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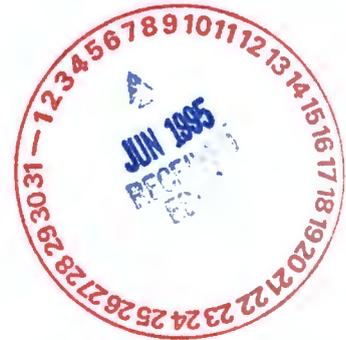
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DOE/EA-0983



# Environmental Assessment

Inert/Demolition Waste Landfill (Pit 9), Hanford Site, Richland,  
Washington



U.S. Department of Energy  
Richland, Washington

May 1995

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**ENVIRONMENTAL ASSESSMENT**

**INERT/DEMOLITION WASTE LANDFILL (PIT 9)  
HANFORD SITE, RICHLAND, WASHINGTON**

**U.S. DEPARTMENT OF ENERGY**

**RICHLAND, WASHINGTON**

**MAY 1995**

## Summary

The U.S. Department of Energy (DOE) needs additional convenient and economical disposal capacity for inert and demolition wastes to support the demolition activities planned for the southern areas of the Hanford Site. The current demolition waste landfill, Pit 10, located approximately 25 meters (27 yards) west of Route 4S, will reach full capacity in 1995. Demolition activities are projected to continue for up to 20 years.

This Environmental Assessment was prepared to analyze the potential impacts associated with converting Pit 9, an old alluvial gravel pit, to an inert/demolition waste landfill. This pit would be used solely for disposal of inert and demolition waste as defined in, and in compliance with, "Minimum Functional Standards for Solid Waste Handling," *Washington Administration Code* 173-304. No hazardous, radioactive, dangerous, liquid, or asbestos wastes would be disposed of into Pit 9.

The DOE proposes to utilize an existing alluvial gravel pit, Pit 9, as an inert/demolition waste landfill. Pit 9, which is located approximately 3 kilometers (2 miles) north of the 300 Area, in the 600 Area of the Hanford Site, would be converted for use as an inert/demolition waste landfill by installing a lockable access gate at the entrance, and a fenced barrier around the entire landfill area. Signs would be posted to prevent the disposal of any unauthorized waste. No other physical alterations in the Pit 9 area would be necessary. The proposed landfill would be utilized for inert and demolition wastes disposed of by DOE contractors only, at an estimated cost for disposal of \$6.82 per metric ton (\$6.20 per short ton) of waste.

The geologic setting around Pit 9 is typical of the 600 Areas; the surface is covered with loess and sand dunes of varying thickness. The Pit 9 area is composed primarily of coarse sand, granules, small pebbles, cobbles, and small boulders. Pit 9 is situated approximately 2 kilometers (1.5 miles) west of the Columbia River, the nearest natural watercourse. Pit 9 is not located within or adjacent to a wetland, or in the 100-year floodplain. The pit is approximately 460 meters (1,550 feet) long, 155 meters (508 feet)

wide, and 12 meters (40 feet) deep; the approximate volume of the pit is 765,000 cubic meters (1 million cubic yards).

Biological and Cultural Resources Reviews have been completed for the proposed action; no sensitive areas such as wetlands, floodplains, archaeological sites, sole source aquifers, or structures of historical significance were identified. In addition, no listed or candidate threatened or endangered species were observed.

This proposed action would support the disposal phase of various infrastructure demolition projects in the southern areas of the Hanford Site. These demolition projects would produce waste consisting of concrete, brick, incidental wood, used asphalt, and steel. These wastes would be disposed of into Pit 9. The various demolition projects for inadequate and/or unsafe facilities on the Hanford Site would comply with all demolition restrictions and requirements associated with the razing of DOE facilities.

Controls restricting the disposal of inert and demolition wastes into Pit 9 would be strictly enforced. Included in these controls is the strict adherence to DOE Order 5400.5, *Radiation Protection of the Public and the Environment* for release limits of any possible radioactive materials. Workers at the demolition site(s) would segregate the various wastes according to DOE contractor procedures and administrative controls to ensure all hazardous, dangerous, radioactive, asbestos, and liquid wastes are separated out of and not included, in the inert and demolition waste, and that only inert and demolition wastes are placed into the dump trucks destined for the inert/demolition waste landfill.

Due to the large size of Pit 9, current disposal projections estimate that it may be available for inert and demolition waste disposal for 20 years. When Pit 9 reaches its full capacity, or is no longer needed, it would be covered with a minimum of 1 foot of soil, any voids would be filled to maintain an aesthetic appearance, and would utilize native species derived from the Hanford Site to assist in restoration success, soil stabilization, and create habitat with wildlife value, where appropriate. Any additional inert/demolition waste landfill closure activities that may be required in the future for Pit 9 would be complied with.

Alternatives to the proposed action that were evaluated included a No-Action Alternative, as well as use of On-Site and Off-Site landfills. High costs of disposal and additional transportation made alternative landfills substantially more expensive.

Impacts from the proposed action were evaluated. The proposed action would not lead to any substantial increase in human health effects, and would be in compliance with all standards pertaining to public health. Of the range of wastes that would be disposed of into Pit 9, used asphalt is the only waste which might be considered to have a potential to leach contaminants into the groundwater. Given the arid nature of the Hanford Site, it is considered unlikely that the "perfect" conditions for breakdown and leaching of the asphalt would exist. Even if the precipitation were to collect at the low point of the pit, the potential of asphalt leachate migrating into the groundwater table is remote. No runoff and direct degradation to any surface water would be anticipated. No threatened or endangered species, critical or sensitive habitat, cultural, or historical resources are expected to be adversely affected by the proposed action.

Impacts from accidents were examined and considered. Operation of the inert/demolition waste landfill might involve typical construction accidents. With radioactive, hazardous, dangerous, liquid, and asbestos wastes eliminated from this proposed action, accidents involving these concerns were not evaluated.

## Glossary

### Acronyms and Initialisms

DOE	U.S. Department of Energy
Ecology	State of Washington Department of Ecology
RL	U.S. Department of Energy, Richland Operations Office
WAC	<i>Washington Administrative Code</i>

### Definition of Terms

**Demolition waste** as defined in WAC 173-304: "Solid waste, largely inert waste, resulting from the demolition or razing of buildings, roads, and other man-made structures.

Demolition waste consists of, but is not limited to, concrete, brick, bituminous concrete, wood and masonry, composition roofing and roofing paper, steel, and minor amounts of other metals like copper. Plaster (i.e., sheet rock or plaster board) or any other material, other than wood, that is likely to produce gases or a leachate during the decomposition process and asbestos wastes are not considered to be demolition waste for the purposes of this regulation."

**Inert waste** as defined in WAC 173-304: "Noncombustible, nondangerous solid wastes that are likely to retain their physical and chemical structure under expected conditions of disposal, including resistance to biological attack and chemical attack from acidic rainwater."

**Leaching**. The process in which percolating water mobilizes and transports materials or waste downward through the soil column.

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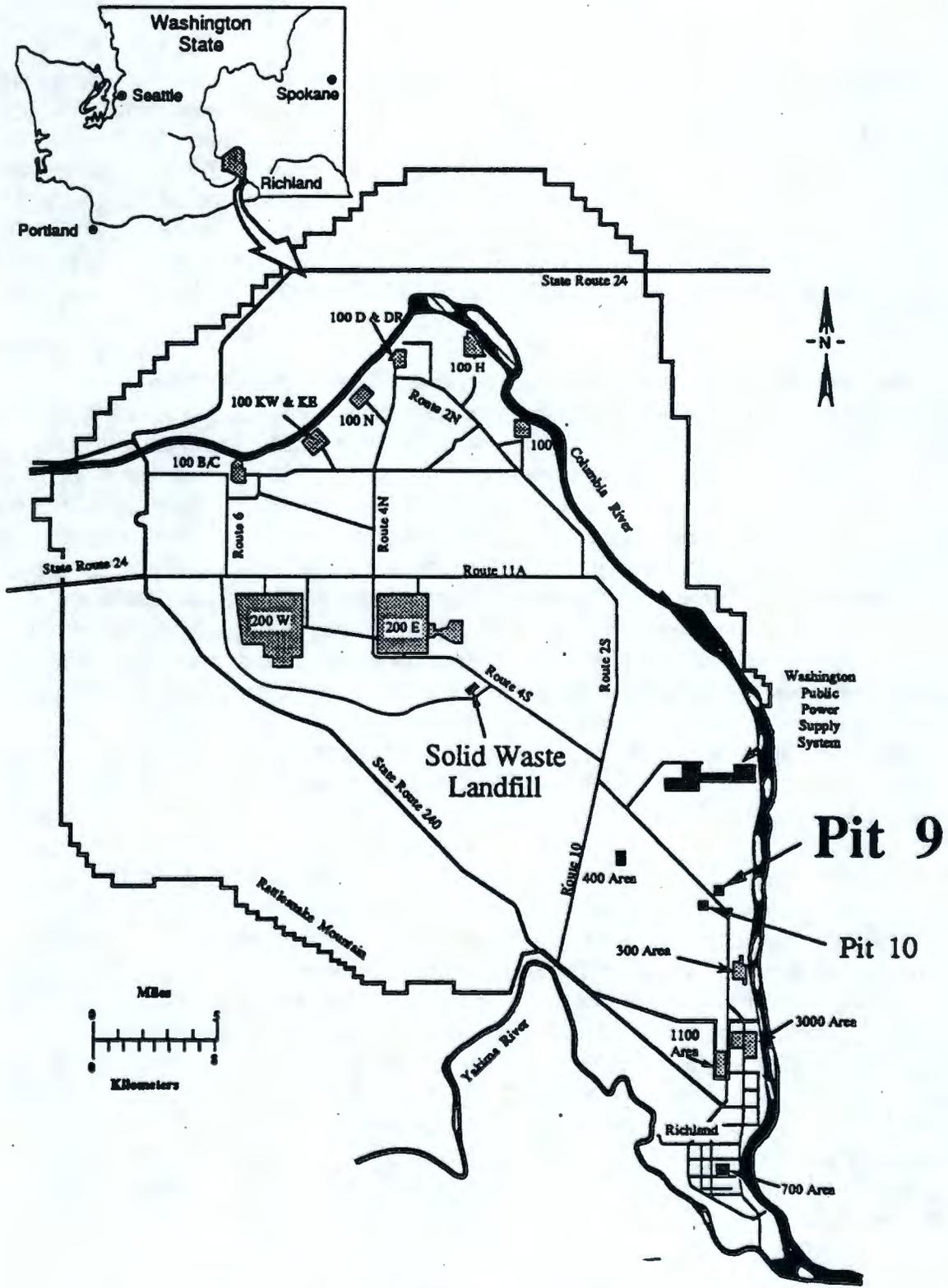
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## 1.0 Purpose and Need for Agency Action

The U.S. Department of Energy (DOE) needs additional convenient and economical disposal capacity for inert and demolition wastes to support the demolition activities planned for the southern areas of the Hanford Site. The current demolition waste landfill, Pit 10, located approximately 25 meters (27 yards) west of Route 4S (see Figure 1), will reach full capacity in 1995. Demolition activities are projected to continue for up to 20 years. Future demolition of various inadequate facilities and structures are discussed in the *Engineering Study: Integrated Office Space Plan* (WHC 1993).



**Figure 1.**  
**Location of Pit 9 on the Hanford Site.**

## 2.0 Description of the Proposed Action

To meet the needs defined in Section 1.0, DOE proposes to utilize an existing alluvial gravel pit, Pit 9, as an inert/demolition waste landfill. Pit 9 is located approximately 3 kilometers (2 miles) north of the 300 Area, in the 600 Area of the Hanford Site. A lockable access gate would be installed at the entrance, and a fenced barrier around the entire landfill area to restrict access to Pit 9. Signs would be posted to prevent the disposal of any unauthorized waste. No other physical alterations in the Pit 9 area would be necessary. The proposed landfill would be utilized only for Hanford Site inert and demolition wastes disposed of by DOE contractors, at an estimated cost for disposal of \$6.82 per metric ton (\$6.20 per short ton) of waste.

This proposed action would primarily support the disposal phase of various infrastructure demolition projects in the southern areas of the Hanford Site as indicated in the *Hanford Mission Plan, Volume 1, Site Guidance* (DOE-RL 1993a). These demolition projects would produce waste consisting of concrete, brick, incidental wood, used asphalt, and steel, which would be disposed of in this landfill. The various demolition projects for inadequate and/or unsafe facilities on the Hanford Site would comply with all demolition restrictions and requirements associated with the razing of DOE facilities. These standards, codes, orders, and restrictions control waste segregation and handling upon demolition of a facility, prior to placing materials into dump trucks for hauling to disposal site(s). Workers at the demolition site(s) would segregate the various wastes according to DOE Order 5400.5, *Radiation Protection of the Public and the Environment* (DOE 1990), contractor procedures and administrative controls to ensure all hazardous, dangerous, radioactive, asbestos, and liquid wastes are separated out of and not included in the inert and demolition waste, and that only inert and demolition wastes are placed into the dump trucks destined for the inert/demolition waste landfill.

All wastes going into, and management of, Pit 9 would strictly comply with the requirements of "Minimum Functional Standards for Solid Waste Handling," specified in *Washington Administrative Code* (WAC) 173-304, which is administered by the State of Washington Department of Ecology (Ecology). Facility managers would ensure that any materials that do not meet the definition of inert or demolition waste would not be disposed of into Pit 9. Before the inert and demolition wastes are disposed of into Pit 9, all appropriate contractor approved procedures would be in place to meet the requirements for inert/demolition waste landfill disposal (WAC 173-304). This would ensure that only inert and/or demolition wastes would be loaded into dump trucks destined for Pit 9. All demolition of buildings on the Hanford Site meet the standards of WAC 296-155, Part S, "Demolition." In addition, those facilities that contained radioactive materials also would comply with DOE Order 5820.2A, *Decommissioning Radioactive Contaminated Facilities*, (DOE 1988). All demolition procedures of facilities would include waste segregation to ensure all hazardous, dangerous, radioactive, asbestos, and liquid wastes are separated out of and not included in the inert and demolition waste to be disposed of into Pit 9. All regulated metals, and the substantial majority of the remaining metals as practical, would be separated for recycling prior to disposal. Inert and demolition waste log sheets, and operating

procedures similar to those used for Pit 10, would be utilized for documenting waste that would be loaded in dump trucks prior to and during disposal into Pit 9. These log sheets would record volumes as well as types of waste (i.e., asphalt, incidental wood, and concrete) disposed of into Pit 9.

This proposed inert/demolition waste landfill is approximately 460 meters (1,550 feet) long, 155 meters (508 feet) wide, and 12 meters (40 feet) deep, for an approximate volume of 765,000 cubic meters (1 million cubic yards). Due to the large size of Pit 9, current disposal projections estimate that inert and demolition waste disposal into Pit 9 could be available for the next 20 years. When Pit 9 reaches its full capacity, or is no longer needed, it would be closed meeting full compliance requirements in WAC 173-304 specified for "Inert waste and demolition waste landfilling requirements." These closure activities include covering Pit 9 with a minimum of 1 foot of soil, filling any voids to maintain an aesthetic appearance. Revegetation of the area would utilize native species derived from the Hanford Site to assist in restoration success, soil stabilization, and create habitat with wildlife value, where appropriate. Any additional inert/demolition waste landfill closure activities that may be required in the future for Pit 9 would be complied with. During operation, soil material would be separated and stockpiled in Pit 9. The stockpiled soil materials would be used as a source of the cover materials for landfill closure.

## 2.1 Related Actions

In addition to reusable and salvageable materials removed from a building prior to demolition, further recycling may be utilized in the future for all demolition projects on the Hanford Site. Some demolition sites may dump crushed inert or demolition materials back into the old foundation area of a demolished facility to bring it back up to grade level to support waste minimization efforts. These efforts would aid in reducing the volume of waste projected for inert and demolition waste disposal; however, future recycling would not preclude the need for this proposed action. Pit 9 is currently, and would continue to be, used for minor gravel removals for small road maintenance activities until the pit is closed under WAC 173-304.

## 3.0 Alternatives to the Proposed Action

Alternatives to the proposed action were identified and evaluated in the *Engineering Study: Solid Waste Transfer Station* (WHC 1990) and are described below.

### 3.1 OffSite Landfills

Alternatives involving disposal of inert/demolition waste to two offsite landfills are discussed below. The impacts and costs of disposal at these two landfills are considered representative of other private landfills in the region.

#### 3.1.1 Arlington, Oregon Landfill

The shipping of inert and demolition waste offsite to the Arlington, Oregon landfill was considered as an alternative to the proposed action. This landfill, which is located approximately 135 kilometers (85 miles) from the Hanford Site, is one of the largest in the Pacific Northwest. The Arlington site is providing service for Portland, Oregon; Seattle, Washington; and Kennewick, Washington, among others.

Discussions with Waste Management of Kennewick (the waste disposal company for the City of Kennewick, Washington) indicate that they would be willing to dispose of inert and demolition wastes at the Arlington disposal site. The current estimated cost for disposal would be \$32.43 per metric ton (\$29.48 per short ton), with additional costs associated with the transportation to haul the inert/demolition waste to the Arlington disposal site. This alternative would be more expensive than the proposed action.

#### 3.1.2 Richland Landfill

The shipping of inert and demolition waste offsite to the Richland landfill was considered as an alternative to the proposed action. This landfill is located approximately 10 kilometers (6 miles) from the southern areas of the Hanford Site.

Discussions with the City of Richland indicate that they would be willing to dispose of inert and demolition wastes at the Richland landfill for an estimated cost for disposal of \$27.12 per metric ton (\$24.65 per short ton). The additional transportation mileage to haul the inert/demolition waste would add to the overall cost of this alternative. This alternative would be more expensive than the proposed action.

## 3.2 Onsite Landfills

Alternatives involving disposal of inert/demolition waste to two onsite landfill areas are discussed below.

### 3.2.1 100 Area Landfill(s)

Several clearwells, which are old, below-ground, concrete vaults that were used to store filtered water, and gravel pits in the 100 Areas are identified in the *Westinghouse Hanford Company Environmental Compliance Manual* (WHC 1988) as being authorized by the U.S. Department of Energy, Richland Operations Office (RL) to receive inert and demolition wastes. However, these small clearwells and pits are located approximately 40 kilometers (25 miles) from the planned southern area demolition projects, have limited disposal capacity, and are already planned for use in disposing of waste from the 100 Area demolition projects as discussed in *Hanford Mission Plan, Volume 1, Site Guidance* (DOE-RL 1993a). The additional transportation mileage to haul the inert/demolition waste to the 100 Areas would add to the actual cost for disposal (which is essentially the same as for Pit 9). This alternative would be more expensive and provides less disposal capacity than the proposed action.

### 3.2.2 Solid Waste Landfill

This alternative would involve the disposal of inert and demolition wastes into the Hanford Site's industrial solid waste landfill (SWL), located approximately 16 kilometers (10 miles) from the southern areas of the Hanford Site. The estimated cost for disposal of the inert and demolition wastes in the SWL is \$64.01 per metric ton (\$58.19 per short ton). The additional transportation mileage to haul the inert/demolition waste would add to the overall cost of this alternative. The *Hanford Site Development Plan* (DOE-RL 1993b) projected that the SWL will reach capacity in 1997 without use as an inert/demolition waste landfill. This alternative would be far more expensive and provides less disposal capacity than the proposed action.

## 3.3 No-Action

Under this alternative, inert and demolition wastes from the southern area demolition projects would continue to be disposed of in Pit 10 until full capacity is reached in 1995. Once capacity was reached, all demolition activities would have to cease for the southern areas of the Hanford Site, or the waste would have to be sent to an offsite, privately operated landfill at a higher cost.

## 4.0 Affected Environment

The following section discusses the affected environment of the proposed action.

### 4.1 The Hanford Site and Pit 9

The Hanford Site lies within the semiarid Pasco Basin of the Columbia Plateau in the southeastern portion of the state of Washington. The Hanford Site occupies an area of about 1,450 square kilometers (560 square miles) north of the confluence of the Yakima River with the Columbia River. The Hanford Site is about 50 kilometers (30 miles) north to south and 40 kilometers (24 miles) east to west. Only about six percent of the land area has been disturbed and is actively used. The Columbia River flows through the northern part of the Hanford Site, and turning south, it forms part of the Hanford Site's eastern boundary. The Yakima River runs along part of the southern boundary and joins the Columbia River below the city of Richland, which bounds the Hanford Site on the southeast. Rattlesnake Mountain, the Yakima Ridge, and the Umtanum Ridge form the southwestern and western boundary. The Saddle Mountains form the northern boundary of the Hanford Site. Two small east-west ridges, Gable Butte and Gable Mountain, rise above the plateau of the central portion of the Hanford Site. Adjoining lands to the west, north, and east are principally range and agricultural land. The cities of Richland, Kennewick, and Pasco (Tri-Cities) constitute the nearest population center and are located southeast of the Hanford Site as indicated in the *Hanford Site National Environmental Policy Act (NEPA) Characterization* report (PNL 1994a).

Pit 9 is located approximately 25 meters (27 yards) east of Route 4S in the 600 Area of the Hanford Site, and about 8 kilometers (5 miles) to the north of the city of Richland (Figure 1). Route 4S is a four lane highway, with an existing turn lane into Pit 9 for northbound traffic. Pit 9 is situated in Section 27, Township 11 North, Range 28 East, which is approximately 2 kilometers (1.5 miles) west of the Columbia River. Pit 9 is not located within or adjacent to a wetland, or a 100-year floodplain. This proposed inert/demolition waste landfill is approximately 460 meters (1,550 feet) long, 155 meters (508 feet) wide, and 12 meters (40 feet) deep, for an approximate volume of 765,000 cubic meters (1 million cubic yards). More specific information about Pit 9 and its environs is provided below.

### 4.2 Geology

The geologic, geographic, and hydrologic relationships in Pit 9 and the surrounding areas were investigated, and borehole geologic logs from nearby boreholes referenced. A detailed description of the hydrogeologic setting of Pit 9, along with a map of the Pit 9 area, is provided in Appendix A. The existing ground level at the rim of Pit 9 lies at approximately 129 meters (420 feet) above sea level, while the base of the pit varies between

126 and 110 meters (410 and 360 feet) above sea level. Pit 9 itself is composed primarily of coarse sand, granules, small pebbles, cobbles, and small boulders.

The geologic setting around Pit 9 is typical of the 600 Areas. The surface is covered with loess and sand dunes of varying thickness. Under the surface layer, in descending order, are Holocene eolian deposits, the Hanford Formation, the Ringold Formation, and the Columbia River Basalt Group. The uppermost geologic unit in the area of Pit 9 consists of a discontinuous veneer of eolian sands up to 3 meters (10 feet) thick. The eolian sands are fine- to coarse-grained, and relatively quartz- and feldspar-rich. Deposits of the Hanford Formation underlie the eolian deposits. Hanford Formation strata in the area generally are dominated by deposits typical of the gravel-dominated facies consisting of uncemented granule to cobble gravels, and minor coarse-grained sand. The Hanford Formation in the area of Pit 9 is approximately 27 to 30 meters (90 to 100 feet) thick, with the base situated at approximately 95 meters (310 feet) above sea level. This is underlain by the top of the Ringold Formation lying at least 15 meters (50 feet) below the base of Pit 9. Basalt flows of the Columbia River Basalt Group and intercalated sediments of the Ellensburg Formation underlie the Ringold Formation. The region is categorized as one of low to moderate seismicity (PNL 1994a).

### 4.3 Hydrology

Based on *Groundwater Maps of the Hanford Site* (WHC 1992a) and *Hanford Site Ground-Water Monitoring for 1993* (PNL 1994b), the top of the unconfined aquifer (water table) in the area of Pit 9 lies at approximately 107 meters (350 feet) above sea level. This depth is 19 meters (60 feet) below the land surface at Pit 9 and as little as 3 meters (10 feet) below the deepest part of the pit.

The water table and groundwater flow paths in the area of Pit 9 slope to the east towards the Columbia River. The unconfined aquifer lies within the gravels of the Hanford formation, with transmissivity values (T) measured as high as 55,800 square meters per day (600,000 square feet per day) and hydraulic conductivities (Kh) of 760 meters per day (2,500 feet per day) in the 200 areas of the Hanford Site as depicted in the *Hydrogeologic Model for the 200 West Groundwater Aggregate Area* and *Hydrogeologic Model for the 200 East Groundwater Aggregate Area* (WHC 1992b and WHC 1992c). However, groundwater transmissivity and hydraulic conductivity measurements from groundwater monitoring wells closer to Pit 9 are substantially lower than this, with transmissivity values (T) of 2,323 square meters per day (24,980 square feet per day) and hydraulic conductivities (Kh) of 128 meters per day (420 feet per day), as shown in Table 1. The unconfined aquifer under Pit 9 is relatively thin and would not readily conduct water as the aquifer under the 200 Areas. The estimated infiltration at Pit 9 is 5 centimeters per year, as indicated in *Three-Dimensional Conceptual Model for the Hanford Site Unconfined Aquifer System, FY 1993 Status Report* (PNL 1993).

Tritium, originating from outside of the Pit 9 area, is the only contaminant of concern in the groundwater near this location. The tritium is due to a migrating plume from the 200 East Area. Well 699-S19-E13, located just south of Pit 9, has shown a gradual increase in

tritium concentrations from 4,000 to 12,000 picoCuries per liter between 1986 and 1993 (PNL 1994c).

**Table 1. Water Table Information Close to Pit 9**

Water Table depth, Transmissivity (T) and Hydraulic Conductivity ( $K_h$ ) Measurements for Wells near Pit 9 (PNL 1994b), and *Summary and Evaluation of Available Hydraulic Property Data for the Hanford Site Unconfined Aquifer System* (PNL 1992).

Well Number	Water Table (meters above MSL)	T (m <sup>2</sup> /day)	$K_h$ (m/day)
699-S11-E12A	349.6	NA	NA
699-S12-3	380.9	33	2.7
699-S8-19	NA	1,022	82.3
699-S14-20A	400.7	NA	NA
699-S19-11	390	600	81
699-2-3	NA	2,323	128

NA = Not Available

Note: Wells 699-S11-E12A (to the east) and 699-S12-3 (to the west) are closest to Pit 9.

#### 4.4 Climate

The Hanford Site has a mild climate with 15 to 18 centimeters (6 to 7 inches) of annual precipitation, with most of the precipitation taking place during the winter months. Of the total precipitation, approximately 96 percent is assumed lost through evapotranspiration. Temperature ranges of daily maximum temperatures vary from normal maxima of 2°C (36°F) in early January to 35°C (95°F) in late July. Infrequent periods of high winds of up to 128 kilometers (80 miles) per hour occur throughout the year. Tornadoes are extremely rare; no destructive tornadoes have occurred in the region surrounding the Hanford Site.

#### 4.5 Ecological Resources

The sagebrush, cheatgrass, and Sandberg's bluegrass vegetative community dominates the Hanford Site. The important shrubs are large sagebrush and rabbitbrush, while the understory is primarily composed of cheatgrass and Sandberg's bluegrass. The plant community in the interior of Pit 9 is composed almost entirely of non-native annuals. The plant community surrounding Pit 9 is mainly composed of non-native plants, but a number of native perennial species are present.

Most mammal species known to inhabit the Hanford Site are small, nocturnal creatures, primarily pocket mice and jackrabbits. Large mammals found on the Hanford Site are deer and elk, although the elk exist almost entirely on the Arid Lands Ecology Reserve. Coyotes and raptors are the primary predators. Several species of small birds nest in the steppe vegetation. Semiannual peaks in avian variety and abundance occur during migration seasons. The bald eagle is a winter visitor, roosting and foraging among the trees along the Columbia River.

No plants or animals on the federal list of "Endangered and Threatened Wildlife and Plants" (50 *Code of Federal Regulations* [CFR] 17) are found in the immediate vicinity of the proposed action, as indicated in the Biological Survey in Appendix B. No formal consultation with the U.S. Fish and Wildlife Service is necessary. In fact, only a few species of plants, and no animals, were found in the immediate proximity of the proposed action due to the highly disturbed nature of Pit 9.

#### 4.6 Cultural Resources

The Hanford Site is known to be rich in cultural resources, and contains many well-preserved archaeological sites dating back to both prehistoric and historical periods. Ten archaeological properties have been identified on the Hanford Site and are listed in *The National Register of Historical Places* (NPS 1991). None of these resources are located within the proposed inert/demolition waste landfill. The Pit 9 area has been reviewed and appears to not contain any cultural resources (Appendix C), however workers are to watch for cultural artifacts.

## 5.0 Environmental Impacts

This section will supply information on the potential environmental impacts associated with the proposed action. In addition, cumulative impacts, Environmental Justice, as well as impacts from implementation of the alternatives, are described.

### 5.1 Operations of Pit 9 as an Inert/Demolition Waste Landfill

Of the range of wastes that would be disposed of into Pit 9, used asphalt is the only waste which might be considered to have a potential to leach contaminants into the groundwater. However, the various deterioration properties of asphalt have been evaluated in *Bituminous and Asphaltic Membranes for Radioactive Waste Repositories on Land* (DOE 1987a), *Hanford Permanent Isolation Surface Barrier Program: Asphalt Technology Test Plan* (PNL 1994c), *Permanent Isolation Surface Barrier: Functional Performance* (WHC 1992d), and *Properties and long-term behavior of bitumen and radioactive waste-bitumen mixtures [sic]* (Eschrich 1980), all of which indicate that asphalt leaching is a remote concern. Eschrich concluded that "the application of bitumen (asphalt) in nuclear and nonnuclear fields is based on its favorable physico-chemical properties and its long-term durability...the demonstrated natural stability of bitumen over millions of years in an underground environment must be regarded as a real advantage...", and that "the conditions for microbial attack of bitumen must be perfect for a very long time to produce any noticeable damage, thus the speed at which microbes attack bitumen is very slow." Given the arid nature of the Hanford Site, it is considered unlikely that the "perfect" conditions for breakdown and leaching of the asphalt would exist. Even if the precipitation were to collect at the low point of the pit, the potential of asphalt leachate migrating into the groundwater table is remote.

If runoff resulted from a large amount of precipitation, it would drain into Pit 9 and collect on the floor. As a result, no runoff and direct degradation to any surface water would be anticipated.

None of the several species of plants and animals, which are under consideration for formal listing by either the federal government or the State of Washington, or critical or sensitive habitats, would be adversely impacted by the proposed inert/demolition waste landfill.

Periodically, the proposed action may result in a minor release of particulates in the form of dust. After the inert and demolition wastes are disposed of into Pit 9, several inches of earth from within Pit 9 would be pushed over the material. This minor dust would be controlled, as necessary, by water spray. The incidental timbers and wood waste would be particularly covered with earth during summer months to reduce any potential fire hazards. Open burning, incineration, or salvage operations would not be allowed in the inert/demolition waste landfill. Any methane or gas buildup that might occur from the disposal of timbers would be minor due to segregation of the majority of wood materials

from inert and demolition wastes at the demolition site, and the relatively low precipitation rates (PNL 1994a). No consequential odors would be produced from disposal of inert or demolition waste into Pit 9. Vehicle emissions associated with these disposal operations also would result in minor gaseous releases. In addition, none of the several species of plants and animals, which are under consideration for formal listing by either the federal government or the State of Washington, or critical or sensitive habitats, would be adversely impacted by the proposed inert/demolition waste landfill.

When Pit 9 reaches full capacity, closure plans would strictly follow applicable requirements, including the leveling and filling of all voids, and a minimum of 1 foot of soil used as a cover (WAC 173-304). In addition, revegetation of the Pit 9 area would utilize native species derived from the Hanford Site to assist in restoration success, soil stabilization, and create habitat with wildlife value, where appropriate.

## 5.2 Safety Impacts

Typical construction hazards would be associated with the construction activities (installing a lockable access gate and fenced barrier) needed to prepare Pit 9 for use as an inert/demolition waste landfill, and with the subsequent landfilling operations. Operations would strictly adhere to procedures for loading inert and demolition wastes onto the dump trucks, transporting the material to and dumping into Pit 9, and soil backfilling and water spraying for dust control. All of the activities associated with the disposal of inert and demolition wastes that have been conducted at Pit 10, as well the inert/demolition waste disposal sites on the Hanford Site for many decades, have occurred without any consequential incidents.

Transportation safety impacts due to the use of Pit 9 would be the same as what is now experienced using Pit 10 for inert/demolition waste disposal; Pit 10 is located directly across Route 4S from Pit 9. The road capacity of Route 4S, a four-lane highway, is 3000 vehicles per hour *Primary Highway Route North of the Wye Barricade* (WHC 1992e). Any increase in traffic that may occur on Route 4S due to hauling to Pit 9 (estimated maximum average of 10 loads per day) would be small when compared to this road capacity. Hauling inert and demolition wastes on Route 4S (south of the Wye barricade) to Pit 9 would not increase the risk of accidents on this four-lane road. Additionally, there is an existing northbound turn lane going into Pit 9 from Route 4S for the dump trucks to utilize.

With administrative controls (i.e., strict waste segregation at the demolition sites, the use of log sheets, and key control for the entrance to Pit 9), the potential for an accidental disposal of hazardous or radioactive waste into Pit 9 is considered very remote.

## 5.3 Impacts from the Alternatives

Impacts from reasonable alternatives are discussed below.

### **5.3.1 Alternative Inert/Demolition Waste Landfill Sites-Onsite**

All of the alternatives presented in Section 3.0 would have essentially the same impact on the environment as the proposed action for the actual disposal of inert and demolition wastes. The alternatives for the routine transportation of the inert and demolition waste would actually result in higher transportation accident probabilities due to transportation distances. The alternatives would utilize more fuel, causing an increase in engine exhaust pollution.

### **5.3.2 Alternative Inert/Demolition Waste Landfill Sites-Offsite**

All of the alternatives presented in Section 3.0 for disposal offsite would have essentially the same impact on the environment as the proposed action for the actual disposal of inert and demolition wastes. Again, the alternatives for the routine transportation of the inert and demolition waste would actually result in higher transportation accident probabilities due to transportation distances. The alternatives would utilize more fuel, causing an increase in engine exhaust pollution.

### **5.3.3 No-Action Alternative**

Under this alternative, the immediate impacts would not change. However, Pit 10 is projected to reach capacity in 1995. When Pit 10 reaches full capacity, demolition activities for the southern areas of the Hanford Site would halt, or be sent to one of the alternative landfills utilizing more fuel, and causing an increase in engine exhaust pollution.

## **5.4 Environmental Justice**

Evaluation of environmental justice impacts, as required by Executive Order 12898, must consider a range of factors that may place disproportionate negative environmental impacts on minority and low income populations. Environmental justice impacts from the proposed action considered in this Environmental Assessment (EA) could consist of a disproportionate human health risk from exposure to radiation or hazardous chemicals, and disproportionate adverse socioeconomic impacts, to minority or low income segments of the community.

Minority (especially Hispanic) populations and low income populations are present near the Hanford Site (PNL 1994a). However, based on the information in this EA, the socioeconomic impacts of this proposed action would be expected to be small, and the human health effects would be expected to be very small. Therefore, it is not expected that there would be any disproportionate impacts to any segment of the community.

## 5.5 Cumulative Impacts

Ongoing or planned inert/demolition waste disposal activities presently occurring in Pit 10 are similar to the proposed operations at Pit 9; therefore, no anticipated change in cumulative Hanford Site impacts are expected. The use of Pit 9 for waste disposal activities would not have an adverse impact on gravel production on the Hanford Site. Other gravel pits would continue to operate and would be capable of meeting the Hanford Site's gravel needs.

## 6.0 Permits and Regulatory Requirements

The Hanford Site is owned by the U.S. Government, and managed and operated by RL. It is the policy of DOE to carry out its operations in compliance with all applicable federal and state laws and regulations, Presidential Executive Orders, and DOE orders. Environmental regulatory authority over the Hanford Site is vested in federal agencies and in State of Washington agencies.

This proposed action involves disposal of inert and demolition wastes, which are nonhazardous, nondangerous, nonsolid, and nonradioactive wastes (WAC 173-304). A permit, post-disposal monitoring, or liner are not required (per Revised Code of Washington 70.95.240) for disposal of waste in the inert and demolition waste pits as long as management of, and compliance with, WAC 173-304, Section 461, is strictly enforced. This position has been confirmed in two letters (BFDHD 1989 and WDOE 1989).

## 7.0 Agencies and Persons Consulted

Two individuals representing possible offsite landfills were contacted (Johnson 1994a and Johnson 1994b).

Prior to approval of this EA, a draft version was sent to the States of Washington and Oregon, City of Richland, the Yakama Indian Nation, the Wanapum, the Confederated Tribes of the Umatilla Indian Reservation, and the Nez Perce Tribe. Comments were received from the State of Washington and the Yakama Indian Nation. The comments were considered in preparation of this final EA. The comments and DOE responses can be found in Appendix D.

## 8.0 References

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# APPENDICES

APPENDIX A

HYDROGEOLOGIC SETTING OF PIT 9

## Hydrogeologic Setting of Pit 9

Kevin A. Lindsey  
Geoscience Group  
April 9, 1993

### Introduction

This report outlines the hydrogeologic setting of Pit 9. The purpose of this investigation was to describe the general characteristics of the pit, the geology of deposits found in and around the pit, and the position of the pit relative to the water table and Columbia River. For this project, geologic and geographic relationships in the pit and surrounding area were investigated and borehole geologic logs (699-S11-E12, 699-S6-E14, and 699-S3-E12) from nearby boreholes examined. Because of the lack of good exposures in the pit and surrounding area, and the absence of core from nearby boreholes, the geologic features described in the text are in part inferred from analogous geologic features elsewhere on the Site.

### General Site Description

Pit 9 is located approximately 4 kilometers (2.5 miles) north of the 300 Area adjacent to the main north-south road leading onto the Site. The pit is situated approximately 1.5 kilometers (1 mile) west of the Columbia River. The top of the pit lies at approximately 125 meters (410 feet) above sea level while the base of the pit varies between 115 and 107 meters (380 and 350 feet) above sea level. In general, the entire pit area has been reclaimed with the sides of the pit sloped off. For this investigation, Pit 9 is divided into two lobes, a northern one and a southern one.

The northern lobe is situated north of the access road to the pit off of the highway. It ranges from 15 to 19 meters (50 to 60 feet) in depth and four large piles of aggregate lie on the pit floor. One of the piles consist of coarse sand, granules, and small pebbles while the other piles consist of pebbles, cobbles, and boulders. The majority of the material in these piles are basalt with lesser amounts quartzites, granitics, and gneissic clasts being present.

The southern lobe of the pit extends south from the access road. This lobe is usually less than 9 meters (30 feet) deep and contains essentially the same material as is found in the northern lobe. One gravel pile, consisting of sand, pebbles, and cobbles is found on the floor of the north lobe.

During the examination of Pit 9, attempts were made to dig a number of holes both on the pit floor and walls using a shovel. In each case, digging proceeded less than 15 centimeters (6 inches) before large cobbles were encountered and digging became impossible.

## Geologic Setting

The geologic units found in the vicinity of Pit 9 include, from the surface down, Holocene eolian deposits, the Hanford Formation, the Ringold Formation, and Columbia River Basalt Group. Discussions of the regional characteristics of these units can be found in the following reference materials:

- *Geologic Studies of the Columbia Plateau--A Status Report* (RHO 1979a)
- *Geology of the Separation Areas, Hanford Site, South-Central Washington* (RHO 1979b)
- *Suprabasalt Sediments of the Cold Creek Syncline Area, in Subsurface Geology of the Cold Creek Syncline* (RHO 1981a)
- *Wanapum and Saddle Mountains Basalts of the Cold Creek Syncline Area, in Subsurface Geology of the Cold Creek Syncline* (RHO 1981b)
- "Paleodrainage of the Columbia River system on the Columbia Plateau of Washington State - A Summary" (WDGER 1987)
- *Consultation Draft, Site Characterization Plan, Reference Repository Location, Hanford Site, Washington: Volume 1* (DOE 1988)
- "Special Paper 239" (GSA 1989)
- "Quaternary Geology of the Columbia Plateau" (GSA 1991)
- *Geology and Hydrology of the Hanford Site: A Standardized Text for use in Westinghouse Hanford Company Documents and Reports* (WHC 1991a)
- *Field Trip Guide to the Hanford Site* (WHC 1992a)
- *Sagit/Hanford Nuclear Project, Preliminary Safety Analysis Report, Volume 4, Appendix 20, Amendment 23* (PSPL 1982).

The following discussion centers on the geologic trends in the immediate vicinity of Pit 9.

**Eolian deposits:** The uppermost geologic unit in the area of Pit 9 consists of a discontinuous veneer of eolian sands up to 3 meters (10 feet) thick. Eolian deposits cover much of the land surface around the top of the pit as well as locally draping the western wall of the pit. The eolian sands are fine- to coarse-grained and relatively quartz- and feldspar-rich. The localized absence of eolian sands are the result of: (1) human activities associated with excavation of Pit 9 and the adjacent railroad and highway, and (2) natural processes in the form of wind-driven erosion. Deposits of the Hanford Formation underlie the eolian deposits.

**Hanford Formation:** Hanford Formation strata in the area generally are dominated by deposits typical of the gravel-dominated facies. The gravel-dominated facies generally consists of uncemented, granule to cobble gravels and minor coarse-grained sand. These gravels tend to contain very small amounts of mud matrix. Consequently, they typically display an open-framework texture. More detailed discussions of the Hanford Formation are found in GSA 1991, WHC 1991a, and WHC 1992a. The Hanford formation in the area of Pit 9 is approximately 27 to 30 meters (90 to 100 feet) thick, with the base situated at approximately 95 meters (310 feet) above sea level.

Direct observations of the Hanford Formation are limited at Pit 9 because of the lack of outcrops. The characteristics of the Hanford Formation in the area are interpreted from observations from Pit 9, Pit 8 (located approximately 1/2 kilometer [1/4 mile] southeast of Pit 9), Pit 10 (located across the highway west of Pit 9), and borehole geology logs. Deposits present at Pit 8 suggest the upper 2 to 6 meters (5 to 20 feet) of the Hanford Formation in the area consists of pebble to cobble gravel with a fine- to coarse-grained sand matrix. These gravels are uncemented and the mud content appears to be very low. Geologic logs from boreholes 699-S11-E12, 699-S6-E14, and 699-S3-E12 and inferences drawn from material in the bottom of Pit 9 suggest these sand-rich gravels overlie more basalt-rich, open-framework, granule to cobble gravels that contain only minor amounts of sand. In addition, single boulders as well as boulder-rich beds probably occur throughout these basaltic gravels.

No direct evidence of either sand-rich or silt-rich horizons are found into Pit 9 or borehole logs. However, the presence of a few silt blocks scattered around the pit suggests silty beds may be present in the gravels. Outcrop observations of analogous deposits elsewhere at Hanford indicate discontinuous silt interbeds can be present in gravels such as those found at Pit 9. These analogous deposits also commonly contain sandy horizons and the abundance of sand in the gravel piles and the central part of the pit floor indirectly suggests sandy horizons may be present in the gravels at Pit 9. Additional evidence for the possible presence of sandy horizons is found near the Washington Public Power Supply System site where sand horizons over 3 meters (10 feet) thick are found in pits.

**Ringold Formation:** Five major stratigraphic intervals comprise the Ringold Formation beneath Pit 9. They are: (1) the gravel-dominated deposits of unit E, 18 meters (55 feet) thick; (2) a 9 meters (30 feet) thick sequence of muddy paleosols; (3) gravel-dominated deposits of unit B, 9 meters (30 feet) thick; (4) paleosols and lake deposits of the lower mud unit, 11 meters (35 feet) thick; and (5) gravel-dominated deposits of unit A, 9 meters (30 feet) thick. Because the top of the Ringold Formation lies at least 15 meters (50 feet) below the base of Pit 9, and the only information in the area is available from borehole logs, it will not be discussed further here. For detailed discussions of Ringold Formation geology across the Hanford Site, the following documents are available:

- *Revised Stratigraphy for the Ringold Formation, Hanford Site, South-Central Washington* (WHC 1991b)
- *Geology of the Northern Part of the Hanford Site: An Outline of Data Sources and the Geologic Setting of the 100 Areas* (WHC 1992b)

- *Geologic Setting of the 200 East Area: An Update* (WHC 1992c)
- *Geologic Setting of the 200 West Area: An Update* (WHC 1992d)
- *Field Trip Guide to the Hanford Site* (WHC 1992a).

**Columbia River Basalt Group:** Basalt flows of the Columbia River Basalt Group and intercalated sediments of the Ellensburg Formation underlie the Pit 9 area and the entire Hanford Site. The uppermost basalt beneath Pit 9 is probably the Ice Harbor Member of the Saddle Mountains Basalt, which is found in borehole 699-S6-E14 (RHO 1981b). More detailed discussions of the basalts are available in RHO 1981b and GSA 1989.

### Hydrologic Setting

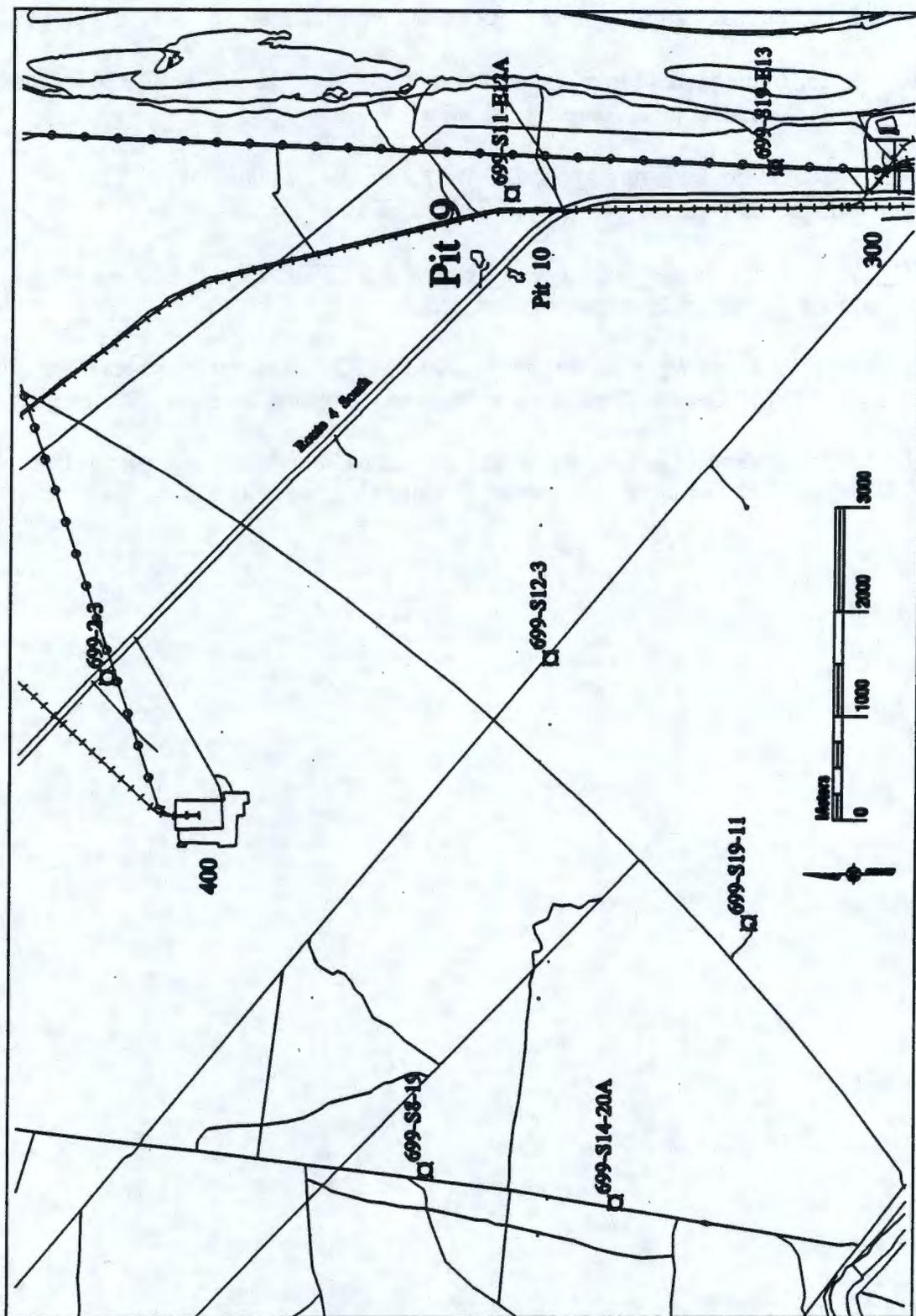
Based on *Groundwater Maps of the Hanford Site* (WHC 1992e), the top of the unconfined aquifer in the area of Pit 9 is interpreted to lie at approximately 107 meters (350 feet) above sea level. This puts the water table at a depth of approximately 19 meters (60 feet) below land surface in the area around Pit 9 and potentially as little as 3 meters (10 feet) below the deepest part of the pit. The water table in the area is situated within the gravel-dominated facies of the Hanford formation, which can have transmissivity values of as much as 55,800 square meters (600,000 square feet) per day and hydraulic conductivities of as much as 760 meters (2,500 feet) per day (WHC 1992f and WHC 1992g).

The water table in the area of Pit 9 slopes to the east towards the Columbia River. Consequently, groundwater flow paths in the area generally are directed to the east, towards the river. The Columbia River opposite Pit 9 has an average water surface elevation of approximately 105 meters (345 feet) above sea level. Based on the limited borehole geologic information available, the water table between Pit 9 and the Columbia River is situated almost entirely within the high transmissivity and conductivity gravels of the Hanford Formation.

## References

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Hydrogeologic Setting Map of Pit 9



Pacific Northwest Division  
P.O. Box 999  
Richland, Washington U.S.A. 99352  
Telephone (509) 376-5345

June 28, 1994

Mr. Jim Diebel, G3-10  
ICF Kaiser Hanford  
Richland, WA 99352

Dear Mr. Diebel,

**BIOLOGICAL REVIEW OF GRAVEL PIT #9, FOR THE INERT/DEMOLITION WASTE  
LANDFILL, #94-KEH-133.**

This report summarizes the results of the biological review for the above-referenced project. The proposed project is located within the 600 Area of the Hanford Site. A field assessment of this site was conducted by C. McKinnon and C. Duberstein on June 22, 1994. The field assessment consisted of a pedestrian survey that focused on plant and animal species protected under the Endangered Species Act, candidates for such protection, and species listed as threatened, endangered, candidate, sensitive, or monitor by the State of Washington.

Pit #9 will be used as a landfill for inert waste and filled with demolition debris. The proposed area consists of gravel with very little vegetation. No animal species were observed.

No plant or animal species protected under the Endangered Species Act, candidates for such protection, species listed as threatened, endangered, candidate, sensitive, or monitor by the State of Washington were observed on the site proposed for the Pit #9 Landfill Project for Inert Waste within the 600 Area. Consequently, no adverse impacts to such species would occur from this project.

Sincerely,

*J. M. Becker for C.A. Brandt*

C.A. Brandt, Ph.D.  
Project Manager  
Ecological Compliance Assessment

CAB/czm

APPENDIX B  
BIOLOGICAL REVIEW

APPENDIX C  
CULTURAL RESOURCES REVIEW

**Battelle**

Pacific Northwest Laboratories  
Battelle Boulevard  
P.O. Box 999  
Richland, Washington 99352  
Telephone (509) 372-1791

June 15, 1994

*No Known Cultural Resources*

Mr. Jim Diebel  
Kaiser Engineers Hanford Company  
Site Planning  
P. O. Box 888/G3-10  
Richland, WA 99352

Dear Jim:

**CULTURAL RESOURCES REVIEW OF THE GRAVEL PIT #9 TO BE USED AS AN INERT/  
DEMOLITION WASTE LANDFILL PROJECT. HCRC #94-600-043.**

In response to your request received May 6, 1994, staff of the Hanford Cultural Resources Laboratory (HCRL) conducted a cultural resources review of the subject project, located in the 600 Area of the Hanford Site. According to the information that you supplied, the project entails converting gravel pit #9 into an inert waste landfill which will be filled with debris from demolished buildings. The pit will continue to receive waste until it is full, approximately 250,000 cubic yards. No excavation will be required, as the waste will simply be placed in the pit.

Our literature and records review shows that the project area has been highly disturbed by previous gravel pit activities. It is very unlikely that any archaeological materials exist in such disturbed ground. Survey and monitoring by an archaeologist are not necessary.

It is the finding of the HCRL staff that there are no known cultural resources or historic properties within the proposed project area. The workers, however, must be directed to watch for cultural materials (e.g., bones, artifacts) during excavations. If any are encountered, work in the vicinity of the discovery must stop until an HCRL archaeologist has been notified, assessed the significance of the find, and, if necessary, arranged for mitigation of the impacts to the find. The HCRL must be notified if any changes to project location or scope are anticipated. This is a Class III case, defined as a project which involves new construction in a disturbed, low-sensitivity area.

A copy of this letter has been sent to Charles Pasternak, DOE, Richland Operations Office, as official documentation. If you have any questions, please call me at 372-1791. Please use the HCRC# above for any future correspondence concerning this project.

Very truly yours,

Handwritten signature of M. E. Crist in black ink.

M. E. Crist  
Technical Specialist  
Cultural Resources Project

Concurrence:

Handwritten signature of P. R. Nickens in black ink.  
P. R. Nickens, Project Manager  
Cultural Resources Project

cc: C. R. Pasternak, RL (3)  
File/LB

APPENDIX D  
PREAPPROVAL COMMENTS AND RESPONSES



STATE OF WASHINGTON  
DEPARTMENT OF ECOLOGY

P.O. Box 47600 • Olympia, Washington 98504-7600 • (206) 407-6000 • TDD Only (Hearing Impaired) (206) 407-6006

March 15, 1995

Mr. Paul F. X. Dunigan, Jr.  
Department of Energy  
PO Box 550  
Richland WA 99352

Dear Mr. Dunigan:

Thank you for the opportunity to comment on the environmental assessment for the Inert/Demolition Waste Landfill (Pit 9), Hanford Site, Richland, Washington (#DOE/EA 0983). We have reviewed the document and our comments are attached. If you have any questions on Ecology's comments, please call Mr. Ron Effland with our Nuclear Waste Program at (509) 407-7134.

Consistent with the Department of Ecology's responsibilities as Washington State's coordinator for the National Environmental Policy Act, we are forwarding the comments received from the State of Washington, Department of Fish and Wildlife.

If you have any questions on the comments made by Washington Fish and Wildlife, please call Mr. Jay McConnaughey (509) 736-3095.

Sincerely,

Handwritten signature of Barbara J. Ritchie in cursive.

Barbara J. Ritchie  
Environmental Review Section

BJR:ri  
95-1235

Attachments

RECEIVED  
MAR 27 1995  
DOE-RL/CCO  
195-TEP-205  
46.15.7

3

## DEPARTMENT OF ECOLOGY

March 16, 1995

TO: Vernice Santee  
Central Programs

FROM: Ron Effland, OPS Section  
Nuclear Waste Program

THRU: Jeff Breckel, OPS Section Supervisor  
Nuclear Waste Program

SUBJECT: Nuclear Waste Program (NWP) Comments on the Environmental Assessment for  
Inert and Demolition Waste Landfill (Pit 9)

The subject Environmental Assessment (EA) has been reviewed with related state law, RCW 70.95, and state regulation, WAC 173-304.

Section 6.0 of this EA addresses Permits and Regulatory Requirements. The last sentence on this page states - "A permit, post-disposal monitoring, or liner are not required (per RCW 70.95.240) for disposal of waste in the inert and demolition waste pits as long as management of, and compliance with, WAC 173-304, Section 461, is strictly enforced." We have concerns regarding this statement that a permit is not required. Mr. James Knudson of Ecology's Solid Waste Program was consulted, and he told Mr. Bob King of our program that a permit is required except for single family residents and single family farms which are regulated by WAC 173-304-600(1). Therefore, a permit is required for the proposed action of this EA.

Though WAC 173-304-461 is mentioned in Section 6.0, the inert and demolition Waste addressed in this EA does not meet the standard of WAC 173-304-461. WAC 173-304-461(1) states: "... Inert wastes and demolition wastes used as road building materials are excluded from this Section ...". The inert and demolition waste addressed in this EA includes used asphalt, which is a road building material.

One of the alternatives for the subject solid waste addressed in the EA is to use the Richland Landfill. Richland Landfill may not want this inert and demolition waste because it is difficult to compact and the capacity is too large; about three times the capacity of the Richland Landfill.

Section 2.0- This section should discuss where the soil materials separated for future use as cover materials for landfill closure will be placed.

The definition of Demolition waste in the Glossary is stated. Note that some metals are regulated and should be separated with other regulated materials.

Please let me know if you have any questions regarding these comments.

RE/djb

cc: Bob King RATS Unit, NWP  
Nancy Uziemblo, 200 Area Section, NWP  
Geoff Tallent, OPS Section, NWP



RECEIVED  
MAR 14 1995

State of Washington  
**DEPARTMENT OF FISH AND WILDLIFE**

1701 S. 24th Ave., Yakima, WA 98902-5720 Tel. (509) 575-2740  
c/o Department of Ecology  
1315 W 4th Ave, Kennewick, WA 99336

14 March, 1995

Barbara Ritchie  
NEPA Coordinator  
Environmental Review Section  
Washington Department of Ecology  
P.O. Box 47600 MS:47703  
Olympia, WA 98504-7600

Post-it brand fax transmittal memo 7671		# of pages = 2
To	Barbara Ritchie	From J. McLaughlin
Ca	Ecology	Co. WDFW
Dept.		Phone # 736-3095
Fax #	360 407 7151	

Dear Ms. Ritchie:

The Washington Department of Fish and Wildlife is providing comments on *Environmental Assessment, Inert/Demolition Waste Landfill (Pit 9), Hanford Site, Richland, Washington* document number DOE/EA0983.

**General Comments**

After visiting the proposed site (Pit 9) on 13 March, 1995, I concluded that the proposed action would have non-significant impacts to wildlife or habitat. WDFW recognizes DOE's mission has changed from one of production of nuclear materials to environmental restoration. Department of Energy (DOE) should be commended for making an effort to reduce ecological impacts by utilizing an existing impacted area for a landfill, and in the process returning the area to its original topography. WDFW urges DOE to make a strong commitment to restoration and revegetate the area to provide habitat with wildlife value.

**Specific Comments**

Page ES-2, last sentence of the page. Recommend increasing the minimum soil depth to 2 feet to provide an adequate plant rooting substrate.

Page ES-3, first line. Suggest deleting the word "possible" and changing the remaining portion of the sentence to read "... and revegetate the area using native species derived from the Hanford Site to ensure restoration success, assist in soil stabilization and create habitat with wildlife value.

Barbara Ritchie  
14 March, 1995  
Page 2 of 2

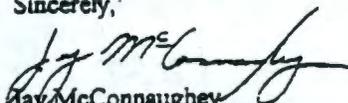
**Page 2-2, section 2.0, first paragraph, fourth sentence.** Recommend increasing the minimum soil depth to 2 feet to provide an adequate plant rooting substrate.

**Page 2-2, first paragraph, fourth sentence.** Suggest deleting the word "possible" and changing the rest of the sentence to read "... and revegetating the area using native species derived from the Hanford Site to ensure restoration success, assist in soil stabilization and create habitat with wildlife value.

**Page 5-2, section 5.1, last paragraph, first sentence.** Recommend increasing the minimum soil depth to 2 feet to provide an adequate plant rooting substrate. Request the words "rock and/or" be deleted. By using rock, DOE can not meet its goal of environmental restoration. Plants could not be established on a rock substrate.

**Page 5-2, section 5.1, last paragraph, last sentence.** Request sentence read " In addition, revegetation of Pit 9 will utilize native species derived from the Hanford Site to ensure restoration success, assist in soil stabilization and create habitat with wildlife value.

Sincerely,

  
Jay McConnaughey  
Habitat Biologist, Hanford Site

jlm

cc: Ted Clausing, WDFW  
Dave Lundstrom, Ecology



STATE OF WASHINGTON  
DEPARTMENT OF ECOLOGY

P.O. Box 47600 • Olympia, Washington 98504-7600 • (206) 407-6000 • TDD Only (Hearing Impaired) (206) 407-6006

March 21, 1995

Mr. Paul F. X. Dunigan  
U.S. Dept. of Energy  
PO Box 550  
Richland WA 99352

Dear Mr. Dunigan:

Thank you for the opportunity to comment on the environmental assessment (EA) for the inert/demolition waste landfill (Pit 9), Hanford Site, Richland, Benton County. We reviewed the EA and have the following concerns.

1. The subject Environmental Assessment (EA) has been reviewed with related state law, RCW 70.95, and state regulation, WAC 173-304.
2. Section 6.0 of this EA addresses Permits and Regulatory Requirements. The last sentence on this page states:

"A permit, post-disposal monitoring, or liner are not required (per RCW 70.95.240) for disposal of waste in the inert and demolition waste pits as long as management of, and compliance with, WAC 173-304, Section 461, is strictly enforced."

We have concerns regarding this statement that a permit is not required. Mr. James Knudson of Ecology's Solid Waste Program was consulted, and he told Mr. Bob King of our program that a permit is required except for single family residences and single family farms which are regulated by WAC 173-304-600(1). Therefore, a permit is required for the proposed action of this EA.

3. Though WAC 173-304-461 is mentioned in Section 6.0, the inert and demolition waste addressed in this EA does not meet the standards of WAC 173-304-461. WAC 173-304-461(1) states:

"...Inert wastes and demolition wastes used as road building materials are excluded from this Section..."

The inert and demolition waste addressed in this EA includes used asphalt, which is a road building material.

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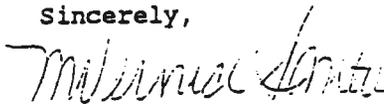
DOE-RL/C  
195-TEP-2  
40.15.

Mr. Paul F. X. Dunigan  
March 21, 1995  
Page 2

4. One of the alternatives for the subject solid waste addressed in the EA is to use the Richland Landfill. Richland Landfill may not want this inert and demolition waste because it is difficult to compact and the capacity is too large; about three times the capacity of the Richland Landfill.
5. Section 2.0 -- This section should discuss where the soil materials separated for future use as cover materials for landfill closure will be placed.
6. The definition of demolition waste in the Glossary is stated. Note that some metals are regulated and should be separated with other regulated materials.

If you have any questions, please call Mr. Ron Effland with the Nuclear Waste Program at (360) 407-7134.

Sincerely,



M. Vernice Santee  
Environmental Review Section

MVS:  
95-1235

cc: Ron Effland, Nuclear Waste



Confederated Tribes and Bands  
of the Yakama Indian Nation

Established by the  
Treaty of June 9, 1855

March 23, 1995

Mr. John Wagoner, Manager  
Richland Field Office  
Department of Energy  
P.O. Box 550 A7-50  
Richland, WA 99352

Dear Mr. Wagoner:

**Subject: 300 AREA 303-K STORAGE FACILITY CLOSURE PLAN; PLANNING FOR RECYCLING/REUSE OF MATERIALS RATHER THAN DISPOSAL IN LAND FILLS; REQUEST FOR SPECIFICATION OF REQUIREMENTS TO ACCOMPLISH THESE OBJECTIVES--**

DOE/RL letter 95-PCA-164 of February 8, 1995 discusses planning for closure of the subject storage facility in the 300 Area. We are concerned that planning does not require recycling building materials such as concrete, concrete blocks, asphalt and steel that are the primary constituents of this building. There appears to be no general requirement at Hanford to recycle such materials. Instead planning appears to anticipate transportation of debris to landfills, for example Pit 9 north of the 300 area for disposal.

We request that action be taken to require and plan recycling these materials into road building materials and or other new structures making use of concrete and steel. Alternatively the materials should be stockpiled awaiting recycling efforts. For example, interim storage low level waste storage casks made of concrete and recycled steel are now available commercially. Scrap materials from the subject building could be used for such casks.

In general plans for demolition of all asphalt, concrete and/or steel structures should include required planning for reuse of these materials. Such requirements should be incorporated into site wide requirements for D&D actions in appropriate systems engineering design specifications. Efforts should be initiated to encourage commercial recycling firms to privatize an enterprise at Hanford to utilize these materials.

Sincerely,



Russell Jim, Manager  
Environmental Restoration/Waste Management Program  
Yakama Indian Nation

cc: K. Clarke, DOE/RL  
L. McClain, DOE/RL  
M. Riveland, WA Ecol.  
C. Clarke, U.S. EPA Reg. 10  
T. Grumbly, DOE/EM  
T. O'Toole, DOE/EH  
Washington Gov. M. Lowry  
U. S. Senator P. Murray  
DNFSB  
D. Sherwood, EPA, Richland

**Department of Energy**

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

MAY 9 1995

Ms. Barbara J. Ritchie  
Environmental Review Section  
State of Washington  
Department of Ecology  
P.O. Box 47600  
Olympia, Washington 98504-7600

Dear Ms. Ritchie:

RESPONSE TO COMMENTS OF ENVIRONMENTAL ASSESSMENT (EA) DOE-EA-0983:  
INERT/DEMOLITION WASTE LANDFILL (PIT 9), HANFORD SITE, RICHLAND, WASHINGTON

The U.S. Department of Energy, Richland Operations Office (RL) wishes to thank you for your comments of March 15, 1995, on the subject draft EA.

Responses to the comments are enclosed, and changes to the EA are noted. If you have further questions or comments, please contact me at (509) 376-6667 or Mr. Nelson G. Thomas, Site Infrastructure Division, at (509) 376-9624.

Sincerely,

ORIGINAL SIGNED BY

Paul F. X. Dunigan, Jr.  
NEPA Compliance Officer

SID:NGT

Enclosure

cc w/encl:  
V. Santee, Ecology  
J. McConaughy, WADFW

Enclosure  
Page 1 of 4

RESPONSE TO COMMENTS OF ENVIRONMENTAL ASSESSMENT (EA) DOE-EA-0983:  
INERT/DEMOLITION WASTE LANDFILL (PIT 9), HANFORD SITE, RICHLAND, WASHINGTON

- 1a) Section 6.0, the last sentence on this page states -- A permit, post-disposal monitoring, or liner are not required (per RCW 70.95.240) for disposal of waste in the inert and demolition waste pits as long as management of, and compliance with, WAC 173-304, Section 461, is strictly enforced. It was also expressed that a permit is required except for single family farms which are regulated by WAC 173-304-600 (1). Therefore, a permit is required for the proposed action of this EA.

Response: As stated, the U.S. Department of Energy (DOE), Richland Operations Office (RL) believes no permit is required for this proposed action per interpretation of the statute RCW 70.95.240, which supersedes WAC 173-304. This position is confirmed in correspondence from the State of Washington concerning this issue. The Benton-Franklin District Health Department, which has jurisdictional control of this issue (per WAC 173-304-461[7]), wrote in a letter to RL dated August 29, 1989, "... RCW 70.95.240 provides for you (DOE) to dispose of your own waste on your own land as long as you do not violate statutes, ordinances, or create a nuisance." This point was concurred with in writing by the State of Washington Department of Ecology (WDOE) in a letter dated August 15, 1989, from D. W. Abbott, WDOE, Waste Management Section, to the Benton-Franklin Health Department, as long as three stipulations are met:

- 1) The landfill must comply with the requirements of WAC 173-304-461.
- 2) Demolition waste from commercial sources shall not be accepted.
3. Demolition waste generated off the Hanford Reservation shall not be accepted.

As stated in the proposed action, RL has every intention to comply with these mentioned stipulations for managing Pit 9 as an inert/demolition waste landfill. The wording in Section 6.0 has been changed to reflect Benton-Franklin District Health Department's and Ecology's comment.

Enclosure  
Page 2 of 4

- 1b) Another comment was, though WAC 173-304-461 is mentioned in Section 6.0, the inert and demolition waste addressed in this EA does not meet the standard of WAC 173-304-461. WAC 173-304-461 (1) states "inert wastes and demolition wastes used as road building materials are excluded from this section." The inert and demolition waste addressed in this EA includes used asphalt, which is a road building material.

Response: The waste addressed in the EA does meet the standard of WAC 173-304-461. It is correct that used asphalt would be placed in Pit 9. However, the used asphalt addressed here is waste and will not be used as road building material. Used asphalt is demolition and inert waste as quoted in the EA, and defined in WAC 173-304-100 (19 and 40). Therefore, no change to the EA is needed.

- 1c) Also expressed was, one of the alternatives for the subject solid waste addressed in the EA is to use the Richland Landfill. Richland Landfill may not want this inert and demolition waste, because it is difficult to compact and the capacity is too large; about three times the capacity of the Richland Landfill.

Response: The City of Richland was contacted as referenced in the first sentence of Section 7.0 regarding this issue. The City of Richland expressed interest in accepting the inert and demolition waste of this proposed action, and therefore, appears to be a reasonable alternative to the proposed action that should be considered in the EA. No change to the EA was made in response to this comment.

- 2) Section 2.0 -- This section should discuss where the soil materials separated for future use as cover materials for landfill closure will be placed.

Response: As stated in Section 2.0, last paragraph, fourth sentence, "... covering Pit 9 with a minimum of 1 foot of soil, filling any voids to maintain an aesthetic appearance...", the cover materials for landfill closure will be placed over, or covering Pit 9. Any temporary storage of soils will be in the Pit 9 Area itself, as addressed in the last sentence to this section. a wording change was made in Section 2 for clarification.

- 3) The definition of demolition waste in the glossary is stated. Note that some metals are regulated and should be separated with other regulated materials.

Response: All regulated metals, and the substantial majority of the remaining metals as practical, would be separated for recycling prior to disposal. Recycling efforts are discussed in Section 2.1. A wording change was made in section 2.0.

Enclosure  
Page 3 of 4

The following comments were made through the Department of Ecology by the State of Washington Department of Fish and Wildlife.

- 1) Page ES-2, last sentence of the page -- Recommend increasing the minimum soil depth to 2 feet to provide an adequate plant rooting substrate.

Response: The "1 foot of soil" mentioned in the referenced sentence is the current minimum required level of cover required to close the proposed inert and demolition landfill as listed in WAC 173-304-461 (6). The following sentence mentions that Pit 9 would meet any additional closure requirements to the current regulations, at the time of closure. It is not possible to predict what closure requirements will exist in 20 years, which is the projected time of closure for Pit 9. If necessary we will provide additional soil cover in addition to that required by regulation for facilitating successful revegetation. No change was made to the EA in response to this comment.

- 2) Page ES-3, first line -- Suggest deleting the word "possible" and changing the remaining portion of the sentence to read "...and revegetate the area using native species derived from the Hanford Site to ensure restoration success, assist in soil stabilization and create habitat with wildlife value."

Response: The EA will be reworded to read "... an aesthetic appearance. Revegetation of the Pit 9 Area would utilize native species derived from the Hanford Site to assist in restoration success, soil stabilization, and create habitat with wildlife value, where appropriate." As discussed in the response above, closure of this proposed action will meet the requirements that will be in place for closure activities when Pit 9 closes in the projected time frame.

- 3) Page 2-2, section 2.0, first paragraph, fourth sentence -- Recommend increasing the minimum soil depth to 2 feet to provide an adequate plant rooting substrate.

See response number 1, above.

- 4) Page 2-2, first paragraph, fourth sentence -- Suggest deleting the word "possible" and changing the rest of the sentence to read "...and revegetate the area using native species derived from the Hanford Site to ensure restoration success, assist in soil stabilization and create habitat with wildlife value."

See response number 2, above.

Enclosure  
Page 4 of 4

- 5) Page 5-2, section 5.1, last paragraph, first sentence -- Recommend increasing the minimum soil depth to 2 feet to provide an adequate plant rooting substrate. Request the words "rock and/or" be deleted. By using rock, DOE can not meet its goal of environmental restoration. Plants could not be established on a rock substrate.

See response number 1 above, concerning the 1 foot depth. The words "rock and/or" will be deleted from the sentence indicated.

- 6) Page 5-2, section 5.1, last paragraph, last sentence -- Request sentence read "In addition, revegetation of Pit 9 will utilize native species derived from the Hanford Site to ensure restoration success, assist in soil stabilization, and create habitat with wildlife value.

See response number 2, above.



## Department of Energy

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

MY 8 85

Mr. Russell Jim  
Yakama Indian Nation  
P.O. Box 151  
Toppenish, Washington 98948

Dear Mr. Jim:

COMMENTS TO PLANNING FOR RECYCLING/REUSE OF MATERIALS, RATHER THAN DISPOSAL IN LANDFILLS, AS RECYCLING RELATES TO THE ENVIRONMENTAL ASSESSMENT (EA) FOR INERT/DEMOLITION WASTE LANDFILL (PIT 9), HANFORD SITE, RICHLAND, WASHINGTON

The U.S. Department of Energy, Richland Operations Office (RL) wishes to thank you for your comments to Mr. John Wagoner, RL, dated March 16, 1995, on the subject of planning for recycling/reuse of materials. Reference was given to the draft EA concerning this subject. Responses to the comments are detailed below:

First paragraph; second, third, and fourth sentences. We are concerned that planning does not require recycling building materials such as concrete, concrete blocks, asphalt, and steel that are the primary constituents of this building. There appears to be no general requirement at Hanford to recycle such materials. Instead planning appears to anticipate transportation of debris to landfills, for example Pit 9 North of the 300 Area for disposal.

A demolition plan is written for each proposed demolition project covering an individual building or group of buildings on the Hanford Site. Plans include recycling materials with economic value, especially metals, from those buildings. These recycled materials are reused or excessed.

Recycling activities stated in Section 2.1 of the EA include, "In addition to reusable and salvageable materials removed from a building prior to demolition, further recycling may be utilized in the future for all demolition projects on the Hanford Site. Some demolition sites may dump crushed inert or demolition materials back into the old foundation area of a demolished facility to bring it back up to grade level to support waste minimization efforts. These efforts would aid in reducing the volume of waste projected for inert and demolition waste disposal; however, future recycling would not preclude the need for this proposed action."

Recycling activities are utilized for demolition projects on the Hanford Site, however some amounts of waste will still need disposal.

If you have any further questions or comments, please contact me at (509) 376-6667 or Mr. Nelson G. Thomas, Site Infrastructure Division, at (509) 376-9624.

Sincerely,

ORIGINAL SIGNED BY

Paul F. X. Dunigan, Jr.  
NEPA Compliance Officer

SID:NGT

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**FINDING OF NO SIGNIFICANT IMPACT**

**FOR**

**INERT/DEMOLITION  
WASTE LANDFILL (PIT 9)**

**HANFORD SITE, RICHLAND, WASHINGTON**

**U.S. DEPARTMENT OF ENERGY**

**MAY 1995**

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**AGENCY:** U.S. Department of Energy

**ACTION:** Finding of No Significant Impact

**SUMMARY:** The U.S. Department of Energy (DOE) has prepared an Environmental Assessment (EA), DOE/EA-0983, to assess environmental impacts associated with converting Pit 9, an old gravel pit, to an inert/demolition waste landfill to support demolition activities in the southern areas of the Hanford Site, Richland, Washington. Based on the analysis in the EA, DOE has determined that the proposed action is not a major federal action significantly affecting the quality of the human environment within the meaning of the *National Environmental Policy Act of 1969* (NEPA), 42 U.S.C. 4321, et seq. Therefore, the preparation of an Environmental Impact Statement (EIS) is not required.

**SINGLE COPIES OF THE EA AND FURTHER PROJECT INFORMATION ARE AVAILABLE FROM:**

W. A. Rutherford, Director  
Site Infrastructure Division MS/A5-51  
U.S. Department of Energy  
Richland Operations Office  
P. O. Box 550  
Richland, Washington 99352  
(509) 376-7597

**FOR FURTHER INFORMATION REGARDING THE DOE NEPA PROCESS, CONTACT:**

Carol M. Borgstrom, Director  
Office of NEPA Oversight  
U.S. Department of Energy  
1000 Independence Avenue, S.W.  
Washington, D.C. 20585  
(202) 586-4600 or (800) 472-2756

**PURPOSE AND NEED:** The U.S. Department of Energy (DOE) needs additional convenient and economical disposal capacity for inert and demolition wastes to support the demolition activities planned for the southern areas of the Hanford Site. The current demolition waste landfill, Pit 10, will reach full capacity in 1995. Demolition activities are projected to continue for up to 20 years.

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**PROPOSED ACTION:** DOE proposes to utilize an existing alluvial gravel pit, Pit 9, as an inert/demolition waste landfill. Pit 9, which is located approximately 3 kilometers (2 miles) north of the 300 Area, in the 600 Area of the Hanford Site, would be converted for use as an inert/demolition waste landfill by installing a lockable access gate at the entrance, and a fenced barrier around the entire landfill area. Signs would be posted to prevent the disposal of any unauthorized waste. No other physical alterations in the Pit 9 area would be necessary. The proposed landfill would be utilized for inert and demolition wastes disposed of by DOE contractors only.

This proposed action would support the disposal phase of various infrastructure demolition projects in the southern areas of the Hanford Site. These demolition projects would produce waste consisting primarily of concrete, brick, incidental wood, used asphalt, and steel which would be disposed of into Pit 9. No hazardous, radioactive, dangerous, liquid, or asbestos wastes would be disposed into Pit 9.

The pit would be used solely for disposal of inert and demolition waste as defined in, and in compliance with, "Minimum Functional Standards for Solid Waste Handling," *Washington Administration Code* (WAC) 173-304. Controls restricting the disposal of inert and demolition wastes into Pit 9 would be strictly enforced. Included in these controls is the strict adherence to DOE Order 5400.5, *Radiation Protection of the Public and the Environment* for release limits of any possible radioactive materials. Workers at the demolition sites would segregate the various wastes according to DOE contractor procedures and administrative controls to ensure all hazardous, dangerous, radioactive, asbestos, and liquid wastes are separated and not included in the inert and demolition waste to be placed into dump trucks bound for the proposed inert/demolition waste landfill.

Due to the large size of Pit 9, current disposal projections estimate that it may be available for inert and demolition waste disposal for 20 years. When Pit 9 reaches its full capacity, or is no longer needed, it would be covered with a minimum of 1 foot of soil, any voids would be filled to maintain an aesthetic appearance, and the site revegetated with native species derived from the Hanford Site to assist in restoration success, soil stabilization, and create habitat with wildlife value, where appropriate. Any additional inert/demolition waste landfill closure requirements in effect at that time would be complied with.

**ALTERNATIVES CONSIDERED:** The EA discussed several alternative sites for disposal of inert/demolition waste as well as the No Action Alternative. These included use of existing offsite landfills at Arlington, Oregon, and Richland, Washington, existing gravel pits and clearwells in the 100 Areas of the Hanford Site, the Hanford Site Solid Waste Landfill, and Pit 9. Of the alternative sites, all but one, Pit 9, failed to meet the identified purpose and need for this project; additional convenient and economical disposal capacity for inert and demolition wastes to support the demolition activities planned for the southern areas of the Hanford Site. The other alternatives discussed in the EA had higher initial disposal costs, and/or were further from the demolition sites, thus increasing safety concerns with added transportation cost.

No-Action Alternative. Under this alternative, inert and demolition wastes from the southern area demolition projects would continue to be disposed of in Pit 10 until full

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capacity is reached in 1995. Once capacity was reached, all demolition activities cease for the southern areas of the Hanford Site, awaiting a future decision on a site for demolition waste disposal.

**ENVIRONMENTAL IMPACTS:** Pit 9 is a highly disturbed area due to its use as a gravel pit. No sensitive or critical plant or animal habitat would be affected. There are no animal species of special concern which are known to use the area exclusively. Pit 9 is not located within or adjacent to a wetland or a 100-year floodplain.

The proposed action would not result in airborne particulate matter, thermal releases, or gaseous discharges in significant amounts. Noise levels would rise only slightly for the duration of transportation and disposal of the inert/demolition waste.

Of the range of wastes that would be disposed of into Pit 9, used asphalt is the only waste which might be considered to have a potential to leach contaminants into the groundwater. However, the various deterioration properties of asphalt have been evaluated indicating that asphalt leaching is a remote concern. Given the arid nature of the Hanford Site, it is considered unlikely that the conditions necessary for breakdown and leaching of the asphalt indicated in the evaluations of asphalt would exist. Even if precipitation were to collect at the low point of the pit, the potential of asphalt leachate migrating into the groundwater table is remote.

**Safety Impacts:** Typical construction hazards would be associated with the construction activities (installing a lockable access gate and fenced barrier) needed to prepare Pit 9 for use as an inert/demolition waste landfill, and with the subsequent landfilling operations.

Transportation safety impacts due to the use of Pit 9 would be the same as what is now experienced using Pit 10 (located directly across Route 4S from Pit 9) for inert/demolition waste disposal. The road capacity of Route 4S, a four-lane highway, is 3000 vehicles per hour. Therefore, the traffic on Route 4S due to hauling to Pit 9 (estimated maximum average of 10 loads per day) would be small when compared to the road capacity. Hauling inert and demolition wastes on Route 4S to Pit 9 would not be expected to significantly increase the risk of accidents.

With administrative controls (e.g., strict waste segregation at the demolition sites, the use of log sheets, and key control for the entrance to Pit 9), the potential for an accidental disposal of hazardous or radioactive waste into Pit 9 is considered remote.

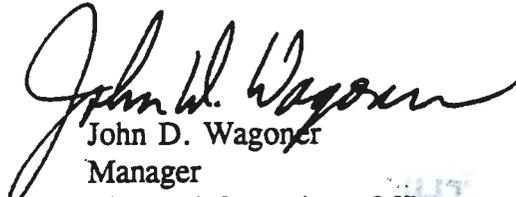
**Environmental Justice:** Executive Order 12898, *Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations*, requires that federal agencies identify and address, as appropriate, disproportionately high and adverse human health or environmental effects of their programs and activities on minority and low-income populations. While distributions of minority and low income population groups have been identified for the Hanford Site, the analysis in this EA disclosed no high and adverse health or environmental impacts resulting from implementation of the proposed action. Therefore no disproportionate impacts are expected to occur to any minority or low-income populations.

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**Cumulative Impacts:** Ongoing or planned inert/demolition waste disposal activities presently occurring in Pit 10 are similar to the proposed operations at Pit 9; therefore, the proposed action is not expected to result in any cumulatively significant impacts.

**DETERMINATION:** Based on the analysis in the EA, and after considering the preapproval review comments of the State of Washington and the Yakama Indian Nation, I conclude that the proposed conversion and operation of Pit 9 as an inert/demolition waste landfill does not constitute a major federal action significantly affecting the quality of the human environment within the meaning of NEPA. Therefore, an EIS for the proposed action is not required.

Issued at Richland, Washington, this 15<sup>th</sup> day of May, 1995.

  
John D. Wagoner  
Manager  
Richland Operations Office

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