DOE/EA-1403

Environmental Assessment

Use of Existing Borrow Areas, Hanford Site,
Richland, Washington

U.S. Department of Energy
Richland Operations Office
Richland, Washington 99352

October 2001

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GLOSSARY

Acronyms and Initialisms

CERCLA	*Comprehensive Environmental Response, Compensation and Liability Act of 1980*
CFR	Code of Federal Regulations
DOE	U.S. Department of Energy
DOT	U.S. Department of Transportation
EA	environmental assessment
EIS	environmental impact statement
FR	Federal Register
NEPA	*National Environmental Policy Act of 1969*
PNNL	Pacific Northwest National Laboratory
ROD	Record of Decision
TWRS	Tank Waste Remediation System
WAC	Washington Administrative Code

METRIC CONVERSION CHART

If you know	Multiply by	To get
Length		
centimeters	0.39	inches
meters	3.28	feet
kilometers	0.54	nautical miles
kilometers	0.62	statute miles
Area		
square kilometers	0.39	square miles
Mass (weight)		
grams	0.035	ounces
kilograms	2.2	pounds
kilograms	0.001	metric tons (tonnes)
metric tons (tonnes)	0.984	tons (long)
Volume		
liters	0.264	gallons
cubic meters	1.31	cubic yards

Source: CRC Handbook of Chemistry and Physics, Robert C. Weast, Ph.D., 70th Ed., 1989-1990, CRC Press, Inc., Boca Raton, Florida.

SCIENTIFIC NOTATION CONVERSION CHART

Multiplier	Equivalent
10^{-1}	0.1
10^{-2}	.01
10^{-3}	.001
10^{-4}	.0001
10^{-5}	.00001
10^{-6}	.000001
10^{-7}	.0000001
10^{-8}	.00000001

1.0 PURPOSE AND NEED FOR AGENCY ACTION

The U.S. Department of Energy (DOE) operates the Hanford Site near Richland, Washington (Figure 1). The DOE needs to identify and operate onsite locations for a continued supply of raw aggregate materials [approximately 7,600,000 cubic meters (10,000,000 cubic yards) over the next 10 years] for new facility construction, maintenance of existing facilities and transportation corridors, and fill and capping material for remediation and other sites.

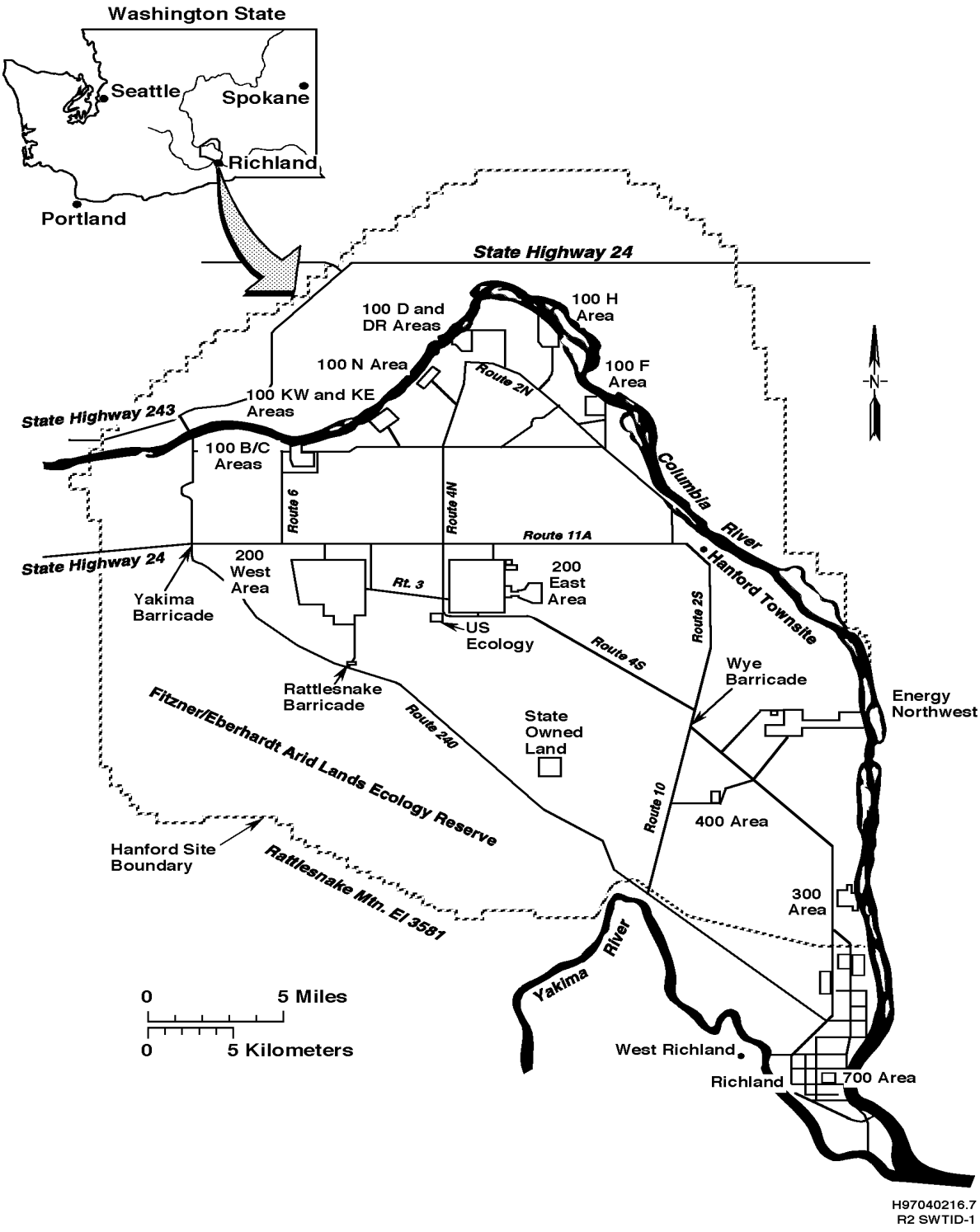


Figure 1. Hanford Site.

2.0 BACKGROUND

Historically, mineral resources extracted on the Hanford Site have been used to make concrete, construct roads, cap material for closing waste sites, and general construction. Associated land-use commitments in general, and borrow sites specifically, have been and continue to be addressed when considering activities on the Hanford Site. Recent examples include the 1996 document, DOE/EIS-0189, *Tank Waste Remediation System, Hanford Site, Richland, Washington, Final Environmental Impact Statement* (TWRS EIS), wherein it was stated that:

> "*Temporary and permanent proposed land-use commitments for remedial activities under all TWRS EIS alternatives would be consistent with past and existing land used for the 200 Areas, as well as with proposed use of the area as an exclusive-use waste management area for Hanford Site waste disposal and environmental restoration programs. Potential land-use commitments do not conflict with land uses in the area of the Hanford Site immediately surrounding the 200 Areas, recreational resources such as the Hanford Reach of the Columbia River, or the Fitzner Eberhardt Arid Land Ecology Reserve. For some of the alternatives, temporary land-use commitments associated with use of potential borrow sites outside of the 200 Areas may conflict with future Site land-use plans. However, borrow sites identified in this EIS were used only to compare potential impacts associated with one closure scenario. When a final closure plan is selected, borrow material needs may be much lower, and different onsite or offsite sources of borrow material may be selected to support closure activities."*
>
> In the Record of Decision for the TWRS EIS (ROD, 62 FR 8693, February 26, 1997), DOE stated that *"...Potential impacts to shrub-steppe habitat and cultural resources will be among the factors considered in a NEPA analysis to support the site selection process for facilities and earthen borrow sites*."

Subsequently, land use on the Hanford Site has been addressed in DOE/EIS-0222-F, *Final Hanford Comprehensive Land-Use Plan Environmental Impact Statement*, and in Appendix D, several quarry sites were identified as preferred sources of cap materials. In November 1999, DOE issued the Record of Decision (ROD) (64 FR 61615) for DOE/EIS-0222-F. As stated therein,

> *"...DOE intends to honor the commitment in the Tank Waste Remediation System EIS to perform a NEPA analysis addressing gravel quarries*."

Ten-year volume projections of borrow needs have been estimated in Fiscal Year 2001 and are summarized in Table 1. An industrial mineral resources management plan is being prepared that will include a framework for the planning, operations, and closure/restoration of borrow pits and quarries. This plan is required to be developed as one of a series of resource management plans needed to implement DOE/EIS-0222-F. Issuance of the aforementioned plan is anticipated for late Calendar Year 2001.

Table 1. 10-Year Estimate for Borrow Needs for the Hanford Site.

Activity	Cubic meters	Cubic yards
Waste treatment plant project	690,000	905,000
Decontamination and decommissioning	38,000	50,000
Emergency vehicle operations course	19,000	25,000
Remedial action and waste disposal project	6,100,000	8,000,000
Radiation area remedial action	40,000	52,000
Transfer line	5,300	7,000
Immobilized low-activity waste	42,000	55,000
Site services (e.g., road/parking lot maintenance)	7,600	10,000
Immobilized high-level waste Canister Storage Building	800	1,000
Tank Farm closure demonstration	230,000	300,000
Tank Farm maintenance/construction	175,000	230,000
Total (rounded up)	7,600,000	10,000,000

3.0 PROPOSED ACTION AND ALTERNATIVES

The proposed action and the alternatives are discussed in the following sections.

3.1 PROPOSED ACTION

The DOE proposes to obtain borrow materials from existing active borrow pits and quarries on the Hanford Site. The locations of the existing borrow pits and quarries are shown in Figure 2. The current status and size of the pits are shown in Table 2. The physical status of the rock quarries is shown in Table 3. The total volume of materials to be recovered over a 10-year period is estimated to be approximately 7,600,000 cubic meters [10,000,000 cubic yards (Table 1)]. Appropriate modifications to the existing quarries would be provided as discussed in the following.

The proposed action would include ensuring adequate access is provided to the borrow locations. Existing roads might be upgraded, as necessary, to enhance egress. Appropriate utilities would be provided, and might include portable generators or extension of power lines for lighting, installation of trailers for personnel, and portable toilets.

Conventional industrial equipment would be used during operations to recover the borrow material. For example, a power shovel or a front-end loader would excavate materials. New or modified equipment and facilities would be provided at the specific locations to provide for crushing, screening, size classification, washing, handling, and stockpiling. Truck loading stations would be provided.

Depending on the nature of specific borrow materials at individual locations, select sites might be expanded. For analysis, it is assumed that of the total disturbed surface area (i.e., 3 square kilometers or 1.2 square miles), expansion could result in an additional surface area disturbance of 10 percent [approximately 0.3 square kilometer (0.12 square mile)]. Assuming for analysis that the existing sites would be excavated an additional 2 meters (6.6 feet), the resulting volume of borrow material would be approximately 6,000,000 cubic meters (8,000,000 cubic yards). The projected need is approximately 7,600,000 cubic meters (10,000,000 cubic yards). Further, assuming that a depth of 5 meters (5.5 yards) of borrow material would be excavated during expansion, the resulting volume of additional borrow material available from expansion would be approximately 1,500,000 cubic meters (2,000,000 cubic yards).

As necessary, activities supporting expansion would be conducted. Such activities might include temporary site improvements (e.g., grading, adding or amending soils), seeding, planting, and other actions that might be implemented selectively at borrow areas to help reduce erosion, run-off, and dust emissions. Offset mitigation activities for habitat destruction would be performed as necessary. These activities would be consistent with resource management plans that have been developed for the Hanford Site, including DOE/RL-94-150 (*Bald Eagle Site Management Plan for the Hanford Site, South-Central Washington*), DOE/RL-96-32 (*Hanford Site Biological Resources Management Plan*), DOE/RL-96-88 (*Hanford Site Biological Resources Mitigation Strategy*), DOE/RL-98-10 (*Hanford Cultural Resources Management Plan*), and DOE/RL-2000-27 (*Threatened and Endangered Species Management Plan: Salmon and Steelhead*), as well as other plans under preparation (e.g., aesthetic and visual resources).

The scope of this EA does not include borrow sources in the lands designated for Preservation in the ROD for DOE/EIS-0222-F, except for those used for remediation activities in the Columbia River corridor. The scope of this EA does not include new or undeveloped borrow sources within the

boundaries of the Hanford Reach National Monument (Figure 3). The proposed action does not include actions to close and permanently reclaim the borrow areas; these actions will be addressed during future decisionmaking concerning Hanford Site restoration.

3.2 ALTERNATIVES TO THE PROPOSED ACTION

Alternatives to the proposed action are as follows.

3.2.1 No-Action Alternative

Under the No-Action Alternative, continued excavation of borrow materials would be conducted for site maintenance activities and remediation under *Comprehensive Environmental Response, Compensation, and Liability Act* (CERCLA) RODs.

3.2.2 Procure Borrow Material from Offsite Commercial Entity Exclusively

Offsite commercial suppliers of borrow materials are available. Local entities include Acme Materials and Construction Company in Richland, and Central Pre-Mix Concrete Company, Transtate Asphalt Company, and EUCON Corporation of Pasco.

Offsite borrow materials would result in higher transportation impacts, increased public exposure to vehicular exhaust emissions, increased fuel consumption due to greater travel distance, and more road miles generally open to the public, which could increase the likelihood of a vehicular accident.

3.2.3 Supplement Existing Onsite Sources by Establishing New Onsite Borrow Areas

New onsite borrow areas could impact the native shrub-steppe vegetation and habitat and culturally-sensitive areas, including the construction of new access roads.

3.2.4 Supplement Existing Onsite Sources by Procurement of Offsite Materials

The existing onsite borrow areas could be supplemented by establishing contracts with offsite commercial entities. Potential transportation impacts would increase, with the amount proportional to the volume of materials procured from offsite.

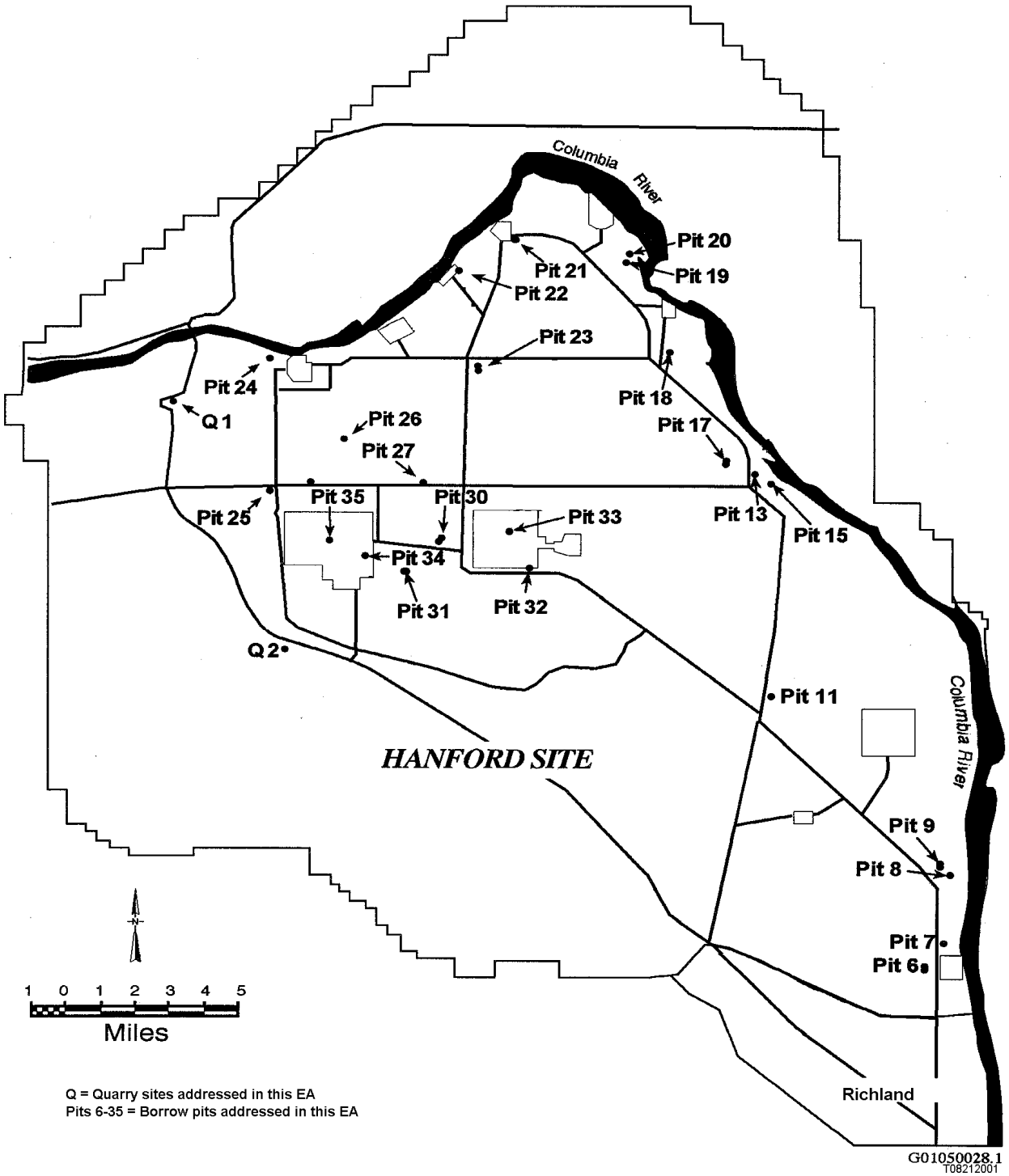


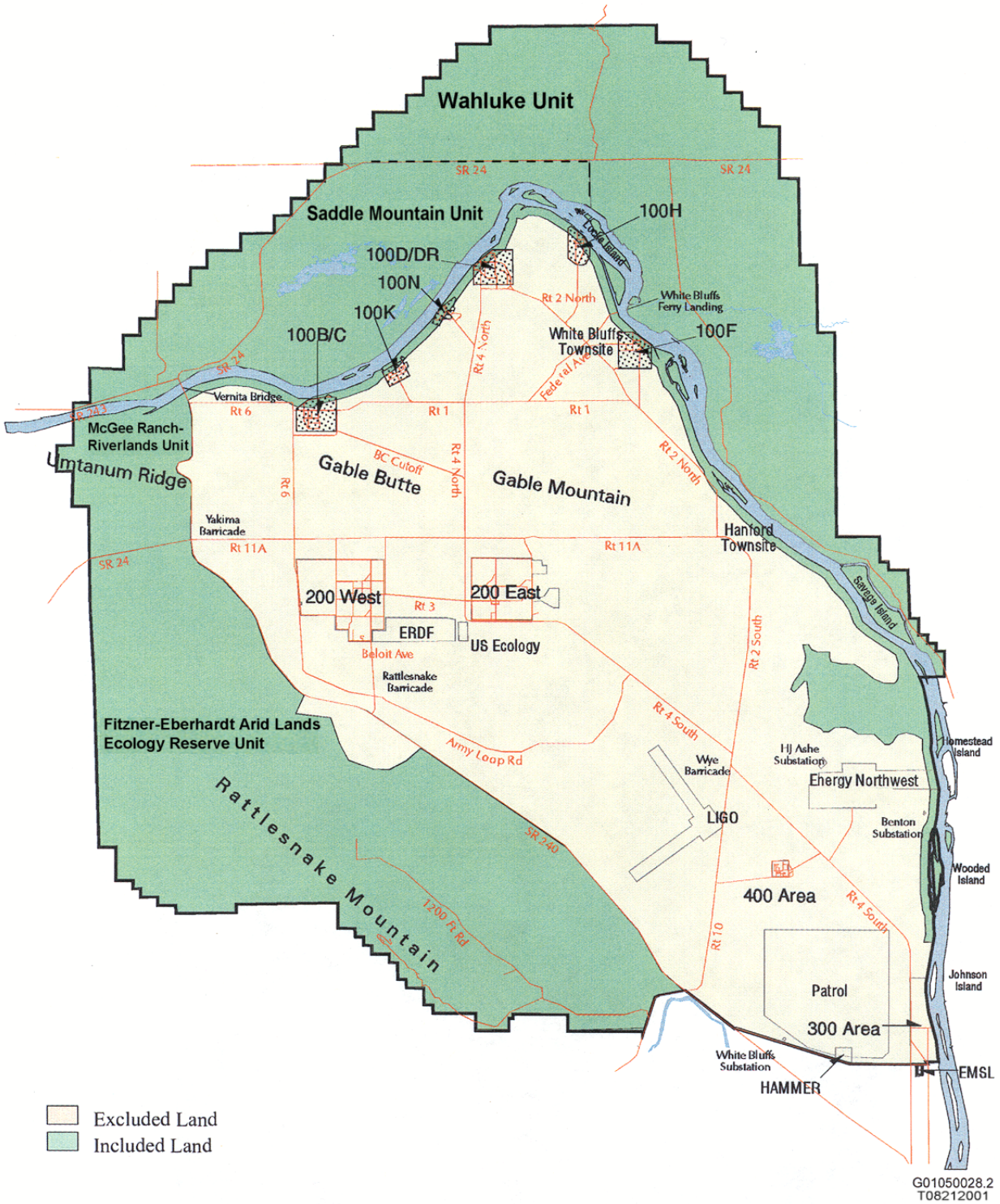
Figure 2. Active Borrow Pits and Quarries on the Hanford Site.

Table 2. Status of Active Borrow Pits.

Pit number	Physical status	Disturbed surface area [square kilometers (square miles)]
Pit 6	Gravel pit.	0.10 (0.04).
Pit 7	Sand Hill pit.	0.01 (0.004)
Pit 8	Gravel pit.	0.02 (0.01).
Pit 9	Gravel pit.	0.18 (0.07).
Pit 11	Gravel pit.	0.06 (0.02).
Pit 13	Gravel pit.	0.05 (0.02).
Pit 15	Gravel pit.	0.05 (0.02).
Pit 17	Gravel pit.	0.14 (0.05).
Pit 18	Gravel pit.	0.02 (0.01).
Pit 19	Gravel pit.	0.03 (0.01).
Pit 20	Gravel pit.	0.08 (0.03).
Pit 21	Gravel pit.	0.07 (0.03).
Pit 22	Gravel pit.	0.03 (0.01).
Pit 23	Gravel pit.	0.30 (0.12).
Pit 24	Gravel pit.	0.24 (0.09).
Pit 25	Gravel pit.	0.06 (0.02).
Pit 26	Gravel pit.	Data not available.
Pit 27	Gravel pit.	0.01 (0.004).
Pit 30	Gravel pit.	0.54 (0.21).
Pit 31	Gravel pit.	0.15 (0.06).
Pit 32	Sand pit	0.05 (0.02).
Pit 33	Sand pit	0.18 (0.07).
Pit 34	Gravel	0.06 (0.02).
Pit 35	Gravel	0.05 (0.02).
Total (rounded)		3.0 (1.0)

Table 3. Active Rock Quarries on the Hanford Site.

Rock Quarry Number	Physical Status
Q1	Along Highway 240 on the north side of Umtanum Ridge. Large amount of basalt.
Q2	On the Arid Lands Ecology (ALE) Preserve near gate 117. Large amount of basalt and sand.



EMSL = Environmental and Molecular Sciences Laboratory
ERDF = Environmental Restoration Disposal Facility
HAMMER= Hazardous Materials Management and Emergency Response
LIGO = Laser Interferometer Gravitational Wave Observatory

Figure 3. Hanford Reach National Monument.

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4.0 AFFECTED ENVIRONMENT

Details regarding the Hanford Site can be found in the *Hanford Site 2000 Environmental Report* (PNNL-12088) and *Hanford Site National Environmental Policy Act (NEPA) Characterization* (PNNL-6415).

The cities of Kennewick, Pasco, and Richland constitute the nearest population centers and are located southeast of the Hanford Site. The 1999 estimated population distribution is as follows: Kennewick 50,950; Pasco 26,600; and Richland 36,880.

The Hanford Site has a semiarid climate with 15 to 18 centimeters (6 to 7 inches) of annual precipitation, and infrequent periods of high winds of up to 128-kilometers (80-miles) per hour. Tornadoes are extremely rare; no destructive tornadoes have occurred in the region surrounding the Hanford Site. The probability of a tornado hitting any given location on the Hanford Site is estimated at 1 chance in 100,000 during any given year. The region is categorized as one of low to moderate seismicity.

Active borrow material sites are not located within a wetland; however, some are in the 500-year floodplain. Threatened and endangered plants and animals identified on the Hanford Site, as listed by the federal government (50 CFR 17) and Washington State (Washington Natural Heritage Program 1997) generally are not found in the vicinity of the borrow sites, and are discussed in PNNL-6415. No plants or mammals on the federal list of threatened and endangered wildlife and plants (50 CFR 17) are known to be on the Hanford Site. There are, however, two species of birds (Aleutian Canada goose and bald eagle) on the federal list of threatened and endangered species. Additional details regarding the protection and enhancement of the bald eagle Hanford Site habitat are provided in DOE/RL-94-150, *Bald Eagle Site Management Plan for the Hanford Site, South-Central Washington*.

The Columbia River and other water bodies on the Hanford Site provide valuable habitat for aquatic organisms. The Hanford Reach represents the only remaining significant mainstream Columbia River spawning habitat for stocks of upriver bright fall chinook salmon and white sturgeon. The Upper Columbia River spring run chinook salmon, Middle Columbia River steelhead, and Upper Columbia River steelhead have been placed under the protection of the *Endangered Species Act of 1973*. These fish spawn in or migrate through the Hanford Reach. Additional details regarding the protection and enhancement of stocks of spring chinook salmon and steelhead within the Hanford Reach of the Columbia River are found in DOE/RL-2000-27, *Threatened and Endangered Species Management Plan: Salmon and Steelhead*.

As discussed in PNNL-6415, natural plant communities have been altered by Euro-American activities that have resulted in the proliferation of nonnative species. Of the 590 species of vascular plants recorded for the Hanford Site, approximately 20% of all species are considered nonnative. The biodiversity inventories conducted by The Nature Conservancy of Washington have identified 85 additional taxa, establishing the actual number of plant taxa on the Hanford Site at 675. Cheatgrass is the dominant nonnative species.

Several species of both plants and animals are under consideration for formal listing by the federal government and Washington State. Details are provided in PNNL-6415, and are incorporated by reference in this EA.

General information regarding the cultural resources on the Hanford Site can be found in PNNL-6415. A number of site-specific biological and cultural resource reviews on borrow sites have been conducted,

with various levels of documentation and findings/restrictions. Those reviews are summarized in Appendix A. Additional reviews of all active borrow pits and quarries (Tables 2 and 3) are anticipated to be completed in calendar year 2001.

5.0 ENVIRONMENTAL IMPACTS

The following sections present qualitative and quantitative information on those potential environmental impacts that have been identified as a result of activities being proposed for the recovery of borrow materials on the Hanford Site, including intra-site transportation. Both routine operations and accident scenarios are analyzed in Sections 5.1 and 5.2 respectively.

The proposed action is not expected to result in radiological or hazardous material releases to the environment. All activities would comply with current DOE Orders and federal and state regulations.

5.1 PROPOSED ACTION: IMPACTS FROM ROUTINE OPERATIONS

Impacts from routine operations are described in the following sections.

5.1.1 Excavation of Borrow Materials

No radiological or toxicological exposure to personnel or the general public is expected to occur as a result of routine excavation operations, either loading or offloading activities. The materials would be handled in a manner consistent with commercial industrial quarry activities. Hanford Site personnel handle these types of materials daily. Routine methods (e.g., use of appropriate personnel protective clothing), specific training, and equipment safeguards are in place, and are adequate to ensure the safe recovery and handling of this material.

5.1.1.1 Air Quality

Particulate emissions would result from using heavy equipment to excavate and transport borrow materials from the existing sites. In general, specific emissions estimates and modeling were not performed because particulate matter emissions would be controlled by using appropriate wetting procedures and surfactants, resulting in compliance with federal and state air quality standards. For perspective, emissions have been estimated supporting concrete batch plant and aggregate quarry activities (ORP 01-EQD-030). As addressed therein, it was estimated that uncontrolled particulate emissions from quarry operations specifically addressing Pit 30 (including transportation over unpaved roads) could be as high as approximately 21.3 tonnes (21 tons) per year. Controlled particulate emissions were projected to be approximately 11.2 tonnes (11 tons) per year. The average maximum concentration (in micrograms per cubic meter) at the quarry (as a volume source) was determined to be 4.03 micrograms per cubic meter over 24 hours and 0.67 microgram per cubic meter annually. These can be compared with regulatory criteria set forth in WAC 173-470-100 for 24-hour and annual standards for particulate matter of 150 micrograms per cubic meter and 60 micrograms per cubic meter respectively.

It would be expected that overall recovery operations within the scope of this EA would not exceed regulatory thresholds. Extrapolating the aforementioned Pit 30 projected particulate emissions based on disturbed surface area [i.e., 21.3 tonnes (21 tons) per year for approximately 0.54 square kilometer (0.21 square mile)], the total disturbed surface area of 3 square kilometers (1.2 square miles) would yield approximately 119 tonnes (117 tons) of uncontrolled particulate emissions. Applying the extrapolation factor of approximately 5.6 to the aforementioned average maximum concentrations would yield calculated particulate emissions well below WAC 173-470-100 standards stated previously.

5.1.1.2 Water Quality

Washing activities might be conducted at the borrow site location(s). As appropriate, sand and gravel general permit applications would be submitted to the Washington State Department of Ecology, pursuant to Washington Administrative Code (WAC) 173-216 and 226.

5.1.1.3 Land Use

In accordance with land-use designations in DOE/EIS-0222-F, the extraction of mineral resources is prohibited in the "Preservation" designation except for remediation activities taking place in the Columbia River corridor. Remediation activities would continue in the 100 Areas and would be considered a pre-existing, nonconforming use in the "Preservation" land-use designation within the Columbia River corridor. Extraction of mineral resources is permissible in "Industrial-Exclusive," "Industrial," "Research and Development," and by "Special Use Permit" for areas within the "Conservation (Mining)" designation.

The disturbed surface area for Pit 30 covers approximately 0.54 square kilometer (0.21 square mile). The total disturbed surface area for the remaining existing borrow locations is approximately 2.4 square kilometers (0.93 square mile). It is expected that of the total disturbed area (i.e., the aforementioned 3 square kilometers or 1.2 square miles), expansion of the existing borrow sites might disturb an additional surface area of approximately 0.3 square kilometer or 0.12 square mile, representing 10 percent expansion.

Temporary site improvements might be implemented selectively in portions of borrow areas to help reduce short-term impacts from excavation, sorting, crushing, transport, and related activities. The purpose of these temporary improvements would be to prevent or minimize erosion, run-off, and dust emissions by diverting or lessening meteorological forces, improving moisture retention, and promoting plant growth. Specific actions that might be considered on a site-specific basis include grading or sloping; surface compaction; stabilization; stockpiling of removed overburden; replacing or adding soil; amending existing soils; seeding native grasses; planting indigenous vegetation; diversion, channeling, or collection of precipitation; and similar activities. Some of these actions might be required management practices in permits or regulations.

5.1.1.3.1 Ecological

It would be expected that excavation activities would be limited to the immediate vicinity of previously disturbed areas plus an additional approximately 0.3 square kilometer (0.12 square mile). Appendix A provides a brief summary of the present ecological status of existing borrow pits. Examples of animal and plant species of concern include the bald eagle, dwarf evening primrose, and gray cryptantha. It would be expected that continued operations and/or expansion would be consistent with DOE/RL-96-32 and DOE/RL-96-88. Specific ecological resource review(s) would be conducted before any expansion activities. Additional ecological resource reviews of all active borrow pits and quarries are to be updated in calendar year 2001. Certain restrictions could be applied as a result of these surveys; e.g., limitations of excavation activities during migratory bird nesting seasons and bald eagle winter roosting seasons.

5.1.1.3.2 Cultural

As stated in Section 5.1.1.3.1, it would be expected that excavation activities generally would be limited to the immediate vicinity of previously disturbed areas plus an additional approximately 0.3 square kilometer (0.12 square mile). No cultural resources are known to exist within currently active borrow areas. Specific cultural resource review(s) would be conducted before any expansion activities. It would

be expected that continued operations and/or expansion would be consistent with DOE/RL-98-10. If cultural or paleontologic resources were to be encountered during operations and/or expansion, all work would stop immediately and the Hanford Cultural Resource Center would be notified. Cultural resource reviews of all active borrow pits and quarries (Tables 2 and 3) are to be updated in calendar year 2001.

5.1.1.3.3 Aesthetic and Visual

The use of existing borrow areas would minimize additional impacts to aesthetic and visual resources, which focus on retention of the natural landscape to the fullest extent possible.

5.1.2 Transportation

Impacts of incident-free, intra-site truck transport of borrow materials have been considered. Typically, incident-free impacts are based on consideration of traffic congestion and pollutants emitted from the vehicles during normal transportation. Vehicular traffic impacts as a result of the proposed action would be expected to peak during the construction phase of any particular project. Occasional interference with normal traffic flow onsite would be mitigated by appropriate administrative controls (e.g., warning signs and traffic markers) and scheduling truck traffic during nonpeak hours.

The types of pollutants that could be present and might impact the public include sulfur oxides, particulates, nitrogen oxides, carbon monoxide, hydrocarbons, and photochemical oxidants. It would be anticipated that emissions would not impact substantially the existing air quality on the Hanford Site. Pollution prevention policies and procedures have been established for the Hanford Site. It is expected that such administrative controls in effect at the time, such as vehicle maintenance and consideration of alternative fuel sources, would minimize potential impacts.

For perspective, assuming approximately 12 cubic meters (15 cubic yards) per truckload, the 7,600,000 cubic meters (10,000,000 cubic yards) would represent 670,000 truckloads (over 10 years), or 67,000 truckloads per year. Assuming a round-trip of 20 miles, this would result in 1,300,000 road miles per year. For perspective, drivers for the Hanford Site's Environmental Restoration Project have logged over 5 million miles without an at-fault accident. Since 1996, drivers have made about 152,000 trips in trucks that weigh about 36,300 kilograms (80,000 pounds) fully loaded; the mileage is equivalent to 200 trips around the earth.

5.2 PROPOSED ACTION: IMPACTS FROM ACCIDENTS

Impacts from accidents are discussed in the following sections.

5.2.1 Excavation of Borrow Materials

Postulated accidents associated with the recovery of borrow materials on the Hanford Site have been considered, and are believed to be bounded by those potential events associated with transportation accidents (Section 5.2.2). The environmental effects of accidents related to the recovery of borrow materials are limited to those associated with most routine industrial activities. There are no specific initiators related directly to the proposed action that would cause an unique event.

Personnel injuries, such as back strains or minor abrasions, would receive appropriate medical treatment. Administrative controls, proper training, and specification of detailed procedures used in handling the materials would be in place, all of which would minimize the potential of any effects of such an accident.

Specific information extracted from PNNL-6415 is provided as follows. It would be expected that personnel occupational safety would remain consistent with existing Hanford Site statistics. As reported in PNNL-6415, total occupational work hours on the Hanford Site from 1993 through 1997 were 157,322,471 hours, or about 78,760 personnel-years. Approximately 7.6% (11,973,212) of these hours were tallied in construction categories. The remaining 92.4% (145,280,962 hours) were tallied in non-construction categories and are assumed related to Hanford Site operations, services, and support. The DOE records measurement of occupational injury and illnesses in four categories pertinent to NEPA analysis. Total Recordable Cases are work-related deaths, illnesses, or injuries that resulted in loss of consciousness, restriction of work or motion, transfer to another job, or required medical treatment for first aid. Lost Workday Cases involve days away from work or days of restricted work activity, or both. Lost Workdays are the number of workdays (consecutive or not), beyond the day of injury or onset of illness, an employee was away from work or limited to restricted work activity because of an occupational injury or illness. Fatalities are the number of occupation-related deaths.

Occupational injury and illness incidence rates on the Hanford Site have been decreasing since 1994. As shown in Figure 4 (extracted from PNNL-6415), approximately 4.9 Total Recordable Cases per 200,000 personnel hours (100 personnel years) in 1994. By 1997, the rate had decreased to 3.0 cases per 200,000 personnel hours and during the first 6 months of 1998, the rate further decreased to 2.3 cases per 200,000 personnel hours. Over the 5-year period from 1993 through 1997, the average Hanford Site incidence rate was higher than the average incidence rate for the entire DOE complex, 4.4 to 3.6 cases per 200,000 personnel hours. Incidence rates on the Hanford Site for 1997 and the first 6 months of 1998 were below the DOE-wide incidence rates in all categories. Table 3 (adapted from PNNL-6415) shows 5-year occupational injury, illness, and fatality rates reported for the private sector by the Bureau of Labor Statistics (U.S. Department of Labor) for the entire U.S. DOE Complex and for the DOE's Hanford Site. Occupational injury and incidence rates on the Hanford Site and the DOE Complex significantly are lower than in the private sector. Since 1993, the Hanford Site has had one occupational fatality that occurred during the second quarter of 1993. The incidence rate for fatalities on the Hanford Site is lower than the rates for the private sector and the DOE Complex. Incidence rates also are presented separately for construction and non-construction labor categories on the Hanford Site.

The proposed action would involve a small subset of Hanford Site personnel involved in nonradioactive industrial types of activities. It would be expected that the risks, including probabilities and consequences, would be no greater than those described above for the entire Hanford Site. For perspective, on the Hanford Site, in May 2001, the Environmental Restoration Contractor team of 700 employees reached 1 million work hours without a lost-time accident. Additionally, the Site Services contractor (whose plant forces provide essential infrastructure services including fleet and transportation operations) has achieved two periods of 1 million work hours without a lost workday.

5.2.2 Transportation

Potential accidents associated with the transportation of borrow materials have been considered. The analyses herein consider the affected public and the driver crews directly associated with intra-site transportation. As stated earlier, on the Hanford Site in May 2001, the Environmental Restoration Contractor attained 5 million accident-free miles in transporting containers of contaminated solid and debris from sites along the Columbia River to a disposal facility on the central plateau. Each day, drivers

transport an average of 150 containers of contaminated material. It would be expected that borrow materials would not contribute disproportionate risks to ongoing intrasite transport.

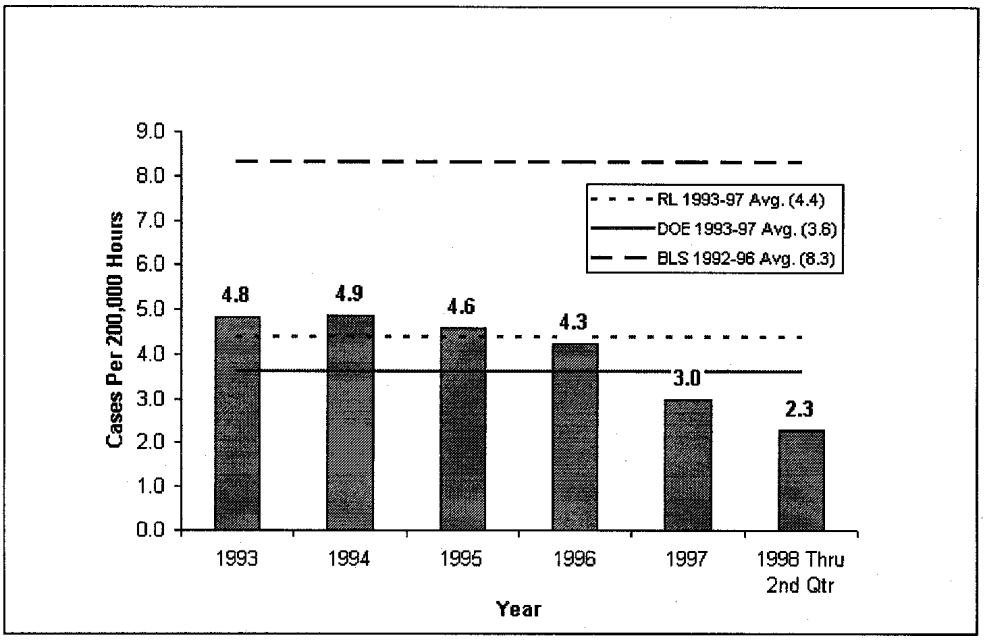

Figure 4. Occupational Injury and Illness Incidence Rates on the Hanford Site.

Table 4. Occupational Injury, Illness, and Fatality Incidence Rate Statistics.[a]

	Total Recordable Cases	Lost Work Cases	Lost Work Days	Fatality
Bureau of Labor Statistics[b]	8.3	3.7	n/a[c]	0.0051
U.S. Department of Energy[d]	3.6	1.7	48.9	0.0027
Hanford Site[d]	4.4	1.8	61.9	0.0008[e]
Construction	11.9	4.9	96.0	0
Non-construction	3.8	1.5	57.4	0.0014

[a] Per 200,000 worker hours (100 worker-years).
[b] BLS values are average rates for the private sector from 1992 through 1996.
[c] n/a = data not available.
[d] DOE values are average rates from 1993 through 1997.
[e] One occupational fatality occurred in 1993, during this period.

5.3 PROPOSED ACTION: SOCIOECONOMIC IMPACTS

The proposed action would not result in substantial socioeconomic impacts. It would be expected that the existing Hanford Site workforce would provide the bulk of necessary personnel to support excavation and transportation of borrow materials. For example, the peak workforce at Pit 30 supporting the waste

treatment plant was estimated to be 8 full-time equivalents (ORP 01-EQD-030). There would be no discernible impact to employment levels within Benton and Franklin counties.

5.4 PROPOSED ACTION: ENVIRONMENTAL JUSTICE

Executive Order 12898, *Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations*, directs federal agencies to 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. The analysis in this EA indicates that there would be minimal impacts to both the offsite population and potential workforce during recovery and transportation of borrow materials, under both routine and accident conditions. Therefore, it is not expected that there would be any disproportionately high and adverse impacts to any minority or low-income populations.

5.5 PROPOSED ACTION: CUMULATIVE IMPACTS

The risks associated with routine recovery and transportation of borrow materials are small. The transportation of the borrow materials would not be expected to substantially contribute to existing personnel and public exposure from natural background radiation, or the existing toxicological background environment.

The proposed action would involve existing construction and operations personnel; therefore, no substantial change in the Hanford Site workforce would be expected. There would be no adverse socioeconomic impacts or any high or disproportionately adverse impacts to any minorities or low-income portion of the community.

The proposed action would result in nonradioactive air emissions predominantly consisting of particulate matter from excavation activities. The Hanford Site and surrounding areas are in attainment with ambient air quality standards. Particulate concentrations can reach relatively high levels in eastern Washington State because of exceptional natural events (i.e., dust storms, volcanic eruptions, and large brushfires) that occur in the region. Washington State ambient air quality standards have not considered 'rural fugitive dust' from exceptional natural events when estimating the maximum background concentrations of particulates in the area east of the Cascade Mountain crest. The potential low concentrations of particulate emissions from operations/expansion of borrow areas would not be expected to contribute substantially to recent releases. The Washington State Department of Ecology in 1998 conducted offsite monitoring near the Hanford Site for particulate matter. Particulate matter was monitored at one location in Benton County, at the Tri-Tech Vocational Center, near the Hanford network's Vista Field meteorological monitoring site in Kennewick. During 1998, the 24-hour and annual particulate matter standards established by the Washington State were not exceeded. The highest and second highest 24-hour particulate matter concentrations recorded in 1998 were 123 micrograms per cubic meter and 90 micrograms per cubic meter respectively. The arithmetic mean for 1998 was 18 micrograms per cubic meter (PNNL 6415).

The use of existing borrow sites is compatible with current land use planning on the Hanford Site. That is, activities would be conducted in appropriate land-use designations described in DOE/EIS-0222-F. The calculated 10 percent expansion of borrow sites might disturb an additional surface area of 0.3 square kilometer (0.12 square mile). Mitigation of any impacts from expansion would be consistent with resource management plans developed for the Hanford Site, including DOE/RL-96-32 (*Hanford Site Biological Resources Management Plan*), DOE/RL-96-88 (*Hanford Site Biological Resources Mitigation*

Strategy), and DOE/RL-98-10 (*Hanford Cultural Resources Management Plan*), as well as other plans under preparation (e.g., aesthetic and visual resources). Examples would include consideration for preservation or harvest of any native vegetation or seeds that could be used in future site remediation, and stockpiling disturbed top soil (from pit expansion) for future site reclamation.

Occasional interference with normal traffic flow with borrow material transport activities might occur; however, the impact of these disruptions to peak employee traffic could be mitigated by scheduling truck traffic during non-peak hours.

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6.0 PERMITS AND REGULATORY REQUIREMENTS

It is DOE policy to carry out its operations in compliance with all applicable federal, state, and local laws and regulations.

6.1 FACILITY COMPLIANCE

Particulate emissions are regulated by the Washington State Department of Ecology pursuant to WAC 173-400, "General Regulations for Air Pollution Sources." A notice of construction addressing operations of Pit 30 on the Hanford Site has been submitted to Washington State Department of Ecology (ORP 01-EQD-030).

Washington State requires a permit to discharge wastewater to waters of the state, pursuant to WAC 173-216 and 226. A sand and gravel general permit provides permit coverage for discharges of process water, stormwater, and mine dewatering water associated with certain regulated sand and gravel operations, rock quarries, and similar mining operations, including stockpiles of mined materials, and also provides coverage for concrete batch operations and hot mix asphalt operations. Sand and gravel permit applications for Pit 30 have been prepared (*NPDES Wastewater Permit No. WAG 50-5181*).

All generated solid waste would be handled in a manner compliant with applicable federal and state regulations and DOE Orders.

6.2 TRANSPORTATION REQUIREMENTS

The transportation of the borrow materials would comply with the applicable regulations, orders, and guidance promulgated by agencies such as the DOE and U.S. Department of Transportation. These agencies have developed comprehensive regulations covering the performance of the shipping packaging, vehicle safety, routing of shipments, and physical protection.

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7.0 AGENCIES CONSULTED

Before approval of this EA, a draft was mailed for public review (the public review period ended September 12, 2001) to the following:

- Nez Perce Tribe
- Confederated Tribes of the Umatilla Indian Reservation
- Yakama Nation
- Confederated Tribes of the Colville Reservation
- Wanapum People
- U.S. Fish and Wildlife Service
- Oregon Department of Energy
- Washington State Department of Ecology
- Benton County
- Franklin County
- Port of Benton
- City of Richland
- City of West Richland
- City of Pasco
- Heart of America
- Hanford Advisory Board.

The draft EA also was provided to the Hanford Natural Resource Trustee Council at the September 5, 2001, council meeting. The draft was made available in the DOE reading room (Consolidated Information Center at Washington State University Tri-Cities), Richland Public Library, and placed on the Hanford Site Homepage (http://www.hanford.gov/netlib/ea.asp).

Comments were received from the Nez Perce Tribe, the U.S. Fish and Wildlife Service, and the State of Washington Department of Fish and Wildlife. In addition the Washington State Department of Ecology e-mailed agreement with those comments provided by the U.S. Fish and Wildlife Service, and the State of Washington Department of Fish and Wildlife. All comments were considered and applicable changes were made to the EA. The comments and DOE responses are provided in Appendix B.

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8.0 REFERENCES

DOE/EIS-0189, *Tank Waste Remediation System, Hanford Site, Richland, Washington, Final Environmental Impact Statement*, U.S. Department of Energy, Richland, Washington and Washington State Department of Ecology, Olympia, Washington.

DOE/EIS-0222-F, *Final Hanford Comprehensive Land-Use Plan Environmental Impact Statement*, U.S. Department of Energy, Richland, Washington.

DOE/EIS-0283-D, *Surplus Plutonium Disposition Draft Environmental Impact Statement*, U.S. Department of Energy, Washington, D.C.

DOE/RL-94-150, *Bald Eagle Site Management Plan for the Hanford Site, South-Central Washington*, U.S. Department of Energy, Richland Operations Office, Richland, Washington.

DOE/RL-96-32, *Hanford Site Biological Resources Management Plan*, U.S. Department of Energy, Richland Operations Office, Richland, Washington, August 2001.

DOE/RL-96-88, *draft, Hanford Site Biological Resources Mitigation Strategy*, U.S. Department of Energy, Richland Operations Office, Richland, Washington.

DOE/RL-98-10, Rev. 1, *Hanford Cultural Resources Management Plan*, U.S. Department of Energy, Richland Operations Office, Richland, Washington.

DOE/RL-2000-27, Revision 0, *Threatened and Endangered Species Management Plan: Salmon and Steelhead*, U.S. Department of Energy, Richland Operations Office, Richland, Washington, April 2000.

NPDES Wastewater Permit No. WAG 50-5181, Application, State of Washington Department of Ecology, August 2, 2001.

ORP 01-EQD-030, letter to Michael A. Wilson, Washington State Department of Ecology, from Walter J. Pasciak, U.S. Department of Energy, Office of River Protection, "Waste Treatment and Immobilization Plant (WTP) Notice of Construction (NOC) for the Concrete Batch Plant (CBP)".

PNNL-6415, *Hanford Site National Environmental Policy Act (NEPA) Characterization*, Rev. 12, Pacific Northwest National Laboratory, Richland, Washington.

PNNL-12088, *Hanford Site 2000 Environmental Report*, Pacific Northwest National Laboratory, Richland, Washington.

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APPENDIX A

PRELIMINARY CULTURAL AND ECOLOGICAL EVALUATION OF EXISTING BORROW PITS AND LISTING OF BORROW PITS CURRENTLY AVAILABLE FOR INDUSTRIAL MINERAL EXTRACTION

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APPENDIX A

PRELIMINARY CULTURAL AND ECOLOGICAL EVALUATION OF EXISTING BORROW PITS AND LISTING OF BORROW PITS CURRENTLY AVAILABLE FOR INDUSTRIAL MINERAL EXTRACTION

Pit Number	Land Use Designation (DOE Preferred Alternative)+	Status	Cultural Resources Surveys	Ecological Notes	Species of Concern
6	Industrial	Gravel pit. Large amount of material available.	Archaeological survey conducted around pit boundary to south (95-600-008). If pit expands, CRR and additional survey will be necessary.	Low concern. Old farm fields surrounding pit in areas where expansion area is most likely. Ecological review necessary for continued use.	No known species of concern
7	Industrial	Sand Hill pit. Fine sand.	Archaeological surveys in areas outside rad zones. CRR and survey may be required to close pit (dependent on extent of disturbance beyond pit boundaries).	Native revegetation in pit	Possible gray cryptantha habitat.
8	Conservation (mining & grazing)	Gravel pit. Large amount of material - 6" minus.	No archaeological surveys around pit boundary. CRR and survey may be required to close pit (dependent on extent of disturbance beyond pit boundaries).	Native revegetation in pit. Mature shrubs surrounding pit - poor for expansion.	Possible dwarf evening primrose habitat. Loggerhead shrike seen in the vicinity.
9	Industrial	Gravel pit. Large amount of material - 3" minus.	No archaeological surveys around pit boundary. If pit is expanded, a CRR and survey will be required before expansion.	Expansion possible to the north where vegetation is dominated by cheatgrass. Discourage expansion to the east into mature shrubs. Ecological review necessary for continued use.	No species of concern identified during recent ecological review of part of the gravel pit. Possible dwarf evening primrose, gray cryptantha habitat.

Pit Number	Land Use Designation (DOE Preferred Alternative)+	Status	Cultural Resources Surveys	Ecological Notes	Species of Concern
11	Conservation (mining & grazing)	Gravel pit. Large amount of material - 8" minus with thick overburden of silt and sand.	No cultural resource survey around perimeter	Native revegetation in much of the pit.	Gray cryptantha on edge of pit. Dwarf evening primrose in pit.
13	Preservation	Gravel pit. Road sand and general use.	Cultural resource review conducted at this location (HCRC#88-600-00 8.	Native revegetation in part of the pit.	No known species of concern.
15	Conservation (mining & grazing)	Gravel pit. Large amount of material - 3" minus.	No archaeological survey completed around the perimeter of this pit nor in general area.	Low concern.	No known species of concern.
17	Conservation (mining & grazing)	Gravel pit. Suitable for crusher operations.	No archaeological survey completed around this pit.	Ecological review necessary before use.	No known species of concern.
18	Conservation (mining & grazing)	Gravel pit. Large amount of material - 3" minus	Archaeological survey conducted around pit boundary (95-600-049). CRR required if expansion is planned for pit.	Ecological review necessary for continued use.	No known species of concern.
19	Preservation	Gravel pit. Large amount of material - 3" minus.	Archaeological survey conducted around pit boundary (95-600-049).		Within bald eagle nest/roost restricted use area.
20	Preservation	Gravel pit. Large amount of material - 3" minus.	Archaeological survey conducted around pit boundary (95-600-049).		Within bald eagle nest/roost restricted use area.
21	Conservation (mining & grazing)	Gravel pit. Large amount of sand at south end.	Archaeological survey around the pit perimeter (95-600-049). If expansion is planned for pit, CRR required.	Ecological review necessary for continued use.	Gray cryptantha nearby.
22	Conservation (mining & grazing)	Gravel pit. Large amount of material - 6" minus.	Archaeological surveys in area (91 CERCLA).		No known species of concern.
23	Conservation (mining & grazing)	Gravel pit. Large amount of material - 6" minus.	Archaeological survey conducted along western boundary of pit (93-600-002).	Mature shrubs to the south and west. Mainly cheatgrass to the east. Some native revegetation in the pit. Ecological review necessary for continued use.	Possible piper's daisy in pit.

Pit Number	Land Use Designation (DOE Preferred Alternative)+	Status	Cultural Resources Surveys	Ecological Notes	Species of Concern
24	Preservation	Gravel pit. 3" minus.	Archaeological survey conducted around pit boundary (95-600-049).		No known species of concern.
25	Conservation (mining & grazing)	Gravel pit. Large amount of material - 6" minus.	Archaeological surveys completed (87-600-012, Plot 125)	Mature shrubs surrounding pit. Some native revegetation within the pit. Do not expand pit.	No known species of concern.
26	Conservation (mining & grazing)	Gravel pit. Large amount of material - 6" minus, sand mixed.	No archaeological surveys conducted around this pit.	Some native revegetation.	No known species of concern.
27	Conservation (mining & grazing)	Gravel pit. Ballast material - 6" minus.	One archaeological survey completed along southern boundary (92-600-030)		No known species of concern, however piper's daisy within a few miles.
30	Industrial (Exclusive)	Gravel pit (behind JAJ batch plant). Large amount of material for multiple uses.	Area surrounding pit boundaries has been surveyed for cultural resources.		Piper's daisy has been found in some areas of the pit in the past.
31	Industrial (Exclusive)	Gravel pit. Large amount of material - 6" minus.	Archaeological survey completed surrounded this gravel pit (93-600-038). If pit is expanded a CRR required.	Restrict use to west end of the pit to avoid dwarf evening primrose.	Dwarf evening primrose in east end of the pit.
32	Industrial (Exclusive)	Sand Pit.	Area surrounding pit boundaries has been surveyed for cultural resources.	In area reviewed annually by PNNL.	No known species of concern. Piper's daisy found on west perimeter of the pit in 1994, but has not been seen since.
33	Industrial (Exclusive)	Gravel pit.	No archaeological surveys around pit boundary.	In area reviewed annually by PNNL.	Numerous piper's daisy present in some areas of the pit.
34	Industrial (Exclusive)	Gravel Pit.	Undeveloped land to the east of the gravel pit has been surveyed for cultural resources (96-200-058)	In area reviewed annually by PNNL.	No known species of concern.
35	Industrial (Exclusive)	Gravel Pit.	No archaeological surveys around pit boundary.	In area reviewed annually by PNNL.	No known species of concern within the borrow area, piper's daisy in vicinity.

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APPENDIX B

PUBLIC COMMENT LETTERS/DOE RESPONSES ON DRAFT DOE/EA-1403

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NEZ PERCE TRIBE TREATY OF 1855

Nez Perce

ENVIRONMENTAL RESTORATION & WASTE MANAGEMENT
P.O. BOX 365 · LAPWAI, IDAHO 83540-0365 · (208) 843-7375 / FAX: 843-7378

August 30, 2001

Paul F. X. Dunigan, Jr.
U.S. Department of Energy
Richland Operations Office
P.O. Box 550
Richland, Washington 99352

RE: **Draft Environmental Assessment (EA) For Use Of Existing Borrow Areas, Hanford Site, Richland, Washington (DOE/EA-1403)**

Dear Mr. Dunigan,

Since 1855, reserved treaty rights of the Nez Perce Tribe in the Mid-Columbia have been recognized and affirmed through a series of Federal and State actions. These actions protect Nez Perce rights to utilize their usual and accustomed resources and resource areas in the Hanford Reach of the Columbia River and elsewhere. Accordingly, the Nez Perce Tribe's Environmental Restoration and Waste Management Program (ERWM) responds to actions that impact the Hanford ecosystem.

The ERWM has reviewed the *Draft Environmental Assessment (EA) For Use Of Existing Borrow Areas, Hanford Site, Richland, Washington (DOE/EA-1403)*. We recognize the need for using geologic materials to support many different Hanford activities.

We support your position to follow the guidance in the Hanford Biological Resources Management Action Plan in the event that any of the existing borrow sites are expanded. We were also gratified to see that no new borrow sites are being proposed at the Hanford Site. In the past there have been proposals to develop borrow areas at Gable Mountain and Gable Butte which the tribe could not support.

If you have any questions please contact Dan Landeen of my staff at 208-843-7375.

Sincerely,

Patrick Sobotta
Director

Ortiz, Shannon M

From: Tom_OBrien@r1.fws.gov
Sent: Thursday, September 13, 2001 2:40 PM
To: shannon_m_ortiz@rl.gov
Cc: Hanford_Trustees%FWS@FWS.GOV
Subject: FWS comments on DOE/EA-1403

To: Shannon M Ortiz
NEPA Document Manager

From: Tom O'Brien, Chief, Branch of Contaminant Prevention
U. S. Fish and Wildlife Service (Hanford Trustee Council Representative)

Subject; Review-Comments on Environmental Site Assessment for Use of Borrow Areas,
DOE/EA-1403

I hope that you will consider our agency comments on this EA although they are a day late. Our comments are limited in nature. The Fish and Wildlife Service is supportive of plans to do mitigation of any impacts from expansion consistent with resource management plans developed for the Hanford Site . We have the following comments regarding the EA for the burrow sites.

Activities supporting expansion could be expanded to include preservation or harvest of any native vegetation or seeds that could be used in future site remediation. Seed banks for species that comprise mature sagebrush-steepe or bitterbrush-steppe are in short supply. Care should also be take during transportation of material to not spead invasive plant species to other areas.

Top soil that is disturbed during pit expansion should be stockpiled for future site reclamation.

The peregrine falcon is no longer listed as a threatened species under the Federal Endangered Species Act.

Work activities should be limited near any bald eagle nesting or high use areas when they are occupying the areas.

Thank you for considering our comments. If you have questions call me at 503 231-6223 of e:mail at tom_obrien@fws.gov

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

01-OSS-349

OCT 05 2001

Mr. Tom O'Brien
Branch of Contaminant Prevention
U. S. Fish and Wildlife Services
911 NE 11th Avenue
Portland, Oregon 97232-4181

Dear Mr. O'Brien:

COMMENTS ON DRAFT ENVIRONMENTAL ASSESSMENT (EA) FOR USE OF EXISTING BORROW AREAS, HANFORD SITE, RICHLAND, WASHINGTON

The U.S. Department of Energy, Richland Operations Office (RL) has received your comments on the subject EA and would like to thank you for taking the time to review our document.

Comment: Activities supporting expansion could be expanded to include preservation or harvest of any native vegetation or seeds that could be used in future site remediation. Seed banks for species that comprise mature sagebrush-steppe or bitterbrush-steppe are in short supply. Care should also be taken during transportation of material to not spread invasive plant species to other areas.

Response: RL did consider in the EA some type of plant or seed salvage of shrub steppe species that are growing within the borrow areas to be expanded, but it was not specifically addressed. The following sentence has been added to end of section 5.5, Proposed Action: Cumulative Impacts;

"Examples would include consideration for preservation or harvest of any native vegetation or seeds that could be used in future site remediation, and stockpiling disturbed top soil (from pit expansion) for future site reclamation."

RL's Integrated Biological Control Program monitors and controls the spread of invasive plant species for the Hanford Site. This program will help in the preservation or harvest of native vegetation for remediation.

Comment: Topsoil that is disturbed during pit expansion should be stockpiled for future site reclamation.

Response: The new sentence also addresses your comment concerning stockpiling of topsoil. Also currently under development is an industrial mineral resource management plan that specifically address this topic.

Mr. Tom O'Brien
01-OSS-349

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OCT 05 2001

Comment: The peregrine falcon is no longer listed as a threatened species under the Federal Endangered Species Act.

Response: Thank you for the update on Federal Endangered Species Act listing. The reference to peregrine falcon has been removed from the EA.

Comment: Work activities should be limited near any bald eagle nesting or high use areas when they are occupying the areas.

Response: It is recognized that work should be limited near bald eagle nesting or high use areas. As stated in section 5.1.1.3.1, Ecological, additional ecological resource reviews of all active borrow pits and quarries are to be updated in Calendar Year 2001, and certain restrictions may be applied as a result, such as limitations of excavation activities during migratory bird nesting seasons and bald eagle winter roosting seasons. Precautions concerning bald eagle nesting and roosting areas will be observed as specified in the Hanford Site's "Bald Eagle Site Management Plan."

If you have any questions concerning the proposed action, please contact Shannon Ortiz, Office of Site Services, on (509) 373-0908. Questions on the NEPA process can be directed to me on (509) 376-6667.

Sincerely,

Paul F. X. Dunigan, Jr.

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

OSS:SMO

cc: L. Goldstein, Ecology
G. Hughes, USFWS

State of Washington
DEPARTMENT OF FISH AND WILDLIFE
Mailing Address: 600 Capitol Way N, Olympia, WA 98501-1091 - (360) 902-2200; TDD (360) 902-2207
Main Office Location: Natural Resources Building, 1111 Washington Street SE, Olympia, WA

September 18, 2001

Mr. Paul F. X. Dunigan, Jr.
NEPA Compliance Officier
Department of Energy, Richland Operations Office
Post Office Box 550
Richland, Washington 99352

Dear Mr. Dunigan:

SUBJECT: Draft Environmental Assessment (Ea) for Use of Existing Borrow Areas, Hanford Site, Richland, Washington

My specific comments regarding the Draft Environmental Assessment for Use of Existing Borrow Areas on the Hanford site are outlined below.

4.0 Affected Environment
Page 4-1, forth paragraph: Did this section also consider The Nature Conservancy inventory work that had been completed, which had documented new species of plants?

5.5 Proposed Action: Cumulative Impacts
Page 5.6: This section did not include a discussion of continued fragmentation of shrub steppe habitat within the project area by the use of existing borrow areas which includes expansion to some degree.

General Comments
In addition, Department of Energy should also consider some type of plant or seed salvage of shrub steppe species that are growing within these borrow pits.

This EA did not discuss a monitoring plan for use and expansion of these borrow areas. Is someone going to be on site to monitor the excavation activities to make sure they do not impact Dwarf evening rose, Piper's daisy or other important shrub steppe species?

Do I assume that ecological review, as indicated for specific borrow areas within the Appendix A, will involve separate mitigation plans for each and will be consistent with the Hanford Site Biological Resources Management Plan?

Mr. Paul F. X. Dunigan, Jr
September 18, 2001
Page 2

One point of clarification, within Appendix A, pit 19 and 20, are both within bald eagle use areas. Does Preservation imply that these pits will/or will not be utilized? If so, timing restrictions should be in place to protect this species.

Thank you for the opportunity to comment. I can be reached at (360) 902-2425 if you have any questions regarding my comments.

Sincerely,

Lauri Vigne
Fish and Wildlife Biologist
Major Projects Division

LV:lw

cc: Larry Goldstein, Dept. of Ecology

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

01-OSS-348

OCT 0 3 2001

Ms. Lauri Vigue
Major Projects Division/Habitat Program
Washington Department Fish and Wildlife
600 Capitol Way North
Olympia, Washington 98501-1091

Dear Ms. Vigue:

COMMENTS ON DRAFT ENVIRONMENTAL ASSESSMENT (EA) FOR USE OF EXISTING BORROW AREAS, HANFORD SITE, RICHLAND, WASHINGTON

The U.S. Department of Energy, Richland Operations Office (RL) has received your comments on the subject EA and would like to thank you for taking the time to review our document.

Comment: Page 4-1, fourth paragraph: Did this section also consider The Nature Conservancy inventory work that had been completed, which had documented new species of plants?

Response: The Nature Conservancy inventory work was considered in this section, but was not specifically addressed. The following paragraph has been added to section 4.0, Affected Environment, on page 4-1;

As discussed in PNNL-6415, natural plant communities have been altered by Euro-American activities that have resulted in the proliferation of nonnative species. Of the 590 species of vascular plants recorded for the Hanford Site, approximately 20% of all species are considered nonnative. The biodiversity inventories conducted by The Nature Conservancy of Washington have identified 85 additional taxa, establishing the actual number of plant taxa on the Hanford Site at 675. Cheatgrass is the dominant nonnative species.

Comment: Page 5.6: This section did not include a discussion of continued fragmentation of shrub steppe habitat within the project area by the use of existing borrow areas which includes expansion to some degree.

Response: RL believes that a specific discussion on the continued fragmentation of shrub steppe habitat was not required. This analysis is covered by the references to the "Hanford Site Biological Resources Management Plan" and "Hanford Site Biological Resources Mitigation Strategy."

Ms. Lauri Vigue
01-OSS-348

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OCT 0 3 2001

Comment: In addition, the Department of Energy should also consider some type of plant or seed salvage of shrub steppe species that are growing within these borrow pits.

Response: RL did consider in the EA some type of plant or seed salvage of shrub steppe species that are growing within the borrow areas to be expanded, but it was not specifically addressed. The following sentence has been added to end of section 5.5, Proposed Action: Cumulative Impacts;

"Examples would include consideration for preservation or harvest of any native vegetation or seeds that could be used in future site remediation, and stockpiling disturbed topsoil (from pit expansion) for future site reclamation."

Comment: This EA did not discuss a monitoring plan for use and expansion of these borrow areas. Is someone going to be on site to monitor the excavation activities to make sure they do not impact Dwarf evening rose, Piper's daisy or other important shrub steppe species?

Response: RL does not required that someone be onsite to monitor the excavation activities. An ecological survey is done prior to the activities commencing that identify specific locations of sensitive species present at the site. If sensitive species are identified, the survey provides mitigation recommendations and requirements to reduce or eliminate adverse impacts to those species.

Comment: Do I assume that ecological review, as indicated for specific borrow areas within the Appendix A, will involve separate mitigation plans for each and will be consistent with the "Hanford Site Biological Resources Management Plan?"

Response: There will not be a separate mitigation plan for each borrow area. A general mitigation plan will be followed that is consistent with the "Hanford Site Biological Resources Management Plan."

Comment: One point of clarification, within Appendix A, pit 19 and 20, are both within bald eagle use areas. Does preservation imply that these pits will/or will not be utilized? If so, timing restrictions should be in place to protect this species.

Response: It is recognized that pits 19 and 20 are within bald eagle use areas. Preservation, as defined in the Comprehensive Land Use Plan, is that the pits will be utilized for clean up activities. As stated in section 5.1.1.3.1, Ecological, additional ecological resource reviews of all active borrow pits and quarries are to be updated in Calendar Year 2001 and certain restrictions may be applied as a result, such as limitations of excavation activities during migratory bird nesting seasons and bald eagle winter roosting seasons. Precautions concerning bald eagle nesting and roosting areas will be observed as specified in the Hanford Site's "Bald Eagle Site Management Plan."

Ms. Lauri Vigue
01-OSS-348

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OCT 03 2001

If you have any questions concerning the proposed action, please contact Shannon Ortiz, Office of Site Services, on (509) 373-0908. Questions on the NEPA process can be directed to me on (509) 376-6667.

Sincerely,

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

OSS:SMO

cc: L. Goldstein, Ecology

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