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M E M O R A N D U M
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TO: Ronald W. Daniels, Coordinator of Mined Land Development

FROM: K. Michael Thompson, Engineering Geologist

SUBJECT: Swisher Coal Company
Proposed 70 acre Lease Application
Swisher #2 Coal Mine
ACT/007/016

DATE: February 5, 1980

You will recall that Swisher Coal Company is presently attempting to gain entry into a 70 acre Federal lease tract in order to continue the present mine development at the Number 2 Mine. Through a telephone conversation on January 31, 1980 I was informed by Dan Guy that the Bureau of Land Management has issued the lease. Jackson Moffitt, Area Mining Supervisor, U.S. Geological Survey, in a letter of November 9, 1979 stated that the modification should be acquired as soon as possible and the mining plan be promptly approved as failure to do so will restrict orderly development and possible loss of the resource. We have received a letter from the Office of Surface Mining, dated January 28, 1980, stating questions and concerns that need to be addressed prior to their approval. This letter will be discussed later.

Swisher's submittals were reviewed for compliance with the Division's present regulations, ie., the interim regulatory regulations MC 700 et. seq. Items reviewed include the latest Division inspection reports and the Notice of Violation issued August 21, 1979, The Mining and Reclamation Plan submitted to Office of Surface Mining on November 13, 1979 and the packet of material submitted to the Bureau of Land Management on July 17, 1979.

First I feel a discussion of the Office of Surface Mining's letter of January 28, 1980 is appropriate. The letter apparently serves as a response to both the completeness and technical review. Based on their review, they feel the following concerns need to be addressed:

1. "Backfilling and regrading. Does any plan exist for bringing in material to achieve approximate original contour for the portal area?" The staff feels that the concept of hauling in fill material to achieve approximate original contour for a mine developed prior to 95-87 is not in concert with the Act and is not necessary for adequate reclamation. You will recall, the mine is located in a valley bottom. The highwalls at the site are not excessive and the material removed is placed as fill material in the valley bottom. The company has filed plans that show a backfilling and regrading program that will return the affected area to a condition compatible with local conditions and the proposed post-mining land use and provide for revegetation of the site.
2. "Groundwater monitoring. Swisher Coal Company should commit to monitoring the quality and quantity of springs in and adjacent to the permit area." Swisher has committed to the monitoring of the major known springs in the area. Tom Suchoski has reviewed the plans and is in agreement with the Office of Surface Mining's requirement. He also feels that other requirements are necessary. These will be discussed later.
3. "Hydrologic impacts of roads. Detailed information is needed as to the location of all culverts and ditches related to access and haul roads. The plan should demonstrate that all ditches and culverts are capable of passing the peak runoff resulting from a 10-year, 24-hour precipitation event. Cross-section and gradient profiles should be submitted for all access and haul roads. Gradient profiles for haul roads should include road segments to the point where the haul roads reach public roads." The staff agrees with this requirement. Roads should be designed to meet the proposed permanent program requirements so as to prevent reconstruction later.
4. "Water rights. More information is needed as to the owner, use, location and description of water rights in the mine area. Swisher Coal Company should commit to a plan for replacement of water supplies should it become necessary." The staff agrees with this requirement.

5. "Topsoil handling. Swisher Coal Company should commit to obtaining topsoil or a substitute growing medium to replace the topsoil in the portal area. Information as to the volume needed, depth of soil placement and probable source is needed. Chemical analysis for the replacement material should include SAR, Mg, Na, Ca, pH, and electrical conductivity." The staff does not agree with this requirement as written. The option of using available material at the site should be tried prior to borrowing from another area, thus creating two disturbed sites requiring reclamation. However, if tests prove the available material is unsuitable for reclamation soil should be brought in under an approved plan. This concept requires the creation of revegetation test plots, and appropriate soils analysis as soon as possible.

6. "Seeding. The seeding mixture submitted by Swisher Coal Company contains all introduced species. Disturbed lands must be seeded or planted with species of the same seasonal variety native to the area. A revised seed mixture, formulated in consultation with the Office of Surface Mining, Bureau of Land Management, and Utah Division of Oil, Gas and Mining should replace the seed mixture identified in the mine and reclamation plan." Mary Ann Wright has reviewed the submitted plans. She feels that the proposed revegetation seed mixture is adequate for interim, temporary revegetation; however, the revegetation plan must be revised for any permanent revegetation. Also, the comment that the disturbed lands must be revegetated with species of the same seasonal variety native to the area is inaccurate (see Section 516(b)(6) of the Federal Act). Also, the comment section relative to 30 CFR 817.111, page 15271 of the "Federal Register", Vol. 44, No. 50, 3-1379, Book 2, indicates that the wording in the regulations was changed to reflect the Act. However, the regulation as published does not reflect this. The staff will be willing to deal with revising the revegetation plan at a later date when the staff has more time. The staff feels that revegetation at this small underground mine is, at present, a low priority.

The following is a list of the staff's comments concerning Swisher's submittals other than those listed above:

A. Groundwater and Surface Water Monitoring.

1. A commitment is needed for quarterly reporting and annual summaries for both groundwater and surface water monitoring results.
2. A spring survey is needed for the surface above the entire proposed mine. The groundwater monitoring program will be revised accordingly.
3. Studies must be submitted and initiated to delineate the source of water within the mine workings. Recharge area(s), zone(s) of transmission, quantity and quality of the water should be identified.

4. The Gunnison Homestead Spring must be included in the groundwater monitoring program.

B. Sediment Pond Design.

1. There are errors in the calculation of the required pond volume and in the peak flow determination for emergency discharge structure.

The error in the sizing of the pond is in the calculation of direct runoff from the undisturbed area. Swisher estimates 0.09 acre-feet of runoff, whereas the correct estimate is 0.03 acre-feet, assuming the estimated curve number of 54 is correct. This slightly overestimates the volume, assuming the curve number is correct.

The error in peak flow determination is the use of an unacceptable estimation method. The Division's estimate will be available within a week.

2. There is a question as to the adequacy of the diversion ditch. The Division's estimate of required capacity should also be available within a week. A trapezoidal shape is preferred over the proposed triangular design.

3. A manual decant system for dewatering is required. This can either be a pump or manually operated valve and pipe system. The intake must be above the clean-out level of the pond.

Every effort should be made to allow Swisher to enter the lease; however, stipulations should be made in the approval so that compliance with the regulations is assured within a reasonable time.