

**BASALT WASTE ISOLATION PROJECT
ENVIRONMENTAL REVIEW**

BER-002

Exploratory Shaft Site Expansion

August 1987

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

**Pacific Northwest Laboratory
Richland, Washington 99352**

**8712030378 870911
PDR WASTE
WM-10 PDR**

CONTENTS

	<u>Page</u>
BWIP ENVIRONMENTAL REVIEW	1
SUMMARY OF RECOMMENDATIONS	2
BER ECOLOGICAL EVALUATION FORM	3
BER REGULATORY REVIEW FORM	7
REGULATORY COMPLIANCE CHECKLIST.	7
BER CULTURAL RESOURCES REVIEW FORM	9

BER-002
BWIP ENVIRONMENTAL REVIEW

Expansion of the Exploratory Shaft Site
T12N, R25E, Sec.10, Benton County, Washington

INTRODUCTION:

This report details the results, conclusions, and recommendations of a Basalt Waste Isolation Project (BWIP) Environmental Review (BER) on a site scheduled for site characterization activity.

PURPOSE:

The purpose of this site is to provide additional space for offices, parking, and for storage of material and equipment used for drilling the exploratory shafts. This BER does not cover drilling operations at the exploratory shaft site.

NEED:

The present exploratory shaft pad is too small to safely accommodate the drill rig, drilling accessories, equipment, offices, and parking.

ACTION:

A level pad will be prepared by grading the surface vegetation and soil. Gravel will be placed on the graded surface and compacted. The approximate size of the site is 8 hectares (20 acres).

PRESENT USE:

The proposed site is presently covered by a dense stand of sagebrush with an understory of cheatgrass and is used as habitat by various species of wildlife.

BER-002
SUMMARY OF RECOMMENDATIONS

ADDITIONAL INFORMATION REQUIRED:

1. None.

RECOMMENDATIONS:

1. In order to minimize environmental disturbance, do not begin construction between March 1 and June 15. This delay will ensure that any migratory birds that may have nested in the area have time to rear their young and leave the area.
2. Save, store, and protect 7 cm (3 in.) of topsoil. Usually, we request saving 15 cm (6 in.) of topsoil, but this site would yield 12,226 m³ (10 ac-ft) of topsoil, which would disturb more land for storage.
3. Water the site during construction to minimize the release of particulates.
4. Prohibit travel off established roads and pads onto undisturbed areas.
5. Proceed as planned with the activity proposed for this site.

	YES	NO
d. generate a volume of solid waste for disposal: 1) hazardous, radioactive? 2) other? (specify): _____	_____	_____ <u>X</u>
e. result in a potential for erosion?	_____	_____ <u>X</u>
f. necessitate excavation? <u>Sewer lines will be excavated. No significant impact is expected.</u>	_____ <u>C</u>	_____
g. possibly impact land? Mitigation? (If yes, specify mitigation): <u>The land, as wildlife habitat, will be impacted. The impact will not be significant and the mitigation we recommend is to reclaim this site when closed or reclaim comparable disturbed acreage elsewhere on the Hanford Site.</u>	_____ <u>C&O</u>	_____
h. require new utilities or modification to existing utilities? <u>New electrical utilities and water lines will be needed and installed. No significant impacts are anticipated.</u>	_____ <u>C&O</u>	_____
7. NOISE:		
Will the proposed activity:		
a. increase noise levels? <u>Noise levels will increase temporarily during construction and permanently during operation.</u>	_____ <u>C&O</u>	_____
b. cause any noise impacts? (If yes, specify mitigation): <u>The increased noise levels may cause some impacts because of animal avoidance of the area. The impacts will be localized, of short duration (for construction), and are not anticipated to be significant.</u>	_____ <u>C&O</u>	_____
8. CHEMICAL/RADIOLOGICAL:		
Will the proposed activity:		
a. require use of carcinogens, pesticides, or toxic substances?	_____	_____ <u>X</u>
b. increase offsite radiation dose?	_____	_____ <u>X</u>
9. CULTURAL RESOURCES:		
a. Has the site been surveyed for cultural resources? <u>See the "Regulatory Review Form," page 7.</u>	_____ <u>X</u>	_____
b. Is there evidence of cultural, archaeological, paleontological, or religious sites?	_____	_____ <u>X</u>

- | | YES | NO |
|---|-----|-----|
| c. Does the site require further investigation? | ___ | _X_ |
| d. Was the site cleared (approved) for previous activities?
(If so, when?)
<u>March 31, 1987.</u> | _X_ | ___ |
| e. Was a determination made that this site cannot
be disturbed?
(If so, when?) _____. | ___ | _X_ |
| 10. <u>BIOLOGICAL RESOURCES:</u> | | |
| a. Does the site contain the type habitat for
threatened (T) and endangered (E) plants? | ___ | _X_ |
| b. Are T and E plant species present?
(If yes, which species?) _____. | ___ | _X_ |
| c. Does the site contain habitat that could support
T, E, or candidate (C) animal species?
(If yes, which species?)
<u>This site contains potential pygmy rabbit habitat</u> | _X_ | ___ |
| d. Is an onsite survey of T, E, and S species
necessary?
<u>No pygmy rabbits or their sign were seen on or near
the site.</u> | _X_ | ___ |
| e. Are T, E, or candidate (C) species present?
(If yes which species?) _____. | ___ | _X_ |
| f. Will impacts occur to any of these species
or their habitats?
<u>The planned activity will temporarily remove a small
amount of habitat with no significant impact.</u> | _X_ | ___ |
| g. Can impacts be mitigated?
<u>Impacts can be mitigated by reclaiming this or
another disturbed site of comparable acreage.</u> | _X_ | ___ |
| 11. <u>REGULATORY REVIEW:</u> | | |
| a. Has a regulatory review been completed
on this site?
<u>See attached "Regulatory Review" Form, page 7 of this
report.</u> | _X_ | ___ |

(Signed): Robert A. Newell (Title): Task Leader (Date): 8/25/87

BER-002
BER REGULATORY REVIEW FORM

Subject: Exploratory Shaft Site Expansion
Date of Report: June 2, 1987
Site Visit or Documentation Review?: Site Visit
Date of Site Visit/Doc. Review: March 31, 1987
Location: 200-West Area

Description: This BER describes the activities performed to expand the exploratory shaft site, 8.1 hectares (20 acres) south and west of the present shaft site. The site will be cleared and graveled to an approximate 30.5-m (1-ft) depth. This soil will be stockpiled and replaced when the exploratory shaft site is decommissioned. This BER does not cover exploratory shaft site operations, which include exploratory shaft drilling, mud pit and mined waste water treatment pond operation, installation and operation of the sewage system for the second shaft, management of the spoils pile and muck development area, installation and use of the fuel storage tanks, operation of the cementing area (mixing of the grout for filling the annular space in the exploratory shaft), and preparation of the drilling muds.

Regulatory Compliance Checklist: See the "Checklist, page 8.

Considerations and Concerns: Fugitive dust emissions are expected to be generated from the soil storage pile. While these emissions are not expected to exceed federal, state, or local limits on total suspended particulates (TSP), monitoring at various locations around the site will need to be conducted and effective dust suppression techniques employed. Furthermore, the cumulative effects of long-term storage of soil from this operation and from others conducted for site characterization need to be considered. Regulatory staff will interface with BWIP technical staff to determine monitoring needs.

Although an archaeological survey of 20-m (66-ft) transects revealed no trace of cultural resources, subsurface excavation to clear 7 cm (3 in.) of soil and to install utilities could conceivably disturb subsurface cultural resources that are potentially of regulatory importance. If any cultural resources are uncovered during excavation, activity must cease and the PNL archaeologist must be called in to assess the situation.

Conclusions: Based on ecological and archaeological surveys, the clearing and soil storage activity is not expected to impact resources of regulatory concern. However, should subsurface excavation reveal cultural resources, excavation must be halted and the PNL archaeologist notified.

Signed:

Sus E King
Susan E. King
Scientist

8/24/87
Date

BER-002
REGULATORY COMPLIANCE CHECKLIST

The following is a list of federal and state statutes and executive orders identified as being applicable or potentially applicable to any or all site characterization activities. The middle and right hand columns indicate the degree of applicability of each statute/executive order to the site characterization activity that is the subject of this BER.

SUBJECT: Exploratory Shaft Site Expansion

<u>ACTS/EOs</u>	<u>MAY APPLY</u> (a)	<u>TRIGGERED</u> (b)
Clean Air	X	
Noise Control		
National Historic Preservation		
American Indian Religious Freedom		
Archaeological Resources Protection		
Endangered Species		
Bald and Golden Eagle Protection		
Migratory Bird Treaty		
Federal Water Pollution Control		
Safe Drinking Water		
Floodplain/Wetlands		
RCRA		
CERCLA		
Toxic Substances Control		
Washington Clean Air	X	
General Regulation 80-7 (County Air)	X	
Washington Noise Control		
Washington Clean Water		
Washington Safe Drinking Water		
Washington Hazardous Waste		
Washington Solid Waste		
Other		
Other		

- (a) The applicability of the statute/executive order to this site characterization activity was examined in detail before it was determined that no action was required for compliance.
- (b) Requirements of the statute/executive order are triggered by this site characterization activity and are discussed in the text preceding this checklist.

BER-002
BER CULTURAL RESOURCES REVIEW FORM

Subject: Exploratory Shaft Site Expansion

Date of Report: May 29, 1987

Location: 600 Area, west of 200-West Area

Cultural Resources Personnel: J. C. Chatters, Archaeology; S. E. King, Regulatory.

Date of Literature Review: March 30, 1987

List of Literature Reviewed: National Register of Historic Places; Relander 1956; Rice 1984a,b; Schuster 1975.

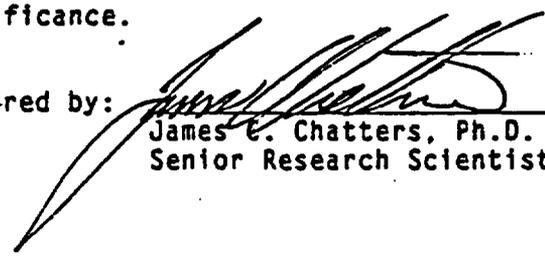
Date of Site Visit: March 31, 1987

Survey Techniques Employed: See "BWIP Procedures for Cultural Resource Reviews" in BER87-001(page 12).

Cultural Resources Observed: None. We found no artifacts of any kind, no culturally important plant species not common throughout the intersected habitat type, and no evidence that the area had special religious meaning to Indian people.

Cultural Resource Potentials: The site is in a topographic and geologic setting that is not conducive to use by people or to the deposition of paleontological materials. Surface water is lacking within 1 km (.62 m) of the site and local geomorphology indicates that surface water has not been present since the Scabland Floods of 13,000 years ago. Because human activity in this area is closely tied to available water sources, there appears to be little likelihood that cultural remains will be found on the site. It is possible that paleontological remains might be exposed by excavation, but that possibility is slim. Sediments are eolian and have accrued slowly over 13 millennia. Such circumstances are not conducive to preservation of fossils, other than the remains of small rodents, lizards and other microfauna. Excavation will be shallow and will not penetrate beneath the zone of disturbance by modern microfauna. Small animal fossils that might be found would be inextricably mixed with the remains of animals that had died within the past few centuries.

Conclusions and Recommendations: Expansion of the exploratory shaft site will have no impact on known or suspected cultural resources. Although no cultural resources were observed and the probability of their subsequent discovery is low, excavation of 7 cm (3 in.) of soil from the site could conceivably uncover significant cultural resources. If any artifacts or bones are uncovered during the excavation, activity around the find must cease and the PNL archaeologist will assess its significance.

Prepared by: 
 James C. Chatters, Ph.D.
 Senior Research Scientist

Date 8/21/87

Literature Cited:

- Relander, C. 1956. Drummers and Dreamers. Caxton Printers, Caldwell, Idaho.
- Rice, D. G. 1984a. "Archaeological Inventory of the Basalt Waste Isolation Project, Hanford Reservation, Washington." Letter Report to Rockwell Hanford Operations, SD-BWI-TA-006, Richland, Washington.
- Rice, D. G. 1984b. "Archaeological Survey of the Basalt Waste Isolation Project Reference Repository Location and Associated Drill Borehole Site Locations." Letter Report to Rockwell Hanford Operations, SD-BWI-TA-007, Richland Washington.
- Schuster, H. H. 1975. Yakima Indian Traditionalism. Dissertation, University Microfilms, Ann Arbor, Michigan.