United States Department of the Interior

St. y Wash

DOCKETED NOV 05 1991

USNRC IL SECTION

DOCKET CLER

BUREAU OF LAND MANAGEMENT SPOKANE DISTRICT OFFICE EAST 4217 MAIN SPOKANE, WASHINGTON 99202

(509) 353-2570



IN REPLY REVER TO: 14-20-0503-823 14-20-0503-824

October 31, 1991

S

Mr. Michael Whitelaw, Superintendent Bureau of Indian Affairs-Spokane Agency P.O. Box 389 Wellpinit, WA 99040

Dear Mr. Whitelaw:

This letter presents a completeness review of the July 12, 1991 Midnite Mine Reclamation Plan submittal prepared for Dawn Mining Company (Dawn) by Shepherd Miller, Inc. with assistance from Redente and Associates. Two additional supplementary documents were received during the latter part of August 1991. These include:

- 1. Supplements to The Midnite Mine Reclamation Plan, dated August 23, 1991. (This is referred to as Supplement 1 in an August 26, 1991 letter from Thomas Shepherd to Joseph Euesing.)
- 2. Appendix A to Supplement 1, dated August 26, 1991.

For the purposes of this letter, all of the above documents are collectively referred to as, "the plan submittal".

Status of Water Treatment

BLM considers water treatment and filter cake disposal to be the highest priority mitigation measure at the Midnite Mine. This is a critically needed action, and we continue to support review and approval of this project as a partial plan separate from, but integral to, the overall mine reclamation plan (43 CFR 3592.1(e)). Based upon the need to commence treating water as soon as possible we continue to aggressively pursue this activity by coordinating with the State of Washington Department of Health (DOH) and the Nuclear Regulatory Commission (NRC). Approval of water treatment should take into consideration pending action by DOH on Dawn's Closure Plan for the Ford Mill Site and related guidance from NRC. It is our understanding that DOH will announce its/decision on November 19, 1991.

OFFICIAL DOCKET COPY 92-0063

9801090060 911031 PDR STPRG ESGWA PDR

Purpose of the Plan Completeness Review

The purpose of this letter is to present our initial review of the plan submittal and our determination regarding whether or not the submittal contains information required in 43 CFR 3592.1. A second purpose involves determination of whether the plan submittal meets the requirements of the BIA Area Director's April 1990 decision. In other words does the plan submittal contain sufficient information to comply with the regulations and the Area Director's decision, and is there sufficient information in the plan submittal to constitute a proposed action (one of several alternatives) for a NEPA compliance document?

Background Regarding Plan Submittal

BLM ordered Dawn to submit a mine reclamation plan for the Midnite Mine on June 16, 1986. Dawn never complied with the BLM Mine Order. In the April 1990 decision the BIA Portland Area Director terminated Dawn's lease rights under lease Nos. 14-20-0503-823 and 14-20-0503-824, based upon his decision that Dawn had violated the terms and conditions of the leases and applicable regulations by failing to comply with the BLM Mine Order, the Assistant Secretary's reclamation bond order, and by failing to diligently resume mining since 1981. In his decision, the Area Director made it clear that, "DMC's [Dawn's] continuing obligation under the leases are n't terminated but remain in full force and effect." The decision by the Area Director was immediately appealed by Dawn to the Interior Board of Indian Appeals (IBIA). Subsequently, on May 29, 1991 the IBIA affirmed the Fortland Area Director's decision terminating Dawn's lease rights.

The Area Director's letter outlining his decision to terminate the lease rights stated that, "Upon its effective date, DMC is ordered to submit to the Superintendent, within 45 days of the effective date (May 29, 1991), its plans for the conservation, repair, and protection of the property in a condition that will not be hazardous to life or limb, as obligated by provision III (16) (Attachment 1) of the leases." This gave Dawn until July 13, 1991 to submit a plan. Dawn provided their plan submittal on July 12, 1991.

Dawn's representatives presented the plan submittal to interested persons and organizations at two meetings held in July and August 1991. The purpose of these meetings was to develop a more thorough understanding of the submittal, to determine the issues of concern, and to allow Dawn to answer questions. The first meeting took place at the BIA Spokane Agercy Office on July 24, 1991. This meeting included a tour of the mine site. The second meeting occurred on August 29, 1991 at the BLM District Office in Spokane.

Plan Completeness Review Comments

Interested persons and organizations were provided with copies of the plan submittal and were requested to provide comments to the BLM Spokane District Office by September 15, 1991. A list of the persons and org_nizations that were provided with copies is enclosed as Attachment 2. A summary of the written comments and concerns BLM received is provided as Attachment 3. The specific comments received from individuals and organizations are available for review at the BLM Spokane District Office.

3

NEPA Compliance Requirements

Mining began at the Midnite Mine prior to the National Environmental Policy Act (NEPA). Therefore, there is no Environmental Impact Statement (EIS) that covers the site's existing or proposed reclamation activities. All internally or externally proposed actions affecting resources under BLM jurisdiction, including Indian mineral resources, must be reviewed for NEPA compliance. The NEPA process is intended to help public officials make decisions that are based on an understanding of environmental consequences, and prescribe actions that protect, restore, and enhance the environment. Based on review of the July 12, 1991 Plan submittal it has been determined by BLM that the proposed action involving reclamation of the Midnite Mine will require the preparation of an Environmental Impact Statement (EIS).

Specific agency guidance regarding NEPA documentation and the review of reclamation plans is described in the Memorandum of Understanding (MOU) between BIA and BLM for Solid and Fluid Mineral Exploration, Leasing and Development. This MOU was approved on August 24, 1984. Sub-section E.1.(d.) of the Solid Mineral Management Procedures section of this MOU states that for Exploration and Minc Plans (Post-lease):

"BLM, acting through the appropriate Office, will: Serve as lead agency for any NEPA compliance documentation required to assess the exploration or mine plan, consulting with the BIA on surface protection and reclamation requirements."

It should be noted that the MOU defines and considers reclamation of disturbed mining lands to be an integral part of a mining plan. Based upon (1) the language in the MOU and (2) the continuing obligation of Dawn to reclaim the Midnite Mine site under the requirements of the regulations and the Area Director's decision, we recommend that preparation of an EIS for Midnite Mine reclamation be an interagency team effort between BLM and BIA, with BLM serving as the lead agency.

Since alternative reclamation scenarios for the Midnite Mine are possible, an adequate EIS must include development and discussion of these alternatives in a fully adequate manner.

Regulatory Plan Requirements

The specific mining regulations which govern the review of reclamation plans for Indian lands include 25 CFR 211, 25 CFR 212 and 43 CFR 3590. Procedures related to the review of reclamation plans are discussed in 43 CFR 3592.1 (Attachment 4).

Plan Submittal Summary

Reclamation activities proposed by Dawn in the plan submittal's Executive Summary are as follows:

- "Femoval, treatment, and discharge of water that currently exists in Pit
 3, Pit 4, and the previously backfilled pits.
- Construction of diversion channels upgradient of the mine pits and mine waste dumps to prevent run on to the reclaimed area.
- Installation of a sub-surface drain upgradient of the Gully Waste Dump to reduce groundwater inflow into this waste rock dump.
- o Installation of fencing to prevent access to the pit high walls and around the perimeter of the site to ensure public safety.
- Relocation of the ore and protore stockpiles into Pit 4 after the water in this pit has been removed.
- Regrading of the waste dumps to surfaces that promote runnoff and eliminate the potential for ponding of water.
- Placement of a cover, composed of topsoil and organically amended waste rock, over the regraded surfaces and other disturbed areas, and establishment of a self-sustaining vegetative community of this cover.
- Closure and reclamation of the Pollution Control Pond system and the water treatment plant.
- Monitoring the performance of the reclamation both during the reclamation activities and after the completion of reclamation to ensure that the reclamation objectives have been achieved."

Completeness Review of the Plan Submittal

a

The plan submittal has been reviewed to determine whether or not it contains the required information as defined in 43 CFR 3592.1 - Plans and Maps. Applicable sections of these regulations are cited and followed with either pages of the submittal which address the requirement or related comments.

43 CFR 3592.1 - Plans and Maps

43 CFR 3592,1(c): "... The mining plan shall contain, at a minimum, the following:

5

(1) "Names, addresses and telephone numbers of those responsible for operations to be conducted under the approved plan to whom notices and addresses of lessees, Federal lease serial numbers and names and addresses of lessees, Federal lease serial numbers and names and addresses of surface and mineral owners of record, if other than the United States;"

Reference: P. 5-6.

(2) "A general description of geologic conditions and mineral resources, with appropriate maps, within the area where mining is to be conducted;"

Reference: P. 6-9, 25-30; Table 11; Figs. 1-3, 34-37, Draw. 1-4; App. A, P. 5-6, Fig. 3-7, 11.

(3) "A copy of a suitable map or aerial photograph showing the topography, the area covered by the lease(s), the name and location of major topographic and cultural features and the drainage plan away from the

Reference: Draw. 1-4, App. A Figs. 9-11; Supplement 3, Attach. C.

(4) "A statement of proposed bechods of operating, including a description of the surface or underground mining methods, the proposed roads, the size and location of structures and facilities to be built, mining sequence, production rate, estimated recovery factors, stripping ratios and number of acres in the Federal or Indian Lease(s) to be affected;"

Reference: Backgee an Information describing previous activities at the site is provided on P. 25-30. No mining will occur under the proposed plan submittal.

(5) "An estimate of the quantity and quality of the mineral resources, proposed cu off grade and, if applicable, proposed blending procedures for all leases covered by the mining plan;"

No mining will oc ar under the proposed plan submittal.

(6) "An explanation of how ultimate maximum recovery of the resource will be achieved for the Federal or Indian lease(s). If a mineral deposit, or portion thereof, is not to be mined or is to be rendered unminable by the operation, the operator/lessee shall submit appropriate justification to the authorized officer for approval;"

No mining will occur under the proposed plan submittal. Therefore, this does not apply.

(7) "Appropriate maps and cross sections showing:"

(1) "Federal or Indian lease boundaries and sevial numbers;"

6

Reference: Draw. 1-3, P. 5, 6, Figs. 34-37.

(11) "Surface ownership and boundaries;"

Reference: Draw. 1-3, P. 5, 6, Figs. 34-37.

(iii) "Locations of existing and abandoned mines;"

Reference: Draw. 3

(iv) "Typical structure cross sections;"

Reference: Figs. 3, 34-37, Supplement 3, Attach. F.

(v) "Locations of shafts or mining entries, strip pits, waste dumps, and surface facilities:"

Reference: Draw. 2-3.

(vi) "Typical mining sequence, with appropriate timeframes;"

No mining will occur under the proposed plan submittal. Therefore, this does not apply.

(8) "A narrative which addresses the environmental aspects associated with the proposed mine which includes, at a minimum, the following:

(i) "An estimate of the quantity of water to be used and pollutants that may enter any receiving waters"

No mining will occur under the proposed plan submittel and therefore no water will be used for mining. The stated objective of the plan submittal is to control surface and subsurface water movement.

Reference: P. 11-25, 35-45, App. A-D.

(ii) "A design for the necessary impoundment, treatment or control of all runoff water and drainage from workings to reduce soil erosion and sedimentation and to prevent the pollution of receiving waters;"

Reference: P. 35-45, 51-64, Table 16, App. A, C, D, E, F, G; Supplement 1, App. A, B, C; Supplement 3, Attach. G. (iii) "A description of measures to be taken to prevent or control fire, soil erosion, subsidence, pollution of surface and ground water, pollution of air, damage to fish or wildlife or other natural resources and hazards to public health and safety;"

Reference: P 35-47, 57-58, App. A, C, D, E, F, G; Supplement 1, App. A, B, C; Supplement 3, Attach. D, E, G.

(9) "A reclamation schedule and the measures to be taken for surface reclamation of the Federal or Indian lease(s), license(s), or permit(s), that will insure compliance with the established requirements. In those instances in which the lease requires the revegetation of an area affected by operations, the mining plan shall show:

Reference: Reclamation schedule, P. 64, Table 18.

(1) "Proposed methods of preparation and fertilizing the soil prior to replanting;"

Reference: P. 51-57.

(ii) "Types and mixtures of shrubs, trees or tree seedlings, grasses or legumes to be planted;"

Reference: Table 10

(iii) "Types and methods of planting, including the amount of grasses or legumes per acre, or the number and spacing of trees or tree seedlings, or combinations of grasses and trees;"

Reference: P. 51-57, Table 10.

(10) "The method of abandonment of operation on Federal or Indian lease(s), license(s), and permit(s) proposed to protect the unmined recoverable reserves and other resources, including the method proposed to fill in, fence or close all surface openings which are a hazard to people or animals. Abandonment of operations also is subject to the provisions of subpart 3595 of this title;"

Reference: P. 42 (item 5); 32-64 for general coverage of this topic, Draw. 4, P. 46-47.

(11) "Any additional information that the authorized officer deems necessary for approval of the plan."

The BLM authorized officer shall request the additional information necessary.

Summary and Conclusion

The July 12, 1991 Midnite Mine Reclamation Plan submittal has been reviewed with respect to the requirements of specific mining regulations within the jurisdiction of BLM and with respect to the Area Director's decision written to Dawn in April 1990. Based upon this review, we believe that the filing of the aforementioned document meets the minimum requirements set forth in 43 CFR 3592.1. However, during the course of our review we identified many items of concern (Attachment 3) that need further clarification prior to approving the submittal as a plan. This information will need to be clarified by Dawn as required in 43 CFR 3592.1 (c)(11).

In the interest of proceeding with this project in a timely manner, we believe that the environmental analysis of the proposed action should commence while this additional information is being prepared. This environmental analysis (EIS) of the proposed action will need to include, but not be limited to, the conceptual design of reclamation alternatives, comparison, and selection of the preferred reclamation alternative for the high dime.

We further are of the opinion that for similar reasons, the filing of this document meets the minimum requirements of the Area Director's letter with respect to Provision III (16) of Mining Lease Nos. 14-20-0503-823 and 14-20-0503-824 with respect to commencing NEPA procedures.

If you have any questions regarding the contents of this letter please contact David Sinclair or Kelly Courtright at FTS 439-2570 or (509) 353-2570.

Sincerely yours,

David & Sinclai

action

Joseph K. Buesing District Manager

Attachments: 1-4

cc: Bruce Wynne Ortencia Ford Lori Villegas Robert S. Burd Ray Hall Jim Matsuyama Gary Robertson Colleen Kelley Lani Boldt Pat Geehan Eric Hoffman Denny Seymour Copies of the July 12, 1991 Midnite Mine Reclamation Plan were provided to the following organizations and individuals:

Individual

Spokane Tribe Bruce Wynne Allottees Mr. and Mrs. Donnelly Villegas Ms. Ortencia Ford Bureau of Indian Affairs Stanley Speaks George Ferris Michael Whitelaw Bureau of Land Management Joseph Buesing Kelly Courtright Eric Hoffman Bureau of Mines Dr. Paul Richardson Environmental Protection Agency Robert S. Burd U.S. Geological Survey Steve Sumioka Regional Solicitor's Office Colleen Kelley

Organization

Washington State Department of Health Gary Robertson

Washington State Department of Ecology Dorothy Stoffel Stevens County Jim Matsuyama

Provision III (16) of Mining Lease Nos. 14-20-0503-823 and 14-20-0503-824

"DAMAGES.-The lessee shall conduct all operations authorized in this lease with due regard to preventing unnecessary damages to vegetation, timber, soil, roads, bridges, cattle-guards, fences, and other improvements, including construction, operation, or maintenance of any of the facilities on or connected with this lease which causes damage to the watershed or pollution of the water resources. On termination of operations under this lease, the lessee shall make provisions for the conservation, repair, and protection of the property and leave all of the areas on which the lessee has worked in a condition that will not be hazardous to life or limb, and will be to the satisfaction of the Superintendent."

JULY 12, 1991 MIDNITE MINE RECLAMATION PLAN SUBMITTAL

COMMENTS AND ISSUES OF CONCERN

JULY 12. 1991 MIDNITE MINE RECLAMATION PLAN SUBMITTAL

×

·

.

٦

COMMENTS AND ISSUES OF CONCERN

Table of Contents

	Page
Summary of Comments on the July 12, 1991 Plan Submittal	1
Pit 4	2
Pit 3	3
Backfilled Pits	4
Pollution Control Pond	5
Reactive Materials	5
Reclamation Cover	5
Revegetation	6
Hydrology	7
Proposed Surface and Subsurface Drainage Mitigation	8
Water Treatment and Sludge	8
Radiation	9
Fencing	9
Bond	9
Other Specific Comments	9

×.

JULY 12, 1991 MIDNITE MINE RECLAMATION PLAN SUBMITTAL

COMMENTS AND ISSUES OF CONCERN

Summary of Comments on the July 12, 1991 Plan Submittal

The following issues were identified from the comments and during the meetings:

- Determine Reclamation and Engineering Design Standards That Will Provide for Permanent Long-Term Reclamation
- Reduce the Hazardous Heavy Metal and Radioactive Contamination of Surface and Ground Waters. This Includes Water in the Mining Pits and Water Leaving the Site
- Reduce On-site and Off-site Exposure to Gamma Radiation and Radon Gas to Acceptable Levels for Fublic Health and Safety
- o Provide for Long-term Monitoring and Maintenance of the Site
- o Determine Effects of Reclamation on Other Resources

The following is a paraphrased list of comments received on the plan submittal. This list is organized by categories related to general topics, actions proposed within the specific areas of the site, and other related reclamation issues. The page number or appendix reference at the end of the comment refers to the referenced location in the plan submittal.

General Comments

- 1. The plan submittal assumes that the shallow alluviums and historic pits, excluding Pit 3, will remain dry once they are pumped out. This assumption appears too optimistic.
- The plan submittal seems too implement an "observational method" to reclamation. However, the original efforts presented in the document do not include adequate planning for alternatives.
- 3. If Pit 4 should begin to fill with water the underlying contingency plan is to pump and treat contaminated water after the original volumes have been removed. The five year period for reclamation and monitoring must expand to include the additional time to treat this additional water.
- 4. Many of the proposed actions are based on suppositions of conditions existing after the open pits are drained. Dawn should consider draining Pit 4 into Pit 3 or treating Pit 4 water first to see if this supposition is valid.
- 5. If Pit 4 remains dry, it may be a suitable repository for the reactive rock. If it does not other another disposal alternative will be necessary. The reactive rock needs to be tested in humidity cells to see if it becomes more reactive in the presence of humidity and water. Backfilling the pit with inert material to the water line followed by installation of an impervious membrane may be a feasible answer.

- 6. The existing West Drainage, which was been diverted to the west of the Gully Waste Dump during mining, exhibits accelerated erosion which occurs in the form of channel bank undercutting and slumping. Measures to control erosion of this channel (i.e., placement of rip-rap, establishment of vegetation cover, or other restoration practices) needs to be included in the plan submittal.
- There appears to be enough detailed information presented in the plan submittal to formulate the proposed action in a NEPA compliance document.
- A discussion of human-caused fire potential and mitigating measures for prevention, detection, restriction of spread, notification, and suppression should be included in the plan submittal.
- 9. There are too many unknowns that make the document difficult to review. There are as many questions as there are comments concerning this proposed plan submittal.
- 10. The plan submittal does not include a comprehensive critical path schedule.
- A complete site characterization should be completed to enable Dawn to develop a reclamation plan to meet their own objectives. Dawn has not characterized or classified wastes and stockpiled materials on site.
- 12. Will the plan submittal, as proposed, require intense, "... on-going maintenance to ensure performance?" Page 33.
- 13. The objective of achieving "cost efficient" reclamation may unnecessarily constrain needed mitigative actions. Page 33
- 14. The concern was raised that the plan submittal does not contain sufficiently detailed baseline data and evaluations related to hydrology, reactive waste, radioactivity, covers, etc. to justify the proposed reclamation alternative as opposed to other alternatives. Evaluation of alternative designs during the environmental analysis is needed to make a final decision on the approved reclamation approach. Dawn should be required to adequately support their proposed reclamation plan submittal with appropriate baseline data including, but not limited to, reclamation test plots to confirm the workability of their proposed plan submittal.

Pit 4

1. Pit 4 water elevation should have seen an 18 inch per year drop due to net loss if the water present in the pit were truly from the original pumping and precipitation (20 inches precipitation, 38 inches lake evaporation). There is strong doubt that Pit 4 will remain dry once pumped, and placing reactive material into an alternating dry and wet environment is the worst scenario for contamination. P. 35.

- Specific data for station P-40, Pit 4 surface water quality, is not a available in Appendix B.
- 3. What is the basis for the assumption that Pit 4 will not refill with water? How will infiltration and precipitation be prevented? If the pit is filled with ore, will it not "fill" with water that much faster? Page 36.
- 4. Would Pit 4 be transferred to Pit 3 before being transferred to the water treatment plant? The plan submittal does not specify.
- 5. In light of the argument presented on Page 41 (item 2) why is ore being considered as backfill for Pit 4?
- Currently, there is not enough hydrologic data on Pit 4 to allow backfilling this pit.
- 7. Does the ore and protore proposed as Pit 4 backfill have the potential for long term migration of contaminants?
- 8. The decision to use Pit 4 for reactive rock disposal should be predicated on direct observation for a sufficient period of time after the pit has been drained to be sure that inflow is soley derived from dewatering of adjacent strata that has become saturated during the time Pit 4 has been flooded. This could partially be evaluated by monitoring wells in the vicinity of Pit 4 during the process of draining the pit.

Pit 3

- Emergency pumps and pipelines should be maintained as a contingency in the event that Pit 3 water, once filled to the drainage channel, needs to be treated prior to discharge. P.40.
- 2. As Pit 3 is allowed to refill water entering the pit could dissolve the precipitates present on the pit bottom and walls potentially leading to the need to treat more water. The plan must include reclamation of these precipitates before the pit is allowed to refill.
- 3. There is no presented evidence that Pit 3 will not contribute water to the reclaimed mine waste dumps other than the statement on P. 41. Either geochemical modelling, geophysics, or actual well drilling and sampling can confirm this statement. Page 41.
- 4. Figure 6 is a graph of Pit 3 uranium content vs time. Is data available which indicates the actual month, depth of sample, and temperature of each sample shown? There are no explanations for the large flucuations in this graph and why the concentration drops to zero. Could sampled ice be the explanation? An explanation is needed.

5. Support is given to Dawn's statement that backfilling Pit 3 with carbonaceous rock may aggravate pit water quality unless the water level is maintained above the backfill mass to saturate the environment.

4

- 8. The proposal to map and sample Pit 3 seeps during dewatering would provide important information about water quantity and quality. It is recommended that Dawn also sample all exposed seeps and pit water as the pit is allowed to refill. Page 59.
- 9. Specific data for station P-39, Pit 3 surface water quality, is not a available in Appendix B.
- 10. The statement that poor quality water in Pit 3 is due solely to water pumped from the PCP has not bee supported with data. Any future contact of meteoric water with reactive rock in the future will lead to exactly the same conditions. One would expect the natural quality of Pit 3 to be intermediate between that in Pit 4 and the PCP. Page 15.
- 11. What impacts can be expected if Pit 3 is allowed to refill at 40 inches per year?
- 12. Given the stated reclamation goal to "Utilize reclamation methods that are technically effective and cost efficient .[that] do not require on-going maintenance to ensure performance" at least one of the reclamation alternatives considered during the EIS process should evaluate the feasibility of using constructed wetlands and/or bio-remediation methods as a means of treating mine water.1 Page 33.

Backfilled Pits

-

- No remediation action is planned to prevent these bowl-like depressions from again filling (once pumped) by precipitation infiltration or groundwater inflow in the future. Dawn's modelling indicates 6 ± 2.8 inches per year of precipitation infiltration will occur through the three capping options. Has any humidity testing been performed? It is unclear whether the infiltration number is cumulative or is the total depth of the precipitation. The five year monitoring period is insufficient.
- Tunneling to the backfilled pits for dewatering would be expensive and could aggravate the groundwater regime in terms of contamination. Page 43.
- 3. There is no contingency plan for handling and treating waters pumped from the backfilled pits or any water that may be pumped from Pit 4 after it is backfilled. If continued pumping and water treatment is the assumed contingency plan, the costs and time frames should be included with a responsible safety factor. Page 35, 61.

4. The statements in the plan submittal on Page 43 discouraging the use of dewatering tunnels for pits are supported based upon technical and long term maintenance factors and experience gained at the Yak tunnel.

Pollution Control Pond

- The Pollution Control Pond (PCP) contains precipitates and sediments from the contaminated water. Remediation of this material and affected surrounding soils will need to be addressed in greater detail. P. 57.
- 2. The plan submittal narrative states that the slope above the PCP will be reduced and regraded during reclamation. However, the proposed reclamation contours shown on Drawing 4 do not reflect any changes to the PCP. Supplement 1, Page 17.

Reactive Materials

- The plan submittal gives a summary of topsoil and waste rock analysis in Table 12 classified by geologic origin and not by reactivity. The various waste rock dumps may contain more than one type of material. Therefore, it is uncertain that discreet mine areas (i.e., Gully Waste Dump) can be regarded as a single unit for reclamation. Page 53.
- 2. How much dump surface is underlain by mineralized rock?
- 3. The decision regarding long term placement of ore and protore into Pit 4 should be compared with additional alternatives such as mitigation in place or at another location. The current justification supporting Pit 4 placement is not sufficient to ensure that this is the best alternative.
- 4. Does the Uranium Mill Tailings Radiation Control Act of 1978 (UMTRA) apply to the disposal/reclamation of unprocessed ore or low grade ore materials at the mine site?
- 5. Reference is made to the December 1985 "Report to Congress Wastes From the Extraction and Beneficiation of Metallic Ores, Phosphate Rock, Asbestos, Overburden from Uranium Mining and Oil Shale", Section 4.1, Page 4-2., written by EPA. Do any of the materials which will be left at the site contain any of the referenced "Other Potentially Hazardous Characteristics" and what impact does this have on reclamation?

Reclamation Cover

 It is unclear whether or not the estimated infiltration rate of six inches per year through each cover alternative contradicts the premise of "dry" alluvium on site once pumping is completed.

- It appears that the primary function of the proposed cover is to minimize infiltration and not to prevent infiltration. Minimizing infiltration does not prevent acid generation.
- 3. Will the proposed cover provide chemical stability?
- 5. Will the proposed depth of topsoil be sufficient to support vegetation and prevent erosion?
- 6. Concern was raised with respect to metal and contaminant up take by plants and the potential effect on revegetation success. Vegetation monitoring should include testing to evaluate mineral salt up take.
- 7. In developing a reclamation plan is Dawn constrained to using the two cover alternatives suggested by Sherman, et al and the BLM-BIA staff report?
- 8. Long term physical stability and vegetative success should be primary considerations in reclamation design.

Revegetation

- The survival rate of trees and shrubs may be enhanced by the addition of rodent and deer control devices. This may include chemical repellents, screening or "arborguard."
- 2. A stocking rate of 50 shrubs per acre may be low. A density of 75-100 shrubs per acre is probably more appropriate.
- 3. The reclamation cover portion of the plan submittal is largely adequate to constitute a portion of the proposed action for a NEPA analysis document.
- 4. The plan submittal lacks a noxious weed control plan.
- 5. The perimeter fence should be maintained in perpetuity and the mine area should be managed as a separate allotment for livestock grazing. Livestock grazing of native plant communities together with heavily altered communities is largely unsuccessful.
- On-site test plots are necessary to demonstrate whether or not the proposed cover system will be successful and perform as designed at this mine.
- 7. Concern was raised regarding the vegetative cover, stability, and amount of weeds on the Gully Waste Dump.
- An independent determination should be made to evaluate whether or not the 80 percent plant cover and herbaceous production is appropriate for measuring reclamation success and bond release.

9. What are the common names of the proposed plant species?

Hydrology

- 1. Poor quality water at the site is the result of contact of surface and ground water with mineralized waste rock. The reclamation effort should attempt to minimize infiltration and rock-water contact.
- 2. The U.S. Geological Survey (USGS) measured evaporation at the site at 23 inches per year in it's water-budget study during the period October 1984 through September 1985. This compares with 38 inches reported in the plan submittal. The USGS value was determined using a class-A evaporation pan, anemometer, and a max-min thermometer installed at the mine. Page 9.
- 3. What "...evaluation of the groundwater flow system" led to the assumption that seepage does not occur from Pit 3 through the monzonite bedrock? Page 41.
- 4. Water quality vs time is graphed for surface water site 27, but the location of this station is not shown on Figure 2. Appendix B.
- 5. One of BLM's comments to earlier reclamation plan submittals in 1985 was the lack of a specific groundwater monitoring program that should have been implemented one year prior to pit leaching to establish a baseline for ground water quality and to develop the necessary hydrologic data to evaluate the potential viability of Pit 4 as a leach site. Dawn has not established this baseline data or monitoring system.
- 6. Has a water balance calculation been conducted on Pit 4, and why hasn't the pit dryed out during the past 10 years? Has a water balance calculation been conducted on Pit 3?
- 7. The plan submittal does not list or graph any seep flow rates vs time after the initiation of seepage pump back. Dawn has collected this data at weekly intervals since the pump back system was initiated in June 1987 and data reported in the plan submittal is graphed only from mid 1982 through latter part of 1985. All of the seep flow data needs to be reported and graphed in the document since recording began and this data needs to be incorporated into a mine wide, or basin wide, hydrologic investigation/evaluation. The results of this hydrologic investigation could then possibly be used to model or predict the seepage discharge quantity and quality associated with the reclamation proposal. Appendix B, Surface Water Station 10 Flow vs Time.
- All graphs depicting constituents that have established NPDES discharge standards, should show the limits similar to the convention used on Figure 12.

Proposed Surface and Subsurface Drainage Mitigation

- 1. The backfill material used in the French Drain above the pea gravel should be specified as non-reactive and free draining. Appendix E. Figure E.4.
- 2. Typical cross-sections and discussions in the plan submittal regarding the northern and southern surface diversion channels do not indicate if the channels will be lined with impervious materials (i.e., geomembrane or compacted clay). The document needs to address this design feature and the potential for infiltration into the underlying materials. If the proposal is to simply construct the ditches by cut and fill perpendicular to the slope it would be appropriate to specify that the ditches not be constructed with reactive materials. The evaluation of the possible need for a spilling basin at the terminus of these ditches needs to be discussed in the plan submittal. Appendix E. Figs. E.2, E.3.
- Contingency planning is needed in the event that water exiting the surface and subsurface drainage channels is of unacceptable quality and requires treatment prior to release.

Water Treatment and Sludge

- 1. Dawn proposes transfering the monitoring and maintenance of the reclamation system to the landowners if after five years the system has performed as predicted. Table 17 assumes that 500 million gallons of water will be treated and as a contingency additional water will be treated if necessary. If more water is found after the original pumping will the landowner be responsible for pumping and treating after five years? Page 64.
- 2. Is the sludge from water treatment classified as a hazardous waste? Note: Recent extensive testing by the U.S. Bureau of Mines (BOM) indicates that the waste is not classified as a hazardous waste. This was reported in a letter from Bill Schmidt to Stanley Speaks dated September 6, 1991.
- 3. Are there data to show that treated water meets the National Pollutant Discharge Elimination System (NPDES) permit standards?
- 4. Filter cake sludge disposal at TDA-4 is speculative. Page 32.
- 5. The information in the Application For Radioactive Materials License (Appendix D) states that the treatment plant would be limited to operating nine months per year due to winter weight restrictions on secondary roads and the regulatory difficulty associated with on-site storage of filter cake sludge. Can the road restriction issue be resolved by using trucks with additional axles and tires both to haul raw materials and sludge?

Radiation

1. Mean gamma dose rates, radon concentrations, and airborne radionuclide particulate concentrations were sampled from five, six, and three locations, respectively ten years ago. This limited sampling density is not sufficient to adequately characterize the affected environment of the various areas within the site as it exists today. This information is needed to determine how various waste piles, ore stockpiles, and other features within the site need to be mitigated to ensure public health and safety.

9

- 2. The plan submittal does not discuss site background levels of radiation or radiological standards proposed for reclamation.
- 3. An air sampling plan for gamma radiation, radon emanation, and radioactive airborne particulates should be established to ensure the health and safety of personnel working on the site during and after the remedial action.

Fencing

- 1. The document needs to specify the criteria and collocate Pit 3 and Pit 4 fencing to ensure that natural sloughing of pit walls will not impact long term fence stability. Page 46.
- 2. Justification needs to be provided for not fencing the drainage channel.
- 3. Specific post-revegetation criteria should developed to determine if and when perimeter fencing can be removed as well as long term maintenance and funding plan for the fencing.

Bond

- 1. Detailed calculations are needed to support and confirm Dawn's reclamation bond estimate.
- 2. Dawn should be required to post an appropriate bond.

Other Specific Comments

- Figure 1 r. eds a map legend (i.e., north arrow, scale, symbol explanation, etc.)
- Flow rate units on the Y axis of the graph titled Surface Water Station 15 (Spring at the toe of the Pollution Control Pond), Flow vs Time is incorrectly labeled as mg/l.

TECHNOLOGY TRANSFER ANNOUNCEMENT U.S. BUREAU OF MINES SUMMER 1991



Constructed Wetlands Reduce Cost of Treating Coal Mine Drainage

Over 400 wetlands. resembling miniature marshes, have been constructed to treat acidic coal mine drainage. These wetlands reduce the need for subsequent chemical treatment of the drainage, and a fifth of these applications eliminate that need. Typically, the savings in the costs for chemical treatment and storage pond maintenance has paid for the wetland construction in less than one year.

Chiefly, these wetlands reduce the acidity and iron content of the water. There is usually some slight reduction in manganese content, as well as other benefits. Wetlands constructed to treat mine water range from simple ponds to a series of staged basins. The simplest ponds are shallow and are planted with swamp plants such as cattails that do not require an organic substrate. The staged basins usually have environments that are alternately oxygen-rich or oxygen-poor.

Recent research has highlighted the importance of alkalinity of the drainage to the design and sizing of wetlands. Coal mine water that is alkaline can be treated using a simple aerobic system. Many such wetlands have been built that

See COAL on 2nd Page

Metal Mine Drainage May Also Be Treatable

The most promising biological means of removing metals from mine drainage appears to be through sulfate reduction by bacteria. Though other means occur they have limitations. For example, removal by oxidation does not appear to be feasible for most metals because of the extreme acidity of metal mine drainage. Iron removal by oxidation is an exception to this general condition. Removal of metals by allowing them to accumulate in plants is another possible method, but for the more toxic metals. bioaccumulation can cause ecological problems such as the chronic poisoning of foraging animals.

Metal removal by bacterial sulfate reduction appears to be feasible because even though sulfate-reducing bacteria are inhibited at low pH, their activity increases the pH of their

See METAL on 3rd Page





Coal from 1st Page treat alkaline mine water successfully. In these cases, the removal of iron and manganese is limited by oxidation rates and settling rates. Empirical studies have shown that approximately 100 square meters of wetland are necessary to remove each kilogram of iron per day. About 500 square meters of wetland are required to remove each kilogram of

manganese per day.

When acidic water is being treated, use of an aerobic design might decrease iron concentration, but water is likely to become more acidic, and no removal of manganese will occur. The removal of iron from such a wetland may lower chemical treatment costs, but in order to increase the treatment potential of the wetland, its water must be made more alkaline.

Two methods of passively generating alkalinity are in current use. The first involves the stimulation of sulfate reduction processes by using bacteria. This is done by constructing a wetland with a rich organic substrate. Currently, the most successful and least expensive substrate is spent mushroom compost. This compost can support high rates of sulfate reduction. It also contains limestone. which contributes additional alkalinity.

Because sulfate reduction rates are usually slower than iron oxidation rates, compost-based wetlands must be larger than the simple wetlands that suffice for alkaline mine waters. The best estimate currently available is that 200-500 square meters of wetland are necessary for each kilogram per day of net acidity contained in the raw drainage. (Net acidity is used as a sizing criterion because it incorporates the acid features of low pH, terrous iron, ferric iron, and aluminum into a single, easily measured parameter.) Removal of manganese from acid water by these systems has not been consistent enough to allow sizing criteria.

The second method of increasing alkalinity is to pretreat the mine water by flowing it through limestone gravel before it enters the wetland. Before being exposed to the atmosphere. mine water is often very low in oxygen and dominated by ferrous rather than ferric iron. Diverting such water through an enclosed drain filled with limestone can add 100-200 milligrams per liter of alkalinity to the water. It can then be discharged into a settling basin, from which it will flow into the wetland. The net effect of such a pretreatment step is to significantly decrease the size of the wetland required. This concept was first proposed by Turner and McCoy of the Tennessee Department of Health and Environment. It is now being tested at sites throughout Appalachia.

Wetlands can be fitted to various mine drainage conditions, and their effectiveness can be greatly improved by choosing the most appropriate construction, as well as by introducing the most appropriate types of plants and bacteria.

For more information, circle No. 1 on your Reader Service Card.

Metal from 1st Page immediate environment. This local effect allows their continued activity in the sediments beneath extremely acidic waters. Recent work by the Bureau and others indicates that sulfate-reducing bacteria tolerate relatively high concentrations of cadmium, nickel, and zinc, and moderate concentrations of copper and lead. Insoluble sulfide precipitates form in the solutions containing these metals.

Pilot-scale tests of wetlandtype systems have been conducted on metal mine drainage by the Bureau and others. The result of these low flow tests indicate that improvement in water quality definitely occurs. However, the extent of improvement is highly variable, due, in part, to the effect of natural variations in flow and water temperature.

It should be recognized that the precipitation of sulfide minerals will continue only if there is sufficient organic matter present to maintain an anaerobic environment. If seasonal decay and the excretion of organic compounds by plants are inadequate, then the periodic addition of selected organic materials would be necessary.

However, if one can afford to add organics periodically. there are potential advantages to biological treatment without wetlands. especially for metal mine drainage. First, the treatment area can be smaller, for instead of a wide shallow basin, one can use a narrow deep pit. Second, it might be possible to treat mine water in a pipe filled with composted organic waste; presumably, this might be done inside an underground mine or abandoned mine. Using a pit would reduce the effects of seasonal temperature fluctuations and the potential problems that could be caused by metals entering the food chain. Using an underground pipe or vessel might avoid these problems entirely.



Anaerobic bacteria found in wetlands, such as this Delsulfovibrio, can result in precipitation of metals

To test the feasibility of usin terial sulfate reduct n in a non-wetland setting to treat acid mine drainage, the Bureau has conducted pilot-scale tests using tanks or drums filled with composted organic waste.

In one test in an underground coal mine, a system consisting of three 200-liter drums, plumbed in series, was used to treat coal mine drainage. After treatment, the pH of the mine water had been raised from 3.7 to 6.9. Iron content, (initially 67 milligrams per liter) and chromium content (initially 7 mg/L) were both reduced to less than 0.2 mg/L.

In another test, conducted at the residue dump of a zinc smelter, two independent tanks of 45(%)-liter capacity were used. Here treatment increased the pH of the drainage from 6.3 to 6.8. In addition, zinc content was decreased from 274 to 0.62 mg/L, nickel content was decreased from 0.68 to 0.03 mg/L, and cadmium content was decreased from 0.23 to less than 0.005 mg/L.

Similar bacterial sulfate reduction bioreactors are now being tested at other metal mine drainage sites, primarily in the western United States. Additional studies are needed to determine how practical these biological systems will be in treating polluted waters having variable chemical compositions and flow rates.

For more information, circle No. 2 on your Reader Service Card.

+ U.S GPO 1991-511-508

Subpart 3592-Plans and Maps

(a) Before conducting any oper-

ations under any lease(s), license(s), or

permit(s), the operator shall submit to

the authorized officer an exploration

or mining plan which shall show in

detail the proposed exploration, pro-

specting, testing, development or

mining operations to be conducted.

Exploration and mining plans shall be

consistent with and responsive to the

requirements of the lease, license or

permit for the protection of nonmin-

eral resources and for the reclamation

of the surface of the lands affected by

the operations on Federal or Indian

lease(s), license(3), or permits. The au-

thorized officer shall consult with any

other agency involved, and shall

promptly approve the plans or indi-

cate what additional information is

necessary to conform to the provisions

of the established requirements. No

operations shall be conducted except

(b) The exploration plan shall be

submitted in accordance with mineral

specific regulations in Group 3500 of

this title (See subparts 3512, 3522,

3532, 3542, 3552 and 3562) and in ac-

cordance with 25 CFR 216.6 for Indian

as provided in an approved plan.

lands.

§ 3592.1 Operating plans,

43 CFR Ch. II (10-1-90 Edition)

(c) The lessee/operator shall submit 2 copies of the mining plan to the authorized officer for approval. An additional copy shall be submitted if the surface managing agency is other than the BLM. The mining plan shall contain, at a minimum, the following:

(1) Names, addresses and telephone numbers of those responsible for operations to be conducted under the approved plan to whom notices and orders are to be delivered, names and addresses of lessees, Federal lease serial numbers and names and addresses of surface and mineral owners of record, if other than the United States;

(2) A general description of geologic conditions and mineral resources, with appropriate maps, within the area where mining is to be conducted;

(3) A copy of a suitable map or aerial photograph showing the topography, the area covered by the lease(s), the name and location. of major topographic and cultural features and the drainage plan away from the affected area;

(4) A statement of proposed methods, of operating, including a description of the surface or underground mining methods, the proposed roads, the size and location of structures and facilities to be built, mining sequence, production rate, estimated recovery factors, stripping ratios and number of acres in the Federal or Indian lease(s), license(s), or permit(s) to be affected;

(5) An estimate of the quantity and quality of the mineral resources, proposed cutoff grade and, if applicable, proposed blending procedures for all leases covered by the mining plan;

(6) An explanation of how ultimate maximum recovery of the resource will be achieved for the Federal or Indian lease(s). If a mineral deposit, or portion thereof, is not to be mined or is to be rendered unminable by the operation, the operator/lessee shall submit appropriate justification to the authorized officer for approval;

(7) Appropriate maps and cross sections showing:

(1) Federal or Indian lease boundaries and serial numbers;

(ii) Surface ownership and boundaries;

Bureau of Land Management, Interior

(iii) Locations of existing and abandoned mines;

(iv) Typical structure cross sections;
 (v) Location of shafts or mining entries, strip pits, waste dumps, and surface facilities; and

(vi) Typical mining sequence, with appropriate timeframes;

(8) A narrative which addresses the environmental aspects associated with the proposed mine which includes, at a minimum, the following:

(i) An estimate of the quantity of water to be used and pollutants that may enter any receiving waters;

(ii) A design for the necessary impoundment, treatment or control of all runoff water and drainage from workings to reduce soil erosion and sedimentation and to prevent the pollution of receiving waters;

(iii) A description of measures to be taken to prevent or control fire, soll erosion, subsidence, pollution of surface and ground water, pollution of air, damage to fish or wildlife or other natural resources and hazards to public health and safety; and

(9) A reclamation schedule and the measures to be taken for surface reclamation of the Federal or Indian lease(s). license(s), or permit(s) that will ensure compliance with the established requirements. In those instances in which the lease requires the revegetation of an area affected by operations, the mixing plan shall show:

 (i) Proposed methods of preparation and fertilizing the soil prior to replanting;

(ii) Types and mixtures of shrubs, trees or tree seedlings, grasses or legumes to be planted; and

(iii) Types and methods of planting, including the amount of grasses or legumes per acre, or the number and spacing of trees or tree secolings, or combinations of grasses and trees;

(10) The method of abandonment of operations on Federal or Indian lease(s), license(s), and permit(s) proposed to protect the unmined recoverable reserves and other resources, inlcuding the method proposed to fill in, fence or close all surface openings which are a hazard to people or animals. Abandonment of operations also is subject to the provisions of subpart 3595 of this title; and (11) Any additional information that the authorized officer deems necessary for approval of the plan.

(d)(1) Approved exploration and mining plans may be modified at any time to adjust to changed conditions or to correct an oversight. To obtain approval of an exploration or mining plan modification, the operator/lessee shall submit a written statement of the proposed modification and the justification for such modification. Any proposed exploration or mining plan modification(s) shall not be implemented unless previously approved by the authorized officer.

(2) The authorized oificer may require a modification to the approved exploration or mining plan if conditions warrant.

(e) If circumstances warrant, or if development of an exploration or mining plan for the entire operation is dependent upon unknown factors which cannot or will not be determined except during the progress of the operations, a partial plan may be approved and supplemented from time to time. The operator/lessee shall not, however, perform any operation except under an approved plan. Part Eleves- 197-11-965

SEPA Rules

State of WA

ADOPTION OF EXISTING ENVIRONMENTAL DOCUMENT		
doption for (check appropriate box) 🖾 DNS EIS other		
escription of current proposal Amendment request by Western Nuclear. Inc.	license #W	N-10133-1
to begin phase one of a two-phase closure of the Sherwood Uranium	Project.	
roponentWestern Nuclear, Inc. Sherwood Project		
ocation of current proposal Located within the Spokane Indian Reservation	on at sectio	ons 1 and
Township 27 North, Range 37 East, and sections 35 and 36. Township	p 28 North,	Range 36
See Attachment A		
itle of document being adopted		and hear the set of th
Agency that prepared document being adopted See Attachment A		
Agency that prepared document being adopted See Attachment A Date adopted document was prepared See Attachment A	.92	
Agency that prepared document being adopted <u>See Attachment A</u> Date adopted document was prepared <u>See Attachment A</u> Description of document (or portion) being adopted See Attachment A	. 56,	RE
Agency that prepared document being adopted <u>See Attachment A</u> Date adopted document was prepared <u>See Attachment A</u> Description of document (or portion) being adopted <u>See Attachment A</u>	51 Mill 26.	RECE
Agency that prepared document being adopted <u>See Attachment A</u> Date adopted document was prepared <u>See Attachment A</u> Description of document (or portion) being adopted <u>See Attachment A</u>)14 51 MIN 26.	RECEVED
Agency that prepared document being adopted <u>See Attachment A</u> Date adopted document was prepared <u>See Attachment A</u> Description of document (or portion) being adopted <u>See Attachment A</u> If the document being adopted has been challenged (197-11-630), please describe: Documents have not been challenged.	92 JUN 15 A10:32	RECEVED
Agency that prepared document being adopted <u>See Attachment A</u> Date adopted document was prepared <u>See Attachment A</u> Description of document (or portion) being adopted <u>See Attachment A</u> If the document being adopted has been challenged (197-11-630), please describe: <u>Documents have not been challenged</u> .		RECEVED

We have identified and adopted this document as being appropriate for this proposal after independent review. The document meets our environmental review needs for the current proposal and will accompany the proposal to the decisionmaker.

Name of agoncy ado	pting document	State of Washington. Departme	ent of Health
Contact person, if oth responsible official	her than Gar	y Robertson	Phone (206) 753-3459
Responsible official	T.R. Stron	9	
Position/title	Division Di	rector	Phone (206) 586-8949
Address Divisio	n of Radiati	on Protection. P.O. Box 47827.	Olympia WA 98504-7827
Date 1910 -12	Signature	1 Percenty	

.

(Ch. 197-11 -- p 52)

10

WAC 197-11-970 Determination of nonsignificance (DNS).

DETERMINATION OF NONSIGNIFICANCE

Description of proposal	Amendment request by West	n Nuclear, Inc., license #WN-10133-1. to
becin phase one	of a two-phase closure of t	Sherwood Uranium Project.

Proponent Western Nuclear. Inc.

Location of proposal, including street address, if any <u>Located within the Spokane Indian Reservation</u> at sections 1 and 2, Township 27 North, Range 37 Fast, and sections 35 and 36. Township 28 North, Range 36 east.

Lead agency State of Washington, Department of Health

The lead agency for this proposal has determined that it does not have a probable significant adverse impact on the environment. An environmental impact statement (EIS) is not required under RCW 43.21C.030(2)(c). This decision was made after review of a completed environmental checklist and other information on file with the lead agency. This information is available to the public on request.

There is no comment period for this DNS.

This DNS is issued under 197-11-340(2); the lead agency will not act on this proposal for 15 days from the date below. Comments must be submitted by June 30, 1992

Responsible official	T.R. Strong	
Position/title	Division Director	Phone (206) 586-894
Address Divis Date 6/11/92	ion of Radiation Protection P.O. Box 478	01ympia WA 98504-7827
Vou maj a r	appeal this determination to (name) Hearings I t (location) <u>1300 Quince St. S.E. P.O. Box</u> o later than (date) <u>July 28, 1992</u> by (method) methods established in WAC	Unit 47851. Olympia, WA 98504-7851 246-03-080

You should be prepared to make specific factual objections. Contact <u>Colleen Klein</u> to read or ask about the procedures for SEPA appeals.

There is no agency appeal.

DETERMINATION OF NON-SIGNIFICANCE

Western Nuclear, Inc., a private firm, has applied to the Department of Health for approval of a license amendment request to begin phase one of the two-phase millsite closure process. Phase one only is being considered in this determination. Western Nuclear, Inc. is located entirely within the bounds of the Spokane Indian Reservation. The Department of Health is the lead agency for this project.

The determination to be made by DOH is whether or not the authorization of this license amendment request has probable significant adverse impacts to the environment. The department has found no evidence that implementation and completion of this phase will have probable significant adverse impacts. Completion of this phase will reduce the probability of significant adverse impacts. This project will permanently impound the equipment, buildings, and structures containing residual radioactivity in the tailings impoundment. This request is in accordance with applicable state and federal regulations.

For these reasons, the department has determined that this license amendment request will not pose probable significant adverse impacts on the environment. An environmental impact statement (EIS) is not required under RCW 43.21C.030(2)(c). This decision was made after review of a completed environmental checklist and other information on file with the lead agency. Several related documents are being incorporated by reference in support of this determination, which is being made specifically on phase one of the closure process (see Attachment A). This information is available to the public on request.

This determination of non-significance (DNS) is issued under provisions of WAC 197-11-340(2); the lead agency will not act on this proposal for at lease 15 days from the date of issuance, or not before June 25, 1992. Comments must be submitted to the Department of Health, P.O. Box 47827, Olympia, Washington 98504-7827, by June 25, 1992.

ATTACHMENT A

- 1. Final Environmental Impact Statement, Sherwood Uranium Project, Spokane Indian Reservation; Bureau of Indian Affairs; August 19, 1976. A description of the environment at the Sherwood facility, including expected impacts/alternatives of the milling operation.
- Design criteria for the Sherwood Project tailings impoundment facility; Dravo Corporation; 1977. An engineering description of the Sherwood tailings impoundment.
- Western Nuclear, Inc. Annual Environmental Monitoring reports; Western Nuclear, Inc.; 1978-1991. These documents provide results of environmental monitoring at the Sherwood site.
- Environmental Assessment Report for the Sherwood Uranium Project; Dames and Moore Engineering; January 2, 1976. A description of the environment at the Sherwood Project.
- 5. Sherwood Project Mill Decommissioning Plan; Western Nuclear, Inc.; April 27, 1992. A detailed description of mill decommissioning, including building teardown and disposal of contaminated material and equipment.
- 6. Sherwood Project Tailings Impoundment Final Reclamation Plan, Western Nuclear, Inc. due fourth quarter 1992. A detailed description of the final reclamation plan for the tailings impoundment, including final cover and erosion control.

PART ELEVEN - FORMS

WAC 197-11-960 Environmental checklist.

ENVIRONMENTAL CHECKLIST

Purpose of Checklist:

The State En- "onmental Policy Act (SEPA), chapter 43.21C RCW, requires all governmental agencies to consider the environmental impacts of a proposal before making decisions. An environmental impact statement (EIS) must be prepared for all proposals with probable significant adverse impacts on the quality of the environment. The purpose of this checklist is to provide information to help you and the agency identify impacts from your proposal (and to reduce or avoid impacts from the proposal, if it can be done) and to help the agency decide whether an EIS is required.

Instructions for Applicants:

This environmental checklist asks you to describe some basic information about your proposal. Governmental agencies use this checklist to determine whether the environmental impacts of your proposal are significant, requiring preparation of an EIS. Answer the questions briefly, with the most precise information known, or give the best de-

'You must answer each question accurately and carefully, to the best of your knowledge. In most cases, you should scription you can. be able to answer the questions from your own observations or project plans without the need to hire experts. If you really do not know the answer, or if a question does not apply to your proposal, write "do not know" or "does not ap-

ply". Complete answers to the questions now may avoid unnecessary delays later. Some questions ask about governmental regulations, such as zoning, shoreline, and landmark designations. Answer

these questions if you can. If you have problems, the governmental agencies can assist you. The checklist questions apply to all parts of your proposal, even if you plan to do them over a period of time or on different parcels of land. Attach any additional information that will help describe your proposal or its environmental effects. The agency to which you submit this checklist may ask you to explain your answers or provide additional information reasonably related to determining if there may be significant adverse impact.

Use of checklist for nonproject proposals:

Complete this checklist for nonproject proposals, even though questions may be answered "does not apply." IN AD-DITION, COMPLET THE SUPPLEMENTAL SHEET FOR NONPROJECT ACTIONS (part D)

For nonproject actions, the references in the checklist to 'he words "project," "applicant," and "property or site" should be read as "proposal," "proposer," and "affected geographic area," respectively.

--- Eter roforrod to

A. BACKGROUND

1. Name of proposed project, if applicable:	Western Nuclear, Inc. Sherwood Project Mill Decommissioning Plan April, 1992		as the Sherwood MDP.)		
 Name of applicant: Western Nuclear Address and phone number of applicant 	and contact person.	P. 0. Box 358 Wellpinit, WA (509)747-2081	99040	C. Abeyta Operations Mgr.	

5. Agency requesting checklist: State of Washington, Dept. Health, Off. Radiation Protection, Agency requesting checklist: Waste Management Section, Uranium Mills Program.
 Proposed timing or schedule (including phasing, if applicable):

July 1, 1992 is targetted [r approval of the Sherwood MDP.

7. Do you have any plans for future additions, expansion, or further activity related to or connected with this proposal? If yes, explain.

Future activities include the final millsite grading and final reclamation of the tailings impoundment. The millsite will ultimately be released for unrestricted use.

---- 40 ICh. 197-11

8. List any environmental information you know about that has been prepared, or will be prepared, directly related to this proposal. 1) Final Environmental Impact Statement; Sherwood Uranium Project, Spokane Indian Reservation; August 19, 1976, 2) Design Criteria: Dravo Corporation, 1977, 3;

WNI Environmental Monitoring Reports: 1978 to present, 4) Environmental Assessment: Sherwood Uranium Project, Seevens Co., Washington, May 22, 1974 and February 5, 1975, 5) Sherwood MDP, dated April, 1992, 6) WNI, Sherwood Project, Tailings Impoundment Final Reclamation Plan (in progress).

9. Do you know whether applications are pending for governmental approvals of other proposals directly affecting the property covered by your proposal? If yes, explain,

No.

10. List any government approvals or permits that will be needed for your proposal, if known.

All necessary approvals and permits are in place and in effect.

11. Give brief, complete description of your proposal, including the proposed uses and the size of the project a There are several questions later in this checklist that ask you to describe certain aspects of your proposal. You do not need to repeat those answers on this page. (Lead agencies may modify this form to include additional specific infor mation on project description.)

Decommissioning the Sherwood Project uranium mill facility will occur as described i che previously cited Sherwood MDP, dated April, 1992. This proposal describes: 1) equipment salvage; 2) mill dismantling/sequencing; 3) millsite clean-up; 4) mill debris burial site construction; 5) debris burial; and 6) final cover placement. The millsite will ultimately be released for unrestricted use.

12. Location of the proposal. Give sufficient information for a person to understand the precise location of your pr posed project, including a street address, if any, and section, township, and range, if known. If a proposal would occ over a range of area, provide the range or boundaries of the site(s). Provide a legal description, site plan, vicinity ma and topographic map, if reasonably available. While you should submit any plans required by the agency, you are r required to duplicate maps or detailed plans submitted with any permit applications related to this checklist.

The Sherwood Project uranium mill and tailings impoundment are located ent within the bounds of the Spokane Indian Reservation. Access is portrayed in the FEIS, figure 2-20. The legal description is: Sections 1 and 2, Township 27 North, Range 37 East and Sections 35 and 36, Township 28 North, Range 36 East. Precise location and millsite layout are presented in Figure 1 of the Sherwood MDP, April, 1992. The local mailing address is: Elijah Road, Wellpinit, Stevens County, Washington.

TO BE COMPLETED BY APPLICANT

EVALUATION I AGENCY USE OF

lite

B. ENVIRONMENTAL ELEMENTS

1. Earth

a. General description of the site (circle one): Flat, rolling (hilly, steep slopes, mountainous, other ____

b. What is the steepest slope on the site (approximate percent slope)? 30%

TO BE COMPLETED BY APPLICANT

EVALUATION FOR AGENCY USE OWLY

c. What general types of soils are found on the site (for example, clay, sand, gravel, pest, muck)? If you know the classification of agricultural soils, specify them and note any prime farmland.

Soils are primarily sandy and of weathered granitic origin. For a detailed description, see FEIS section 2.1.2.6 and Appendix D.

d. Are there surface indications or history of unstable soils in the immediate vicinity? If so, describe.

No.

e. Describe the purpose, type, and approximate quantities of any filling or grading proposed. Indicate source of Fill.

Containment dike construction, mill debris burial and millsies regrading are estimated to total 100,000 cubic yards. Materials will be taken from clean stockpile areas of sand and/or clay.

f. Could prosion occur as a result of clearing, construction, or use? If so, generally describe.

Minimal local erosion from meteoric events including snowmelt could occur duing the dismantling sequence. However, a final grading design will re-establish erosion protectic that minimizes the need for further human input.

g. About what percent of the site will be covered with impervious surfaces after project construction (for example, asphalt or buildings)? One hundred percent (100%) of the mill buris area will have an impervious cover.

h. Proposed measures to reduce or control erosion, or other impacts to the earth, if any:

Drainage design criteria are incorporated into the final closure plan. Operational activities include preventative road and surface maintenance as required.

2. Air

**. 993

n. What types of emissions to the air would result from the proposal (i.e., dust, automobile, odors, industrial wood smoke) during construction and when the project is completed? If any, generally describe and give approximate quantities if known.

The primary emissions during mill dismantling are radionuclides of the uranium decay chain including natural uranium, radium-226, thorium-230, lead-210 and radon-222. (See: FEIS section 3.3 and WNI Environmental Monitoring Reports, 1978 to present.) Following mill dismantling and site reclamation, emissions are anticipated to (cont'd b. Are there any off-site sources of emissions or odor that may affect you, proposal? If so. generally describe. No.

comply with the requirements of WAC 246-252-030 Criterion 6. c. Proposed measures to reduce or control emissions or other impacts to air, if any:

Emissions are kept to a minimum by operational practices including the use of water for dust control at dismantling areas, debris burial sites and roadways.

---- 421 ICA 197-11

Part Eleren-197-11-960

EVALUATION FOR

AGENCY USE ONLY

TO BE COMPLETED BY APPLICANT

3. Water

a. Surface:

1) is there any surface water body on or in the immediate vicinity of the site (including year-round and seasonal streams, saltwater, lakes, ponds, wetlands)? If yes, describe type and provide names. If appropriate, state what stream or river it flows into.

The Spokane River arm of Lake Roosevelt lies along the southwest border of the lease boundary (see FEIS figure 1-1).

2) Will the project require any work over, in, or adjacent to (within 200 feet) the described waters? If yes, please describe and attach available plans.

No, however, project water supplies are provided by the WNI pumping stations located along Lake Roosevelt.

3) Estimate the amount of fill and dredge material that would be placed in or removed from surface water or wetlands and indicate the area of the site that would be affected. Indicate the source of fill material.

None.

4) Will the proposal require serface water withdrawals or diversions? Give general description, purpose, and approximate quantities if known.

Project water supplies are obtained from Lake Roosevelt and permitted appropriately. There are no other surface water diversions or withdrawals.

5) Does the proposal lie within a 100-year floodplain? If so, note location on the site plan.

No.

6) Does the proposal involve any discharges of waste materials to surface waters? If so, describe the type of waste and anticipated volume of discharge.

50.

b. Ground:

1) Will ground water be withdrawn, or will water be discharged to ground water? Give general description, purpose, and approximate quantities if known.

No.

2) Describe waste material that will be discharged into the ground from septic tanks or other sources, if any (for example: Domestic sewage; industrial, containing the following chemicals . . .: agricultural; etc.). Describe the general size of the system, the number of such systems, the number of houses to be served (if applicable), or the number of animals or humans the system(s) are expected to serve.

A sewage treatment plant for domestic sewage is in place and was designed to serve a maximum of approximately 300 persons.

> - 43 ICh. 197-11

EVALUATION FOR AGENCY USE ONLY

c. Water Runoff (including storm water):

1) Describe the source of runoff (including storm water) and method of collection and disposal, if any (include quantities, if known). Where will this water flow? Will this water flow into other waters? If so, describe.

Decommissioning washdown waters will be collected and directed into the closed tailings system. Runoff from meteoric events within specific dismantling areas will be similarly collected and directed through existing pumping systems to the closed tailings system. Collection and pumping systems will be dismantled last in the decommissioning sequence. 2) Could waste materials enter ground or surface waters? If so, generally describe.

The dismantling process will include sufficient erosion protection and drainage control, including collection, to minimize the surface infiltration of runoff waters. Operational procedures and sequence will be utilized to enhance groundwater protection.

d. Proposed measures to reduce or control surface, ground, and runoff water impacts, if

Adherence to and compliance with the inspectional requirements of US NRC Regulatory any: Guide 3.11.1 and a groundwater monitoring program serve to reduce and control potential occurrances or impacts.

4. Plants

a. Check or circle types of vegetation found on the site:

- X deciduous tree: alder, maple, aspen, other
- X evergreen treu: fir, cedar, pine, other
- X shrubs
- X grass
- ___ pasture
- --- crop or grain

wet soil plants: cattail, buttercup, bullrush, skunk cabbage, other

- water plants: water lily, eelgrass, milfoil, other
- other types of vegetation
- b. What kind and amount of vegetation will be removed or altered?

It is anticipated that a maximum of 10 acres of ponderosa pin/bitterbrush habitat type

will require removal. c. List threatened or endangered species known to be on or near the site.

None .

d. Proposed landscaping, use of native plants, or other measures to preserve or enhance vegetation on the site, if any:

Final decommissioning and reclamation proposals for the site include revegetation with native species or acceptable substitutes.

5. Animals

a. Circle any birds and animals which have been observed on or near the site or are known to be on or near the site:

birds: hawk beron cagle songbirds other: Migratory waterfowl, upland gamebirds, shorebirds mammals: deer, bear, elk, beaver, other: . moose, . bobcat, . coyote fish: bass, salmon trout, herring, shellfish, other.

b. List any threatened or endangered species known to be on or near the site.

None.

10. 197-11 --- 64

"

EVALUATION FOR

PART PRICE

TO BE COMPLETED BY APPLICANT

 \mathbb{Z}^{1}

.

•

The site experiences limited use as a stopover for migratory waterfowl, shorebirds, c. Is the site part of a migration route? If so, explain. d. Proposed measures to preserve or enhance wildlife, if any: None . a. What kinds of energy (electric, natural gas, oil, wood stove, solar) will be used to meet the completed project's energy needs? Describe whether it will be used for heating, manu-Energy needs are met by electricity and fuel for equipment. facturing, etc. b. Would your project affect the potential use of solar energy by adjucent properties? If so. generally describe. c. What kinds of energy conservation features are included in the plans of this proposal? List other proposed measures to reduce or control energy impacts, if any: Decommissioning of the Sherwood Project uranium mill will reduce the area electrical demand t eliminating the power needs for the mill and mill equipment. a. Are there any environmental health hazards, including exposure to toxic chemicals, risk of fire and explosion, spill, or hazardous waste, that could occur as a result of this proposal? 33 Normal decommissioning activities an operations create the potential for exposures to reagents (acids, solvents, organics, amines), petroleum products (gasoline, fuel oils lubricants) and radioactive materials. Procedures and training programs are incor-If so, describe. porated into the Sherwood MDP to reduce the potential for exposure(s). EMT services will be available onsite, ground ambulance service is available from Wellpinit, airborne medical evacuation service is available from Spokane and the Stevens County Public Assi ance Offices or available in Colville, Washington. An active safety program assures compliance with applicable regulations as specified by DOH, US DOT and US NRC. 1) What types of noise exist in the area which may affect your project (for example: b. Noise traffic, equipment, operation, other)? 2) What types and levels of noise would be created by or associated with the project on a short-term or a long-term basis (for example: traffic, construction, operation, other)? Indi-Heavy equipment and dismantling activities will occur during daylight hours during cate what hours noise would come from the site. a normal work week. Localized traffic accessing the site will increase during an anticipated six (6) month dismantling project.

EVALUATION FOR AGENCY USE ONLY

3) Proposed measures to reduce or control spise impacts, if any:

None.

8. Land and Shoreline Use

a. What is the current use of the site and adjacent properties?

Site access is controlled via fencing, posting and security. Activity and use of the site for other than that specified for business purposes is thus controlled. Adjacent lands support livestock grazing, wildlife habitat and timber production. Lake Roosevel b. Has the site been used for agriculture? If so, describe. supports active recreation.

Livestock grazing and limited timber production occurred on the site prior to Western Nuclear, Inc. development.

c. Describe any structures on the site.

Metal buildings.

d. Will any structures be demolished? If so, what?

Buildings that cannot be released for unrestricted use will be dismantled, emplaced in an approved burial area and covered appropriately.

e. What is the current zoning classification of the site?

Not applicable.

f. What is the current comprehensive plan designation of the site?

Millsite lands and associated buildings released for unrestricted use will be transferred to the Spokane Tribe of Indians.

g. If applicable, what is the current shoreline master program designation of the site?

Not applicable.

h. Has any part of the site been classified as an 'environmentally sensitive' area? If so, specify.

No.

i. Approximately how many people would reside or work in the completed project?

None .

j. Approximately how many people would the completed project displace?

Nane

k. Proposed measures to avoid or reduce displacement impacts, if any:

None.

1. Proposed measures to ensure the proposal is compatible with existing and projected land uses and plans, if any:

Final decommissioning plans will release the project site to unrestricted usage. The reclaimed tailings impoundment area will retain access restrictions indefinitely

ICh. 197-11

EVALUATION FOR AGENCY USE ONLY

TO BE COMPLETED BY APPLICANT

9. Housing

a. Approximately how many units would be provided, if any? Indicate whether high, middle, or low-income housing.

b. Approximately how many units, if any, would be eliminated? Indicate whether high. middle, or low-income housing.

None.

c. Proposed measures to reduce or contre dousing impacts, if any:

None.

10. Aesthetics

a. What is the tallest height of any proposed structure(s), not including antennas; what is the principal exterior building material(s) proposed? An 80 foot tall lime storage silo will remain. All remaining buildings, released

b. What views in the immediate vicinity would be altered or obstructed?

None.

c. Proposed measures to reduce or control aesthetic impacts, if any:

A thorough site clean-up and adjacent surface reclamation will improve the site aesthetics.

11. Light and Glare

a. What type of light or glare will the proposal produce? What time of day would it mainly occur?

None.

b. Could light or glare from the finished project be a safety hazard or interfere with views? No.

c. What existing off-site sources of-light or glare may affect your proposal?

d. Proposed measures to reduce or control light and glare impacts, if any:

None.

12. Recreation

a. What designated and informal recreational opportunities are in the immediate vicinity?

Fishing and boating activities occur on Lake Roosevelt facilitated by the Grand Coulee Recreation Area and Porcupine Bay Park directly across the lake from the site. Hunting on adjacent lands is done only by Spokane Tribal members.

b. Would the proposed project displace any existing recreational uses? If so, describe.

No.

EVALUATION FOR AGENCY USE ONLY

c. Proposed measures to reduce or control impacts on recreation, including recreation opportunities to be provided by the project or applicant, if any: None.

13. Historic and Cultural Preservation

a. Are there any places or objects listed on, or proposed for, national, state, or local preservation registers known to be on or next to the site? If so, generally describe.

No.

b. Generally describe any landmarks or evidence of historic, archaeological, scientific, or cultural importance known to be on or next to the site.

No.

c. Proposed measures to reduce or control impacts, if any:

None.

14. Transportation

a. Identify public streets and highways serving the site, and describe proposed access to the existing street system. Show on site plans, if any.

Access is an in-place improvement. Refer to FEIS section 2.3.3.3 and Figure 2-20.

b. Is site currently served by public transit? If not, what is the approximate distance to the nearest transit stop?

No, the nearest transit stop is approxiamtely 40 miles away. c. How many parking spaces would the completed project have? How many would the project eliminate?

Not applicable.

d. Will the proposal require any new roads or streets, or improvements to existing roads or streets, not including driveways? If so, generally describe (indicate whether public or private).

No.

÷

2

e. Will the project use (or occur in the immediate vicinity of) water, rail, or air transportation? If so, generally describe.

No.

f. How many vehicular trips per day would be generated by the completed project? If known, indicate when peak volumes would occur.

Not applicable

EV LUATION FOR

AGENCY USE ONLY

TO BE COMPLETED BY APPLICANT

g. Proposed measures to reduce or control transportation impacts, if any: None.

15. Public Services

a. Would the project result in an increased need for public services (for example: fire protection, police protection, health care, schools, other)? If so, generally describe.

No.

b. Proposed measures to reduce or control direct impacts on public services, if any.

None.

16. Utilities

a. Circle utilities currently available at the site: electricity, natural gas, water, refuse service, telephone, sanitary sewer, septic system, othe ...

b. Describe the utilities that are proposed for the project, the utility providing the service. and the general construction activities on the site or in the immediate vicinity which might be needed.

All utility needs are in-place; Washington Water Power Company provides electrical service and all other needs are provided by Western Nuclear, Inc.

C. SIGNATURE

1

The above answers are true and complete to the best of my knowledge. I understand that the lead agency is relying on them to make its decision.

-: alleste Signature: Ann Date Submitted: