

**References:**

1. R. W. Carpenter, 04/12/94, 100-K Area Technical Baseline Report, WHC-SD-EN-TI-239, Rev 0.

---

# 100-K-8



**CORRESPONDENCE DISTRIBUTION COVERSHEET**

Author	Addressee	Correspondence No.
S. D. Thoren, 3-4033	R. G. Holt, RL	9357772
Subject: UNDERGROUND STORAGE TANKS 165-KW-E AND 165-KW-W SITE ASSESSMENT REPORT		

**INTERNAL DISTRIBUTION**

Approval	Date	Name	Location	w/ett
		Correspondence Control	A3-01	X
		President's Office	B3-01	
		C. K. Disibio	B3-15	
		M. C. Hughes	R2-81	
		P. J. Mackey	B3-15	
		H. E. McGuire	B3-63	
X <i>ma mhae</i>	2.16.93	M. A. Mihalic	R2-77	
X <i>PDMy</i>	9/17/93	P. D. Mix	H6-29	X
		E. H. Smith	H6-22	
X <i>S. D. Thoren</i>	5/15/93	S. D. Thoren	R2-77	X
		T. M. Wintczak	H6-27	
		R. D. Wojtasek	H6-27	
		EPIC	H6-08	X





September 20, 1993

9357772

Mr. R. G. Holt, Acting Program Manager  
Office of Environmental Assurance,  
Permits, and Policy  
U.S. Department of Energy  
Richland Operations Office  
Richland, Washington 99352

Dear Mr. Holt:

**UNDERGROUND STORAGE TANKS 165-KW-E AND 165-KW-W SITE ASSESSMENT REPORT**

Attachment 1 is the completed site assessment checklist and report for underground storage tanks 165-KW-E and 165-KW-W, removed from the 100-K Area on August 16, 1993. The attachment was prepared following the format of the site assessment checklist and references from the revised Ecology guidance document, Guidance for Site Checks and Site Assessment for Underground Storage Tanks, effective October 1, 1992. This report should be submitted to Ecology in accordance with Washington Administrative Code 173-360-210, "Reporting and Record Keeping Requirements." The site assessment was completed on August 17, 1993, when the sample results indicated the site was free of antifreeze contamination. This action will notify Ecology that the tanks have been removed and no longer pose any threat to the environment.

Since these tanks were abandoned prior to 1988, they are considered orphan tanks by the State of Washington and are not regulated. The tanks were not required to be removed unless dictated by State of Washington Department of Ecology (Ecology), but U.S. Department of Energy, Richland Operations Office and Westinghouse Hanford Company have been actively removing these tanks under Environmental Restoration Programs.

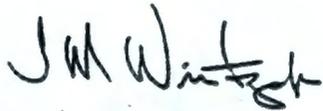
9713540.1027

Mr. R. G. Holt  
Page 2  
September 20, 1993

9357772

Attachment 2 is a draft transmittal letter to Ecology for your review. If you have any questions or require additional information, please call me on 372-2314 or Mr. Michael Mihalic on 373-1382.

Very truly yours,



T. M. Wintczak, Manager  
Environmental Restoration Program  
Environmental Division

fcp

Attachments 2

RL - J. P. Collins  
R. D. Freeberg  
A. C. Harris  
R. A. Holten  
R. O. Puthoff (w/o attachments)  
A. L. Rodriguez  
R. P. Saget

9713540.1028

9357772  
ATTACHMENT 1  
TOTAL PAGES 25

SITE ASSESSMENT REPORT

**SITE ASSESSMENT REPORT**  
**USTs 165-KW-E, 165-KW-W**

<b>UST Site Owner:</b>	U.S. Dept of Energy, Richland Field Office
<b>Owners Address:</b>	825 Jadwin, P.O. Box 550, Richland, WA 99352
<b>Site ID Number:</b>	012763
<b>UST ID Number:</b>	165-KW-E 165-KW-W
<b>Date Removed:</b>	August 16, 1993
<b>Site Assessment Complete:</b>	August 17, 1993



# UNDERGROUND STORAGE TANK Site Check/Site Assessment Checklist

**For Office Use Only**

Owner # \_\_\_\_\_

Site # \_\_\_\_\_

## INSTRUCTIONS

When a release has not been confirmed and reported, this Site Check/Site Assessment Checklist must be completed and signed by a person registered with Ecology. The results of the site check or site assessment must be included with this checklist. This form must be submitted to Ecology at the address shown below within 30 days after completion of the site check/site assessment.

**SITE INFORMATION:** Include the Ecology site ID number if the tanks are registered with Ecology. This number may be found on the tank owner's invoice or tank permit.

**TANK INFORMATION:** Please list all tanks for which the site check or site assessment is being conducted. Use the owner's tank ID numbers if available, and indicate tank capacity and substance stored.

**REASON FOR CONDUCTING SITE CHECK/SITE ASSESSMENT:** Please check the appropriate item.

**CHECKLIST:** Please initial each item in the appropriate box.

**SITE ASSESSOR INFORMATION:** This form must be signed by the registered site assessor who is responsible for conducting the site check/site assessment.

Underground Storage Tank Section  
Department of Ecology  
P. O. Box 47655  
Olympia, WA 98504-7655

## SITE INFORMATION

Site ID Number (on invoice or available from Ecology if the tanks are registered): 012763

Site/Business Name: U.S. Department of Energy

Site Address: 825 Jadwin Telephone: ( 509 ) 376-7387  
Street  
Richland WA 99352-0550  
City State ZIP Code

## TANK INFORMATION

Tank ID No.	Tank Capacity	Substance Stored
<u>165-KW-E</u>	<u>10,000 gal</u>	<u>Ethylene Glycol</u>
<u>165-KW-W</u>	<u>10,000 gal</u>	<u>Ethylene Glycol</u>

## REASON FOR CONDUCTING SITE CHECK/SITE ASSESSMENT

Check one:

- Investigate suspected release due to on-site environmental contamination
- Investigate suspected release due to off-site environmental contamination.
- Extend temporary closure of UST system for more than 12 months.
- UST system undergoing change-in-service.
- UST system permanently closed-in-place.
- UST system permanently closed with tank removed.
- Abandoned tank containing product.
- Required by Ecology or delegated agency for UST system closed before 12/22/88.
- Other (describe): \_\_\_\_\_

**CHECKLIST**

9713540.1031

Each item of the following checklist shall be initialed by the person registered with the Department of Ecology whose signature appears below.

	YES	NO
1. The location of the UST site is shown on a vicinity map.	SDT	
2. A brief summary of information obtained during the site inspection is provided. (see Section 3.2 in site assessment guidance)	SDT	
3. A summary of UST system data is provided. (see Section 3.1)	SDT	
4. The soils characteristics at the UST site are described. (see Section 5.2)	SDT	
5. Is there any apparent groundwater in the tank excavation?		SDT
6. A brief description of the surrounding land use is provided. (see Section 3.1)	SDT	
7. Information has been provided indicating the number and types of samples collected, methods used to collect and analyze the samples, and the name and address of the laboratory used to perform the analyses.	SDT	
8. A sketch or sketches showing the following items is provided:		
- location and ID number for all field samples collected	SDT	
- groundwater samples distinguished from soil samples (if applicable)	N/A SDT	
- samples collected from stockpiled excavated soil	SDT	
- tank and piping locations and limits of excavation pit	SDT	
- adjacent structures and streets	SDT	
- approximate locations of any on-site and nearby utilities	SDT	
9. If sampling procedures different from those specified in the guidance were used, has justification for using these alternative sampling procedures been provided? (see Section 3.4)	N/A SDT	
10. A table is provided showing laboratory results for each sample collected including; sample ID number, constituents analyzed for and corresponding concentration, analytical method and detection limit for that method.	SDT	
11. Any factors that may have compromised the quality of the data or validity of the results are described.	SDT	
12. The results of this site check/site assessment indicate that a confirmed release of a regulated substance has not occurred.	SDT	

**SITE ASSESSOR INFORMATION**

SCOTT D. THOREN  
 Person registered with Ecology  
 Business Address: P.O. Box 1970

Westinghouse Hanford Company  
 Firm Affiliated with  
 Telephone: (509) 376-7411

Street  
Richland  
 City

WA  
 State

99352  
 ZIP+Code

I hereby certify that I have been in responsible charge of performing the site check/site assessment described above. Persons submitting false information are subject to penalties under Chapter 173.360 WAC.

Date

Signature of Person Registered with Ecology

This report has been prepared following the latest site check/site assessment checklist from the Washington State Department of Ecology (Ecology 1992a). Each item is taken directly from the site assessment checklist and several references from the document "Guidance for Site Checks and Site Assessments for Underground Storage Tanks" (Ecology 1992b).

1.0) The location of the UST site is shown on a vicinity map.

The following maps are provided to assist in determining the location of the UST site and its physical characteristics:

- Figure 1: Hanford Site Map (Page SA5)
- Figure 2: 100 K Area (Page SA6)
- Figure 3: 165-KW-E/-W UST Location (Page SA7)

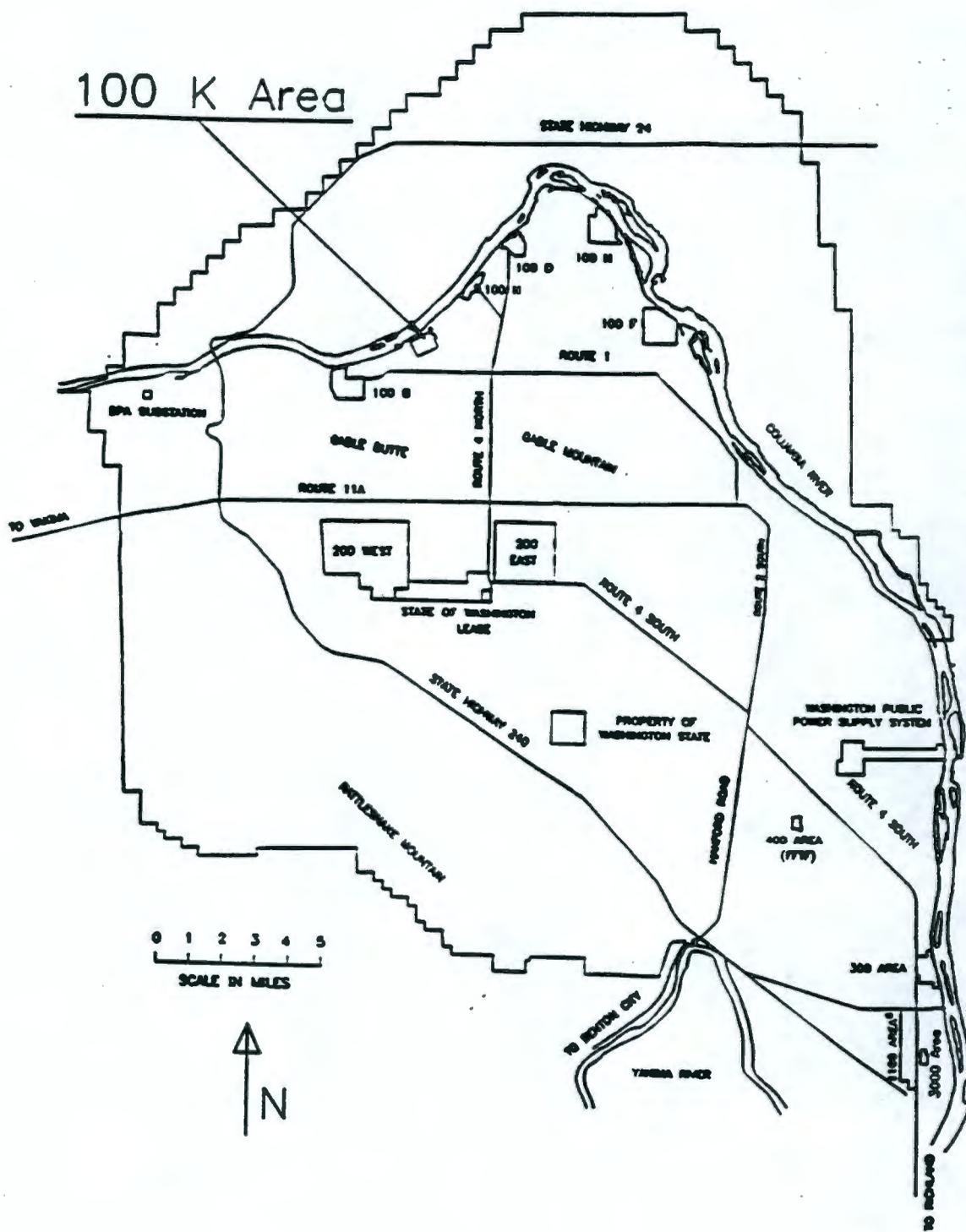
The system was used to support operations of two reactors in the 100K Area of the Hanford Site. These USTs are located within the 100-KR-2 Operable Unit. The tank 165-KW-W contained pure antifreeze and the tank 165-KW-E contained an antifreeze water mixture. These tanks were part of a system to protect piping against freezing.

2.0) A brief summary of information obtained during the site inspection is provided. (Section 3.2 of the site assessment guidance offers the following data items)

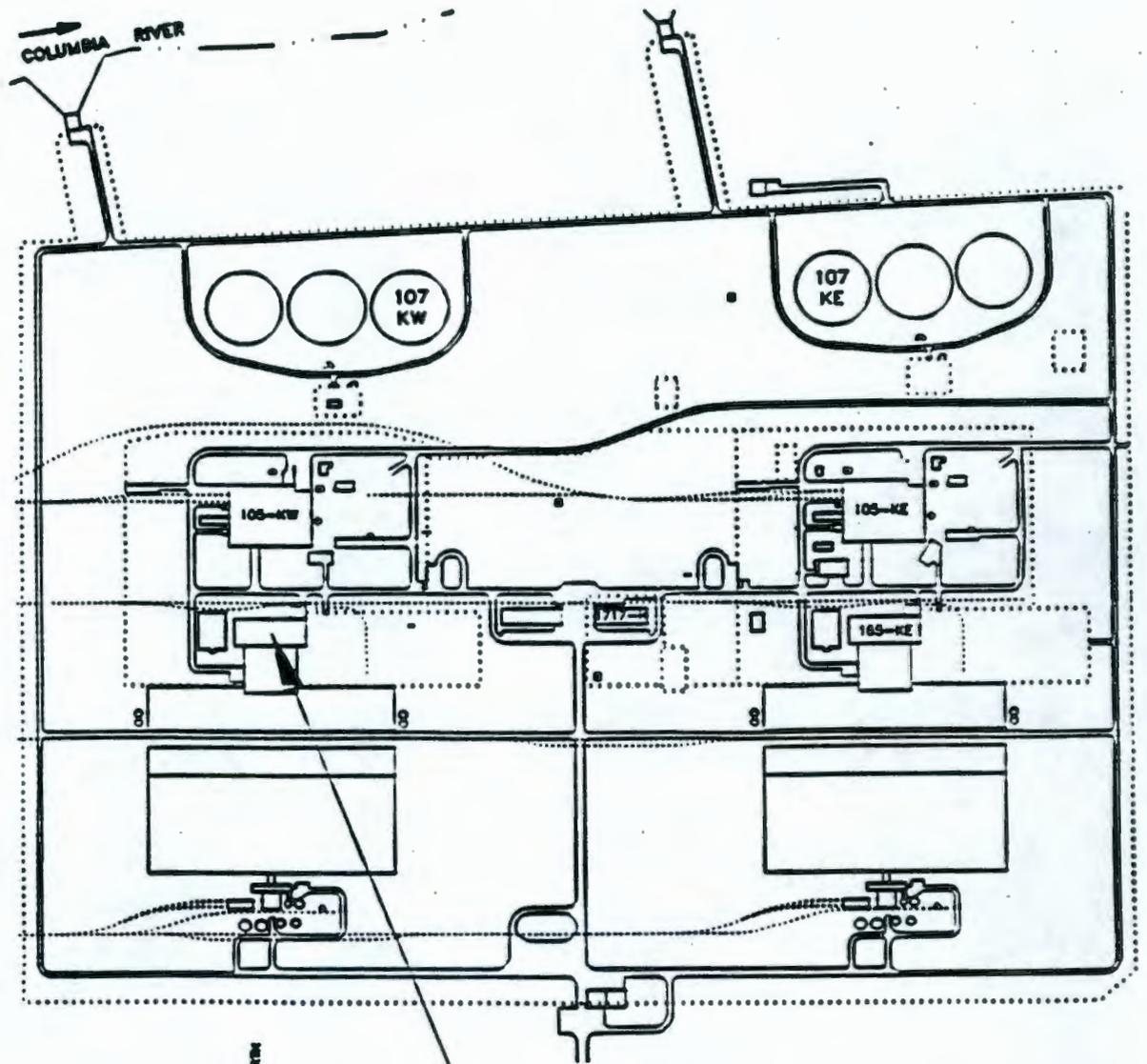
- Visually inspect for surface indications of a release (pavement patching, pump islands, storm drains, fill boxes or containment areas).

A visual inspection of the area, tank, fill box and surrounding surface soils did not show any signs of a release.

Figure 1: Hanford Site Map



# Figure 2: 100K Area



165-KW Building

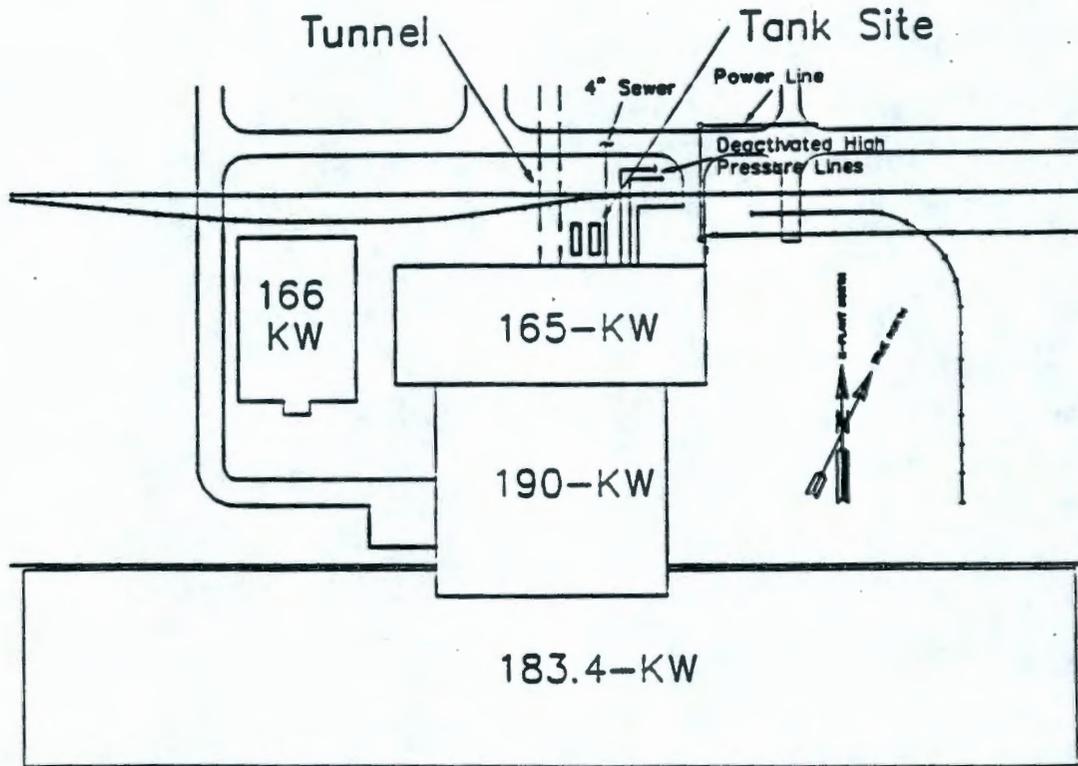


**LEGEND**

- RAILROAD TRACK
- FENCE
- STRUCTURE
- ROAD



Figure 3: 165-KW-E/-W  
UST Location



Not to Scale

- Locate and verify above and below-ground components of tank and piping systems are as shown on available plans.

The following drawings from the Hanford drawing archive system were available for reference:

H-1-25659 CONTROL BLDG.-GLYCOL STORAGE & PIPING  
H-1-25672 100KW & 100KE HOT WATER HEATING SYSTEM FLOW

The drawings show adequate below ground details that were representative of those found during the site assessment.

- Confirm fill status of tank(s).

The tank had been rinsed and flushed during the layup of the 105-KW reactor and did not contain any fluid.

- Determine tank size - If tank system specifications are not available, estimate tank size (measure tank height through vent for fill pipe).

Each tank was 8 feet 2 inches in diameter and 27 feet 2 inches in length for a capacity of approximately 10,000 gallons.

- Inspect site for above-ground utilities (such as power lines), and look for surface indications of below-ground utilities

Power line poles and lines were present well away from the excavation site. Site plans show a 4" sanitary sewer line encased in concrete running north-south 5 feet east of the site. Inactive high pressure water lines were located 10 and 15 feet east of the site and can be seen in Figure 3 (Page SA7). These lines had previously been blanked inside the building.

3.0) A summary of UST system data is provided. (Section 3.1 of the site assessment guidance offers the following data items)

- Date of installation and name of installer.

Installation was completed in 1955 when General Electric was the prime contractor.

- **Dates of use and current status.**

The tank was used from ~1955 until the tanks were abandoned when the reactors shut down in 1970. The tanks were rinsed and flushed when the 105-KW reactor was shut down. The 30 Day Notice of Intent to Close/Decommission Tanks was submitted with an anticipated closure date of August 1993. The tanks were excavated and removed on August 16, 1993 with tank closure activities continuing.

- **Number of tanks, location, capacity, dimensions, age, and material of construction of existing UST system(s), including fill pipes, vent piping, pumps, valves, distribution piping and flex connectors.**

The underground storage tanks 165-KW-E and 165-KW-W were located adjacent to one another in the 100 K Area of the Hanford Reservation (Figure 3, Page SA7). The two steel tanks each had a 10,000 gallon capacity, were buried 3' below grade surface, 4' apart and 10' north of the 165KW power control building. These tanks were 8'2" in diameter and 27'2" long. They supplied mixed and pure ethylene glycol for injection into process water lines to prevent freezing during cold periods.

All piping associated with these tanks utilized welded joints with threaded couplings at the top of each tank. The piping associated with each tank is described below:

- (1) suction line -- 1" O.D. x ~20' to the building
- (1) suction line -- 4" O.D. x ~20' to the building (165-KW-E only)
- (1) vent line -- 4" O.D. x ~30' (including above ground components)
- (1) fill connection and street box -- 4" O.D. x 15' long (empty during normal operation)
- (1) cross tie line -- 4" O.D. x ~10' long (empty during normal operation)

- Numbers and location of any previously removed UST's.

130-KE-1A 130-KE-1B	These two tanks (one system) were located on the east side of the 105KE reactor building. This location is approximately 2150' east-northeast of this site. These tanks were removed October 5, 1992.
130-KW-1A 130-KW-1B	These two tanks (one system) were located on the east side of the 105KW reactor building. This location is approximately 380' north of this site. These tanks were removed October 22, 1992.
130-K-1 130-K-2	These two tanks (one system) were located on the north side of the 1717 building. This location is approximately 1050' east of this site. These tanks were removed July 27, 1989.
130-K-3A 130-K-3B	These two tanks (one system) were located on the north side of the 182K building. This location is approximately 1800' east of this site. These tanks were removed May 13, 1993

- Types of substances stored in UST (current and historical).

UST 165-KW-W contained pure antifreeze, while UST 165-KW-E contained a mixture of antifreeze and water. This mixture may have varied in concentration over time, but is not known.

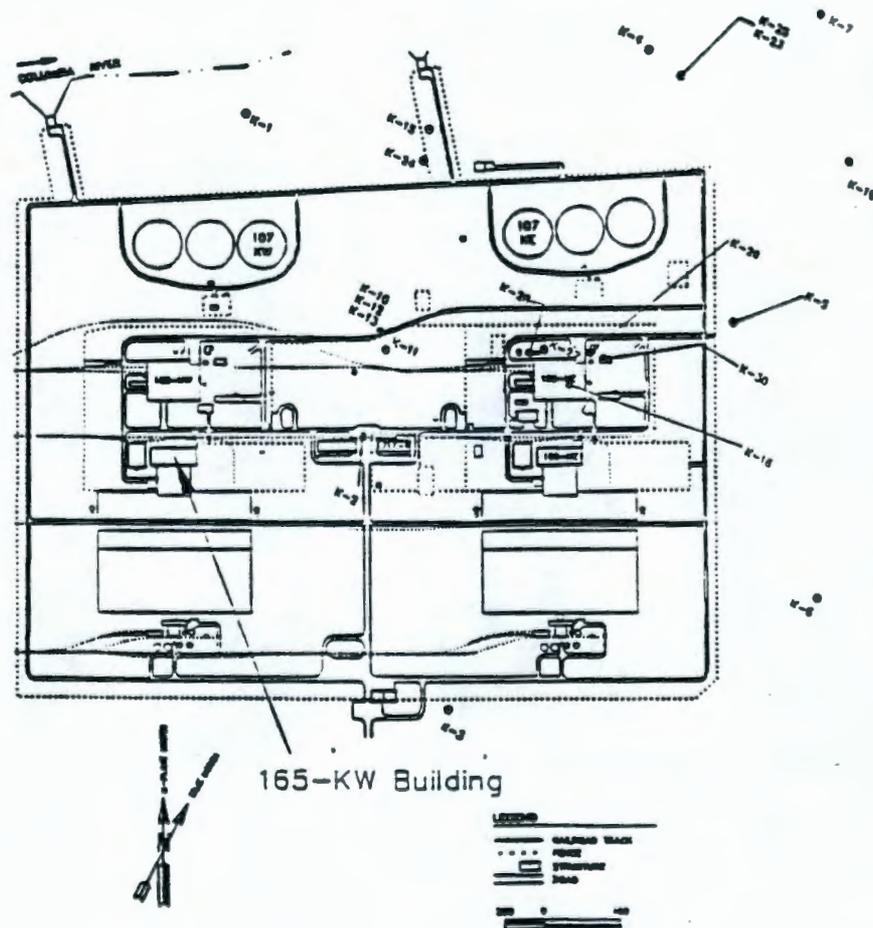
- Depth, width, and type of bedding/backfill materials used to surround the tank(s) and piping.

The tank was bedded in clean sand (classified as "SW, Well-graded sands and gravelly sands, little or not fines" as designated by the Unified Soil Classification System) intermixed with fines and cobbles toward the base (classified as "GM, silty gravels, gravel-sand-silt mixtures" as designated by the Unified Soil Classification System).

- Types and locations of leak detection systems, secondary containment systems, and groundwater monitoring wells located on site.

The 165-KW-E and 165-KW-W single shell UST system was not installed with a leak detection system. Figure 4 (Page SA11) shows monitor well locations in the 100K area.

Figure 4: 100K Area Monitor Well Locations



- Location of any hold-down pads or deadman anchoring systems.

There were no hold-down pads or deadman anchoring systems associated with these tanks.

- History of compliance and performance:

Installation date: ~1955  
Period of use: 1955 - 1970  
30 day NOI to close: 7/09/93  
Removal date: 8/16/93

The tanks were not permitted since they were rinsed and abandoned in 1970.

- Status of regulatory compliance.

The tank was pumped empty of product, rinsed, flushed and abandoned in 1970. Therefore, it was exempt from Washington Administrative Code 173-360, "Underground Storage Tank Regulations".

- Repair records.

No known major repairs were made to this tank or were obvious during removal activities.

- Current permits, including permit issue dates.

None.

- Previous known leaks (type, volume or leak rate, and date) and:

The UST did not have any known leaks.

- Inventory records

No inventory records were available for this UST system.

- Tightness testing records

Tightness testing records are unavailable for this tank and most likely non-existent.

- Records of water pumpouts from tanks

There were no records of water pumpouts from the tanks.

- Records of neighbors complaints

None

- Records of fire department inspections

None

- 4.0) The soils characteristics at the UST site are described. (Section 5.2.1 *Soils Characterization*, of the site assessment guidance states:)

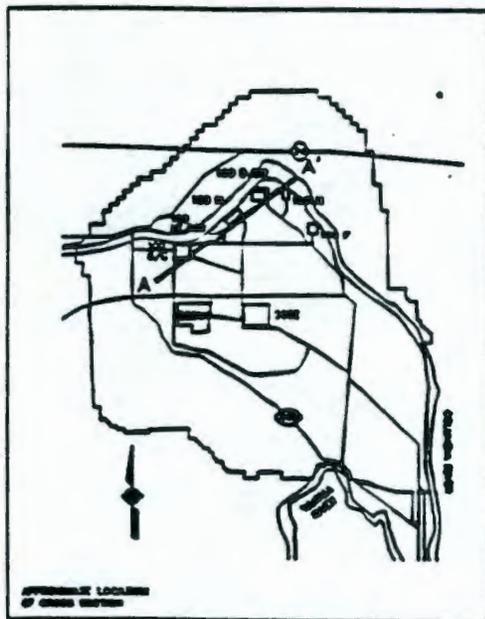
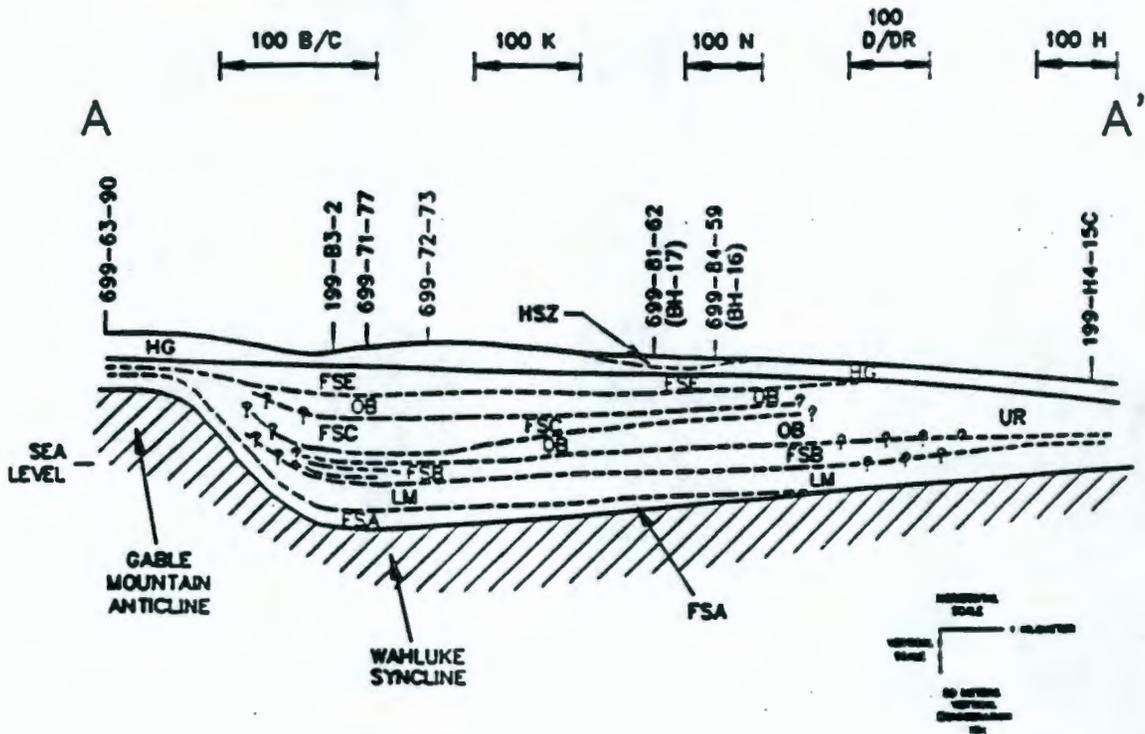
*"For Ecology to adequately review site assessment reports, qualitative descriptions of the surface gradient and soils at the UST site need to be provided. To ensure that all site assessment reports use consistent language for characterizing soils, the terminology shown in the United Soil Classification System (Table 5.1) shall be used. Contaminant fate and transport is determined by soil characteristics and can influence the selection of sampling locations."*

Section 3.1 of the site assessment guidance document offers the following data items:

- Soil types and characteristics.

The native geology consists of the Columbia Plateau, which is a broad plain formed by the Miocene Columbia River Basalt Group. The flood basalts of the Group form the bedrock of the Pasco Basin. The major structural geology of the Pasco Basin is a sub-parallel series of west- to northwest-trending folds known as the Yakima Fold Belt. The 100 K Area lies within the Wahluke syncline (DOE/RL, 1992). A geological cross section of the Wahluke syncline is presented in Figure 5 (Page SA14). The Hanford formation in the vicinity of the 100 K Area is estimated to be approximately 50 feet thick and is in disconformable contact with sands and gravels of the upper Ringold Formation (Figure 6, Page SA15). The vadose zone within the 100 K Area includes stratigraphic units such as fill, loess, alluvium, the Hanford formation and the Ringold Formation (DOE/RL, 1992). The soil within the Hanford Formation would be classified as "GM, silty gravels, gravel-sand-silt mixtures" as designated by the Unified Soil Classification System.

Figure 5: Northeast to Southwest Geological Cross Section of the Suprabasalt Sediments Across the Western Wahluke Syncline in the 100 Area.

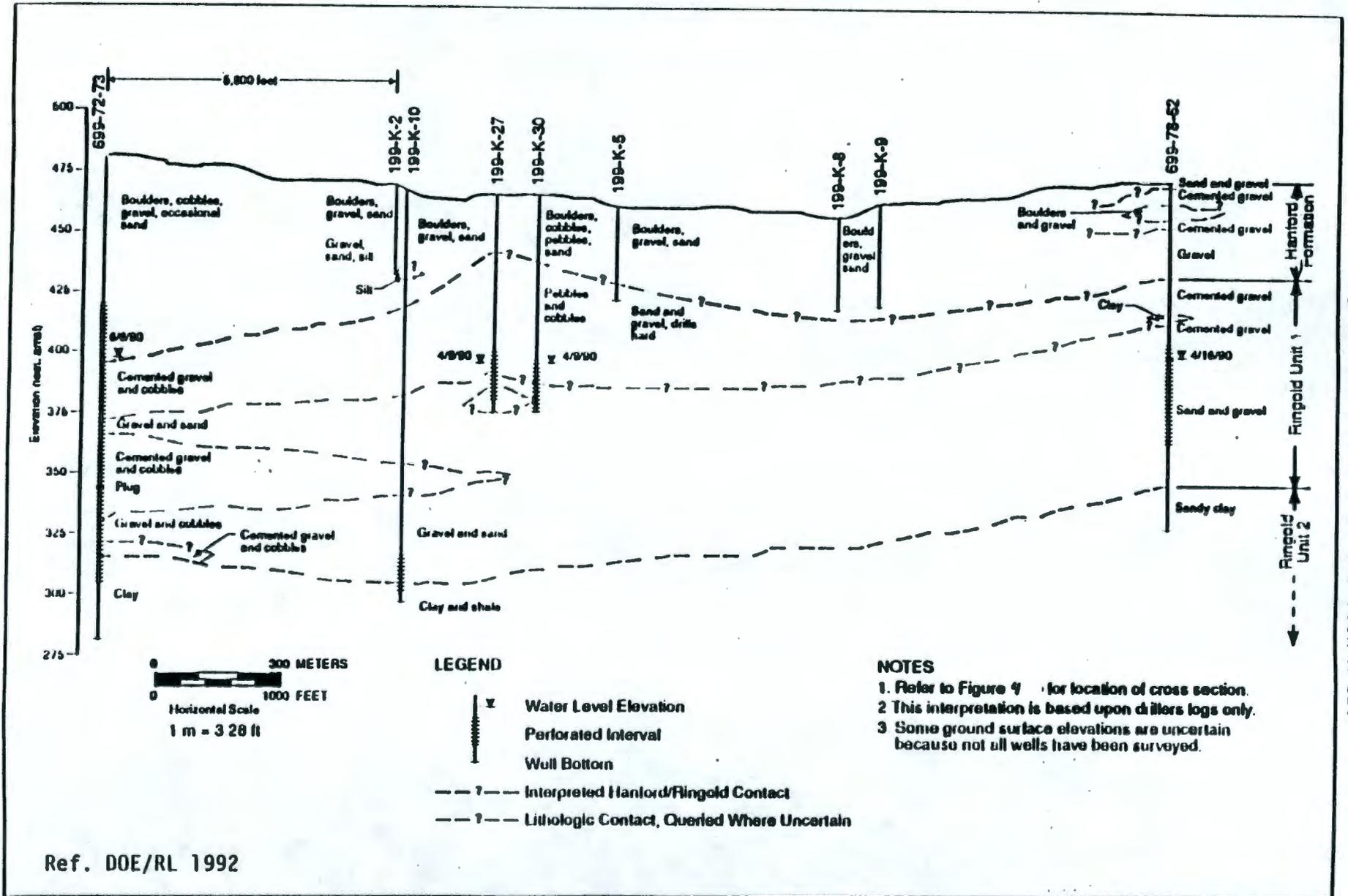


<u>LEGEND</u>	
199-B3-2	LOCATION OF BOREHOLE USED IN CROSS SECTION
HG	GRAVELLY DEPOSITS, HANFORD FORMATION
HSZ	SANDY TO SILTY DEPOSITS, HANFORD FORMATION
UR	UPPER UNIT, RINGOLD FORMATION
FSE, FSC FSB, FSA	FLUVIAL GRAVEL-DOMINATED INTERVALS, RINGOLD FORMATION
LM	LOWER MUD, RINGOLD FORMATION
OB	OVERBANK DEPOSITS, RINGOLD FORMATION
[Hatched Box]	BASALT
[Solid Line]	FORMATION CONTACT
[Dashed Line]	FACIES ASSOCIATION OR UNIT CONTACT
[Line with ?]	CONTACT INFERRED OR UNCERTAIN

SOURCE: LINDSEY 1991.

Figure 6: Geologic Cross Section of the 100K Area.

9713540.1043



Ref. DOE/RL 1992

- Depth to groundwater, including seasonal fluctuations.

Groundwater in the 100 K Area occurs in unconfined and confined aquifers. The ground water nearest to the surface is in an unconfined aquifer located approximately 75 to 83 feet below ground surface (Figure 7, Page SA17). Its flow is directed primarily through the Ringold Producing Layer. A cemented layer is present in the central portion of the 100 K Area. This zone could effect groundwater flow and contaminate transport. The hydraulic conductivities of similar material on the Hanford Site range from 20 to 6000 feet per day. The gradient is relatively flat, .0009 to .004, increasing near the river. The groundwater flow is generally in a northern direction, toward the Columbia River. Local groundwater flow may have been disturbed (during Reactor operation) due to groundwater mounding from the release of water to nearby facilities (DOE/RL, 1992). Depth to ground water near the river varies with fluctuations in the river height.

- Potential hydraulic connections between groundwater and nearby surface water.

Groundwater flow in the unconfined aquifer normally moves north toward the Columbia River. The 165-KW-E and 165-KW-W USTs are approximately 1950 feet from the river.

- 5.0) Is there any apparent groundwater in the tank excavation?

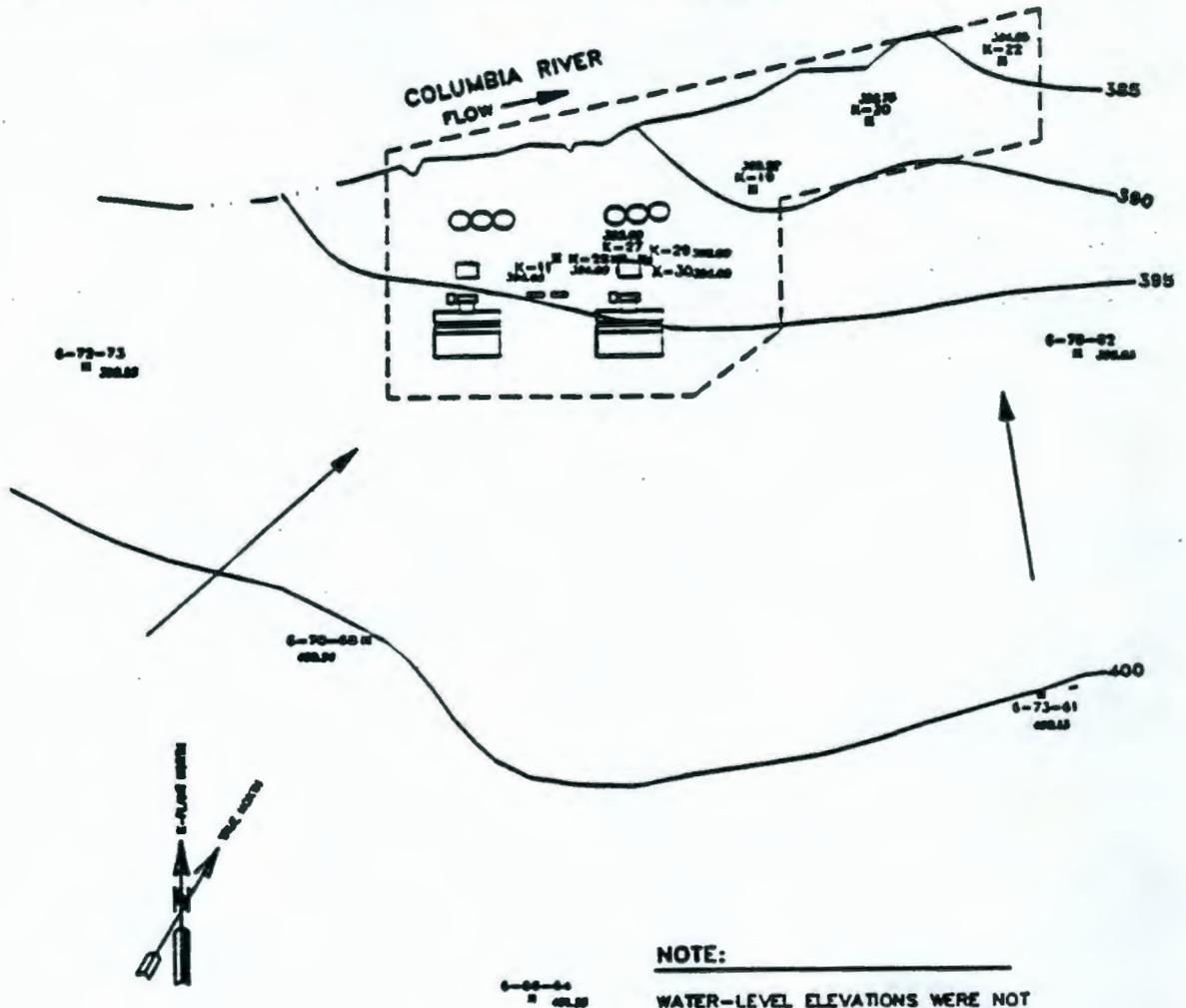
There were no signs of groundwater in the excavation.

- 6.0) A brief description of the surrounding land use if provided. (Section 3.1 of the site assessment guidance offers the following data)

- Property line locations.

The 165-KW-E/-W UST's are located in the 100-KR-2 Operable Unit of the 100 K Area which is part of the Hanford Site. Refer to Figure 1 (Page SA5) for details of the Hanford Site boundaries.

Figure 7: Water Table Contour Map of the 100K Area in 1989.



**NOTE:**

WATER-LEVEL ELEVATIONS WERE NOT MEASURED AT THE SAME TIME FOR WELLS IN THE K-AREA AND 600 AREA. WATER-LEVELS IN THE 600 AREA WELLS VARIED LESS THAN 1.5 FT BETWEEN VARIOUS MEASUREMENT DATES IN 1989 AND THEREFORE MEASUREMENTS SHOULD BE ADEQUATE FOR DETERMINING GENERAL GROUND WATER FLOW DIRECTIONS.

WELL	DATE	ELEV (FT. SEAL.)
K-11	02/16/89	394.44
K-19	02/16/89	389.22
K-20	02/16/89	388.75
K-22	02/16/89	384.55
K-27	02/14/89	393.00
K-28	02/14/89	394.00
K-29	02/14/89	392.00
K-30	02/14/89	394.00
66-64	06/09/89	401.28
70-68	06/09/89	400.24
72-73	05/22/89	398.23
73-61	01/19/89	400.13
78-62	01/19/89	396.03

**LEGEND**

-  WELL, LOCATION, AND DESIGNATION
-  WATER TABLE ELEVATION CONTOUR (IN FEET)
-  GENERAL FLOW DIRECTION



10.0) A table is provided showing laboratory results for each sample collected including; sample ID number, constituents analyzed for and corresponding concentration, analytical method and detection limit for that method.

Sample ID	Ethylene Glycol, NIOSH 5500, Det. Limit 50,000ppm Action Level 165,000ppm per MTCA Level A
165KW-E-A	Less than Detectable
165KW-E-B	Less than Detectable
165KW-E-C	Less than Detectable
165KW-W-A	Less than Detectable
165KW-W-B	Less than Detectable
165KW-W-C	Less than Detectable
165KW-1	Less than Detectable
165KW-2	Less than Detectable
165KW-S-3	Less than Detectable
165KW-S-4	Less than Detectable
165KW-S-5	Less than Detectable

- Distances from tank(s) to nearby structures.

The UST system was located approximately 10' north of the 165KW power control building (Figure 3, Page SA7).

- Type and location of below-ground utility lines such as water, sewer, electric, telephone and gas service lines.

The utilities near the UST site can be seen in Figure 3, Page SA7.

- Location of paved areas.

The UST system is located approximately 15' west of an asphalt driveway to the 165KW building and approximately 30' south of an asphalt roadway.

7.0) Information has been provided indicating the number and types of samples collected (7.1), methods used to collect and analyze the samples (7.2), and the name and address of the laboratory used to perform the analyses (7.3).

7.1) Information has been provided indicating the number and types of samples collected.

11 soil samples were taken:

Sample ID	Sample Location
165KW-E-A	Tank 165-KW-E tank cradle, east side, -10'
165KW-E-B	Tank 165-KW-E tank cradle, center, -11.5'
165KW-E-C	Tank 165-KW-E tank cradle, west side, -10'
165KW-W-A	Tank 165-KW-W tank cradle, east side, -10'
165KW-W-B	Tank 165-KW-W tank cradle, center, -11.5'
165KW-W-C	Tank 165-KW-W tank cradle, west side, -10'

Sample ID	Sample Location
165KW-1	Suction piping from tank 165-KW-W at building opening, -5'
165KW-2	Suction piping from tank 165-KW-E at building opening, -5.5'
165KW-S-3	Spoils pile, North side
165KW-S-4	Spoils pile, South east side
165KW-S-5	Spoils pile, South west side

- 7.2) Information has been provided indicating the methods used to collect and analyze the samples.

All sampling was done in accordance with procedures in the Westinghouse Hanford Company Control Manual 7-7 (WHC-CM-7-7), Environmental Investigation Instruction 5.2, "Soil and Sediment Sampling."

The soil samples were analyzed using a portable gas chromatograph at the UST location. A self contained lab within a portable trailer was utilized to perform the NIOSH method 5500 analysis.

- 7.3) Information has been provided indicating the name and address of the laboratory used to perform the analyses.

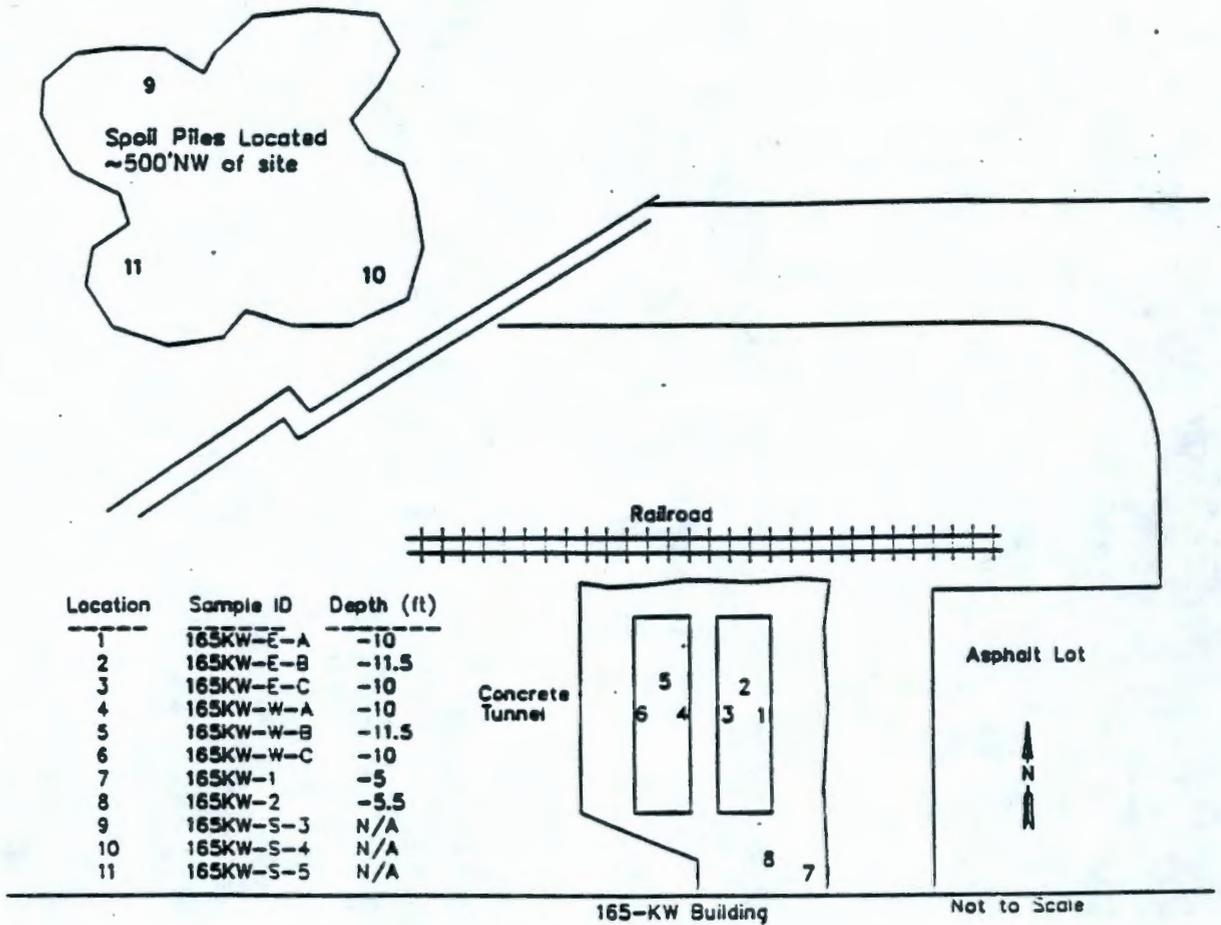
Westinghouse Hanford Company, P.O. Box 1970, Richland, WA 99352

- 8.0) A sketch or sketches showing the following items is provided:

- 8.1) Location and ID number for all field samples collected.

Figure 8: Sample locations and depths (Page SA20)

Figure 8 Sample locations and depths



- 8.2) Groundwater samples distinguished from soil samples (if applicable).

No groundwater samples were taken.

- 8.3) Samples collected from stockpiled excavated soil.

Figure 8: Sample locations and depths (Page SA20)

- 8.4) Tank and piping locations and limits of excavation pit.

Figure 9: 165-KW-E/-W Excavation (Page SA22)

- 8.5) Adjacent structures and streets.

Figure 2: 100 K Area (Page SA6)

Figure 3: 165-KW-E/-W UST Location (Page SA7)

- 8.6) Approximate locations of any on-site and nearby utilities.

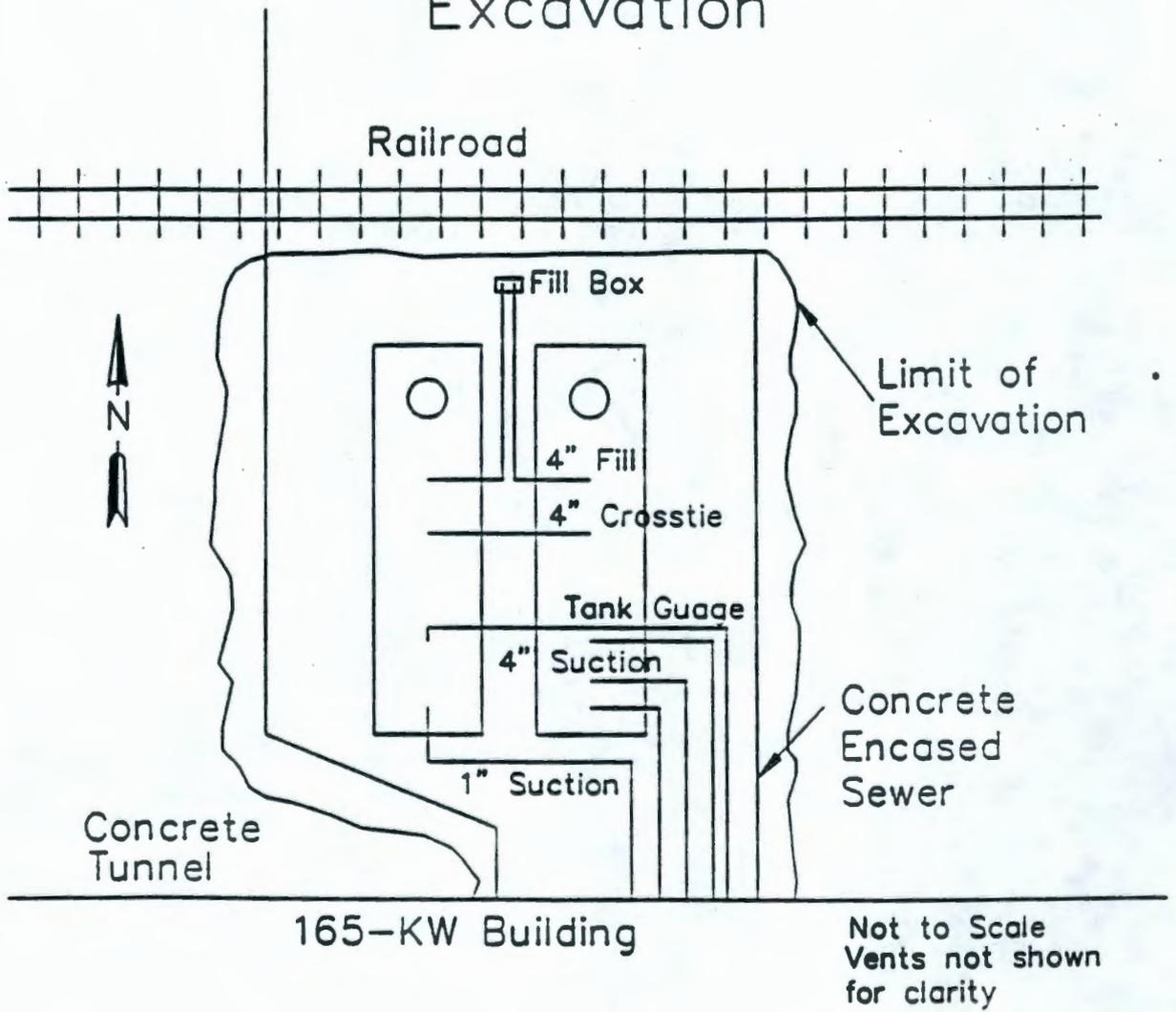
Figure 2: 100 K Area (Page SA6)

Figure 3: 165-KW-E/-W UST Location (Page SA7)

- 9.0) If sampling procedures different from those specified in the guidance were used, has justification for using these alternative sampling procedures been provided? (Section 3.4 in the site assessment guidelines) Justification of adequate sampling must be made for technical reasons, not economic. The site assessor must demonstrate the alternative sampling procedures are equally as likely to determine if a release from the UST system has occurred as the sampling procedure specified in the guidance.

Sampling was done in accordance with site assessment guidelines.

Figure 9 165-KW-E/-W  
Excavation



11.0) Any factors that may have compromised the quality of the data or validity of the results are described.

None

12.0) The results of this site check/site assessment indicate that a confirmed release of a regulated substance has not occurred.

A confirmed release has not occurred.

I, Scott D. Thoren, certify that based upon the results of the site assessment I have completed, that a confirmed release has not occurred.



9/15/93

Signature

Date

## REFERENCES

- DOE/RL, 1992, *Remedial Investigation/Feasibility Study Work Plan for the 100-KR-1 Operable Unit, Hanford Site, Richland, Washington*, DOE/RL-90-20, U.S. Department of Energy, Field Office, Richland, Washington.
- Ecology, 1992a, *UNDERGROUND STORAGE TANK Site Check/Site Assessment Checklist*, Form ECY 010-158, October 1992, Washington Department of Ecology, Olympia, Washington.
- Ecology, 1992b, *Guidance for Site Checks and Site Assessments for Underground Storage Tanks*, February 1991; Revised October 1992, Washington State Department of Ecology, Olympia, Washington.
- Lindsey, K.A., 1991, *Revised Stratigraphy for the Ringold Formation, Hanford Site, South Central Washington*, WHC-SD-EN-AP-023, Westinghouse Hanford Company, Richland, Washington

9713540-1054

Date Submitted:  
August 30, 1996

WASTE SITE RECLASSIFICATION FORM

Control Number:

Originator: J.R. James, BHI

Operable Unit(s): 100-KR-2

Phone: 372-9563

Waste Site ID: 100-K-7, 165-KE Ethylene Glycol Tanks

Type of Reclassification Action:

Rejected  Closed Out  No Action

This form documents agreement among the parties listed below authorizing classification of the subject waste site from the TPA solid waste management unit listing as rejected, closed out; or no action and authorizing backfill of the waste site, if appropriate. Final removal from the NPL will occur at a future date.

Description of current waste site condition:

The 100-K-7 is an inactive site located in the 100-KR-2 Operable Unit. The site operated from approximately 1955 to 1971. It consisted of two 10,000-gallon capacity underground ethylene glycol tanks located adjacent to the 165-KE Building (also known as the 150-KE Heat Recovery Station) in the 100-K Area, at approximately Washington State Plane coordinates (E) 569240.8 (N) 146632.6 (Ref. #1). The tanks stored ethylene glycol which supplied mixed and pure ethylene glycol for injection into process water lines to prevent freezing during cold periods. Both tanks were excavated and removed for reuse in June 1994 (Ref. #2). All piping was blanked at the foundation of the 165-KE Building and exterior piping from the foundation of the building to the tanks was removed (process knowledge from the excavation of the glycol tanks at the 165-KE indicated that the piping needed to be removed in order to remove the tanks). There was no evidence in the soil of a leak and the tanks appeared to be intact (Ref. #3). Soil samples were taken throughout the site and all samples resulted in no detectable amounts of ethylene glycol. These results verified that the soils surrounding the tanks were below 160,000 mg/kg cleanup level promulgated in the Model Toxics Control Act (MTCA). Today, the site is gravel covered (Ref. #1).

Reference list:

1. *Environmental Sites Database General Summary Report*, WIDS, Site Code: 100-K-7, August 12, 1996.
2. *Letter*, from T. F. Demmit to S. H. Wisness, "100 Area Projects," CCN 002784, dated September 2, 1994.
3. *Telephone Conference Memorandum*, from S. Thoren to K. J. Moss, "165-KE and 165-KW Ethylene Glycol Tanks," CCN 9357772, dated August 22, 1994.

Basis for reclassification:

This site is nominated as "No Action" because the tanks have been removed and the surrounding soil has been determined to be below regulatory cleanup standards promulgated in the MTCA regulations. Upon removal of the ethylene glycol tanks, the soil was inspected and samples collected as indicated in attached documentation. All soil analysis results for ethylene glycol were below the cleanup standard of 160,000 mg/kg calculated using MTCA Method B. Therefore, no additional action is deemed necessary at this site. It should be noted that the pipes in the 165-KE Building will be removed during the decontamination and decommissioning of the building.

\_\_\_\_\_  
DOE Project Manager

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Date

\_\_\_\_\_  
Ecology Project Manager

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Date

\_\_\_\_\_  
EPA Project Manager

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Date

## Environmental Sites Database General Summary Report

Site Code: 100-K-7                      Site Classification: Accepted                      12-Aug-96    Page 1

Site Names:                      100-K-7, 165-KE Ethylene Glycol Tanks

Site Type:                      Storage Tank

Programmatic Responsibility:                      EM-40

Site Description:                      The unit is located just north of the 165-KE building and west of the personnel entry door. The area is directly north of the 165-KE Building and is gravel covered.

Status:                      Inactive

Start Date:

End Date:

Operable Unit:                      100-KR-2

Hanford Area:                      100K

Coordinates:                      (E) 569240.8                      (N) 146632.6                      Washington State Plane

Associated Structures:                      165-KE Building, 116-KE-5 (150-KE Heat Recovery Station).

Site Accessible:                      No

Access Requirements:

Site Hazards:

Location Description:

Environmental Monitoring Desc:

Release Desc:

Release Potential Desc:

Site Comment:                      Exhumed. These tanks were removed June 1994. The two underground tanks were positioned horizontally and the longest dimension extended from 165-KE to the north.

Process Desc:

References:

1. R. W. Carpenter, 04/12/94, 100-K Area Technical Baseline Report, WHC-SD-EN-TI-239, Rev 0.
2. Kathryn J. Moss, 08/26/94, WIDS Site Addition: 100-K-7 (#94-272).

Dimensions:

	<u>Meters</u>	<u>Feet</u>
Length:	8.23	27.00
Width:		
Depth / Height:		
Diameter:	2.44	8.00
Area:		

Overburden Depth:

References:

1. Kathryn J. Moss, 08/26/94, WIDS Site Addition: 100-K-7 (#94-272).

---

**Regulatory Information:**

Part A Permit Application Written:	No	Interim Closure Plan Written:	No
Part B Permit Application Written:	No	Covered under TPA Action Plan:	Yes
Registered Class V Underground Injection Well:	No	Solid Waste Management Unit:	No
Regulatory Authority:	CERCLA Past Practice		
TSD Number:			

**References:**

1. Kathryn J. Moss, 08/26/94, WIDS Site Addition: 100-K-7 (#94-272).

---

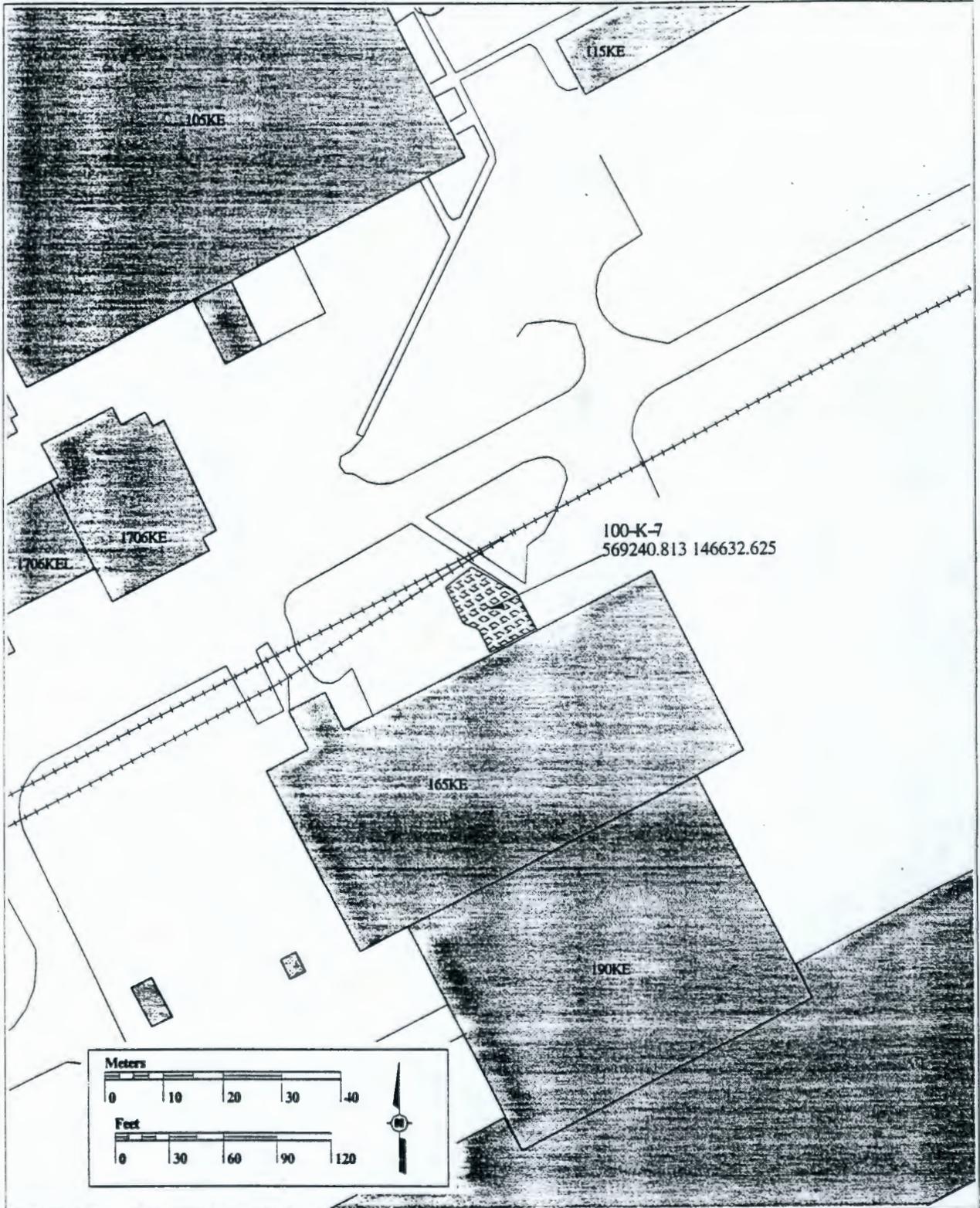
**Waste Information:**

Type:	Needs Updating	Physical State:
Category:		
Amount:		Units:
Reported Date:		
Start Date:		
End Date:		
Waste Desc:	Ethylene glycol.	

**References:**

1. R. W. Carpenter, 04/12/94, 100-K Area Technical Baseline Report, WHC-SD-EN-TI-239, Rev 0.
-

# 100-K-7



9713540.1058

002784

**Bechtel Hanford, Inc.**

450 Hills Street, Richland, WA 99352  
 Mailing address: P O Box 969 Richland, WA 99352  
 Telephone (509) 375-4640 Fax: (509) 375-4644

Job No. 22192  
 Contract No. DE-AC06-93RL12367  
 Subject Code: 8300, 4930  
 Written Response Required? NO  
 Due Date: N/A  
 OU N/A  
 TSD N/A  
 ERA N/A

SEP 2 1994

Department of Energy  
 Richland Operations Office  
 P. O. Box 550, MSIN A5-19  
 Richland, Washington 99352

Attention: Mr. S. H. Wisness, Acting Program Manager  
 Office of Environmental Assurance, Permits, and Policy

Subject: **CLOSURE OF UNDERGROUND STORAGE TANKS 165-KE-E, 165-KE-W,  
 6652-L-39, 6652-P, AND 184-DO-DT**

Dear Mr. Wisness:

Attachment 1 is the State of Washington Department of Ecology (Ecology) form, "Underground Storage Tank Temporary/Permanent Closure and Site Assessment Notice," notifying Ecology of the permanent closure of five underground storage tanks (UST) on the Hanford Site. Removal activities were completed on June 29, 1994. Four tank-sites were found to be clean (165-KE-E, 165-KE-W, 6652-P, and 184-DO-DT) and one tank site contained minor amounts of contamination (6652-L-39). The USTs, 6652-L-39 and 6652-P, were orphan tanks located in the 600 Area on Rattlesnake Mountain, tank 184-DO-DT was an orphan tank in the 100-N Area, and tanks 165-KE-E and 165-KE-W were orphan tanks located in the 100-K Area. It is requested that these forms be submitted to Ecology in accordance with WAC 173-360-630(12)(a), "Registration and Licensing of Tank Service Providers."

The UST 6652-L-39 site contained 290 parts per million of diesel fuel contaminants in the soil. The soil that was excavated from the UST site met the method A cleanup levels using statistical methods provided in Ecology documents. No petroleum contaminated soils were generated during this activity. Based upon these findings, contaminant locations, and consultation with Ecology, no further action at this site is required.

These tanks were not required to be removed unless dictated by Ecology, but U.S. Department of Energy, Richland Operations Office (RL) and Westinghouse Hanford Company (now BHI) have been removing these tanks in accordance with regulatory guidelines as part of the Hanford cleanup.



USTCLOSURE

Mr. S. H. Wisness

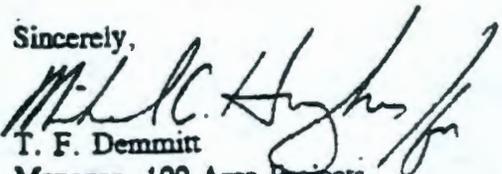
Page 2

The notification form will require the signature of RL as owner/operator. This signature implies the owner has knowledge of the removal and is cognizant and/or has delegated the duties required for closure.

A draft transmittal letter to Ecology is also attached for your review (Attachment 2).

If you have any questions or require additional information, please call me at 375-4647 or Mr. Michael A. Mihalic at 373-1382.

Sincerely,



T. F. Demmitt  
Manager, 100 Area Projects

TFD:kab

- Attachments: 1. Underground Storage Tank Temporary/Permanent Closure and Site Assessment Notice  
2. Draft transmittal letter to Ecology

cc: J. M. Bruggeman (USACE) w/o	A5-19
T. F. Demmitt (BHI) w/o	H4-79
J. H. Dunkirk (BHI) w/o	H4-79
A. P. Goforth (BHI) w/a	H6-08
M. C. Hughes (BHI) w/o	X5-55
P. K. Jackson (BHI) w/o	X5-53
M. A. Mihalic (BHI) w/o	X5-53
R. O. Puthoff (DOE-RL) w/o	A5-10
D. A. Riley (WHC) w/o	X7-02
R. G. Shuck (BHI) w/a	X0-17
S. D. Stites (DOE-RL) w/o	A5-15
S. D. Thoren (BHI) w/a	X5-53
DE Files, w/a	X5-53
BHI Document Control, w/a	H4-79

002786



# UNDERGROUND TANK TEMPORARY/PERMANENT CLOSURE and SITE ASSESSMENT NOTICE

See back of form for instructions  
Please  the appropriate box(es)  
Please type or print information

For Office Use Only  
Owner # \_\_\_\_\_  
Site # \_\_\_\_\_

Temporary Tank Closure     Permanent Tank Closure     Change-In-Service     Site Assessment/Site Check

### SITE INFORMATION:

Site ID Number (on invoice or available from Ecology if the tanks are registered): 012763  
Site/Business Name: U.S. Department of Energy, Richland Operations Office  
Site Address: 825 Jadwin P.O. Box 550 Telephone: (509) 376-7387  
Richland WA 99352  
Street City State ZIP Code

### TANK INFORMATION:

Tank ID	Closure Date	Tank Capacity	Substance Stored
<del>6652-1-39</del>	<del>5/24/94</del>	<del>10,000 gal</del>	<del>Diesel</del>

**CONTAMINATION PRESENT AT THE TIME OF CLOSURE**

Yes     No     Unknown

Check unknown if no obvious contamination was observed and sample results have not yet been received from analytical lab.

### USE SYSTEM OWNER/OPERATOR:

UST Owner/Operator: U.S. Department of Energy, Richland Operations Office  
Owners Signature: \_\_\_\_\_ Telephone: (509) 376-7387  
Address: 825 Jadwin, P.O. Box 550  
Richland WA 99352  
Street City State ZIP Code

### TANK CLOSURE/CHANGE-IN-SERVICE PERFORMED BY:

Service Provider: Westinghouse Hanford Company License Number: S001592  
Licensed Supervisor: Daniel Riley Decommissioning License Number: W600 778  
Supervisors Signature: Daniel Riley  
Address: \_\_\_\_\_ 1970  
Richland WA 99352-0539  
Street City State ZIP Code  
Telephone: (509) 376-7411

### SITE CHECK/SITE ASSESSMENT CONDUCTED BY:

Name of Registered Site Assessor: Scott D. Thoren  
Telephone: (509) 373-4033  
Address: \_\_\_\_\_ 1970, MSIN X5-53  
Richland WA 99352-0539  
Street City State ZIP Code

002784

WASHINGTON STATE  
DEPARTMENT OF  
ECOLOGY

# UNDERGROUND STORAGE TANK TEMPORARY/PERMANENT CLOSURE and SITE ASSESSMENT NOTICE

See back of form for instructions  
Please  the appropriate box(es)  
Please type or print information

For Office Use Only  
Owner # \_\_\_\_\_  
Site # \_\_\_\_\_

Temporary Tank Closure  Permanent Tank Closure  Change-In-Service  Site Assessment/Site Check

### SITE INFORMATION:

Site ID Number (on invoice or available from Ecology if the tanks are registered): 012763  
Site/Business Name: U.S. Department of Energy, Richland Operations Office  
Site Address: 825 Jadwin P.O. Box 550 Telephone: ( 509 ) 376-7387  
Richland WA 99352  
Street City State ZIP Code

### TANK INFORMATION:

Tank ID	Closure Date	Tank Capacity	Substance Stored
184-DO-DT	5/31/94	5,000 gal	Diesel
6652-D	5/23/94	2,000 gal	Diesel
165-KE-E	6/29/94	10,000 gal.	Antifreeze
165-KE-W	6/29/94	10,000 gal.	Antifreeze
<del>                    </del>	<del>                    </del>	<del>                    </del>	<del>                    </del>
<del>                    </del>	<del>                    </del>	<del>                    </del>	<del>                    </del>
<del>                    </del>	<del>                    </del>	<del>                    </del>	<del>                    </del>
<del>                    </del>	<del>                    </del>	<del>                    </del>	<del>                    </del>

**CONTAMINATION PRESENT AT THE TIME OF CLOSURE**  
 Yes  No  
 Unknown  
Check unknown if no obvious contamination was observed and sample results have not yet been received from analytical lab.

### UST SYSTEM/OWNER/OPERATOR

UST Owner/Operator: U.S. Department of Energy, Richland Operations Office  
Owners Signature: \_\_\_\_\_ Telephone: ( 509 ) 376-7387  
Address: 825 Jadwin, P.O. Box 550  
Richland WA 99352  
Street City State ZIP Code

### TANK CLOSURE/CHANGE-IN-SERVICE PERFORMED BY:

Service Provider: Westinghouse Hanford Company License Number: 5001592  
Licensed Supervisor: Daniel Riley Decommissioning License Number: W000778  
Supervisors Signature: Daniel Riley  
Address: \_\_\_\_\_ 1970  
Richland WA 99352-0539  
Street City State ZIP Code  
Telephone: ( 509 ) 376-7411

### SITE CHECK/SITE ASSESSMENT CONDUCTED BY:

Name of Registered Site Assessor: Scott D. Thoren  
Telephone: ( 509 ) 373-4033  
Address: \_\_\_\_\_ 1970, MSIN X5-53  
Richland WA 99352-0539  
Street City State ZIP Code

**Department of Energy**

Richland Field Office

P.O. Box 550

Richland, Washington 99352

Mr. D. C. Nylander, Kennewick Manager  
Nuclear and Mixed Waste Program Office  
State of Washington  
Department of Ecology  
P. O. Box 1386  
Richland, Washington 99352

Dear Mr. Nylander:

CLOSURE OF UNDERGROUND STORAGE TANKS 165-KE-E, 165-KE-W, 6652-L-39, 6652-P,  
AND 184-DO-DT

Enclosed is the State of Washington Department of Ecology (Ecology) form, "Underground Storage Tank Temporary/Permanent Closure and Site Assessment Notice," notifying Ecology of the permanent closure of five underground storage tanks (UST) on the Hanford Site. Removal activities were completed on June 29, 1994. Four tank sites were found to be clean (165-KE-E, 165-KE-W, 6652-P, and 184-DO-DT) and one tank site contained minor amounts of contamination (6652-L-39). The USTs, 6652-L-39 and 6652-P, were orphan tanks located in the 600 Area on Rattlesnake Mountain, tank 184-DO-DT was an orphan tank in the 100-N Area, and tanks 165-KE-E and 165-KE-W were orphan tanks located in the 100-K Area.

The UST 6652-L-39 site contained 290 parts per million of diesel fuel contaminants in the soil. The soil that was excavated from the UST site met the method A cleanup levels using statistical methods provided in Ecology documents. No petroleum contaminated soils were generated during this activity. Based upon these findings, contaminant locations, and consultation with Ecology, no further action at this site is required.

These tanks were not required to be removed unless dictated by Ecology, but U.S. Department of Energy, Richland Operations Office (RL) and Westinghouse Hanford Company (now BHI) have been removing these tanks in accordance with regulatory guidelines as part of the Hanford cleanup.

Mr. D. C. Nylander

-2-

If you have any questions or require additional information, please call me at 376-6798 or Mr. Steven D. Stites at 376-8566.

Sincerely,

S. H. Wisness, Acting Program Manager  
Office of Environmental Assurance,  
Permits, and Policy

kab

Enclosure: Underground Storage Tank Temporary/Permanent Closure and Site  
Assessment Notice

cc: G. C. Hofer, EPA  
M. C. Hughes, BHI  
T. A. Wooley, Ecology



From: M.L.Myers, Special Analytical Studies,  
Solid Waste Assessment Team  
Phone: 373-0989 S3-90  
Date: July 11, 1994  
Subject: 165K: UST's, ETHYLENE GLYCOL (FT4-013)

FILE  
165-KE

To: S. D. Thoren X5-53  
cc: L. L. Lockrem S3-90  
M. L. Myers S3-90  
L. A. Pingel S3-90

### Introduction

To determine the ethylene glycol concentration present in soil beneath the underground storage tanks (UST's), 165-KE-E and 165-KE-W. The UST's were removed to comply with state and federal regulations. Samples were uniformly moist, sandy soil with clays, containing very little humus material. Each soil sample was washed with DI water to extract all ethylene glycol present and a gas chromatograph was used for the resulting analysis.

### Results

#### Calibration Data

Concentration (ppm)	Average Ret. Time (min.)	Average Peak Area (mv)
139.12	2.742	485.67
278.25	2.787	850.78
556.50	2.823	1623.82
834.75	2.841	2451.70

#### Sample Analysis

Sample #	Mass (grams)	Retention Time (min)	Area (mv)	Calibrated Conc. (ug ET(OH) <sub>2</sub> /mL H <sub>2</sub> O)	Calculated Conc. (uL ET(OH) <sub>2</sub> /g soil)
01	2.32	2.725	59.60	19.63	0.038
02	2.17	2.733	15.82	5.21	0.011
03	2.22	2.675	17.39	5.72	0.012
04	2.31	NO PEAK	-----	-----	-----
04-REDO	2.31	NO PEAK	-----	-----	-----
05	2.22	2.766	54.17	17.84	0.036
05-DUP	2.02	2.758	4.44	1.46	0.0032
06	2.14	2.758	54.55	17.96	0.038

9713540.1066

Additionally, the software was set to reject the integration of any area less than 2 millivolts.

Before the samples were run, a non-injection run and a water blank were performed in order to ensure the relative stability of the baseline. The water manifested itself in the chromatogram as a drop (function of the PID) at 0.400 minutes, which extended to about 1 minute. Otherwise, the baseline remained relatively constant. Finally, the samples were run, along with one duplicate sample, a spiked sample, a blank spike, and an additional water blank. The data was then collected and analyzed.

#### Analysis Comments

Samples were taken, by Lino Guerra on 06/29/94, from various locations beneath tank 165-KE-E AND 165-KE-W, using stainless steel spoons cleaned per RCRA protocols. There were thirteen different samples contained in separate sealed amber jars. The soil samples were prepared according to the above method with DI water and then analyzed on that same day. Because of the low concentrations of ethylene glycol in the samples, no dilutions of the original leachate were necessary.

#### Conclusion

All samples collected beneath tanks 165-KE-E and 165-KE-W were analyzed by gas chromatography for ethylene glycol and found to be less than 100 ppm (ug ET(OH)2/g soil).

If there are any questions, please do not hesitate to call M.L.Myers, 373-0989.

M.L. Myers,  
Special Analytical Studies  
Solid Waste Assessment Team

L. A. Pingel  
Field Analytical Services

9713540 1167

Date Submitted:  
August 30, 1996

WASTE SITE RECLASSIFICATION FORM

Control Number:

Originator: J.R. James, BHI

Operable Unit(s): 100-KR-2

Phone: 372-9563

Waste Site ID: 130-K-1, 1717-K Gasoline Storage Tank

Type of Reclassification Action:

Rejected  Closed Out  No Action

This form documents agreement among the parties listed below authorizing classification of the subject waste site from the TPA solid waste management unit listing as rejected, closed out, or no action and authorizing backfill of the waste site, if appropriate. Final removal from the NPL will occur at a future date.

Description of current waste site condition:

The 130-K-1 Gasoline Storage Tank was located adjacent to the 1717-K Building at the 100-K Area, at approximately Washington State Plane coordinates (E) 568977.6 (N) 146501 (Refs. #1 and #2). The site was an underground gasoline storage tank that was used from 1955-1972 to store gasoline (Refs. #1, #2, and #3). The gasoline storage tank was removed July 18, 1989. Upon removal of the tank, an inspection revealed no leaks. Five soil samples were taken and all sample results were <50 mg/kg for total petroleum hydrocarbons (TPH) for gasoline. These results verified that the soils surrounding the tank were below the clean up standard of 100 mg/kg TPH for gasoline (Ref. #4).

Reference list:

1. *Environmental Sites Database General Summary Report*, WIDS, Site Code: 130-K-1, August 12, 1996.
2. Carpenter, R.W. et al, 1994, *100-K Area Technical Baseline Report*, WHC-SD-EN-TI-239, Rev. 0, Westinghouse Hanford Company, Richland, Washington, April 12, 1994.
3. *Field Logbook*, WHC-N-270, 7-27-89.
4. *Letter*, from M. K. Hamilton to R. C. Roos, "Soil Characterization," CO 14234 with corrected version, dated December 5, 1989.

Basis for reclassification:

This site is nominated as "No Action" because the tank has been removed and surrounding soil was not found to be contaminated at levels above regulatory cleanup standards promulgated in the Model Toxics Control Act Cleanup regulations. Upon removal of the gasoline tank, soil was inspected and five samples collected as indicated in attached documentation. All soil analysis results for the TPH gasoline were below the clean up standard of 100 mg/kg. Therefore, no additional action is deemed necessary at this site.

\_\_\_\_\_  
DOE Project Manager

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Date

\_\_\_\_\_  
Ecology Project Manager

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Date

\_\_\_\_\_  
EPA Project Manager

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Date

## Environmental Sites Database General Summary Report

---

Site Code: 130-K-1                      Site Classification: Accepted                      12-Aug-96    Page 1

---

Site Names:                      130-K-1, 1717-K Gasoline Storage Tank

Site Type:                      Storage Tank

Programmatic  
Responsibility:                      EM-40

Site Description:                      Located adjacent to the 1717-K Building

Status:                      Inactive

Start Date:                      1955

End Date:                      1972

Operable Unit:                      100-KR-2

Hanford Area:                      100K

Coordinates:                      (E) 568977.6                      (N) 146501                      Washington State Plane

Associated Structures:

Site Accessible:                      No

Access Requirements:

Site Hazards:

Location Description:

Environmental  
Monitoring Desc:

Release Desc:

Release Potential Desc:

Site Comment:                      The unit was removed July 18, 1989 and no contamination was found. The unit was backfilled to grade.

Process Desc:

References:

1. K. H. Cramer, Hanford Site Waste Management Units Report, May 1987.
2. 2-89, Preliminary Operable Units Designation Project, WHC-EP-0216.
3. L. P. Diediker to F. A. Ruck III, 3-17-88, WHC Mem.: Comment and Revisions to 100 Area Waste Units Listed in 3004(u).
4. Carpenter, RW and SL Cote, 1994, 100K Area Technical Baseline Report, WHC-SD-EN-TI-0239 Rev 0.

---

**Regulatory Information:**

Part A Permit Application Written:	No	Interim Closure Plan Written:	No
Part B Permit Application Written:	No	Covered under TPA Action Plan:	Yes
Registered Class V Underground Injection Well:	No	Solid Waste Management Unit:	No
Regulatory Authority:	CERCLA Past Practice		
TSD Number:			

---

**References:**

1. 12-88, Hanford Site Dangerous Waste Part A Permit Application. Vol. 1,2,3, DOE/RL 88-21.
2. 2-27-89, Action Plan For Implementation of the Hanford Facility Agreement and Consent Order.
3. Prepared by DOE, 3-11-88, Registration of Hanford Site Class V Underground Injection Wells.
4. 2-89, Preliminary Operable Units Designation Project, WHC-EP-0216.
5. Jack Waite to Sherry Griffin, 11-12-90, Review Comments on the 1990 Hanford Site Waste Management Units Report, DSI.

---

**Waste Information:**

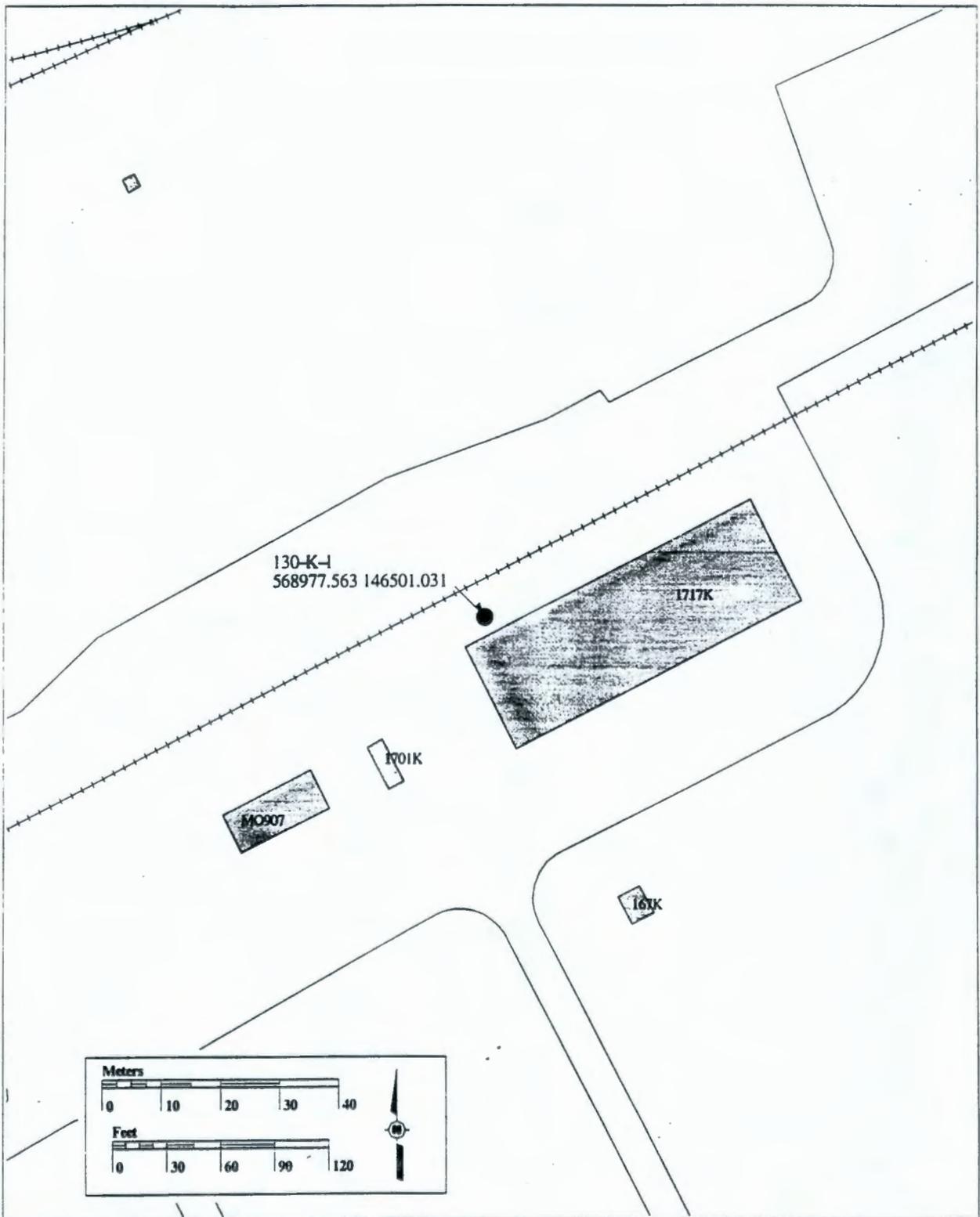
**Type:** Needs Updating                      **Physical State:**  
**Category:**  
**Amount:**                                      **Units:**  
**Reported Date:**  
**Start Date:**  
**End Date:**

**Waste Desc:**        The unit was used for storage of gasoline (product).

**References:**

1. K. H. Cramer, Hanford Site Waste Management Units Report, May 1987.
-

# 130-K-1



# 100-K Area Technical Baseline Report

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



**Westinghouse**  
**Hanford Company** Richland, Washington

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

Approved for Public Release

<p>2. Title</p> <p>100-K Area Technical Baseline Report</p>	<p>3. Number</p> <p>WHC-SD-EN-TI-239</p>	<p>4. Rev No.</p> <p>0</p>
<p>5. Key Words</p> <p>history decontamination reactor basins cooling water</p> <p style="text-align: center;"><b>APPROVED FOR PUBLIC RELEASE</b></p> <p><i>CE for bill 4/10/94</i></p>	<p>6. Author</p> <p>Name: R.W. Carpenter</p> <p><i>RWC</i> Signature</p> <p>Organization/Charge Code 8B200/P711B</p>	

7. Abstract

Carpenter, R. W., and S. L. Cote', 1994, 100-K Area Technical Baseline Report, WHC-SD-EN-TI-239, Westinghouse Hanford Company, Richland, Washington.

8. PURPOSE AND USE OF DOCUMENT - This document was prepared for use within the U.S. Department of Energy and its contractors. It is to be used only to perform, direct, or integrate work under U.S. Department of Energy contracts. This document is not approved for public release until reviewed.

PATENT STATUS - This document copy, since it is transmitted in advance of patent clearance, is made available in confidence solely for use in performance of work under contracts with the U.S. Department of Energy. This document is not to be published nor its contents otherwise disseminated or used for purposes other than specified above before patent approval for such release or use has been secured upon request, from the Patent Counsel, U.S. Department of Energy Field Office, Richland, WA.

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

10. RELEASE STAMP

OFFICIAL RELEASE 11

BY WHC

DATE APR 12 1994

*Statis #12*

9. Impact Level NA

9713540.1073

5.21 130-K-1 (1717-K GASOLINE STORAGE TANK)

The 130-K-1 is an inactive liquid waste site that was used from 1955 to 1972 for the storage of gasoline (Cramer 1987). The site is located adjacent to the 1717-K Building at 100-K Area coordinates NK4150 WK5500 (WHC 1991).

The storage tank was emptied and filled with water when the facilities were deactivated (Cramer 1987). It has been reported that soil around the tanks may be contaminated from spillage. Although this tank may represent a substantial source of contamination, no leaks were reported (DOE-RL 1992b). The tank was removed July 18, 1989. No significant contamination of the soil beneath the tank was detected and the site was backfilled with clean fill material to match the surrounding grade.

Today, this waste site appears as a vegetation-free, gravel parking lot.

PROJECT WHC-N-2703540/1074

130-K-1  
Reg Gas

8  
130-K-2  
used oil

PROJECT 130-K-1 9713540/81975 K-2 Tanks

7/27/89

130-K-1 Regulated Gasoline

130-K-2 Used oil

0:10 - 10:15 Pipes cut from K-1 no residual fuel spilled to ground. Pipes were cut to K-2 prior to sampling. Team's arrival  $\approx$  0945  
RS

02:5 Tank lifted from ground

Visual inspection of the excavation revealed rust coats  $\approx 1/2$ " thick. A frozen soil area was near the west end of the tank site. This was caused by  $\approx 420$  pounds of dry ice placed in the tank to reduce volatility of residual fumes.

Inspection of the tank revealed no leaks, and note was sound in appearance. Thin stains of calcium or other salt precipitations dotted tank.

Sample locations determined at 130-K-1. They are measured from the North west corner of the tank as 0x0 numbers run N x W (actually S x E) 3' x 2', 5' x 10', 2' x 8'. An additional sample was specified at 3' x 5' which was an area of heavy rust scale.

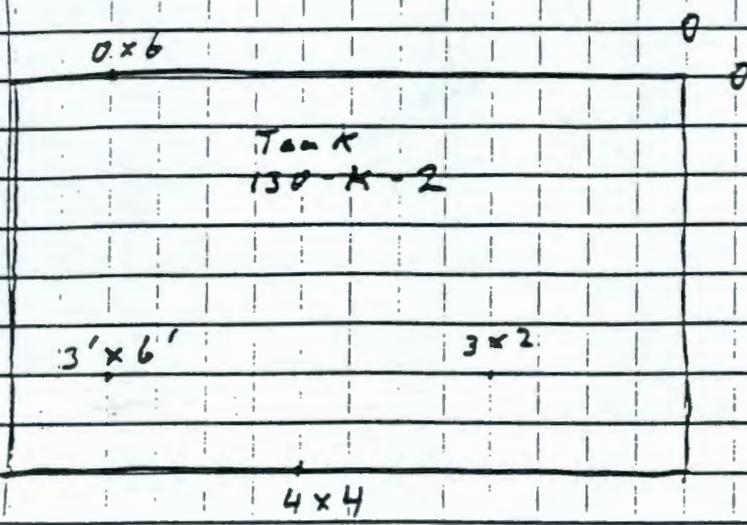
The long axis of K-1 is E-W and the long axis of K-2 is N-S.

Sample locations in K-2 are 3x2, 0x6, 4x4. One sample was specified at 3' x 6' in an area of rust.

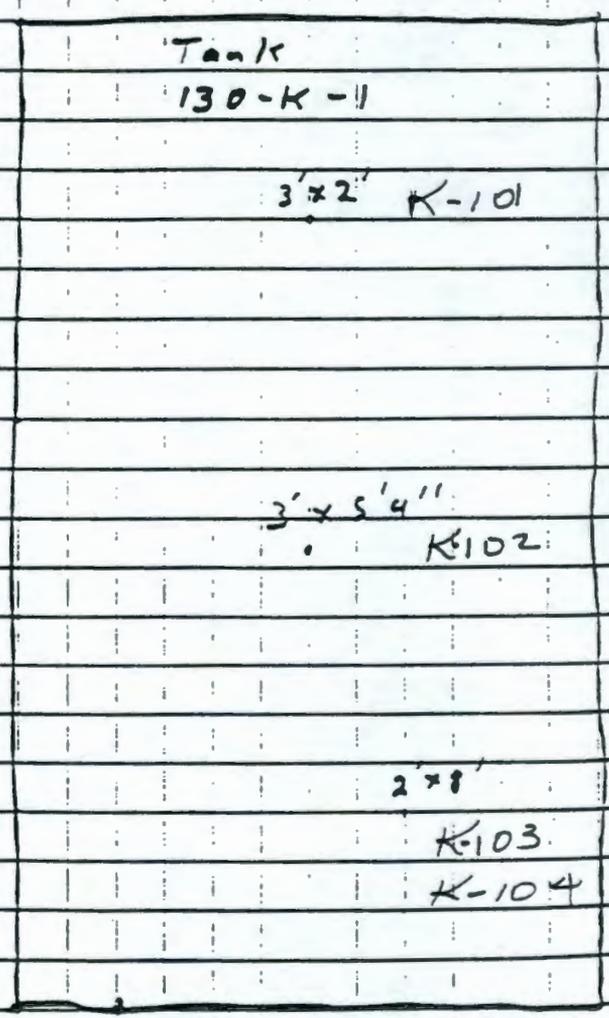
Continued on Page \_\_\_\_\_

Read and Understood By

Richard Rees



11A  
Bldg



Continued on Page \_\_\_\_\_

Read and Understood By \_\_\_\_\_

Richard P. Ross  
Signature

OBJECT \_\_\_\_\_

9713540.1077

- 1230 Sample K-101 collected at 3' x 2'  
Health and safety recorder no reading on HNU  
O<sub>2</sub> and LEL measurements were both OK 130-K-1
- 1245 Sample K-102 collected at 3' x 5' 4" 130-K-1  
No readings on HNU
- 1251 RPT checks samples - no radioactivity detected  
confirms that periodic surveys have been made  
periodically throughout excavation with no radioactive  
contamination detected
- 252 Sample K-103 collected from 2' x 8' This is  
the 1<sup>st</sup> of 2 samples from this location - Two will  
go to HEHF as duplicates (K-103 + K-104)  
The second sample numbered K-103 will be delivered  
for analysis to the 325 Laboratory
- 56 Split sample K-103 collected from 2' x 8' for  
analysis at 325
- 02 Sample K-104 collected from 2' x 8' as a  
duplicate to be sent with K-103 ~~to~~ TO  
HEHF
- 28 Sample K-105 collected from 5' x 10'

All above samples were collected in 40 ml VOA  
bottles from Tank location 130-K-1

1 Excavation at 130-K-2 initiated

Continued on Page \_\_\_\_\_

Read and Understood By



7.0 WORK COMPLETION CHECKLIST

TANK ID# 130-K-1 LOCATION 1717 K

DIMENSIONS \_\_\_\_\_ OPERATING VOLUME 2000 GAL.

CONTENTS (when in service) LEADED GASOLINE

	<u>INITIAL</u>	<u>DATE</u>
7.1 All preparatory work complete. (Section 5.1 through 5.9)	<u>WOR</u> Supervisor	<u>7-26-89</u>
7.2 Tank and piping verified free of explosive fumes and flammable liquids.	<u>CAM</u> Safety	<u>7-26-89</u>
7.3 For Leaded Gasoline and Diesel Tanks Only - piping and equipment properly packaged. (Section 6.3 and 6.5)	<u>WOR</u> Supervisor	<u>7-27-89</u>
7.4 Soil is segregated if necessary. (Section 6.4)	<u>WOR</u> Supervisor	<u>7-27-89</u>
7.5 Proper angle of repose/shoring is used for excavation during tank removal.	<u>WOR</u> (Per R.C.C.) Safety	<u>7-27-89</u>
7.6 Tank impressions soil samples taken. (Hold Point at Section 6.9)	<u>WOR</u> Supervisor	<u>7-27-89</u>
7.7 Analytical Results: _____ * of Soil Samples		
Visual Indication: <u>NO visible leaks</u>	<u>WOR</u> Supervisor	<u>7-27-89</u>
7.8 Backfill authorized per Section 6.11.	<u>MRM</u> Dec. Engineering	<u>8/21/89</u>
7.9 Record Borrow Pit ID# <u>23</u> Approximate volume used <u>30</u> yd <sup>3</sup>	<u>WOR</u> Supervisor	<u>8-23-89</u>
7.10 Tank disposal per Section 6.13.	<u>DAR</u> Supervisor	<u>2-26-90</u>

NOTE: Items 7.8 and 7.9 shall be marked N/A (Not Applicable) by Decommissioning Engineering if the decision is made to leave the excavation open due to soil contamination.

RECORD COPY

\*DATA SHEETS/REPORT ATTACHED

MAR 25 1991

Document No. DWP-G-020-00001	Rev/Mod A-0	Page 8 of 38
---------------------------------	----------------	-----------------





# HANFORD ENVIRONMENTAL HEALTH FOUNDATION

December 5, 1989

→ CO 14234  
Corrected

Westinghouse Hanford Company  
MSIN L4-92

Attn: R. C. Roos

## SOIL CHARACTERIZATION

The following are the results of the analysis of ten soil samples received July 27, 1989. These samples were reportedly from tank site 130-K-1 & 2.

The samples were analyzed for Total Petroleum Hydrocarbons (TPH) using USEPA Method 418.1 which calls for Freon 113 (trichlorotrifluoroethane) extraction of the total petroleum hydrocarbons followed by infrared spectrographic analysis.

EP-TOX lead (Pb) was determined by 24 hr. buffered acetic acid extraction (modified USEPA Method 1310, 2nd and 3rd Eds.), followed by analysis of the resulting extract by flame atomic absorption spectroscopy.

	<u>Sample ID</u>	<u>mg/Kg TPH</u>	<u>mg/L EP-TOX Pb</u>
Site 130-K-1	K-101	<50	0.45
	K-102	<50	0.43
	K-103	<50	0.40
	K-104	<50	1.01
	K-105	170	<0.1
Site 130-K-2	K-106	180	0.38
	K-107	220	0.24
	K-108	190	0.36
	K-109	160	0.33
	K-110	120	0.31

Your samples are being returned to you for disposal or storage.

If you have any questions regarding this report, please contact Environmental Health Sciences.

*M. K. Hamilton*

M. K. Hamilton, CIH  
Laboratory Director  
Environmental Health Sciences



# HANFORD ENVIRONMENTAL HEALTH FOUNDATION

March 26, 1990

CO 14234

Westinghouse Hanford Company  
MSIN R2-77

Attn: M. Martin

EVALUATION OF TOTAL PETROLEUM HYDROCARBON DATA - SOILS FROM 130-K-1&2

The following is provided as a result of phone inquiries from you concerning Total Petroleum Hydrocarbon (TPH) data provided by HEHF to R. Roos, WHC, for soil samples collected from tank site 130-K-1 & 2. The samples in question (K-105 through 110) were received by HEHF on July 27, 1989.

Analysis of these and other tank site soil samples submitted by Mr. Roos was performed in accordance with approved methodology (USEPA Method 418.1). This method calls for Freon 113 (trichlorotrifluoroethane) extraction of the total petroleum hydrocarbons followed by infrared spectrographic analysis.

Values reported for the six samples in question ranged from 120 to 220 mg/Kg. Review of the data showed no apparent errors or anomalies in the analysis. The detection limit for the method is 50 mg/Kg; however, values below 300 mg/Kg have a higher level of uncertainty associated with them due to difficulties in determining absorbances in the lower range of the method. Although precision and accuracy for this range of this method have not been specifically determined, an uncertainty of  $\pm 50\%$  would not be unreasonable to assume, based on the performance of similar methods.

Should you have additional questions concerning these analyses, please contact me.

*Maureen K. Hamilton*

M. K. Hamilton, CIH  
Laboratory Director  
Environmental Health Sciences

ac

9773540-1082

Date Submitted:  
August 30, 1996

WASTE SITE RECLASSIFICATION FORM

Control Number:

Originator: J.R. James, BHI

Operable Unit(s): 100-NR-1

Phone: 372-9563

Waste Site ID: 124-N-5, 100-N Sanitary Sewer System No. 5, 124-N-5 Septic Tank

Type of Reclassification Action:

Rejected  Closed Out  No Action

This form documents agreement among the parties listed below authorizing classification of the subject waste site from the TPA solid waste management unit listing as rejected, closed out, or no action and authorizing backfill of the waste site, if appropriate. Final removal from the NPL will occur at a future date.

Description of current waste site condition:

The 124-N-5 Sanitary Sewer System Number 5 is an inactive system located in the 100-NR-1 Operable Unit, at approximately Washington State Plane coordinates (E) 571518.6 (N) 149181.2, southwest of the 1117-N and 1118-N Trailers, and consists of a septic tank and associated drain field. In the early 1980's, fill dirt was placed over the drain field to a depth of 2 ft or more. Although the tank was covered with a steel manhole cover, it may be covered with gravel today, as it lies in a gravel parking lot. When active from 1981 to 1987, the system supported the 1111-N, 1117-N, 1118-N, 1123-N, 1125-N, and 1131-N Mobile Office Buildings; the 1116-N Mobile Simulator/Reactor Control Room; and the 1124-N Mobile Records Storage Unit. There were no documented activities conducted in these buildings involving the use of hazardous chemicals or the receipt or generation of dangerous waste. Based on the use of these facilities, no such activities would have been likely. This site has been isolated, pumped, and filled.

Reference list:

1. *Environmental Sites Database General Summary Report*, WIDS, Site Code: 124-N-5, August 12, 1996.
2. Cote, S. L., 1994, *100-N Area Technical Baseline Report*, WHC-SD-EN-TI-251, Rev. 0, Westinghouse Hanford Company, Richland, Washington, July 6, 1994.
3. *Memo*, from Dennis DeFord, Hanford Historian to Linda Dietz, "Deactivated 100-N Septic Tanks." dated June 3, 1996.

Basis for reclassification:

This site is nominated as "Rejected" because there have been no dangerous wastes or CERCLA hazardous substances at this site. This is an inactive site that received only sanitary waste associated with personal comfort needs of personnel assigned to the N Area temporary office buildings. Activities at these buildings were generally administrative and did not involve the use or processing of any dangerous wastes or hazardous substances. Available documentation does not indicate any incidence of dangerous wastes or hazardous substance discharges. This system has been isolated, pumped, and filled with sand. Further action at this site, if required, will be conducted in accordance with the State of Washington Department of Health regulations for On-Site Sewage Systems (WAC 246-272).

DOE Project Manager

Signature

Date

Ecology Project Manager

Signature

Date

EPA Project Manager

Signature

Date

9713540.1083

## Environmental Sites Database General Summary Report

Site Code: 124-N-5      Site Classification: Accepted      12-Aug-96      Page 1

Site Names: 124-N-5, 100-N Sanitary Sewer System No. 5; 124-N-5 Septic Tank

Site Type: Septic Tank

Programmatic Responsibility: EM-40

Site Description: Southwest of the 1117-N and 1118-N Trailers The unit includes a drain field. Tank volume was 3,700 gal, and the drain field infiltration surface area was 960 sq ft. The system was abandoned in place and was replaced by the 124-N-10 Lagoon.

08/16/95

Status: Inactive

Start Date: 1981

End Date: February 1987

Operable Unit: 100-NR-1

Hanford Area: 100N

Coordinates: (E) 571518.6      (N) 149181.2      Washington State Plane

Associated Structures:

Site Accessible: No

Access Requirements:

Site Hazards:

Location Description:

Environmental Monitoring Desc:

Release Desc:

Release Potential Desc: More information on this unit may be found in Gydesen (1985).

Site Comment: Fill dirt was placed over the drainfield to a depth of 2 ft or more in the early 1980's.

Process Desc:

References:

1. K. H. Cramer, Hanford Site Waste Management Units Report, May 1987.
2. 2-89, Preliminary Operable Units Designation Project, WHC-EP-0216.
3. K. A. Gano, 6-3-87, Designation Numbers for UNC Controlled Waste Sites in the 100 Areas, UNI-4433.
4. S. L. Cote, 06-94, 100-N Area Technical Baseline Report, WHC-SD-EN-TI-251.

### Regulatory Information:

Part A Permit Application Written:	No	Interim Closure Plan Written:	No
Part B Permit Application Written:	No	Covered under TPA Action Plan:	Yes
Registered Class V Underground Injection Well:	No	Solid Waste Management Unit:	No
Regulatory Authority:	RCRA Past Practice		
TSD Number:			

---

**References:**

1. 12-88, Hanford Site Dangerous Waste Part A Permit Application. Vol. 1,2,3, DOE/RL 88-21.
2. 2-27-89, Action Plan For Implementation of the Hanford Facility Agreement and Consent Order.
3. Prepared by DOE, 3-11-88, Registration of Hanford Site Class V Underground Injection Wells.
4. 2-89, Preliminary Operable Units Designation Project. WHC-EP-0216.
5. Jack Waite to Sherry Griffin, 11-12-90, Review Comments on the 1990 Hanford Site Waste Management Units Report, DSI.

---

**Waste information:**

**Type:** Needs Updating

**Physical State:**

**Category:**

**Amount:**

**Units:**

**Reported Date:**

**Start Date:**

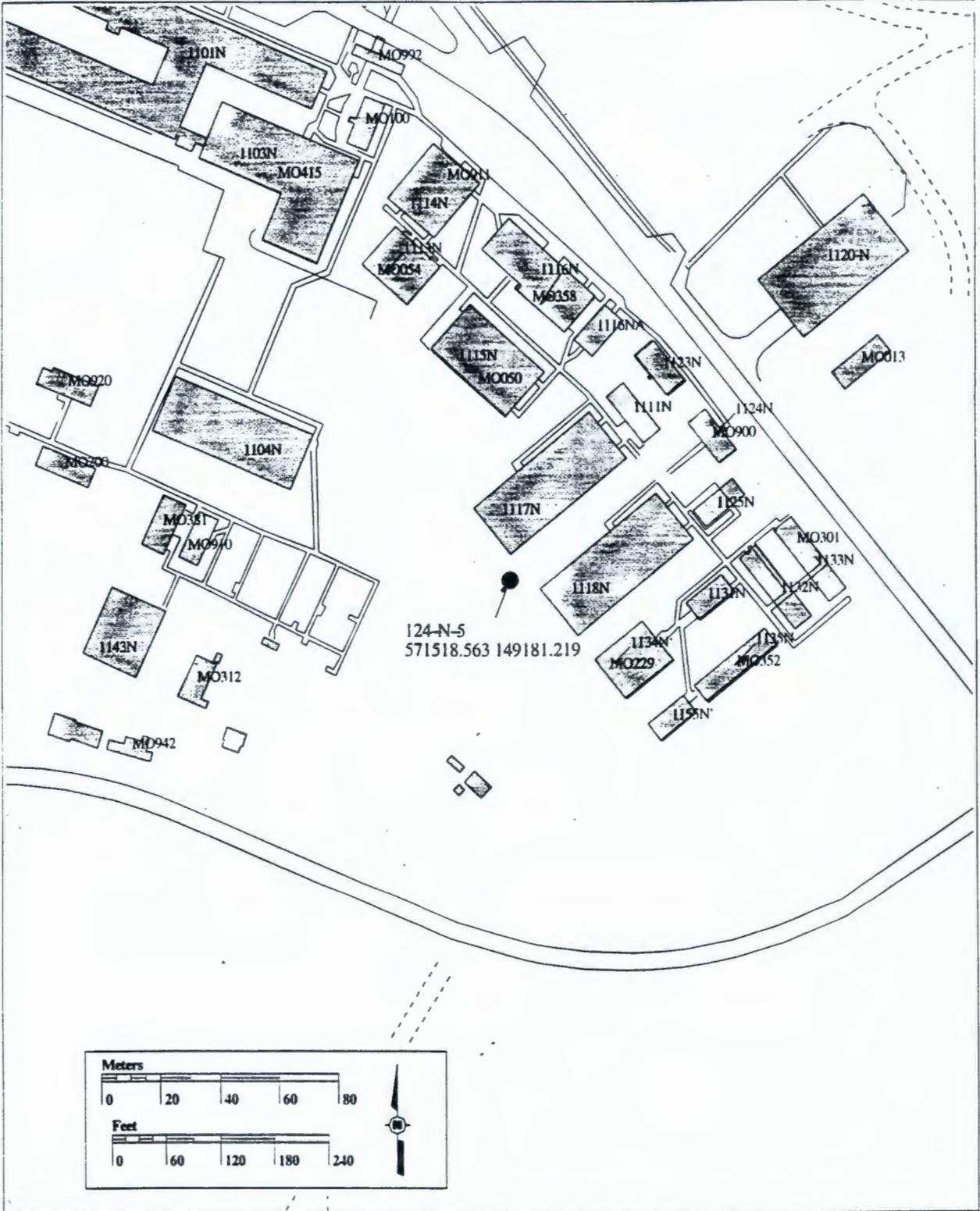
**End Date:**

**Waste Desc:** This unit received sanitary sewage, ~3,800 gal/d.

**References:**

1. K. H. Cramer, Hanford Site Waste Management Units Report, May 1987.
-

# 124-N-5



9713540.1086

Reference 2

WHC-SD-EN-TI-251  
Rev. 0

# 100-N Area Technical Baseline Report

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



**Westinghouse**  
**Hanford Company** Richland, Washington

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

Approved for Public Release

*977 6640-1007*  
*977 6640-1007*

2. Title 100-N Area Technical Baseline Report	3. Number WHC-SD-EN-TI-251	4. Rev No. 0
--	-------------------------------	-----------------

5. Key Words waste sites reactors cooling water undocumented unplanned release	6. Author Name: S.L. Cote' <hr/> Signature <hr/> Organization/Charge Code 8B200/P711F
---	--

*V. Burkland 6/28/94*

7. Abstract

This document supports the environmental remediation effort of the 100-N Area by providing remediation planners with key data that characterizes the 100-N Reactor site. It provides the operational history of the 100-N Area and all associated liquid and solid waste sites.

Cote, S. L., 1994, *100-N Area Technical Baseline Report*, WHC-SD-EN-TI-251, Westinghouse Hanford Company, Richland, Washington.

8. PURPOSE AND USE OF DOCUMENT - This document was prepared for use within the U.S. Department of Energy and its contractors. It is to be used only to perform, direct, or integrate work under U.S. Department of Energy contracts. This document is not approved for public release until reviewed.

PATENT STATUS - This document copy, since it is transmitted in advance of patent clearance, is made available in confidence solely for use in performance of work under contracts with the U.S. Department of Energy. This document is not to be published nor its contents otherwise disseminated or used for purposes other than specified above before patent approval for such release or use has been secured, upon request, from the Patent Counsel, U.S. Department of Energy Field Office, Richland, WA.

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

10. RELEASE STAMP

OFFICIAL RELEASE 11  
 BY WHC  
 DATE JUL 06 1994

*Station # 12*

9. Impact Level **NA**

#### 4.19 124-N-5 (100-N SANITARY SEWER SYSTEM NO. 5)

The 124-N-5 is an inactive, nonhazardous and nonradioactive liquid waste site (Cramer 1987) that is located at N Area coordinates NN5600 WN5125 (Hanford Drawing H-1-45007, sheet 12), southwest of the 1117-N and 1118-N trailers. The site is also known as the 124-N-5 Septic Tank. It operated from 1981 to February 1987 (Cramer 1987).

This site, which makes up Sewer System V, consists of a septic tank and a drain field. The septic tank has a capacity of 3,700 gal and the drain field has an infiltration surface area of 960 ft<sup>2</sup> (Cramer 1987). Fill dirt was placed over the drain field to a depth of 2 ft or more in the early 1980's. Sewer System V served buildings 1111-N, 1116-N, 1117-N, 1118-N, 1123-N, 1124-N, 1125-N, and 1131-N (DOE-RL 1993). This abandoned in place system was replaced by the 124-N-10 Sewer System lagoon.

When operating, this site received approximately 3,800 gal of sanitary sewage each day (Cramer 1987). The sewer system is still in place and it is unknown if residual liquid is present.

The 124-N-5 appears today as a round steel manhole that lies in the middle of a gravel parking lot. The cover is posted with a sign reading "Danger, Confined Space." There are no barricades around the site. (Figure 4-23).

Figure 4-23. 124-N-5 Sanitary Sewer Sewer System.



FROM THE DESK OF:

DH DEFORD  
CHI, ENV SCIENCE  
372-9604/H9-03

TO: LA Dietz

DATE: 6/3/96

SUBJECT: DEACTIVATED 100-N SEPTIC TANKS

In an interview with Roger Carpenter, CHI, this date. I have learned that several 100-N Area septic tanks have been deactivated.

Roger quotes an interview he had with Rick Berg, WHC Facility Manager, 100-N.

When the 124-N-10 Septic Treatment Facility (Lagoon) was placed in service in February, 1987, several other, older, septic tanks were deactivated.

124-N-2 (182-N Bldg) was pumped and isolated.

→ 124-N-5, 6, 7, and 8 (Mobile Office Area) were isolated, pumped, and the septic tanks filled with sand. The tanks were covered with a layer of parking lot gravel and cannot be located.

124-N-1 remains active.

124-N-3 (107-N Bldg) is reported as inactive, but only because its associated building is inactive. It has not been isolated or pumped.

Rick Berg believes that no documentation exists re: septic tank deactivation efforts.

9713540-1090

<p><u>Date Submitted:</u> August 30, 1996</p> <p>Originator: J.R. James, BHI</p> <p>Phone: 372-9563</p>	<p align="center"><b>WASTE SITE RECLASSIFICATION FORM</b></p> <p><u>Operable Unit(s):</u> 100-NR-1</p> <p><u>Waste Site ID:</u> 124-N-6, 100-N Sanitary Sewer System No. 6; 124-N-7 Septic Tank</p> <p><u>Type of Reclassification Action:</u></p> <p>Rejected <input checked="" type="checkbox"/>    Closed Out <input type="checkbox"/>    No Action <input type="checkbox"/></p>	<p><u>Control Number:</u></p>
---	---	-------------------------------

This form documents agreement among the parties listed below authorizing classification of the subject waste site from the TPA solid waste management unit listing as rejected, closed out, or no action and authorizing backfill of the waste site, if appropriate. Final removal from the NPL will occur at a future date.

Description of current waste site condition:

The 124-N-6 Sanitary Sewer System Number 6 is an inactive system located in the 100-NR-1 Operable Unit, at approximately Washington State Plane coordinates (E) 571477.6 (N) 149264.6, south of the 1113-N Trailer, and consists of a septic tank and associated drain field. In 1984, irreparable damage was done to the septic tank. The system was pumped out and abandoned in place. Today, the system appears as a round metal manhole cover, posted as a confined space, surrounded by a gravel parking lot. When active from 1979 to 1984, the system supported the 1113-N and 1114-N Mobile Office Buildings, and the 1115-N Mobile Training Facility/Office Building. There were no documented activities conducted in these buildings involving the use of hazardous chemicals or the receipt or generation of dangerous waste. Based on the use of these facilities, no such activities would have been likely. This site has been isolated, pumped, and filled.

- Reference list:
1. *Environmental Sites Database General Summary Report*, WIDS, Site Code: 124-N-6, August 12, 1996.
  2. Cote, S. L., 1994, *100-N Area Technical Baseline Report*, WHC-SD-EN-TI-251, Rev. 0, Westinghouse Hanford Company, Richland, Washington, July 6, 1994.
  3. *Memo. from Dennis DeFord, Hanford Historian to Linda Dietz, "Deactivated 100-N Septic Tanks,"* dated June 3, 1996.

Basis for reclassification:

This site is nominated as "Rejected" because there have been no dangerous wastes or CERCLA hazardous substances at this site. This is an inactive site that received only sanitary waste associated with personal comfort needs of personnel assigned to the N Area temporary office buildings. Activities at these buildings were generally administrative and did not involve the use or processing of any dangerous wastes or hazardous substances. Available documentation does not indicate any incidence of dangerous wastes or hazardous substance discharges. This system has been isolated, pumped, and filled with sand. Further action at this site, if required, will be conducted in accordance with the State of Washington Department of Health regulations for On-Site Sewage Systems (WAC 246-272).

<p>_____</p> <p>DOE Project Manager</p>	<p>_____</p> <p>Signature</p>	<p>_____</p> <p>Date</p>
<p>_____</p> <p>Ecology Project Manager</p>	<p>_____</p> <p>Signature</p>	<p>_____</p> <p>Date</p>
<p>_____</p> <p>EPA Project Manager</p>	<p>_____</p> <p>Signature</p>	<p>_____</p> <p>Date</p>

## Environmental Sites Database General Summary Report

---

Site Code: 124-N-6                      Site Classification: Accepted                      12-Aug-96    Page 1

---

Site Names:                      124-N-6, 100-N Sanitary Sewer System No. 6; 124-N-7 Septic Tank

Site Type:                      Septic Tank

Programmatic  
Responsibility:                      EM-40

Site Description:                      South of the 1113-N Trailer The unit includes a drain field. The tank volume was 2,000 gal, and the drain field infiltration surface area was 600 sq ft.                      08/16/95

Status:                      Inactive

Start Date:                      1979

End Date:                      1984

Operable Unit:                      100-NR-1

Hanford Area:                      100N

Coordinates:                      (E) 571477.6                      (N) 149264.6                      Washington State Plane

Associated Structures:

Site Accessible:                      No

Access Requirements:

Site Hazards:

Location Description:

Environmental  
Monitoring Desc:

Release Desc:

Release Potential Desc:                      More information on this unit may be found in Gydesen (1985).

Site Comment:                      The tank was pumped out and abandoned in place. It was replaced by the 124-N-10 Lagoon.

Process Desc:

References:

1. K. H. Cramer, Hanford Site Waste Management Units Report, May 1987.
2. 2-89, Preliminary Operable Units Designation Project, WHC-EP-0216.
3. K. A. Gano, 6-3-87, Designation Numbers for UNC Controlled Waste Sites in the 100 Areas, UNI-4433.
4. S. L. Cote', 06-94, 100-N Area Technical Baseline Report, WHC-SD-EN-TI-251.

---

Regulatory Information:

Part A Permit Application Written:	No	Interim Closure Plan Written:	No
Part B Permit Application Written:	No	Covered under TPA Action Plan:	Yes
Registered Class V Underground Injection Well:	No	Solid Waste Management Unit:	No
Regulatory Authority:	RCRA Past Practice		
TSD Number:			

---

**References:**

1. 12-88, Hanford Site Dangerous Waste Part A Permit Application. Vol. 1,2,3. DOE/RL 88-21.
2. 2-27-89, Action Plan For Implementation of the Hanford Facility Agreement and Consent Order.
3. Prepared by DOE. 3-11-88, Registration of Hanford Site Class V Underground Injection Wells.
4. 2-89, Preliminary Operable Units Designation Project. WHC-EP-0216.
5. Jack Waite to Sherry Griffin, 11-12-90, Review Comments on the 1990 Hanford Site Waste Management Units Report, DSI.

---

**Waste Information:**

**Type:** Needs Updating **Physical State:**  
**Category:**  
**Amount:** **Units:**  
**Reported Date:**  
**Start Date:**  
**End Date:**

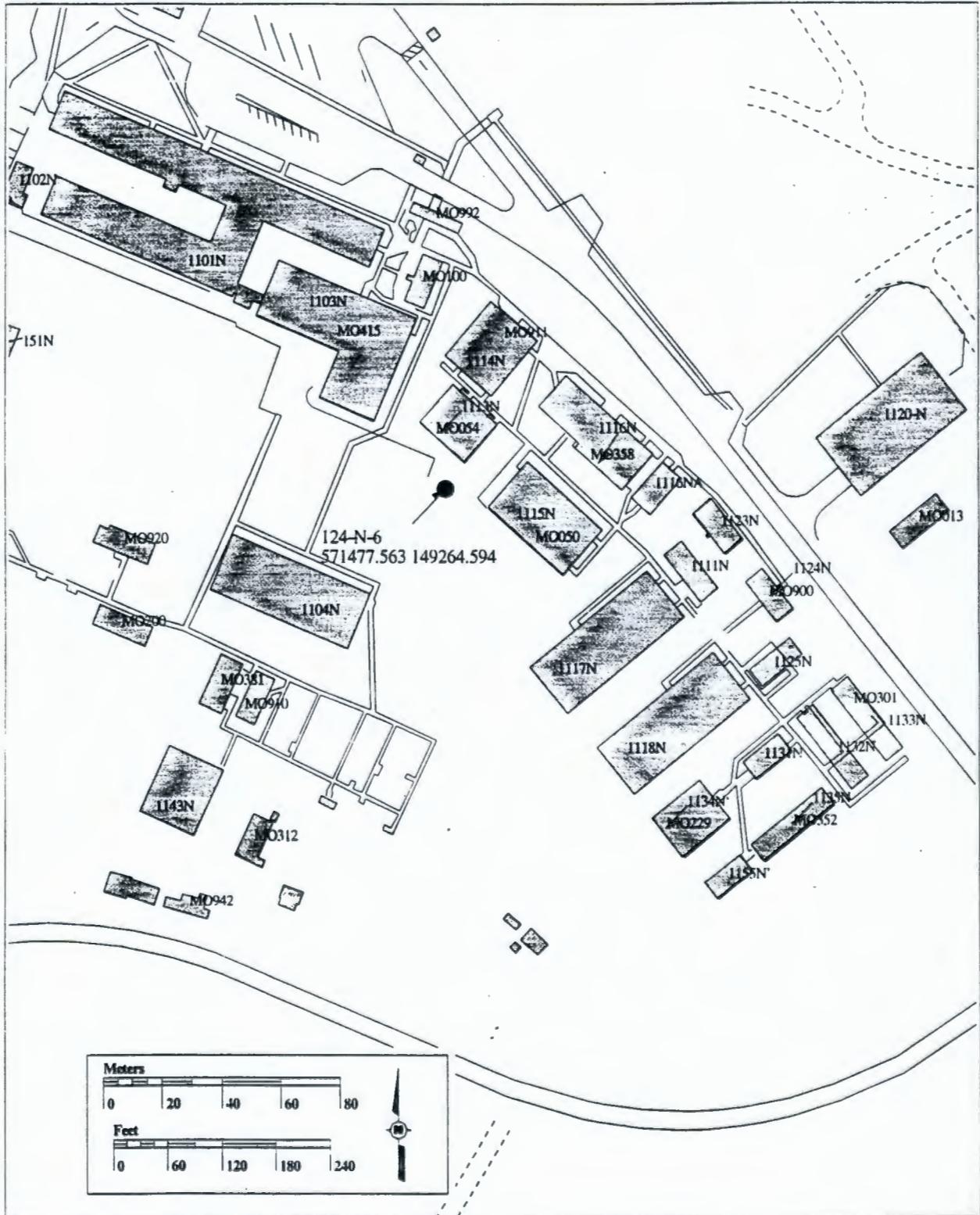
**Waste Desc:** This unit received sanitary sewage, unknown amount.

---

**References:**

1. K. H. Cramer, Hanford Site Waste Management Units Report, May 1987.
-

# 124-N-6



<p>2. Title 100-N Area Technical Baseline Report</p>	<p>3. Number WHC-SD-EN-TI-251</p>	<p>4. Rev No. 0</p>
<p>5. Key Words waste sites reactors cooling water undocumented unplanned release</p> <p><i>V. Burkland 6/28/94</i></p>	<p>6. Author Name: S.L. Cote' <i>S.L. Cote</i> Signature Organization/Charge Code 8B200/P711F</p>	
<p>7. Abstract This document supports the environmental remediation effort of the 100-N Area by providing remediation planners with key data that characterizes the 100-N Reactor site. It provides the operational history of the 100-N Area and all associated liquid and solid waste sites.</p> <p>Cote, S. L., 1994, 100-N Area Technical Baseline Report, WHC-SD-EN-TI-251, Westinghouse Hanford Company, Richland, Washington.</p>		
<p>8. PURPOSE AND USE OF DOCUMENT - This document was prepared for use within the U.S. Department of Energy and its contractors. It is to be used only to perform, direct, or integrate work under U.S. Department of Energy contracts. This document is not approved for public release until reviewed.</p> <p>PATENT STATUS - This document copy, since it is transmitted in advance of patent clearance, is made available in confidence solely for use in performance of work under contracts with the U.S. Department of Energy. This document is not to be published nor its contents otherwise disseminated or used for purposes other than specified above before patent approval for such release or use has been secured, upon request, from the Patent Counsel, U.S. Department of Energy Field Office, Richland, WA.</p> <p>DISCLAIMER - This report was prepared as an account of work sponsored by an agency of the United States Government. Neither the United States Government nor any agency thereof, nor any of their employees, nor any of their contractors, subcontractors or their employees, makes any warranty, express or implied, or assumes any legal liability or responsibility for the accuracy, completeness, or any third party's use or the results of such use of any information, apparatus, product, or process disclosed, or represents that its use would not infringe privately owned rights. Reference herein to any specific commercial product, process, or service by trade name, trademark, manufacturer, or otherwise, does not necessarily constitute or imply its endorsement, recommendation, or favoring by the United States Government or any agency thereof or its contractors or subcontractors. The views and opinions of authors expressed herein do not necessarily state or reflect those of the United States Government or any agency thereof.</p>	<p>10. RELEASE STAMP</p> <div style="border: 1px solid black; padding: 5px; text-align: center;"> <p>OFFICIAL RELEASE <span style="border: 1px solid black; border-radius: 50%; padding: 2px 5px;">11</span>              BY WHC              DATE JUL 06 1994</p> <p><i>Station # 12</i></p> </div>	
<p>9. Impact Level NA</p>		

#### 4.20 124-N-6 (100-N SANITARY SEWER SYSTEM NO. 6)

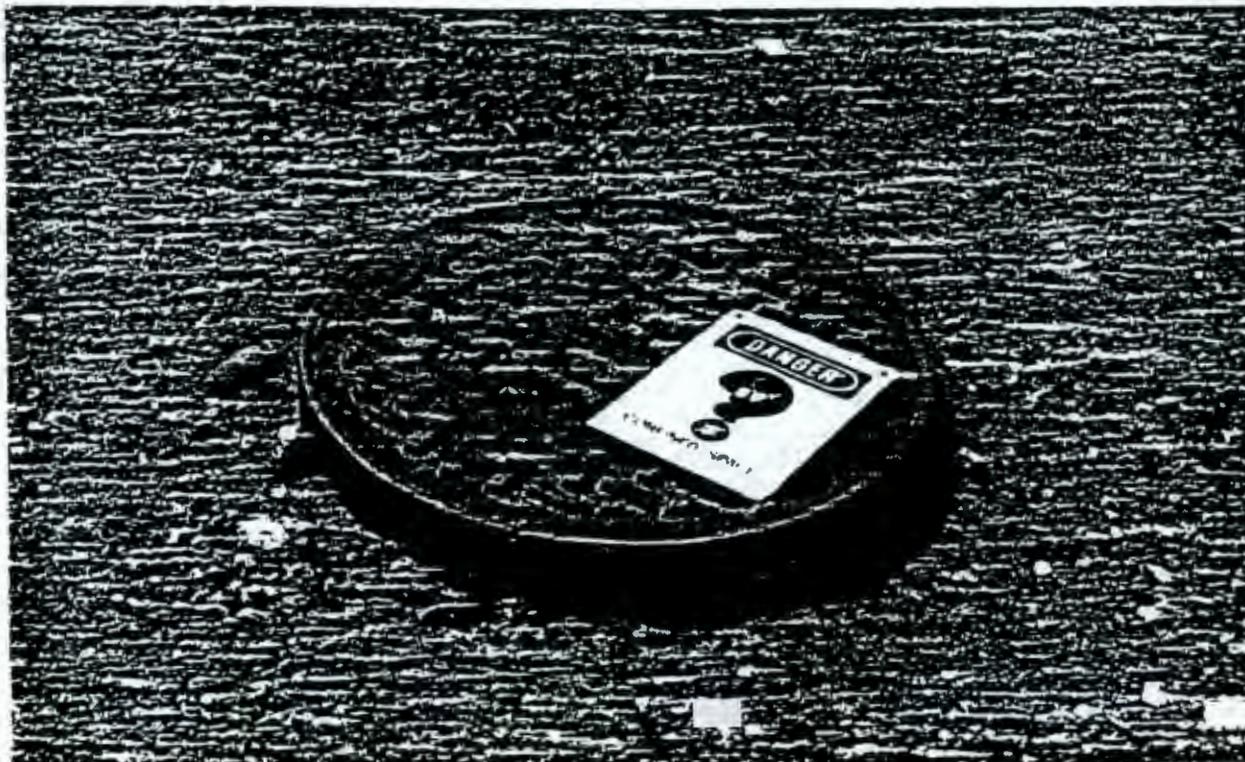
The 124-N-6 is an inactive, nonhazardous and nonradioactive liquid waste site (Cramer 1987) that is located at N Area coordinates NN5800 WN5340 (Hanford Drawing H-1-45007), south of the 1113-N Trailer. It operated from 1979 to 1984. The site is also known as the 124-N-6 Septic Tank (Cramer 1987).

This site, which makes up Sewer System VI (DOE/RL 1992), consists of a septic tank and a drain field. The septic tank has a capacity of 2,000 gal, and the drain field has an infiltration surface area of 600 ft<sup>2</sup> (Cramer 1987). The system is directly hooked up to Sewer System VII just upstream of the septic tank (DOE-RL 1993).

When operating, this site received an unknown amount of sanitary sewage (Cramer 1987). It served buildings 1113-N, 1114-N, and 1115-N. In 1984, irreparable damage was done to the septic tank. The tank was pumped out and the system was abandoned in place (DOE-RL 1993). This system was replaced by the 124-N-10 Sewer System lagoon.

The 124-N-6 appears today as a round metal manhole surrounded by a gravel parking lot. The cover is posted as a confined space. Refer to Figure 4-23 for a photograph typical of this sewer system.

Figure 4-23. 124-N-5 Sanitary Sewer Sewer System.



FROM THE DESK OF:

**DH DEFORD**  
**CHI, ENV SCIENCE**  
**372-9604/H9-03**

TO: LA Dietz

DATE: 6/3/96

SUBJECT: DEACTIVATED 100-N SEPTIC TANKS

In an interview with Roger Carpenter, CHI, this date. I have learned that several 100-N Area septic tanks have been deactivated.

Roger quotes an interview he had with Rick Berg, WHC Facility Manager, 100-N.

When the 124-N-10 Septic Treatment Facility (Lagoon) was placed in service in February, 1987, several other, older, septic tanks were deactivated.

124-N-2 (182-N Bldg) was pumped and isolated.

→ 124-N-5, 6, 7, and 8 (Mobile Office Area) were isolated, pumped, and the septic tanks filled with sand. The tanks were covered with a layer of parking lot gravel and cannot be located.

124-N-1 remains active.

124-N-3 (107-N Bldg) is reported as inactive, but only because its associated building is inactive. It has not been isolated or pumped.

Rick Berg believes that no documentation exists re: septic tank deactivation efforts.

9713540-1097

<p><u>Date Submitted:</u> August 30, 1996</p> <p>Originator: J.R. James, BHI</p> <p>Phone: 372-9563</p>	<p align="center"><b>WASTE SITE RECLASSIFICATION FORM</b></p> <p><u>Operable Unit(s):</u> 100-NR-1</p> <p><u>Waste Site ID:</u> 124-N-7, 100-N Sanitary Sewer System No. 7; 124-N-7 Septic Tank</p> <p><u>Type of Reclassification Action:</u></p> <p>Rejected <input checked="" type="checkbox"/> Closed Out <input type="checkbox"/> No Action <input type="checkbox"/></p>	<p><u>Control Number:</u></p>
---	---	-------------------------------

This form documents agreement among the parties listed below authorizing classification of the subject waste site from the TPA solid waste management unit listing as rejected, closed out, or no action and authorizing backfill of the waste site, if appropriate. Final removal from the NPL will occur at a future date.

Description of current waste site condition:

The 124-N-7 Sanitary Sewer System Number 7 is an inactive system located in the 100-NR-1 Operable Unit, at approximately Washington State Plane coordinates (E) 571467.2 (N) 149208.5, south of the 1115-N and east of the 1104-N Trailers, and consists of a septic tank and associated drain field. Today, the site appears as a round metal manhole cover, posted as a confined space, surrounded by a gravel parking lot. When active from 1984 to 1987, the system supported the 1103-N, 1104-N and 1145-N Mobile Office Buildings. There were no documented activities conducted in these buildings involving the use of hazardous chemicals or the receipt or generation of dangerous waste. Based on the use of these facilities, no such activities would have been likely. This site has been isolated, pumped, and filled.

Reference list:

1. *Environmental Sites Database General Summary Report*, WIDS, Site Code: 124-N-7, August 12, 1996.
2. Cote, S. L., 1994, *100-N Area Technical Baseline Report*, WHC-SD-EN-TI-251, Rev. 0, Westinghouse Hanford Company, Richland, Washington, July 6, 1994.
3. *Memo. from Dennis DeFord. Hanford Historian to Linda Dietz. "Deactivated 100-N Septic Tanks,"* dated June 3, 1996.

Basis for reclassification:

This site is nominated as "Rejected" because there have been no dangerous wastes or CERCLA hazardous substances at this site. This is an inactive site that received only sanitary waste associated with personal comfort needs of personnel assigned to the N Area buildings. Activities at these buildings were generally administrative and did not involve the use or processing of any dangerous wastes or hazardous substances. Available documentation does not indicate any incidence of dangerous wastes or hazardous substance discharges. This system has been isolated, pumped, and filled with sand. Further action at this site, if required, will be conducted in accordance with the State of Washington Department of Health regulations for On-Site Sewage Systems (WAC 246-272).

_____ DOE Project Manager	_____ Signature	_____ Date
_____ Ecology Project Manager	_____ Signature	_____ Date
_____ EPA Project Manager	_____ Signature	_____ Date

## Environmental Sites Database General Summary Report

Site Code: 124-N-7      Site Classification: Accepted      12-Aug-96      Page 1

Site Names: 124-N-7, 100-N Sanitary Sewer System No. 7; 124-N-7 Septic Tank

Site Type: Septic Tank

Programmatic Responsibility: EM-40

Site Description: South of the 1115-N Trailer The unit includes a drain field. The tank volume was 7,500 gal, and the drain field infiltration surface area was 5,500 sq ft. The system was abandoned in place and replaced by the 124-N-10 Lagoon. 08/16/95

Status: Inactive

Start Date: 1984

End Date: February 1987

Operable Unit: 100-NR-1

Hanford Area: 100N

Coordinates: (E) 571467.2 (N) 149208.5 Washington State Plane

**Associated Structures:**

Site Accessible: No

**Access Requirements:**

**Site Hazards:**

**Location Description:**

**Environmental Monitoring Desc:**

**Release Desc:**

Release Potential Desc: More information on this unit may be found in Gydesen (1985).

**Site Comment:**

**Process Desc:**

**References:**

1. K. H. Cramer, Hanford Site Waste Management Units Report, May 1987.
2. 2-89, Preliminary Operable Units Designation Project, WHC-EP-0216.
3. K. A. Gano, 6-3-87, Designation Numbers for UNC Controlled Waste Sites in the 100 Areas, UNI-4433.
4. S. L. Cote, 06-94, 100-N Area Technical Baseline Report, WHC-SD-EN-TI-251.

**Regulatory Information:**

Part A Permit Application Written:	No	Interim Closure Plan Written:	No
Part B Permit Application Written:	No	Covered under TPA Action Plan:	Yes
Registered Class V Underground Injection Well:	No	Solid Waste Management Unit:	No
Regulatory Authority:	RCRA Past Practice		
TSD Number:			

---

**References:**

1. 12-88, Hanford Site Dangerous Waste Part A Permit Application. Vol. 1,2,3, DOE/RL 88-21.
2. 2-27-89, Action Plan For Implementation of the Hanford Facility Agreement and Consent Order.
3. Prepared by DOE, 3-11-88, Registration of Hanford Site Class V Underground Injection Wells.
4. 2-89, Preliminary Operable Units Designation Project, WHC-EP-0216.
5. Jack Waite to Sherry Griffin, 11-12-90, Review Comments on the 1990 Hanford Site Waste Management Units Report, DSI.

---

**Waste Information:**

**Type:** Needs Updating                      **Physical State:**  
**Category:**  
**Amount:**                                      **Units:**  
**Reported Date:**  
**Start Date:**  
**End Date:**

**Waste Desc:**            This unit received sanitary sewage, ~5,200 gal/d.

**References:**

1. K. H. Cramer, Hanford Site Waste Management Units Report, May 1987.
-



# 100-N Area Technical Baseline Report

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



**Westinghouse**  
**Hanford Company** Richland, Washington

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

Approved for Public Release

<p>2. Title 100-N Area Technical Baseline Report</p>	<p>3. Number WHC-SD-EN-TI-251</p>	<p>4. Rev No. 0</p>
<p>5. Key Words waste sites reactors cooling water undocumented unplanned release</p> <p><i>V. Burkland 6/28/94</i></p>	<p>6. Author Name: S.L. Cote' <i>S.L. Cote</i> Signature Organization/Charge Code 8B200/P711F</p>	
<p>7. Abstract This document supports the environmental remediation effort of the 100-N Area by providing remediation planners with key data that characterizes the 100-N Reactor site. It provides the operational history of the 100-N Area and all associated liquid and solid waste sites.</p> <p>Cote, S. L., 1994, <i>100-N Area Technical Baseline Report</i>, WHC-SD-EN-TI-251, Westinghouse Hanford Company, Richland, Washington.</p>		
<p>8. PURPOSE AND USE OF DOCUMENT - This document was prepared for use within the U.S. Department of Energy and its contractors. It is to be used only to perform, direct, or integrate work under U.S. Department of Energy contracts. This document is not approved for public release until reviewed.</p> <p>PATENT STATUS - This document copy, since it is transmitted in advance of patent clearance, is made available in confidence solely for use in performance of work under contracts with the U.S. Department of Energy. This document is not to be published nor its contents otherwise disseminated or used for purposes other than specified above before patent approval for such release or use has been secured, upon request, from the Patent Counsel, U.S. Department of Energy Field Office, Richland, WA.</p> <p>DISCLAIMER - This report was prepared as an account of work sponsored by an agency of the United States Government. Neither the United States Government nor any agency thereof, nor any of their employees, nor any of their contractors, subcontractors or their employees, makes any warranty, express or implied, or assumes any legal liability or responsibility for the accuracy, completeness, or any third party's use or the results of such use of any information, apparatus, product, or process disclosed, or represents that its use would not infringe privately owned rights. Reference herein to any specific commercial product, process, or service by trade name, trademark, manufacturer, or otherwise, does not necessarily constitute or imply its endorsement, recommendation, or favoring by the United States Government or any agency thereof or its contractors or subcontractors. The views and opinions of authors expressed herein do not necessarily state or reflect those of the United States Government or any agency thereof.</p>	<p>10. RELEASE STAMP</p> <div style="border: 1px solid black; padding: 5px; text-align: center;"> <p>OFFICIAL RELEASE <span style="border: 1px solid black; border-radius: 50%; padding: 2px 5px;">11</span> BY WHC DATE JUL 06 1994</p> <p><i>Station # 12</i></p> </div>	
<p>9. Impact Level NA</p>		

#### 4.21 124-N-7 (100-N SANITARY SEWER SYSTEM NO. 7)

The 124-N-7 is an inactive, nonhazardous and nonradioactive liquid waste site (Cramer 1987) that is located at N Area coordinates NN5617 WN5300 (Hanford Drawing H-1-45007, sheets 12 & 13), south of the 1115-N Trailer and east of the 1104-N Trailer. It operated from 1984 to February 1987. The site is also known as the 124-N-7 Septic Tank (Cramer 1987).

This site, which made up Sewer System VII, consists of a septic tank and a drain field. The septic tank has a fluid capacity of 7,500 gal, and the drain field has an infiltration surface area of 5,500 ft<sup>2</sup> (Cramer 1987). Sewer System VII served buildings 1103-N, 1104-N, and 1145-N. It was abandoned in place and replaced by the 124-N-10 Sewer System lagoon.

When operating, the site received approximately 5,200 gal of sanitary sewage each day (Cramer 1987). The sewer system is still in place and it is unknown if residual liquid is present (DOE-RL 1993).

The 124-N-6 appears today as a round metal manhole surrounded by a gravel parking lot. The cover is posted as a confined space. Refer to Figure 4-23 for a photograph typical of this sewer system.

Figure 4-23. 124-N-5 Sanitary Sewer Sewer System.



9713540.1104

FROM THE DESK OF:

DH DEFORD  
CHI, ENV SCIENCE  
372-9604/H9-03

TO: LA Dietz

DATE: 6/3/96

SUBJECT: DEACTIVATED 100-N SEPTIC TANKS

In an interview with Roger Carpenter, CHI, this date. I have learned that several 100-N Area septic tanks have been deactivated.

Roger quotes an interview he had with Rick Berg, WHC Facility Manager. 100-N.

When the 124-N-10 Septic Treatment Facility (Lagoon) was placed in service in February, 1987, several other, older, septic tanks were deactivated.

124-N-2 (182-N Bldg) was pumped and isolated.

→ 124-N-5, 6, 7, and 8 (Mobile Office Area) were isolated, pumped, and the septic tanks filled with sand. The tanks were covered with a layer of parking lot gravel and cannot be located.

124-N-1 remains active.

124-N-3 (107-N Bldg) is reported as inactive, but only because its associated building is inactive. It has not been isolated or pumped.

Rick Berg believes that no documentation exists re: septic tank deactivation efforts.

9713540-1105

<u>Date Submitted:</u> August 30, 1996	<b>WASTE SITE RECLASSIFICATION FORM</b>	<u>Control Number:</u>
Originator: J.R. James, BHI	<u>Operable Unit(s):</u> 100-NR-1	
Phone: 372-9563	<u>Waste Site ID:</u> 124-N-8; 100-N Sanitary Sewer System No. 8; 124-N-8 Septic Tank	
	<u>Type of Reclassification Action:</u>	
	Rejected <input checked="" type="checkbox"/> Closed Out <input type="checkbox"/> No Action <input type="checkbox"/>	

This form documents agreement among the parties listed below authorizing classification of the subject waste site from the TPA solid waste management unit listing as rejected, closed out, or no action and authorizing backfill of the waste site, if appropriate. Final removal from the NPL will occur at a future date.

Description of current waste site condition:

The 124-N-8 Sanitary Sewer System Number 8 is an inactive system located in the 100-NR-1 Operable Unit, at approximately Washington State Plane coordinates (E) 571555.4 (N) 149133.6, south of the 1134-N Trailer, and consists of a septic tank and associated drain field. Today, the site appears as a round metal manhole cover, posted as a confined space, surrounded by a gravel parking lot. When active from 1983 to 1987, the system supported the 1132-N Restroom, and the 1133-N, 1134-N, and 1135-N Mobile Office Buildings. There were no documented activities conducted in these buildings involving the use of hazardous chemicals or the receipt or generation of dangerous waste. Based on the use of these facilities, no such activities would have been likely. This site has been isolated, pumped, and filled.

Reference list:

1. *Environmental Sites Database General Summary Report*, WIDS, Site Code: 124-N-8, August 12, 1996.
2. Cote', S. L., 1994, *100-N Area Technical Baseline Report*, WHC-SD-EN-TI-251, Rev. 0, Westinghouse Hanford Company, Richland, Washington, July 6, 1994.
3. *Memo. from Dennis DeFord, Hanford Historian to Linda Dietz, "Deactivated 100-N Septic Tanks,"* dated June 3, 1996.

Basis for reclassification:

This site is nominated as "Rejected" because there have been no dangerous wastes or CERCLA hazardous substances at this site. This is an inactive site that received only sanitary waste associated with personal comfort needs of personnel assigned to the N Area buildings. Activities at these buildings were generally administrative and did not involve the use or processing of any dangerous wastes or hazardous substances. Available documentation does not indicate any incidence of dangerous wastes or hazardous substance discharges. Further action at this site, if required, will be conducted in accordance with the State of Washington Department of Health regulations for On-Site Sewage Systems (WAC-246-272).

_____ DOE Project Manager	_____ Signature	_____ Date
_____ Ecology Project Manager	_____ Signature	_____ Date
_____ EPA Project Manager	_____ Signature	_____ Date

## Environmental Sites Database General Summary Report

---

Site Code: 124-N-8                      Site Classification: Accepted                      12-Aug-96    Page 1

---

Site Names:                      124-N-8, 100-N Sanitary Sewer System No. 8; 124-N-8 Septic Tank

Site Type:                      Septic Tank

Programmatic Responsibility:                      EM-40

Site Description:                      South of 1134-N Trailer The unit includes a drain field. The tank volume was 5,000 gal, and the drain field has a infiltration surface area of 1,650 sq ft. The system was abandoned in place and replaced by the 124-N-10 Lagoon.                      08/16/95

Status:                      Inactive

Start Date:                      1983

End Date:                      February 1987

Operable Unit:                      100-NR-1

Hanford Area:                      100N

Coordinates:                      (E) 571555.4                      (N) 149133.6                      Washington State Plane

Associated Structures:

Site Accessible:                      No

Access Requirements:

Site Hazards:

Location Description:

Environmental Monitoring Desc:

Release Desc:

Release Potential Desc:                      More information on this unit may be found in Gydesen (1985).

Site Comment:

Process Desc:

References:

1. K. H. Cramer, Hanford Site Waste Management Units Report, May 1987.
2. 2-89, Preliminary Operable Units Designation Project, WHC-EP-0216.
3. K. A. Gano, 6-3-87, Designation Numbers for UNC Controlled Waste Sites in the 100 Areas, UNI-4433.
4. S. L. Cote, 06-94, 100-N Area Technical Baseline Report, WHC-SD-EN-TI-251.

---

Regulatory Information:

Part A Permit Application Written:	No	Interim Closure Plan Written:	No
Part B Permit Application Written:	No	Covered under TPA Action Plan:	Yes
Registered Class V Underground Injection Well:	No	Solid Waste Management Unit:	No
Regulatory Authority:	RCRA Past Practice		
TSD Number:			

---

**References:**

1. 12-88, Hanford Site Dangerous Waste Part A Permit Application. Vol. 1,2,3, DOE/RL 88-21.
2. 2-27-89, Action Plan For Implementation of the Hanford Facility Agreement and Consent Order.
3. Prepared by DOE, 3-11-88, Registration of Hanford Site Class V Underground Injection Wells.
4. 2-89, Preliminary Operable Units Designation Project, WHC-EP-0216.
5. Jack Waite to Sherry Griffin, 11-12-90, Review Comments on the 1990 Hanford Site Waste Management Units Report, DSI.

---

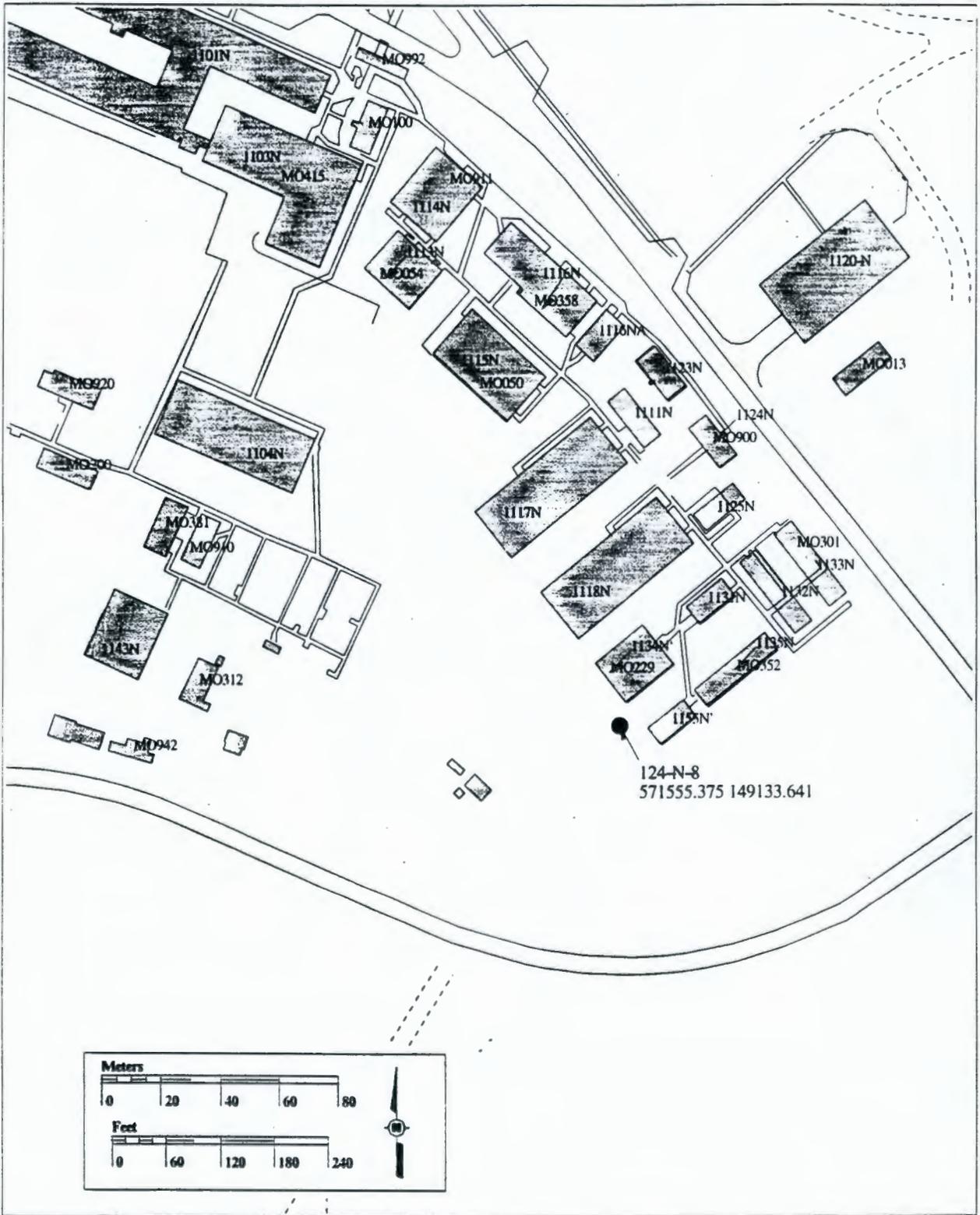
**Waste Information:**

**Type:** Needs Updating                      **Physical State:**  
**Category:**  
**Amount:**                                      **Units:**  
**Reported Date:**  
**Start Date:**  
**End Date:**  
**Waste Desc:**        This unit received sanitary sewage, ~900 gal/d.

**References:**

1. K. H. Cramer, Hanford Site Waste Management Units Report, May 1987.
-

# 124-N-8



# 100-N Area Technical Baseline Report

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



**Westinghouse**  
**Hanford Company** Richland, Washington

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

Approved for Public Release

<p>2. Title <b>100-N Area Technical Baseline Report</b></p>	<p>3. Number <b>WHC-SD-EN-TI-251</b></p>	<p>4. Rev No. <b>0</b></p>
<p>5. Key Words waste sites reactors cooling water undocumented unplanned release</p> <p align="right"><i>V. Burkhead 6/28/94</i></p>	<p>6. Author Name: <b>S.L. Cote'</b></p> <p><i>S.L. Cote'</i> Signature</p> <p>Organization/Charge Code <b>8B200/P711F</b></p>	
<p>7. Abstract</p> <p>This document supports the environmental remediation effort of the 100-N Area by providing remediation planners with key data that characterizes the 100-N Reactor site. It provides the operational history of the 100-N Area and all associated liquid and solid waste sites.</p> <p><b>Cote, S. L., 1994, 100-N Area Technical Baseline Report, WHC-SD-EN-TI-251, Westinghouse Hanford Company, Richland, Washington.</b></p>		
<p>8. PURPOSE AND USE OF DOCUMENT - This document was prepared for use within the U.S. Department of Energy and its contractors. It is to be used only to perform, direct, or integrate work under U.S. Department of Energy contracts. This document is not approved for public release until reviewed.</p> <p><del>PATENT STATUS - This document copy, since it is transmitted in advance of patent clearance, is made available in confidence solely for use in performance of work under contracts with the U.S. Department of Energy. This document is not to be published nor its contents otherwise disseminated or used for purposes other than specified above before patent approval for such release or use has been secured, upon request, from the Patent Counsel, U.S. Department of Energy Field Office, Richland, WA.</del></p> <p>DISCLAIMER - This report was prepared as an account of work sponsored by an agency of the United States Government. Neither the United States Government nor any agency thereof, nor any of their employees, nor any of their contractors, subcontractors or their employees, makes any warranty, express or implied, or assumes any legal liability or responsibility for the accuracy, completeness, or any third party's use or the results of such use of any information, apparatus, product, or process disclosed, or represents that its use would not infringe privately owned rights. Reference herein to any specific commercial product, process, or service by trade name, trademark, manufacturer, or otherwise, does not necessarily constitute or imply its endorsement, recommendation, or favoring by the United States Government or any agency thereof or its contractors or subcontractors. The views and opinions of authors expressed herein do not necessarily state or reflect those of the United States Government or any agency thereof.</p>	<p>10. RELEASE STAMP</p> <div style="border: 1px solid black; padding: 5px; text-align: center;"> <p>OFFICIAL RELEASE <span style="border: 1px solid black; border-radius: 50%; padding: 2px 5px;">11</span></p> <p>BY WHC</p> <p>DATE <b>JUL 06 1994</b></p> <p><i>Station # 12</i></p> </div>	
<p>9. Impact Level <b>NA</b></p>		

#### 4.22 124-N-8 (100-N SANITARY SEWER SYSTEM NO. 8)

The 124-N-8 is an inactive, nonhazardous and nonradioactive liquid waste site (Cramer 1987) that is located at N Area coordinates NN5503 WN4938 (Hanford Drawing H-1-45007, sheets 12 & 5), south of the 1134-N Trailer. It operated from 1983 to February 1987. The site is also known as the 124-N-8 Septic Tank (Cramer 1987).

This site, which made up Sewer System VIII (DOE-RL 1993), consists of a septic tank and a drain field. The septic tank has a fluid capacity of 5,000 gal, and the drain field has an infiltration surface area of 1,650 ft<sup>2</sup> (Cramer 1987). Sewer System VIII served buildings 1132-N, 1133-N, 1134-N, and 1135-N.

When operating, this site received approximately 900 gal of sanitary sewage each day (Cramer 1987). The sewer system is still in place but is no longer in use. It was replaced by the 124-N-10 Sewer System lagoon in 1987 (DOE-RL 1993).

The 124-N-8 appears today as a round metal manhole surrounded by a gravel parking lot. The cover is posted as a confined space. The site is outside the 100-N Area perimeter fence. Refer to Figure 4-23 for a photograph typical of this sewer system.

Figure 4-23. 124-N-5 Sanitary Sewer Sewer System.



9713540.1112

FROM THE DESK OF:

DH DEFORD  
CHI, ENV SCIENCE  
372-9604/H9-03

TO: LA Dietz

DATE: 6/3/96

SUBJECT: DEACTIVATED 100-N SEPTIC TANKS

In an interview with Roger Carpenter, CHI, this date. I have learned that several 100-N Area septic tanks have been deactivated.

Roger quotes an interview he had with Rick Berg, WHC Facility Manager, 100-N.

When the 124-N-10 Septic Treatment Facility (Lagoon) was placed in service in February, 1987, several other, older, septic tanks were deactivated.

124-N-2 (182-N Bldg) was pumped and isolated.

→ 124-N-5, 6, 7, and 8 (Mobile Office Area) were isolated, pumped, and the septic tanks filled with sand. The tanks were covered with a layer of parking lot gravel and cannot be located.

124-N-1 remains active.

124-N-3 (107-N Bldg) is reported as inactive, but only because its associated building is inactive. It has not been isolated or pumped.

Rick Berg believes that no documentation exists re: septic tank deactivation efforts.

**100 Area Waste Sites Nominated for Reclassification**

Operable Unit	Category	Site	Reclassification	Basis
100-BC-1	Brine Pit	126-B-4	No Action	Removed and clean
	Septic Tank	1607-B1	Rejected	No dangerous or hazardous
	Septic Tank	1607-B3	Rejected	No dangerous or hazardous
100-DR-1	Brine Pit	126-D-3	No Action	Removed and clean
100-DR-2	Septic Tank	1607-D1	Rejected	No dangerous or hazardous
100-DR-3	Septic Tank	100-D-14	Rejected	No dangerous or hazardous
100-FR-2	Septic Tank	1607-F1	Rejected	No dangerous or hazardous
	Depression	100-F-1	Rejected	No dangerous or hazardous
100-IU-6	Storage Vault Crib	600-107	No Action	Removed and clean
100-KR-2	Septic Tank	1607-K1	Rejected	No dangerous or hazardous
	Storage Tank (Bauxite Powder)	100-K-24	Rejected	No dangerous or hazardous
	Storage Tank (Bauxite Powder)	100-K-28	Rejected	No dangerous or hazardous
	Storage Tank (Sodium Silicate)	100-K-20	Rejected	No dangerous or hazardous
	Storage Tank (Sodium Silicate)	100-K-21	Rejected	No dangerous or hazardous
	Storage Tank (Sodium Silicate)	100-K-22	Rejected	No dangerous or hazardous
	Storage Tank (Sodium Silicate)	100-K-23	Rejected	No dangerous or hazardous
	Storage Tank (Petroleum)	130-KW-1 (A&B)	No Action	Removed and clean
	Storage Tank (Petroleum)	130-K-1	No Action	Removed and clean
	Storage Tank (Petroleum)	130-K-3	No Action	Removed and clean
	Storage Tank (Petroleum)	130-KE-1 (A&B)	No Action	Removed and clean
	Storage Tank (Ethylene Glycol)	100-K-8	No Action	Removed and clean
	Storage Tank (Ethylene Glycol)	100-K-7	No Action	Removed and clean
100-NR-1	Septic Tank	124-N-5	Rejected	No dangerous or hazardous
	Septic Tank	124-N-6	Rejected	No dangerous or hazardous
	Septic Tank	124-N-7	Rejected	No dangerous or hazardous
	Septic Tank	124-N-8	Rejected	No dangerous or hazardous
<b>Total number of sites nominated for reclassification: 26</b>				

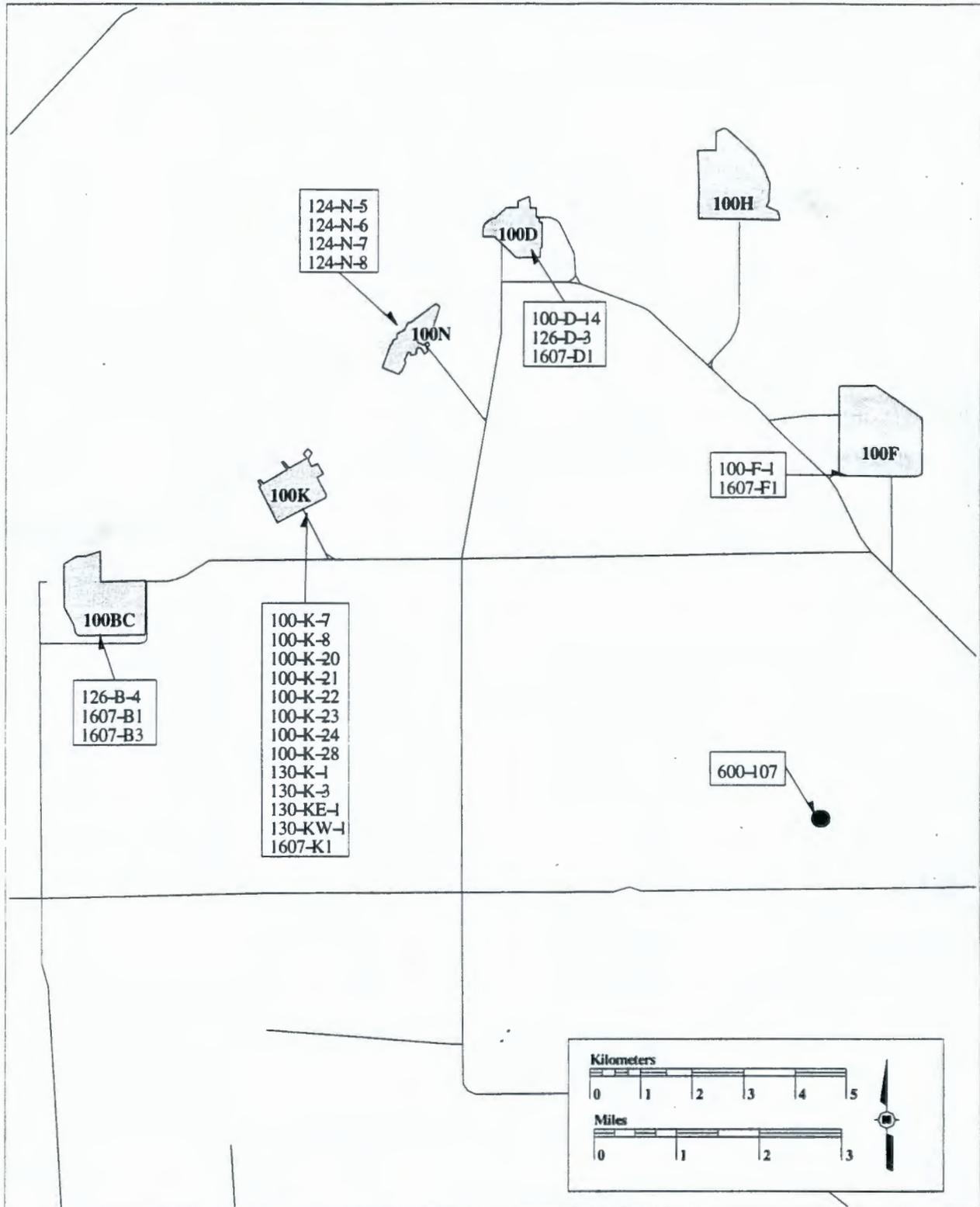
Total number of 100 Area waste sites nominated for reclassification as "Rejected": 17

Criteria for "Rejected": Assessment of the site shows it is not a treatment, storage, or disposal unit and that there is no evidence of an actual or potential hazardous substance release.

Total number of 100 Area waste sites nominated for reclassification as "No Action": 9

Criteria for "No Action": Assessment shows that the site meets cleanup standards and there is no required action to mitigate a potential environmental impact.

# Location of 100 Area Waste Sites Nominated for Reclassification



## Attachment 4

**Regulatory Considerations and Other Notes  
for Waste Site Reclassification****Regulatory Considerations**

The following elements were considered in making regulatory determinations regarding waste site reclassification:

1. The **only** basis for a site being reclassified as "rejected" is evidence that there was not a past release or potential for release of a Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) hazardous substance, pollutant, or contaminant, a Resource Conservation and Recover Act (RCRA) hazardous waste or hazardous constituent, or a state dangerous waste or dangerous constituent.
  - a. CERCLA hazardous substances are identified in 40 CFR 302.4. The list excludes petroleum products.
  - b. CERCLA pollutants or contaminants include any element, compound, or mixture which could cause death, disease, behavioral abnormalities, cancer, genetic mutations, physiological malfunctions or physical deformations. The definition excludes petroleum products.
  - c. Common Hanford materials and chemicals that are CERCLA hazardous substances include sulfuric, chromic, and nitric acids; most organic solvents; pesticides; polychlorinated biphenyls (PCBs); lead; cadmium; mercury; nickel; sodium dichromate; and all radionuclides.
  - d. All hazardous and radioactive wastes are CERCLA hazardous substances.
  - e. Common Hanford materials that designate as hazardous/dangerous waste when they are discarded include most paints, most solvents, caustic and acidic solutions, and most discarded chemicals.
  - f. Hazardous/dangerous wastes are identified in accordance with Washington Administrative Code (WAC) 173-303-080 to -100.
2. If a site has already gone through the CERCLA or RCRA remediation process to a Record of Decision (ROD), a permit modification, or other formal decision document and the decision document specifically states that no further action is required for the site, the site should be reclassified to "Closed Out."

3. If there was a known or suspected release of such a substance but there is direct evidence indicating that concentrations of remaining contaminants are below cleanup standards as specified in an approved ROD for similar sites/areas, the site should be reclassified to "No Action" for future closeout in a ROD. Direct evidence might be sampling data or other specific technical analysis.
  - a. Any analytical data used should be compared in terms of detection capabilities to current methods and a demonstration made that they are essentially equivalent. For example, soil gas surveys may not be adequate for determining whether residual organic constituents at a site are below MTCA soil cleanup standards. Soil gas surveys also provide no information on inorganics.
  - b. EP Toxicity or Toxic Characteristic Leaching Procedure (TCLP) analyses are only useful for hazardous/dangerous waste designation. They do not provide information on total contaminant concentrations and therefore are inadequate for determining whether soil meets Model Toxics Control Act (MTCA) cleanup standards. The MTCA standards are for total concentrations (versus leachable) and are typically more stringent than dangerous waste designation levels.
  - c. Any exposure pathways and effective doses calculated in past cleanup analyses should be compared to current exposure pathway assumptions and dose assessment models to demonstrate that they are essentially equivalent, or more conservative. For example, in the 100 Area, the allowable residual contamination level (ARCL) methodology used to assess cleanup after past decommissioning activities should be compared to current methods for determining residual doses under the use scenario specified in the 100-BC-1, 100-DR-1, 100-HR-1 ROD.
  - d. Any conclusions reached in past cleanup assessments that residual contamination was "below background" should be considered in light of current estimates of background. A determination should be made that the background standard used in the past is essentially equivalent to today's standard or more conservative.
4. Septic tanks: It is assumed that any septic system connected to an operating facility (e.g., reactor and ancillary facilities, maintenance shops) has the potential to have received discharges of CERCLA hazardous substances or pollutants or hazardous/dangerous wastes or constituents. Therefore, unless specific analytical data are available, these septic sites cannot be reclassified without further sampling. Any septic system that only serviced administrative support facilities (e.g., office buildings, guard shacks) is assumed not to have received such substances and can be reclassified to "No Action" under CERCLA and RCRA corrective action. Further action might need to be taken in the future, as appropriate, under the state septic tank abandonment regulations.

5. Petroleum products: Any underground tank that only contained petroleum products (e.g., diesel, gasoline) and that has been remediated in accordance with the state underground storage tank regulations (or equivalent) can be reclassified to "No Further Action" under CERCLA and RCRA. To demonstrate that the tank was adequately addressed, there should be soil samples demonstrating that soil remaining after tank closure/removal contained less than 200 ppm of total petroleum hydrocarbons (TPH).
6. Other product storage tanks: When determining whether a product storage tank contained a regulated substance, co-contaminants (e.g., potential mercury in sulfuric acid) should be considered.
7. If a tank or other structure has been cleaned out and there is no evidence that there was a release from the tank, the tank or other structure can be reclassified to "No Action" under CERCLA and RCRA corrective action. Any further action to remove the tank/structure would be taken under Department of Energy's (DOE) decommissioning program.
8. If there was a known or suspected release of a CERCLA hazardous substance, pollutant, or contaminant, or a hazardous/dangerous waste or constituent but only indirect evidence is available to indicate that concentrations of remaining contaminants are below 100 Area cleanup standards, the site should be recommended for confirmatory sampling before further reclassification efforts. Indirect evidence might be historical information suggesting the size of the release was small or that it was cleaned up at the time of the release, without specific analytical data to verify the effectiveness of the cleanup.

#### **Other Notes**

1. Coordinates

The reader will notice that the Waste Site Reclassification Forms and accompanying support documentation will reflect different types of coordinates for waste sites. In general, Hanford Coordinates were developed to maintain security with respect to the location of sensitive operational facilities at Hanford. Washington State Plane coordinates tend to be more consistent and reliable in describing the location of specific sites, and were, therefore, used as the standard on the reclassification forms.

2. Combined Operable Units

When the Hanford Site was placed on the National Priorities List in 1989, the 100 Areas were divided into operable units (OU). To allow more efficient allocation of resources, artificially defined OU boundaries were subsequently combined with other OUs. These include the 100-B/C-3, 100-KR-3, 100-DR-3, and 100-FR-3 OUs, which no longer exist. The consolidation of the OUs eliminated the costs of preparing some work plans, focused feasibility studies, and interim response measure proposed plans for each geographic area

in which the OUs were combined. This explanation is made to clarify the potential discrepancies that may be found between historical references and the Environmental Sites Database General Summary Reports that are a part of the waste site reclassification packages. The Summary Reports reflect the location of the suspected waste site subsequent to any combination of OUs.

3. Supporting Documentation

In some cases, to improve understanding of the history and current status of suspected waste sites nominated for reclassification, RL utilized process knowledge, and/or conducted interviews with technical experts to supplement available written documentation. While the process knowledge or conversations may not be specifically referenced in the Waste Site Reclassification Form, information gleaned from such sources is incorporated into the descriptions and bases for reclassification. Additionally, in order to improve readability and reduce volume, some attached references to the Waste Site Reclassification Form have been adapted from reports or other written documents. In all such cases, however, the full reference would appear on the form, and the substantive content of the material was not altered.

Mr. Steven Alexander  
State of Washington  
Department of Ecology  
1315 W. 4th Ave.  
Kennewick, Washington 99336

Mr. Douglas Sherwood  
U. S. Environmental Protection Agency  
Region 10  
712 Swift Boulevard, Suite 5  
Richland, Washington 99352

Dear Messrs. Alexander and Sherwood:

#### SUBMITTAL OF 100 AREA WASTE SITE RECLASSIFICATION PACKAGES

Reference: Maintenance of the Waste Information Data System (WIDS), Tri-Party Agreement Handbook Management Guidelines, Document Number RL-TPA-90-001, Draft Procedure Number TPA-MG-08, dated May 31, 1996.

This letter transmits waste site reclassification packages for 26 waste sites from the 100 Area that are being submitted to the U.S. Environmental Protection Agency and the Washington State Department of Ecology (Attachment 1). All packages have been prepared in accordance with the referenced document. A table summarizing the 26 waste site packages being nominated for reclassification in the Waste Information Data System (WIDS) provided in Attachment 2. Attachment 3 is a map identifying the location of the 26 wastes sites.

This submittal is the culmination of an intensive effort by the U.S. Department of Energy, Richland Operations Office to review 100 Area waste sites for purposes of reclassification in WIDS. In developing this submittal, 81 waste sites were reviewed. The Environmental Restoration Contractor evaluated all available process history and reviewed all available reports and engineering drawings. The results of these efforts are as follows:

- 26 waste sites are nominated as candidates for reclassification (this submittal). Attachment 4 is regulatory and other considerations applied during evaluation of these sites.

Messrs. Alexander and Sherwood

Page 2

- 53 waste sites require additional research, which might include sample collection and data evaluation to assess the possibility of reclassification; sites that need additional research will be evaluated in the fiscal year 1997 waste site reclassification efforts.
- 2 waste sites did not meet the criteria for reclassification.

If you have any questions, please contact Mr. G. I. Goldberg at 509-376-9552.

Sincerely,

Paul F. X. Dunigan, Jr.  
Hanford Project Manager

Attachments: (1) 26 Waste Site Reclassification Packages  
(2) 100 Area Waste Sites Nominated for Reclassification  
(3) Location of 100 Area Waste Sites Nominated for Reclassification  
(4) Regulatory Considerations and Other Notes for Waste Site Reclassification