



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

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March 30, 2001

TO: [REDACTED]

FROM: Paul B. Baker, Reclamation Biologist and Team Lead *PBB*

RE: Wild Horse Ridge Significant Revision, Co-Op Mining Company, Bear Canyon Mine, [REDACTED] SR98(1)-4

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:

GENERAL CONTENTS

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.

TECHNICAL MEMO

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.

TECHNICAL MEMO

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 contains a copy of a cultural resources report done by Kenneth Juell of the University of Utah Archeological Center. Part of the survey was done in the Wild Horse Ridge area and included four drill sites and associated access roads, mainly on Wild Horse Ridge. No cultural resource sites were found. According to this report, no other sites had previously been found in the area.

Findings:

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

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 1 different 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.

TECHNICAL MEMO

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 a copy of the Air Quality Approval Order.

Findings:

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

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 good 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.

TECHNICAL MEMO

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. Willows 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.

Following seeding, all areas with slopes flatter than 2h:1v will hydromulched and fertilized. Slopes steeper than 2h:1v will be mulched with erosion control matting.

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.

TECHNICAL MEMO

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 adequate to meet the requirements of this section of the regulations.

RECOMMENDATIONS:

The reviewed sections of the application meet regulatory requirements and can be approved.