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State of Utah

DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS AND MINING

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June 9, 1998

TO: File

THROUGH: Daron Haddock, Permit Supervisor

FROM: Paul Baker, Reclamation Biologist

Re: Box Canyon Subsidence, Canyon Fuel County, Convulsion Canyon Mine,
ACT/041/002, Folder #2, Sevier County, Utah

SUMMARY:

Canyon Fuel Company is proposing to conduct full extraction mining beneath a perennial stream in Box Canyon. Also in the Box Canyon area are several significant archaeological sites.

There are no proposed changes to Chapter 1 or some other sections, including revegetation and postmining land use; therefore, these sections were not reviewed.

TECHNICAL ANALYSIS:

ENVIRONMENTAL RESOURCE INFORMATION

VEGETATION RESOURCE INFORMATION

Regulatory Reference: R645-301-321

Analysis:

The current mining and reclamation plan has general information about the vegetation in the Box Canyon area. The current application contains a report that discusses potential effects of subsidence on riparian vegetation, but there is no quantitative information. This issue is discussed under R645-301-332.

Findings:

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

FISH AND WILDLIFE RESOURCE INFORMATION

Regulatory Reference: R645-301-322

Analysis:

Wildlife Information

There are no known raptor nests in the area that would be undermined in Box Canyon.

The application includes a survey for bats done in Box Canyon and in some adjacent areas. Spotted bats were heard in some areas of lower Box Canyon but not in the area that would be subsided. Townsend's big-eared bats were not seen or recorded. Several other bat species were recorded, but no maternal roosting sites or hibernacula were identified in the permit area.

Most of the basic information in the bat survey about the status classifications of Townsend's big-eared and spotted bats is incorrect. The study says spotted bats are classified as a category 2 species for listing as threatened or endangered, but this category has not existed for about two years. Also, the Utah Natural Heritage Program ranking is shown as G4SI, but the actual ranking is G4S2.

Townsend's big-eared bats are also ranked as G4S2, but the study says the ranking is SX. The SX ranking would mean the species is extirpated or extinct, but George Oliver of the Natural Heritage Program said he considers Townsend's big-eared bats to be widespread, fairly common, and present in most habitats. The report also says UDWR considers it a category 2 species, but this ranking is not given by Wildlife Resources.

The information in the application should be corrected, preferably by the consultant in the report or at least with a statement in the application showing the correct status of these species.

There are other problems with the report. The literature citations are incomplete and not properly done. The consultant claimed to have identified six species of *Myotis* using the ANABAT, but it is very difficult to identify species of *Myotis* in this manner. The report should have discussed the possible errors in identification. Also, the report does not give the dates when the bat survey was done. Dates can be critical for work of this nature.

Assuming the study was done at the proper times, most of these problems are not

of great consequence to the study's conclusions. Nevertheless, the applicant needs to affirm the qualifications of those conducting the bat survey.

Threatened or Endangered Species

According to information in the existing mining and reclamation plan, there are no known occurrences of threatened or endangered species in the permit area.

Findings:

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

R645-301-140, The applicant needs to affirm the qualifications of those conducting the bat survey. The report does not give dates of data collection, and much of the information about the status of two species is incorrect. This needs to be corrected either in the application or the consultant's report.

SUBSIDENCE CONTROL

Regulatory Reference: R645-301-332

Analysis:

The application includes studies of the hydrology and riparian vegetation of the Box Canyon area and analyses of potential effects of mining the area. With the current mining schedule, subsidence is likely between about May and August 1999. It is possible there will be some interception of ground and surface water flows, but the exact effects are not known. According to the report in the application from Mayo and Associates, any disruption will probably be temporary, and large cracks under the creek in Box Canyon could be repaired. Although flow in part of the creek could be interrupted, inflow from springs on the sides of the canyon should provide at least some water downstream.

The most critical time for the survival of most plants in Utah is the active growing period of late spring to early summer. Disruption of the water supply at this time would be most detrimental to the riparian vegetation in Box Canyon, and this is the time when the area is planned to be subsided.

The applicant currently has a plan for monitoring the effects of subsidence on

vegetation through taking color infrared photos every five years. This is not adequate for monitoring the riparian vegetation in Box Canyon. All riparian areas are considered critical wildlife habitat, and, according to verbal reports from people who have been to the upper part of Box Canyon, this area is unique among stream corridors in the vicinity.

The applicant needs to establish a quantitative vegetation monitoring program that will be adequately sensitive to detect changes in vegetative cover and species composition. Baseline sampling should be done in 1998 before the area is mined with subsequent sampling done for at least two years after mining. Best results would be obtained by establishing photopoints and permanent transects that could be checked each time. This requirements is being made after consultation with other agencies, and it is supported by R645-301-322.100, R645-301-322.220, and R645-301-333.

Findings:

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

R645-301-332, The applicant needs to propose a plan for quantitatively monitoring the effects of subsidence on the riparian vegetation in Box Canyon.

FISH AND WILDLIFE RESOURCE PROTECTION

Regulatory Reference: R645-301-333

Analysis:

The consultants that did the bat survey suggested that subsidence could affect roosting areas and that some individuals could be lost; however, they felt new cracks would offset the ones destroyed and that there would be little net effect. They believe there could be some impact on local populations of spotted bats. The report says if subsidence occurred in spring and summer it might cause reproductive females to carry young to another less favorable roost site. In the winter, torpid bats might not have time to arouse and escape during subsidence.

Subsidence could occur in these areas as a general lowering of the topography or it could cause sudden failure of some rock features. Bats would likely either be unaffected or would not have time to fly away to escape subsidence.

From the information in the report, the Division draws the following conclusions:

- There are bats, including spotted bats, present in the general area although spotted bats may not be present in the upper part of Box Canyon.
- There are no known hibernacula, maternal roosting sites, or other areas of heavy concentration in the area that would be subsided.
- Cracks in rocks being used by bats could fail and kill or trap any animals using them, but since there are no known concentration areas, it is unlikely this would seriously reduce the local population. Generally, rock crevices and defective trees are used by only a few bats rather than large populations.
- It is possible that new habitat could be created, but this is also unlikely.

For these reasons, there should be no need to mitigate possible effects on bats or to do further monitoring.

Findings:

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

HISTORIC AND ARCHAEOLOGICAL RESOURCE INFORMATION

Regulatory Reference: R645-301-411.140

Analysis:

The application includes a copy of a cultural resource survey report. There are thirteen recorded cultural resource sites in the Box Canyon area, and nine of these have been recommended as being eligible or potentially eligible for listing in the National Register of Historic Places. The applicant currently has approval to mine under four of these nine sites although the current mining and reclamation plan does not include this approval. The application includes information intended to correct this problem.

The application contains copies of letters between SHPO, the Forest Service, and the consultant that did the cultural resources surveys documenting approval from SHPO and the Forest Service to undermine and possibly destroy some of the sites. Some sites were, with approval, excavated in 1997. The Division has a letter on file from the Forest Service archaeologist, Stan McDonald, notifying the Advisory Council on Historic Preservation of these actions and indicating it was unnecessary to receive approval from the Council. The

correspondence and other information included in the application satisfies the requirements of R645-301-411.140 for the area already approved to be mined.

There remain five significant or potentially significant sites that could be affected by subsidence. The cultural resources report does not evaluate the possible effects on these sites, and the Agapito report only briefly mentions the possibility of damage to three of the sites. Therefore, it is impossible for the Division to make a recommendation to SHPO whether there could be adverse effects.

According to Mr. McDonald, the Forest Service is evaluating the potential effects on the remaining sites in conjunction with the environmental impact statement for the Pines Canyon Tract. The preliminary draft EIS is due about June 23, 1998, but it is not yet available. This should contain recommendations from the Forest Service and SHPO about what protection or mitigation needs to be done for the sites. Until this document is released, the Division does not have adequate information on which to base a recommendation to SHPO. The application needs to include evidence of coordination efforts with SHPO and show what protection or mitigation plan will be implemented.

The cultural resources report and the Agapito report have been marked confidential. The Division needs to ensure this information does not become available to the public.

Findings:

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

R645-301-411.140, The application needs to show coordination efforts that have been undertaken with the State Historic Preservation Officer (SHPO). It is understood the Forest Service and SHPO are working to develop a protection and mitigation plan.

LAND USE RECLAMATION PLAN

Regulatory Reference: R645-301-412

Analysis:

No changes to the postmining land use are proposed, and the reclamation plan

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appears to be in compliance with the Forest Service management plan.

Findings:

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

AIR QUALITY

Regulatory Reference: R645-301-420

Analysis:

The applicant proposes an increase in production above what is allowed in the existing Air Quality Approval Order, and the application for the Link Canyon Substation amendment says a notice has been filed with the Division of Air Quality to increase the amount of production allowed.

Findings:

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

RECOMMENDATIONS:

The application should not be approved until the applicant has corrected the deficiencies outlined in this review.