



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

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TO: Internal File

THRU: Sharon Falvey, Project Team Lead *SKF*

FROM: Paul Baker, Reclamation Biologist *PKB*

RE: Wild Horse Ridge Significant Revision, Co-Op Mining Company, Bear Canyon Mine, ACT/015/025-SR99(4)
SR981

SUMMARY:

CW Mining 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.

The proposed disturbed area is within critical big game winter range and is near two golden eagle nests, so the applicant needs to show how wildlife habitat will be protected and enhanced. Several other less serious problems need to be addressed before the proposal is approved.

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 officers and directors. Neither the plan nor the application says who will pay the abandoned mine reclamation fee or gives the applicant's employer identification number. Also, the plan does not say whether the applicant is a corporation, partnership, single proprietorship, association, or other business entity.

Although the plan shows the names and addresses of company officials, it does not say what positions these officials hold or when they assumed these positions as required in R645-301-112.330.

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; however, the applicant needs to update the acreage figure shown at the end of Section 2.2.2.

The current plan includes MSHA numbers for the Bear Canyon No. 1 and No. 2 Mines, but the application does not show an MSHA number for the proposed facilities. Instead, it says the number will be included in the application when it becomes available.

Findings:

Information provided in the proposal 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:

R645-301-112.100, The application needs to contain a statement whether the applicant is a corporation, partnership, single proprietorship, association, or other business entity.

R645-301-112.210, The application needs to include the applicant's employer identification number.

R645-301-112.230, The application needs to show who will pay the abandoned mine reclamation fee.

R645-301-112.330, Company officials are identified in the current mining and reclamation plan, but the plan does not show what positions these people hold or when they assumed these positions.

R645-301-112.500, The legal description at the end of Section 2.2.2 needs to be updated.

R645-301-112.700, As soon as MSHA numbers become available, they need to be included in the application.

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 Division requires violation information to be updated for significant revisions, so the applicant needs to supply information on enforcement actions taken in the past three years.

The plan is required to contain a statement of whether the applicant or 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. This information is not in the plan. If either of these situations applies, the application must include explanatory information.

Findings:

Information provided in the proposal 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:

R645-301-113.100, The application needs to contain a statement of whether the applicant or 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. If either of these situations applies, the application needs to contain certain explanatory information.

R645-301-113.300, The applicant needs to update violation information.

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 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 applicant needs to supply a copy of the proof of publication.

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

Findings:

Information provided in the proposal 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:

R645-301-117.200, The applicant needs to supply a copy of the proof of publication for insertion in the application.

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.

Section 5.2.1 of the application contains a statement that there are no sites within the permit area that would be considered candidates for the National Register of Historic Places. This statement needs to be modified since the Bear Creek Shelter is considered eligible for listing.

The application contains no cultural resources information about areas in federal leases U-38727 and U-20668 that would be added to the permit area although it appears this information exists. A thorough survey of the area is probably not necessary, but the application is required to contain all available information about cultural resources in the area. It is understood based on a conversation with the applicant's representative that some survey work has been done in this area, and this information should be included in the application.

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, Section 5.2.1 of the application contains a statement that there are no sites within the permit area that would be considered candidates for the National Register of Historic Places. This statement needs to be modified since the Bear Creek Shelter is considered eligible for listing.

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. The application needs to contain vegetation productivity information.

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 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.

Findings:

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

R645-301-321, The application needs to contain vegetation productivity information.

FISH AND WILDLIFE RESOURCE INFORMATION

Regulatory Reference: R645-301-322

Analysis:

Wildlife Information

Plates 3-3 and 10-1 have been revised to include the proposed addition to the permit area. These maps show raptor nests and big game habitat. The entire proposed addition to the permit area is either critical elk or deer winter range. Several raptor nests are in the area including two within about 2000 feet of the proposed surface facilities.

The right fork of Bear Creek consistently has water in a few places, but it is not a fishery.

The Division has consulted with the Division of Wildlife Resources concerning the adequacy of wildlife information in the application and in the current mining and reclamation plan, and no additional information is needed at this time. The applicant should definitely plan to update raptor nesting information in the spring of 2000.

Threatened and Endangered Species

Most threatened or endangered species that could occur in Emery County occur at lower elevations than the mine and have no habitat in the proposed disturbed area. These are Barneby reed-mustard, Jones cycladenia, last chance Townsendia, Maguire daisy, Despain footcactus, Wright fishhook cactus, and the Winkler cactus. There have been no confirmed sightings of black-footed ferrets in Emery county in several years.

Bald eagles are common in the area during the winter and could occasionally fly through or roost in the proposed addition to the permit area. Mining would have negligible effects on these birds.

The proposed disturbed area does not contain habitat for the southwestern willow flycatcher, but it is not known whether suitable habitat exists in other parts of the proposed permit area addition. The proposed disturbed area has some willows and riparian vegetation, but it was not enough that it was encountered in vegetation cover samples or that it would provide habitat for southwestern willow flycatchers. Woody plant density measurements included coyote willow at a density of 25 per acre.

Canyon sweetvetch (*Hedysarum occidentale* Var. *canone*) is listed by Region 4 of the Forest Service as a sensitive species. This species has been found in the proposed disturbed area, and locations are documented in the vegetation report in Appendix 9-G.

Findings:

Information provided in the application is adequate to meet the requirements of this section of the regulations. Raptor nesting information should be updated in the spring of 2000.

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.

FISH AND WILDLIFE PROTECTION PLAN

Regulatory Reference: R645-301-333

Analysis:

Protection and Enhancement Plan

Subsidence is not likely to adversely affect critical big game habitat, but the disturbed areas would be lost during the life of the mine. The applicant is required to use the best technology currently available to protect and enhance wildlife habitat, and the application needs to show how adverse effects to big game would be mitigated.

The Division of Wildlife Resources commonly accepts mitigation at a ratio of three acres of enhanced habitat for each acre disturbed. A Wildlife Resources representative has visited the site and is considering ways the disturbance could be mitigated. Until they decide the best method, the applicant should commit to working closely with Wildlife Resources and the Division to plan and implement the best technology currently available.

Because the surface disturbance would be in critical winter range, construction should not be started in the winter months from about November 1 until April 15, and the application needs to contain a commitment to this effect.

The application needs to contain more design information about the conveyor. Conveyors can inhibit big game movements, and although deer and elk are known to cross under conveyors, they usually need at least three feet of clearance. The most common deer and elk movements in the winter are along ridges, but there is some movement through canyon bottoms and up and down the sides of canyons. The conveyor should be designed to not overly restrict these movements.

Except those discussed below, no other commitments are needed beyond those currently contained in the mining and reclamation plan.

Endangered and Threatened Species and Bald and Golden Eagles

On December 21, 1999, two Division representatives met with Chris Colt of the Division of Wildlife Resources and with the applicant's representative to discuss eagle nests in the area. It was decided nesting birds could be adversely affected if construction was begun during the nesting season and if any of the nearby nests was active. Therefore, construction should be started outside the nesting season, February 1-August 15, unless monitoring shows the nests are not active. If construction or mining has already begun when the nesting season starts, the birds would have the opportunity to judge whether they can accept the disturbance and nest or if they should go elsewhere.

The Fish and Wildlife Service recommended constructing two or three nearby alternate nests at least one-half mile from human disturbance areas. In a telephone conversation, a Wildlife Resources representative suggested a better alternative might be to do some habitat manipulation to increase the prey base, mainly jackrabbits and cottontail rabbits. This could be done in a degraded pinyon/juniper area and could be in conjunction with the mitigation for loss of big game habitat. A Fish and Wildlife Service representative agreed, again by telephone, that this would be an acceptable choice but suggested the applicant could do a combination of artificial nest sites and habitat manipulation. The applicant needs to commit to work with the Division of Wildlife Resources and the Division to develop and implement a plan.

The mine plan has been designed so no mining that would cause subsidence is planned for any areas under known raptor nests.

As discussed in the wildlife information section of this review, no proposed or listed threatened or endangered species is known to have habitat in the proposed addition to the permit area; however, the mine has potential, through water depletions, of adversely affecting four listed threatened and endangered fish species of the upper Colorado River drainage. The Fish and Wildlife Service requires mitigation when water depletions exceed 100 acre-feet annually. According to information in Section 3-3.6, the total estimated water requirements will be 0.05 cubic feet per second or 36.2 acre-feet annually. Therefore, no mitigation is required.

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:

R645-301-333, The applicant needs to show how it will use the best technology currently available to protect and enhance critical big game habitat in the proposed surface facilities area. The applicant should work with the Division of Wildlife Resources to devise a mitigation plan. For the present, a commitment to develop this plan and to implement it as soon as possible would be adequate.

R645-301-333, The application needs to contain more design information about the conveyor. The conveyor should be designed to not overly restrict movements of wintering deer and elk.

R645-301-333, Use of the raptor nests near the proposed surface facilities will probably be adversely affected during the operations. At least two options are available for mitigating this loss, and the applicant needs to commit to develop and implement a mitigation plan in cooperation with Wildlife Resources and the Division.

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; however, the plan does not show how this will be done. The revegetation plans in the mining and reclamation plan and in the application are designed for final reclamation. R645-301-331 requires that the application include a description of the measures taken to minimize surface erosion through prompt establishment and maintenance of vegetation for interim stabilization of disturbed areas. This may include part or all of the plan for final revegetation as described in R645-301-341.100 and R645-301-341.200.

Findings:

Information provided in the proposal 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:

R645-301-331, The application needs to contain a plan for interim stabilization of disturbed areas.

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.

Following surface preparation, the site would be drill seeded or hydroseeded. It might be necessary to hand broadcast seed in a few areas. All hydroseeded or hand seeded areas will be raked lightly to ensure adequate seed-soil contact.

Drill seeding tends to decrease surface roughness and to favor grasses over shrubs and broadleaf forbs. In addition, some seeds in the seed mixture might be buried too deeply. The Division recommends the applicant broadcast seed (hydroseed or hand broadcast) the entire area. Some species in the seed mix, such as sagebrush, yarrow, rabbitbrush, yarrow, and Pacific aster, need to be broadcast seeded or, minimally, drilled at a different depth than the other species. It is common to find a broadcast seeder attached to the back of a drill.

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 willow cuttings to be planted in riparian areas. The reduction in number of rose seedlings is acceptable, but the plan for establishing willows needs to be changed. Rather than committing to plant a certain number per acre, the applicant should commit to plant about one willow cutting per foot in suitable habitat, such as those areas with water near the surface and with soil. Reconstructed stream channels often have a great deal of rock, and it is difficult or impossible to plant cuttings in this kind of area. Other operators have had to wait a few years for the areas around rocks to silt in so there was something in which to place a cutting.

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 fiber 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.

All broadcast seeded areas with slopes steeper than 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. Drill seeded areas will be mulched with two tons per acre of certified noxious weed free alfalfa, straw, or grass hay, and this will either be incorporated into the top six inches of topsoil or crimped to anchor it to the surface.

Another effective mulching method that might be used is to apply alfalfa or grass hay followed by application of tackifier and wood fiber mulch at about 500 pounds per acre. The tackifier and wood fiber mulch tend to anchor hay better than crimping, but the methods in the

mining and reclamation plan are acceptable.

Section 9.5.5.1 contains a list of noxious weeds. It is not necessary to have this list in the plan, but if it is included, it should be updated. Several species have been added to the list.

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, with required modifications, 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.

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 this needs to be included 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 plan for planting willow cuttings needs to be modified. The applicant should plan to plant at least one cutting every foot in areas of suitable habitat.

R645-301-341, The applicant has proposed to drill seed most of the mine, and some species in the seed mix need to be either broadcast seeded or at least drilled at a different depth than the others. The application needs to be modified to show acceptable means of seeding small-seeded species. The Division recommends the applicant broad cast seed the entire area.

R645-301-341, Section 9.5.5.1 contains a list of noxious weeds. It is not necessary to have this list in the plan, but if it is included, it should be updated.

R645-301-341, The application needs to show the woody plant density success standard established by the Division in consultation with the Division of Wildlife Resources. For the Wild Horse Ridge area, this standard is 1010 trees and shrubs per acre.

RECOMMENDATIONS:

The Division should not approve the application until the deficiencies discussed in this memorandum have been adequately addressed.