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United States
Department of
Agriculture

Forest
Service

Manti-La Sal
National Forest

599 West Price River Dr.
Price, Utah 84501

Pam: route to file
ACT/015/009 #2
009

Reply to: 2820

Date: April 1, 1991

Lowell Braxton
State of Utah Natural Resources
Division of Oil, Gas and Mining
355 West North Temple
3 Triad Center, Suite 350
Salt Lake City, Utah 84180-1203

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**DIVISION OF
OIL GAS & MINING**

RE: Federal Lease Tract Addition, Beaver Creek Coal Company, Trail Mountain #9
Mine, ACT/015/009, Folder #2, Emery County, Utah

Dear Lowell:

We have reviewed Beaver Creek Coal Company's March 11, 1991 revisions and responses to our comments on the Federal tract addition (Forest Service letters to the Division, dated October 5, 1990 and February 22, 1991). The numbers on the comments below correspond with Forest Service comments and Beaver Creek Coal Company's responses.

1. Chapter 3, Operating Plan

The applicant states that a more detailed mining plan will be submitted for the PAP once they receive approval of the Resource Recovery and Protection Plan (R2P2) from BLM. Before the Forest Service can effectively cooperate on preparation of the EA/TA and consent to the PAP, the mine plan must be complete and demonstrate that mining will be done in conformance with lease stipulations. In addition, the Forest Service must receive confirmation from the BLM that the R2P2 is in conformance with lease stipulations and is designed to prevent unnecessary impacts to surface resources.

The 3/11/91 revision included a blank cover page for BLM's R2P2 approval. There was, however, not approval document included.

2. Section 3.3.2.2, Protection of Surface Structures and Streams

In response to this item, the applicant revised the text to recognize that Forest Development roads and trails, watershed treatments, and stock ponds overly the mine area. A commitment for repair of these structures if they are damaged by mining has been made in the text. The applicant has also shown these structures on several different maps. The applicant has also added the watershed treatment area to the Land Use Map 4-3. This comment has been adequately addressed.

The applicant revised the text to state that a spring inventory will be done in 1991 and water rights and water rights claims have been added to the application and maps. The applicant has made a commitment to complete a new spring survey in 1991, as required, but no commitment has been made to add other springs to the monitoring program, if required by the Forest Service and Division based on the results.

The applicant has committed to determine if the drainages in the permit area are perennial or intermittent. In addition, a commitment has been made to protect the drainages if they are determined to be perennial. This has been completed as required, however, the measures proposed to protect perennial drainages are questionable as discussed below.

On page 7-18, the applicant added provisions to be implemented to protect perennial streams, if they are determined to be present. There is no data presented to show that the proposed mining provisions would be effective in preventing subsidence. A technical analysis must be presented which will support conclusively that these measures will be adequate to protect the drainages. It has been Forest Service policy to allow only full support main entries to cross under perennial drainages (with adequate technical documentation to show that subsidence will never occur and a commitment to backfill or support these areas if new data shows that subsidence could occur). Mining panels could exceed critical widths as support pillars oxidize and collapse over time.

The applicant needs to provide technical documentation to support the proposed provisions and/or alter the mine plan. A determination by the BLM that the mine plan and R2P2 will not alter perennial streams is required as discussed in item 1 above.

3. Section 4.4.2 Mine Plan Area Land Use

The Manti-La Sal National Forest Land and Resource Management Plan, 1986 has been referenced as required in this comment. The watershed treatment (WPE Management Unit) has been added to Map 4-3 as required. This comment has been adequately addressed.

4. Section 6.5.1 Exploration and Drilling

The correction has been made and this comment has been adequately addressed.

5. Section 6.5.5.1 Reserve Calculations

The applicant has stated that the Hiawatha seam isopach map (Figure 6-7) is confidential and is therefore not included in the package. Since the Forest Service does not need this information for evaluation, this comment has been adequately addressed.

6. Section 6.7.2 Local Formations Structure

This comment has been adequately addressed.

7. Chapter 7 Hydrology

This comment has been adequately addressed.

8. Section 7.1.3.1 Regional Groundwater Hydrology

The applicant has committed to conduct a spring survey in 1991 and has identified water rights and water rights claims. He has, however, not made a commitment to add other springs to the monitoring program if required by the Forest Service and Division.

A spring has been developed by the Sportsman's Lodge as a culinary water source under a Forest Service special-use permit in Joes Valley. The applicant has made a commitment to include this spring in the 1991 inventory and evaluate the monitoring requirements at that time. The probability of this spring being affected by mining is remote due to the distance of separation and the fact that it lies to the north of the syncline. However, we are not absolutely sure that there will be no affect and since this is a developed culinary spring, the applicant must commit to baseline and operational monitoring in conjunction with the spring user and commit to monitoring and replacement of water quantity and quality in the event that it is affected by mining. Monitoring of this spring must be in conformance with the Divisions guidelines for monitoring.

9. Section 7.1.6.1 Alternative Water Supply

The reference has been corrected as required. The applicant has committed to monitoring and repair of the stockponds, if damaged. This comment has been adequately addressed.

The commitment for replacing water is generally acceptable. This comment has been adequately addressed.

10. Section 7.1.5 Effects of Mining on the Groundwater Hydrologic Balance

The applicant responded to this comment by adding a reference to Section 6.7.2 which states that there will be increased flow in the mine and there could be some dewatering of Straight Canyon below the reservoir because the mine water will be discharged into Cottonwood Creek. The applicant has also stated that drill hole information indicates that large quantities of water will not be encountered but that increased amounts of water could be encountered as mining progresses to the west. Estimates of the amount of water which could be encountered and discharged into Cottonwood Creek (increasing flow) and the potential for decreasing flow in Straight Canyon must be addressed (See DOGM's comment R614-301-728 Probable Hydrologic Consequences (PHC) Determination).

The applicant discusses springs and states that they will probably not be affected by mining because they emit from colluvial materials. This does not address the additional springs which have not yet been identified. It is more likely that the springs will not be affected due to the thick overburden and potential swelling clays rather than the colluvial materials. The applicant has committed to conducting another spring inventory in 1991. The Forest Service inventory shows at least two additional developed springs which will probably need to be added to the inventory and monitoring program.

11. Section 7.2 Surface Water Hydrology

The applicant has committed to protecting any perennial drainages from subsidence. This comment has been adequately addressed.

The amount of potential increase in mine water discharge needs to be assessed so that it can be determined how much additional flow could occur in Cottonwood Creek.

12. Chapter 8 Soil Resources

The Forest Service provided the applicant with a soils map and narrative describing the soils in the permit area. The applicant has incorporated this information into the PAP as required. This comment has been adequately addressed.

13. Chapter 9 Vegetation Resources

The applicant has provided a suitable vegetation community map with a description of the communities incorporated onto the map. The applicant has also committed to conducting color IR photography on a 5-year basis for monitoring potential effects to vegetation communities. The applicant, however, stated that the Forest Service will do the photo interpretations. The applicant will be responsible to do this interpretation. The Forest Service will work with the applicant to interpret this information, however, it must be stated that the applicant has committed to the complete monitoring plan.

The Forest Service has determined that there are no listed Threatened, Endangered or Sensitive plant species in the lease area and the applicant has stated this in the PAP. This comment has been adequately addressed.

14. Chapter 10 Fish and Wildlife Resources

The applicant has included the necessary information. This comment has been adequately addressed. As a suggestion, rather than a requirement, the applicant should include the results of the raptor studies into an appendix to show the use history of the nests.

15. Section 12.4.2 Subsidence Experience Over Coal Mines

This comment as follows has not been adequately addressed:

The Bureau of Land Management (BLM) and Forest Service (FS) used a 22 degree angle-of-draw to evaluate the potential for inducing escarpment failures during preparation of the tract delineation report and environmental analysis. The PAP discusses a 15 degree angle-of-draw. The PAP does not provide adequate information to substantiate that the average angle-of-draw will be 15 degrees.

16. Section 12.4.3 Subsidence Effects and Control

The applicant has adequately addressed a portion of the comment. The remaining portion of the original comment which has not been adequately addressed is as follows:

The stability of the canyon slopes below the mine area and the safety of travelers along the highways in Straight and Cottonwood Canyons is of utmost importance considering the vertical nature of the canyons slopes and existing instability. The applicant must address the potential for mining/subsidence to induce escarpment failures or dislodge rocks onto the roadways in Straight and Cottonwood Canyon and demonstrate that adequate measures will be taken to prevent mining induced escarpment failures or landslides and provide for public safety.

17. Section 12.4.4 Subsidence Monitoring

The applicant has not addressed this comment. It is as follows:

The proposed subsidence monitoring plan is not adequate. Survey monuments must be strategically located and there must be enough data points to measure and determine the angle-of-draw and maximum subsidence. If landslides or escarpment failures occur in Straight and Cottonwood Canyons, there needs to be adequate monitoring information available to determine if they were induced by subsidence. This could be done by installing laser prisms on the canyon rim which could be read from the canyon bottom or other locations not affected from subsidence.

The subsidence plan needs to include survey monuments well beyond the panels in the areas where subsidence will occur to determine the angle-of-draw. The amount, extent and angle-of-draw might be different along the escarpment area due to the lack of buttressing forces.

The applicant has committed to conduct an annual reconnaissance of the mined area is necessary to locate, map and describe any observable surface indications of subsidence. This portion of the comment has been adequately addressed.

Please contact Aaron Howe or Carter Reed at the Forest Supervisor's office in Price, Utah to coordinate the above actions.

Sincerely,



for
GEORGE A. MORRIS
Forest Supervisor

cc:
Richard Holbrook/Floyd McMullen
Gene Nodine
Dan Guy