



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

DR 74

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)

October 16, 2000

TO: [REDACTED]

FROM: Paul Baker, Reclamation Biologist and Project Team Lead *PMB*

RE: Experimental Practice Evaluation, West Ridge Resources, West Ridge Mine,
[REDACTED] 41-AM00F

SUMMARY:

On September 1, 2000, the Division received the evaluation of the experimental practice at the West Ridge Mine. This evaluation is required by permit stipulation to be done annually.

Also included in the proposal is a plan to sample fill material for acid forming potential. This resulted from the Division's evaluation of the experimental practice and its concern that soils buried under the fill could be contaminated by acid-producing materials.

TECHNICAL ANALYSIS:

SPECIAL CATEGORIES OF MINING

EXPERIMENTAL PRACTICES

Regulatory Reference: R645-302-210

Analysis:

By permit stipulation, the applicant is required to conduct an annual evaluation of the experimental practice at the West Ridge Mine. Basically, this practice entails not salvaging topsoil from part of the disturbed area. Instead, the soil was covered with geotextile which was then covered with fill. In areas where the soil was classified as rock outcrop/rubbleland, it was covered with marker strips before the fill was put over the top.

TECHNICAL MEMO

Both the Division and the operator felt this construction plan, if properly implemented, would result in improved reclamation success. The channel would remain essentially intact, and rocks on the soil surface would still be present at the time of reclamation.

On August 4, 2000, the Division wrote to the applicant with several questions it felt should be answered as part of the experimental practice evaluation. The Division considers the evaluation for the first year to be particularly important for judging whether the practice will be successful.

The experimental practice evaluation portion of the amendment proposal consists of answers to the Division's questions. According to the application:

- The channel was changed very little, and rocks in the channel were left in place. When the channel is reclaimed, the channel is anticipated to be in basically the same condition as it was before construction.
- The soil surface was left intact, and the geotextile was placed over rocks, twigs, and existing material as planned.
- There was no soil compaction from vehicle traffic prior to placing the fill.
- The geotextile held up very well during fill placement.
- There were no changes to the plan; the approved plan was followed exactly.

Division representatives took several photographs of the mine construction, and it appeared from these photographs that there was more disturbance than was called for in the plan. However, after viewing numerous photographs taken by the permittee and discussing the construction with the permittee's representative, it appears the construction was done mostly according to the plan. There are, however, some details of the construction that should be included in the plan. Items that should be detailed include:

1. There were few, if any, rocks moved from the channel. Instead, additional bedding material was brought in to cover the large rocks. The original plan had been to fill the pads with as much of the cut slope material as possible then make up the deficit with imported fill. Because extra bedding material was used, it was not necessary to import any fill to cover the cut slope fill material.
2. After cutting the trees on the side slopes, the area was reflowed to get very detailed and accurate maps.

3. In some places where there were large rocks, it was not possible to drape the geotextile so voids would be filled. In these areas, the geotextile was cut to allow fill material to fill the voids, and additional geotextile was put over the top of the cut areas. In spite of this effort, there are probably still voids.
4. Some of the photos seem to show a lot of disturbance before the geotextile and flagging were put down. This appears to have been almost entirely from the logging operation: cutting and removing logs and cutting, moving, and burning slash.
5. There are places where the pre-existing road was in the bottom of the channel. According to Map 5-1 in the plan, approximately 900 feet of the channel was disturbed by the road through the bottom of the channel. In the photographs, this makes it look like the channel was graded and all the rocks were removed, but this was done before mine construction began. When the channel is being reclaimed, there will be areas with no rocks.
6. There is one area near the fan where the culvert was not placed in the channel. This was done according to the plan and is shown on cross section 23+00 on Map 5-6A. In this area, geotextile was placed over the channel and fill put on top. The culvert was put in an area slightly west of the channel.

In its annual evaluation of the experimental practice, the Division expressed concern about the potential for acid leachate adversely affecting soils buried under the pad. The applicant was required to submit an annual monitoring plan to detect the potential for acid formation. According to the proposal, samples will be taken to a depth of about six inches from three locations shown on revised Plate 2-2. These samples will be analyzed for acid and toxic forming potential per Division guidelines, and the results will be included in the annual report. If acid conditions are detected on the surface, further investigations and sampling will be done to determine if the acid leachate is permeating the fills and if any measures need to be taken to protect the soils.

This plan is generally acceptable but needs to be modified. The application shows samples being taken in the right fork where there is likely to be little coal on the surface, but the Division is most concerned about areas where coal is on the surface, such as the loading and storage areas. The samples should not be taken directly from the surface but starting a few inches below the surface to detect whether leachate is influencing the fill and if there is potential for it affecting the underlying soils.

TECHNICAL MEMO

The application says samples will be analyzed for acid and toxic forming properties, but the roof, floor and coal sample analyses in the plan do not indicate any problems other than the acid forming potential. The plan, however, contains a commitments to sample the roof and floor in the right fork near the portals. If the results of these analyses indicate no other problems, the applicant can delete the commitment to test soils for parameters other than acid/base potential

Findings:

Information 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 information in accordance with:

R645-302-210, The applicant's analysis of the experimental practice needs to give greater detail about installation of the experimental practice. In particular, it should mention changes made during construction and discuss the effects of prior disturbances and the logging operations.

R645-302-210, The proposed soil sampling program needs to be modified. Samples should be taken from below the soil surface in areas where coal is on the surface, such as the loadout area and the coal storage area. Unless future coal, roof or floor sample analyses show toxicity problems other than with the acid/base potential, it is not necessary to analyze samples of the fill for these parameters.

RECOMMENDATIONS:

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