0016

State of Utah
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS AND MINING

Michael O. Leavitt
Governor
Kathleen Clarke
Executive Director
Lowell P. Braxton
Division Director

1594 West North Temple, Suite 1210
PO Box 145801
Salt Lake City, Utah 84114-5801
801-538-5340
801-359-3940 (Fax)
801-538-7223 (TDD)

June 9, 2000

TO: Internal File

THRU: Robert Davidson, Project Team Lead RAD

FROM: Paul Baker, Reclamation Biologist PAB

RE: Wild Horse Ridge Significant Revision, Co-Op Mining Company, Bear Canyon Mine, ACT/015/025-SR98-1(3)

SUMMARY:

Co-Op Mining Company is proposing to add an area on the east side of the Bear Canyon Fault to its permit area. The proposal includes new surface facilities in the right fork of Bear Canyon.

TECHNICAL ANALYSIS:

ADMINISTRATIVE INFORMATION

OWNERSHIP AND CONTROL

Regulatory Reference: R645-301-112

Analysis:

Chapter 1 of the mining and reclamation plan is an introduction describing where information is located in the plan, and proposed changes are minor and general in nature.

Ownership and control information is in Chapter 2. The applicant is Co-Op Mining Company, and the mining and reclamation plan includes Co-Op's address, telephone number, resident agent, and employer identification number. The application also shows the officers and

directors of CW Mining Company, a corporation which is doing business as Co-Op Mining Company. Thus, these people are, in effect, the officers and directors of Co-Op Mining Company. CW Mining Company will pay the abandoned mine reclamation fee.

Table 2-1 shows property ownership in and contiguous to the current and proposed addition to the permit area. This information and the legal description in Section 2.2.2 correspond with the information on Plates 2-1 and 2-2 and appear to be correct.

The current plan includes MSHA numbers for the Bear Canyon No. 1 and No. 2 Mines, and the application shows an MSHA number for the proposed facilities the Bear Canyon No. 3 Mine. The MSHA number for the Bear Canyon No. 4 Mine will be included during phase II of Wild Horse Ridge permitting (not yet proposed).

Findings:

Information provided in the proposal is adequate to meet the requirements of this section of the regulations.

VIOLATION INFORMATION

Regulatory Reference: R645-301-113

Analysis:

Appendix 2-A of the current mining and reclamation plan has a list of notices of violation and other enforcement actions taken by the Division, the Office of Surface Mining, and the Division of Air Quality. The applicant has received no violation notices in the past three years.

The plan says neither the applicant nor any subsidiary, affiliate, or persons controlled by or under common control with the applicant has had a federal or state permit to conduct coal mining and reclamation operations suspended or revoked in the five years preceding the date of submission of the application; or forfeited a performance bond or similar security deposited in lieu of bond.

Findings:

Information provided in the proposal is adequate to meet the requirements of this section of the regulations.

RIGHT OF ENTRY

Regulatory Reference: R645-301-114

Analysis:

The application includes copies of the leases for the areas proposed to be added to the permit area, and the legal descriptions in these leases match the areas shown on the permit area maps and in Section 2.2.2. It appears the applicant has the required right of entry.

Findings:

Information provided in the proposal is adequate to meet the requirements of this section of the regulations.

UNSUITABILITY CLAIMS

Regulatory Reference: R645-301-115

Analysis:

The proposed operations will not be within 100 feet of a public road or within 300 feet of an occupied dwelling. The existing mine is within 300 feet of occupied dwellings, but the plan contains approval letters from the owners and renters of these buildings.

According to the current mining and reclamation plan, no portion of the area to be permitted is within an area designated as unsuitable for mining, and it has several paragraphs, some of which were revised for this submittal, describing why it should not be considered unsuitable. The Division is unaware of any study or petition for designation as unsuitable.

Findings:

Information provided in the proposal is adequate to meet the requirements of this section of the regulations.

PERMIT TERM, INSURANCE, PROOF OF PUBLICATION, AND FACILITIES OR STRUCTURES USED IN COMMON

Regulatory Reference: R645-301-116, R645-301-117

Analysis:

Most of this information has not been changed. The projected termination date for mining operations was changed from 2007 to 2023.

The Division has on file a copy of the applicant's insurance policy, and it meets regulatory requirements.

The application includes a copy of the proof of publication. The advertisements ran from December 7 through December 28, 1999, in *The Salt Lake Tribune*, the *Deseret New*, and the *Emery County Progress*.

No facilities would be used in common with any other permitted operation.

Findings:

Information provided in the proposal is adequate to meet the requirements of this section of the regulations.

ENVIRONMENTAL RESOURCE INFORMATION

HISTORIC AND ARCHAEOLOGICAL RESOURCE INFORMATION

Regulatory Reference: R645-301-411.140

Analysis:

The current mining and reclamation plan contains information about one cultural resource site, the Bear Creek Shelter, in the area of the lower part of the conveyor. The application contains a report discussing the significance of this site and also showing results of a survey of the entire area proposed to be disturbed. No other sites were found. The Bear Creek Shelter is considered eligible for listing in the National Register of Historic Places.

The application discusses a cultural resources report done by Kenneth Juell of the University of Utah Archeological Center. The applicant was not able to find a copy of this report but did find reference to it in another mine plan. According to the application, the survey was done in the Wild Horse Ridge area and included drill sites and access roads on ridges and in the canyon. It is understood no significant archaeological sites were found, but this report is available from the Archaeological Center and should be included in the application. The Division would like to confirm the results and know exactly which areas were surveyed.

Findings:

Information in the application is not adequate to meet the requirements of this section of the regulations. Prior to approval, the applicant must supply the following in accordance with:

R645-301-411.140, The application needs to contain all available information about cultural resources in the area, but it does not include information about areas that would be undermined although it appears this information exists.

VEGETATION INFORMATION

Regulatory Reference: R645-301-321

Analysis:

Appendix 9-G is a report on the vegetation of the area that would be disturbed. It includes quantitative measurements of vegetative cover and woody plant density in the proposed disturbed area and a reference area. It also contains measurements of vegetation productivity.

The proposed disturbed area has a variety of vegetation communities because there is a variety of aspects and soils over the length of the proposed conveyor and road. Except for the facilities area, disturbances would be fairly narrow and small in each community, so the 1different communities were not sampled separately. This did not, however, lead to a large sample size.

The vegetation communities in the proposed disturbed area include varying amounts of riparian, Salina wild rye, pinyon/juniper, Ponderosa pine, mountain brush, and sagebrush/grass. Dominant species were Salina wild rye, needle and thread grass, Utah juniper, and smooth brome, but several other species were also present. Vegetative cover was 42.50%, and woody plant density was 1010 per acre.

The reference area was chosen to be transitional between the lower drainage area and the pinyon/juniper/grass areas on the upper slopes. Dominant species were Salina wild rye, corymbed buckwheat, rubber rabbitbrush, Kentucky bluegrass, and hoary aster. While the proposed disturbed area was strongly dominated by grasses, the proposed reference area had cover more balanced between grasses and shrubs. Vegetative cover was 46.25%, and woody plant density was 1405 per acre.

Productivity in the area proposed to be disturbed was 125.31 pounds per acre for herbaceous species and 122.37 pounds per acre for woody species for a total of 247.68 pounds per acre. Vegetation productivity in the reference area was 286.17 pounds per acre for

herbaceous species and 310.15 pounds per acre for woody species for a total of 596.32 pounds per acre. Obviously, productivity in the reference area was much greater than in the proposed disturbed area. This is acceptable because the success standard would be higher than what currently exists, and the consultant who wrote the report argues that the reference area continues to be an appropriate standard.

Findings:

Information in the proposal is adequate to meet the requirements of this section of the regulations.

FISH AND WILDLIFE INFORMATION

Regulatory Reference: R645-301-322

Analysis:

Threatened and Endangered Species

This discussion concerns threatened and endangered plant species that may occur in Emery county. There are also threatened and endangered animal species in the area, but this memorandum does not consider these. Every species in the following group grows at lower elevations, in different plant communities, and in different formations than those found in the proposed addition to the permit area.

Barneby reed-mustard (*Schoencrambe barnebyi*) grows at elevations of about 5600 to 5700 feet on the Chinle formation. The proposed addition to the permit area is at a higher elevation, and it does not contain the Chinle formation. Therefore, the area is not considered habitat for this species.

The reported elevation range for Jones cycladenia (*Cycladenia humilis* Var. *jonesii*) is also lower than the proposed addition, and it grows in sandy gypsiferous soils derived from the Cutler, Summerville, and Chinle formations. These formations are not found in the area.

Last chance Townsendia (*Townsendia aprica*) grows in salt desert shrub and pinyon-juniper communities on clay or clay-silt exposures of the Mancos Shale. The proposed addition to the permit area does not contain habitat for this species.

The Maguire daisy (*Erigeron maguirei*) has only been found in a few places in the San Rafael Swell and in Capitol Reef National Park in canyon bottoms in the Wingate and Navajo Sandstone formations. There is essentially no possibility this species could occur in the proposed addition to the permit area.

Three cactus species are included on the Fish and Wildlife Service list of threatened and endangered species in Emery County. The San Rafael cactus or Despain footcactus (*Pediocactus despainii*) is very difficult to find and grows in open pinyon/juniper communities in and on the edges of the San Rafael Swell. The Wright fishhook cactus (*Sclerocactus wrightiae*) grows in salt desert shrub and shrub/grass to juniper communities in soil derived from Mancos Shale and other formations. The Winkler cactus (*Pediocactus winkleri*) is a tiny plant that grows in salt desert shrub communities. The proposed addition to the permit contains no habitat for any of these species.

Findings:

Information in the application is adequate to meet the requirements of this section of the regulations.

LAND USE RESOURCE INFORMATION

Regulatory Reference: R645-301-411

Analysis:

According to information in the application and the current mining and reclamation plan, the current permit area and the proposed addition are zoned by Emery County as Mining and Grazing and Critical Environmental. The land is used for mining, cattle grazing, timber, recreation, and wildlife. Parts of the area are included in a Private [Posted] Hunting Unit, and the access road to the Wild Horse Ridge surface facilities also provides access to a hunting cabin. This road will be maintained during the mining operations.

The application discusses previous mining activity in the area. Various entities have operated mines in the area since 1885.

The application says there are no public parks, cemeteries, or units of the Wild and Scenic Rivers system or the National System of Trails.

Findings:

Information in the application is adequate to meet the requirements of this section of the regulations.

OPERATION PLAN

PROTECTION OF PUBLIC PARKS AND HISTORIC PLACES

Regulatory Reference: R645-301-140

Analysis:

The Bear Creek Shelter is the only known cultural resource in the proposed addition to the permit area that is eligible for listing in the National Register of Historic Places. This site is not within the proposed disturbed area. In the lower part of the canyon where this shelter is, the conveyor is on the other side of a ridge and the road is on the other side of the canyon. For these reasons, there is little likelihood for accidental disturbance.

The Division has received a letter from the State Historic Preservation Office concurring with the Division's determination that no historic properties would be affected based on avoidance of the Bear Creek Shelter.

Findings:

Information in the proposal is adequate to meet the requirements of this section of the regulations.

AIR QUALITY

Regulatory Reference: R645-301-420

Analysis:

The regulations require the applicant to show its coordination efforts with the Division of Air Quality, and the application contains copies of the Notice of Intent and of Air Quality's Intent to Approve. Therefore, the application contains information required in R645-301-420, but, before beginning operations, the applicant will need to obtain final approval from Air Quality.

Findings:

Information in the application is adequate to meet the requirements of this section of the regulations. However, before beginning construction, the applicant will need to obtain final approval for the Air Quality Approval Order.

INTERIM REVEGETATION

Regulatory Reference: R645-301-331, R645-301-332

Analysis:

The current mining and reclamation plan says the applicant has maintained a commitment to reclaim the unused disturbed areas to the extent of the cover of the natural vegetation on the mine plan area, and Appendix 3G includes a plan for interim revegetation. The seed mixture in Table 3G-1 would be drilled or broadcast seeded followed by application of 1500-2000 pounds per acre of wood fiber hydromulch with a tackifier added. All but one of the species in the seed mix are native to the area, they are all adapted to the site, and they should provide god erosion protection.

In addition, the applicant commits to monitor interim revegetation sites for five years or until vegetation standards are met. Reseeding would be done if necessary.

Findings:

Information provided in the proposal is adequate to meet the requirements of this section of the regulations.

RECLAMATION PLAN

POSTMINING LAND USE

Regulatory Reference: R645-301-112

Analysis:

The applicant has proposed no changes to the postmining land use, and information in the current mining and reclamation plan is considered adequate.

Findings:

Information in the application is adequate to meet the requirements of this section of the regulations.

REVEGETATION PLAN

Regulatory Reference: R645-301-341

Analysis:

Revegetation Methods

Table 9.5-1 of the current mining and reclamation plan is a revegetation schedule. According to this schedule, seeding would be done in October and November with seedlings planted in March and April of the subsequent year. While this schedule is adequate, other operators in the area have had good success planting containerized seedlings in the fall. Bareroot plants or cuttings should be planted in the spring.

Chapters 3 and 8 discuss surface preparation. As backfilling and grading are completed, operational areas will be scarified by gouging about eight inches deep with a trackhoe. All areas will be gouged to increase surface roughness.

Following surface preparation, the site would be hydroseeded or otherwise broadcast seeded. All hydroseeded or hand seeded areas will be raked lightly to ensure adequate seed-soil contact. On slopes steeper than 2h:1v, one-half of the seed will be applied, the area will be raked, then the rest of the seed will be applied.

The applicant has added canyon sweetvetch to the seed mix. This species will be planted on the topsoil pile. The applicant will obtain seed for final reclamation by harvesting seed from the topsoil pile and from nearby undisturbed areas.

The applicant has proposed to reduce the number of rose seedlings, and this reduction is acceptable. Willow will be cut from a source area in close proximity to the mine site and planted in the reclaimed area. In areas of suitable habitat, willows will be planted with at least one cutting every foot. Other operators have needed to come back after a few years to supplement willow plantings, and it may be necessary for the applicant to do this. It is common that sediment builds up over a few year in a riprapped channel, and these areas with sediment accumulation become good places to plant willows.

The plan gives detailed descriptions of how seedlings would be handled and planted and about the quality of seed that would be used. Following these commitments should help ensure successful revegetation.

A minimum of 120 pounds per acre of wood fiber hydromulch will be used when hydroseeding. It is a standard practice to add some hydromulch when hydroseeding, but adding all the mulch when seeding reduces seed contact with the soil.

According to Section 9.5.3.2, all broadcast seeded areas with slopes flatter than 2h:1v will be hydromulched and fertilized. Those slopes exceeding 3h:1v will be mulched with 2000 to 2500 pounds per acre of wood fiber hydromulch and varying amounts of tackifier depending on the slope. Erosion control matting will be used on slopes steeper than 2h:1v.

This section of the application is confusing and needs to be clarified. Slopes "exceeding" 3h:1v would be hydromulched, and it is assumed this means "steeper than" 3h:1v. If so, slopes steeper than 2h:1v would have both erosion control matting and hydromulch. This section also says areas that are drill seeded would be mulched with straw or hay, but the section on seeding says the entire area will be broadcast seeded.

Section 9.5.5.1 contains a list of noxious weeds, and this list has been updated.

The current mining and reclamation plan includes a revegetation monitoring schedule. The performance standards in R645-301-356 require that for lands with a postmining land use of wildlife habitat, at least 80% of woody plants must have been in place for at least 60% of the extended responsibility period, and no trees or shrubs in place for less than two years may be counted toward the success standard. To show this standard has been met, it would be necessary to monitor for woody plant density in the fourth and eighth years after reclamation, and the monitoring schedule in the plan does not show monitoring would be done in these years. This is not considered a deficiency since the regulations do not require a monitoring schedule.

The revegetation methods in the application should provide vegetation that complies with the requirements of R645-301-342 for wildlife habitat and with the performance standards in R645-301-353 and R645-301-356. The Division considers that revegetation is feasible at this site.

Standards for Success

The proposed reference area had more vegetative cover than the proposed disturbed area, but the difference was not significant. The reference area had significantly more woody plants than the proposed disturbed area, but this is not critical because the success standard is a technical standard established in consultation between the Division and Wildlife Resources (see below). While there are some differences in species composition between the reference area and proposed disturbed area, the reference area is similar enough that it is considered an acceptable standard.

The reference area had 1405 woody plants per acre, and the proposed disturbed area had 1010. Considering the plant communities and the topography, 1010 is considered an attainable and acceptable standard for success for woody plant density, and the applicant has included the standard in the application.

Findings:

Information in the application is not adequate to meet the requirements of this section of the regulations. Prior to final approval, the applicant must supply the following in accordance with:

R645-301-341, The section of the application discussing mulching methods needs to be clarified.

RECOMMENDATIONS:

The application should not be approved until the applicant has addressed the deficiencies in this memorandum.

sm
O:\015025.BCN\FINAL\pbbsr98-1(3)whr.wpd