0045

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

Michael O. Leavitt
Governor
Ted Stewart
Executive Director
James W. Carter
Division Director

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

March 24, 1997

TO: File

THRU: Joe Helfrich, Permit Supervisor

FROM: Susan White, Senior Reclamation Biologist

RE: Review of February 10, 1997 Submittal, Horizon Coal Corporation, Horizon Mine, ACT/007/020-97A, Folder #2, Carbon County, Utah

SUMMARY:

Permit revisions were received by the Division on February 10, 1997. The Condition to Permit Approval **R645-301-353** was not completed. A **hindrance violation** should be issued. Several other minor changes were made to the permit and have resulted in deficiencies. Sweets Pond and associated utilities have not been shown as within the permit area, therefore, no review of the pond in relation to Land Use was made. The amendment should not be approved.

TECHNICAL ANALYSIS:

ENVIRONMENTAL RESOURCE INFORMATION

Regulatory Reference: Pub. L 95-87 Sections 507(b), 508(a), and 516(b); 30 CFR Sec. 783., et. al.

HISTORIC AND ARCHEOLOGICAL RESOURCE INFORMATION

Regulatory Reference: 30 CFR Sec. 783.12; R645-301-411.

Analysis:

The proposed Horizon Mine site is the former site of the Consumers or Blue Blaze Mine. The Consumers Mine was developed in the 1920's. The community of Consumers

had a four-story apartment house, a store service station and a post office. The Consumers Mine closed in 1938 and was again opened at a later date. By 1952, all of the Gordon Creek mines had shut down. Numerous features still remain from the old mine as described in Appendix 5-1, pages 27 to 34. Most of these features will be removed during the construction of the Horizon Mine.

In 1985, Desert West Research designated the Consumers site 42Cb517 and listed it as a potential nominee to the National Historic Register. Since that time significant impacts have occurred to the site. The Permittees consultant, Baseline Data, Inc., concludes in its report (Appendix 5-1, page 37), that Title IV activities at the site have adversely impacted or removed major site features and have thus changed that determination of eligibility for nomination to the National Historic Register. Since other records such as maps, photos, and agency records provide information on the site, no mitigation should be required. In an October 24, 1995 letter to the Division and in a December 5, 1995 telephone conversation with Division representatives, State Historic Preservation Officer James Dykmann concurs with this determination that the proposed work will have no impact on historic properties.

Findings:

Information provided in Chapter 5 of the plan meets the requirements of this section.

VEGETATION RESOURCE INFORMATION

Regulatory Reference: 30 CFR Sec. 783.19; R645-301-320.

Analysis:

The Horizon permit area covers eight vegetative communities (page 9-2). The Oakbrush and Salina Wildrye communities combined make up over half the total acreage of the eight communities (Plate 9-1). The proposed new disturbance will be on areas that have been previously impacted by coal mining activities. Various degrees of mining-related impacts have occurred on the vegetation within the proposed disturbance. Therefore, the communities have been designated as: 1) slightly disturbed (altered) drainage bottoms; 2) moderately disturbed areas; 3) severely disturbed areas; and 4) wet meadow/riparian. Prior to disturbance, the drainages were probably dominated by sagebrush/grass/rabbitbrush communities with aspen, Oakbrush and fir in the deeper and more protected drainages. The slopes surrounding the drainages and valleys are now dominated by Oakbrush and Salina

wildrye communities (page 9-12).

The total living cover for all areas, excluding the wet meadow, was 48 percent. The most prevalent species in total cover and frequency was rubber rabbitbrush which comprised 22 percent of the total cover. Other dominant species included Salina wildrye, cheatgrass, big sagebrush, and mutton grass.

The Soil Conservation Service estimates that premining forage production rates were 950 lbs per acre for the sagebrush/grass/rabbitbrush communities and 900 lbs per acre for the Oakbrush/salina wildrye communities (page 9-7)

In the course of a wetlands determination site visit in August 1995, Rick Smith, of the Engineering Planning Group determined that a wetland exists at the proposed site of the sediment pond. A map of the wetlands was prepared by Rick Smith and is shown in Appendix 9-2. The wetland/riparian area is approximately .42 acres in size (page 9-7). Further study and delineation was to be done as part of an application for approval to alter the wetland which was made to the U.S. Army Corps of Engineers (page 9-6). After looking at soil samples from the wetland the Army wanted the Division of Water Rights to visit the site and make a wetlands determination. Water Rights determined that the area was a riparian area and not considered a wetland. This statement should be qualified and restated that the area is not an Army Corp jurisdictional wetlands. Riparian areas are considered to be a type of wetlands.

In the summer of 1996, Patrick Collins, Mt. Nebo Scientific, Inc., quantitatively sampled the wetland for the purposes of establishing a bond release standard. Dr. Collins describes the area as a riparian/wet meadow with 71 percent vegetative cover. The cover in the area was dominated by grass and grasslike species with perennial ryegrass comprising 21 percent of the cover. Native perennial species were present in the sampled wet meadow such as redtop, bluegrass long style rush, horsetail and sandbar willow. However, other species present reveal that the area is disturbed and in poor condition such as thistle, poverty weed, and perennial ryegrass.

Findings:

Information provided in the plan meets the requirements of this section.

FISH AND WILDLIFE RESOURCE INFORMATION

Regulatory Reference: 30 CFR Sec. 784.21; R645-301-322.

Analysis:

Two major aquatic habitats occur within the Horizon Mine permit area (page 10-7), North Fork Gordon Creek and Beaver Creek. The Division of Wildlife Resources (DWR) states in a letter dated October 31, 1995 that Gordon Creek supports a population of Cutthroat trout and they plan to create a sport fishery. Beaver Creek is ranked by DWR as being of substantial value as a salmonid fishery. The greatest value of both Gordon Creek and Beaver Creek aquatic habitats is the water, cover, food and breeding sites they provide to a variety of terrestrial vertebrates (pages 10-8 and 10-15).

Jewkes Creek, an intermittent stream thru the lower portion of the disturbed area, is currently limited in its ability to support a fisheries due to erosion, siltation, cover and low flow during most of the year. Fish have not been seen or reported in Jewkes Creek.

Aquatic surveys were conducted in 1980 and 1981 (page 10-4, pages 10-20 thru 10-24, and Appendix 10-2) in Beaver Creek and North Fork Gordon Creek. These surveys are of some value as baseline data in Beaver Creek, although dated. The study conducted on the North Fork Gordon Creek is of limited value, because the study was designed and sites selected for a study which was done for the Gordon Creek 2, 7, and 8 Mines. The permittee has committed to a macroinvertebrate and fish study in the late Summer or early Fall of 1996 and 2001 (page 10-4). DWR has just recently (September 1996) requested that fish sampling be delayed until Spring 1997. They felt that the very low water levels along with the electrical shocking of the fish could cause undo stress on the fish. They also stated that the sampling would not be representative of the normal distribution of fish. Sampling locations for the studies will be upstream and downstream from the site in Gordon Creek. Currently, the North Fork of Gordon Creek has been impacted from the logging activities resulting in heavy sediment deposition in Gordon Creek.

The entire permit area is classified as critical elk summer range and critical deer summer range (Plate 10-1). The permit area is located just northwest of the DWR Gordon Creek Wildlife Management Area (WMA) which is approximately 22,000 acres and managed for big game winter range.

In June 1989, DWR conducted a raptor inventory of the permit area. One active Golden eagle nest with two young, and three inactive Golden eagle nests were found (page 10-14, Appendix 10-1). A 1995 study was conducted in the area and the nests were found to be inactive. A commitment is made to survey the trees for nests before removal for surface facilities (page 10-38). The DWR states in a letter dated October 31, 1995 that no Bald

eagle nests have been found in the area, but courtship activity has been observed at the winter roost on the Gordon Creek Wildlife Management Area. The letter continues to include that Bald eagles are likely to use the permit area (page 10-34). Golden eagles and red-tail hawks are found and Sharpshinned hawks and goshawks may use the area.

No threatened or endangered species were found on, or near, the permit area (page 9-10). Federal plant species are listed in Table 9-6.

In 1981, the U.S. Fish and Wildlife Services (USFWS) inspected the site. The biologist concluded that although power lines were considered unsafe, hazard was slight due to positioning.

A letter to DWR from Mr. Skaggs, dated April 30, 1992 (Appendix 7), states that no bats had been observed inhabiting the old mine workings. Additionally, on June 14, 1996 a bat survey preformed by a qualified biologist, Brad Lengas, concluded that the old mine portals were not being used as a summer bat roost (Appendix 10-1). Mr. Lengas could not determine during the survey whether the portals had been used as winter roost (hebernaculum). If portal development occurs during the winter hibernation period an additional survey may be required prior to disturbance.

Findings:

The plan meets the requirements of this section.

LAND-USE RESOURCE INFORMATION

Regulatory Reference: 30 CFR Sec. 783.22; R645-301-411.

Analysis:

The canyon in which the Horizon Mine is proposed to be built has been used for coal mining since the early 1900's and apparently abandoned in 1953. Other than coal mining, the area has been used for wildlife habitat, limited sheep grazing and recreation (page 4-7). Carbon County has zoned the proposed Horizon Mine site area as M & G 1 (page 4-7 and Plate 4-1). M & G 1 is a mining and grazing zone.

The permit area has been extensively mined previously (Plates 4-1 and page 4-7). Room and pillar methods of mining were commonly used in both the Hiawatha seam and the

Castlegate 'A' seam. Prior to coal mining (late 1800's), the area was used primarily for ranching with limited timber operations.

No public park or cemetery is located within or adjacent to the permit area. Carbon County owns and maintains two roads which run parallel to and through the disturbed area. The roads are currently (1995) being used extensively by logging trucks with county maintenance.

Findings:

Information regarding land use classification meets the minimum regulatory requirements of this section.

OPERATION PLAN

PROTECTION OF PUBLIC PARKS AND HISTORIC PLACES

Regulatory Reference: 30 CFR Sec. 784.17; R645-301-411.

Analysis:

No public parks, and no cultural or historical places or cemeteries which might be listed or eligible for listing in the National Register of Historic Places, are found within the permit area. This finding was made by State Historical Preservation Officer Jim Dykman in an October 24, 1995 letter to the Division.

Findings:

The information provided meets the regulatory requirements of this section.

FISH AND WILDLIFE INFORMATION

Regulatory Reference: 30 CFR Sec. 784.21, 817.97; R645-301-322, -301-333, -301-342, -301-358.

Analysis:

Protection and Enhancement Plan.

The Permittees discussion on minimizing potential impact to fish and wildlife from the mining operation is on page 3-34 and 3-35. The first impact is loss of habitat and since the area is small the impact should be minimal. The previously disturbed area has mostly revegetated and provides food, shelter and cover to resident wildlife. The DWR estimates that 327 acres of critical deer winter range will be lost due to increased traffic along the haul route (county road).

The Permittee states that to minimize adverse impacts to the fish and wildlife of the area an employee awareness program will be initiated to reduce wildlife harassment and road kills. The Permittee recognizes the potential for big game kill through the Wildlife Management Area (page 10-35) and has committed to controlled speed limits. Horizon has committed to monitoring road kills and reporting numbers weekly to the DWR; and agrees to remove killed deer and elk from the road between the Wildcat Coal Loadout and the mine site.

A wildlife monitoring program is to be conducted throughout the operation life of the mine by an environmental specialist (page 3-37), as required by the Division.

The Operator has committed to fencing and maintaining the riparian zone from the sediment pond to County Road 290 (page 9-6) as mitigation for the disturbance. The type of fencing will exclude sheep and be as specified by DWR. DWR has requested the fencing of a riparian zone in Spring Two Canyon; and details will be discussed with the Operator and the Division.

Endangered and Threatened Species.

Fish and wildlife species which are listed endangered, threatened and of special interest are listed on pages 10-25 thru 10-33. The permit states that only the American Peregrine falcon and the Bald eagle would likely be present in the area (page 10-24), but not within the permit area. The DWR states that bald eagles are likely to use the permit area. They also state that while no Bald eagle nests have been found in the Gordon Creek area courtship activity has been observed at the winter roost.

Bald and Golden Eagles.

Bald and Golden eagles are likely to use the permit area. A Golden eagle/Prairie falcon nest is shown on map in Appendix 10-1. Apparently the area is used by both the Golden eagle and the Prairie falcon but never at the same time. The nesting territory identified is currently outside of the permit area and within several hundred feet of the permit

area. The current mining plan should have no effect. Since these nests have been inactive for years it may be possible that a permit could be obtained from the U.S. Fish and Wildlife service for a take permit when mining is anticipated to impact the area. A commitment is made (page 10-15) to contact the regulatory authorities should the nest become active and threatened by mining.

A raptor hazard survey was conducted in the area, which document hazardous power lines (page 10-36). The permit concludes that potential electrocutions are slight because of nonuse. The commitment is made, on page 10-35, to construct all power lines within the permit area to minimize electrocution hazards to raptors. UDWR has requested that all power lines follow the raptor proofing guidelines outlined in *Mitigating Bird Collisions with Power Lines: The State of the Art in 1994*, Edison Electric Institute, Washington, D.C.

Wetlands and Habitats of Unusually High Value for Fish and Wildlife.

A wetland riparian zone was created in the area of confluence of Portal Canyon and Jewkes Creek. The wetland was probably created during the early mining of the Consumers Mine in the 1920's. The quality of this wetland/riparian area could be classified as degraded. The county has done road realignment work within the wetland. The area has been used for years, since original mining, as an unloading and camping area for recreationists, hunters and herders. During Spring 1996 the area was heavily deposited with sediments from the logging operations upstream. Nevertheless, the wetland is a high value area filtering sediments prior to entering the North Fork of Gordon Creek and providing food, water and shelter for numerous wildlife species.

The permit area is within an area classified by DWR as critical summer elk and deer habitat. The permit area is within one mile of the Gordon Creek State Wildlife Management Unit. The general area has also been ranked as being of substantial value to wintering Bald eagles. Bald eagles are likely to be seen in the area; however, to date, none have been observed roosting within the proposed disturbed area.

Findings:

Information regarding this section was found not to meet all of the minimum regulatory requirements. The permittee must provide the following, prior to approval, in accordance with the requirements of:

R645-301-333.300, a commitment must be made to construct all power line towers according to the guidelines outlined in *Mitigating Bird Collisions with Power Lines: The State of the Art in 1994*, Edison Electric Institute, Washington, D.C.

VEGETATION

Regulatory Reference: R645-301-330, -301-331, -301-332.

Analysis:

The Permittee has committed to interim revegetation of areas disturbed to develop the mine, but not used for the mining operation (page 3-32). On these sites, a temporary seed mixture will be used for interim stabilization (page 3-34). The seed mixture, mostly grasses, was designed primarily for quick establishment.

Findings:

Information found in the plan was found to meet the minimum requirements of this section.

RECLAMATION PLAN

POSTMINING LAND USES

Regulatory Reference: 30 CFR Sec. 784.15, 784.200, 785.16, 817.133; R645-301-412, -301-413, -301-414, -302-270, -302-271, -302-272, -302-273, -302-274, -302-275.

Analysis:

Once mining has ceased, the disturbed areas will be reclaimed to its principal pre-mining use: undeveloped land. The general region in the area of the mine site is classified as critical deer and elk summer habitat, although most of the habitat is limited to the higher elevations within the permit area (page 4-8). Site inspection verifies that the proposed disturbed area shows low to moderate big game use. The seed mixture is designed for wildlife food value and the planting should provide for wildlife cover.

The area of proposed disturbance has been previously mined and disturbed to degrees

varying from slight to severe. Areas of slight disturbance have soils which have been somewhat impacted but have remained in place and support vegetation. These soils will be salvaged for use in areas which had been severely disturbed and support none to only weedy plant growth. Thus, the area should be able to support the intended postmining land use.

Surface owner comments concerning the proposed postmining land use are in Appendix 4-1. The letter from Cecil Walker, Hidden Splendor Resources, LTD, states that they accept the reclamation plans and postmining land use proposed by Horizon Coal Corporation in the mine permit application.

Findings:

Information found in the plan was found to meet the minimum requirements of this section.

PROTECTION OF FISH, WILDLIFE, AND RELATED ENVIRONMENTAL VALUES

Regulatory Reference: 30 CFR Sec. 817.97; R645-301-333, -301-342, -301-358.

Analysis:

Wildlife habitat with limited livestock grazing is not proposed as the primary postmining land use in the reclaimed disturbed area. However, this use is likely to be a secondary use. Wildlife enhancement measures during reclamation include using a seed mixture which contains a diverse mixture of grass, forbs, and shrubs which are known to be palatable to wildlife. Container stock (page 3-37) will also be planted to provide cover for the wildlife. Rock piles will be created (page 3-38) for wildlife habitat enhancement. Approximately 1100 Salix cuttings as well as Snowberry and Water Birch (page 3-39) will be planted along the riparian areas after reclamation to stabilize the drainage and start restoration of the riparian habitat.

Findings:

Information found in the plan was found to meet the minimum requirements of this section.

CONTEMPORANEOUS RECLAMATION

Regulatory Reference: 30 CFR Sec. 785.18, 817.100; R645-301-352, -301-553, -302-280, -302-281, -302-282, -302-283, -302-284.

Analysis:

The Permittee commits to contemporaneous reclamation (Section 3.5.1). When disturbed areas are no longer needed they will be backfilled, graded, retopsoiled, and revegetated. However the permit change suggest that the temporary seed mixture will be used. Contemporaneous revegetation is permanent revegetation performed during the operations phase of mining on land that will not be disturbed again. Interim revegetation is only temporary revegetation and stabilization on lands which will be disturbed during operation or reclamation activities. Because the site is so small all available space will be used and it is likely that no reclamation will occur until the mine closes.

Findings:

The Permittee is not in compliance with this section. Prior to approval. The permittee must provide the following in accordance with:

R645-301-352. Temporary seed mixture must be changed to permanent seed mixture when referring to contemporaneous revegetation.

REVEGETATION

Regulatory Reference: 30 CFR Sec. 785.18, 817.111, 817.113, 817.114, 817.116; R645-301-244, -301-353, -301-354, -301-355, -301-356, -302-280, -302-281, -302-282, -302-283, -302-284.

Analysis:

General Requirements

A reclamation schedule has been illustrated in Table 3-4. The shading on the table is not discernable and a darker copies must be submitted for inclusion in the plan. The schedule details each major step in the revegetation plan as required in R645-301-341.100. The schedule illustrates seed, plant and other material ordering with adequate lead times for procurement.

All seeds to be planted on site will comply with all state and federal seed laws (page 3-32).

The seed mixture to be used for permanent seeding is designated on page Table 3-3. The seed mixture is comprised of species native to the area and desirable for wildlife use, in particular big game use. The seed mixture includes the Gordon Creek variety of Wyoming big sagebrush which is preferred if available. A separate seed mixture has been designated for the .43 acres of wetlands to be recreated along Jewkes Creek.

The seed will be broadcast seeded (page 3-42) and then raked to ensure proper seed to soil contact. A commitment has been made in the plan to leave the site in a roughened state. This roughened state has proven to be very important to the success of the reclamation project.

Timing

The plan commits to a fall planting (page 3-33). This is the normally accepted time of year to be seeding in the region. The plan provides for a contingency if seeding is not completed by November 30, then a quick growing ground cover, such as Regreen will be planted until the next growing season.

Mulching and Other Soil Stabilizing Practices

Two thousand pounds per acre straw mulch will be applied over the seeded areas and then incorporated while the surface is being roughened before seeding (page 3-33). The permit states that at the time of reclamation the most beneficial type of mulch to be used will be determined by the Division and Permittee. The Division's experience in the area has been to place 2 tons per acre alfalfa on the soil surface and incorporate this while the surface is being roughened and then seed broadcasted. This commitment is acceptable to the Division. All slopes 2.5h:1v or steeper will have erosion control matting installed. The matting will provide the additional protection needed on these steeper slopes.

Standards for Success.

As previously stated all, if not most, of the entire operational area has been previously disturbed by mining and not reclaimed to the requirements of the Utah Coal Mining rules. Therefore, the revegetation success standard for bond release is that the vegetative ground cover will be not less than the ground cover existing before redisturbance and adequate to control erosion.

Several vegetative studies have been conducted within the area of the proposed disturbance. Two studies, 1991 and 1995, are presented and included in Appendix 9-1 of the

application to use as a bond release standard for the Portal Canyon area of the disturbance. Total vegetative cover averaged 48 and 55 percent cover in 1991 and 1995, respectively. Perennial, nonweedy cover averaged 45 and 49 percent vegetative cover in 1991 and 1995, respectively. Unpaired, nonparametric comparisons of two samples based on rank showed that the 1991 and 1995 nonweedy, perennial cover was not significantly different; however, the 1991 and 1995 total cover were significancy different. Two sample comparisons using the normal distribution showed no significant difference in either total or perennial cover. Raw data is presented in Appendix 9-1.

The locations of the transects are illustrated on Plate 9-1. Transects B and D are shown as going outside of the disturbed area. Original photographs of the transects indicate that the transects are actually within the disturbed area and this is acceptable to the Division.

The Permittee proposes to use the 1995 baseline study as the standard for success for all areas except the wetland/riparian area. Since the 1991 and 1995 nonweedy, perennial cover was not significantly different then this success standard is acceptable to the Division. Page 9-8 also commits to the same diversity of shrubs, forbs, and grasses as the 1995 study. A commitment is made for the 80/60 tree and shrub standard rule, although this is not required for a prelaw site. However, this commitment will ensure that the postmining land use standard is being met.

Another study to establish baseline data was conducted in the wetland/wet meadow/riparian area in 1996 (Appendix 9-2). Total living cover was 71%, which will be considered the success standard for bond release. Other standards to be met are diverse, effective and permanent vegetative cover which are compatible with the postmining land use. Therefore, the plant species established along Jewkes Creek wet meadow area will have to have wetland characteristic to be considered successful. The reclaimed channel for Jewkes Creek shown in Figure 7-12 provides for a 12 foot wide 100 year flood plain. In places the wet meadow/riparian area is 50 feet wide and will likely never meet the bond release standards for this area. Therefore, the Jewkes Creek channel will have to be redesigned in order to have a reasonable chance of meeting this standard prior to permit approval.

The period of intended responsibility will be ten years. Vegetation will be quantitatively measured in years 2, 3, 5, 9, and 10 following revegetation (page 9-10).

This is a previously-mined site and although some areas are considered severely disturbed, the Permittee has committed to clean and remove the old spoil material from the site. Some areas were less severely impacted and the topsoil has remained in place with minimal surface disturbance. Adequate topsoil will be salvaged from these areas to use on

the more severely impacted areas. The proposed mine site is located in a canyon bottom at approximately 7600 feet elevation with average annual precipitation between 16 and 20 inches. All of these factors, along with the revegetation efforts, should allow the Permittee to meet and exceed the performance standards in all areas except for the wet meadow/riparian area.

Findings:

Information found in the plan does not meet the minimum regulatory requirements of this section. The Permittee must provide the following, prior to approval, in accordance with the requirements of:

R645-301-121.200. Table 3-4 must be resubmitted in a legible form.

R645-301-353. The Permittee must present a reclaimed drainage through the Jewkes Creek area which will allow a reasonable likelihood of reestablishing the riparian/wet meadow vegetation which currently exist on site. At minimum the riparian/wet meadow community must be of the extent as shown on the wetlands map in Appendix 9-2.

STABILIZATION OF SURFACE AREAS

Regulatory Reference: 30 CFR Sec. 817.95; R645-301-244.

Analysis:

All final grading and placement of topsoil will be done along the contour to minimize erosion and instability. The Permittee has committed to fill, regrade, seed and otherwise stabilize any rills or gullies which develop (page 3-31). The commitment is also made to plant a soil stabilizing cover crop such as Regreen if erosion work is done during that portion of the year in which final seeding is not optimal.

Findings:

The information provided meets the regulatory requirements of this section.

RECOMMENDATION

Prior to approval, the requirements of R645-301-121.200, R645-301-333.300, R645-301-353, and R645-301-352 must be provided as discussed above. Since R645-301-353 was a condition of permit approval which was not addressed in a timely manner a hindrance violation should be issued.